



Measure M Taxpayer Oversight Committee
550 S. Main Street, Orange CA, Room 07
August 9, 2016 @ 5:00 p.m.

AGENDA

- 1. Welcome**
- 2. Pledge of Allegiance**
- 3. Approval of Minutes/Attendance Report for June 14, 2016**
- 4. Action Items**
 - A. Co-Chair Election
- 5. Presentation Items**
 - A. OC Streetcar Update/Capital Funding Plan
Presentation - Jim Beil, Executive Director, Capital Program
 - B. Signal Synchronization
Presentation - Kia Mortazavi, Executive Director, Planning
 - C. SR-55 Improvement Project Update
Presentation - Jim Beil, Executive Director, Capital Program
- 6. OCTA Staff Updates (5 minutes each)**
 - Measure M Look Ahead - Tamara Warren, Measure M Program Manager, Planning
 - Anaheim Rapid Connection (ARC) - Jim Beil, Executive Director, Capital Programs, and Kia Mortazavi, Executive Director, Planning
 - Finance Directors Workshop - Sean Murdock, Director, Finance & Administration
 - Other
- 7. Annual Eligibility Review Subcommittee Report**
- 8. Audit Subcommittee Report**
- 9. Environmental Oversight Committee Report**
- 10. Committee Member Reports**
- 11. Public Comments***
- 12. Adjournment**

The next meeting will be held on October 11, 2016

*Public Comments: At this time, members of the public may address the Taxpayer Oversight Committee (TOC) regarding any items within the subject matter jurisdiction of the TOC, provided that no action may be taken on off-agenda items unless authorized by law. Comments shall be limited to three (3) minutes per person, unless different time limits are set by the Chairman, subject to the approval of the TOC.

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 business days prior to this meeting to enable OCTA to make reasonable arrangements to assure accessibility to this meeting.



Measure M Taxpayer Oversight Committee

INFORMATION ITEMS

<u>Staff Report Title</u>	<u>Board Meeting Date</u>
1. Placentia Metrolink Commuter Rail Station Project Funding	June 27, 2016
2. Second Quarter 2016 Debt and Investment Report	July 25, 2016
3. Measure M2 Environmental Mitigation program Update	
4. Proposed Response to Orange County Grand Jury Report on the Orange County Transportation Authority's OC Streetcar Project	August 8, 2016
5. Measure M2 Performance Assessment Report	
6. OC Bridges Railroad Grade Separation Program Cost-to-Complete Update	

*Public Comments: At this time, members of the public may address the Taxpayers Oversight Committee (TOC) regarding any items within the subject matter jurisdiction of the TOC, provided that no action may be taken on off-agenda items unless authorized by law. Comments shall be limited to five (5) minutes per person and 20 minutes for all comments, unless different time limits are set by the Chairman, subject to the approval of the TOC.

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 business days prior to this meeting to enable OCTA to make reasonable arrangements to assure accessibility to this meeting.

Measure M
Taxpayer Oversight Committee
Orange County Transportation Authority
550 S. Main Street, Orange CA, Room 08
June 14, 2016
6:00 p.m.

AGENDA

Committee Members Present:

Eric Woolery, Orange County Auditor-Controller, Co-Chairman
Narinder "Nindy" Mahal, First District Representative
Anthony Villa, First District Representative
Margie Drilling, Second District Representative
Alan Dubin, Second District Representative
Terre Duensing, Third District Representative, Co-Chairman
Dr. Ron Randolph, Third District Representative
Sony Soegiarto, Fourth District Representative
Guita Sharifi, Fifth District Representative
Nilima Gupta, Fifth District Representative

Committee Member(s) Absent:

Cynthia Hall, Fourth District Representative

Orange County Transportation Authority Staff Present:

Jim Beil, Executive Director, Capital Programs
Janice Kadlec, Public Reporter Specialist
Sam Kaur, Section Manager, Local Programs
Kia Mortazavi, Executive Director, Planning
Sean, Murdock, Director, Finance & Administration
Andrew Oftelie, Executive Director, Finance & Administration
Alice Rogan, Strategic Communications Manager, External Affairs
Tamara Warren, Program Manager, M Program Management Office

Project Consultants:

Anil Grant, Ch2M
Tina Howell, Everfield Consulting
Del Dorsey, Everfield Consulting
Diana Bracamontes, Nexus Consulting

1. Welcome

Chairman Eric Woolery welcomed everyone to the Orange County Transportation Authority (OCTA) Taxpayer Oversight Committee (TOC) meeting at 6:00 p.m.

2. Pledge of Allegiance

Chairman Eric Woolery led the Pledge of Allegiance to the Flag.

- 3. Subcommittee Selection:** Alice Rogan asked committee members which subcommittees they would like to serve on:

<u>Audit Subcommittee</u>	<u>Annual Eligibility Review Subcommittee</u>	<u>Environmental Oversight Committee</u>
Margie Drilling Dr. Ron Randolph Guita Sharifi Sony Soegiarto Eric Woolery	Margie Drilling Alan Dubin Dr. Ron Randolph	Anthony Villa

4. Approval of the Minutes/Attendance Report for April 12, 2016

A motion was made by Margie Drilling, seconded by Anthony Villa, and carried unanimously to approve the April 12, 2016 TOC Minutes/Attendance Report as presented.

5. Action Items

- A. M2 Quarterly Revenue & Expenditure Reports (Mar. 16)

Sean Murdock reported on the M2 Quarterly Revenue & Expenditure Reports

A motion was made by Guita Sharifi, seconded by Anthony Villa, and carried unanimously to receive and file the M2 Quarterly Revenue & Expenditure Reports as presented.

- B. Updated Taxpayer Oversight Committee Mission Statement and Policies and Procedures

Alice Rogan presented the updated Taxpayer Oversight Committee Mission Statement and Policies and Procedures. This document was approved by the Audit Subcommittee at their last meeting.

A motion was made by Dr. Ron Randolph, seconded by Margie Drilling, and carried unanimously to accept the Taxpayer Oversight Committee Mission Statement and Policies and Procedures as presented.

- C. Change Taxpayer Oversight Committee Meeting Time

Alice Rogan reported some committee members have mentioned it is hard to get to OCTA at 6 p.m. because it is in the middle of commuter traffic. She said the Audit Subcommittee has decided to start meetings at 4 p.m. and the recommendation is to move the full TOC meetings start time to 5 p.m.

A motion was made by Eric Woolery, seconded by Dr. Ron Randolph, and carried unanimously to change the start time of the TOC meetings to 5 p.m.

6. Presentation Items

- A. Comprehensive Transportation Funding Programs Semi-Annual Review
Sam Kaur presented the Comprehensive Transportation Funding Programs Semi-Annual Review.

Margie Drilling asked Sam if she would go over some of the charts supplied to the committee. Sam she would review any of the charts the committee desired. Margie questioned why some of the projects were cancelled – that money could have been used elsewhere. And, she wants to know if the cancellations are held against the cities in the future. Sam said this money was set aside for local streets and roads projects. She said the local agencies have the flexibility to cancel the projects and OCTA is not directly involved with those decisions. Sam said the cities do not have consequences for canceling projects. But, the cities do need to pay the money back with interest. Margie asked if there is a time cut-off in which they have to notify OCTA of their decision to return the money. Sam said when a cities notifies OCTA of a cancellation, the cities is responsible for letting OCTA know how much interest has accrued on the funds. Then OCTA does an evaluation to verify if that is correct. Once the city notifies OCTA of the cancellation, they have 180 days to submit a report.

Margie Drilling voiced her concerns with the City of San Juan Capistrano using the money for engineering and then cancelling the project. She thinks the city should have to pay back the money they spent on the engineering. Sam said OCTA Board has directed staff to look into how much money will actually be paid back.

Guita Sharifi asked if the cities have to justify the cancellation of projects. Sam says OCTA does not have control over the cancellations.

Margie Drilling voiced her concern over the delay requests. She asked if OCTA evaluates those requests and whether OCTA has control over the length of the delays. Sam said a delay request is submitted by the agency when they are not able to initiate a project. She said the timely use of funds extension happens when a contract has actually been started, but the project has not been finished. The agencies requesting extensions are on the hook to finish these projects. She said if the project has problems that need to be fixed, they could be delayed. Sam said, in response to Margie's original question, the ordinance and guidelines allows them to delay one-time only up to 24 months. For delays, they must go to their city council and have the

council approve the delay. Sam said they can either delay 12 months or 24 months, but since you can only delay once – most cities opt for the 24 months.

Sam Kaur said based on everything we have learned and the feedback we have received, OCTA has updated the guidelines. She said OCTA gets a lot of pushback from the cities because it requires more work from them.

B. Comprehensive Transportation Funding Programs Programming

Sam Kaur presented the recommendations for Comprehensive Transportation Funding Programs (CTFP) programming.

C. I-405 Preliminary Finance Plan

Andrew Oftelie presented the I-405 Preliminary Finance Plan.

Dr. Ron Randolph asked how solid is the Transportation Infrastructure Investment and Innovation Act (TIFIA). Andrew said OCTA has never pursued a TIFIA loan before. OCTA has submitted a letter of interest to TIFIA and was approved. Now we are in a credit worthiness review and we believe that will come back in our favor. OCTA is very confident the loan will go in our favor. Los Angeles has been very successful with receiving TIFIA loans and Riverside has received a TIFIA loan as well.

Guita Sharifi asked if TIFIA is a government or private agency. Andrew said TIFIA is under the Federal Highways Administration, so the federal government.

7. OCTA Staff Updates

- Performance Assessment - Tamara Warren introduced Anil Grant who is the project manager from Ch2M and he presented the findings from the M2 Performance Assessment for July 1, 2012 through June 30, 2015. Tamara presented OCTA's response to the finding and next steps.

Nilima Gupta asked what steps are being taken to manage OCTA's partnership with Caltrans. Tamara said we are engaging in more meetings with Caltrans trying to resolve things at the project management level, but we can escalate up the chain of command.

- I-405 Update – Jim Beil presented a brief update on the I-405 Project.

Narinder Mahal is wondering where the new four lanes on the I-405 are going to be. He says it looks like there is no room. Jim said they are in the process of acquiring right-of-way, but there will be only partial acquisitions. He said there is actually room for the most part to add the additional lanes.

Narinder Mahal asked about the two new bridges that were built at SR 22 and the I-605 along the I-405. He is wondering if they will need to be rebuilt. Jim said no, they were built to fit the HOV lanes.

- Project V – Sam Kaur provided an update on Project V, also known as the Community-Based Transit Circulators, call for projects and project recommendations.

Margie Drilling asked how much does the local community contributes to the implementation of the trollies and shuttles. Sam said they are required to match at least 10%, but some are doing more. She said on the operations side they are required to pay at least 10% with OCTA paying no more than \$9 per passenger, whichever is less. Sam said a local agency may have to pay more if they do not have the ridership. Margie asked how this is working when she is hearing the City of Westminster is broke. Sam said if they don't meet the ridership, the service will be discontinued. She said they will receive two years to get the ridership up before it is discontinued. Cities must get a resolution from the council to show they are committed to the project. Sam said the City may be getting money from a different source that does not affect their overall budget.

Nilima Gupta asked what the impact is on M2 revenue. Sam said, based on the latest revenue, we have approximately \$65 million through the year 2023 for this program.

- Sales Tax Update - Andrew Oftelie gave an update on the collection of sales tax.
- Other – Alice Rogan clarified the Measure M Public Hearing will continue to have the 6p start time.

Alice said four new members were selected at the OCTA Board Meeting on Monday. No one was re-selected. Alice presented Resolutions of Appreciation to the outgoing members: Narinder Mahal, Terre Duensing, Cynthia Hall and Nilima Gupta.

8. Annual Eligibility Review Subcommittee Report

There was nothing to report.

9. Audit Subcommittee Report

There was nothing further to report.

10. Environmental Oversight Committee (EOC) Report

Anthony Villa said there was another update on one of the restoration projects. The main subject was concerning one of the Ferber Ranch properties. The next hike is on June 25.

11. Committee Member Reports

12. Public Comments

There were no additional Public Comments

13. Adjournment

The Measure M Taxpayer Oversight Committee meeting adjourned at 7:24 p.m. The next meeting will take place on August 9, 2016

Taxpayer Oversight Committee
Fiscal Year 2015-2016
Attendance Record



X = Present E = Excused Absence * = Absence Pending Approval U = Unexcused Absence -- = Resigned

Meeting Date	7-Jul	11-Aug	8-Sep	13-Oct	10-Nov	8-Dec	12-Jan	9-Feb	8-Mar	12-Apr	10-May	14-Jun
Margie Drilling		X		E	X			X		X		X
Alan Dubin		X		X	X			X		X		X
Terre Duensing		X		X	X			X		X		X
Nilima Gupta		X		E	E			X		E		X
Cynthia Hall		X		X	X			X		E		*
Nindy Mahal		X		X	X			X		X		X
Ronald Randolph		X		X	X			X		X		X
Guita Sharifi		X		X	E			X		X		X
Sony Soegiarto		X		X	X			X		E		X
Anthony Villa		X		X	X			X		X		X
Eric Woolery		X		X	E			E		X		X

Absences Pending Approval

Meeting Date

June 14, 2016

Name

Cynthia Hall

Reason


Sick

Presentation Items



COMMITTEE TRANSMITTAL

July 25, 2016

To: Members of the Board of Directors
From:  Laurena Weinert, Clerk of the Board
Subject: OC Streetcar Project Update and Revised Capital Funding Plan

Transit Committee Meeting of July 14, 2016

Present: Directors Jones, Murray, Pulido, Shaw, Steel, and Winterbottom
Absent: Directors Do and Tait

Committee Vote

This item was passed by the Members present.

Committee Recommendations

- A. Approve the revised OC Streetcar project funding plan to increase the overall project funding from \$288.74 million to \$297.91 million, including increasing the Congestion Mitigation and Air Quality Improvement Program funds from \$48.45 million to \$ 53.03 million.
- B. Approve the transfer of \$4.09 million in Federal Transit Administration Section 5307 funds from the initial project studies into the design and construction phases and a corresponding reduction in Measure M2 funds in keeping with the Board of Directors' policy to maximize matching state and federal funds.
- C. Direct staff to submit the annual New Starts application with a request to increase the federal New Starts funding share from \$144.37 million to \$148.96 million.
- D. Authorize staff to make all necessary amendments to the Federal Transportation Improvement Program and execute any required agreements or amendments to facilitate the recommendation above.



ORANGE COUNTY TRANSPORTATION AUTHORITY

**OC Streetcar Project Update and Revised Capital Funding
Plan**

Staff Report



July 14, 2016

To: Transit Committee

From: Darrell Johnson, Chief Executive Officer

A handwritten signature in black ink, appearing to read "Darrell Johnson for", is written over the printed name in the "From:" field.

Subject: OC Streetcar Project Update and Revised Capital Funding Plan

Overview

On August 24, 2015, the Orange County Transportation Authority Board of Directors approved the capital funding plan for the OC Streetcar project. With completion of 30 percent design and consistent with Federal New Starts requirements, an updated funding plan has been prepared. Staff is seeking Board of Directors' approval of the revised funding plan.

Recommendations

- A. Approve the revised OC Streetcar project funding plan to increase the overall project funding from \$288.74 million to \$297.91 million, including increasing the Congestion Mitigation and Air Quality Improvement Program funds from \$48.45 million to \$ 53.03 million.
- B. Approve the transfer of \$4.09 million in Federal Transit Administration Section 5307 funds from the initial project studies into the design and construction phases and a corresponding reduction in Measure M2 funds in keeping with the Board of Directors' policy to maximize matching state and federal funds.
- C. Direct staff to submit the annual New Starts application with a request to increase the federal New Starts funding share from \$144.37 million to \$148.96 million.
- D. Authorize staff to make all necessary amendments to the Federal Transportation Improvement Program and execute any required agreements or amendments to facilitate the recommendation above.

Background

On August 24, 2015, the Orange County Transportation Authority (OCTA) Board of Directors (Board) approved the capital funding plan for the OC Streetcar

project (Project). The funding sources included federal Capital Investment Grant Program (New Starts) and Congestion Mitigation and Air Quality Improvement (CMAQ) Program funds, Measure M2 (M2) sales tax revenue, and state cap-and-trade funding. Since that time, significant progress on the Project has been made related to design, vehicle procurement, right-of-way (ROW), and coordination with the Federal Transit Administration (FTA).

- In February 2016, the Project was included in the President's Fiscal Year (FY) 2017 Budget request and recommended in FTA's Annual Report on Funding Recommendations for \$125 million with a "medium-high" rating. This executive branch recommendation has been followed by similar funding recommendations in both the Senate and House of Representatives to identify specific FY 2017 appropriations funding for the Project.
- Thirty percent design plans were completed in late May 2016 and are undergoing review by OCTA and the cities of Santa Ana and Garden Grove. Through the design effort, a number of design modifications were developed based on coordination with the cities, as well as the results of the Risk Assessment and Value Engineering workshop conducted in June 2015. The necessary environmental technical analyses have been undertaken on these minor design modifications.
- Staff completed site visits with two agencies to explore opportunities to secure assignments of the agencies' existing vehicle contracts (piggybacking approach): the City of Cincinnati and Tri-County Metropolitan District of Oregon. A third agency, Metropolitan Transit Authority of Harris County (Houston METRO) was also considered, but it was determined not to proceed with evaluation of the vehicle contract because the contract with the vehicle manufacturer expires in November 2016. Securing an assignment from Houston METRO would have necessitated OCTA Board action on the contract before evaluation of the available vehicle contracts could be completed.

The next step in the vehicle procurement process is the release of a request for quotes (RFQ) in July 2016. The RFQ will obtain pricing on the required vehicle modifications, commitment on production schedule, as well as revisions to commercial terms from the base contracts. Staff is scheduled to return to the Board in fall 2016 with recommendations on the viability of the piggybacking approach and, potentially, a recommended contract award.

- Appraisals for ROW acquisitions for the Maintenance and Storage Facility (MSF) are being finalized based upon environmental site assessments. Additionally, the Project required the termination of

11 licenses along the OCTA-owned Pacific Electric ROW determined to be in conflict with the Project alignment. Notices have been sent to all licensees indicating OCTA would exercise the 30-day termination notice. OCTA has entered into new agreements with five of the 11 licensees which allow the licensees to use the property on a temporary basis through the end of 2016, consistent with the Project need for the property.

- Utility conflict identification is underway with meetings to coordinate the resolution of conflicts with utility owners scheduled for this summer.
- A recommendation for the consultant selection of the construction management contract is scheduled to be presented to the OCTA Board in July 2016.
- The station and urban design effort is underway with the development of aesthetic concepts for the streetcar stops. Community outreach for stop design will begin in July 2016, and staff will brief the Board on stop design criteria in August 2016.
- Staff continues to coordinate with FTA and its project management oversight consultant on the plans and documents required for approval into the next phase of the New Starts process – Engineering.

Discussion

At the end of May 2016, the Project reached a significant milestone with the completion of 30 percent design. The design work resulted in a more defined project in terms of the alignment, location of stops and traction power substations, parking, pedestrian and bicycle accommodations, and the MSF design.

Through the design work and close coordination with the cities of Santa Ana and Garden Grove, design modifications were made to the Project to enhance operations, minimize conflicts with adjacent developments and utilities, and reduce long-term operations and maintenance costs. An environmental analysis was conducted on the design modifications, and an updated cost estimate and financial plan were prepared.

Preparation of the FY 2018 New Starts submission to report annual progress to FTA and provide the project justification and financial templates required to rate the Project against the New Starts criteria is underway and will be submitted to FTA by September 2, 2016. Additionally, with the completion of 30 percent design, staff is finalizing materials supporting OCTA's request to FTA to enter the New Starts Engineering phase. The request represents the final opportunity to adjust Project cost and solidifies the federal New Starts contribution, capped at 50 percent of the capital cost.

Environmental

Staff has conducted additional environmental analyses to determine if the design modifications would result in any new environmental effects or increase the impact of the previously identified significant effects. The analyses, which included noise and vibration, cultural and historic, visual impact, and traffic analysis, concluded that the design modifications would not result in any new significant environmental effects that were not previously analyzed as part of the approved California Environmental Quality Act (CEQA) Environmental Impact Report (EIR).

Pursuant to CEQA, an addendum is the appropriate documentation if a project requires changes or additions to a previously approved EIR that are minor in nature. This means that the changes are not so significant that it would require major revisions to the approved EIR, involve significant new environmental effects, or substantially increase the severity of previously identified significant effects.

Consistent with CEQA, staff prepared an addendum (Attachment A) to document the analysis and conclusions. CEQA requires that the decision-making body, in this instance the OCTA Board, consider the addendum prior to taking an action on the Project.

Staff is also coordinating with FTA on how the minor design modifications effect the requirements related to the federal environmental process.

Capital Cost Estimate

The Project cost estimate was updated to address all major Project elements, including construction, professional services, ROW, vehicles, and contingency. The updated construction cost estimate reflects the results of the 30 percent design effort, including the refinement of quantities for the various construction elements, developing a bottom's-up estimate for each construction activity based on current labor rates, anticipated production rates, and necessary equipment and materials. The other Project (non-construction) elements were refined based on an in-depth review of past and anticipated expenditures.

Additionally, FTA requires that projects conduct multiple cost and risk assessments during project development to assist project sponsors and FTA in identifying and properly accounting for risks and opportunities within the Project's cost estimate and schedule. The initial Risk Assessment and Value Engineering workshop was conducted in June 2015. The workshop looked at risks and opportunities, and included a value engineering initial effort to identify potential areas of efficiency and cost savings. Based upon the workshop, the cost estimate for the Project, submitted as part of the September 2015 New Starts application, was \$288.74 million in year of expenditure (YOE) dollars. The cost estimate

accounts for the impact of annual inflation over the multi-year implementation/construction process.

In May 2016, the Project team conducted a second risk assessment analysis based on the 30 percent design plans. The following elements were identified as continuing to have risk to the Project scope and schedule:

- Unquantifiable risk during construction requiring contract change orders
- Design changes to the MSF
- On-time vehicle delivery

To address these risks, a 25 percent contingency is included in the cost estimate. This is the contingency level recommended by FTA at this stage of project development.

Based on the results of the 30 percent design effort and the May 2016 risk assessment analysis, the cost estimate with a 25 percent contingency was revised to \$297.91 million (YOE dollars), \$9.17 million higher than the previous estimate of \$288.74 million.

Key elements contributing to the cost increase include higher professional service costs to ensure recovery of all eligible agency costs, and costs incurred by the cities of Santa Ana and Garden Grove. Professional services include consultant contracts which augment agency staff to provide specialized expertise in the areas of project and construction management and design. The vehicle costs increased to include non-revenue vehicles, as well as sales tax. Additionally, there was an increase in the cost of the MSF, as well as the number of traffic signals that will be replaced. Further, two elements have been added to the Project: a new section of track along Ross Street to enhance operational flexibility and safety, and an in-ground wheel truing machine for the benefit of long-term maintenance.

The updated capital cost estimate will be included in the September 2016 New Starts annual update. Any further adjustments to the cost estimate during the Engineering phase will be reported back to the Board prior to submitting the request for the Full Funding Grant Agreement (FFGA), which is scheduled for spring 2017.

Revised Funding Plan

Projects pursuing a New Starts FFGA are required to show a committed and reasonably anticipated funding plan for the required local match. Consistent with Board-adopted Capital Programming Policies and the M2 ordinance, which requires that every effort be made to maximize state and federal funding for M2 projects, staff has developed a revised Project funding plan reflecting the updated capital cost estimate and incorporation of an additional federal funding source.

The table below compares last year’s funding strategy to the proposed revised funding plan.

Funding Source	August 2015 Funding Plan (millions)	July 2016 Funding Plan (millions)	Change in Funding (millions)	Status of Funding Source
Federal New Starts*	\$144.37	\$148.96	\$4.59	Pending award by FTA
Federal CMAQ	\$48.45	\$53.03	\$4.58	Committed, with the additional \$4.58 million pending Board approval
Federal FTA 5307		\$4.09	\$4.09	Pending Board approval
State Cap-and-Trade*	\$40.00	\$40.00	0	Pending award by the California State Transportation Agency
M2 – Project S	\$55.92	\$51.83	-\$4.09	Committed
TOTAL	\$288.74	\$297.91	\$9.17	

* Contingent on state and federal approvals.

- All numbers have been rounded.

The Project’s updated capital cost estimate is \$297.91 million (YOE dollars). The recommended revised funding plan reflects the following:

- Federal New Starts funds: \$148.96 million; increased by \$4.59 million to cover 50 percent of project cost. Funding is contingent on FY 2017 and future year congressional appropriations and execution of the FFGA, which is expected in fall 2017.
- Federal CMAQ Funds: \$53.03 million; a \$4.58 million increase from the August 2015 Funding Plan amount.
- Federal FTA Section 5307 Formula funds: \$4.09 million (Santa Ana) – these are unused funds from earlier phases of the Project. These funds are eligible to cover professional services expenses. The FTA Section 5307 Formula funds are included in the revised funding plan, but have not yet been approved for this use by the Board.

- State Cap-and-Trade Program funds: \$40 million; the same level as was indicated in the August 2015 funding plan. In spring 2016, staff submitted a \$50.7 million application for this competitive grant program, requesting funding for streetcar vehicles (Priority 1), ticket vending machines (Priority 2), and mobile ticketing equipment (Priority 3). It is anticipated the State of California will announce grant awards in August 2016.
- M2 – Project S: \$51.83 million – a decrease of \$4.09 million from the August 2015 funding plan and maximizes state and federal funds in place of M2 funds whenever possible.

With regards to the state Cap-and-Trade Program, an item was presented to the Board on May 18, 2016, which identified potential funding challenges for the grant program. Both state officials and outside financial analysts have pointed to numerous scenarios for recent poor auction showings, including an overall lack of demand for credits, more competitive pricing for credits on the secondary market, and increased speculation that pending litigation being pursued by business advocacy groups such as the California Chamber of Commerce, may overturn the cap-and-trade system entirely. Currently, the next credit auction is scheduled for August 16, 2016.

If the pursuit of cap-and-trade funds results in a lower than requested funding level, or if it is unsuccessful, staff will return to the Board with a revised Project capital funding plan for the local financial commitment. As previously reported to the Board, there is capacity within the M2 Project S line item that could provide additional funding for the Project. However, the M2 Ordinance and Board-approved Capital Programming Policy directs staff to “make every effort to maximize state and federal funding for transit projects.” Consistent with that direction, staff will also continue to seek alternate sources of funds to provide the required local match.

The capital funding plan, which provides funding information for OCTA-funded commuter rail projects and also highlights the recommended changes included in this item, is provided in Attachment B.

New Starts Engineering Phase

The next phase of the New Starts process is Engineering. Consistent with Board direction in August 2015, staff submitted the required Project readiness documents to FTA in October 2015. Over the last several months, staff has been working to update the documents to address federal review comments, as well as to reflect additional work performed on the Project. Pursuant to recently released FTA Guidance for the New Starts Program, all projects pursuing a New Starts FFGA must complete 30 percent design prior to receiving approval to enter Engineering.

With the completion of 30 percent design, staff is finalizing the submissions for FTA review. It is anticipated that OCTA will be approved into Engineering in November 2016.

Next Steps

Following the cap-and-trade funding announcement, which is anticipated in August 2016, staff will revisit the funding plan. If the cap-and-trade grant award differs from the programmed amount (\$40 million), staff will return to the Board with an updated funding plan.

The Project team will continue to prepare the annual New Starts application update and submit the application to FTA by September 2, 2016. Additionally, the Project team will continue to develop the application to enter Engineering and, upon resolution of FTA comments, will submit a letter formally requesting entry into Engineering. The request is anticipated to be made in early fall 2016, following FTA's acceptance of the New Starts application annual update submittal.

Summary

Significant progress has been made on the Project since August 2015, including completion of 30 percent design, environmental analysis, and updating of the capital cost estimate. Staff is currently working to complete the required annual New Starts application update and request for entry into Engineering. In order to ensure continued progress, staff is seeking Board approval of the revised funding plan for the required local match commitment.

Attachments

- A. Addendum to the Environmental Impact Report for the Santa Ana/Garden Grove Fixed Guideway Project
- B. Capital Funding Program Report

Prepared by:



Mary Shavalier
Program Manager
(714) 560-5856

Approved by:



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



ORANGE COUNTY TRANSPORTATION AUTHORITY

**OC Streetcar Project Update and Revised Capital Funding
Plan**

Attachment A

**Addendum to the Environmental Impact Report
for the
Santa Ana/Garden Grove Fixed Guideway
Project**

SCH No. 2010051060

Prepared For:

Orange County Transportation Authority

550 S. Main Street
Orange, CA 92868
www.octa.net

Prepared By:

HDR Engineering, Inc.
3230 El Camino Real, Suite 200
Irvine, CA 92602

June 2016

1. INTRODUCTION

This Environmental re-evaluation and Addendum to the Santa Ana/Garden Grove Fixed Guideway Project (Project) Final Environmental Impact Report (EIR) has been prepared to address design modifications to the Project resulting from the completion of preliminary engineering (30%) design.

The California Environmental Quality Act (CEQA) requires that if there are minor technical changes or additions to a project and no new or substantially more severe significant effects result, an Addendum to an approved EIR must be prepared. This Addendum describes design modifications that Orange County Transportation Authority (OCTA) is proposing for the Project and summarizes the findings and conclusions of the evaluation of how these changes affect the previous environmental analysis contained in the EIR.

Section 15164(a) of the CEQA Guidelines states that “the lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred.” Pursuant to Section 15162(a) of the State CEQA Guidelines, a subsequent EIR or Negative Declaration is only required when:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

- (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;*
- (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;*
- (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or*
- (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.*

If major revisions of the EIR are not necessary and none of the conditions described in State CEQA Guidelines Section 15162 calling for the preparation of a subsequent EIR have occurred, CEQA mandates that an addendum be prepared.

2. BACKGROUND

The Project is a proposed as an approximately 4-route mile modern streetcar line that will connect the Santa Ana Regional Transportation Center (SARTC) to Downtown Santa Ana and a new transportation hub located near the intersection of Harbor Boulevard and Westminster Avenue in Garden Grove.

Construction and operation of the Project (the adopted Locally Preferred Alternative, or "LPA") was approved by the Federal Transit Administration (FTA) in a Finding of No Significant Impact (FONSI), dated March 10, 2015 based on the findings of the Revised Environmental Assessment (EA) (January 2015), pursuant to the National Environmental Policy Act (NEPA). The City of Santa Ana certified the EIR (State Clearinghouse #2010051060) in January 2015, which was subsequently adopted by OCTA. OCTA is a CEQA "Responsible Agency" as defined by CEQA Guideline 15381. Pursuant to CEQA Guideline 15381, "Responsible Agency" means "a public agency which proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration."

The approved Project was based on a conceptual level of engineering. Subsequent to Project approval in 2015, OCTA has taken the lead in advancing the design and implementation of the Project. As part of this engineering design phase, OCTA is proposing some modifications to the Project as it was defined and analyzed in the EIR. The modifications comprise of physical and operational improvements, and are partly derived from value engineering and risk workshops conducted in 2015, as well as design coordination with OCTA's partner cities and stakeholders. The modifications are not anticipated to result in changes to the maintenance plan for the Project.

3. DESCRIPTION OF DESIGN MODIFICATIONS

The following describes the proposed modifications that are the basis of evaluation in this Addendum. Additionally, Table 3.1 provides a listing of design updates, comparing the description of Project features in the EIR to the revised description of Project features resulting from the modifications.

The corresponding figures for each modification are referenced on the table and attached to this Addendum. Figure 1 provides an overview of the current Project features. Figures 2 to 12 provide graphics focused on specific changes in Project features for added clarity.

Table 3.1. Project Description Comparison of Approved Project (2015 EIR) and Modifications (30% Design Revisions – May 2016)

Update ID	Project Description		Figure
	Approved Project in 2015 EIR	30% Design – May 2016	
1	Single-track bridge across the Santa Ana River south of the existing historic bridge.	Double-track bridge across the Santa Ana River; north of the existing historic bridge. The double-track bridge is the same distance away from the historic bridge as the single-track bridge.	1
2	Track positioned in the center of the former Pacific Electric Right-of-Way (PE ROW).	Track shifted to the northern side of the PE ROW; no private property is required.	2
3	At-grade Santa Ana River Trail crossing on the West Bank.	Provision of a Santa Ana River Trail undercrossing at the West Bank by including an extra span on the Santa Ana River bridge	3
4	Streetcar Maximum Speed of 35 mph in PE ROW	Streetcar Maximum Speed of 45 mph in PE ROW	1
5	Willowick Station Stop within PE ROW.	No Willowick Station Stop within the PE ROW.	4 & 5
6	Side platforms at Harbor Blvd., Fairview St. (staggered, farside), and Raitt St., farside Bristol St. eastbound, farside Ross St. westbound, stops at Broadway and Main.	Center platforms at Harbor Blvd., Fairview St., and Raitt St., nearside Bristol St. westbound, nearside Ross St. westbound, stops at Sycamore (farside westbound, farside eastbound), No private property is required for the platforms.	5
7	Double crossover west of Maintenance and Storage Facility (MSF), turnout and tail track beyond Santa Ana Regional Transportation Center (SARTC) platform.	Single crossovers on both sides of the MSF, revised MSF track layout, single crossovers on both ends of downtown couplet, double-crossover prior to SARTC platform.	6
8	No consideration for traffic signal priority for the streetcar.	Traffic signal priority at all traffic signals along the route except for Main St., Broadway, and Bristol St. The TSP extends a green phase or shortens an opposing green phase by as much as 20 seconds,	1
9	Tied-Arch Bridge at Westminster Avenue	Concrete Box Girder Bridge at Westminster Avenue	7
10	Santa Ana Blvd. from Flower St. to Raitt St. maintained as a four-lane street (two lanes in each direction with streetcar in the outside lanes).	Santa Ana Blvd from Flower St. to Raitt St. with a raised 4-ft median and re-stripped as a two-lane street (one lane in each direction) with left and U-turns allowed only at signalized intersections and striped bike lanes. No private property is required.	8
11	Santa Ana Blvd. from French St. to Flower St. with three-lanes westbound.	Santa Ana Blvd. from French St. to Flower St. with two-lanes westbound and a protected bike lane on the north side of the street. No private property is required.	9
12	Six traction power substations (TPSS) located at the following locations: (1) At Harbor Blvd.; (2) At Susan St. (outside PE ROW); (3) On east side of Santa Ana River (outside of PE ROW); (4) At Pacific Ave.; (5) In a parking structure at 5 th and Main; and (6) On south side of Santa Ana Blvd at Garfield St.	Elimination of two TPSS to result in a total of four TPSS for the Project, with the following revised locations. No private property is required: (1) On south side of Westminster Ave in the PE ROW; (2) At the Maintenance and Storage Facility (MSF) site; (3) On north side of Santa Ava Blvd east of Parton St.; and (4) On north side of Santa Ana Blvd and N. Garfield St. Locations 1 and 2 are within the ROW previously cleared. Locations 3 and 4 are identified on the updated APE.	10

Update ID	Project Description		Figure
	Approved Projectin 2015 EIR	30% Design – May 2016	
13	Appendix P to the EIR, the Drainage Technical Report, indicate storm drain improvements on many streets outside the project alignment.	Modification of scope of drainage improvements to rely less on connections to storm drain network and use surface conveyance in streets to maintain existing drainage patterns to the maximum extent practicable while addressing surface storm water drainage needs generated by the Project, or change in drainage patterns caused solely by the Project.	11
14	Single contact wire in PE ROW.	Two-wire catenary in the PE ROW.	12
15	No provision for underground fiber optics cable	Underground fiber optics cable (communications) from SARTC to OCTA Garden Grove Bus Annex north of PE ROW, approximately 1500 feet west of Harbor Blvd	1

The Project footprint and Area of Potential Effect (APE) for Cultural Resources study were also updated to encompass the modifications as well as the anticipated revised construction limits of the Project.

Physical Improvements: The modifications would result in the following physical improvements:

- Concrete Box Girder bridge at Westminster Avenue;
- Construction of a double track bridge across the Santa Ana River (SAR) north of a historic bridge location;
- Adding a bridge span on the west bank of the SAR, behind an existing levee to accommodate an undercrossing for the SAR Trail and Bikeway (and Orange County Flood Control District (OCFCD) maintenance road. Implementing a slight raise to the bridge (approximately one foot) to keep the pathway higher than the water surface elevation in the river to allow for positive drainage to the river;
- Repositioning the double track alignment within the PE ROW;
- No Willowick Station Stop. This station stop is associated with future development. At this time there is no development that is accessible to this station stop;
- Repositioning of side platforms to center platforms at Harbor Boulevard, Fairview Street (both west side), and Raitt Street in the PE ROW segment of the Project alignment;
- Repositioning westbound platform at Ross Street from farside to nearside, and platforms at Broadway and Main consolidated and moved to farside Sycamore Street;
- Placement of single crossovers on both sides of the Maintenance and Storage Facility (MSF) with a revised layout for the MSF, added crossovers on both sides of downtown couplet, and replaced the tail track beyond the SARTC platform with a double-crossover before the SARTC platform;
- Restriping Santa Ana Boulevard from Flower Street to Raitt Street from a four-lane to a two-lane street with a raised 4-ft median;
- Restriping westbound Santa Ana Boulevard from French Street to Flower Street from three-lanes to two-lanes and a protected bike lane on the north side of the street;
- Relocation of the traction power substations (TPSS) to the PE ROW and publically owned properties and reducing the number of TPSS from six to four;
- Re-evaluation of the scope of drainage improvements to mitigate additional surface storm water drainage needs generated by the Project, or change in drainage patterns caused solely by the Project;
- Changing from single contact wire in the PE ROW to a two-wire catenary to enhance operations at higher speed; and

- Consideration of underground fiber optic lines from SARTC to the OCTA Garden Grove Bus Annex north of the PE ROW, about 1500 feet west of Harbor Blvd.

Operational Improvements: Two changes to the Project's operations are proposed as part of the modifications:

- Increasing the maximum speed within the PE ROW from 35 miles per hour (mph) to 45 mph. The increased speed reduces travel time, providing operational cost and ridership benefits; and,
- Implementation of traffic signal priority at all traffic signals along the route except for Main Street, Broadway, and Bristol Street.

4. ENVIRONMENTAL ANALYSIS OF DESIGN MODIFICATIONS

To evaluate whether the proposed design modifications would result in a new significant impact, increase in the severity of an impact, or require new mitigation measures, OCTA undertook environmental review and where needed, conducted a technical analysis of each Project feature update. The following technical reports were prepared as part of this analysis and are included as attachments to this Addendum:

- Visual Impact Assessment (VIA) Supplement (HDR, 2016) (Appendix A)
- Cultural Resources Update Technical Memorandum (HDR, 2016) (Appendix B)
- Traffic Study Addendum v2 (IBI Group, 2016) (Appendix C)
- Supplemental Noise and Vibration Technical Analysis (HDR, 2016) (Appendix D)

The technical analysis was coordinated with the 30% design work that was progressing on the Project. In some cases, specific design modifications were refined based upon analysis undertaken in the 30% design work.

The CEQA Guidelines require that a brief explanation be provided to support the findings that no subsequent EIR or Negative Declaration is needed for further discretionary approval. A summary of findings from the re-evaluation of each of the environmental issue areas that were analyzed in the Project EIR are described below.

Effects Determined Not Adverse

The Project EIR identified the following environmental resource areas that would not be impacted by the proposed Project: coastal zones, wetlands and navigable waterways, ecologically sensitive areas, and endangered and/or threatened plant and animal species.

The proposed design modifications would not significantly impact these resources as these resources are not present within, or in proximity to, the limits of disturbance associated with implementation of the design modifications. No additional impacts would occur to these environmental resources and the conclusions that the project would not result in a significant impact to these resources as identified in the EIR remain accurate.

Land Use and Zoning

The potential land use and zoning impacts (including agricultural and forestry resources) associated with the construction and operation of the Project were evaluated in the EIR. Since the certification of the EIR, there have been no changes to the land use or zoning environment, and the fundamental characteristics of the Project as evaluated in the EIR have not changed. The EIR concluded that impacts related to land use and zoning and agricultural and forestry resources were determined to be less than significant. No mitigation measures were required.

The proposed design modifications would not change the fundamental characteristics of the Project. The proposed Project design modifications would not expand or increase the development footprint in such a manner as to create a

land use or zoning impact, and there are no agricultural or forestry resources located within the construction footprint. Both the construction and operations of the Project would be similar to the Project as evaluated in the EIR. No additional land use and zoning impact would occur and the conclusions that the Project would not result in a significant land use and zoning impact as identified in the EIR remain accurate.

Land Acquisition and Displacements

This environmental resource issue area is only applicable to the analysis pursuant to NEPA, and no further analysis is warranted in this CEQA Addendum. In addition, no additional displacements are anticipated by the design changes.

Section 4(f) Resources

This environmental resource issue area is only applicable to the analysis pursuant to NEPA, and no further analysis is warranted in this CEQA Addendum.

Community Effects and Environmental Justice

This section of the EIR includes an evaluation of potential impacts associated with fire protection, police protection, schools, parks, and other public facilities. The EIR determined that impacts to fire and police protection would be less than significant, and that there would be no impact to schools, parks or other public facilities. The design changes do not involve any modifications to the characteristics of the project that would affect any of these facilities. Both the construction and operations of the Project would be similar to the Project as evaluated in the EIR. No additional community effects impact would occur and the conclusions that the Project would not result in a significant community effects impact as identified in the EIR remain accurate.

Visual Quality

The potential visual quality impacts associated with the construction and operation of the Project were evaluated in the EIR. The EIR determined that the proposed project would result in less than significant impacts to visual quality including scenic vistas, scenic resources, or aesthetic features, or substantially degrade the existing visual quality or character of the area. Since the certification of the EIR, there have been no changes to the aesthetic environment of the proposed Project as evaluated in the EIR. However, as described under "Description of Design Modifications" the design modifications that have been determined to potentially affect visual resources, and therefore determined to require further evaluation are located at: (1) the Westminster Avenue Bridge; (2) the Santa Ana River Bridge; and (3) realignment of the track and change from one to two-wire catenary in the PE ROW. An additional change would occur within a portion of the Project as a result of the repositioning of the TPSS's.

The visual impact of two wire catenary within the PE ROW is considered to be less than significant in the context of the prior analysis and presence of overhead wires in adjacent areas; therefore, no supplemental visual analysis was performed for this change.

In order to address the potential visual quality impacts associated with the design modifications to the Westminster Avenue Bridge, the Santa Ana River Bridge, the realignment of track and change from one to two-wire catenary in the PE ROW, as well as the repositioning of TPSSs, a supplemental visual impact analysis was prepared (see Visual Impact Assessment Supplement, Appendix A). The purpose of the analysis was to identify any changes to visual effects that were previously disclosed in the EIR.

The supplemental visual impact analysis concludes that no new significant visual impacts and no increase in the severity of an impact would result as compared to the originally approved Project as evaluated in the EIR. No additional visual quality impact would occur and the conclusions that the Project would not result in a significant visual quality as identified in the EIR remain accurate.

Cultural Resources

A supplemental cultural resources technical analysis was prepared to identify whether any of the proposed design modifications within the Project would affect the previous findings regarding cultural resources (both historic and archaeological) within the previously-approved APE, and the revised APE (see Cultural Resources Update Technical Memorandum, Appendix B).

As identified in the EIR, the proposed Project was not expected to have a significant impact on historical resources (including historic architecture) or archaeological resources. However, given the sensitivity of the area for archaeological resources, archaeological monitoring would be conducted for earth-disturbing activities that could encounter previously undisturbed soils per the Mitigation Monitoring and Reporting Program (MMRP) adopted as part of the EIR.

The proposed design modifications would expand the previously-identified APE associated with cultural resources. The 2015 EIR APE was originally created to take into consideration both archaeology and architectural resources, encompassing the maximum footprint for construction, ground-disturbance and grading, and generally extended one parcel past the limits of the above-ground Project improvements, and/or direct impacts for the TPSS sites, gated crossings, tree removal areas, maintenance facilities, transit structures, raised medians, staging areas, property acquisitions, and ROW impacts. The APE also included previously recorded cultural resources located adjacent to the above-ground Project improvements and direct impact areas. In addition, the APE included parcels adjacent to the proposed Project footprint as part of the architectural history field surveys for properties that may be potentially indirectly affected by visual, audible, or atmospheric intrusions; shadow effects; vibrations from construction activities; or change in access or use. These areas of the APE would not be physically demolished, destroyed, relocated/removed, materially altered, or impacted from neglect or deterioration as a result of the Project.

As part of the supplemental cultural resources analysis (Appendix B), the original Project APE was compared to the design modifications, and a revised and expanded APE was developed to address the modifications. The revised APE encompasses the original 2015 APE and was expanded in areas to accommodate design modifications identified in Table 1, primarily to include the relocation of TPSS, areas of ground disturbance due to utility relocations and storm drain improvements, adjustments to platforms, station stops, and rail lines, and the location of the bridge over the Santa Ana River. The APE maps include the locations of historic properties. In keeping with the previous methodology, both direct and indirect effects were taken into account when revising the APE and include areas where the streetcar and its Project components will be visible and/or where there may be effects due to audible or atmospheric impacts or vibration impacts from construction.

Additionally, an updated records search was conducted with the South Central Coastal Information Center to ensure that all recently recorded cultural resources in the expanded APE were taken into account in the supplemental cultural resources study. Based on the results of the records search, there are no newly identified historic properties located within the expanded 2016 APE as compared to the 2015 APE. A reconnaissance-level field survey was conducted in May 2016 to photograph and document the expanded areas of the revised APE.

As noted in the 2014 survey and evaluation, there are several historic properties located with the 2015 APE. The proposed modifications and the expanded APE include the historic properties identified in Table 2 of the supplemental cultural resources analysis (Appendix B). There are no known archaeological or paleontological resources eligible for listing in the National Register of Historic Places (NRHP) located within the original or expanded APE.

The expanded APE does not include any known archaeological or paleontological resources eligible for or listed in the NRHP. Ground disturbance would not be more than five feet beneath the existing surface in most areas. The deepest excavations would be 12-20 feet deep (likely a 36-inch diameter boring) to accommodate OCS pole foundations, depending on soil conditions which will be determined through a geotechnical investigation. Although the APE has already been subject to extensive disruption from previous development and may contain artificial fill

materials, the APE has the possibility of containing intact, undisturbed cultural deposits below the level of previous disturbance. As such, important archaeological resources may exist within the APE. The potential exists that construction activities associated with ground disturbance may unearth undocumented archaeological resources. Implementation of Mitigation Measure CR 1 of the EIR MMRP would ensure that measures are taken to minimize potential effects to archaeological resources. Therefore, no adverse effects would occur to archaeological resources as a result of the design modifications, and no change to the previously-adopted Mitigation Measure CR 1 would be required.

The proposed utility and storm drain modifications, the repositioning of double-track and platforms, placing single crossovers, restriping Santa Ana Boulevard, and repositioning of platforms would occur almost entirely within the street and PE ROW, which have been previously disturbed with pavement, utility lines and a previous rail line. Within the street ROW, construction would require a depth of approximately 18 inches below ground surface of excavation for placement of foundation material and laying track. Additional depth of excavation may be required for utility relocations and foundation construction for the TPSSs at a depth of five feet or less, but this would not likely encounter previously undisturbed soil. These areas are all located in previously disturbed areas with underground infrastructure along the street ROW, and the potential for the accidental discovery of archeological resources is low.

The construction and operation of the proposed Project would not disrupt the essential form or integrity of the historic properties in the expanded APE. Further, the design modifications would not result in visual, audible, or atmospheric intrusions beyond those noted in the 2014 cultural resources evaluation.

Based on the expanded 2016 APE, the sensitivity of the area for archaeological resources and the recommendation for archaeological monitoring to be conducted for earth-disturbing activities that could encounter previously undisturbed soils is unchanged, and should remain consistent with the EIR. The updated analysis confirms that there are no changes to the previous conclusions regarding cultural resources as a result of the engineering refinements and that a less than significant impact would result from the Project modifications within the revised/expanded APE for the Project modifications. No additional cultural resource impact would occur and the conclusions and mitigation measure (Mitigation Measure CR 1) identified in the EIR remain accurate and applicable to the proposed Project modifications.

Geology, Soils, and Seismicity

The potential geology, soils, and seismicity impacts associated with the construction and operation of the Project were evaluated in the EIR. Since the certification of the EIR, there have been no changes to the geological, soils or seismic environment or changes to the characteristics of the proposed Project as evaluated in the EIR that would affect these resources. The EIR concluded that impacts related to geologic and seismic hazards were less than significant and that no mitigation measures are required. No additional geology, soils, and seismicity impact would occur and the conclusions regarding no significant impacts identified in the EIR remain accurate.

Hazardous Materials

The potential hazardous materials impacts associated with the construction and operation of the Project was evaluated in the EIR. Since the certification of the EIR, there have been no changes to the hazardous materials environment or changes to the characteristics of the proposed project as evaluated in the EIR that would affect hazardous materials. As previously identified in the EIR, the Project would require limited acquisition or property which could have the potential to contain hazardous materials. Three properties identified as potentially hazardous sites would be acquired as part of Operations & Maintenance (O&M) Facility Site B (which is the currently proposed location for the O&M facility). As described in the EIR, a detailed Phase I Environmental Site Assessment would be required to ascertain if employees working at the O&M Facility would be exposed to toxic levels of hazardous materials. The EIR recommended implementation of Mitigation Measure HAZ1 to reduce this potential impact to a level less than significant. Because the proposed design modifications do not involve a change with respect to the location of the proposed O&M Facility Site B, the conclusions regarding hazardous materials would remain the same.

The EIR indicates that operation of the streetcar along the Project alignment would not involve the use of hazardous materials. As stated previously, no change to streetcar maintenance activities is proposed as part of the design modifications; therefore, no new significant impact or the increase in the severity of a significant impact would result. The conclusions that the potential hazardous materials impact would be reduced to a level of less than significant with the implementation of Mitigation Measure HAZ1 as identified in the EIR remain accurate.

Traffic and Parking

The potential traffic and parking related impacts associated with the construction and operation of the proposed Project were evaluated in the EIR.

Since the certification of the EIR, there have been some changes to the transportation network within the Project area. Also, as described under "Description of Design Modifications," some of the design modifications were determined to have the potential to impact traffic, and further analysis was warranted.

In order to address the potential traffic impacts associated with the design modifications, an addendum to the previously-prepared traffic study, which was provided as Appendix I to the EIR was prepared (see OC Streetcar Santa Ana-Garden Grove Project Traffic Study Addendum provided in Appendix C). The purpose of the analysis was to identify any changes to traffic impacts that were previously disclosed in the EIR, due to several design modifications with the advancement of engineering since the Project (and conceptual design) was approved in 2015.

The five design modifications addressed in the addendum to the traffic analysis consists of:

- Reclassification of Santa Ana Boulevard
- Relocation of Santa Ana Boulevard Stations
- Fairview Street Grade Crossing Analysis
- Traffic Signal Priority for the Streetcar
- Street Design Concept for Santa Ana Boulevard

The supplemental traffic analysis was prepared in accordance with City of Santa Ana requirements and the Orange County Congestion Management Program (CMP) (OCTA 2015) requirements.

Reclassification of Santa Ana Boulevard. Santa Ana Boulevard between Raitt Street and Shelton Street would be reclassified from a four-lane undivided roadway to a two-lane roadway (divided with a center left turn lane or raised median with left-turn pockets). Table 3-1 of the supplemental traffic analysis (see Appendix C), provides the

intersection Level of Service (LOS) Summary for the Santa Ana Boulevard Reclassification. As shown, the Santa Ana Boulevard Reclassification would not cause any of the affected intersections to deteriorate to unacceptable LOS (all intersections operate at LOS D or better). Table 3-2 of the supplemental traffic analysis shows the results of the roadway segment LOS analysis at the seven affected roadway segments. As shown in Table 3-2, the Santa Ana Boulevard reclassification would not cause any of the affected roadway segments to deteriorate to an unacceptable LOS (all seven roadway segments are forecast to operate at acceptable LOS B).

Santa Ana Boulevard Stations. Table 3-3 of the supplemental traffic analysis (see Appendix C), provides the results of the intersection LOS analysis at the intersection of Santa Ana Boulevard/Ross Street. As shown in Table 3-3, the Santa Ana Boulevard station relocation would not cause the affected intersection to deteriorate to unacceptable LOS (the intersection of forecast to operate at acceptable LOS A during the AM and PM peak hours).

Fairview Street Grade Crossing Analysis. Table 3-4 shows the results of the intersection VISSIM analysis at the intersections of Fairview Street and Civic Center Drive and Fairview Street and 5th Street. As shown in Table 3-4, the Fairview Street grade crossing would not cause the affected intersections to deteriorate to unacceptable LOS. Tables 3-5 and 3-6 show the AM and PM Peak Hour intersection queuing summary associated with the Fairview Street Grade Crossing. As shown in Tables 3-5 and 3-6, the addition of the at-grade crossing at Fairview Street between Civic Center Drive and 5th Street would reduce, on average, both the average and maximum queue lengths.

Traffic Signal Priority for the Streetcar. Table 3-7 summarizes the delay and corresponding LOS for 2035 Streetcar Conditions, with and without the transit signal priority adjustments, and using Highway Capacity Manual (HCM) Methodology. As shown on Table 3-7, overall intersection delay would change with implementation of Traffic Signal Priority, with minor decreases in delay at some locations, and minor increases in delay at other locations. However, in no instance would the minor increase in delay result in a new significant impact, or increase in the severity of an impact. All intersections would continue to operate at an acceptable LOS. Table 3-8 summarizes the delay and corresponding LOS for 2035 Streetcar Conditions, with and without the transit signal priority adjustments, and using Intersection Capacity Utilization (ICU) Methodology. As shown in Table 3-8, the application of Traffic Signal Priority to all of the affected intersections would not result in any deterioration of LOS from acceptable to unacceptable.

Street Design Concept for Santa Ana Boulevard. Table 3-9 summarizes the LOS for study area intersections with implementation of the Santa Ana Boulevard Street Design Concepts, but without the implementation of the Traffic Signal Priority as discussed above. Table 3-9 shows an impact at the intersection of Santa Ana Boulevard/Raitt Street, where the LOS would deteriorate from acceptable LOS D to unacceptable LOS E in the PM peak hour. However, implementation of the design modifications includes implementing Traffic Signal Priority. Therefore, the new street design concept with the inclusion of Traffic Signal Priority was evaluated, and is summarized in Table 3-10. As shown in Table 3-10, the application of Traffic Signal Priority to all the affected intersections would not result in any deterioration of LOS from acceptable to unacceptable.

Based on this supplemental traffic impact analysis of design modifications, no new significant traffic impacts and no increase in the severity of an impact would result as compared to the originally approved Project as evaluated in the EIR. No additional traffic impacts would occur and the conclusion that the Project would result in a less than significant traffic impact as identified in the EIR remain accurate.

Noise and Vibration

A Supplemental Noise and Vibration Technical Analysis was prepared to address the potential noise and vibration impacts associated with the proposed design modifications (see Appendix D).

The findings of the supplemental noise and vibration analysis of proposed design modifications conclude that the recommendations have been incorporated into the Project in the form of design features that are consistent with previously-adopted Mitigation Measures N-1 through N-3 in the EIR. Incorporation of these design features would attenuate noise and vibration levels at the few locations potentially affected by the design modifications along the

Project alignment, such that no new significant impacts and no increase in the severity of an impact would result as compared to the originally approved Project and as evaluated in the EIR.

The proposed modifications that have been determined to have the potential to affect noise and vibration levels and were studied in detail in the Supplemental Noise and Vibration Analysis (Appendix D) include physical improvements and operational modifications.

Physical Improvements:

- **Alignment Shift.** Repositioning the double track alignment within the PE ROW is proposed. This modification would shift the railroad centerline within the PE ROW to the north.
- **Changes to Special Trackwork.** Placement of single crossovers on both sides of the maintenance and storage facility (MSF), changed layout for MSF, added crossovers on both sides of downtown couplet, and replacement of the tail track beyond the SAR Transit Center (SARTC) platform with a double-crossover before the SARTC platform is proposed.

Operational Modifications:

- **Increase in Speed.** Increasing the maximum speed within the PE ROW from 35 miles per hour (mph) to 45 mph; and
- **Traffic Signal Priority.** Implementation of traffic signal priority at all traffic signals along the route except for Main Street, Broadway, and Bristol Street is proposed.

Noise Analysis of Increased Speed and Alignment Shift

As described in Appendix D, the impacts associated with the increase in speed combined with the alignment shift are the same as those for the original Project with the exception of at receivers R1 (located within NSA 1), R4 (located within NSA 2), R7 (located within NSA 3), and R8 (located within NSA 4). With the proposed modifications, receivers R1 and R4 would be exposed to moderate noise impacts. At receiver R7 the noise level would worsen from a moderate impact to a severe impact without mitigation as compared to the original Project. At receiver R8 the noise level improved, as it would be reduced from a severe impact under the original Project, to a moderate impact under the currently modified Project.

The February 2012 noise and vibration technical report provided as an appendix to the EIR, recommended the following measures to reduce the severe impacts: 1) wayside noise barriers; 2) horn sounding exemption at grade crossings; and, 3) special trackwork devices. The currently proposed Project plans call for the use of flange bearing frogs at all crossovers. Therefore, no further measures are required for the special trackwork.

The 2012 noise analysis evaluation provided in the EIR identified the need for noise barriers for receptor locations R10, R12, R13, and R14. Due to the change in train speed, elevation, and the shift in centerline an additional wayside noise barrier would be required to reduce the noise level in the vicinity of receptor R7 (located in NSA 3). Noise levels at receivers R7 and R14 would be reduced to moderate after the implementation of the proposed design feature, which is consistent with the previously-adopted Mitigation Measure N-3.

If a horn sounding exemption is established and approved at each crossing, the required use of warning horns would be exempted and horns would not be sounded except in an emergency situation. Based on the supplemental noise and vibration analysis, noise levels at receivers R10 and R13 would be reduced to a moderate impact after the implementation of the proposed mitigation measure. This measure was previously identified in the EIR, and the supplemental analysis demonstrates that the proposed modification does not change the previously-adopted mitigation measure.

As disclosed in the EIR, all severely impacted receivers would be reduced to moderate or no impact after the implementation of proposed mitigation. Eliminating the horn sounding at receptors R10 and R13 would reduce the noise impact from severe to moderate. Therefore, no barriers are recommended at those locations.

Streetcar Vibration Analysis

The proposed Project modifications would affect the vibration level results as presented in the February 2012 Noise and Vibration Technical Report provided as an appendix to the EIR. Beginning at Harbor Boulevard and ending at Raitt Street the proposed modifications would implement the following changes to the previously approved Project.

- The proposed modification would increase the average train speed within the PE ROW from 35 to 45 mph
- The proposed modification would shift the railroad alignment within the PE ROW to the north.

Impact of Proposed Design Modifications

Table L of the Supplemental Noise and Vibration Analysis lists the vibration levels calculated for the proposed alignment. This table reflects the change in vibration levels associated with the increase in speed and the change in centerline location. There are only Land Use Category 2 and Land Use Category 3 noise receptors located within the vicinity of the project modifications. Land Use Category 2 includes residences and buildings where people normally sleep. Land Use Category 3 includes institutional land uses with primarily daytime and evening use. The impact threshold for Land Use Category 2 is 72 VdB and for Land Use Category 3 is 75 VdB. As shown, the vibration levels are below the impact threshold at all receptor locations. Therefore, no minimization design features are required.

Construction Vibration Analysis

Construction of the proposed Project may require pile driving and has the potential to result in temporary vibration impacts to structures and humans. The potential use of pile driving is associated with the Project as evaluated in the EIR. However, the design modifications specifically do not trigger the need for the use of pile driving. The 2012 Noise and Vibration Technical Report (URS) determined that residences located within 100 feet of the Westminster Avenue overpass or the Santa Ana River Bridge would be exposed to vibration levels exceeding those listed in Table M of the Supplemental Noise and Vibration Analysis, therefore the design modifications do not increase the severity of vibration impacts nor introduce new vibration impacts not previously analyzed.

The residences located adjacent to the Santa Ana River Bridge would be exposed to vibration levels of up to 0.32 PPV, exceeding the 0.2 PPV threshold for standard residential construction. The Old Pacific Electric Santa Ana River Bridge would be exposed to vibration levels of up to 0.23 PPV, exceeding the 0.12 PPV threshold for historic structures. However, these levels are based on the use of impact pile drivers. Section 3.16.2.3 of the EIR included the following best management practices (BMPs) for bridge construction vibration:

- Noise and Vibration Control Plan will be developed and implemented prior to construction that will include the following best management practices to minimize exposure to high levels of noise and vibration and ensure compliance with construction noise and vibration criteria listed in the FTA Transit Noise and Vibration Impact Assessment guidance document. This includes ensuring that vibration levels at historic structures do not exceed 0.12 inches per second peak particle velocity.
- Where pile-driving operations are required, vibratory pile driving or pre-drilled pile insertion techniques shall be used whenever possible, rather than impact pile driving.

Although perceptible at the residences these vibration levels would not exceed FTA's vibration damage criteria.

The 2012 Noise and Vibration Technical Report (URS) determined the following distances for potential for vibration impacts due to the use of a piece of equipment such as a vibratory roller during construction:

- Building damage to residential structure – 26 Feet
- Building damage to institutional structure – 15 Feet

- Human annoyance to residential land use – 145 Feet
- Human annoyance to institutional land use – 115 Feet

Any structures within the distances identified above would be considered impacted due to use of construction equipment such as a vibratory roller. The proposed modified alignment would reduce the minimum distance to a residential structure to 37 feet. While this distance is within the annoyance area it is outside of the potential damage area.

Traction Power Substation Noise Analysis

The noise sources on TPSS units are the transformer hum and noise from cooling systems. The wall mounted HVAC units are the primary noise source on the proposed TPSS units.

TPSS units 1 and 4 are located in residential areas. Table N of the Supplemental Noise and Vibration Technical Analysis (see Appendix D) shows the predicted noise level at the TPSS sites. This table also lists the FTA noise impact criteria, in which a noise level above the specified dBA would be considered an impact. For TPSS unit 1, a noise level exceeding 54 dBA would be considered an impact. For TPSS unit 4, a noise level exceeding 59 dBA would be considered an impact. As shown in Table N, noise levels would be 42 dBA at TPSS unit 1 and 46 dBA at TPSS unit 4. These noise levels are less than the specified thresholds of 54 dBA (unit 1) and 59 dBA (unit 4); therefore, there would be no impact associated with the TPSS units. However, it is recommended that the following measures be implemented to ensure that the impact is below a level of significance:

- Orient the TPSS unit so that the HVAC units, the primary source of noise, are pointing away from the nearest residence.
- At the residential locations, the TPSS units will be designed so as not to exceed a maximum noise level of 45 dBA at a distance of 50 feet from the unit or at the setback line of the nearest building, whichever is closer.

The potential noise and vibration impacts associated with the construction and operation of the Project were evaluated in the EIR. Since the certification of the EIR, there have been some design modifications that have the potential to change the noise and vibration characteristics of the proposed Project as evaluated in the EIR. These design modifications have been evaluated as summarized above. Based on this supplemental evaluation, it has been determined that the proposed design modifications would not result in a new impact, increase in the severity of an impact, or require the implementation of a new mitigation measure as evaluated in the EIR. No additional noise or vibration impact would occur and the conclusions and mitigation measures identified in the EIR remain accurate and applicable to the proposed Project.

Air Quality

The potential air quality and greenhouse gas emissions (global climate change) impacts associated with both the construction and operation of the proposed Project were evaluated in the EIR. There have been no changes to the air quality environment as evaluated in the EIR. The proposed minor design modifications would change some of proposed improvements within the corridor; however, the general Project construction characteristics as described in EIR would not be altered in such a manner as to result in an increase in the daily construction emissions, and no new mitigation measures would be required.

In terms of short-term, construction-related air quality impacts, as described in the EIR (and applicable to the Project with the proposed design modifications), construction activities would be completed in a segment by segment basis to minimize the disruption to local residents and businesses in the Study Area. As concluded in the EIR, there would be no exceedances of South Coast Air Quality Management District (SCAQMD) regional significance thresholds as a result of daily construction emissions. This conclusion would still apply with implementation of the proposed Project modifications as the construction parameters and characteristics would be the same; no new significant short-term air

quality impact, increase in the severity of an impact, or new mitigation measure would be required associated with implementation of the proposed design modifications.

In terms of long-term, operational air quality and greenhouse gas emissions impacts, with the exception of an increased maximum speed in the PE ROW and the implementation of traffic signal priority, no changes to the operational characteristics are proposed that would affect the previous conclusions of “less than significant impact” for operational air quality and greenhouse gas emissions impacts. The Traffic Study Addendum v2 (provided in Appendix C), indicates that all roadway segments and intersections would operate at an acceptable LOS with the implementation of the traffic signal priority. Therefore, the conclusion that long-term impacts associated with localized CO concentrations (due to poor intersection LOS) would be less than significant would remain. No additional air quality or greenhouse gas emissions impacts would occur and the conclusions identified in the EIR remain accurate.

Energy Resources

The EIR identified a less than significant impact to Energy Resources as a result of the Project. This is attributed to the reduction of Vehicle Miles Traveled (VMT) that is anticipated with the operation of the streetcar. The proposed design modifications would not affect the anticipated ridership for the Project; therefore, there would be no new impact, or increase in the severity of an impact related to Energy Resources and the conclusions identified in the EIR remain accurate.

Water Quality, Hydrology, and Floodplains

The potential water quality, hydrology, and floodplains impacts associated with the construction and operation of the Project were evaluated in the EIR. The EIR determined that impacts to these resources would be less than significant related to water quality, water discharge, stormwater runoff and as related to alteration of drainage patterns. As described previously, some of the proposed design modifications involve changes to the proposed drainage improvements. Appendix P (Drainage Technical Report) of the EIR, described storm drain improvements on many streets outside the Project alignment. However, modification of scope of drainage improvements is proposed in order to rely less on connections to the existing storm drain network and, instead, use surface conveyance in streets to maintain existing drainage patterns to the maximum extent practicable while addressing surface storm water drainage needs generated by the Project, or change in drainage patterns caused solely by the Project. The proposed design modifications to the drainage plan for the Project would not result in the increase in a new impact related to hydrology, increase in the severity of an impact related to hydrology, or require new mitigation measures in order to address drainage and/or hydrology impacts. The EIR identifies that the Project would be required to comply with BMPs to address pollutants of concern and hydrologic conditions of concern associated with the Project's stormwater runoff. With implementation of the BMPs, the Project would result in less than significant impacts to water quality, water discharge, and stormwater runoff. The implementation of BMPs would be applicable to the design modifications. Further, design modifications such as changing the single track bridge to a double track bridge over the Santa Ana River would not increase impervious surfaces, as the underlying channel is concrete lined. Therefore, the construction and operation of the Project would be the same as evaluated in the EIR. No additional water quality, hydrology, or floodplains impact would occur and the conclusions that impacts to these environmental resource areas are less than significant as identified in the EIR remain accurate.

Safety and Security

This environmental resource issue area is only applicable to the analysis pursuant to the NEPA, and no further analysis is warranted in this CEQA Addendum.

Construction

The potential construction impacts associated with the proposed Project construction were evaluated in the EIR. This chapter of the EIR evaluated potential construction impacts related to visual quality, energy resources, traffic, circulation, parking, hazardous materials, air quality, noise and vibration, and land use. Since the certification of the EIR, there have been no changes to the construction characteristics of the proposed Project as evaluated in the EIR. Proposed construction activities would remain the same as previously evaluated with respect to these environmental resource areas.

The proposed design modifications would not change the previous conclusions regarding construction impacts. No additional impacts would occur to these environmental resources and the conclusions that the Project would not result in a significant impact to these resources as identified in the EIR remain accurate.

Other Considerations

The EIR addressed several environmental issue areas within Chapter 3.17 Other Considerations. These included: Biological Resources, Utilities and Service Systems (Wastewater Treatment and Facilities, Stormwater Drainage Facilities, Water Supply, and Solid Waste Disposal and Compliance Regulations), Parklands and Recreational Facilities, Growth Inducing Impacts, Significant Irreversible Environmental Changes, and Summary of Significant Unavoidable Impacts.

Biological Resources. The proposed design modifications would not significantly impact biological resources as these resources are not present within, or in proximity to, the limits of disturbance associated with implementation of the design modifications. No additional impacts would occur to this environmental resource and the conclusions that the Project would not result in a significant impact to this resource as identified in the EIR remain accurate.

Utilities and Service Systems. The proposed design modifications would result in less than significant impacts to wastewater treatment facilities, stormwater drainage facilities, water supply, and solid waste disposal.

As with the Project described in the EIR, implementation of the design modifications would not generate wastewater from activity along the alignment or at stations. Wastewater would be generated by the O&M Facility, but no change to the O&M Facility is proposed, and as identified in the EIR, the O&M Facility would not put added strain on existing wastewater treatment capacity.

Project modifications are proposed related to drainage improvements as described previously under "Water Quality, Hydrology and Floodplains." No change to the previous conclusion of less than significant impact would occur.

The design modifications would not change the water use associated with operation and maintenance of the Project, such as vehicle washing and worker hygiene. No change to the previous conclusion of less than significant impact would occur.

Solid waste receptacles would be placed at stations, and solid waste would be generated at the O&M Facility. However, no changes to these aspects of the Project are proposed with the design modifications; therefore, no change to the previous conclusion of less than significant impact would occur.

Parklands and Recreational Facilities. The proposed design modifications would not significantly impact parklands and recreational facilities. No additional impacts would occur to these environmental resources and the conclusions that the project would not result in a significant impact to these resources as identified in the EIR remain accurate.

Findings from Environmental Re-evaluation

- (1). *Substantial changes are not proposed for the project that will require major revisions of the previous EIR due to the involvement of new, significant environmental effects or a substantial increase in the severity of previously identified effects.*

Substantial changes have not occurred with respect to the circumstances under which the Project was undertaken, that would require major revisions to the Project EIR. Since certification of the Project EIR in January 2015, there have been no major updates to the CEQA Guidelines or adoption of new legislation requiring additional environmental analysis. Therefore, no proposed changes or revisions to the EIR are required. In addition, all previously adopted mitigation measures are incorporated herein by reference.

- (2). *Substantial changes have not occurred with respect to the circumstances under which the project is undertaken, that would require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.*

As described in the preceding text for each environmental issue area, no substantial changes have occurred with respect to the circumstances under which the proposed Project design modifications would be undertaken that would suggest that its adoption and implementation would result in any new significant environmental effects or a substantial increase in the severity of the previously identified significant effects not previously discussed in the certified Project EIR would occur. Therefore, no proposed changes or revisions to the EIR are required. In addition, all previously adopted mitigation measures presented in the Project EIR are incorporated herein by reference and would be implemented in compliance with the adopted MMRP for the Project.

- (3). *No new information has been provided, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete that would indicate that the proposed project would result in one or more significant effects not discussed in the previous EIR, significant effects would be substantially more severe, mitigation measures or alternatives previously found to be infeasible would in fact be feasible, or mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measure or alternative.*

There is nothing in the proposed Project design modifications that would suggest that its adoption and implementation would result in any new significant environmental effects or the increase in the severity of an environmental effect not previously discussed in the Project EIR. Therefore, no proposed changes or revisions to the EIR are required. In addition, all previously adopted mitigation measures presented in the Project EIR are incorporated herein by reference and would be implemented in compliance with the adopted MMRP for the Project.

6. CONCLUSIONS

Based on the findings and information contained in the previously-certified Project EIR, the analysis above, the CEQA statute and State CEQA Guidelines, including Sections 15164 and 15162, the proposed design modifications will not result in any new, increased, or substantially different impacts, other than those previously considered and addressed in the Project EIR. No changes or additions to the Project EIR analyses are necessary, nor is there a need for any additional mitigation measures. Therefore, a Supplemental EIR is not required. This Addendum to the EIR is the appropriate environmental documentation for the proposed modifications to the Project.

Figures and Appendices are not included with this Addendum, but can be made available upon request.

List of Figures

Figure 1	Overview of Design Modifications
Figure 2	Design Update ID # 1 – Santa Ana River Bridge
Figure 3	Design Update ID # 3 – New SAR Trail and Bikeway Undercrossing on West Side of SAR
Figure 4	Design Update ID # 5 – Delete Willowick Station Stop
Figure 5	Design Update ID # 5 & # 6 – Revised Station Locations
Figure 6	Design Update ID # 7 – Revised Crossover Locations
Figure 7	Design Update ID # 9 – Westminster Avenue Bridge Type
Figure 8	Design Update ID # 10 – Santa Ana Blvd from Flower to Raitt
Figure 9	Design Update ID # 11 – Santa Ana Blvd from French to Flower
Figure 10	Design Update ID # 12 – Traction Power Substation Locations
Figure 11	Design Update ID # 13 – Street Drainage
Figure 12	Design Update ID # 14 – Two-Wire OCS in PE ROW

List of Appendices:

Appendix A	Visual Impact Assessment (VIA) Supplement (HDR, 2016)
Appendix B	Cultural Resources Update Technical Memorandum (HDR, 2016)
Appendix C	Traffic Study Addendum v2 (IBI Group, 2016)
Appendix D	Supplemental Noise and Vibration Technical Analysis (HDR, 2016)



ORANGE COUNTY TRANSPORTATION AUTHORITY

**OC Streetcar Project Update and Revised Capital Funding
Plan**

Attachment B



Capital Funding Program Report

Rail Project

Project Title	M Code	Total Funding	State Funds		Federal Funds		Local Funds		Local - Other
			STIP/Other	State Bonds	RSTP/CMAQ	Other Fed.	M1	M2	
Fullerton Transportation Center Parking Expansion Project	M1/R	\$33,667	\$11,250	\$11,035			\$9,718		\$1,664
Laguna Niguel-Mission Viejo Station Parking Improvements and Expansion	M1/R	\$15,134			\$6,500		\$8,634		
Orange Transportation Center Parking Structure	M1/R	\$33,175	\$13,762		\$4,073	\$3,298	\$1,850	\$420	\$9,772
Sand Canyon Avenue Grade Separation Project ¹	M1/R	\$61,962		\$28,104	\$10,536		\$3,116	\$5,352	\$14,854
M2 Project S Fixed-Guideway Anaheim Rapid Connection	M1/S	\$19,452				\$10,682	\$6,000	\$1,335	\$1,435
OC Streetcar (Proposed New Starts) ^{2,3}	M1/S	\$297,911	\$40,000		\$53,034	\$153,047	\$4,977	\$51,830	
OC Streetcar Preliminary Studies and Environmental ³	M1/S	\$7,014				\$341		\$554	
Anaheim Regional Intermodal Transportation Center (ARTIC) Construction	M1/T	\$184,164	\$29,219		\$35,000	\$40,754	\$43,900	\$35,291	\$1,142
17th Street Grade Separation Environmental	R	\$3,500			\$18,050			\$3,500	
Anaheim Canyon Station Improvements	R	\$20,051				\$2,001			
Control Point at 4th Street	R	\$4,000				\$4,000			
Future Video Surveillance Systems	R	\$1,531				\$1,288			\$243
Laguna Niguel to San Juan Capistrano Passing Siding	R	\$82,217	\$3,000	\$2,483	\$19,791	\$82,217			
Metrolink Rehabilitation/Renovation - fiscal years 2011-12 to 2019-20	R	\$2,230				\$1,784			\$446
Metrolink Station and Track Improvements, and Rehabilitation	R	\$34,825	\$2,500	\$400	\$50	\$1,784		\$8,000	\$23,875
Placentia Commuter Rail Station	R	\$39,916				\$5,726			
Positive Train Control (Metrolink)	R	\$788							
Rail Station Platform Safety Improvements (Fullerton, Irvine, and Tustin)	R	\$5,103							
San Clemente Beach Trail Crossings Safety Enhancements	R	\$2,170				\$29,375		\$2,311	\$622
San Juan Creek Bridge Replacement ¹	R	\$34,200				\$2,000		\$1,213	
Slope Stabilization Laguna Niguel-Lake Forest	R	\$2,000							
State College Grade Separation (LOSSAN)	R	\$79,284						\$33,284	
Ticket Vending Machines	R	\$6,857				\$6,857			\$860
Video Surveillance Systems at Commuter Rail Stations	R	\$4,300				\$3,440		\$733	
M2 Project S Transit Extensions to Metrolink (Rubber Tire)	S	\$733							
Fullerton Transportation Station Expansion Planning, Environmental, Planning Study Report	M1	\$875			\$775		\$100		
Rail Project Totals		\$1,000,163	\$99,731	\$128,782	\$147,809	\$346,810	\$78,295	\$145,823	\$54,913

State Funding Total	\$228,513
Federal Funding Total	\$494,619
Local Funding Total	\$277,031
Total Funding (000's)	\$1,000,163

Rail Project Completed

Project Title	M Code	Total Funding	State Funds		Federal Funds		Local Funds		Local - Other
			STIP/Other	State Bonds	RSTP/CMAQ	Other Fed.	M1	M2	
Metrolink Grade Crossing Safety Improvements (OC)	M1/R	\$85,009		\$18,595			\$6,305	\$36,299	\$23,810
Metrolink Rolling Stock	M1/R	\$158,009		\$36,300	\$42,230	\$35,390	\$44,089		
Metrolink Service Track Expansion	M1/R	\$119,957		\$51,399			\$68,558		
Control Point Stadium Crossover	R	\$6,490		\$3,245		\$3,245			



COMMITTEE TRANSMITTAL

July 25, 2016

To: Members of the Board of Directors
From: Laurena Weinert, Clerk of the Board
Subject: Regional Traffic Signal Synchronization Program Overview

Regional Planning and Highways Committee Meeting of July 7, 2016

Present: Directors Bartlett, Do, and Miller
Absent: Directors Donchak, Lalloway, Nelson, Spitzer, and Ury

Committee Vote

Due to lack of quorum, no action was taken on this item.

Staff Recommendation

Receive and file as an information item.




ORANGE COUNTY TRANSPORTATION AUTHORITY

Regional Traffic Signal Synchronization Program Overview

Staff Report



July 7, 2016

To: Regional Planning and Highways Committee
From: Darrell Johnson, Chief Executive Officer 
Subject: Regional Traffic Signal Synchronization Program Overview

Overview

The Orange County Transportation Authority has been working with local cities, the County of Orange, and the California Department of Transportation on the implementation of multi-agency traffic signal synchronization. This report provides an update of the Regional Traffic Synchronization Program, including results from recently completed signal synchronization projects.

Recommendation

Receive and file as an information item.

Background

The Orange County Transportation Authority (OCTA) provides funding and assistance to implement multi-agency signal synchronization as part of the Measure M2 (M2) Regional Traffic Signal Synchronization Program (RTSSP). OCTA provides competitive capital grants and operations funding for the coordination of traffic signals across jurisdictional boundaries. The RTSSP goal is to improve the flow of traffic by developing and implementing regional coordination that crosses local agencies' boundaries and maintains coordination through freeway interchanges, where possible.

Beginning with the demonstration projects in 2008 and 2009, OCTA and local agencies have implemented signal synchronization for 38 projects that included 1,682 signalized intersections and 436 miles of streets (Attachment A). The projects have improved travel times, reduced delays and congestion, and increased the number of successive green lights drivers see in daily commutes. The results of the program translate into direct cost savings for the motorist, with less fuel consumption and a reduction of greenhouse gas (GHG) emissions.

Discussion

Signal synchronization is a cost-effective way to increase roadway throughput without major new construction. The goal of these projects is to optimize traffic signal timings that will reduce travel times, stops, and delays, and give the vehicle occupants an improvement in their drive along corridors. OCTA has used a variety of sources in the past to fund signal synchronization projects on a regional basis, including Measure M1, Proposition 1B Traffic Light Signal Synchronization Program, and air quality funds.

Currently, signal synchronization is primarily funded as part of the M2 RTSSP, a 30-year competitive grant program that started in 2011. As part of the signal program, OCTA seeks to work with cities, the County of Orange, and the California Department of Transportation (Caltrans) to accelerate the implementation of traffic signal coordination. The target of this program is to regularly coordinate signals over a 2,000 intersection system of interconnected networks as the basis for synchronized operations across Orange County. Funding is provided through annual calls for projects (call), with 80 percent of funding from M2 and 20 percent from local agencies' matching funds. All projects must coordinate traffic across jurisdictional boundaries or complete sections of roadways that will accomplish that goal.

Key to these efforts is regular dialogue between the partner agencies and Caltrans. The result is that the local agencies work together towards the multi-jurisdictional nature of the projects. Projects are corridor-based, and optimized signal timings are developed based on existing traffic data and patterns.

A coordination strategy is developed that combines interconnected, time-based synchronization of the respective agencies' systems, including the necessary modifications in the infrastructure in preparation for future uses and upgrades. Existing synchronization on crossing arterials is incorporated when and where applicable. Optimized timings are developed and implemented for identified peak periods, which are typically weekday mornings, midday, evenings, and for weekend operations, mid-morning through early evening. In order to quantify signal synchronization benefits, "before and after" studies are conducted to evaluate the improvements from these new optimized timing plans.

The studies are conducted during peak traffic periods with specially equipped vehicles that have a computer-linked satellite global positioning system time and location source to record various measures within the flow of traffic during each period. Several runs are made in each direction with the car "floating" in the middle of the platoon of vehicles for each run. These studies showed improvements across all performance measures of travel time, number of stops, and average safe speed. Additionally, fuel consumption, GHG, and other vehicle emission data is reported (Attachment B).

Historically, individual agency signal timing efforts nationwide have resulted in travel time and speed improvements, as well as a reduction in stops in the range of between five percent and 15 percent. Comparisons of the corridors' before and after studies indicate much better results due to the combination of the optimized traffic signal timing plans, cooperation between all participating agencies, and minor signal upgrades to maximize arterial capacity.

Signal Synchronization Projects

OCTA and local agencies have completed 38 signal synchronization projects since 2008. A total of 1,682 signalized intersections, over 436 miles of arterial highways, have been synchronized. The total cost of these projects was over \$24.1 million. The completed projects are identified on the map in Attachment A. A summary of the results for the 38 completed signal synchronization projects is identified on the table in Attachment B.

Travel times for these completed projects are reduced by an average of 13 percent. The projects result in a reduction in the average number of stops of 31 percent. Average speed improved by 15 percent. Consumers will save approximately \$109.5 million (at \$3.90 per gallon of fuel) and reduce GHG by approximately 573.1 million pounds over the three-year project cycle. The fuel savings are reduced to approximately \$81.5 million at today's fuel price of \$2.90 per gallon. The reduction of GHG is made possible by reducing the number of stops, smoothing the flow of traffic, and reducing the amount of acceleration and deceleration of vehicles.

Currently, OCTA is funding an additional 49 signal synchronization projects that are in various stages of implementation. The committed funding from OCTA is primarily from the competitive signal program, and the total cost of these projects is \$56.8 million. Once completed, these funded projects will synchronize an additional 347 miles and 1,326 signals.

The signal program allows for completed projects to compete again for funding during the annual call process. Previous investments made as part of earlier projects are incorporated into the revisited project, while new investments can be made in other locations. An example of this would be the Oso Parkway/Pacific Park Drive signals, which were synchronized in 2009 and updated in 2014. The result is a program that will regularly coordinate 2,000 intersections as the basis for synchronized operation across Orange County.

Next Steps

OCTA continues to work with local agencies through various venues, including the Technical Steering Committee and Technical Advisory Committee, to identify corridors that are eligible for funding and would benefit from signal program funding as part of the annual call.

Summary

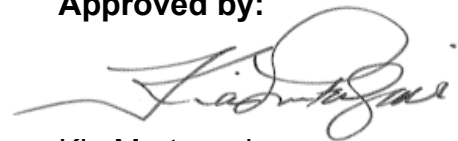
OCTA and local agencies have successfully implemented new cooperative traffic signal synchronization timing on 38 corridors. Another 49 projects are planned or underway. The synchronization of traffic signals along these regional corridors will continue to result in significant improvements to traffic flow by reducing total travel times and stops per mile, coupled with improvements in average speeds, resulting in more greens traversed than stopped for a red, plus decreases in GHG and overall vehicle emissions.

Attachments

- A. OCTA – Funded Signal Synchronization Projects (2008 – present)
- B. Summary of Results for Completed Regional Traffic Signal Synchronization Projects

Prepared by:

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ORANGE COUNTY TRANSPORTATION AUTHORITY

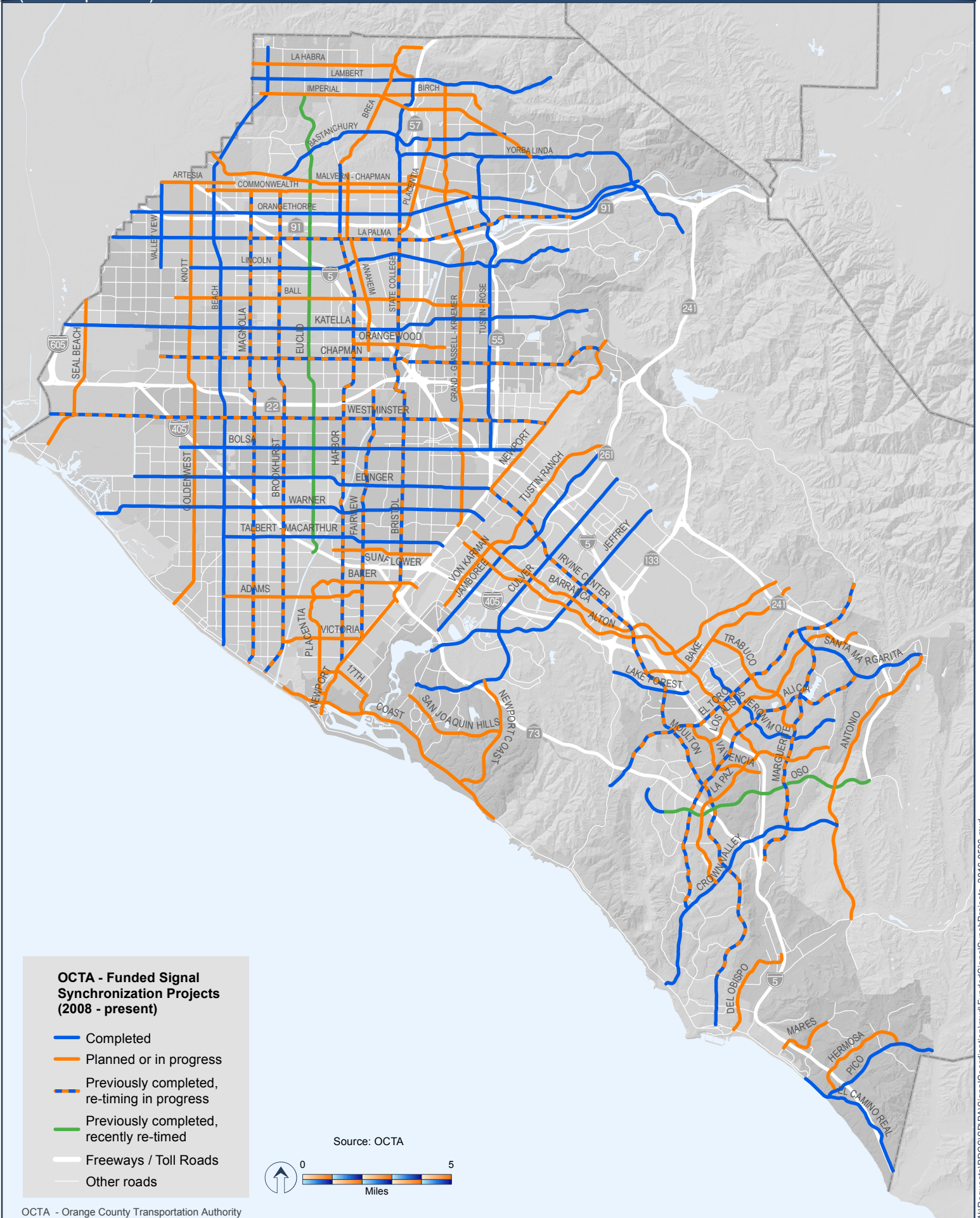
Regional Traffic Signal Synchronization Program Overview

Attachment A

OCTA - Funded Signal Synchronization Projects (2008 - present)

(2008 - present)

ATTACHMENT A



OCTA - Funded Signal Synchronization Projects (2008 - present)

- Completed
- Planned or in progress
- Previously completed, re-timing in progress
- Previously completed, recently re-timed
- Freeways / Toll Roads
- Other roads

Source: OCTA





ORANGE COUNTY TRANSPORTATION AUTHORITY

Regional Traffic Signal Synchronization Program Overview

Attachment B

Summary of Results for Completed Regional Traffic Signal Synchronization Projects

Corridor Name	Timing Completed	Lead Agency	Length (Miles)	Signals	Project Cost	Project Life Fuel Consumed Savings (gal)	Estimated Project Life Gas Savings (Dollars)^	Estimated Project Life Greenhouse Gas Savings (lbs.)	Travel Time ² Improvement	Average Speed Improvement	Stops ¹ Improvement
Alicia Parkway	2010	OCTA	11	41	\$945,000	206,667	\$ 806,001	4,220,358	13%	12%	40%
Avenida Pico	2014	San Clemente	4	21	\$483,166	181,023	\$ 705,991	3,696,687	9%	10%	21%
Bastanchury Road	2013	Fullerton	8	27	\$674,920	270,002	\$ 1,053,007	5,513,723	13%	15%	49%
Beach Boulevard	2010	OCTA	20	70	\$1,300,000	2,684,544	\$ 10,469,722	54,821,202	14%	21%	28%
Brookhurst Street	2012	OCTA	16	56	\$631,764	2,012,875	\$ 7,850,213	41,105,031	19%	18%	31%
Chapman Avenue (South)	2010	OCTA	15	52	\$800,000	831,969	\$ 3,244,679	16,989,696	16%	18%	46%
Crown Valley Parkway	2014	OCTA	9	30	\$400,627	142,625	\$ 556,238	2,912,557	4%	3%	20%
Culver Drive	2014	Irvine	11	39	\$979,320	929,653	\$ 3,625,648	18,984,498	12%	12%	19%
Edinger Avenue	2014	OCTA	12	38	\$803,019	324,316	\$ 1,264,832	6,622,870	2%	5%	25%
Edinger Avenue/Irvine Center Drive/ Moulton Parkway	2011	OCTA	22	109	\$846,000	1,181,976	\$ 4,609,706	24,137,220	11%	14%	34%
El Camino Real	2014	San Clemente	4	18	\$580,267	380,188	\$ 1,482,733	7,763,838	9%	10%	25%
El Toro Road	2012	OCTA	11	40	\$478,916	846,879	\$ 3,302,828	17,294,160	19%	24%	32%
Euclid Street	2008	OCTA	15	62	\$450,000	792,726	\$ 3,091,631	16,188,276	20%	24%	43%
Euclid Street*	2013	Fullerton	17	66	\$1,250,000	1,106,675	\$ 4,316,031	22,599,458	15%	17%	40%
Fairview Road/Street	2014	Costa Mesa	8	31	\$775,001	444,993	\$ 1,735,472	9,087,220	11%	12%	24%
First Street/Bolsa Avenue	2014	OCTA	12	49	\$1,123,449	899,045	\$ 3,506,276	18,359,448	11%	12%	26%
Harbor Boulevard	2011	OCTA	16	107	\$520,000	827,208	\$ 3,226,111	16,892,430	11%	12%	23%
Jamboree Road	2014	Irvine	8	27	\$288,260	813,645	\$ 3,173,217	16,615,495	9%	9%	19%
Jeffrey Road	2014	Irvine	9	33	\$512,540	489,977	\$ 1,910,910	10,005,845	9%	10%	26%
Jeronimo Road	2015	OCTA	6	16	\$307,621	386,683	\$ 1,508,063	7,896,471	12%	3%	35%
Katella Avenue	2012	OCTA	17	69	\$673,845	1,137,363	\$ 4,435,716	23,226,165	14%	14%	36%
La Palma Avenue	2012	OCTA	18	58	\$803,999	1,610,653	\$ 6,281,546	32,391,229	18%	22%	27%
Lake Forest Drive	2014	OCTA	2	10	\$135,302	175,873	\$ 685,904	3,591,510	19%	23%	33%
Lambert Avenue	2013	La Habra	10	36	\$174,893	1,173,926	\$ 4,578,312	23,972,807	14%	16%	41%
Lincoln Avenue	2014	Anaheim	13	47	\$1,192,810	401,102	\$ 1,564,300	8,190,935	9%	15%	25%
MacArthur Boulevard/Talbert Avenue	2014	OCTA	7	26	\$490,320	134,391	\$ 524,129	2,744,427	7%	8%	13%
Magnolia Street	2014	OCTA	16	53	\$400,000	566,394	\$ 2,208,937	11,566,362	10%	12%	15%
Marguerite Parkway	2014	OCTA	9	31	\$332,397	156,175	\$ 609,084	3,189,264	11%	12%	21%
Orangethorpe Avenue	2011	OCTA	19	44	\$698,000	681,804	\$ 2,659,036	13,923,183	17%	20%	42%
Pacific Park/Oso Parkway	2009	OCTA	9	34	\$250,000	935,223	\$ 3,647,370	19,098,249	22%	29%	50%
Pacific Park/Oso Parkway*	2014	OCTA	8	31	\$612,778	490,380	\$ 1,912,481	10,014,071	16%	19%	29%
Santa Margarita Parkway	2015	OCTA	5	20	\$351,750	437,265	\$ 1,705,334	8,929,416	15%	18%	41%
State College/Bristol Street	2011	OCTA	17	97	\$760,000	1,048,650	\$ 4,089,735	21,414,531	15%	18%	28%
Tustin Avenue/Rose Drive	2013	OCTA	10	43	\$854,000	592,267	\$ 2,309,842	12,094,717	15%	17%	37%
Valley View Street	2014	Buena Park	3	14	\$350,000	783,613	\$ 3,056,089	16,002,194	28%	24%	37%
Warner Avenue	2014	OCTA	13	43	\$777,310	460,817	\$ 1,797,186	9,410,366	8%	6%	26%
Westminster Avenue	2011	OCTA	13	48	\$620,000	1,085,484	\$ 4,233,390	22,166,736	14%	17%	35%
Yorba Linda Boulevard	2013	OCTA	12	46	\$521,837	465,049	\$ 1,813,693	9,496,799	14%	17%	32%
Summary of All Projects			436	1682	\$ 24,149,109	28,090,099	\$ 109,551,393	573,129,444	13%	15%	31%

Note: Improvements are averaged cross both directions over the full corridor.

* Euclid Street and Oso Parkway/Pacific Park Drive are included twice because both have been revisited.

^ \$3.90 per gal gasoline price is used to estimate savings.

¹ Stops-per-mile - A stop is defined as coming to a complete stop or at least slowing to under five miles per hour (mph) after exceeding 15 mph. After you have stopped and then start again, but do not exceed 15 mph and slow or stop. It does not count as another stop per mile.

² Results of two percent - seven percent improvement indicates corridors with highly directional, predominate flows during certain periods of the day.

The opposing flows will usually show, or have opposite, or high values in improvement.

Acronyms:

gal - Gallons

lbs - Pounds

OCTA - Orange County Transportation Authority



COMMITTEE TRANSMITTAL

July 25, 2016

To: Members of the Board of Directors
From: Laurena Weinert, ^{RW} Clerk of the Board
Subject: Update on the State Route 55 Improvement Project Between Interstate 405 and Interstate 5

Regional Planning and Highways Committee Meeting of July 7, 2016

Present: Directors Bartlett, Do, and Miller
Absent: Directors Donchak, Lalloway, Nelson, Spitzer, and Ury

Committee Vote

Due to lack of quorum, no action was taken on this item.

Staff Recommendations

- A. Direct staff to incorporate a modified Alternative 3 in the State Route 55 Improvement Project between Interstate 405 and Interstate 5. The modified alternative includes the addition of one high-occupancy vehicle lane in each direction and exceptions to design standards to minimize additional right-of-way impacts and cost increases to Alternative 3.
- B. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program, and execute or amend all necessary agreements to accommodate the California Department of Transportation's modified Alternative 3.
- C. Direct staff to work with the California Department of Transportation to expedite the update of traffic, air quality, and other technical studies necessary to meet the dates required to amend the Federal Transportation Improvement Program to accommodate modified Alternative 3.
- D. Direct staff to return to the Board of Directors with updated project cost estimates and schedules, potential cost-sharing arrangements, funding options, and budget and contract amendments.



ORANGE COUNTY TRANSPORTATION AUTHORITY

**Update on the State Route 55 Improvement Project
Between Interstate 405 and Interstate 5**

Staff Report



July 7, 2016

To: Regional Planning and Highways Committee

From: Darrell Johnson, Chief Executive Officer

Subject: Update on the State Route 55 Improvement Project Between Interstate 405 and Interstate 5

Overview

The State Route 55 Improvement Project between Interstate 405 and Interstate 5 is included in the Measure M2 Transportation Investment Plan approved by Orange County voters in 2006. The project scope proposes to add new lanes in each direction, generally within the existing right-of-way, including merging lanes between interchanges to smooth traffic flow. In November 2015, the draft initial study with proposed mitigated negative declaration/ environmental assessment was approved and released by the California Department of Transportation for public review, which included a no-build and four build alternatives.

The California Department of Transportation is proposing to modify one of the build alternatives by adding one high-occupancy vehicle lane in each direction to the Measure M2 project scope of improvements. To accommodate this additional high-occupancy vehicle lane, the proposal includes exceptions to design standards, including reduced freeway lane and shoulder widths. The exceptions to design standards would minimize additional right-of-way impacts and cost increases to implement the modified alternative.

This report provides an overview of the modified alternative, identifies Board of Directors policy issues and tradeoffs, and recommends actions to keep the project moving forward.

Recommendations

- A. Direct staff to incorporate a modified Alternative 3 in the State Route 55 Improvement Project between Interstate 405 and Interstate 5. The modified alternative includes the addition of one high-occupancy vehicle lane in each direction and exceptions to design standards to minimize additional right-of-way impacts and cost increases to Alternative 3.

-
- B. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program, and execute or amend all necessary agreements to accommodate the California Department of Transportation's modified Alternative 3.
 - C. Direct staff to work with the California Department of Transportation to expedite the update of traffic, air quality, and other technical studies necessary to meet the dates required to amend the Federal Transportation Improvement Program to accommodate modified Alternative 3.
 - D. Direct staff to return to the Board of Directors with updated project cost estimates and schedules, potential cost-sharing arrangements, funding options, and budget and contract amendments.

Background

The Measure M2 (M2) Transportation Investment Plan approved by Orange County voters in 2006 includes Project F, State Route 55 improvements. The project proposes to add new lanes to State Route 55 (SR-55) between Interstate 405 (I-405) and Interstate 5 (I-5), generally within the existing right-of-way (ROW), including merging lanes between interchanges to smooth traffic flow.

The proposed project is included in the Southern California Association of Governments' (SCAG) financially constrained 2016-2040 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), which was found to be conforming by the Federal Highway Administration (FHWA)/Federal Transit Administration (FTA) on April 8, 2016. The project is also in the 2015 Federal Transportation Improvement Program (FTIP), which was found to be conforming by FHWA/FTA on December 15, 2014. The project description in these plans is noted as "add one mixed-flow lane in each direction and fix choke points from I-405 to I-5; add 1 aux lane in each direction between select on-/off-ramps through project limits." This description is consistent with how the project is characterized in the Orange County Transportation Authority (OCTA) Long-Range Transportation Plan (LRTP).

A project study report (PSR) was initiated to identify various improvement alternatives to reduce congestion and improve operational efficiency on SR-55 between I-405 and I-5. The PSR studied six alternatives, including a no-build alternative and recommended four viable alternatives to be evaluated for environmental impacts. The PSR was approved by the California Department of Transportation (Caltrans) on November 6, 2008.

Viability Alternatives:

PSR Alternative 1 - Add auxiliary (aux) lanes between interchanges

PSR Alternative 2 - Add one general purpose (GP) lane in each direction

PSR Alternative 3 - Add aux lanes between interchanges and one GP lane in each direction

PSR Alternative 5 - Add aux lanes between interchanges and one high-occupancy vehicle (HOV) lane in each direction

Non-Viability Alternative:

PSR Alternative 4 - Add aux lanes between interchanges, one GP lane in each direction, and one HOV lane in each direction

PSR Alternative 4 was documented and removed from further consideration during the project approval and environmental document phase due to extensive ROW impacts. The adjacent properties, mainly commercial, would be significantly impacted on both sides of the corridor, which would not be a feasible solution to address the traffic demand.

On May 24, 2011, Agreement No. C-0-1587 with HDR Engineering, Inc., to provide project report and environmental document (PR/ED) services, was executed. On June 2, 2011, Agreement No. C-0-1948 with Caltrans, to provide oversight for the preparation of the PR/ED at no cost, was executed.

For continuity of technical studies, PSR Alternative 5 was renamed to Alternative 4 in the environmental study phase. Each of the four viable build alternatives was included in technical studies and the draft initial study with proposed mitigated negative declaration/environmental assessment (IS/EA), approved by Caltrans and circulated for public review and comment from November 25, 2015 to January 23, 2016.

On January 11, 2016, the OCTA Board of Directors (Board) directed staff to submit a comment letter to Caltrans during public circulation of the draft IS/EA identifying the scope and funding intent of M2 Project F.

On May 6, 2016, Caltrans proposed to delay selection of a project preferred alternative and requested modifications to Alternative 3 that would provide additional capacity and address HOV lane degradation to meet Caltrans' goals and objectives through the addition of a second HOV lane in each direction.

Alternative 3 is consistent with the planning documents discussed above, and modification would require changes to the OCTA LRTP, SCAG RTP/SCS, and

FTIP. Modifications to Alternative 3 will require project technical studies to be updated and the draft IS/EA recirculated for public review, resulting in project delivery schedule delays.

Discussion

Caltrans' May 6, 2016 letter requesting consideration of a modified alternative and OCTA's response letter dated May 19, 2016 are included as Attachment A. Following OCTA and Caltrans staff discussions, Caltrans revised its proposed concept to add a second HOV lane in each direction to stay within the current Alternative 3 ROW footprint. The additional two HOV lanes would be accommodated by reducing the standard shoulder and lane widths where necessary. Caltrans' final proposed concepts are included as Attachments B and C. The Caltrans concept requires some additional roadway and structures construction, which appears to fit within the current Alternative 3 (M2 scope) ROW requirements when exceptions to design standards are implemented.

The proposed modification to Alternative 3 is consistent with project goals and objectives, is expected to result in further operational improvements, and increases capacity and throughput beyond those studied and included in the draft IS/EA. The concept is operationally similar to the PSR Alternative 4 that was dropped from further study due to extensive ROW impacts. Caltrans' concept of using exceptions to design standards for shoulder and lane widths could be considered a game changer, and could result in significant mobility improvements beyond those currently studied, and within the same physical ROW footprint. Of the remaining freeway projects progressing through the environmental phase, this segment of the SR-55 corridor is the most congested and has the highest minutes of delay per mile than any other freeway corridor. Implementing the modified Alternative 3 would provide double the additional lanes of capacity as originally planned, and would avoid impacting the travelling public, cities, and local communities twice, if an additional lane of capacity was constructed at a later date.

Policy Issues

Proceeding with the modified Alternative 3 would require the OCTA Board to address policy issues related to the use of funds for the M2 Freeway Program. Current programming policy/practice requires staff to utilize all available funding to advance the M2 projects. Project elements beyond the M2 project scope are funded externally. The HOV improvements proposed by Caltrans are beyond the M2 project scope, so non-M2 funding would need to be identified for the additional scope. Caltrans has programmed \$46.8 million in State Highway Operation and Protection Program funds for improvements within this corridor.

Additional funding would be necessary for the addition of the second HOV lane in each direction. Uncertainty in the State Transportation Improvement Program (STIP) and declining sales tax forecasts create challenges to identify potential funding for the HOV lanes. If the concept of adding a modified Alternative 3 is approved, OCTA staff would explore the potential of future STIP funding to fill the funding need, along with other state and federal sources of funding.

The Board may also consider policy decisions related to management and operational responsibilities for priced managed lanes on SR-55 should Caltrans elect to implement priced managed lanes in the future, after the project is constructed. A managed lanes concept is not included in the scope or technical studies of this project. Future environmental impact analysis would be necessary to determine the feasibility of priced managed lanes on SR-55. OCTA may consider a first right of refusal to design, build, and operate any future managed lanes facility on SR-55.

Project Implementation

Caltrans has proposed and committed to a streamlined review schedule and estimates a 12-month delay to the project if the modified Alternative 3 is included in the environmental studies and public review process. The critical path to incorporate the proposal into the project includes contract amendments, revised traffic studies, air quality analysis, SCAG conformity determination, and recirculation of the draft IS/EA for public comment. Other revised work includes roadway geometrics, pavement design, structures design, noise studies, and design exception fact sheets.

Air quality conformity and introduction of new design exception fact sheets are the highest risk items associated with the proposed changes. These two items require extensive support and cooperation from external agencies. SCAG is responsible for the RTP and air quality conformity, and Caltrans District 12 has delegated authority to approve design exception fact sheets.

Staff will return to the Board with a schedule to complete the environmental review process as well as implement the modified Alternative 3. In addition, M2 and non-M2 cost shares of the proposed improvements, funding options, and any necessary agreement and budget amendments to implement the modified alternative will be provided.

Summary

The draft IS/EA for M2 Project F, SR-55 from I-405 to I-5, was circulated for public review, and the project is pending selection of a project preferred alternative. The project remains on hold pending resolution of Caltrans' recent request to incorporate a modified Alternative 3. Caltrans' proposal is to add an HOV lane in each direction to provide additional capacity, throughput and traffic operational benefits between I-405 and I-5, and address HOV lane degradation. Implementation of the proposed changes requires consideration of certain OCTA Board policies and impacts to project cost, funding, and schedule.

Attachments

- A. Correspondence Between Caltrans and OCTA, dated May 6, 2016 and May 19, 2016 respectively
- B. SR-55 Alternatives (Caltrans document)
- C. Summary Alternative 3 Modified (Caltrans document)

Prepared by:



Steven L. King, P.E.
Project Manager
(714) 560-5874

Approved by:



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



ORANGE COUNTY TRANSPORTATION AUTHORITY

**Update on the State Route 55 Improvement Project
Between Interstate 405 and Interstate 5**

Attachment A

DEPARTMENT OF TRANSPORTATION

3347 MICHELSON DRIVE, SUITE 100
IRVINE, CA 92612
PHONE (949) 724-2100
FAX (949) 724-2591
www.dot.ca.gov



*Serious Drought.
Serious drought.
Help save water!*

May 6, 2016

Mr. Steven King
Project Manager
Orange County Transportation Authority
550 S Main St,
Orange, California 92868

Subject: State Route 55 Improvement Project between I-405 and I-5

Dear Mr. King,

The California Department of Transportation (Caltrans) and the Orange County Transportation Authority (OCTA) have collaborated on numerous projects that resulted in significant improvements to the Orange County transportation system in a deliberate and methodical manner for nearly three decades. State, federal, and local funding partnerships as well as a significant infusion of funding through the Orange County half cent sales tax (Measure M) that funds transportation projects, including freeway capacity improvement projects, has resulted in a world class transportation system in Orange County. We look forward to continued partnership and collaboration utilizing our expertise to further address the continuing transportation challenges in the county.

After receiving substantive comments during the public review period of the Draft Environmental Document (DED) for the proposed SR-55 improvement project between I-405 and I-5, project EA 12-0J340, and further review of current and projected traffic volumes and proposed alternatives benefits, Caltrans reiterates our previously stated recommendation in an April 23, 2014 letter to OCTA that suggested exploring a modified alternative that meets the goals and objectives of both Caltrans and OCTA with a reasonable increase in cost and schedule delay. At this time, Caltrans proposes to delay the selection of the preferred alternative from the alternatives studied in the DED in order to reconsider the previously recommended modification that we believe is consistent with OCTA's and Caltrans' goals and objectives.

The SR-55 project description (Project F) in the Renewed Measure M (M2) Transportation Plan includes "adding new lanes to SR-55", as well as "adding weaving lanes". Our proposed modified alternative would address both agencies' objectives by adding a General Purpose (GP) lane, a High Occupancy Lane (HOV), and weaving lanes where needed and feasible. It is worth noting that weaving lanes were constructed in the corridor since the passage of the M2. The modified alternative will maximize throughput, address the Federal Highway Administration's (FHWA)

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Mr. Steven King
May 6, 2016
Page 2

requirement to resolve degraded HOV lanes, improve air quality, and reduce greenhouse gas (GHG) emissions associated with motorized vehicles as required by AB32, SB375, as well as the Governor's EO S-03-05 and EO B-30-15. Further, it is consistent with Caltrans' strategic goals of sustainability, livability, economy, and system performance, including improved predictable travel times, as well as increased transit, carpooling and ridesharing opportunities and incentives in the corridor. Moreover, it will satisfy the commitments made to voters in the description of Project F included in M2. The proposed modifications would result in increased capacity, providing not one but two additional travel lanes.

Should the proposed modification be implemented by two separate projects, it would result in delayed optimum benefits to the corridor, substantially increased costs, construction fatigue, inefficient use of public funds, and risk of challenge to the environmental document due to the perception of piecemealing with the implementation of two separate projects to add the intended lanes.

To achieve the above stated benefits, Caltrans' modification to Alternative 3 (GP lane plus an auxiliary lane) would connect the proposed auxiliary lanes thus creating a lane that would serve as an HOV lane. This configuration would connect seamlessly to the existing lanes at the south and north project limits and provide system connectivity with Interstates 405 and 5. The improvements will also result in better lane alignment with those that will result from other proposed M2 projects. This modified alternative will further add weaving lanes based on operational needs and considering right of way impacts. Limited nonstandard features may be considered to minimize right of way impacts at certain locations.


Including the modifications to the project at this time would require revisions to technical studies and the DED. It is anticipated that the Transportation Conformity Working Group and Environmental Protection Agency would consider that the addition of an HOV lane would add minimal truck traffic and therefore, create only minimal additional impacts since particulate matter conformity only applies to diesel truck traffic. Consequently, Caltrans anticipates that these regulatory agencies would require that this modified alternative undergo qualitative rather than quantitative air quality analysis. The additional environmental impacts anticipated by modifying Alternative 3 would be minimal compared to the original Alternative 3. An environmental recirculation would likely be necessary, as this modified alternative would be different from those described in the previously circulated DED. Caltrans anticipates that this modification would delay the delivery of the final environmental document by less than one year.

Caltrans requests a meeting with OCTA as soon as possible to discuss strategies, costs, and schedules that will lead to an alternative that will satisfy both agencies' goals and objectives. OCTA and Caltrans are responsible for providing regional and inter-regional mobility, addressing HOV degradation and seeking out solutions to manage demand on the State Highway System, while at the same time, fulfilling commitments made to the residents of Orange County. Caltrans

Mr. Steven King
May 6, 2016
Page 3

looks forward to continue working with OCTA to deliver a sustainable transportation solution to this corridor.

Sincerely,

for 
BOB BAZARGAN
Project Manager, District 12



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Ryan Chamberlain
Ex-Officio Member

CHIEF EXECUTIVE OFFICE

Darrell Johnson
Chief Executive Officer

May 19, 2016

Mr. Ryan Chamberlain
District Director
Caltrans, District 12
3347 Michelson Drive
Suite 100
Irvine, CA 92612

Dear Mr. Chamberlain:

The Orange County Transportation Authority (OCTA) received the attached May 6, 2016 letter from the California Department of Transportation (Caltrans) regarding the planned Measure M2 (M2) State Route 55 (SR-55) improvements between Interstate 405 and Interstate 5 (Project). Caltrans is recommending a delay in the selection of the Project preferred alternative and the finalization of the Project's Initial Study/Environmental Assessment (IS/EA) in order to study new Project alternatives. OCTA believes these new alternatives are beyond the scope of the M2 program. In addition, any more delay will result in higher costs due to escalation at a critical time when M2 revenue forecasts are declining.

OCTA remains committed to the M2 promises made to the voters. The M2 Transportation Investment Plan and Ordinance was approved by the OCTA Board of Directors (Board) in July 2006 based on years of study, interagency coordination, and public outreach. The Project was included in the financially-constrained Long-Range Transportation Plan (LRTP) and the Southern California Association of Governments (SCAG) 2007 Regional Transportation Plan (RTP). The Project also is listed in the SCAG 2012 RTP/Sustainable Communities Strategy (SCS) Plan. Collectively, these plans reflect the general scope of the M2 freeway projects, which were approved by a supermajority of Orange County voters in November 2006.

The Project's IS/EA is a result of nearly five years of work, including scoping of alternatives and development of technical studies. The Project environmental phase cooperative agreement (Agreement) between OCTA and Caltrans was executed in June 2011 and originally anticipated the environmental clearance would be completed by March 2014. OCTA and our consultants have worked collaboratively with Caltrans to submit all of the environmental documentation with associated technical studies for quality control review, comment, and Caltrans' final approval prior to public availability.

Mr. Ryan Chamberlain
May 19, 2016
Page 2

The Project's IS/EA was signed for release to the public on November 24, 2015 with four build alternatives. As part of the public review, OCTA provided Caltrans the attached January 21, 2016 letter reflecting OCTA's assessment of the benefits of the Project alternatives, and conformance with M2 and regional planning documents. The public comment period ended on January 22, 2016 with no indication of opposition or concern with the IS/EA alternatives. OCTA's consultant has prepared responses to public comments and transmitted them to Caltrans for selection of the Project preferred alternative and finalization of the IS/EA. OCTA is prepared to move forward to deliver the Project as soon as possible.

As transportation professionals, we respect Caltrans' desire to put forward what it views is the best transportation solution for this busy corridor. However, we are concerned that expanding the Project scope will result in delays, increased costs, and an unrealistic funding picture. This far in the process, we are reluctant to consider any scope changes that could jeopardize the M2 Project.

We understand that Caltrans is requesting a meeting to talk about options. To expedite these discussions, OCTA will schedule a meeting in the next two weeks with you, your team, and our key managers. We invite you to share Caltrans' proposals and concepts to expedite project delivery. We are requesting you prepare information related to:

- Scope of Caltrans' proposed modifications
- Schedule to implement Project / new modifications
- Right-of-way (ROW) impacts of proposed alternatives
- Non-standard design elements and studies required
- Updated traffic study opening year and design year assumptions
- Qualitative vs. quantitative air quality study and approval assumptions
- Potential triggers that may require upgrading the IS/EA to environmental impact statement/environmental impact report
- Assumptions for additional support cost, and ROW and construction capital and support
- Existing and future Caltrans' funding contribution
- Assumptions related to Measure M funding
- Other options for moving forward

OCTA remains concerned with how implementation of statewide strategies and goals does not appear to recognize the scope of M2 freeway projects. The freeway element of M2 is only one portion of the voter approved program. It also

Mr. Ryan Chamberlain
May 19, 2016
Page 3

includes a significant investment in bus and rail transit, street and road improvements, and environmental programs. OCTA looks forward to working with Caltrans to deliver on its promises to voters. We look forward to hearing your concepts so we can resolve these issues and deliver much-needed relief to the thousands of Orange County drivers who utilize SR-55 on a daily basis.

If you have questions, please don't hesitate to contact me at djohnson@octa.net or (714) 560-5343.

Sincerely,



Darrell Johnson
Chief Executive Officer

DJ:jb



ORANGE COUNTY TRANSPORTATION AUTHORITY

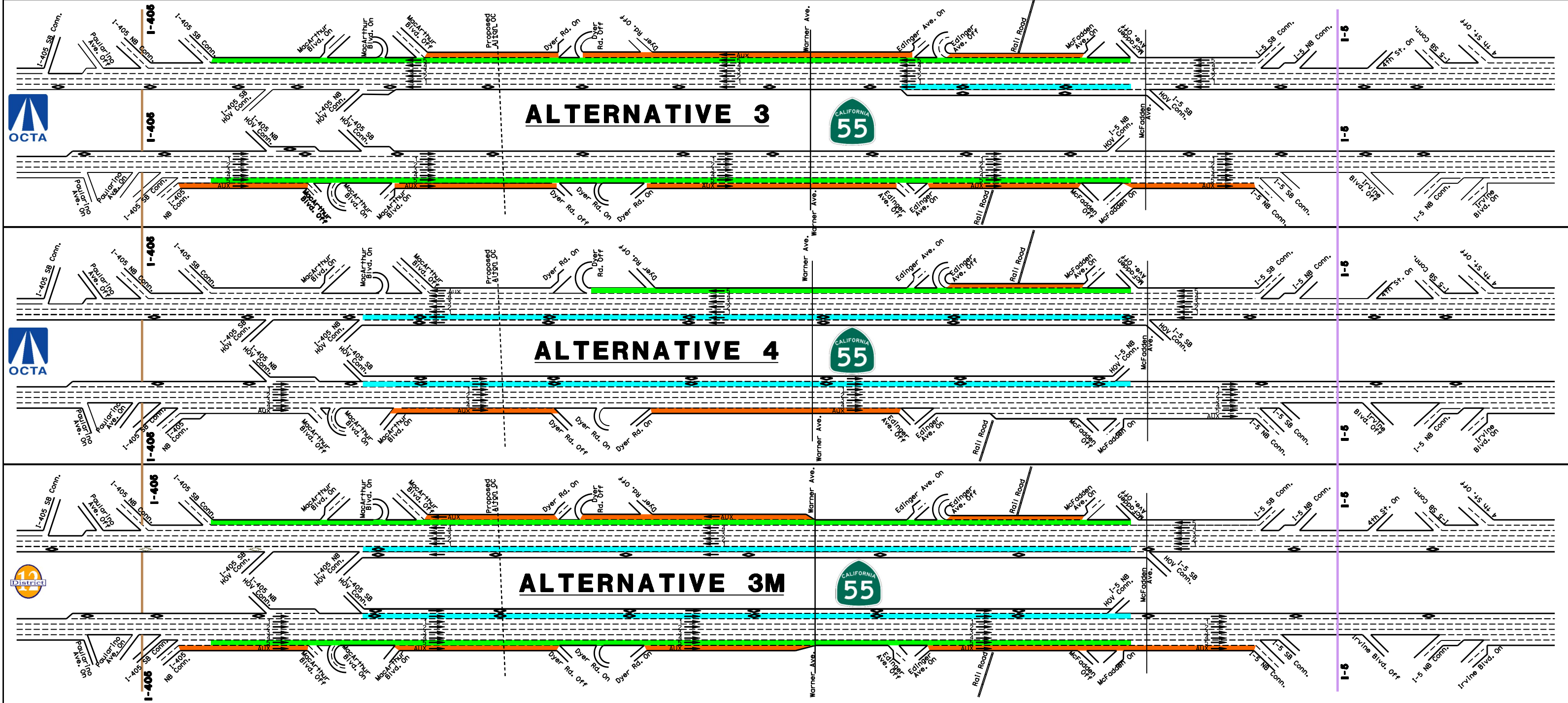
**Update on the State Route 55 Improvement Project
Between Interstate 405 and Interstate 5**

Attachment B



SR-55 ALTERNATIVES

(Caltrans document)



Proposed Auxiliary (Aux) Lane
 Proposed General Purpose (GP) Lane
 Proposed HOV Lane



ORANGE COUNTY TRANSPORTATION AUTHORITY

**Update on the State Route 55 Improvement Project
Between Interstate 405 and Interstate 5**

Attachment C

Summary Alternative 3 Modified (Caltrans document)

NB Direction	Exist - NB			Alt. 3 - NB			Alt. 3M - NB			2011 Traffic Volume		2040 Traffic Volume		Changes / Additional Impacts of Nonstandard Alternative 3M (Low Impacts)	Auxiliary Lane Retained
	HOV	GP	Aux	HOV	GP	Aux	HOV	GP	Aux	AM	PM	AM	PM		
	I-405 - MacArthur	2	4	1	2	5	1	2	5	1	NB 405/NB 55 Conn. 657 MacArthur off-ramp 1773	NB 405/NB 55 Conn. 2081 MacArthur off-ramp 980	NB 405/NB 55 Conn. 865 MacArthur off-ramp 1845		
MacArthur - Dyer	1	4	0	1	5	1	2	5	1	MacArthur on-ramps 790(L)+214(T) = 1004 Dyer off-ramp 1220	MacArthur on-ramps 904(L)+1038(T) = 1942 Dyer off-ramp 385	MacArthur on-ramps 820(L)+335(T) = 1155 Dyer off-ramp 1315	MacArthur on-ramps 940(L)+1110(T) = 2050 Dyer off-ramp 530	<ul style="list-style-type: none"> Matching ALT 3 footprint by providing: 4' SHLD - 1x11' HOV - 3x11' GP - 8' SHLD No Additional R/W take No Utilities Relocation No Additional Bridge widening at Dyer UC 	Yes
Dyer - Warner	1	4	0	1	5	1	2	5	1*	Dyer on-ramps 540(L)+385(T) = 925 NA	Dyer on-ramps 823(L)+1235(T) = 2058 NA	Dyer on-ramps 670(L)+510(T) = 1180 NA	Dyer on-ramps 895(L)+1425(T) = 2320 NA	<ul style="list-style-type: none"> Matching ALT 3 footprint by providing: 4' SHLD - 1x11' HOV - 3x11' GP - 8' SHLD No Additional R/W take in landscape areas of parcel #430-032-10, 430-001-03, 430-001-04 	Acceleration Lane
Warner - Edinger	1	4	0	1	5	1	2	5	0	NA Edinger off-ramp 530	NA Edinger off-ramp 183	NA Edinger off-ramp 660	NA Edinger off-ramp 255	<ul style="list-style-type: none"> Same footprint as ALT 3: No additional impact Current and Future Volumes do not warrant Aux. Lane 	No
Edinger - McFadden	1	4	1	1	5	1	2	5	1	Edinger on-ramp 958 McFadden off-ramp 223	Edinger on-ramp 1689 McFadden off-ramp 347	Edinger on-ramp 1045 McFadden off-ramp 310	Edinger on-ramp 1885 McFadden off-ramp 465	<ul style="list-style-type: none"> Additional widening within State RW Additional bridge widening at Edinger UC and Tustin Rail UC Avoid R/W impact to parcel # 402-142-10 & 402-142-11 by providing nonstandard 4' shoulder instead of 8' at McFadden off-ramp 	Yes
McFadden- I5	2	5	0	2	4	2	2	4	2	McFadden on-ramp 655 NB 55/NB 5 CONN. 3664	McFadden on-ramp 854 NB 55/NB 5 CONN. 3066	McFadden on-ramp 550 NB 55/NB 5 CONN. 3380	McFadden on-ramp 770 NB 55/NB 5 CONN. 2935	<ul style="list-style-type: none"> Same footprint as ALT 3: No additional impact 	Yes

SB Direction	Exist - SB			Alt. 3 - SB			Alt. 3M - SB			2011 Traffic Volume		2040 Traffic Volume		Changes / Additional Impacts of Nonstandard Alternative 3M (Low Impacts)	Auxiliary Lane Retained
	HOV	GP	Aux	HOV	GP	Aux	HOV	GP	Aux	AM	PM	AM	PM		
	I-5 - McFadden	2	4	1	2	5	0	2	5	0	SB5/SB55 Conn. 3122 McFadden off-ramp 322	SB5/SB55 Conn. 3180 McFadden off-ramp 474	SB5/SB55 Conn. 2920 McFadden off-ramp 905		
McFadden - Edinger	1	4	1	2	5	1	2	5	1	McFadden on-ramp 803 Edinger off-ramp 941	McFadden on-ramp 387 Edinger off-ramp 623	McFadden on-ramp 805 Edinger off-ramp 940	McFadden on-ramp 410 Edinger off-ramp 720	<ul style="list-style-type: none"> Same footprint as ALT 3: No additional impact 	Yes
Edinger - Warner	1	4	1	1	5	1	2	5	0	Edinger on-ramp 619 NA	Edinger on-ramp 713 NA	Edinger on-ramp 785 NA	Edinger on-ramp 860 NA	<ul style="list-style-type: none"> Same footprint as ALT 3: No additional impact Note: ALT 3 and ALT 3M have to address relocation of the existing box culvert during Design phase Current and Future Volumes do not warrant Aux. Lane 	No
Warner - Dyer	1	4	1	1	5	1	2	5	1**	NA Dyer off-ramps 714(T)+626(L) = 1340	NA Dyer off-ramps 491(T)+391(L) = 882	NA Dyer off-ramps 865(T)+750(L) = 1615	NA Dyer off-ramps 640(T)+490(L) = 1130	<ul style="list-style-type: none"> Matching ALT 3 footprint by providing: 4' SHLD - 1x11' HOV - 3x11' GP - 8' SHLD No Additional R/W take in landscape areas of parcel # 016-221-12 and 016-221-13 No Additional bridge widening at Dyer UC 	Deceleration Lane
Dyer - MacArthur	1	4	1	1	5	1	2	5	1	Dyer on-ramp 726 MacArthur off-ramp 1611	Dyer on-ramp 1142 MacArthur off-ramp 1006	Dyer on-ramp 745 MacArthur off-ramp 1655	Dyer on-ramp 1195 MacArthur off-ramp 1035	<ul style="list-style-type: none"> Matching ALT 3 footprint by providing: 4' SHLD - 1x11' HOV - 3x11' GP - 8' SHLD No Additional bridge widening at MacArthur UC 	Yes
MacArthur - I-405	2	4	1	2	5	0	2	5	0	MacArthur on-ramps 156(L)+774(T) = 930 SB 55/SB 405 Conn. 2484	MacArthur on-ramps 705(L)+1071(T) = 1776 SB 55/SB 405 Conn. 2114	MacArthur on-ramps 200(L)+795(T) = 995 SB 55/SB 405 Conn. 2900	MacArthur on-ramps 810(L)+1080(T) = 1890 SB 55/SB 405 Conn. 2510	<ul style="list-style-type: none"> Same footprint as ALT 3: No additional impact Note: ALT 3 and ALT 3M have to address safety comments during Design phase 	N/A

Legend:
 * Acceleration Lane
 ** Deceleration Lane



COMMITTEE TRANSMITTAL

August 8, 2016

To: Members of the Board of Directors

From: *Lu*
Laurena Weinert, Clerk of the Board

Subject: Amendments to Agreements for the State Route 55 Improvement Project Between Interstate 405 and Interstate 5

Regional Planning and Highways Committee Meeting of August 1, 2016

Present: Directors Bartlett, Do, Lalloway, Miller, Nelson, and Ury

Absent: Directors Donchak and Spitzer

Committee Vote

Due to lack of quorum, no action was taken on this item.

Staff Recommendations

- A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 7 to Agreement No. C-0-1587 between the Orange County Transportation Authority and HDR Engineering, Inc., in the amount of \$700,000, for additional services for the State Route 55 Improvement Project between Interstate 405 and Interstate 5; and to extend the current agreement term for an additional 18 months through June 30, 2018, to allow time to complete the additional scope of work. This will increase the maximum obligation of the agreement to a total contract value of \$6,532,427.

- B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 1 to Cooperative Agreement No. C-0-1948 between the Orange County Transportation Authority and California Department of Transportation to commit the amount of \$46,800,000 as the state's funding contribution to the State Route 55 Improvement Project between Interstate 405 and Interstate 5; and to modify terms and conditions to allow work-sharing assignments. This will not change the maximum obligation of the Measure M2 funding in the cooperative agreement.



- C. Direct staff to seek additional state and federal funding opportunities for the State Route 55 Improvement Project between Interstate 405 and Interstate 5.
- D. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program, and execute or amend all necessary agreements to facilitate the recommendations above.



ORANGE COUNTY TRANSPORTATION AUTHORITY

**Amendments to Agreements for the State Route 55
Improvement Project Between Interstate 405 and Interstate
5**

Staff Report



August 1, 2016

To: Regional Planning and Highways Committee

From: Darrell Johnson, Chief Executive Officer

Subject: Amendments to Agreements for the State Route 55 Improvement Project Between Interstate 405 and Interstate 5

Overview

The California Department of Transportation is proposing a new modified build alternative be included in the draft initial study/environmental assessment for the State Route 55 widening between Interstate 405 and Interstate 5.

This report provides a project update and recommends actions necessary to incorporate Modified Alternative 3 into the draft environmental document and project report.

Recommendations

- A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 7 to Agreement No. C-0-1587 between the Orange County Transportation Authority and HDR Engineering, Inc., in the amount of \$700,000, for additional services for the State Route 55 Improvement Project between Interstate 405 and Interstate 5; and to extend the current agreement term for an additional 18 months through June 30, 2018, to allow time to complete the additional scope of work. This will increase the maximum obligation of the agreement to a total contract value of \$6,532,427.

- B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 1 to Cooperative Agreement No. C-0-1948 between the Orange County Transportation Authority and California Department of Transportation to commit the amount of \$46,800,000 as the state's funding contribution to the State Route 55 Improvement Project between Interstate 405 and Interstate 5; and to modify terms and conditions to allow work-sharing assignments. This will not change the maximum obligation of the Measure M2 funding in the cooperative agreement.

**Amendments to Agreements for the State Route 55 Page 2
Improvement Project Between Interstate 405 and Interstate 5**

- C. Direct staff to seek additional state and federal funding opportunities for the State Route 55 Improvement Project between Interstate 405 and Interstate 5.
- D. Authorize staff to process all necessary amendments to the Federal Transportation Improvement Program, and execute or amend all necessary agreements to facilitate the recommendations above.

Discussion

The State Route 55 Improvement Project between Interstate 405 and Interstate 5 (Project) is included in the Measure M2 (M2) Transportation Investment Plan approved by Orange County voters in 2006. The project scope proposes to add new lanes in each direction, generally within the existing right-of-way, including merging lanes between interchanges to smooth traffic flow. In November 2015, the draft initial study with proposed mitigated negative declaration/environmental assessment was approved and released by the California Department of Transportation (Caltrans) for public review, which included a no-build and four build alternatives as listed below.

Alternative 1 - Add auxiliary (aux) lanes between interchanges

Alternative 2 - Add one general purpose (GP) lane in each direction

Alternative 3 - Add aux lanes between interchanges and one GP lane in each direction

Alternative 4 - Add aux lanes between interchanges and one high-occupancy vehicle (HOV) lane in each direction

On May 6, 2016, Caltrans proposed modifications to Alternative 3 that would provide additional capacity and address HOV lane degradation to meet Caltrans strategic goals and objectives through the addition of a second HOV lane in each direction.

Alternative 3 is consistent with M2 and regional planning documents. Modifications to the Orange County Transportation Authority's (OCTA) Long-Range Transportation Plan, Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy, and Federal Transportation Improvement Program will be required. Modifications to Alternative 3 will require the Project technical studies and Project report to be updated and the draft initial study with proposed mitigated negative declaration/environmental assessment (IS/EA) recirculated for public review and comment, resulting in additional costs and project delivery schedule delays.

Schedule Impacts

The Project environmental phase was most recently scheduled to be completed in November 2016. The additional technical studies, including traffic, air quality and noise analysis, along with recirculation of the draft IS/EA required to incorporate Modified Alternative 3, will delay completion of the environmental phase by 12 to 18 months.

Caltrans is proposing an aggressive schedule and work-sharing assignment with OCTA's consultant to complete the studies and recirculate the draft IS/EA in eight months followed by four months to complete the final environmental document. Some of the work-sharing elements include traffic volume updates, exceptions to design standards, fact sheet preparation, and final environmental document packaging. These elements are proposed to effectively manage delivery and approval risk, and minimize further delay to schedule.

Cost Estimate

The early estimated cost for Modified Alternative 3 ranges up to \$376,000,000. This estimate was developed using updated costs from the draft IS/EA and the Caltrans estimate for additional elements required to complete Modified Alternative 3. A more thorough estimate will be developed upon completion of additional engineering and technical studies required to update the Project report and IS/EA.

Cost Sharing and Funding

The Project is funded by M2 and is eligible for state and federal funding. M2 funds are being used for the environmental phase and federal funds are programmed for final design. Federal and state funds cannot be used for the environmental phase because OCTA's consultant contract was awarded without the required provisions.

The California Transportation Commission has programmed \$46,800,000 in State Highway Operations and Protection Program (SHOPP) funds for a portion of the Project scope. The Caltrans-approved project study report used as the basis to program the SHOPP funds identifies the SHOPP funding as a financial contribution to the Project. A portion of the SHOPP funds could be used by Caltrans to perform work-sharing tasks during the environmental phase. The remaining SHOPP funds would be utilized in later delivery phases of the Project. Staff recommends the cooperative agreement with Caltrans be amended to incorporate the SHOPP funds as a Caltrans funding contribution to the Project.

Amendments to Agreements for the State Route 55 Page 4 Improvement Project Between Interstate 405 and Interstate 5

Additional funding will likely be needed to complete the right-of-way (ROW) and construction phases of the Project if Modified Alternative 3 is selected by Caltrans as the Project preferred alternative. Design, ROW, and construction phases will be eligible for local, state, and federal funding opportunities. Staff will also assess the Project costs eligible for use of M2 funds.

Contract Amendments Required

On November 8, 2010, the OCTA Board of Directors (Board) approved Agreement No. C-0-1587 with HDR Engineering, Inc., (HDR) for preparation of the project report and environmental document (PR/ED) for the Project.

Additional engineering and environmental services to incorporate Modified Alternative 3 into the Project will be required, including updates to technical studies, the draft IS/EA, the PR, and recirculation of the draft IS/EA. A contract amendment with HDR will be required.

On May 23, 2011, the Board authorized the Chief Executive Officer to execute Cooperative Agreement No. C-0-1948 with Caltrans to provide oversight, at no cost, for preparation of the PR/ED for the Project.

An amendment to the Caltrans cooperative agreement will be necessary to assign work-sharing roles and responsibilities and include the available SHOPP funding of \$46,800,000 as a state funding contribution to the Project (Attachment A).

Procurement Approach

The HDR procurement was handled in accordance with OCTA Board-approved procedures for architectural and engineering professional services, which conform to both state and federal laws. The original firm-fixed price agreement, executed on May 24, 2011, was in the amount of \$4,364,620. This agreement was amended previously as shown in Attachment B. It has become necessary to amend the existing agreement for additional services and scope of work related to the inclusion of Modified Alternative 3 into the IS/EA, as requested by Caltrans.

OCTA staff negotiated the needed level of effort for HDR to provide these services and requested a price proposal. Staff found HDR's price proposal, in the amount of \$700,000, to be fair and reasonable relative to the negotiated level of effort. Proposed Amendment No. 7 to Agreement No. C-0-1587 will bring the total contract value to \$6,532,427, and extend the term of the agreement for an

**Amendments to Agreements for the State Route 55 Page 5
Improvement Project Between Interstate 405 and Interstate 5**

additional 18 months through June 30, 2018, to allow for completion of the Project.

Fiscal Impact

The Project was approved in OCTA's Fiscal Year 2016-17 Budget, Capital Programs Division, Account 0017-7519-FF101-T7U, and is funded through M2. Federal and state funds cannot be used on the HDR contract. The Capital Funding Program, which provides funding information for OCTA-funded Highway capital projects reflecting the recommended change to the Project, is provided in Attachment C.

Summary

Staff requests Board of Directors' approval for the Chief Executive Officer to negotiate and execute Amendment No. 7 to Agreement No. C-0-1587 with HDR Engineering, Inc., in the amount of \$700,000, for additional services for the State Route 55 Improvement Project between Interstate 405 and Interstate 5, bringing the total contract amount to \$6,532,427, and extending the term of the agreement for an additional 18 months through June 30, 2018.

Staff also requests Board of Directors' approval for the Chief Executive Officer to negotiate and execute Amendment No. 1 to Agreement No. C-0-1948 with the California Department of Transportation to commit \$46,800,000 as a state funding contribution to the State Route 55 Improvement Project between Interstate 405 and Interstate 5, and modify terms and conditions to allow work-sharing assignments.

Attachments

- A. California Department of Transportation, Cooperative Agreement No. C-0-1948 Fact Sheet
- B. HDR Engineering, Inc., Agreement No. C-0-1587 Fact Sheet
- C. Capital Funding Program Report

Prepared by:



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ORANGE COUNTY TRANSPORTATION AUTHORITY

**Amendments to Agreements for the State Route 55
Improvement Project Between Interstate 405 and Interstate
5**

Attachment A

**California Department of Transportation
Cooperative Agreement No. C-0-1948 Fact Sheet**

1. May 23, 2011, Cooperative Agreement No. C-0-1948, \$0, approved by the Board of Directors (Board).
 - To provide oversight, at no cost, for preparation of the project report and environmental document for the State Route 55 Improvement Project between Interstate 405 and Interstate 5 (Project).
2. August 8, 2016, Amendment No. 1 to Cooperative Agreement No. C-0-1948, \$46,800,000, pending Board approval.
 - To commit the state's funding contribution to the Project.



ORANGE COUNTY TRANSPORTATION AUTHORITY

**Amendments to Agreements for the State Route 55
Improvement Project Between Interstate 405 and Interstate
5**

Attachment B

**HDR Engineering, Inc.
Agreement No. C-0-1587 Fact Sheet**

1. November 8, 2010, Agreement No. C-0-1587, \$4,364,620, approved by the Board of Directors (Board).
 - The contract with HDR Engineering, Inc., was executed on May 24, 2011 to prepare the project report and environmental document (PR/ED).
2. March 29, 2012, Amendment No. 1 to Agreement No. C-0-1587, \$105,681, approved by Contracts Administration and Materials Management (CAMM) Department.
 - Provide additional PR/ED services entailing topographic mapping and right-of-way establishment.
 - Add a subconsultant to the agreement.
3. March 11, 2013, Amendment No. 2 to Agreement No. C-0-1587, \$356,112, approved by the Board .
 - Provide additional PR/ED services, including revisions to California Department Transportation's Highway Design Manual, additional traffic analysis, lane channel modification, and water quality assessment report updated requirements.
4. November 8, 2013, Amendment No. 3 to Agreement No. C-0-1587, \$417,415, approved by the Board.
 - Perform additional traffic analysis and further investigation in response to the results of the Initial Site Assessment.
5. December 3, 2014, Amendment No. 4 to Agreement No. C-0-1587, \$0, approved by CAMM Department.
 - Extend the term of the agreement for an additional 12 months from December 31, 2014 through December 31, 2015.
6. April 27, 2015, Amendment No. 5 to Agreement No. C-0-1587, \$588,599, approved by the Board.
 - Updating the Traffic Volumes Report to include volumes generated from the Interstate 5 High-Occupancy Vehicle Project and technical studies.

ATTACHMENT B

7. January 1, 2016, Amendment No. 6 to Agreement No. C-0-1587, \$0, approved by CAMM Department.
 - Extend the term of the agreement for an additional 12 months from December 31, 2015 through December 31, 2016.
8. August 8, 2016, Amendment No. 7 to Agreement No. C-0-1587, \$700,000, pending Board approval.
 - Additional engineering and environmental services to incorporate Modified Alternative 3 into the project, including updates to technical studies, the draft initial study/environmental assessment (IS/EA), and recirculation of the draft IS/EA.
 - Extend the term of the agreement for an additional 18 months from December 31, 2016 through June 30, 2018.

Total funds committed to HDR Engineering, Inc., after approval of Amendment No. 7 to Agreement No. C-0-1587: \$6,532,427.



ORANGE COUNTY TRANSPORTATION AUTHORITY

**Amendments to Agreements for the State Route 55
Improvement Project Between Interstate 405 and Interstate
5**

Attachment C



Capital Funding Program Report

Pending Board of Directors (Board) Approval - 8/8/16

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	\$37,058	\$28,949		\$2,800			\$5,309	
I-5 (I-405 to SR-55) capacity enhancement	B	\$8,000			\$8,000				
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 ¹	C	\$90,388	\$43,735		\$31,688	\$1,600		\$13,365	
I-5 HOV, HOV lanes from s/o Av. Vista Hermosa to s/o PCH	C	\$68,711	\$46,779		\$13,472			\$8,460	
I-5 Widening (Alicia to El Toro) Seg 3	C	\$133,553			\$39,129			\$94,424	
I-5 Widening (Oso to Alicia) Segment 2	C	\$196,167			\$47,631			\$148,536	
I-5 Widening (SR-73 to Oso) Segment 1	C	\$136,421	\$78,030		\$28,167			\$30,224	
I-5 at Los Alisos / El Toro: add ramps ²	D	\$4,400			\$4,400				
I-5/Route 74 Interchange Landscaping/Replacement Planting	D	\$1,420	\$1,420						
SR-55 (I-5 to SR-91)	F	\$5,000			\$5,000				
SR-55 widening (I-5 to I-405) ³	F	\$18,532			\$12,000			\$6,532	
SR-57 Orangewood to Katella	G	\$2,500			\$2,500				
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		\$7,771	\$35,000	\$92,648		\$1,254,352	\$510,229
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						
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		\$2,884,982	\$235,024	\$69,787	\$261,868	\$94,248		\$1,651,025	\$573,030
State Funding Total		\$304,811							
Federal Funding Total		\$356,116							
Local Funding Total		\$2,224,055							
Total Funding (000's)		\$2,884,982							

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/SR-74 Interchange Improvements	D	\$77,211	\$45,594	\$24,109			\$2,500		\$5,008
SR-57 n/b widening landscaping, SR-91 to Lambert Road	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 Widening, SR-55 to Gypsum Canyon (Weir/SR-241)	J	\$77,510	\$59,573	\$17,937					
SR-57 n/b widening, Katella Avenue to Lincoln Avenue	M1/G	\$34,428		\$24,127				\$10,301	
SR-57 N/B widening, SR-91 to Yorba Linda Boulevard	M1/G	\$50,659		\$40,925				\$9,734	



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	M1/G	\$52,709		\$41,250				\$11,459	
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		\$776,705	\$170,289	\$283,778	\$114,806	\$107,396	\$29,179	\$34,182	\$37,075
State Funding Total		\$454,067							
Federal Funding Total		\$222,202							
Local Funding Total		\$100,436							
Total Funding (000's)		\$776,705							

Acronyms:

M1/M2 - Measure M1/Measure M2

M Code - M1 = Measure M1, otherwise Project Codes in Measure M2 Program

STIP - State Transportation Improvement Program

STBG/RSTP/CMAQ - Surface Transportation Block Grant/Regional Surface

Transportation Program/Congestion Mitigation and Air Quality

CURE - Commuter and Rail Endowment Fund

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

OCX - Rail-Highway Grade Crossing/Safety Enhancement Project

PTMISEA - Proposition 1B Public Transportation Modernization, Improvement, and

Service Enhancement Account

CTC - California Transportation Commission

OCTA - Orange County Transportation Authority

PSR - Project Study Report

ROW - Right-of-way

Board Notes:

1. 8-8-16 Federal Fiscal Year 2016-2017 Obligation Authority Plan Board Item: Requesting Board Approval for \$1.0 million in CMAQ for the construction of three overhead signs on the I-5 HOV lane from Avenida Pico to Avenida Vista Hermosa.

2. 8-8-16 Federal Fiscal Year 2016-2017 Obligation Authority Plan Board Item: Requesting Board Approval for \$4.4 million in STBG/RSTP for the environmental phase of the I-5 / El Toro Interchange Project.

3. Requesting Board approval for \$0.7 million in Measure M2 for the SR-55 widening (I-5 to I-405). Includes commitment of \$46.8 million in State Highway Operations and Protection Program (SHOPP) funds to be programmed with an executed amendment.

Staff Update
Items



COMMITTEE TRANSMITTAL

June 27, 2016

To: Members of the Board of Directors
From: Laurena Weinert, Clerk of the Board
Subject: Anaheim Rapid Connection and Future Transit Connectivity to OC Streetcar

Transit Committee Meeting of June 9, 2016

Present: Directors Do, Jones, Murray, Pulido, Steel, Tait, and Winterbottom
Absent: Director Shaw

Committee Vote

This item was passed by the Members present.

Committee Recommendations

- A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-1-3115 between the Orange County Transportation Authority and the City of Anaheim to conclude all planning efforts for the Anaheim Rapid Connection project and to submit all work completed to date to the Orange County Transportation Authority.
- B. Affirm the Orange County Transportation Authority as the lead agency for any potential future phases of the Anaheim Rapid Connection project.
- C. Direct staff to evaluate a transit connection between the Anaheim Resort area and the Anaheim Regional Transportation Intermodal Center as part of the Central Harbor Boulevard Transit Corridor Study with the intent of providing additional connections to the OC Streetcar.



Committee Discussion

At the June 9, 2016 Transit Committee meeting, Director Tait stated that he supports and appreciates the OCTA Board and staff's consideration of this matter. The Anaheim Rapid Connection project's original intent was based on high-speed rail connecting to the Anaheim Regional Transportation Intermodal Center (ARTIC).

Director Tait believes that incorporating a transit connection between the ARTIC and the Anaheim Resort area into the Harbor Study will allow for a more comprehensive and efficient connection to the OC Street Car, as opposed to a more piecemeal approach.



ORANGE COUNTY TRANSPORTATION AUTHORITY

**Anaheim Rapid Connection and Future Transit
Connectivity to OC Streetcar**

Staff Report



June 9, 2016

To: Transit Committee

From: Darrell Johnson, Chief Executive Officer

Subject: Anaheim Rapid Connection and Future Transit Connectivity to the OC Streetcar

Overview

On March 10, 2016, an update on the Anaheim Rapid Connection project was provided to the Orange County Transportation Authority Transit Committee. Transit Committee members provided feedback on the implementation of the Anaheim Rapid Connection project in the context of future connections to the OC Streetcar. Staff is seeking Board of Directors' approval for proposed next steps for the Anaheim Rapid Connection project.

Recommendations

- A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-1-3115 between the Orange County Transportation Authority and the City of Anaheim to conclude all planning efforts for the Anaheim Rapid Connection project and to submit all work completed to date to the Orange County Transportation Authority.
- B. Affirm the Orange County Transportation Authority as the lead agency for any potential future phases of the Anaheim Rapid Connection project.
- C. Direct staff to evaluate a transit connection between the Anaheim Resort area and the Anaheim Regional Transportation Intermodal Center as part of the Central Harbor Boulevard Transit Corridor Study with the intent of providing additional connections to the OC Streetcar.

Discussion

On March 10, 2016, the City of Anaheim (City) presented an update on the Anaheim Rapid Connection project (Project) to the Orange County Transportation Authority (OCTA) Transit Committee. The Project proposes to

connect Harbor Boulevard to the Anaheim Regional Transportation Intermodal Center (ARTIC) via a modern streetcar, operating predominantly along Katella Avenue, Disney Way, and Harbor Boulevard. The update included an overview of the revised locally preferred alternative (LPA) that the City has been refining over the past 18 months after concerns were raised by the City Council and members of the public regarding potential right-of-way (ROW) impacts. The LPA has since been revised to avoid the ROW impacts of previous concern, and the City is underway with preparation of draft environmental documents for the revised LPA. The City, as the lead agency for the Project's planning and environmental work, is consistent with the roles identified in Cooperative Agreement No. C-1-3115 between OCTA and the City.

Since the LPA has been refined and the environmental work initiated, there have been significant developments with other projects in neighboring corridors, including the OC Streetcar and the Central Harbor Boulevard Transit Corridor Study (Harbor Study) that could affect the future implementation of the Project. The OC Streetcar is a vital link in Orange County's extensive transportation network and an integral first step in providing additional transit mobility options to the region. The Harbor Study is taking the next step with a high-level evaluation of providing connections north of the western terminus of the OC Streetcar via Harbor Boulevard to the cities of Anaheim and Fullerton. At the March 10, 2016 Transit Committee meeting, committee members discussed the scope and timing of these respective projects and studies. The OC Streetcar, terminating at Harbor Boulevard and Westminster Avenue in the City of Garden Grove, is approximately 30 percent complete with final design. A funding plan has been approved by the OCTA Board of Directors (Board), and the OC Streetcar project is on schedule to begin operations in 2020. The Harbor Study is advancing and preliminary alternatives are being identified, including mode, feature, alignment, and terminus options along Harbor Boulevard between the OC Streetcar and the Fullerton Transportation Center. These alternatives will undergo a detailed evaluation in summer 2016, with a final report presented to the OCTA Board in fall 2016.

Given that these significant transit projects and corridor studies are being managed by OCTA, staff has reevaluated the roles identified in the cooperative agreement between OCTA and the City in context of the need for a more regional perspective for planning transit extensions to current or planned systems. As a result of this reevaluation of roles, staff is requesting Board approval for the Chief Executive Officer to negotiate and execute Amendment No.3 to Cooperative Agreement No. C-1-3115 for the City to conclude all planning efforts for the Project as the lead agency. With the recent progression of the OC Streetcar, it is critical for OCTA to assume all transit extension planning responsibilities to ensure the seamless and consistent integration. While local jurisdictions serve as important partners in these efforts, OCTA's role as lead agency ensures that more regional transit connectivity goals and objectives are being met. The work currently being developed by the City for the Project as it relates to certain disciplines, such as

the traffic analysis, community outreach, and identification of ROW are critical efforts that can help to inform current transit studies managed by OCTA. Staff is requesting that all planning work completed to date by the City be submitted to OCTA and evaluated as part of the Harbor Study. Incorporating a transit connection between ARTIC and the Anaheim Resort area into the Harbor Study will allow for a more comprehensive and efficient evaluation of connections to the OC Streetcar as opposed to a more piecemeal approach of multiple transit connectivity studies managed by multiple agencies. This approach also ensures compatibility to the OC Streetcar as it relates to evaluation of technology, vehicles, support facilities, and design features.

Next Steps

Upon Board approval, the Chief Executive Officer will negotiate and execute Amendment No. 3 to Cooperative Agreement No. C-1-3115 for the City to conclude all planning activities for the Project and submit project documents to OCTA. Additionally, staff will evaluate the proposed modification, including a transit connection between the Anaheim Resort area to ARTIC in the Harbor Study in context of the study's current scope and schedule and return to the Board, if necessary, with additional next steps.

Summary

Staff is seeking Board of Directors' approval for next steps related to the Anaheim Rapid Connection project and future connectivity to the OC Streetcar.

Attachment

None.

Prepared by:



Kelly Hart
Project Manager
(714) 560-5725

Approved by:



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



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

*Information
Items*



COMMITTEE TRANSMITTAL

June 27, 2016

To: Members of the Board of Directors
From: Laurena Weinert, ^{LM} Clerk of the Board
Subject: Placentia Metrolink Commuter Rail Station Project Funding

Finance and Administration Committee Meeting of June 8, 2016

Present: Directors Hennessey, Jones, Katapodis, Miller, Pulido, and Steel
Absent: Directors Do and Spitzer

Committee Vote

This item was passed by the Members present.

Director Pulido was not present to vote on this item.

Committee Recommendations (reflects a change from staff's recommendations. Recommendation C was added)

- A. Approve the use of up to \$6,000,000 in additional excess 91 Express Lanes toll revenues for the construction of the Placentia Metrolink Commuter Rail Station project, combined with the City of Placentia's additional contribution of \$5,405,000 to increase the overall budget from \$23,420,000 to \$34,825,000.
- B. Authorize staff to make all necessary amendments to the Federal Transportation Improvement Program, as well as execute any necessary agreements to facilitate the recommendations above.
- C. Direct staff to include provisions in cooperative Agreement No. C-6-1117 with the City of Placentia requiring that the City contribution in the amount of \$4,400,000 be placed into a separate Orange County Transportation Authority account for project purposes, to be drawn upon as needed prior to the commencement of construction on the Placentia Metrolink Commuter Rail Station project.



Committee Discussion

At the June 8, 2016, Finance and Administration Committee meeting, Board Vice Chairman Hennessey requested as part of the motion to direct staff to include provisions in cooperative Agreement No. C-6-1117 with the City of Placentia requiring that the City contribution in the amount of \$4,400,000 be placed into a separate Orange County Transportation Authority account for project purposes, to be drawn upon as needed prior to the commencement of construction on the Placentia Metrolink Commuter Rail Station project.



ORANGE COUNTY TRANSPORTATION AUTHORITY

Placentia Metrolink Commuter Rail Station Project Funding

Staff Report



June 8, 2016

To: Finance and Administration Committee
From: Darrell Johnson, Chief Executive Officer
Subject: Placentia Metrolink Commuter Rail Station Project Funding

Overview

The Orange County Transportation Authority has been working in collaboration with the City of Placentia to design and construct a new Metrolink commuter rail station. The Orange County Transportation Authority will serve as the lead agency for the station design and construction of the project. The project cost has increased due to changes in scope and escalation since the original estimate was developed. A revised funding plan, which includes the use of additional excess 91 Express Lanes toll revenues, is presented for Board of Directors' consideration.

Recommendations

- A. Approve the use of up to \$6,000,000 in additional excess 91 Express Lanes toll revenues for the construction of the Placentia Metrolink Commuter Rail Station project, combined with the City of Placentia's additional contribution of \$5,405,000 to increase the overall budget from \$23,420,000 to \$34,825,000.
- B. Authorize staff to make all necessary amendments to the Federal Transportation Improvement Program, as well as execute any necessary agreements to facilitate the recommendations above.

Background

The proposed Placentia Metrolink Commuter Rail Station project (Project) is located along the Orangethorpe rail corridor in the City of Placentia (City) and will serve the Metrolink 91 Line, with connections to Buena Park, Norwalk/Santa Fe Springs, Fullerton, Los Angeles, and Riverside. The City received California Environmental Quality Act clearance for the new station in June 2007.

The Orange County Transportation Authority (OCTA) completed draft plans, specifications, and estimates (PS&E) on May 30, 2013. The final plans included two station platforms, passenger waiting canopies and benches, a kiss-and-ride drop off facility, ticket vending machines, two bus stops, and 433 spaces of surface parking on four separate parking lots. The new station will make use of the existing Bradford Road pedestrian bridge for passenger movement between platforms. The engineer’s estimate for construction was \$16,200,000. The Project was put on hold to allow the City to negotiate with a private developer to construct a transit-oriented development on one of the parcels planned to be used for a portion of the surface parking, and to include a proposed parking structure on an adjacent planned surface parking property owned by the City. In addition, the City can no longer acquire property to accommodate 93 surface parking spaces. The total parking count with the proposed structure will be 304. OCTA has informed the City that the station must open with approximately 300 spaces for transit use. The City has requested OCTA to re-design portions of the station to include the parking structure and to accommodate future transit-oriented development.

The City, through City Council action, has identified funding in the amount of \$4,400,000 as the City’s contribution for a parking structure (Attachment A). Building a parking structure in lieu of multiple surface parking lots will increase the convenience of locating a parking space for transit users arriving at the station and enhance the overall passenger experience of using the commuter rail system.

The Project cost has increased due to changes in scope and cost escalation to the current year of construction since the original estimate was developed. The following table summarizes the increase in construction costs and the funding shortfall:

	2012 (millions)	2018* (millions)	Programmed Amount (millions)	City Funds (millions)	Shortfall (millions)
Original Design	\$16.2	\$19.6	\$16.2	N/A	\$3.4
Current Design With Parking Structure	N/A	\$26.6	\$16.2	\$4.4	\$6.0

**Anticipated date of construction is January 2018.*

Discussion

Staff is proposing the use of an additional \$6,000,000 in excess 91 Express Lane toll revenue (toll revenues) to fully fund construction of the Project, which would include the parking structure. The Project is identified as an eligible project for use of toll revenues in the State Route 91 Implementation Plan. It is also

consistent with the January 27, 2014 OCTA Board adopted Policy for the Use of Excess 91 Express Lanes Toll Revenue, which states that 20 percent of the toll revenue is to be allocated to transit projects or services within the 91 corridor. This increase in toll revenue funding, combined with the existing \$8,300,000 in toll revenues already committed (now totaling \$14,300,000), must be reconciled to maintain the 20 percent proportional share for transit by 2030. There is sufficient funding from 91 Express Lanes Toll Revenues today to cover the funding need for the Placentia Station Project.

The City will reimburse OCTA for the costs expended to revise the PS&E to eliminate the surface parking lot and add the parking structure. This effort is estimated to be \$600,000, and will require an amendment to OCTA's design consultant contract, which will be brought to the OCTA Board of Directors (Board) for consideration. The City will be responsible for updating the parking structure plans to bring the design into compliance with the current building code and to provide design support during construction. This effort is estimated to be \$205,000. The City is also required to acquire right-of-way from BNSF Railway in order to build the parking structure, which is estimated to cost \$200,000. The above mentioned city contributions, including the \$4,400,000 towards the parking structure, bring the City's total contribution to the project to \$5,405,000.

A cooperative agreement between OCTA and the City is planned to be presented to the Board for consideration and approval on June 13, 2016, which will define the roles and responsibilities outlined above.

The overall funding for the Project is proposed to increase by \$11,405,000, from \$23,420,000 to \$34,825,000. The existing and proposed funding plan for the Project is provided in Attachment B.

Summary

Board approval is necessary to use an additional \$6,000,000 in excess 91 Express Lanes toll revenues to fully fund the construction of the Placentia Metrolink Commuter Rail Station project.

Attachments

- A. Resolution No. 2016-14, A Resolution of the City Council of the City of Placentia, California, Committing \$5,405,000 for the Metrolink Station and Parking Structure Capital Improvement Project
- B. Existing and Proposed Funding Plans for the Placentia Metrolink Commuter Rail Station (Sources and Uses)
- C. Capital Funding Program Report

Prepared by:



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Project Manager
(714) 560-5788

Approved by:



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



ORANGE COUNTY TRANSPORTATION AUTHORITY

Placentia Metrolink Commuter Rail Station Project Funding

Attachment A

RESOLUTION NO. 2016-14

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
PLACENTIA, CALIFORNIA, COMMITTING \$5,405,000 FOR THE
METROLINK STATION AND PARKING STRUCTURE CAPITAL
IMPROVEMENT PROJECT**

A. Recitals.

(i) The City of Placentia has long considered the need for a Metrolink Station to provide transportation and economic benefits to the City.

(ii) The Orange County Transportation Authority (OCTA) has identified the need for a Metrolink Station in the City of Placentia.

(iii) To build the Metrolink Station, OCTA requires certain guarantees from the City including the building of a parking structure.

(iv) OCTA requires assurance of the City's ability to contribute \$5,405,000 prior to entering into the agreement to build the Project.

(v) All legal prerequisites to the adoption of this Resolution have occurred.

B. Resolution.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF PLACENTIA DOES HEREBY FIND, DETERMINE AND RESOLVE AS FOLLOWS:

1. The City Council hereby specifically finds that all of the facts set forth in the Recitals, Part A, of this Resolution are true and correct.

2. The City Council hereby authorizes and approves the commitment of funds as follows:

Item	Amount	Funding Source
Station Redesign	\$600,000	Measure M
BNSF Easement	200,000	Measure M
Parking Structure - City Designer	205,000	Measure M
Parking Structure - Construction	1,800,000	Unassigned Fund Balance
Parking Structure - Construction	1,300,000	UUT Fund Balance
Parking Structure - Construction	500,000	CNG Fund Balance
Parking Structure - Construction	800,000	Sewer Fund - Loan
	<u>\$5,405,000</u>	

3. The adopted budget for Fiscal Year 2015-16, Resolution No. R-2015-30, is hereby amended to reflect the following transfer of funds from the Account specified to the Account specified:

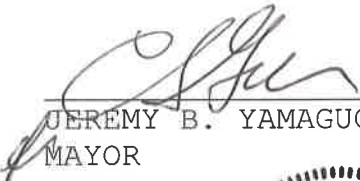
Fund	Description	Department	GL Account #	Amount	Type
Gen Fund	Transfer in - UUT Fund	Transfers	109999-7016	1,300,000.00	Revenue
Gen Fund	Transfer in - CNG Fund	Transfers	109999-7038	500,000.00	Revenue
UUT Fund	Transfer out - Gen Fund	Transfers	169999-8010	1,300,000.00	Expense
CNG Fund	Transfer out - Gen Fund	Transfers	389999-8010	500,000.00	Expense
Gen Fund	Transfer out - CIP Fund	Transfers	109999-8010	4,400,000.00	Expense
Meas M Fd	Transfer out - CIP Fund	Transfers	109999-8033	878,000.00	Expense
Gas Tx Fd	Transfer out - CIP Fund	Transfers	179999-8033	127,000.00	Expense
CIP Fund	Transfer in - Gen Fund	Transfers	339999-7010	4,400,000.00	Revenue
CIP Fund	Transfer in - Measure M	Transfers	339999-7018	878,000.00	Revenue
CIP Fund	Transfer in - Gas Tax	Transfers	339999-7017	127,000.00	Revenue
CIP Fund	Station Redesign	PWks-Engr	333550-6015	600,000.00	Expense
CIP Fund	BNSF Easement	PWks-Engr	333550-6015	200,000.00	Expense
CIP Fund	Parking Structure - Design	PWks-Engr	333550-6015	205,000.00	Expense
CIP Fund	Metrolink/Prkg - Construction	PWks	333550-6185	4,400,000.00	Expense

4. The City Council authorizes an inter-fund loan between the Sewer Enterprise Fund and the General Fund in the amount of \$800,000 at the current rate of Local Agency Investment Fund (LAIF).

5. Proceeds from the sale of the property at 207-209 West Crowther Avenue, Placentia, shall be used to:

- a. Repay the \$800,000 loan from the sewer fund.
- b. Repay funds owed to the Low and Moderate Income Housing Fund.
- c. Thereafter, any remaining proceeds shall be deposited into the General Fund.

APPROVED and ADOPTED this 5th day of April, 2016.



JEREMY B. YAMAGUCHI
MAYOR

ATTEST:



PATRICK J. MELIA
CITY CLERK



STATE OF CALIFORNIA
COUNTY OF ORANGE

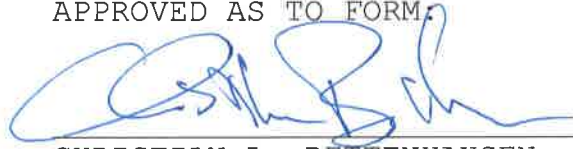
I, PATRICK J. MELIA, City Clerk of the City of Placentia, do hereby certify that the foregoing Resolution was adopted at a regular meeting of the City Council of the City of Placentia, held on the 5th day of April, 2016, by the following vote:

- AYES: COUNCILMEMBERS NELSON, WANKE, GREEN, UNDERHILL
YAMAGUCHI
- NOES: NONE
- ABSENT: NONE
- ABSTAIN: NONE



PATRICK J. MELIA
CITY CLERK

APPROVED AS TO FORM:



CHRISTIAN L. BETTENHAUSEN
CITY ATTORNEY



ORANGE COUNTY TRANSPORTATION AUTHORITY

Placentia Metrolink Commuter Rail Station Project Funding

Attachment B

**Existing and Proposed Funding Plans
for the Placentia Metrolink Commuter Rail Station
(Sources and Uses)**

Existing Funding Plan (\$000s)

Fund Source/Phase	STIP	City Funds	PTMISEA	CMAQ	Toll Revenues	Measure M2	TOTAL
Engineering	\$2,500.00	\$670.00	\$400.00	\$50.00		\$100.00	\$3,720.00
Right-of-Way(ROW)		\$3,500.00					\$3,500.00
Construction					\$8,300.00	\$7,900.00	\$16,200.00
Total	\$2,500.00	\$4,170.00	\$400.00	\$50.00	\$8,300.00	\$8,000.00	\$23,420.00

Proposed Funding Plan (\$000s)

Fund Source/Phase	STIP	City Funds	PTMISEA	CMAQ	Toll Revenues	Measure M2	TOTAL
Engineering	\$2,500.00	\$1,475.00	\$400.00	\$50.00		\$100.00	\$4,525.00
ROW		\$3,700.00					\$3,700.00
Construction		\$4,400.00			\$14,300.00	\$7,900.00	\$26,600.00
Proposed Total	\$2,500.00	\$9,575.00	\$400.00	\$50.00	\$14,300.00	\$8,000.00	\$34,825.00
Existing Total	\$2,500.00	\$4,170.00	\$400.00	\$50.00	\$8,300.00	\$8,000.00	\$23,420.00
Change	\$0.00	\$5,405.00	\$0.00	\$0.00	\$6,000.00	\$0.00	\$11,405.00

STIP - State Transportation Improvement Program

PTMISEA - Public Transportation Modernization, Improvement, and Service Enhancement Account Program

CMAQ - Congestion Mitigation and Air Quality Improvement

Toll Revenues - 91 Express Lane Excess Toll Revenues



ORANGE COUNTY TRANSPORTATION AUTHORITY

Placentia Metrolink Commuter Rail Station Project Funding

Attachment C



Capital Funding Program Report

Pending Board of Directors (Board) Approval - June 13, 2016

Rail 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
Fullerton Transportation Center Parking Expansion Project	M1/R	\$33,667	\$11,250	\$11,035			\$9,718		\$1,664
Laguna Niguel-Mission Viejo Station Parking Improvements and Expansion	M1/R	\$15,134			\$6,500		\$8,634		
Orange Transportation Center Parking Structure	M1/R	\$33,175	\$13,762		\$4,073	\$3,298	\$1,850	\$420	\$9,772
Sand Canyon Avenue Grade Separation Project ¹	M1/R	\$62,084		\$28,226	\$10,536		\$3,116	\$5,352	\$14,854
M2 Project S Fixed-Guideway Anaheim Rapid Connection	M1/S	\$19,452				\$10,682	\$6,000	\$1,335	\$1,435
OC Streetcar (Proposed New Starts)	M1/S	\$288,740	\$40,000		\$48,450	\$144,370		\$55,920	
OC Streetcar Preliminary Studies and Environmental	M1/S	\$12,129				\$4,433	\$6,000	\$554	\$1,142
Anaheim Regional Intermodal Transportation Center (ARTIC) Construction	M1/T	\$184,164	\$29,219		\$35,000	\$40,754	\$43,900	\$35,291	
17th Street Grade Separation Environmental	R	\$3,500						\$3,500	
Anaheim Canyon Station Improvements	R	\$20,051			\$18,050	\$2,001			
Control Point at 4th Street	R	\$4,000				\$4,000			
Future Video Surveillance Systems	R	\$1,531				\$1,288			\$243
Laguna Niguel to San Juan Capistrano Passing Siding	R	\$25,274	\$3,000	\$2,483	\$19,791				
Metrolink Rehabilitation/Renovation - fiscal years 2011-12 to 2019-20	R	\$82,217				\$82,217			
Metrolink Station and Track Improvements, and Rehabilitation	R	\$2,230				\$1,784			\$446
Placentia Commuter Rail Station ²	R	\$34,825	\$2,500	\$400	\$50			\$8,000	\$23,875
Positive Train Control (Metrolink)	R	\$39,916		\$34,190		\$5,726			
Rail Station Platform Safety Improvements (Fullerton, Irvine, and Tustin)	R	\$788		\$788					
San Clemente Beach Trail Crossings Safety Enhancements	R	\$5,103		\$2,170				\$2,311	\$622
San Juan Creek Bridge Replacement ³	R	\$34,200	\$396	\$3,094		\$29,375		\$1,335	
Slope Stabilization Laguna Niguel-Lake Forest	R	\$2,000				\$2,000			
State College Grade Separation (LOSSAN)	R	\$79,284		\$46,000				\$33,284	
Ticket Vending Machines	R	\$6,857				\$6,857			
Video Surveillance Systems at Commuter Rail Stations	R	\$4,300				\$3,440			\$860
M2 Project S Transit Extensions to Metrolink (Rubber Tire)	S	\$733						\$733	
Fullerton Transportation Station Expansion Planning, Environmental, Planning Study Report	M1	\$875			\$775		\$100		
Rail Project Totals		\$996,229	\$100,127	\$128,386	\$143,225	\$342,225	\$79,318	\$148,035	\$54,913
State Funding Total		\$228,513							
Federal Funding Total		\$485,450							
Local Funding Total		\$282,266							
Total Funding (000's)		\$996,229							

Rail 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
Metrolink Grade Crossing Safety Improvements (OCX)	M1/R	\$85,009		\$18,595			\$6,305	\$36,299	\$23,810
Metrolink Rolling Stock	M1/R	\$158,009		\$36,300	\$42,230	\$35,390	\$44,089		
Metrolink Service Track Expansion	M1/R	\$119,957		\$51,399			\$68,558		



Capital Funding Program Report

Rail 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
Control Point Stadium Crossover	R	\$6,490		\$3,245		\$3,245			
LOSSAN Corridor Grade Separations PSR in Anaheim, Orange, and Santa Ana	R	\$2,699						\$2,699	
Metrolink Grade Crossing Safety Improvements ROW	R	\$3,025						\$3,025	
North Beach Crossings Safety Enhancements	R	\$348		\$166				\$182	
Rail Crossing Signal Lights and Pedestrian Gates	R	\$252		\$252					
Safety Repairs for San Clemente Pier Station	R	\$122		\$122					
Transit Rail Security (Monitors, Fencing, Video Surveillance)	R	\$310		\$310					
Go Local	S	\$7,730					\$7,730		
ARTIC Environmental, ROW, Program Management Support, Site Plan	M1	\$42,888					\$42,888		
Fiber Optics Installation (Metrolink)	M1	\$24,600		\$12,300		\$10,903	\$1,397		
Laguna Niguel-Mission Viejo Station Parking Expansion (South Lot)	M1	\$4,135		\$695			\$3,440		
Santa Ana Grade Separation Planning and Environmental PSR	M1	\$1,333			\$1,180		\$153		
Santa Ana Transportation Station Planning and Environmental PSR	M1	\$1,003			\$888		\$115		
Tustin Rail Station Parking Expansion	M1	\$15,389	\$1,100	\$7,181			\$7,108		
Rail Project Totals		\$473,299	\$1,100	\$130,565	\$44,298	\$49,538	\$181,783	\$42,205	\$23,810
State Funding Total		\$131,665							
Federal Funding Total		\$93,836							
Local Funding Total		\$247,798							
Total Funding (000's)		\$473,299							

Board Notes:

1. Capital Programming Update - Reflects cost savings of \$0.396 million in Proposition 116 (Prop 116), and \$1.533 million in Transit System Safety, Security & Disaster Response Account for Sand Canyon Grade Separation project. Project funding decreases from \$64.013 million to \$62.084 million.
2. Placentia Metrolink Commuter Rail Station Project Funding - Requesting Board approval for an additional \$6.000 million in 91 Express Lane Excess Toll Revenues for construction and \$5.405 million in City funds for engineering, ROW, and construction for the Placentia Commuter Rail Station project. Project funding increases from \$23.420 million to \$34.825 million.
3. 2016 STIP Update - Requesting Board approval for \$3.094 million in Trade Corridor Improvement Fund, \$1.335 million in M2, \$0.875 million in Earmark, and \$0.396 million in Prop 116 funds to offset the removal of STIP funds for the San Juan Creek Bridge Replacement project. Total project cost remains the same. This action is contingent on California Transportation Commission approval.

Acronyms:

- M1/M2 - Measure M1/Measure M2
- M Code - M1 = Measure M1, otherwise Project Codes in Measure M2 Program
- STIP - State Transportation Improvement Program
- RSTP/CMAQ - Regional Surface Transportation Program/Congestion Mitigation and Air Quality
- CURE - Commuter and Rail Endowment Fund
- LOSSAN - Los Angeles-San Diego-San Luis Obispo Rail Corridor
- OCX - Rail-Highway Grade Crossing/Safety Enhancement Project
- PTMISEA - Proposition 1B Public Transportation Modernization, Improvement, and Service Enhancement Account
- CTC - California Transportation Commission
- OCTA - Orange County Transportation Authority
- PSR - Project Study Report
- ROW - Right-of-way



ORANGE COUNTY TRANSPORTATION AUTHORITY

Second Quarter 2016 Debt and Investment Report

Staff Report



July 25, 2016

To: Members of the Board of Directors
From: Darrell Johnson, Chief Executive Officer
Subject: Second Quarter 2016 Debt and Investment Report

Overview

The California Government Code authorizes the Orange County Transportation Authority Treasurer to submit a quarterly investment report detailing the investment activity for the period. This investment report covers the second quarter of 2016, April through June, and includes a discussion on the Orange County Transportation Authority's debt portfolio.

Recommendation

Receive and file the Quarterly Debt and Investment Report prepared by the Treasurer as an information item.

Discussion

The Treasurer is currently managing the Orange County Transportation Authority's (OCTA) investment portfolio totaling \$1.3 billion as of June 30, 2016. The portfolio is divided into two managed portfolios: the liquid portfolio for immediate cash needs and the short-term portfolio for future budgeted expenditures. In addition to these portfolios, OCTA has funds invested in a debt service reserve fund for the 91 Express Lanes.

OCTA's debt portfolio had an outstanding principal balance of \$440 million as of June 30, 2016. Approximately 74 percent of the outstanding balance is comprised of Measure M2 debt and 26 percent is associated with the 91 Express Lanes Program.

Economic Summary: The Federal Reserve (Fed) has left the target range for the benchmark federal funds rate unchanged at 0.25 percent since December 2016, when it increased the rate for the first time in almost ten years. The Fed is weighing volatile signals from the United States labor market and continued worries over global economic and financial conditions. Employers

added 287,000 jobs in June, the most in eight months, following 11,000 jobs added in May, the worst since 2010. The healthcare industry and business services have offered Americans the best chance of finding work in the past year. Of the 2.4 million jobs created in the 12 months through May, 46 percent have been at healthcare providers and at business services such as computer programming, consulting, and design. The unemployment rate increased to 4.9 percent from 4.7 percent due to an increase in the labor force by 414,000 job seekers.

Real gross domestic product (GDP) increased at an annual rate of 1.1 percent in the first quarter of 2016, according to the "third" estimate released by the Bureau of Economic Analysis. In the fourth quarter of 2015, real GDP increased 1.4 percent. With the third estimate for the first quarter, the general picture of economic growth remains the same; exports increased more than previously estimated. The increase in real GDP in the first quarter reflected positive contributions from personal consumption expenditures, residential fixed investment, and state and local government spending. Imports, which are a subtraction in the calculation of GDP, decreased.

Debt Portfolio Activity: No debt service payments were made during the second quarter. The outstanding balances for each of OCTA's debt securities are presented in Attachment A.

Investment Portfolio Compliance: There were no compliance violations during the quarter. OCTA continues its policy of reviewing the contents of the investment portfolio on a daily basis to ensure compliance. Attachment B provides a comparison of the portfolio holdings as of June 30, 2016, to the diversification guidelines of the policy.

Investment Portfolio Performance Versus Selected Benchmarks: OCTA uses Clearwater Analytics to calculate performance for each manager within the respective portfolios. The performance reports calculate monthly total rates of return based upon the market value of the portfolios they manage. The securities are marked-to-market daily based on pricing data provided by the custody banks.

OCTA has calculated the total returns for each of the investment managers for short-term operating monies and has compared the returns to specific benchmarks as shown in Attachment C. Attachment D contains an annualized total return performance comparison by investment manager for the previous two years. Attachment E provides a five-year yield comparison between the short-term investment managers, Orange County Investment Pool, and Local Agency Investment Fund.

The returns for OCTA's short-term operating monies are compared to the Bank of America Merrill Lynch (BAML) 1-3 year Treasury (Treasury) and the BAML 1-3 year AAA-A U.S. Corporate and Government (Corporate/Government) benchmarks. The BAML 1-3 year indices are among the most commonly used short-term fixed-income benchmarks. Each of the four managers invests in a combination of securities that all conform to OCTA's 2016 Investment Policy. For the quarter ending June 30, 2016, the weighted average total return for OCTA's short-term portfolio was 0.57 percent, outperforming the Treasury benchmark return by four basis points and underperforming the Corporate/Government benchmark return by two basis points. For the 12-month period ending June 30, 2016, the portfolio's return totaled 1.53 percent, exceeding the Treasury benchmark by 22 basis points while exceeding the Corporate/Government benchmark by 4 basis points for the same period.

Performance for the first two months of the quarter was flat. Yields moved up and down with very little net change. On June 23, 2016, the United Kingdom voted to exit the European Union – commonly referred to as “Brexit.” This global event drove investors to seek a safe haven in the form of high-quality fixed-income securities, translating to one of the highest performing months in recent years.

The two-year treasury yield, which has a close correlation to the OCTA portfolio, was at a recent high of 0.78 percent. Following the Brexit vote, the yield plummeted to 0.55 percent. Since the first week of July, market volatility has subsided and yields have climbed daily as the details of the exit plan have yet to be determined.

Investment Portfolios: A summary of each investment manager's investment diversification, performance, and maturity schedule is provided in Attachment F. These summaries provide a tool for analyzing the different returns for each manager.

A complete listing of all securities is provided in Attachment G. Each portfolio contains a description of the security, maturity date, book value, market value, and yield provided by Clearwater Analytics.

Cash Availability for the Next Six Months: OCTA has reviewed the cash requirements for the next six months. It has been determined that the liquid and the short-term portfolios can fund all projected expenditures during the next six months.

Summary

As required under the California Government Code, the Orange County Transportation Authority is submitting its quarterly debt and investment report to the Board of Directors. The report summarizes the Orange County Transportation Authority's debt and investment activities for the period April 2016 through June 2016.

Attachments

- A. Orange County Transportation Authority Outstanding Debt June 30, 2016.
- B. Orange County Transportation Authority Investment Policy Compliance June 30, 2016.
- C. Orange County Transportation Authority Short-term Portfolio Performance Review Quarter Ending June 30, 2016.
- D. Orange County Transportation Authority Short-term Portfolio Performance June 30, 2016.
- E. Orange County Transportation Authority Comparative Yield Performance June 30, 2016.
- F. Investment Manager Diversification and Maturity Schedules June 30, 2016.
- G. Orange County Transportation Authority Portfolio Listing as of June 30, 2016.

Prepared by:

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714-560-5675

Approved by:

Andrew Oftelie
Executive Director,
Finance and Administration
714-560-5649



ORANGE COUNTY TRANSPORTATION AUTHORITY

Second Quarter 2016 Debt and Investment Report

Attachment A

**Orange County Transportation Authority
Outstanding Debt
June 30, 2016**

Orange County Local Transportation Authority (OCLTA) - M2 Program

	<u>Issued</u>	<u>Outstanding</u>	<u>Final Maturity</u>
2010 Series B Sales Tax Revenue Tax-Exempt Bonds	\$ 59,030,000	\$ 31,945,000	2020
2010 Series A Sales Tax Revenue Taxable Bonds	\$ 293,540,000	\$ 293,540,000	2041
Sub-total	\$ 352,570,000	\$ 325,485,000	

91 Express Lanes

	<u>Issued</u>	<u>Outstanding</u>	<u>Final Maturity</u>
2013 OCTA 91 Express Lanes Refunding Bonds	\$ 124,415,000	\$ 114,415,000	2030

TOTAL OUTSTANDING BALANCE

\$ 439,900,000



ORANGE COUNTY TRANSPORTATION AUTHORITY

Second Quarter 2016 Debt and Investment Report

Attachment B

ORANGE COUNTY TRANSPORTATION AUTHORITY
Investment Policy Compliance
June 30, 2016

<u>Investment Instruments</u>	<u>Dollar Amount Invested</u>	<u>Percent Of Portfolio</u>	<u>Investment Policy Maximum Percentages</u>
U.S. Treasuries	\$660,527,186	49.4%	100%
Federal Agencies & U.S. Government Sponsored	158,097,728	11.8%	100%
State of California & Local Agencies	4,598,730	0.3%	25%
Money Market Funds & Mutual Funds	60,705,085	4.5%	20%
Bankers Acceptances	0	0.0%	30%
Negotiable Certificates of Deposit	0	0.0%	30%
Commercial Paper	29,909,704	2.2%	25%
Medium Term Maturity Corporate Securities	251,680,733	18.8%	30%
Mortgage and Asset-backed Securities	99,520,525	7.4%	10%
Repurchase Agreements	24,367,444	1.8%	75%
Investment Agreements Pursuant To Indenture	0	0.0%	100%
Local Agency Investment Fund	10,187,412	0.8%	\$ 40 Million
Orange County Investment Pool (OCIP)	487,386	0.0%	\$ 40 Million
CAMP	0	0.0%	10%
Variable & Floating Rate Securities	35,830,807	2.7%	30%
Debt Service Reserve Funds - Investment Agreements	0	0.0%	Not Applicable
Bank Deposits	0	0.0%	5%
Derivatives (hedging transactions only)	0	0.0%	5%
TOTAL	<u>\$1,335,912,740</u>	100.0%	



ORANGE COUNTY TRANSPORTATION AUTHORITY

Second Quarter 2016 Debt and Investment Report

Attachment C

**Orange County Transportation Authority
Short-term Portfolio Performance Review*
Quarter Ending June 30, 2016**

Month Ending	Bank of America Merrill Lynch Treasury 1-3 Year Index Benchmark		Bank of America Merrill Lynch Gov/Corp 1-3 Year Index Benchmark		JP Morgan		Payden & Rygel		Western Asset Mgmt		State Street Global Advisors	
	Monthly Return	Duration	Monthly Return	Duration	Monthly Return	Duration	Monthly Return	Duration	Monthly Return	Duration	Monthly Return	Duration
4/30/2016	0.04%	1.88 years	0.08%	1.88 years	0.07%	1.81 years	0.11%	1.34 years	0.13%	1.93 years	0.08%	1.84 years
5/31/2016	-0.11%	1.91 years	-0.08%	1.91 years	-0.12%	1.81 years	-0.05%	1.40 years	-0.08%	1.85 years	-0.09%	1.80 years
6/30/2016	0.60%	1.90 years	0.59%	1.90 years	0.58%	1.82 years	0.42%	1.46 years	0.66%	1.98 years	0.56%	1.82 years
Apr 16 - Jun 16 Total Return	0.53%		0.59%		0.53%		0.48%		0.71%		0.56%	

HISTORICAL QUARTERLY RETURNS

Jul 15 - Sep 15 Total Return	0.31%	0.33%	0.38%	0.32%	0.32%	0.34%
Oct 15 - Dec 15 Total Return	-0.44%	-0.36%	-0.34%	-0.25%	-0.20%	-0.30%
Jan 16 - Mar 16 Total Return	0.90%	0.94%	1.00%	0.74%	0.86%	0.97%
Apr 16 - Jun 16 Total Return	0.53%	0.59%	0.53%	0.48%	0.71%	0.56%

12-Month Total Return	1.31%	1.49%	1.57%	1.30%	1.69%	1.56%
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* - Month End Rates of Return are Gross of Fees

12-Mo Total Return (Net of Fees)	N/A	N/A	1.42%	1.16%	1.55%	1.46%
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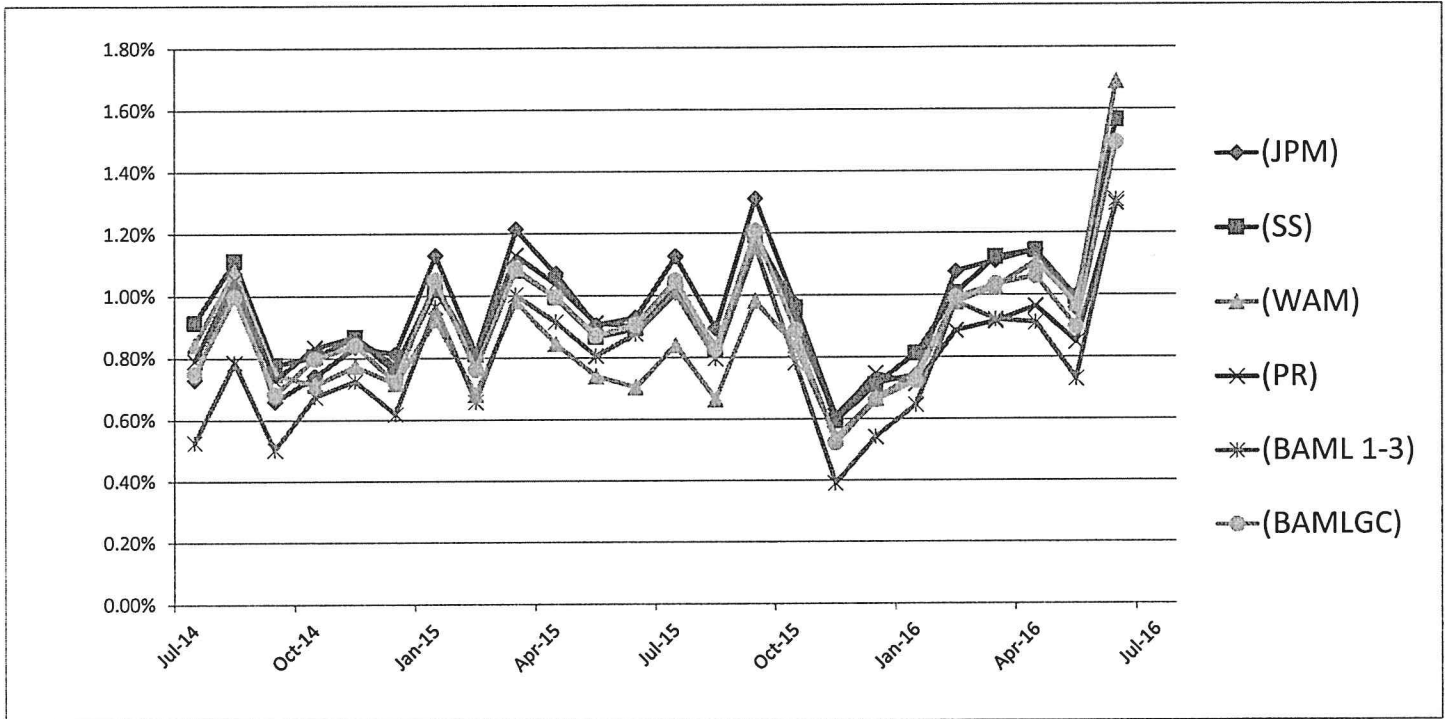
ORANGE COUNTY TRANSPORTATION AUTHORITY

Second Quarter 2016 Debt and Investment Report

Attachment D

Orange County Transportation Authority Short-Term Portfolio Performance June 30, 2016

**Trailing 1-Year Total Return
Vs. The Bank of America Merrill Lynch (BAML) 1-3 Benchmarks**



	JP Morgan (JPM)	State Street (SS)	Western Asset Mgmt (WAM)	Payden Rygel (PR)	BAML 1-3 Yr Trsy (BAML 1-3)	BAML 1-3 Yr Gov/Corp (BAMLGC)
Jul-14	0.73%	0.91%	0.84%	0.79%	0.53%	0.75%
Aug-14	1.05%	1.11%	1.08%	1.05%	0.79%	1.00%
Sep-14	0.66%	0.78%	0.75%	0.73%	0.50%	0.68%
Oct-14	0.74%	0.81%	0.71%	0.83%	0.68%	0.80%
Nov-14	0.84%	0.87%	0.77%	0.87%	0.73%	0.84%
Dec-14	0.81%	0.76%	0.72%	0.78%	0.62%	0.72%
Jan-15	1.13%	1.02%	0.92%	1.03%	0.97%	1.05%
Feb-15	0.82%	0.81%	0.68%	0.81%	0.66%	0.76%
Mar-15	1.21%	1.08%	0.98%	1.13%	1.00%	1.09%
Apr-15	1.07%	1.00%	0.85%	1.04%	0.92%	1.00%
May-15	0.91%	0.87%	0.74%	0.91%	0.81%	0.87%
Jun-15	0.93%	0.89%	0.70%	0.90%	0.88%	0.91%
Jul-15	1.13%	1.03%	0.84%	1.04%	1.01%	1.05%
Aug-15	0.89%	0.83%	0.66%	0.83%	0.80%	0.83%
Sep-15	1.31%	1.20%	0.98%	1.19%	1.16%	1.21%
Oct-15	0.97%	0.96%	0.84%	0.91%	0.78%	0.89%
Nov-15	0.61%	0.59%	0.54%	0.61%	0.39%	0.52%
Dec-15	0.72%	0.71%	0.67%	0.75%	0.54%	0.66%
Jan-16	0.74%	0.81%	0.74%	0.71%	0.65%	0.72%
Feb-16	1.08%	1.01%	0.98%	0.89%	0.98%	0.99%
Mar-16	1.11%	1.12%	1.03%	0.92%	0.92%	1.04%
Apr-16	1.15%	1.14%	1.11%	0.96%	0.91%	1.06%
May-16	0.96%	0.99%	0.97%	0.85%	0.73%	0.90%
Jun-16	1.57%	1.56%	1.69%	1.30%	1.31%	1.49%



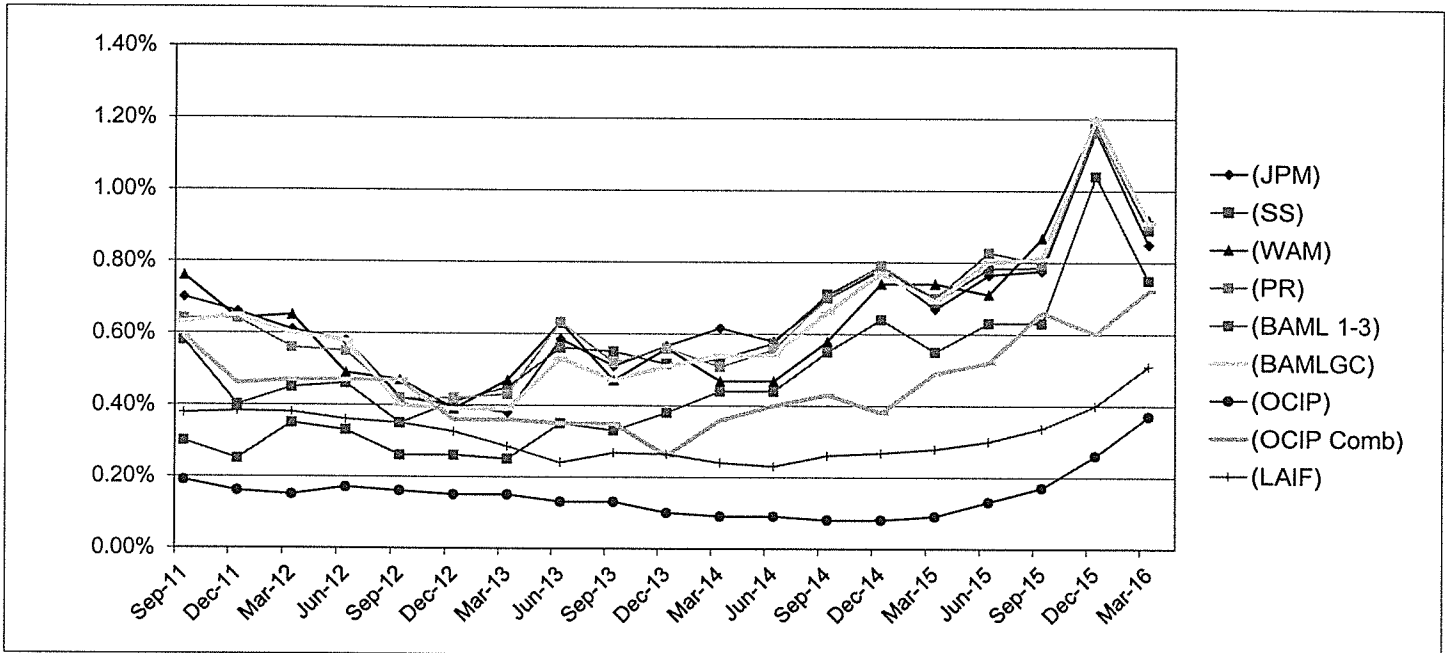
ORANGE COUNTY TRANSPORTATION AUTHORITY

Second Quarter 2016 Debt and Investment Report

Attachment E

Orange County Transportation Authority Comparative Yield Performance June 30, 2016

**Historical Yields
Vs. The Bank of America Merrill Lynch (BAML) 1-3 Benchmarks**



	JP Morgan (JPM)	State Street (SS)	Western Asset Mgmt (WAM)	Payden Rygel (PR)	BAML 1-3 Yr Trsy (BAML 1-3)	BAML 1-3 Yr Gov/Corp (BAMLGC)	(OCIP)	(OCIP Comb)	(LAIF)
Sep-11	0.70%	0.58%	0.76%	0.64%	0.30%	0.63%	0.19%	0.59%	0.38%
Dec-11	0.66%	0.40%	0.64%	0.64%	0.25%	0.65%	0.16%	0.46%	0.38%
Mar-12	0.61%	0.45%	0.65%	0.56%	0.35%	0.60%	0.15%	0.47%	0.38%
Jun-12	0.58%	0.46%	0.49%	0.55%	0.33%	0.58%	0.17%	0.47%	0.36%
Sep-12	0.42%	0.35%	0.47%	0.42%	0.26%	0.40%	0.16%	0.47%	0.35%
Dec-12	0.40%	0.41%	0.39%	0.42%	0.26%	0.39%	0.15%	0.36%	0.33%
Mar-13	0.38%	0.45%	0.47%	0.43%	0.25%	0.39%	0.15%	0.36%	0.29%
Jun-13	0.59%	0.56%	0.63%	0.63%	0.35%	0.53%	0.13%	0.35%	0.24%
Sep-13	0.51%	0.55%	0.47%	0.52%	0.33%	0.47%	0.13%	0.35%	0.27%
Dec-13	0.57%	0.52%	0.56%	0.56%	0.38%	0.51%	0.10%	0.26%	0.26%
Mar-14	0.62%	0.53%	0.47%	0.51%	0.44%	0.54%	0.09%	0.36%	0.24%
Jun-14	0.58%	0.57%	0.47%	0.56%	0.44%	0.54%	0.09%	0.40%	0.23%
Sep-14	0.70%	0.71%	0.58%	0.70%	0.55%	0.66%	0.08%	0.43%	0.26%
Dec-14	0.78%	0.79%	0.74%	0.79%	0.64%	0.77%	0.08%	0.38%	0.27%
Mar-15	0.67%	0.69%	0.74%	0.70%	0.55%	0.69%	0.09%	0.49%	0.28%
Jun-15	0.77%	0.78%	0.71%	0.83%	0.63%	0.80%	0.13%	0.52%	0.30%
Sep-15	0.78%	0.79%	0.87%	0.80%	0.63%	0.81%	0.17%	0.66%	0.34%
Dec-15	1.16%	1.17%	1.19%	1.16%	1.04%	1.20%	0.26%	0.60%	0.40%
Mar-16	0.85%	0.89%	0.92%	0.91%	0.75%	0.91%	0.37%	0.72%	0.0051
Jun-16	0.74%	0.75%	0.82%	0.82%	0.60%	0.77%	N/A	N/A	N/A



ORANGE COUNTY TRANSPORTATION AUTHORITY

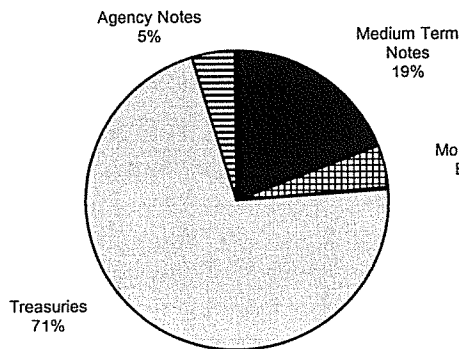
Second Quarter 2016 Debt and Investment Report

Attachment F

Investment Manager Diversification and Maturity Schedules

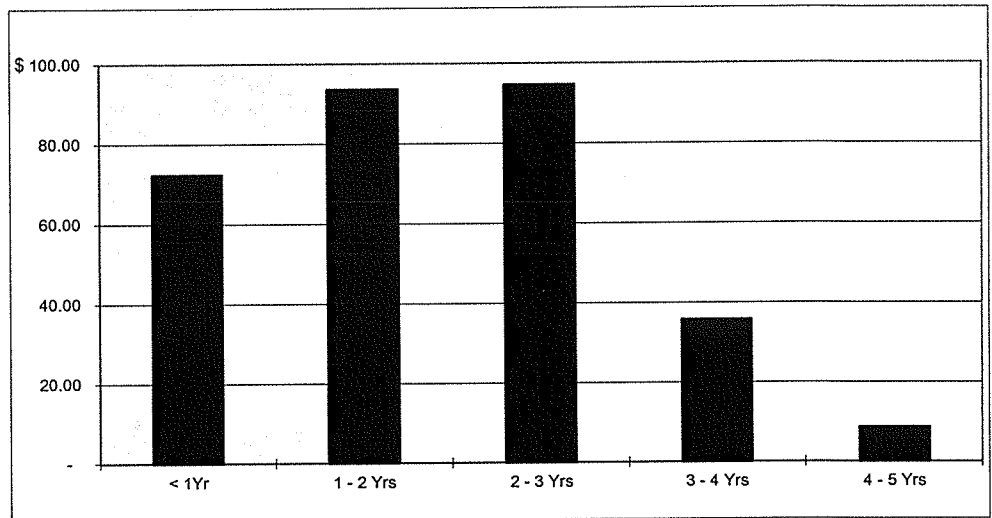
**JP Morgan
June 30, 2016**

SHORT-TERM PORTFOLIO (\$305.0 M)



	<u>Book Value</u>	<u>Market Value</u>
Treasuries	\$217,795,499	\$218,934,429
Agency Notes	14,034,940	13,776,497
Medium Term Notes	58,718,882	58,124,345
Mortg. & Asset-Back Sec.	13,667,510	13,683,825
Money Market Funds	<u>775,278</u>	<u>775,278</u>
	<u>\$304,992,108</u>	<u>\$305,294,373</u>

Wtd Avg Life	1.86 Yrs
Duration	1.82 Yrs
Quarter-end Yield	0.74%
TSY Benchmark	0.60%
Gov/Corp Benchmark	0.77%
Quarter Return	0.53%
TSY Benchmark	0.53%
Gov/Corp Benchmark	0.59%
12 Month Return	1.57%
TSY Benchmark	1.31%
Gov/Corp Benchmark	1.49%

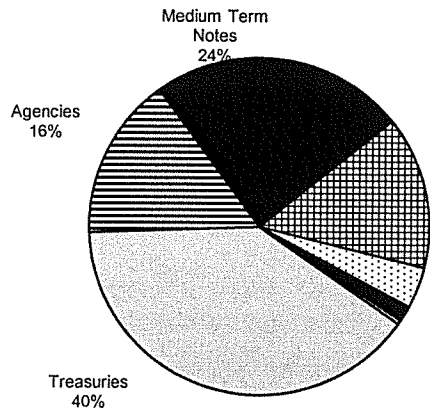


Investment Manager Diversification and Maturity Schedules

Payden & Rygel

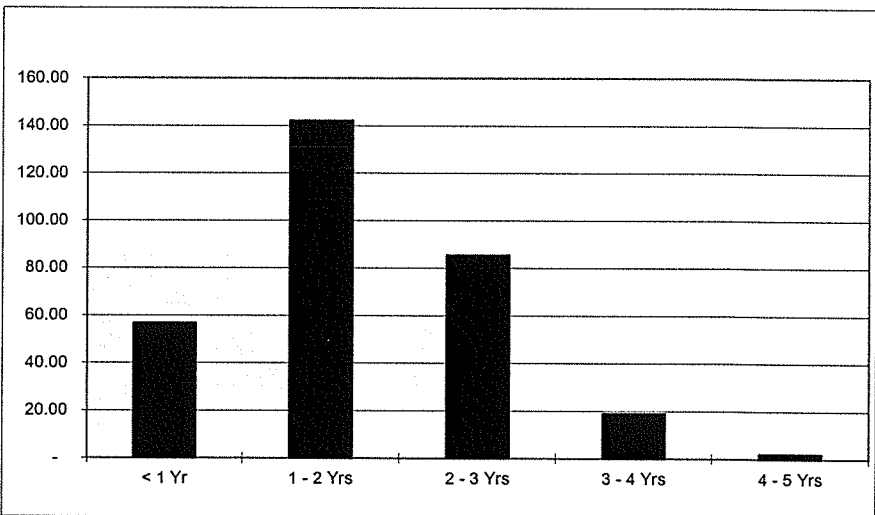
June 30, 2016

SHORT-TERM PORTFOLIO (\$305.3 M)



	<u>Book Value</u>	<u>Market Value</u>
Treasuries	\$121,181,209	\$121,531,159
Agencies	47,482,722	47,661,527
Medium Term Notes	73,915,272	74,240,856
Mortg. & Asset-Back Sec.	44,776,778	44,744,410
Variable & Floating Rate	12,050,197	12,064,558
State & Local Agencies	4,598,730	4,661,307
Money Market Funds	<u>1,293,862</u>	<u>1,293,862</u>
	<u>\$305,298,770</u>	<u>\$306,197,678</u>

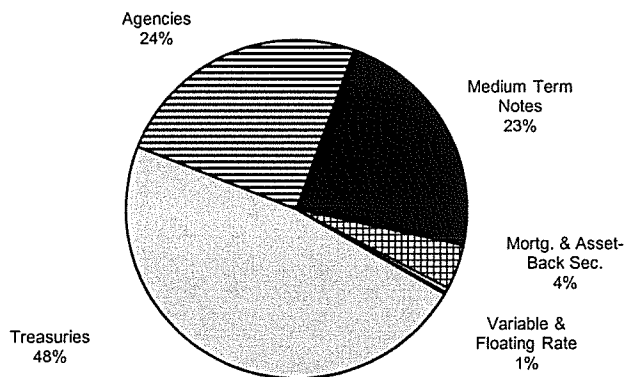
Wtd Avg Life	1.50 Yrs
Duration	1.46 Yrs
Quarter-end Yield	0.82%
TSY Benchmark	0.60%
Gov/Corp Benchmark	0.77%
Quarter Return	0.48%
TSY Benchmark	0.53%
Gov/Corp Benchmark	0.59%
12 Month Return	1.30%
TSY Benchmark	1.31%
Gov/Corp Benchmark	1.49%



Investment Manager Diversification and Maturity Schedules

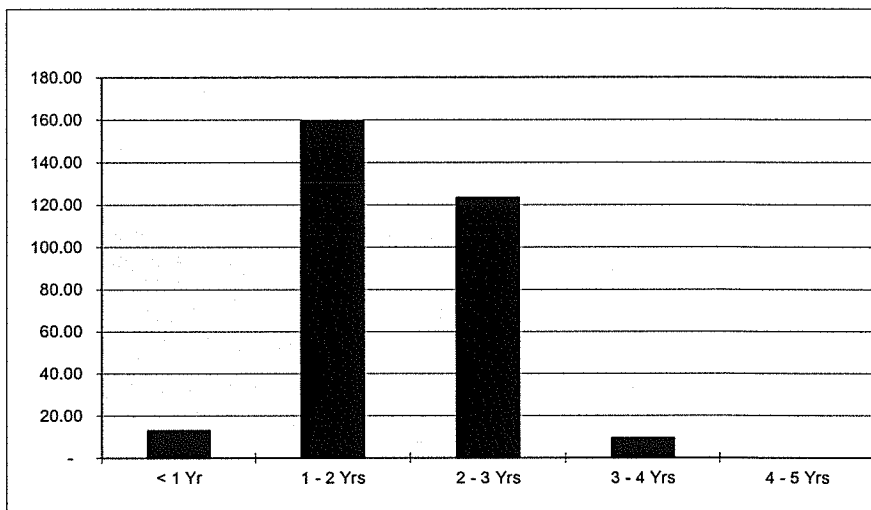
State Street
June 30, 2016

SHORT-TERM PORTFOLIO (\$304.8 M)



	Book Value	Market Value
Treasuries	\$145,330,672	\$146,121,066
Agencies	74,515,182	75,010,381
Medium Term Notes	69,932,458	70,363,117
Mortg. & Asset-Back Sec.	12,949,121	12,997,788
Variable & Floating Rate	1,500,000	1,507,290
Money Market Funds	<u>530,746</u>	<u>530,746</u>
	<u>\$304,758,178</u>	<u>\$306,530,389</u>

Wtd Avg Life	1.85 Yrs
Duration	1.82 Yrs
Quarter-end Yield	0.75%
TSY Benchmark	0.60%
Gov/Corp Benchmark	0.77%
Quarter Return	0.56%
TSY Benchmark	0.53%
Gov/Corp Benchmark	0.59%
12 Month Return	1.56%
TSY Benchmark	1.31%
Gov/Corp Benchmark	1.49%

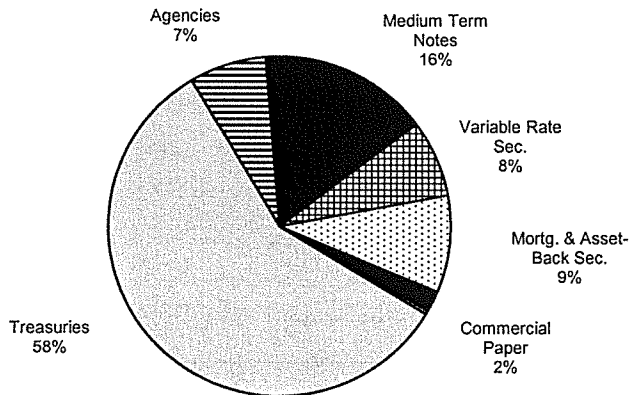


Investment Manager Diversification and Maturity Schedules

Western Asset Management

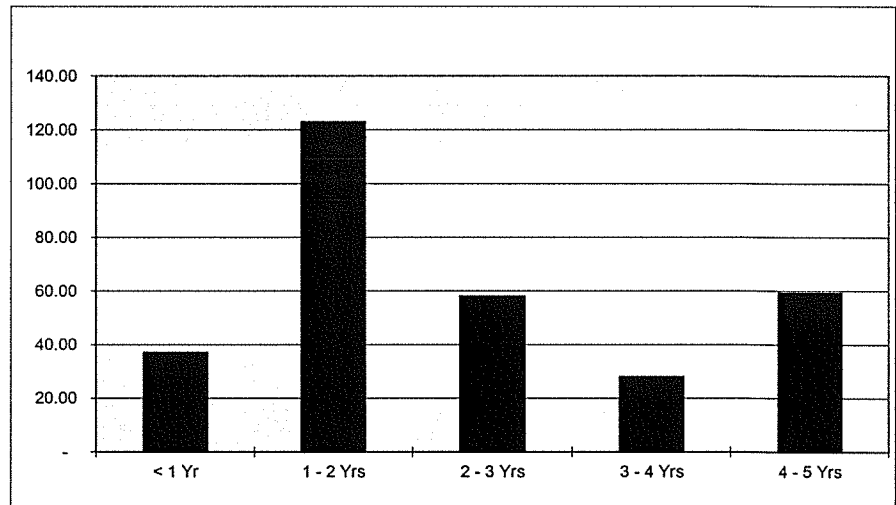
June 30, 2016

SHORT-TERM PORTFOLIO (\$304.9 M)



	Book Value	Market Value
Treasuries	\$176,219,807	\$177,800,098
Agencies	\$22,064,884	22,031,359
Medium Term Notes	49,114,121	49,518,215
Variable Rate Sec.	22,280,610	22,293,879
Mortg. & Asset-Back Sec.	28,127,116	28,247,820
Commercial Paper	6,078,794	6,094,133
Money Market Funds	1,028,208	1,028,208
	<u>\$304,913,540</u>	<u>\$307,013,710</u>

Wtd Avg Life	2.19 Yrs
Duration	1.98 Yrs
Quarter-end Yield	0.82%
TSY Benchmark	0.60%
Gov/Corp Benchmark	0.77%
Quarter Return	0.71%
TSY Benchmark	0.53%
Gov/Corp Benchmark	0.59%
12 Month Return	1.69%
TSY Benchmark	1.31%
Gov/Corp Benchmark	1.49%





ORANGE COUNTY TRANSPORTATION AUTHORITY

Second Quarter 2016 Debt and Investment Report

Attachment G

**Orange County Transportation Authority
Portfolio Listing
As of June 30, 2016**

LIQUID PORTFOLIO

<u>DESCRIPTION</u>	<u>MATURITY DATE</u>	<u>BOOK VALUE</u>	<u>MARKET VALUE</u>	<u>YIELD</u>
<u>CASH EQUIVALENTS</u>				
REPURCHASE AGREEMENT	7/1/2016	24,367,444.00	24,367,444.00	0.10%
FEDERATED TREASURY OBLIGATIONS FUND	N/A	11,992,468.22	11,992,468.22	0.25%
FIDELITY TREASURY OBLIGATIONS FUND	N/A	45,084,210.29	45,084,210.29	0.28%
FIRST AMERICAN TREAS OBLIGATIONS	N/A	3.25	3.25	0.00%
SUB-TOTAL		81,444,125.76	81,444,125.76	
<u>LOCAL AGENCY INVESTMENT FUND (LAIF)</u>	N/A	10,187,411.92	10,187,411.92	N/A
<u>ORANGE COUNTY INVESTMENT POOL (OCIP)</u>	N/A	487,385.51	487,385.51	N/A
LIQUID PORTFOLIO - TOTAL		\$ 92,118,923.19	\$ 92,118,923.19	

SHORT-TERM PORTFOLIO

<u>DESCRIPTION</u>	<u>MATURITY DATE</u>	<u>BOOK VALUE</u>	<u>MARKET VALUE</u>	<u>YIELD</u>
<u>CASH EQUIVALENTS</u>				
COOPERATIEVE RABOBANK U.A.	10/13/2016	1,248,996.54	1,251,504.54	0.69%
J.P. MORGAN SECURITIES LLC	9/2/2016	2,838,303.91	2,846,808.00	0.64%
J.P. MORGAN SECURITIES LLC	10/18/2016	1,991,493.34	1,995,820.00	0.69%
BLACKROCK INSTITUTIONAL FUNDS	N/A	\$ 3,628,092.55	3,628,092.55	0.22%
SUB-TOTAL		9,706,886.34	4,879,597.09	
<u>U.S. GOVERNMENT & AGENCY OBLIGATIONS</u>				
FEDERAL HOME LOAN BANKS	9/28/2016	449,207.10	450,175.50	0.34%
FEDERAL HOME LOAN BANKS	9/28/2016	573,180.12	575,224.25	0.34%
FEDERAL HOME LOAN BANKS	9/28/2016	9,997,050.00	10,003,900.00	0.34%
FEDERAL HOME LOAN BANKS	12/16/2016	244,167.00	224,270.20	0.53%
FEDERAL HOME LOAN BANKS	5/30/2017	1,946,958.00	1,950,897.00	0.57%
FEDERAL HOME LOAN BANKS	5/30/2017	5,695,269.00	5,702,622.00	0.57%
FEDERAL HOME LOAN BANKS	8/28/2017	349,450.50	350,563.50	0.61%
FEDERAL HOME LOAN BANKS	8/28/2017	1,935,654.40	1,943,123.40	0.61%
FEDERAL HOME LOAN BANKS	8/28/2017	9,977,600.00	10,016,100.00	0.61%
FEDERAL HOME LOAN BANKS	10/26/2017	4,320,603.90	4,331,558.80	0.60%
FEDERAL HOME LOAN BANKS	12/19/2017	2,625,000.00	2,638,571.25	0.65%
FEDERAL HOME LOAN BANKS	3/19/2018	899,683.20	903,168.00	0.67%
FEDERAL HOME LOAN BANKS	3/19/2018	2,989,073.10	3,000,524.80	0.67%
FEDERAL HOME LOAN BANKS	6/29/2018	2,992,770.00	3,012,000.00	0.67%
FEDERAL HOME LOAN MORTGAGE CORP	12/15/2017	4,685,169.30	4,714,950.80	0.63%
FEDERAL HOME LOAN MORTGAGE CORP	12/15/2017	4,994,850.00	5,026,600.00	0.63%
FEDERAL HOME LOAN MORTGAGE CORP	2/26/2018	2,890,000.00	2,890,722.50	0.89%
FEDERAL HOME LOAN MORTGAGE CORP	4/9/2018	2,995,290.00	3,003,450.00	0.68%
FEDERAL HOME LOAN MORTGAGE CORP	4/26/2018	3,938,424.00	3,941,773.00	0.91%
FEDERAL HOME LOAN MORTGAGE CORP	6/29/2018	3,060,000.00	3,063,519.00	0.77%
FEDERAL HOME LOAN MORTGAGE CORP	4/15/2019	1,629,462.10	1,643,855.00	0.82%
FEDERAL HOME LOAN MORTGAGE CORP	4/15/2019	4,998,350.00	5,042,500.00	0.82%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	9/15/2016	612,310.72	565,521.60	0.50%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	9/28/2016	450,418.95	450,891.00	0.44%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	2/13/2017	1,963,710.29	1,850,004.00	0.50%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	4/27/2017	141,170.40	140,620.20	0.59%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	6/12/2017	554,755.00	522,220.00	0.67%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	6/12/2017	913,792.00	835,552.00	0.67%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	3/28/2018	6,986,000.00	7,024,080.00	0.68%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	7/20/2018	1,364,538.63	1,377,012.00	0.69%

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FEDERAL NATIONAL MORTGAGE ASSOCIATION	7/20/2018	6,987,190.00	7,061,600.00	0.69%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	10/19/2018	3,015,107.60	3,047,753.80	0.72%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	10/19/2018	9,983,800.00	10,091,900.00	0.72%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	12/14/2018	7,988,080.00	8,072,720.00	0.75%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	2/26/2019	2,883,179.60	2,904,218.80	0.81%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	6/13/2019	2,980,000.00	2,981,728.40	1.12%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	9/12/2019	2,040,520.00	2,055,380.00	0.87%
FEDERAL NATIONAL MORTGAGE ASSOCIATION	10/9/2019	5,746,054.00	6,013,418.60	1.23%
FHMS KJ04 A1	10/25/2020	2,164,132.87	2,175,620.18	1.14%
FREDDIE MAC	8/25/2016	6,321,780.00	6,014,040.00	0.46%
FREDDIE MAC	3/8/2017	180,997.20	180,590.40	0.52%
FREDDIE MAC	7/14/2017	500,120.00	500,745.00	0.61%
FREDDIE MAC	7/14/2017	60,021.00	60,089.40	0.61%
FREDDIE MAC	7/14/2017	4,296,646.00	4,306,407.00	0.61%
FREDDIE MAC	7/14/2017	6,991,712.00	7,010,430.00	0.61%
FREDDIE MAC	7/14/2017	6,994,540.00	7,010,430.00	0.61%
FREDDIE MAC	6/13/2018	789,939.70	783,572.75	0.70%
HOUSING URBAN DEVELOPMNT	8/1/2018	1,000,000.00	1,013,150.00	0.69%
UNITED STATES TREASURY	7/31/2016	2,651,390.62	2,602,808.00	0.23%
UNITED STATES TREASURY	8/31/2016	100,582.03	100,116.00	0.31%
UNITED STATES TREASURY	8/31/2016	60,377.34	60,069.60	0.31%
UNITED STATES TREASURY	8/31/2016	1,003,750.00	1,001,160.00	0.31%
UNITED STATES TREASURY	8/31/2016	707,710.94	700,812.00	0.31%
UNITED STATES TREASURY	8/31/2016	676,845.70	675,783.00	0.31%
UNITED STATES TREASURY	8/31/2016	327,500.98	325,377.00	0.31%
UNITED STATES TREASURY	8/31/2016	737,955.86	730,846.80	0.31%
UNITED STATES TREASURY	9/30/2016	320,601.56	301,974.00	0.38%
UNITED STATES TREASURY	9/30/2016	706,699.22	701,127.00	0.36%
UNITED STATES TREASURY	9/30/2016	2,748,950.20	2,729,387.25	0.36%
UNITED STATES TREASURY	9/30/2016	502,597.65	500,805.00	0.36%
UNITED STATES TREASURY	9/30/2016	858,466.80	851,368.50	0.36%
UNITED STATES TREASURY	9/30/2016	227,355.46	225,362.25	0.36%
UNITED STATES TREASURY	9/30/2016	501,035.15	500,805.00	0.36%
UNITED STATES TREASURY	9/30/2016	499,375.00	500,805.00	0.36%
UNITED STATES TREASURY	10/31/2016	225,192.19	211,919.40	0.38%
UNITED STATES TREASURY	10/31/2016	326,180.66	325,711.75	0.34%
UNITED STATES TREASURY	10/31/2016	502,519.53	501,095.00	0.34%
UNITED STATES TREASURY	10/31/2016	1,832,770.50	1,828,996.75	0.34%
UNITED STATES TREASURY	10/31/2016	352,843.75	350,766.50	0.34%
UNITED STATES TREASURY	10/31/2016	800,312.50	801,752.00	0.34%
UNITED STATES TREASURY	11/30/2016	319,394.53	302,964.00	0.38%
UNITED STATES TREASURY	11/30/2016	1,328,955.08	1,262,350.00	0.38%
UNITED STATES TREASURY	11/30/2016	903,888.67	858,398.00	0.38%
UNITED STATES TREASURY	11/30/2016	1,007,031.25	1,002,050.00	0.38%
UNITED STATES TREASURY	11/30/2016	265,797.07	265,543.25	0.38%
UNITED STATES TREASURY	11/30/2016	200,679.69	200,410.00	0.38%
UNITED STATES TREASURY	12/31/2016	972,246.09	912,681.00	0.43%
UNITED STATES TREASURY	12/31/2016	390,289.45	390,900.90	0.41%
UNITED STATES TREASURY	12/31/2016	1,108,035.16	1,102,541.00	0.41%
UNITED STATES TREASURY	12/31/2016	802,031.25	801,848.00	0.41%
UNITED STATES TREASURY	12/31/2016	1,002,773.44	1,002,310.00	0.41%
UNITED STATES TREASURY	12/31/2016	281,651.56	280,646.80	0.41%
UNITED STATES TREASURY	1/31/2017	333,229.82	314,845.30	0.45%
UNITED STATES TREASURY	1/31/2017	437,437.50	406,252.00	0.45%
UNITED STATES TREASURY	1/31/2017	704,183.59	701,743.00	0.45%
UNITED STATES TREASURY	1/31/2017	300,128.91	300,747.00	0.45%
UNITED STATES TREASURY	1/31/2017	651,498.05	651,618.50	0.45%
UNITED STATES TREASURY	1/31/2017	1,307,363.28	1,303,237.00	0.45%
UNITED STATES TREASURY	1/31/2017	100,253.90	100,249.00	0.45%
UNITED STATES TREASURY	1/31/2017	5,898,617.22	5,901,947.00	0.44%
UNITED STATES TREASURY	1/31/2017	2,499,511.72	2,500,825.00	0.44%

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UNITED STATES TREASURY	2/28/2017	1,657,218.75	1,654,257.00	0.49%
UNITED STATES TREASURY	2/28/2017	5,385,318.36	5,363,803.00	0.49%
UNITED STATES TREASURY	3/31/2017	500,898.43	501,855.00	0.50%
UNITED STATES TREASURY	3/31/2017	726,047.85	727,689.75	0.50%
UNITED STATES TREASURY	3/31/2017	176,155.27	175,649.25	0.50%
UNITED STATES TREASURY	3/31/2017	502,929.69	501,855.00	0.50%
UNITED STATES TREASURY	3/31/2017	1,004,140.63	1,003,710.00	0.50%
UNITED STATES TREASURY	4/30/2017	369,167.50	371,124.80	0.51%
UNITED STATES TREASURY	4/30/2017	2,002,734.38	2,006,080.00	0.51%
UNITED STATES TREASURY	4/30/2017	598,289.06	601,824.00	0.51%
UNITED STATES TREASURY	4/30/2017	5,038,385.63	5,033,254.72	0.51%
UNITED STATES TREASURY	4/30/2017	3,019,453.13	3,009,120.00	0.51%
UNITED STATES TREASURY	4/30/2017	4,215,750.00	4,212,768.00	0.51%
UNITED STATES TREASURY	5/31/2017	594,316.40	550,864.80	0.55%
UNITED STATES TREASURY	5/31/2017	494,191.41	459,054.00	0.55%
UNITED STATES TREASURY	5/31/2017	698,277.34	700,630.00	0.53%
UNITED STATES TREASURY	5/31/2017	893,917.97	900,810.00	0.53%
UNITED STATES TREASURY	5/31/2017	1,191,796.87	1,201,080.00	0.53%
UNITED STATES TREASURY	5/31/2017	1,686,718.75	1,701,530.00	0.53%
UNITED STATES TREASURY	5/31/2017	742,880.86	750,675.00	0.53%
UNITED STATES TREASURY	5/31/2017	994,218.75	1,000,900.00	0.53%
UNITED STATES TREASURY	5/31/2017	742,236.33	750,675.00	0.53%
UNITED STATES TREASURY	6/30/2017	1,001,523.44	1,002,310.00	0.52%
UNITED STATES TREASURY	6/30/2017	1,092,867.19	1,102,541.00	0.52%
UNITED STATES TREASURY	6/30/2017	893,531.25	902,079.00	0.52%
UNITED STATES TREASURY	7/31/2017	594,687.50	560,873.50	0.55%
UNITED STATES TREASURY	7/31/2017	420,179.60	407,908.00	0.55%
UNITED STATES TREASURY	7/31/2017	833,343.75	815,816.00	0.55%
UNITED STATES TREASURY	7/31/2017	520,937.50	509,885.00	0.55%
UNITED STATES TREASURY	7/31/2017	537,558.59	509,885.00	0.55%
UNITED STATES TREASURY	7/31/2017	983,046.87	999,690.00	0.53%
UNITED STATES TREASURY	7/31/2017	397,125.00	399,876.00	0.53%
UNITED STATES TREASURY	7/31/2017	885,691.41	899,721.00	0.53%
UNITED STATES TREASURY	7/31/2017	396,578.12	399,876.00	0.53%
UNITED STATES TREASURY	7/31/2017	984,101.56	999,690.00	0.53%
UNITED STATES TREASURY	7/31/2017	317,225.00	319,900.80	0.53%
UNITED STATES TREASURY	7/31/2017	297,621.10	299,907.00	0.53%
UNITED STATES TREASURY	7/31/2017	495,722.65	499,845.00	0.53%
UNITED STATES TREASURY	7/31/2017	20,060,742.19	20,119,698.00	0.53%
UNITED STATES TREASURY	8/31/2017	2,469,335.94	2,502,250.00	0.55%
UNITED STATES TREASURY	8/31/2017	500,058.59	500,450.00	0.55%
UNITED STATES TREASURY	8/31/2017	998,671.88	1,000,900.00	0.55%
UNITED STATES TREASURY	8/31/2017	986,953.13	1,000,900.00	0.55%
UNITED STATES TREASURY	8/31/2017	690,894.53	700,630.00	0.55%
UNITED STATES TREASURY	8/31/2017	8,987,343.75	9,008,100.00	0.55%
UNITED STATES TREASURY	9/15/2017	3,923,398.82	3,950,711.10	0.56%
UNITED STATES TREASURY	9/30/2017	718,976.56	711,459.00	0.56%
UNITED STATES TREASURY	9/30/2017	4,423,625.00	4,370,391.00	0.56%
UNITED STATES TREASURY	9/30/2017	299,929.68	300,282.00	0.55%
UNITED STATES TREASURY	9/30/2017	692,261.72	700,658.00	0.55%
UNITED STATES TREASURY	9/30/2017	600,117.18	600,564.00	0.55%
UNITED STATES TREASURY	9/30/2017	400,234.38	400,376.00	0.55%
UNITED STATES TREASURY	9/30/2017	1,086,507.81	1,101,034.00	0.55%
UNITED STATES TREASURY	9/30/2017	500,488.28	500,470.00	0.55%
UNITED STATES TREASURY	9/30/2017	395,218.75	400,376.00	0.55%
UNITED STATES TREASURY	9/30/2017	7,970,950.20	7,982,496.50	0.55%
UNITED STATES TREASURY	9/30/2017	4,170,325.78	4,173,919.80	0.55%
UNITED STATES TREASURY	10/31/2017	636,726.56	610,290.00	0.58%
UNITED STATES TREASURY	10/31/2017	307,312.50	305,145.00	0.58%
UNITED STATES TREASURY	10/31/2017	593,687.50	569,604.00	0.58%
UNITED STATES TREASURY	10/31/2017	423,703.12	406,860.00	0.58%

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UNITED STATES TREASURY	10/31/2017	403,067.19	386,517.00	0.58%
UNITED STATES TREASURY	10/31/2017	795,031.25	801,936.00	0.57%
UNITED STATES TREASURY	10/31/2017	396,515.62	400,968.00	0.57%
UNITED STATES TREASURY	10/31/2017	1,192,546.88	1,202,904.00	0.57%
UNITED STATES TREASURY	10/31/2017	600,820.32	601,452.00	0.57%
UNITED STATES TREASURY	10/31/2017	792,031.25	801,936.00	0.57%
UNITED STATES TREASURY	10/31/2017	197,867.19	200,484.00	0.57%
UNITED STATES TREASURY	10/31/2017	513,247.26	511,234.20	0.57%
UNITED STATES TREASURY	10/31/2017	791,395.31	811,960.20	0.57%
UNITED STATES TREASURY	11/15/2017	12,041,881.25	12,160,135.40	0.57%
UNITED STATES TREASURY	11/15/2017	8,445,847.29	8,505,065.80	0.57%
UNITED STATES TREASURY	11/30/2017	196,859.37	200,164.00	0.57%
UNITED STATES TREASURY	11/30/2017	1,082,425.78	1,100,902.00	0.57%
UNITED STATES TREASURY	11/30/2017	1,087,925.78	1,100,902.00	0.57%
UNITED STATES TREASURY	11/30/2017	600,117.19	600,492.00	0.57%
UNITED STATES TREASURY	11/30/2017	198,812.50	200,164.00	0.57%
UNITED STATES TREASURY	11/30/2017	590,367.19	600,492.00	0.57%
UNITED STATES TREASURY	11/30/2017	787,250.00	800,656.00	0.57%
UNITED STATES TREASURY	11/30/2017	300,339.84	300,246.00	0.57%
UNITED STATES TREASURY	11/30/2017	300,117.19	300,246.00	0.57%
UNITED STATES TREASURY	11/30/2017	17,864,372.22	18,024,768.20	0.57%
UNITED STATES TREASURY	11/30/2017	120,187.50	120,496.80	0.58%
UNITED STATES TREASURY	11/30/2017	5,605,290.77	5,643,266.80	0.58%
UNITED STATES TREASURY	12/15/2017	8,812,996.10	8,854,296.00	0.57%
UNITED STATES TREASURY	12/31/2017	791,906.25	802,096.00	0.57%
UNITED STATES TREASURY	12/31/2017	692,070.31	701,834.00	0.57%
UNITED STATES TREASURY	12/31/2017	598,570.32	601,572.00	0.57%
UNITED STATES TREASURY	12/31/2017	299,203.13	300,786.00	0.57%
UNITED STATES TREASURY	12/31/2017	800,375.00	802,096.00	0.57%
UNITED STATES TREASURY	12/31/2017	994,609.37	1,002,620.00	0.57%
UNITED STATES TREASURY	12/31/2017	2,497,236.58	2,515,625.00	0.58%
UNITED STATES TREASURY	12/31/2017	10,048,046.88	10,062,500.00	0.58%
UNITED STATES TREASURY	1/15/2018	2,489,257.81	2,511,225.00	0.58%
UNITED STATES TREASURY	1/31/2018	795,187.50	803,720.00	0.58%
UNITED STATES TREASURY	1/31/2018	699,945.31	703,255.00	0.58%
UNITED STATES TREASURY	1/31/2018	550,000.00	552,557.50	0.58%
UNITED STATES TREASURY	1/31/2018	400,781.25	401,860.00	0.58%
UNITED STATES TREASURY	1/31/2018	651,294.92	653,022.50	0.58%
UNITED STATES TREASURY	1/31/2018	15,004,101.56	15,040,500.00	0.58%
UNITED STATES TREASURY	2/15/2018	2,510,546.88	2,516,400.00	0.59%
UNITED STATES TREASURY	2/15/2018	6,270,712.50	6,280,934.40	0.59%
UNITED STATES TREASURY	2/15/2018	1,555,396.55	1,568,220.48	0.59%
UNITED STATES TREASURY	2/15/2018	734,220.31	734,788.80	0.59%
UNITED STATES TREASURY	2/28/2018	1,037,695.31	1,035,740.00	0.59%
UNITED STATES TREASURY	2/28/2018	349,166.02	350,955.50	0.59%
UNITED STATES TREASURY	2/28/2018	4,640,554.69	4,662,694.50	0.59%
UNITED STATES TREASURY	2/28/2018	19,128,814.41	19,222,334.10	0.59%
UNITED STATES TREASURY	2/28/2018	13,963,906.25	14,038,220.00	0.59%
UNITED STATES TREASURY	3/15/2018	3,760,107.41	3,775,800.00	0.59%
UNITED STATES TREASURY	3/31/2018	2,192,121.09	2,182,929.00	0.60%
UNITED STATES TREASURY	3/31/2018	1,398,140.62	1,403,822.00	0.59%
UNITED STATES TREASURY	3/31/2018	498,203.12	501,365.00	0.59%
UNITED STATES TREASURY	3/31/2018	11,009,023.41	11,053,680.00	0.59%
UNITED STATES TREASURY	3/31/2018	11,040,820.31	11,053,680.00	0.59%
UNITED STATES TREASURY	4/15/2018	6,840,748.85	6,888,549.00	0.60%
UNITED STATES TREASURY	4/30/2018	590,156.25	600,396.00	0.59%
UNITED STATES TREASURY	4/30/2018	794,274.61	810,534.60	0.59%
UNITED STATES TREASURY	4/30/2018	149,121.09	150,099.00	0.59%
UNITED STATES TREASURY	4/30/2018	649,212.89	650,429.00	0.59%
UNITED STATES TREASURY	4/30/2018	294,937.50	300,198.00	0.59%
UNITED STATES TREASURY	4/30/2018	1,063,433.59	1,100,726.00	0.59%

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UNITED STATES TREASURY	4/30/2018	389,765.62	400,264.00	0.59%
UNITED STATES TREASURY	4/30/2018	1,082,425.78	1,100,726.00	0.59%
UNITED STATES TREASURY	4/30/2018	1,080,707.03	1,100,726.00	0.59%
UNITED STATES TREASURY	4/30/2018	1,994,765.62	2,001,320.00	0.59%
UNITED STATES TREASURY	4/30/2018	989,179.69	1,000,660.00	0.59%
UNITED STATES TREASURY	4/30/2018	5,000,781.25	5,014,450.00	0.59%
UNITED STATES TREASURY	4/30/2018	11,999,531.25	12,034,680.00	0.59%
UNITED STATES TREASURY	5/31/2018	796,687.50	806,184.00	0.59%
UNITED STATES TREASURY	5/31/2018	4,019,843.75	4,030,920.00	0.59%
UNITED STATES TREASURY	5/31/2018	800,031.25	806,184.00	0.59%
UNITED STATES TREASURY	5/31/2018	297,996.10	302,319.00	0.59%
UNITED STATES TREASURY	5/31/2018	545,810.54	554,251.50	0.59%
UNITED STATES TREASURY	5/31/2018	1,592,250.00	1,612,368.00	0.59%
UNITED STATES TREASURY	5/31/2018	15,276,395.88	15,373,024.70	0.59%
UNITED STATES TREASURY	5/31/2018	13,019,296.88	13,100,490.00	0.59%
UNITED STATES TREASURY	6/15/2018	399,765.63	404,016.00	0.61%
UNITED STATES TREASURY	6/30/2018	518,847.66	517,560.00	0.61%
UNITED STATES TREASURY	7/15/2018	996,960.00	1,005,390.00	0.61%
UNITED STATES TREASURY	7/15/2018	9,946,875.00	10,053,900.00	0.61%
UNITED STATES TREASURY	7/15/2018	10,979,804.69	11,059,290.00	0.61%
UNITED STATES TREASURY	7/31/2018	1,411,812.50	1,421,980.00	0.62%
UNITED STATES TREASURY	7/31/2018	911,214.85	914,130.00	0.62%
UNITED STATES TREASURY	8/31/2018	1,012,187.50	1,018,870.00	0.62%
UNITED STATES TREASURY	9/15/2018	3,957,438.68	4,002,276.10	0.63%
UNITED STATES TREASURY	9/15/2018	4,999,414.05	5,040,650.00	0.63%
UNITED STATES TREASURY	9/15/2018	15,810,437.50	15,988,941.80	0.63%
UNITED STATES TREASURY	9/15/2018	5,192,281.28	5,242,276.00	0.63%
UNITED STATES TREASURY	9/15/2018	1,162,632.01	1,169,430.80	0.63%
UNITED STATES TREASURY	9/15/2018	395,771.48	398,211.35	0.63%
UNITED STATES TREASURY	9/15/2018	3,061,533.40	3,069,755.85	0.63%
UNITED STATES TREASURY	9/15/2018	14,570,234.38	14,617,885.00	0.63%
UNITED STATES TREASURY	9/30/2018	678,910.94	691,233.60	0.63%
UNITED STATES TREASURY	10/15/2018	995,585.94	1,005,350.00	0.64%
UNITED STATES TREASURY	10/31/2018	1,097,335.93	1,115,257.00	0.65%
UNITED STATES TREASURY	10/31/2018	1,006,679.69	1,013,870.00	0.65%
UNITED STATES TREASURY	10/31/2018	601,804.69	608,322.00	0.65%
UNITED STATES TREASURY	10/31/2018	1,006,015.62	1,013,870.00	0.65%
UNITED STATES TREASURY	10/31/2018	1,296,394.54	1,318,031.00	0.65%
UNITED STATES TREASURY	10/31/2018	1,486,699.22	1,520,805.00	0.65%
UNITED STATES TREASURY	10/31/2018	806,125.00	811,096.00	0.65%
UNITED STATES TREASURY	10/31/2018	852,058.59	861,789.50	0.65%
UNITED STATES TREASURY	10/31/2018	676,520.32	689,431.60	0.65%
UNITED STATES TREASURY	10/31/2018	400,250.00	405,548.00	0.65%
UNITED STATES TREASURY	10/31/2018	100,730.46	101,387.00	0.65%
UNITED STATES TREASURY	11/30/2018	695,132.82	709,982.00	0.65%
UNITED STATES TREASURY	11/30/2018	1,303,808.59	1,318,538.00	0.65%
UNITED STATES TREASURY	11/30/2018	493,847.65	507,130.00	0.65%
UNITED STATES TREASURY	11/30/2018	401,437.50	405,704.00	0.65%
UNITED STATES TREASURY	12/15/2018	7,531,933.59	7,608,375.00	0.66%
UNITED STATES TREASURY	12/31/2018	1,115,425.78	1,122,693.00	0.67%
UNITED STATES TREASURY	12/31/2018	692,207.03	714,441.00	0.67%
UNITED STATES TREASURY	12/31/2018	1,210,312.50	1,221,240.00	0.66%
UNITED STATES TREASURY	12/31/2018	1,407,492.19	1,424,780.00	0.66%
UNITED STATES TREASURY	12/31/2018	1,403,937.50	1,424,780.00	0.66%
UNITED STATES TREASURY	12/31/2018	303,867.19	305,310.00	0.66%
UNITED STATES TREASURY	12/31/2018	1,009,453.12	1,017,700.00	0.66%
UNITED STATES TREASURY	12/31/2018	2,830,187.50	2,849,560.00	0.66%
UNITED STATES TREASURY	1/31/2019	1,120,796.87	1,122,990.00	0.68%
UNITED STATES TREASURY	1/31/2019	502,988.28	510,450.00	0.68%
UNITED STATES TREASURY	1/31/2019	865,937.50	867,765.00	0.68%
UNITED STATES TREASURY	1/31/2019	408,109.38	408,360.00	0.68%

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UNITED STATES TREASURY	1/31/2019	500,683.60	510,450.00	0.68%
UNITED STATES TREASURY	1/31/2019	1,006,328.12	1,020,900.00	0.68%
UNITED STATES TREASURY	1/31/2019	855,578.12	867,765.00	0.68%
UNITED STATES TREASURY	1/31/2019	1,698,937.50	1,725,109.00	0.67%
UNITED STATES TREASURY	1/31/2019	402,906.25	405,908.00	0.67%
UNITED STATES TREASURY	1/31/2019	1,973,750.00	2,029,540.00	0.67%
UNITED STATES TREASURY	1/31/2019	247,226.56	253,692.50	0.67%
UNITED STATES TREASURY	1/31/2019	198,984.37	202,954.00	0.67%
UNITED STATES TREASURY	2/28/2019	1,707,570.32	1,736,397.00	0.69%
UNITED STATES TREASURY	2/28/2019	858,234.38	868,198.50	0.69%
UNITED STATES TREASURY	2/28/2019	1,000,117.18	1,018,160.00	0.69%
UNITED STATES TREASURY	2/28/2019	1,001,992.19	1,018,160.00	0.69%
UNITED STATES TREASURY	2/28/2019	859,960.93	865,436.00	0.69%
UNITED STATES TREASURY	2/28/2019	1,191,328.13	1,221,792.00	0.69%
UNITED STATES TREASURY	2/28/2019	1,102,707.03	1,119,976.00	0.69%
UNITED STATES TREASURY	2/28/2019	708,367.18	712,712.00	0.69%
UNITED STATES TREASURY	2/28/2019	1,417,828.13	1,425,424.00	0.69%
UNITED STATES TREASURY	2/28/2019	1,400,218.75	1,425,424.00	0.69%
UNITED STATES TREASURY	2/28/2019	716,822.65	722,893.60	0.69%
UNITED STATES TREASURY	3/15/2019	3,923,135.18	3,943,156.80	0.68%
UNITED STATES TREASURY	3/15/2019	5,514,519.92	5,556,724.80	0.68%
UNITED STATES TREASURY	3/15/2019	531,469.92	534,494.40	0.68%
UNITED STATES TREASURY	3/15/2019	7,514,062.50	7,563,600.00	0.68%
UNITED STATES TREASURY	3/31/2019	1,427,835.94	1,435,112.00	0.70%
UNITED STATES TREASURY	3/31/2019	1,119,464.84	1,127,588.00	0.70%
UNITED STATES TREASURY	4/15/2019	13,940,390.62	14,066,780.00	0.70%
UNITED STATES TREASURY	4/30/2019	1,411,101.56	1,435,770.00	0.71%
UNITED STATES TREASURY	4/30/2019	858,433.59	871,717.50	0.71%
UNITED STATES TREASURY	5/15/2019	1,000,234.38	1,004,810.00	0.71%
UNITED STATES TREASURY	5/15/2019	5,965,078.13	6,028,860.00	0.71%
UNITED STATES TREASURY	5/31/2019	1,725,300.79	1,738,386.00	0.72%
UNITED STATES TREASURY	5/31/2019	1,305,941.40	1,329,354.00	0.72%
UNITED STATES TREASURY	5/31/2019	1,422,695.31	1,431,612.00	0.72%
UNITED STATES TREASURY	5/31/2019	853,486.33	869,193.00	0.72%
UNITED STATES TREASURY	5/31/2019	1,113,062.50	1,124,838.00	0.72%
UNITED STATES TREASURY	5/31/2019	2,814,437.50	2,863,224.00	0.72%
UNITED STATES TREASURY	5/31/2019	1,116,500.00	1,124,838.00	0.72%
UNITED STATES TREASURY	5/31/2019	1,410,992.19	1,431,612.00	0.72%
UNITED STATES TREASURY	6/15/2019	10,534,254.69	10,542,030.40	0.71%
UNITED STATES TREASURY	6/15/2019	9,988,281.25	10,049,600.00	0.71%
UNITED STATES TREASURY	6/30/2019	789,437.50	806,784.00	0.71%
UNITED STATES TREASURY	6/30/2019	377,721.10	393,307.20	0.71%
UNITED STATES TREASURY	6/30/2019	1,123,460.94	1,129,348.00	0.72%
UNITED STATES TREASURY	7/31/2019	597,037.50	612,501.00	0.74%
UNITED STATES TREASURY	7/31/2019	980,351.56	1,004,100.00	0.74%
UNITED STATES TREASURY	7/31/2019	918,095.32	923,772.00	0.74%
UNITED STATES TREASURY	7/31/2019	5,108,789.06	5,134,950.00	0.74%
UNITED STATES TREASURY	8/31/2019	534,166.01	554,235.00	0.75%
UNITED STATES TREASURY	8/31/2019	1,093,941.41	1,108,470.00	0.75%
UNITED STATES TREASURY	9/30/2019	968,945.31	1,007,460.00	0.77%
UNITED STATES TREASURY	9/30/2019	1,082,984.37	1,108,206.00	0.77%
UNITED STATES TREASURY	11/30/2019	1,111,988.28	1,125,608.00	0.81%
UNITED STATES TREASURY	11/30/2019	1,001,914.06	1,023,280.00	0.81%
UNITED STATES TREASURY	11/30/2019	985,390.62	1,006,520.00	0.81%
UNITED STATES TREASURY	1/31/2020	1,219,783.98	1,227,678.10	0.84%
UNITED STATES TREASURY	1/31/2020	1,218,744.14	1,227,678.10	0.84%
UNITED STATES TREASURY	1/31/2020	199,826.00	203,812.00	0.83%
UNITED STATES TREASURY	2/29/2020	509,179.69	509,435.00	0.85%
UNITED STATES TREASURY	2/29/2020	879,855.47	886,416.90	0.85%
UNITED STATES TREASURY	3/31/2020	1,088,914.06	1,120,801.00	0.86%
UNITED STATES TREASURY	4/30/2020	1,689,640.63	1,732,011.00	0.87%

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UNITED STATES TREASURY	5/31/2020	907,066.41	920,952.00	0.89%
UNITED STATES TREASURY	8/31/2020	1,505,449.22	1,527,480.00	0.93%
UNITED STATES TREASURY	10/31/2020	1,534,277.34	1,550,445.00	0.96%
UNITED STATES TREASURY	11/30/2020	1,141,550.78	1,149,456.00	0.96%
UNITED STATES TREASURY	2/28/2021	8,952,766.38	9,123,691.80	0.97%
UNITED STATES TREASURY	3/31/2021	5,558,903.50	5,634,834.80	1.00%
UNITED STATES TREASURY	3/31/2021	8,692,236.35	8,851,850.00	1.00%
UNITED STATES TREASURY	5/31/2021	5,681,109.36	5,782,296.80	1.00%
UNITED STATES TREASURY	6/30/2021	5,507,304.72	5,527,280.00	1.02%
	<i>SUB-TOTAL</i>	<u>818,624,914.05</u>	<u>822,866,515.48</u>	

MEDIUM TERM NOTES

3M CO	9/29/2016	167,917.20	165,301.95	0.63%
3M CO	9/29/2016	41,025.60	40,073.20	0.63%
3M CO	6/26/2017	537,510.60	541,387.80	0.74%
ABB FINANCE USA INC	5/8/2017	104,903.40	105,445.20	1.13%
ACE INA HOLDINGS INC	2/15/2017	24,723.82	22,621.50	1.15%
ACE INA HOLDINGS INC	3/15/2018	60,709.50	53,736.00	1.36%
ACE INA HOLDINGS INC	5/15/2018	75,062.00	70,513.30	1.16%
ACE INA HOLDINGS INC	5/15/2018	115,653.00	108,482.00	1.16%
ACE INA HOLDINGS INC	5/15/2018	97,289.30	92,209.70	1.16%
ACE INA HOLDINGS INC	5/15/2018	114,226.00	108,482.00	1.16%
ACE INA HOLDINGS INC	5/15/2018	174,229.50	162,723.00	1.16%
ACE INA HOLDINGS INC	6/15/2019	145,097.50	140,781.25	1.52%
ACE INA HOLDINGS INC	11/3/2020	349,804.00	359,849.00	1.61%
ACE INA HOLDINGS INC	2/15/2017	517,560.00	505,480.00	0.89%
AFLAC INC	12/15/2017	96,909.79	97,422.92	1.35%
AIG GLOBAL FUNDING	10/1/2020	157,474.50	160,947.00	1.59%
ALABAMA POWER CO	10/1/2020	96,586.20	96,568.20	1.59%
Allstate Corporation (The)	5/15/2018	125,163.15	114,820.65	1.66%
ALTERA CORP	11/15/2018	144,172.00	144,807.60	1.03%
ALTERA CORP	11/15/2018	204,566.00	206,868.00	1.03%
AMERICAN EXPRESS CO	8/28/2017	569,215.50	554,037.75	1.33%
AMERICAN EXPRESS CO	8/28/2017	98,224.20	94,977.90	1.33%
AMERICAN EXPRESS CREDIT CORP	3/24/2017	2,683,642.00	2,625,402.00	1.03%
AMERICAN EXPRESS CREDIT CORP	6/5/2017	179,560.80	179,974.80	1.14%
AMERICAN EXPRESS CREDIT CORP	6/5/2017	364,532.80	364,948.90	1.14%
AMERICAN EXPRESS CREDIT CORP	6/5/2017	498,780.00	499,930.00	1.14%
AMERICAN EXPRESS CREDIT CORP	9/22/2017	1,053,586.30	1,059,684.20	1.18%
AMERICAN EXPRESS CREDIT CORP	7/31/2018	194,744.55	196,729.65	1.35%
AMERICAN EXPRESS CREDIT CORP	3/18/2019	150,474.00	153,129.00	1.34%
AMERICAN EXPRESS CREDIT CORP	8/15/2019	109,749.20	112,290.20	1.56%
AMERICAN EXPRESS CREDIT CORP	8/15/2019	80,192.80	81,665.60	1.56%
AMERICAN EXPRESS CREDIT CORP	5/5/2021	1,998,780.00	2,035,480.00	1.86%
AMERICAN HONDA FINANCE CORP	7/14/2017	1,997,180.00	2,002,880.00	1.06%
AMERICAN HONDA FINANCE CORP	12/11/2017	38,144.02	38,315.02	0.97%
AMERICAN HONDA FINANCE CORP	7/13/2018	202,074.00	202,228.00	1.05%
AMERICAN HONDA FINANCE CORP	10/10/2018	203,310.00	205,346.00	0.94%
AMERICAN HONDA FINANCE CORP	8/15/2019	99,815.00	103,255.00	1.19%
AMERICAN HONDA FINANCE CORPORATION	10/1/2018	178,647.00	170,688.00	1.38%
AMERIPRISE FINANCIAL INC	3/15/2020	224,708.00	224,114.00	1.92%
ANHEUSER-BUSCH CO	3/1/2017	68,582.40	61,859.40	0.94%
ANHEUSER-BUSCH INBEV NV	1/15/2019	175,654.45	167,751.95	1.44%
ANHEUSER-BUSCH INBEV WORLDWIDE INC	11/15/2019	201,130.40	199,027.50	1.65%
APPLE INC	5/5/2017	500,040.00	501,180.00	0.77%
APPLE INC	5/12/2017	86,939.97	87,160.08	0.69%
APPLE INC	5/12/2017	659,544.60	661,214.40	0.69%
APPLE INC	2/23/2018	179,922.60	181,224.00	0.88%
APPLE INC	5/3/2018	195,450.00	200,492.00	0.86%
APPLE INC	5/3/2018	178,111.80	180,442.80	0.86%
APPLE INC	5/3/2018	495,845.00	501,230.00	0.86%

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APPLE INC	2/22/2019	239,959.20	244,063.20	1.05%
APPLE INC	2/7/2020	66,307.56	66,489.06	1.34%
APPLE INC	2/23/2021	68,009.02	68,934.96	1.59%
ARIZONA PUBLIC SERVICE CO	3/1/2019	102,724.80	94,790.40	1.64%
ARIZONA PUBLIC SERVICE CO	1/15/2020	150,892.50	153,648.00	1.48%
ATLANTIC CITY ELECTRIC CO	11/15/2018	132,908.60	126,197.50	1.42%
ATMOS ENERGY CORP	6/15/2017	115,223.00	104,800.00	1.29%
ATMOS ENERGY CORP	6/15/2017	87,063.20	83,840.00	1.29%
BANK OF AMERICA NA	2/14/2017	1,198,944.00	1,201,800.00	1.01%
BANK OF AMERICA NA	2/14/2017	3,696,744.00	3,705,550.00	1.01%
BANK OF AMERICA NA	3/26/2018	1,500,810.00	1,509,000.00	1.30%
BANK OF AMERICA NA	3/26/2018	1,298,219.00	1,307,800.00	1.30%
BANK OF AMERICA NA	12/7/2018	3,000,000.00	3,043,980.00	1.44%
BANK OF NEW YORK COMPANY, INC. (THE)	1/15/2020	101,092.50	99,351.00	1.57%
BANK OF NEW YORK COMPANY, INC. (THE)	1/15/2020	141,420.50	143,507.00	1.57%
BANK OF NEW YORK MELLON CORP	5/22/2018	1,439,870.40	1,454,328.00	1.04%
BANK OF NEW YORK MELLON CORP	8/1/2018	913,734.00	916,938.00	1.15%
BANK OF NEW YORK MELLON CORP	3/4/2019	35,199.85	35,718.20	1.39%
BANK OF NEW YORK MELLON CORP	3/4/2019	50,603.50	51,026.00	1.39%
BANK OF NEW YORK MELLON CORP	3/4/2019	35,451.85	35,718.20	1.39%
BANK OF NEW YORK MELLON CORP	2/24/2020	203,662.00	203,892.00	1.59%
BANK OF NEW YORK MELLON CORP	8/17/2020	154,755.00	155,557.50	1.65%
BANK OF TOKYO MITSUBISHI UFJ LTD	9/8/2017	489,412.00	489,554.10	1.53%
BANK OF TOKYO-MITSUBISHI UFJ LTD	3/5/2018	1,548,775.50	1,557,951.50	1.39%
BAYER US FINANCE LLC	10/8/2019	203,710.00	204,448.00	1.67%
BB&T CORP	3/22/2017	73,052.70	70,546.00	0.93%
BB&T CORP	3/22/2017	142,728.60	141,092.00	0.93%
BB&T CORP	8/15/2017	140,932.40	140,757.40	1.07%
BB&T CORP	8/15/2017	300,207.00	301,623.00	1.07%
BB&T CORP	8/15/2017	299,454.00	301,623.00	1.07%
BB&T CORP	8/15/2017	518,055.42	521,807.79	1.07%
BB&T CORP	1/12/2018	129,509.90	130,512.20	1.18%
BERKSHIRE HATHAWAY FINANCE CORP	3/7/2018	679,734.80	686,249.20	0.90%
BERKSHIRE HATHAWAY FINANCE CORP	5/15/2018	564,000.00	540,780.00	1.00%
BERKSHIRE HATHAWAY FINANCE CORP	3/15/2019	28,977.96	29,473.86	1.09%
BERKSHIRE HATHAWAY FINANCE CORP	3/15/2019	589,551.60	599,640.60	1.09%
BERKSHIRE HATHAWAY INC	1/31/2017	579,971.00	583,862.80	0.75%
BERKSHIRE HATHAWAY INC	2/9/2018	146,222.35	146,683.45	0.82%
BERKSHIRE HATHAWAY INC	2/9/2018	120,091.20	121,393.20	0.82%
BLACKROCK INC	9/15/2017	23,055.74	20,205.36	0.96%
BLACKROCK INC	9/15/2017	6,071.90	5,317.20	0.96%
BLACKROCK INC	12/10/2019	168,627.00	167,991.00	1.42%
BLACKROCK INC	12/10/2019	131,338.05	128,793.10	1.42%
BLACKROCK INC	12/10/2019	56,019.50	55,997.00	1.42%
BLACKROCK INC	12/10/2019	144,736.80	145,592.20	1.42%
BLACKROCK INC	12/10/2019	167,211.00	167,991.00	1.42%
BMW US CAPITAL LLC	4/11/2019	209,907.60	211,503.60	1.24%
BOEING CAPITAL CORP	8/15/2016	104,758.00	100,113.00	0.67%
BOEING CAPITAL CORP	8/15/2016	62,471.40	60,067.80	0.67%
BOEING CAPITAL CORP	8/15/2018	249,417.60	249,326.40	0.97%
BOEING CO	5/15/2018	106,835.30	110,081.40	0.91%
BOTTLING GROUP LLC	1/15/2019	222,142.00	219,488.00	1.22%
BRANCH BANKING AND TRUST CO	10/1/2017	999,380.00	1,002,550.00	1.13%
BRANCH BANKING AND TRUST CO	10/1/2017	499,240.00	501,275.00	1.13%
BRANCH BANKING AND TRUST CO	10/1/2017	719,553.60	721,836.00	1.13%
BRANCH BANKING AND TRUST CO	5/10/2019	1,258,853.40	1,265,052.60	1.30%
BRANCH BANKING AND TRUST CO	5/10/2019	1,683,466.65	1,691,756.85	1.30%
BRANCH BANKING AND TRUST CO	4/1/2021	308,532.00	315,411.00	1.70%
CARGILL INC	3/1/2017	233,410.90	231,522.60	0.91%
CARGILL INC	11/27/2017	115,382.00	106,672.00	1.21%
CARGILL INC	11/27/2017	103,601.70	96,004.80	1.21%

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CATERPILLAR FINANCIAL SERVICES CORP	9/6/2016	1,139,829.00	1,141,333.80	0.71%
CATERPILLAR FINANCIAL SERVICES CORP	3/3/2017	249,852.50	250,330.00	0.80%
CATERPILLAR FINANCIAL SERVICES CORP	3/24/2017	91,200.60	90,565.20	0.89%
CATERPILLAR FINANCIAL SERVICES CORP	8/18/2017	129,935.00	130,366.60	1.00%
CATERPILLAR FINANCIAL SERVICES CORP	8/18/2017	300,357.00	300,846.00	1.00%
CATERPILLAR FINANCIAL SERVICES CORP	8/18/2017	999,800.00	1,002,820.00	1.00%
CATERPILLAR FINANCIAL SERVICES CORP	8/18/2017	499,750.00	501,410.00	1.00%
CATERPILLAR FINANCIAL SERVICES CORP	2/23/2018	309,928.70	312,783.80	0.95%
CATERPILLAR FINANCIAL SERVICES CORP	5/18/2019	149,916.00	150,700.50	1.18%
CATERPILLAR FINANCIAL SERVICES CORP	5/18/2019	509,500.20	512,381.70	1.18%
CATERPILLAR FINANCIAL SERVICES CORP	5/18/2019	1,099,384.00	1,105,137.00	1.18%
CATERPILLAR FINANCIAL SERVICES CORP	6/9/2019	206,011.44	209,467.20	1.17%
CATERPILLAR FINANCIAL SERVICES CORPORATION	9/1/2017	59,999.00	52,710.50	1.17%
CATERPILLAR FINANCIAL SERVICES CORPORATION	2/15/2019	109,321.25	109,114.15	1.37%
CATERPILLAR INC	6/26/2017	91,785.60	90,533.70	0.90%
CHARLES SCHWAB CORP	3/10/2018	699,118.00	706,580.00	0.91%
CHARLES SCHWAB CORP	7/25/2018	223,781.80	223,726.80	1.33%
CHEVRON CORP	11/9/2017	970,000.00	974,122.50	1.03%
CHEVRON CORP	11/9/2017	2,000,000.00	2,008,500.00	1.03%
CHEVRON CORP	11/15/2017	1,260,000.00	1,266,577.20	0.96%
CHEVRON CORP	12/5/2017	150,018.00	150,247.50	0.98%
CHEVRON CORP	12/5/2017	49,928.50	50,082.50	0.98%
CHEVRON CORP	3/2/2018	65,000.00	65,356.85	1.03%
CHEVRON CORP	3/2/2018	140,417.20	140,768.60	1.03%
CHEVRON CORP	3/2/2018	93,769.70	94,516.06	1.03%
CHEVRON CORP	3/2/2018	600,000.00	603,294.00	1.03%
CHEVRON CORP	3/2/2018	2,000,000.00	2,010,980.00	1.03%
CHEVRON CORP	6/24/2018	120,578.40	121,401.60	1.10%
CHEVRON CORP	6/24/2018	20,223.40	20,233.60	1.10%
CHEVRON CORP	6/24/2018	54,750.85	55,642.40	1.10%
CHEVRON CORP	11/16/2018	225,000.00	228,010.50	1.22%
CHEVRON CORP	11/16/2018	450,000.00	456,021.00	1.22%
CHEVRON CORP	3/3/2019	55,220.00	54,781.00	1.30%
CHEVRON CORP	5/16/2019	300,000.00	303,360.00	1.16%
CHEVRON CORP	5/16/2019	1,280,000.00	1,294,336.00	1.16%
CHEVRON CORP	11/15/2019	1,556,873.60	1,585,840.00	1.31%
CHEVRON CORP	11/15/2019	1,241,982.00	1,248,849.00	1.31%
CHEVRON CORP	11/15/2019	216,609.80	218,053.00	1.31%
CISCO SYSTEMS INC	3/14/2017	60,349.30	55,864.05	0.91%
CISCO SYSTEMS INC	3/14/2017	113,729.40	109,696.68	0.91%
CISCO SYSTEMS INC	6/15/2018	201,706.00	202,600.00	0.98%
CISCO SYSTEMS INC	6/15/2018	1,119,809.60	1,134,560.00	0.98%
CISCO SYSTEMS INC	2/28/2019	241,929.82	245,642.10	1.03%
CISCO SYSTEMS INC	2/28/2019	409,881.10	416,170.50	1.03%
CISCO SYSTEMS INC	3/1/2019	200,782.00	205,412.00	1.09%
COCA-COLA CO	9/1/2016	81,436.80	80,147.20	0.71%
COCA-COLA CO	11/1/2016	250,037.50	250,085.00	0.65%
COCA-COLA CO	11/1/2016	1,118,712.00	1,120,380.80	0.65%
COCA-COLA CO	10/27/2017	199,912.00	200,266.00	0.77%
COCA-COLA CO	10/27/2017	1,664,267.40	1,667,214.45	0.77%
COCA-COLA CO	3/14/2018	115,456.55	116,545.60	0.85%
COCA-COLA CO	5/30/2019	199,860.00	202,152.00	1.00%
COCA-COLA CO	5/30/2019	1,528,929.00	1,546,462.80	1.00%
COCA-COLA CO	10/27/2020	1,457,430.40	1,492,178.40	1.35%
COMERICA INC	5/23/2019	150,358.50	151,996.50	1.64%
COMERICA INC	5/23/2019	90,507.60	91,197.90	1.64%
COMERICA INC	5/23/2019	59,793.00	60,798.60	1.64%
COMMONWEALTH BANK OF AUSTRALIA	9/18/2017	506,915.00	504,535.00	1.15%
COMMONWEALTH EDISON CO	3/15/2018	129,414.10	123,845.80	1.23%
COMMONWEALTH EDISON CO	1/15/2019	70,711.20	71,397.20	1.32%
COMMONWEALTH EDISON CO	1/15/2019	130,860.60	132,594.80	1.32%

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CONSOLIDATED EDISON COMPANY OF NY INC	4/1/2018	49,707.00	48,663.90	1.14%
CONSUMERS ENERGY CO	9/15/2018	113,008.00	109,337.00	1.34%
CONSUMERS ENERGY CO	3/15/2019	53,084.70	51,020.55	1.10%
CONSUMERS ENERGY CO	3/15/2019	76,363.95	73,696.35	1.10%
CONSUMERS ENERGY COMPANY	8/15/2016	33,499.20	30,145.20	1.59%
CREDIT SUISSE (USA) INC	8/16/2016	162,489.60	140,812.00	1.28%
DAIMLER FINANCE NORTH AMERICA LLC	4/10/2017	152,268.00	151,633.50	0.99%
DAIMLER FINANCE NORTH AMERICA LLC	8/1/2017	149,482.50	150,316.50	1.18%
DAIMLER FINANCE NORTH AMERICA LLC	8/1/2017	996,550.00	1,002,110.00	1.18%
DAIMLER FINANCE NORTH AMERICA LLC	1/11/2018	150,100.50	151,369.50	1.27%
DAIMLER FINANCE NORTH AMERICA LLC	5/18/2018	1,498,080.00	1,509,870.00	1.29%
DAIMLER FINANCE NORTH AMERICA LLC	8/3/2018	151,626.00	151,870.50	1.39%
DAIMLER FINANCE NORTH AMERICA LLC	8/3/2018	149,940.00	151,870.50	1.39%
DANAHER CORP	9/15/2018	758,981.60	771,749.60	0.94%
DANAHER CORP	9/15/2018	739,008.40	751,440.40	0.94%
DANAHER CORP	3/1/2019	233,809.80	233,700.60	1.10%
DETROIT EDISON CO	6/15/2018	166,586.15	157,238.00	1.22%
DETROIT EDISON CO	6/15/2018	111,195.00	108,440.00	1.22%
DUKE ENERGY CAROLINAS LLC	12/15/2016	50,443.50	50,240.00	0.70%
DUKE ENERGY CAROLINAS LLC	12/15/2016	91,089.00	90,432.00	0.70%
DUKE ENERGY CAROLINAS LLC	1/15/2018	78,292.90	74,552.10	0.99%
DUKE ENERGY CAROLINAS LLC	6/15/2020	88,351.20	89,000.00	1.37%
DUKE ENERGY CAROLINAS LLC	6/15/2020	142,814.10	144,625.00	1.37%
ELI LILLY AND CO	3/1/2018	399,648.00	403,004.00	0.80%
EMERSON ELECTRIC CO	4/15/2019	88,555.20	88,110.40	1.29%
EMERSON ELECTRIC CO	10/15/2019	224,096.00	223,028.00	1.29%
ENTERGY LOUISIANA LLC	9/1/2018	282,555.00	277,275.00	1.38%
EXXON MOBIL CORP	3/1/2018	360,000.00	363,186.00	0.90%
EXXON MOBIL CORP	3/1/2018	1,275,000.00	1,286,283.75	0.90%
EXXON MOBIL CORP	3/6/2018	1,360,000.00	1,370,608.00	0.84%
EXXON MOBIL CORP	3/6/2018	2,065,000.00	2,081,107.00	0.84%
EXXON MOBIL CORP	3/1/2019	690,000.00	701,212.50	1.09%
EXXON MOBIL CORP	3/1/2019	340,000.00	345,525.00	1.09%
EXXON MOBIL CORP	3/15/2019	333,283.50	336,263.40	1.08%
FIFTH THIRD BANK	8/20/2018	899,847.00	914,058.00	1.38%
FIFTH THIRD BANK	4/25/2019	401,592.00	409,624.00	1.47%
FIFTH THIRD BANK (OHIO)	3/15/2019	389,910.30	397,671.30	1.53%
FLORIDA POWER & LIGHT CO	11/1/2017	229,360.40	200,995.30	1.17%
FLORIDA POWER CORP	6/15/2018	87,237.60	86,980.80	1.13%
FLORIDA POWER CORP	6/15/2018	125,594.70	119,598.60	1.13%
GENERAL DYNAMICS CORP	11/15/2017	79,261.60	80,294.40	0.73%
GENERAL DYNAMICS CORP	11/15/2017	112,245.75	115,423.20	0.73%
GENERAL DYNAMICS CORP	11/15/2017	148,566.00	150,552.00	0.73%
GENERAL DYNAMICS CORP	11/15/2017	59,721.00	60,220.80	0.73%
GENERAL ELECTRIC CAPITAL CORP	1/9/2017	1,233,132.00	1,213,212.00	0.79%
GENERAL ELECTRIC CAPITAL CORP	2/15/2017	730,951.00	667,966.00	0.95%
GENERAL ELECTRIC CAPITAL CORP	5/15/2017	929,860.50	932,511.00	0.90%
GENERAL ELECTRIC CAPITAL CORP	5/15/2017	439,934.00	441,188.00	0.90%
GENERAL ELECTRIC CAPITAL CORP	9/15/2017	35,978.25	34,876.05	0.88%
GENERAL ELECTRIC CAPITAL CORP	9/15/2017	577,628.16	541,107.20	0.88%
GENERAL ELECTRIC CAPITAL CORP	1/7/2021	191,399.60	192,771.50	1.54%
General Electric Company	12/6/2017	427,260.00	423,776.00	1.06%
GEORGIA POWER CO	6/1/2017	113,686.00	104,036.00	1.27%
GEORGIA POWER CO	6/1/2017	60,218.50	52,018.00	1.27%
GILEAD SCIENCES INC	9/4/2018	60,303.60	61,063.80	1.02%
GILEAD SCIENCES INC	9/4/2018	1,159,872.40	1,180,566.80	1.02%
GILEAD SCIENCES INC	9/1/2020	159,712.00	166,254.40	1.58%
GLAXOSMITHKLINE CAPITAL INC	5/15/2018	130,635.40	124,795.70	1.05%
GOLDMAN SACHS & CO	6/15/2020	340,500.00	342,312.00	2.26%
GOLDMAN SACHS GROUP INC	1/18/2018	240,303.00	223,710.90	1.66%
GOLDMAN SACHS GROUP INC	1/18/2018	136,581.60	127,834.80	1.66%

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GOLDMAN SACHS GROUP INC	1/22/2018	714,961.28	713,461.76	1.50%
GOLDMAN SACHS GROUP INC	1/31/2019	1,531,635.00	1,535,205.00	1.69%
GOLDMAN SACHS GROUP INC	2/15/2019	127,453.20	120,079.05	1.87%
GOLDMAN SACHS GROUP INC	2/15/2019	179,527.50	171,541.50	1.87%
GOLDMAN SACHS GROUP INC	2/15/2019	153,973.30	148,669.30	1.87%
GOLDMAN SACHS GROUP INC	3/15/2020	238,252.62	238,036.48	2.20%
GOLDMAN SACHS GROUP INC	3/15/2020	223,358.00	222,464.00	2.20%
GOLDMAN SACHS GROUP INC	3/15/2020	244,803.91	245,822.72	2.20%
GOLDMAN SACHS GROUP INC	3/15/2020	167,311.50	166,848.00	2.20%
GOLDMAN SACHS GROUP INC	9/15/2020	57,194.37	58,182.75	2.22%
GOLDMAN SACHS GROUP INC	4/25/2021	200,522.00	202,826.00	2.31%
HALLIBURTON CO	8/1/2016	70,409.50	70,004.20	0.93%
HALLIBURTON CO	8/1/2016	419,680.80	420,025.20	0.93%
HERSHEY CO	8/21/2018	2,689,300.60	2,733,416.60	0.84%
HOME DEPOT INC	6/15/2019	221,093.40	226,173.20	1.01%
HOME DEPOT INC	6/15/2019	128,987.30	133,647.80	1.01%
HOME DEPOT INC	6/15/2019	100,283.00	102,806.00	1.01%
HONEYWELL INTERNATIONAL INC	3/1/2018	107,347.50	96,393.60	1.00%
HONEYWELL INTERNATIONAL INC	2/15/2019	131,539.20	132,261.60	1.04%
HSBC USA INC	3/5/2018	499,535.00	500,315.00	1.66%
HSBC USA INC (NEW)	1/16/2018	228,817.80	229,590.60	1.74%
ILLINOIS TOOL WORKS INC	2/25/2017	142,801.23	143,092.95	0.80%
ILLINOIS TOOL WORKS INC	2/25/2017	1,218,304.20	1,220,793.00	0.80%
ILLINOIS TOOL WORKS INC	3/1/2019	59,965.20	61,410.60	1.05%
ILLINOIS TOOL WORKS INC	3/1/2019	84,775.60	86,998.35	1.05%
INTEL CORP	10/1/2016	101,256.00	100,306.00	0.73%
INTEL CORP	10/1/2016	83,012.80	80,244.80	0.73%
INTEL CORP	10/1/2016	93,070.80	90,275.40	0.73%
INTEL CORP	10/1/2016	51,569.00	50,153.00	0.73%
INTEL CORP	10/1/2016	162,860.80	160,489.60	0.73%
INTEL CORP	7/29/2020	292,438.50	296,377.20	1.44%
INTEL CORP	5/19/2021	1,327,659.20	1,342,435.50	1.50%
INTERNATIONAL BUSINESS MACHINES CORP	7/22/2016	103,953.00	100,059.00	0.98%
INTERNATIONAL BUSINESS MACHINES CORP	5/17/2019	202,942.00	203,510.00	1.18%
JACKSON NATIONAL LIFE GLOBAL FUNDING	6/1/2018	143,212.05	143,098.65	1.52%
JACKSON NATIONAL LIFE GLOBAL FUNDING	10/15/2018	71,962.56	72,844.56	1.35%
JACKSON NATIONAL LIFE GLOBAL FUNDING	10/15/2018	399,544.00	404,692.00	1.35%
JACKSON NATIONAL LIFE GLOBAL FUNDING	4/16/2019	150,181.50	153,121.50	1.54%
JOHN DEERE CAPITAL CORP	9/15/2016	61,711.20	60,138.00	0.74%
JOHN DEERE CAPITAL CORP	10/11/2016	439,441.20	440,272.80	0.83%
JOHN DEERE CAPITAL CORP	12/15/2016	838,320.00	841,066.80	0.77%
JOHN DEERE CAPITAL CORP	3/15/2017	202,634.00	200,764.00	0.86%
JOHN DEERE CAPITAL CORP	6/12/2017	809,619.30	811,595.70	0.92%
JOHN DEERE CAPITAL CORP	12/15/2017	110,532.40	111,038.40	0.90%
JOHN DEERE CAPITAL CORP	12/15/2017	56,986.32	57,538.08	0.90%
JOHN DEERE CAPITAL CORP	12/15/2017	549,868.00	555,192.00	0.90%
JOHN DEERE CAPITAL CORP	1/16/2018	999,500.00	1,007,200.00	0.88%
JOHN DEERE CAPITAL CORP	7/13/2018	36,985.94	37,372.59	1.10%
JOHN DEERE CAPITAL CORP	7/13/2018	329,874.60	333,323.10	1.10%
JOHN DEERE CAPITAL CORP	8/10/2018	129,872.60	131,875.90	1.06%
JOHN DEERE CAPITAL CORP	1/8/2019	999,940.00	1,022,170.00	1.06%
JOHN DEERE CAPITAL CORP	1/8/2021	2,197,734.00	2,285,558.00	1.65%
JOHNSON & JOHNSON	11/28/2016	161,803.98	161,888.22	0.87%
JOHNSON & JOHNSON	12/5/2018	181,539.00	183,348.00	0.87%
JOHNSON & JOHNSON	3/1/2019	180,978.28	182,053.42	0.90%
JPMORGAN CHASE & CO	2/15/2017	989,505.00	992,009.70	1.02%
JPMORGAN CHASE & CO	3/22/2019	1,499,040.00	1,515,540.00	1.45%
KANSAS CITY POWER & LIGHT CO	4/1/2019	110,838.40	109,180.65	1.59%
KENTUCKY UTILITIES CO	11/1/2020	135,487.30	138,582.60	1.58%
KEYBANK NATIONAL ASSOCIATION	11/25/2016	1,139,133.60	1,140,661.20	0.92%
KIMBERLY-CLARK CORP	8/1/2017	109,043.10	95,061.60	0.91%

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KIMBERLY-CLARK CORP	2/15/2019	199,988.00	202,550.00	0.91%
LOCKHEED MARTIN CORP	9/15/2016	103,763.00	100,273.00	0.81%
LOCKHEED MARTIN CORP	9/15/2016	113,611.30	110,300.30	0.81%
LOCKHEED MARTIN CORP	9/15/2016	77,050.50	75,204.75	0.81%
LOWES CO INC	4/15/2020	231,233.10	231,520.80	1.43%
LOWE'S COMPANIES INC	4/15/2019	679,265.60	681,040.40	1.09%
LOWE'S COMPANIES INC	4/15/2019	1,198,704.00	1,201,836.00	1.09%
MANUFACTURERS AND TRADERS TRUST CO	1/30/2017	1,207,452.00	1,200,180.00	1.22%
MANUFACTURERS AND TRADERS TRUST CO	1/30/2017	639,942.40	640,096.00	1.22%
MANUFACTURERS AND TRADERS TRUST CO	1/30/2017	661,894.20	660,099.00	1.22%
MANUFACTURERS AND TRADERS TRUST CO	7/25/2017	729,722.60	730,759.20	1.29%
MANUFACTURERS AND TRADERS TRUST CO	7/25/2017	2,499,050.00	2,502,600.00	1.29%
MANUFACTURERS AND TRADERS TRUST CO	3/7/2018	250,897.50	250,567.50	1.31%
MANUFACTURERS AND TRADERS TRUST CO	1/30/2019	254,050.00	254,950.00	1.49%
MANUFACTURERS AND TRADERS TRUST CO	7/25/2019	999,860.00	1,021,020.00	1.53%
MARSH & MCLENNAN COMPANIES INC	9/10/2019	150,562.50	153,246.00	1.63%
MASSMUTUAL GLOBAL FUNDING II	8/2/2018	254,155.00	255,010.00	1.13%
MCDONALDS CORPORATION	3/15/2017	124,088.80	113,280.20	1.06%
MCDONALDS CORPORATION	10/15/2017	62,875.45	58,262.60	1.16%
MCDONALDS CORPORATION	10/15/2017	58,561.50	52,966.00	1.16%
MCDONALDS CORPORATION	10/15/2017	41,471.85	37,076.20	1.16%
MEDTRONIC INC	3/15/2020	202,964.00	207,422.00	1.47%
METLIFE GLOBAL FUNDING 1	1/10/2018	246,922.50	251,440.00	1.12%
METROPOLITAN LIFE GLOBAL FUNDING I	4/10/2017	728,992.60	732,277.60	0.90%
METROPOLITAN LIFE GLOBAL FUNDING I	6/22/2018	301,239.00	302,973.00	1.37%
METROPOLITAN LIFE GLOBAL FUNDING I	4/10/2019	305,529.00	306,999.00	1.44%
METROPOLITAN LIFE GLOBAL FUNDING I	4/10/2019	204,266.00	204,666.00	1.44%
MICROSOFT CORP	11/3/2018	169,830.00	171,543.60	0.91%
MICROSOFT CORP	11/3/2018	1,438,560.00	1,453,075.20	0.91%
MICROSOFT CORP	11/3/2018	1,728,270.00	1,745,708.40	0.91%
MICROSOFT CORP	6/1/2019	250,401.00	250,435.50	1.10%
MICROSOFT CORP	11/3/2020	153,307.50	153,828.00	1.38%
MORGAN STANLEY	12/28/2017	174,928.50	159,516.00	1.64%
MORGAN STANLEY	1/5/2018	100,554.00	100,566.00	1.50%
MORGAN STANLEY	1/24/2019	2,291,400.00	2,295,472.50	1.69%
MORGAN STANLEY	5/13/2019	475,808.00	459,584.00	1.94%
MORGAN STANLEY	9/23/2019	227,906.00	221,902.00	2.10%
MORGAN STANLEY	6/16/2020	1,206,948.00	1,229,532.00	2.15%
NATIONAL RURAL UTILITIES COOP FINANCE CORP	1/27/2017	999,410.00	1,000,740.00	0.97%
NATIONAL RURAL UTILITIES COOP FINANCE CORP	4/10/2017	101,504.45	87,815.20	1.16%
NATIONAL RURAL UTILITIES COOP FINANCE CORP	4/10/2017	56,796.50	51,656.00	1.16%
NATIONAL RURAL UTILITIES COOP FINANCE CORP	4/10/2017	72,342.40	67,152.80	1.16%
NATIONAL RURAL UTILITIES COOP FINANCE CORP	2/1/2018	85,738.40	85,344.80	1.18%
NATIONAL RURAL UTILITIES COOPERATIVE FINANCE	11/15/2019	86,163.65	87,627.35	1.34%
NATIONAL SEMICONDUCTOR CORP	6/15/2017	99,349.60	84,229.60	1.04%
NEVADA POWER CO	3/15/2019	176,717.52	169,770.30	1.29%
NEW YORK LIFE GLOBAL FUNDING	11/2/2018	154,440.45	156,438.40	1.15%
NEW YORK LIFE GLOBAL FUNDING	11/2/2018	548,421.50	555,104.00	1.15%
NEW YORK LIFE GLOBAL FUNDING	6/18/2019	130,079.30	133,169.40	1.31%
NEW YORK LIFE GLOBAL FUNDING	4/13/2021	679,000.40	689,071.20	1.71%
NEW YORK UNIVERSITY	7/1/2018	640,000.00	642,342.40	1.13%
NIAGARA MOHAWK POWER CORP	8/15/2019	187,846.60	186,114.30	1.75%
NISSAN MOTOR ACCEPTANCE CORP	3/4/2019	312,266.10	316,754.90	1.52%
NORTHERN STATES POWER CO	8/15/2020	111,634.60	113,671.80	1.35%
NORTHERN STATES POWER CO (MINNESOTA)	3/1/2018	136,449.60	128,359.20	1.03%
NORTHERN TRUST COMPANY	8/15/2018	278,245.00	276,597.50	1.40%
NORTHERN TRUST CORP	11/4/2020	214,712.00	215,230.00	1.63%
NSTAR ELECTRIC CO	11/15/2017	115,107.00	105,917.00	1.27%
NSTAR ELECTRIC CO	11/15/2017	112,617.00	105,917.00	1.27%
OCCIDENTAL PETROLEUM CORP	2/15/2018	64,899.90	65,236.60	1.26%
ORACLE CORP	10/15/2017	996,840.00	1,003,540.00	0.92%

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ORACLE CORP	4/15/2018	116,766.00	108,255.00	1.08%
ORACLE CORP	1/15/2019	152,989.50	154,435.50	1.19%
ORACLE CORP	7/8/2019	141,520.00	138,658.75	1.30%
ORACLE CORP	10/8/2019	213,366.30	216,493.20	1.28%
ORACLE CORP	10/8/2019	157,620.60	157,730.76	1.28%
ORACLE CORP	10/8/2019	154,837.50	154,638.00	1.28%
ORACLE CORP	10/8/2019	143,864.00	144,328.80	1.28%
PACCAR FINANCIAL CORP	3/15/2017	101,324.00	100,608.00	0.74%
PACCAR FINANCIAL CORP	11/17/2017	79,964.80	80,539.20	0.91%
PACCAR FINANCIAL CORP	11/17/2017	1,199,472.00	1,208,088.00	0.91%
PACCAR FINANCIAL CORP	11/17/2017	2,224,021.00	2,239,996.50	0.91%
PACCAR FINANCIAL CORP	3/9/2018	177,860.22	178,350.51	0.99%
PACCAR FINANCIAL CORP	5/18/2018	78,895.72	79,555.37	1.02%
PACCAR FINANCIAL CORP	2/25/2019	109,846.00	111,631.30	1.08%
PACCAR FINANCIAL CORP	2/25/2019	938,684.00	953,940.20	1.08%
PACCAR FINANCIAL CORP	5/10/2019	71,957.52	72,287.28	1.16%
PACCAR FINANCIAL CORP	5/10/2019	799,528.00	803,192.00	1.16%
PACCAR FINANCIAL CORP	5/10/2019	634,625.35	637,533.65	1.16%
PACCAR INC	8/14/2018	50,102.50	50,766.50	1.02%
PACCAR INC	8/14/2018	152,082.00	152,299.50	1.02%
PACCAR INC	8/14/2018	799,392.00	812,264.00	1.02%
PACIFIC GAS AND ELECTRIC CO	11/30/2017	103,338.00	95,463.00	1.29%
PACIFICORP	7/15/2018	136,090.80	131,241.60	1.00%
PECO ENERGY CO	10/15/2016	30,267.90	30,035.40	0.79%
PEPSICO INC	7/17/2017	1,399,552.00	1,403,752.00	0.87%
PEPSICO INC	8/13/2017	496,215.00	502,300.00	0.84%
PEPSICO INC	4/30/2018	249,970.00	251,337.50	0.95%
PEPSICO INC	4/30/2018	2,099,748.00	2,111,235.00	0.95%
PEPSICO INC	1/7/2019	237,400.02	240,430.32	1.10%
PEPSICO INC	2/22/2019	87,974.48	89,236.40	0.96%
PEPSICO INC	2/22/2019	1,999,420.00	2,028,100.00	0.96%
PEPSICO INC	10/14/2020	102,872.00	102,796.00	1.46%
PFIZER INC	1/15/2017	129,792.09	130,083.20	0.78%
PFIZER INC	6/1/2018	3,497,445.00	3,516,205.00	0.96%
PFIZER INC	6/3/2019	1,518,267.20	1,532,661.60	1.16%
PHILIP MORRIS INTERNATIONAL INC	8/11/2017	1,196,976.00	1,204,620.00	0.90%
PHILIP MORRIS INTERNATIONAL INC	11/9/2017	1,610,510.30	1,620,862.45	0.98%
PHILIP MORRIS INTERNATIONAL INC	1/15/2019	1,524,585.00	1,530,015.00	1.07%
PNC BANK NA	1/27/2017	469,309.10	470,404.20	0.95%
PNC BANK NA	1/27/2017	2,496,325.00	2,502,150.00	0.95%
PNC BANK NA	10/18/2017	1,999,620.00	2,009,460.00	1.11%
PNC BANK NA	7/20/2018	1,649,802.00	1,668,232.50	1.28%
PNC BANK NA	11/5/2018	704,914.00	708,491.00	1.26%
PNC BANK, N.A.	9/21/2017	673,238.70	633,881.50	1.63%
PNC FUNDING CORP	9/19/2016	63,443.40	60,138.00	1.00%
PNC FUNDING CORP	6/10/2019	270,967.60	263,722.60	1.58%
PNC FUNDING CORP	2/8/2020	445,592.00	447,516.00	1.71%
PPG INDUSTRIES INC	11/15/2019	120,273.60	121,002.00	2.04%
PPG INDUSTRIES INC	11/15/2019	60,448.80	60,501.00	2.04%
PPG INDUSTRIES INC	11/15/2019	101,520.00	100,835.00	2.04%
PRAXAIR INC	11/7/2017	109,486.30	110,083.60	0.99%
PRAXAIR INC	11/7/2017	39,737.20	40,030.40	0.99%
PRAXAIR INC	11/7/2017	140,847.00	140,106.40	0.99%
PRAXAIR INC	11/7/2018	89,084.70	90,271.80	1.12%
PRAXAIR INC	11/7/2018	58,611.60	60,181.20	1.12%
PRAXAIR INC	11/7/2018	97,590.00	100,302.00	1.12%
PRAXAIR INC	8/15/2019	55,353.50	55,073.00	1.18%
PRAXAIR INC	8/15/2019	164,019.00	165,219.00	1.18%
PRICOA GLOBAL FUNDING I	8/18/2017	300,324.00	301,020.00	1.05%
PRICOA GLOBAL FUNDING I	11/24/2020	531,398.40	537,586.40	1.75%
PRINCIPAL LIFE GLOBAL FUNDING II	2/24/2017	399,792.00	400,416.00	0.96%

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PRINCIPAL LIFE GLOBAL FUNDING II	5/19/2017	199,036.00	200,482.00	0.93%
PRINCIPAL LIFE GLOBAL FUNDING II	9/11/2017	79,962.40	80,361.60	1.12%
PRINCIPAL LIFE GLOBAL FUNDING II	10/15/2018	111,270.50	112,168.10	1.37%
PRINCIPAL LIFE GLOBAL FUNDING II	4/18/2019	33,893.92	34,132.26	1.36%
PROCTER & GAMBLE CO	8/15/2016	102,560.00	100,109.00	0.57%
PROCTER & GAMBLE CO	11/15/2018	370,799.20	377,877.30	0.69%
PROCTER & GAMBLE CO	11/1/2019	798,784.00	822,504.00	1.04%
PUBLIC SERVICE CO OF COLORADO	6/1/2019	111,292.00	111,547.00	1.10%
PUBLIC SERVICE CO OF COLORADO	11/15/2020	212,790.00	213,970.00	1.34%
PUBLIC SERVICE COMPANY OF COLORADO	8/1/2018	57,056.00	54,667.50	1.25%
PUBLIC SERVICE ELECTRIC AND GAS CO	6/1/2019	175,586.25	177,880.50	1.21%
PUBLIC SERVICE ELECTRIC AND GAS CO	8/15/2019	114,530.80	117,925.60	1.15%
PUBLIC SERVICE ELECTRIC AND GAS CO	8/15/2019	35,218.40	35,890.40	1.15%
PUBLIC SERVICE ELECTRIC AND GAS CO	8/15/2019	151,134.00	153,816.00	1.15%
PUBLIC SERVICE ELECTRIC AND GAS CO	8/15/2019	86,203.60	87,162.40	1.15%
QUALCOMM INC	5/18/2018	496,245.00	504,445.00	0.92%
QUALCOMM INC	5/18/2018	913,773.90	923,134.35	0.92%
QUALCOMM INC	5/20/2020	743,220.00	770,865.00	1.51%
RABOBANK NEDERLAND	1/19/2017	527,390.00	506,465.00	1.02%
RABOBANK NEDERLAND	1/19/2017	695,038.50	658,404.50	1.02%
RABOBANK NEDERLAND	1/19/2017	1,171,049.00	1,114,223.00	1.02%
RAYTHEON CO	2/15/2020	132,494.40	132,901.20	1.35%
ROCHE HOLDINGS INC	9/29/2017	201,140.00	201,048.00	0.93%
SIMON PROPERTY GROUP LP	9/15/2017	77,601.00	75,784.50	1.05%
SIMON PROPERTY GROUP LP	9/15/2017	41,560.00	40,418.40	1.05%
SIMON PROPERTY GROUP LP	2/1/2018	50,208.00	50,214.00	1.18%
SIMON PROPERTY GROUP LP	2/1/2018	78,793.60	80,342.40	1.18%
SIMON PROPERTY GROUP LP	2/1/2018	85,119.00	85,363.80	1.18%
SIMON PROPERTY GROUP LP	2/1/2018	160,246.40	160,684.80	1.18%
SOUTHERN CALIFORNIA EDISON CO	5/1/2017	57,981.44	58,126.44	0.86%
SOUTHERN CALIFORNIA EDISON CO	5/1/2017	62,086.80	62,135.16	0.86%
SOUTHERN CALIFORNIA EDISON CO	5/1/2017	249,920.00	250,545.00	0.86%
SOUTHERN CALIFORNIA EDISON CO	5/1/2017	899,712.00	901,962.00	0.86%
SOUTHERN CALIFORNIA EDISON CO	8/15/2018	114,483.00	109,145.00	1.13%
SOUTHERN CALIFORNIA EDISON CO	8/15/2018	50,859.90	49,115.25	1.13%
SOUTHERN CALIFORNIA GAS CO	6/15/2018	49,845.50	50,483.50	1.05%
SOUTHERN CALIFORNIA GAS CO	6/15/2018	249,992.50	252,417.50	1.05%
STATE STREET CORP	4/30/2017	94,543.20	82,993.60	0.86%
STATE STREET CORP	5/15/2018	139,818.00	140,827.40	1.03%
STATE STREET CORP	5/15/2018	98,574.00	100,591.00	1.03%
STATE STREET CORP	8/18/2020	206,974.00	207,542.00	1.60%
TARGET CORP	6/26/2019	251,967.50	258,427.50	1.15%
TEXAS INSTRUMENTS INC	3/12/2017	25,017.50	25,021.75	0.75%
TEXAS INSTRUMENTS INC	3/12/2017	1,247,525.00	1,251,087.50	0.75%
TEXAS INSTRUMENTS INC	3/12/2017	698,614.00	700,609.00	0.75%
TEXAS INSTRUMENTS INC	5/1/2018	414,933.60	416,186.90	0.84%
TORONTO-DOMINION BANK	3/13/2018	1,359,959.20	1,372,688.80	1.07%
TOYOTA MOTOR CREDIT CORP	5/22/2017	203,278.00	201,562.00	0.87%
TOYOTA MOTOR CREDIT CORP	1/12/2018	539,260.20	543,936.60	0.97%
TOYOTA MOTOR CREDIT CORP	10/24/2018	141,297.80	142,720.20	1.15%
TOYOTA MOTOR CREDIT CORP	1/17/2019	100,792.00	102,307.00	1.18%
TOYOTA MOTOR CREDIT CORP	1/17/2019	125,822.80	126,860.68	1.18%
TOYOTA MOTOR CREDIT CORP	1/17/2019	60,504.60	61,384.20	1.18%
TOYOTA MOTOR CREDIT CORP	7/18/2019	81,196.80	82,139.20	1.23%
TOYOTA MOTOR CREDIT CORPORATION	1/10/2018	75,335.25	75,525.75	0.91%
TRAVELERS CO INC	12/15/2017	119,868.00	106,509.00	1.23%
TRAVELERS CO INC	11/1/2020	81,245.25	82,301.25	1.57%
TRAVELERS CO INC	11/1/2020	98,562.60	98,761.50	1.57%
U.S. BANCORP	11/15/2018	504,465.00	510,500.00	1.02%
U.S. BANCORP	11/15/2018	151,407.00	153,150.00	1.02%
UBS AG (STAMFORD BRANCH)	8/14/2017	1,395,492.00	1,401,176.00	1.30%

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UBS AG (STAMFORD BRANCH)	3/26/2018	639,161.60	646,086.40	1.25%
UNITED HEALTH	7/16/2018	46,940.31	47,810.28	1.07%
UNITED PARCEL SERVICE INC	10/1/2017	100,119.00	100,410.00	0.80%
UNITED PARCEL SERVICE INC	10/1/2017	85,812.52	86,352.60	0.80%
UNITED PARCEL SERVICE INC	10/1/2017	33,922.14	34,139.40	0.80%
UNITED TECHNOLOGIES CORP	6/1/2017	41,239.20	40,306.00	0.96%
UNITED TECHNOLOGIES CORP	12/15/2017	45,910.40	42,517.60	1.02%
UNITED TECHNOLOGIES CORP	12/15/2017	209,699.10	207,273.30	1.02%
UNITED TECHNOLOGIES CORP	2/1/2019	89,695.20	89,942.40	1.23%
UNITEDHEALTH GROUP INC	11/15/2016	1,211,659.40	1,184,413.20	0.87%
UNITEDHEALTH GROUP INC	7/17/2017	379,927.80	381,896.20	0.97%
UNITEDHEALTH GROUP INC	7/17/2017	1,999,620.00	2,009,980.00	0.97%
UNITEDHEALTH GROUP INC	12/15/2017	639,116.80	643,443.20	1.03%
UNITEDHEALTH GROUP INC	2/15/2018	75,608.65	70,091.45	1.12%
UNITEDHEALTH GROUP INC	7/16/2018	439,441.20	447,585.60	1.05%
UNITEDHEALTH GROUP INC	2/15/2019	289,892.70	293,059.50	1.29%
UNITEDHEALTH GROUP INC	3/15/2019	216,119.20	222,250.60	1.24%
US BANCORP	11/15/2016	113,405.60	110,390.50	0.97%
US BANCORP	5/15/2017	255,618.40	252,202.29	1.04%
US BANCORP	5/15/2017	538,733.60	531,533.91	1.04%
US BANK NA	1/30/2017	1,099,835.00	1,100,539.00	1.00%
US BANK NA	9/11/2017	1,319,260.80	1,326,639.60	0.92%
US BANK NA	9/11/2017	1,998,880.00	2,010,060.00	0.92%
US BANK NA	1/26/2018	599,088.00	602,244.00	1.10%
US BANK NA	1/29/2018	949,183.00	956,555.00	0.98%
US BANK NA	1/29/2018	2,997,420.00	3,020,700.00	0.98%
USAA CAPITAL CORP	8/1/2020	1,005,080.00	1,033,450.00	1.60%
VF CORP	11/1/2017	182,224.35	175,535.25	1.12%
VIRGINIA ELECTRIC AND POWER CO	4/30/2018	121,760.10	112,752.15	1.31%
VIRGINIA ELECTRIC AND POWER CO	6/30/2019	110,509.00	109,665.00	1.68%
VIRGINIA ELECTRIC AND POWER CO	6/30/2019	56,267.00	54,832.50	1.68%
VIRGINIA ELECTRIC AND POWER CO	6/30/2019	78,746.50	76,765.50	1.68%
VISA INC	12/14/2017	1,039,448.80	1,046,458.40	0.77%
VISA INC	12/14/2020	2,497,875.00	2,577,700.00	1.46%
WACHOVIA CORP	10/15/2016	689,124.00	607,578.00	1.26%
WACHOVIA CORP	10/15/2016	149,267.30	131,641.90	1.26%
WACHOVIA CORP	2/1/2018	38,486.35	37,458.05	1.26%
WAL-MART STORES INC	4/5/2017	381,519.60	341,467.50	0.80%
WAL-MART STORES INC	4/21/2017	249,962.50	250,725.00	0.64%
WAL-MART STORES INC	2/1/2019	161,755.50	162,240.00	0.92%
WALT DISNEY CO	9/15/2016	177,382.50	151,426.50	1.03%
WALT DISNEY CO	9/15/2016	77,153.05	65,618.15	1.03%
WALT DISNEY CO	2/15/2017	803,760.00	801,968.00	0.73%
WALT DISNEY CO	5/30/2017	74,865.00	75,110.25	0.71%
WALT DISNEY CO	5/30/2017	2,395,680.00	2,403,528.00	0.71%
WALT DISNEY CO	9/17/2018	73,937.10	75,128.50	0.80%
WALT DISNEY CO	9/17/2018	2,143,176.75	2,177,711.25	0.80%
WALT DISNEY CO	1/8/2019	82,888.78	84,609.37	0.87%
WELLS FARGO & CO	5/8/2017	1,776,420.80	1,775,118.40	1.09%
WELLS FARGO & CO	5/8/2017	719,936.00	706,013.00	1.09%
WELLS FARGO & CO	6/2/2017	2,996,220.00	3,001,140.00	1.11%
WELLS FARGO & CO	1/15/2019	253,432.50	255,230.00	1.31%
WELLS FARGO & CO	4/22/2019	1,527,435.00	1,532,295.00	1.34%
WELLS FARGO & CO	1/30/2020	250,367.50	254,240.00	1.66%
WELLS FARGO & CO	1/30/2020	75,618.00	76,272.00	1.66%
WELLS FARGO & CO	1/30/2020	24,942.75	25,424.00	1.66%
WELLS FARGO & CO	1/30/2020	47,905.92	48,814.08	1.66%
WELLS FARGO & CO	1/30/2020	26,938.17	27,457.92	1.66%
WELLS FARGO & CO	1/30/2020	1,607,810.40	1,637,305.60	1.66%
WELLS FARGO & CO	7/22/2020	153,472.50	154,158.00	1.89%
WELLS FARGO & CO	7/22/2020	178,883.25	179,851.00	1.89%

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WELLS FARGO & CO	12/7/2020	300,216.00	308,742.00	1.86%
WELLS FARGO & CO	4/1/2021	312,177.60	312,888.80	2.00%
WELLS FARGO & COMPANY	9/15/2016	169,450.32	157,226.16	1.32%
WELLS FARGO & COMPANY	9/15/2016	77,115.23	71,558.06	1.32%
WELLS FARGO BANK NA	1/22/2018	1,149,666.50	1,159,786.50	1.10%
WELLS FARGO BANK NA	1/22/2018	2,999,130.00	3,025,530.00	1.10%
WELLS FARGO BANK NA	5/24/2019	1,079,535.60	1,094,612.40	1.27%
WISCONSIN ELECTRIC POWER CO	6/15/2018	181,333.80	181,369.80	1.29%
WISCONSIN ELECTRIC POWER CO	6/15/2018	105,225.75	105,799.05	1.29%
WISCONSIN POWER AND LIGHT CO	7/15/2019	190,661.80	185,923.90	1.82%
WISCONSIN PUBLIC SERVICE CORP	12/4/2018	989,079.30	1,003,949.10	1.06%
WYETH	4/1/2017	113,403.00	103,441.00	0.85%
XTO ENERGY INC	12/15/2018	121,526.00	112,466.00	1.33%

<i>SUB-TOTAL</i>		251,680,733.38	252,246,533.07	
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VARIABLE RATE NOTES

AMERICAN EXPRESS CREDIT CORP	3/18/2019	540,000.00	537,472.80	1.35%
AMERICAN HONDA FINANCE CORP	7/13/2018	2,200,000.00	2,204,994.00	0.98%
BANK OF NEW YORK MELLON CORP	8/17/2020	600,000.00	602,484.00	1.40%
CCCIT 13A7 A7	9/10/2020	1,248,193.36	1,253,925.00	0.76%
CCCIT 13A7 A7	9/10/2020	1,451,869.14	1,454,553.00	0.76%
DROCK 142 A	3/16/2020	1,800,843.75	1,799,694.00	0.83%
DUKE ENERGY PROGRESS INC	3/6/2017	1,880,000.00	1,877,255.20	1.07%
EXXON MOBIL CORP	2/28/2018	1,654,773.45	1,662,276.00	0.80%
FN 13M12 FA	10/25/2017	248,988.69	249,248.02	1.27%
GEDFT 142 A	10/20/2019	2,996,367.19	2,995,830.00	1.02%
GOLDMAN SACHS GROUP INC	4/30/2018	254,759.00	251,297.50	1.55%
GOLDMAN SACHS GROUP INC	4/30/2018	1,090,000.00	1,095,657.10	1.55%
HSBC USA INC (NEW)	9/24/2018	820,000.00	818,237.00	1.61%
HSBC USA INC (NEW)	11/13/2019	1,360,000.00	1,343,081.60	1.62%
INTERNATIONAL BUSINESS MACHINES CORP	8/18/2017	900,567.00	903,060.00	0.79%
INTERNATIONAL BUSINESS MACHINES CORP	8/18/2017	2,100,000.00	2,107,140.00	0.79%
INTERNATIONAL BUSINESS MACHINES CORP	2/12/2019	170,000.00	170,028.90	1.00%
JPMORGAN CHASE & CO	1/25/2018	540,000.00	542,624.40	1.23%
JPMORGAN CHASE & CO	1/25/2018	1,500,000.00	1,507,290.00	1.23%
JPMORGAN CHASE & CO	1/23/2020	840,000.00	842,091.60	1.51%
LOWE'S COMPANIES INC	9/14/2018	280,000.00	282,402.40	0.85%
MANUFACTURERS AND TRADERS TRUST CO	1/30/2017	642,009.60	640,339.20	0.94%
MANUFACTURERS AND TRADERS TRUST CO	1/30/2017	702,373.00	700,371.00	0.94%
MERCK & CO INC	2/10/2020	1,380,000.00	1,380,510.60	1.00%
MORGAN STANLEY	1/27/2020	1,330,000.00	1,335,133.80	1.66%
NATIONAL CITY BANK	6/7/2017	1,343,844.00	1,347,934.50	1.18%
PACCAR FINANCIAL CORP	12/6/2018	230,000.00	231,182.20	1.03%
TORONTO-DOMINION BANK	11/5/2019	1,360,000.00	1,354,410.40	1.32%
TOYOTA MOTOR CREDIT CORP	7/13/2018	548,526.00	551,259.50	0.98%
TOYOTA MOTOR CREDIT CORP	7/13/2018	107,692.52	108,247.32	0.98%
TOYOTA MOTOR CREDIT CORP	7/13/2018	2,290,000.00	2,295,244.10	0.98%
UBS AG (STAMFORD BRANCH)	6/1/2020	590,000.00	589,156.30	1.52%
WESTPAC BANKING CORP	7/30/2018	830,000.00	831,294.80	1.30%

<i>SUB-TOTAL</i>		35,830,806.70	35,865,726.24	
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STATE OF CALIFORNIA AND LOCAL AGENCIES

CALIFORNIA EARTHQUAKE AUTH REV	7/1/2017	470,000.00	473,755.30	1.02%
LA COUNTY CALIF MUN IMPT CORP LEASE REV	11/1/2018	1,055,000.00	1,089,298.05	0.93%
LA COUNTY CALIF MUN IMPT CORP LEASE REV	11/1/2019	288,730.40	291,110.40	1.62%
LA COUNTY CALIF PUB WKS FING AUTH LEASE REV	12/1/2017	145,000.00	146,203.50	0.92%
LA COUNTY CALIF PUB WKS FING AUTH LEASE REV	12/1/2018	350,000.00	355,155.50	1.41%
UNIVERSITY CALIF REVS	5/15/2017	1,500,000.00	1,509,780.00	0.47%
UNIVERSITY CALIF REVS	5/15/2019	790,000.00	796,004.00	0.90%

		4,598,730.40	4,661,306.75	
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MORTGAGE AND ASSET-BACK SECURITIES

AMXCA 144 A	6/15/2020	3,005,507.82	3,005,507.82	0.94%
BMWLT 161 A3	1/22/2019	3,099,635.75	3,099,635.75	1.35%
BMWOT 13A A4	4/27/2020	40,021.88	40,021.88	0.98%
BMWOT 13A A4	4/27/2020	1,301,777.34	1,301,777.34	0.98%
CCCIT 13A6 A6	9/7/2018	1,299,926.55	1,299,926.55	0.82%
CCCIT 14A2 A2	2/22/2019	1,997,040.00	1,997,040.00	0.86%
CCCIT 14A2 A2	2/22/2019	1,499,739.30	1,499,739.30	0.86%
CHAIT 131 A	2/18/2020	3,270,101.56	3,270,101.56	0.99%
CHAIT 147 A	11/15/2019	1,507,324.22	1,507,324.22	1.00%
CHAIT 147 A	11/15/2019	2,599,695.02	2,599,695.02	1.00%
CHAIT 147 A	11/15/2019	2,999,648.10	2,999,648.10	1.00%
CHAIT 152 A	2/18/2020	2,505,848.75	2,505,848.75	0.95%
CHAIT 155 A	4/15/2020	2,199,612.36	2,199,612.36	1.02%
CHAIT 161 A	5/17/2021	3,003,515.64	3,003,515.64	0.87%
FEDERAL HOME LOAN MORTGAGE CORP	10/29/2018	2,880,000.00	2,880,000.00	0.79%
FHMS K004 A1	5/25/2019	2,190,779.32	2,190,779.32	1.07%
FHMS K501 A2	11/25/2016	637,156.78	637,156.78	1.14%
FHMS K502 A2	8/25/2017	2,252,790.88	2,252,790.88	0.89%
FHMS K702 A2	2/25/2018	2,486,261.79	2,486,261.79	1.19%
FHMS K708 A2	1/25/2019	1,237,697.66	1,237,697.66	1.08%
FHMS K708 A2	1/25/2019	1,329,250.00	1,329,250.00	1.08%
FHMS K709 A2	3/25/2019	959,093.75	959,093.75	1.11%
FHMS K710 A2	5/25/2019	1,923,527.34	1,923,527.34	1.12%
FHMS K714 A2	10/25/2020	2,110,000.00	2,110,000.00	1.34%
FHMS K715 A2	1/25/2021	2,316,187.50	2,316,187.50	1.38%
FHMS KJ02 A1	10/25/2019	803,178.82	803,178.82	1.13%
FHMS KJ02 A2	9/25/2020	797,875.51	797,875.51	1.37%
FHMS KJ03 A1	1/25/2021	1,796,039.18	1,796,039.18	1.30%
FHMS KP03 A2	7/25/2019	2,524,940.00	2,524,940.00	1.22%
FHMS KP03 A2	7/25/2019	1,247,320.36	1,247,320.36	1.22%
FN 12M9 AQ2	12/25/2017	1,488,684.90	1,488,684.90	1.36%
FN 14M01 AQ2	11/25/2018	1,138,222.46	1,138,222.46	1.23%
FN 14M01 AQ2	11/25/2018	637,518.50	637,518.50	1.23%
FN 14M04A AQ2	1/25/2017	517,970.14	517,970.14	1.37%
FN 14M05A FA	1/25/2017	58,740.20	58,740.20	1.12%
FN 14M05A FA	1/25/2017	87,606.47	87,606.47	1.12%
FN 14M08A FA	5/25/2018	1,113,397.41	1,113,397.41	1.07%
FN 14M08A FA	5/25/2018	1,358,633.10	1,358,633.10	1.07%
FN 14M9A AQ2	4/25/2017	1,977,812.80	1,977,812.80	1.58%
FN 15M13A AQ2	9/25/2019	1,414,019.46	1,414,019.46	1.34%
FN AD0910	4/1/2020	1,563,786.49	1,563,786.49	0.15%
HAROT 134 A3	9/18/2017	124,414.44	124,414.44	0.89%
HAROT 134 A3	9/18/2017	110,015.34	110,015.34	0.89%
HAROT 134 A3	9/18/2017	168,048.47	168,048.47	0.89%
HAROT 141 A3	11/21/2017	490,938.26	490,938.26	0.78%
HAROT 142 A3	3/19/2018	254,913.15	254,913.15	0.88%
HAROT 142 A3	3/19/2018	260,792.83	260,792.83	0.88%
HAROT 142 A3	3/19/2018	76,150.88	76,150.88	0.88%
HAROT 151 A3	10/15/2018	575,955.94	575,955.94	0.87%
HAROT 151 A3	10/15/2018	1,599,877.60	1,599,877.60	0.87%
HAROT 153 A3	4/18/2019	1,604,000.00	1,604,000.00	0.93%
HAROT 161 A3	12/18/2019	466,933.64	466,933.64	1.07%
HAROT 161 A3	12/18/2019	1,299,815.27	1,299,815.27	1.07%
HAROT 162 A3	4/15/2020	1,519,970.51	1,519,970.51	1.06%
HDMOT 152 A2A	1/15/2019	737,926.53	737,926.53	0.85%
JDOT 13B A3	8/15/2017	88,542.21	88,542.21	0.95%
JDOT 13B A3	8/15/2017	66,472.79	66,472.79	0.95%
JDOT 13B A3	8/15/2017	177,084.43	177,084.43	0.95%
JDOT 14 A3	4/16/2018	920,915.68	920,915.68	0.96%
JDOT 14 A3	4/16/2018	812,829.83	812,829.83	0.96%

**Orange County Transportation Authority
Portfolio Listing
As of June 30, 2016**

JDOT 14B A3	11/15/2018	388,668.08	388,668.08	1.01%
JDOT 14B A3	11/15/2018	645,682.82	645,682.82	1.01%
JDOT 15 A3	6/17/2019	500,781.25	500,781.25	0.96%
JDOT 15B A2	6/15/2018	772,042.55	772,042.55	0.94%
JDOT 15B A2	6/15/2018	1,269,240.70	1,269,240.70	0.94%
JDOT 15B A2	6/15/2018	436,250.41	436,250.41	0.94%
JDOT 15B A3	10/15/2019	349,507.81	349,507.81	1.20%
JDOT 15B A3	10/15/2019	537,897.40	537,897.40	1.20%
JDOT-16-A3	4/15/2020	1,464,769.41	1,464,769.41	1.16%
TAOT 13A A4	11/15/2018	307,571.08	307,571.08	0.85%
TAOT 14A A3	12/15/2017	741,985.11	741,985.11	0.91%
TAOT 14A A3	12/15/2017	223,420.90	223,420.90	0.91%
TAOT 14B A3	3/15/2018	316,266.54	316,266.54	1.09%
TAOT 14B A3	3/15/2018	1,266,745.70	1,266,745.70	1.09%
TAOT 14C A3	7/16/2018	799,950.62	799,950.62	1.00%
TAOT 14C A3	7/16/2018	569,841.72	569,841.72	1.00%
TAOT 14C A3	7/16/2018	2,499,845.70	2,499,845.70	1.00%
TAOT 15A A3	2/15/2019	2,964,551.69	2,964,551.69	0.92%
TAOT 15B A2A	11/15/2017	344,034.55	344,034.55	0.78%
TAOT 15B A3	5/15/2019	999,945.90	999,945.90	0.88%
TAOT 16A A3	3/16/2020	974,944.72	974,944.72	1.05%
TAOT 16B A3	4/15/2020	173,991.11	173,991.11	1.09%
USAOT 141 A3	12/15/2017	439,106.43	439,106.43	1.05%
<i>SUB-TOTAL</i>		99,520,525.09	99,520,525.09	
SHORT-TERM PORTFOLIO - TOTAL		\$ 1,219,962,595.96	\$ 1,220,040,203.72	

DEBT SERVICE RESERVE FUNDS

<u>DESCRIPTION</u>	<u>MATURITY DATE</u>	<u>BOOK VALUE</u>	<u>REQUIRED AMOUNT</u>	<u>YIELD</u>
<u>91 EXPRESS LANES 2013 BONDS</u>	2030		10,799,437.46	
US BANK COMMERCIAL PAPER	8/2/2016	10,834,664.40		0.30%
FIRST AMERICAN TREAS OBLIGATIONS	N/A	310.35		0.00%
<u>91 EXPRESS LANES 2013 BONDS - OPERATING & MAINTENANCE RESERVES</u>			13,000,000.00	
OPERATING RESERVE: TOYOTA MOTOR CP	7/5/2016	2,999,133.75		0.32%
MAINTENANCE RESERVE: TOYOTA MOTOR CP	7/5/2016	9,997,112.50		0.32%
DEBT SERVICE RESERVE FUNDS - TOTAL		\$ 23,831,221.00		

	<u>Book Value</u>	<u>Market Value</u>
TOTAL PORTFOLIO	\$ 1,335,912,740.15	\$ 1,335,990,347.91



COMMITTEE TRANSMITTAL

July 25, 2016

To: Members of the Board of Directors
From: Laurena Weinert, Clerk of the Board
Subject: Measure M2 Environmental Mitigation Program Update

Regional Planning and Highways Committee Meeting of July 7, 2016

Present: Directors Bartlett, Do, and Miller
Absent: Directors Donchak, Lalloway, Nelson, Spitzer, and Ury

Committee Vote

Due to lack of quorum, no action was taken on this item.

Staff Recommendation

Receive and file as an information item.




ORANGE COUNTY TRANSPORTATION AUTHORITY

Measure M2 Environmental Mitigation Program Update

Staff Report



July 7, 2016

To: Regional Planning and Highways Committee
From: Darrell Johnson, Chief Executive Officer 
Subject: Measure M2 Environmental Mitigation Program Update

Overview

Measure M2 includes a program to deliver comprehensive mitigation for the environmental impacts of freeway projects in exchange for streamlined project approvals from the state and federal resources agencies. To date, the Environmental Mitigation Program has acquired conservation properties and provided funding for habitat restoration projects. A status report on the draft Natural Community Conservation Plan/Habitat Conservation Plan and accompanying environmental impact report/statement, as well as a status update on the Harriet Wieder restoration project, is presented.

Recommendation

Receive and file as an information item.

Background

Measure M2 (M2) includes an innovative comprehensive Environmental Mitigation Program (EMP) to address the biological impacts of M2 freeway projects. This is achieved through the development of a Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP), approved by the California Department of Fish and Wildlife, and the United States Fish and Wildlife Service (resources agencies). Concurrently, the Orange County Transportation Authority (OCTA) is working with the Army Corps of Engineers and the State Water Resources Control Board to streamline the regulatory permitting process. The above agencies are the key regulatory organizations tasked with the review of environmental documents for major projects such as OCTA's M2 freeway plan.

The NCCP/HCP and associated draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) were made available for public review from November 2014 through February 2015, and are expected to be finalized in late 2016. These documents demonstrate that the conservation properties (Preserves) and habitat restoration projects have largely met the mitigation needs for the M2 freeway projects.

In conjunction with the preparation of the final NCCP/HCP and EIR/EIS, resource management plans (RMPs) are being developed to address biological monitoring requirements and management activities, including access provisions for each of the seven Preserves.

In October 2014, the Board of Directors (Board) approved a non-wasting endowment target of approximately \$34.5 million to fund the long-term management of the Preserves. In May, 2016, the Board approved the release of a request for proposals (RFP) to retain investment management firms to assist OCTA with the establishment of the endowment, and to provide the long term management services for the M2 Preserves.

Discussion

Resource Management and Funding

Work on the preparation of the RMPs was expedited and significant progress has been achieved. The resources agencies will approve the RMPs following the completion and approval of the NCCP/HCP. The RMPs for the Trabuco and Silverado Canyons Preserves (five Preserves total) were made available for public review between late 2015 and early 2016. The RMPs for the remaining Preserves (Hayashi and Aliso Canyon) will be released at a later date and will utilize a similar public outreach process.

In April 2016, two separate RFPs were released to obtain consultant services to perform interim biological preserve monitoring and maintenance activities for the Preserves. These services are needed to ensure the biological integrity of the Preserves is maintained until OCTA selects the long-term land manager(s) to take over this requirement. Staff expects to bring a recommendation to the Board in August 2016, to execute both of these contracts.

A third RFP was released on May 9, 2016, to solicit management services for the endowment creation. It is anticipated staff will bring a recommendation to the Board within the August/September 2016 timeframe to execute this contract. If selection of the endowment fund manager is approved in fall 2016, the first endowment deposit is expected to be made in early 2017.

Harriett Wieder Restoration Project Update

To date, two rounds of restoration funding have been approved by the Board, totaling just over \$10 million. Attachment A summarizes the M2 EMP-funded restoration projects. In May 2012 (round two), the Bolsa Chica Conservancy (BCC) received Board approval of \$475,000 to fund the Harriet Wieder Restoration Project.

The Harriett Wieder project included the restoration of approximately eight acres of coastal sage scrub, grassland, and riparian habitat within Harriett Wieder Regional Park. The project also included the planting of a rare plant (southern tarplant), which is a mitigation commitment of the NCCP/HCP. The BCC has yet to initiate the project due to various challenges including: coordination with multiple land owners and jurisdictions, approval from the California Coastal Commission (CCC), as well as the execution of the required land protection document. These requirements need to be fulfilled before work can begin.

In response to concerns expressed by the Environmental Oversight Committee regarding lack of progress, the BCC suggested a revision to the project area in June 2016. The change is shown in Attachment B, to minimize some of the aforementioned project challenges and to expedite project implementation. The modified project area will simplify the property ownership issue, as well as satisfy coastal development permit (CDP) requirements from the CCC. The modified project would occur entirely within the City of Huntington Beach (City) jurisdiction, which has approval authority for the CCC Local Coastal Program. The City previously issued a CDP for Harriet Wieder Park, and confirmed that the modified project area falls within this CDP. The modified project would increase the restoration area from approximately eight acres to nine and a half acres, while maintaining the Board-approved funding allocation. Thus, the revisions to the project would increase the potential mitigation credit for OCTA. With these revisions, BCC intends to begin project implementation by this winter.

Next Steps

The OCTA M2 NCCP/HCP EIR/EIS are anticipated to be finalized and brought to the Board for approval in November 2016. Once these documents are approved and finalized, OCTA will continue with public outreach and will work with the resources agencies to finalize the Preserve RMPs. Staff will continue to oversee and manage the Preserves until a long-term manager(s) is established. Three new procurement recommendations (interim monitoring, interim maintenance, and endowment management) will be brought to the Regional Planning and Highways Committee and the Board for approval in August/September 2016.

OCTA will continue to monitor the progress of the Harriett Wieder restoration Project and provide the status to the Environmental Oversight Committee on a regular basis, until the project is implemented.

Summary

M2 includes an EMP that provides funding for programmatic mitigation to off-set impacts of the 13 freeway projects. To expedite the delivery of the freeway projects, this program was initiated in 2007 to implement early project mitigation through property acquisition and habitat restoration. This program is administered through a NCCP/HCCP, which will be completed in 2016. A status report on the program, an update on the Harriet Wieder Restoration Project, as well as steps staff has taken to establish an endowment for the Preserves, are presented.

Attachments

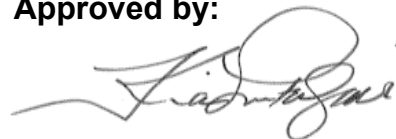
- A. OCTA M2 EMP-Funded Restoration Projects Summary
- B. Bolsa Chica Conservancy - Harriett Wieder Restoration Project Area

Prepared by:



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Approved by:



Kia Mortazavi
Executive Director, Planning
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ORANGE COUNTY TRANSPORTATION AUTHORITY

Measure M2 Environmental Mitigation Program Update

Attachment A

OCTA M2 EMP-Funded Restoration Projects Summary

	Restoration Project	Sponsor	Proposed Cost	Approx. Acreage *	Geographic Area	General Habitat Types	Status
2010 - Round One	City Parcel	City of San Juan Capistrano	\$1,500,000	53	San Juan Capistrano	riparian corridor, CSS, oak woodland, and native grassland	Underway
	Fairview Park	City of Costa Mesa	\$2,000,000	23	Costa Mesa	wetlands, native grassland, CSS, willow scrub, oak woodland	Underway
	Irvine Ranch (Agua Chinon and Bee Flat Canyon)	Irvine Ranch Conservancy	\$1,450,000 (\$1,457,160)**	94.9 (90.1)**	Irvine	chaparral, CSS, coast live oak/sycamore, oak woodland, native grassland, and riparian	Underway
	UCI Ecological Reserve	Nature Reserve of OC	\$325,000	8.5	Irvine	cactus scrub	Underway
	Big Bend	Laguna Canyon Foundation	\$87,500	3.7	Laguna Beach	CSS, riparian woodland	Underway
2012 - Round Two	Aliso Creek	Laguna Canyon Foundation	\$1,105,000	55	Laguna Niguel	riparian	Underway
	Chino Hills State Park	Chino Hills State Park	\$193,000	21	Yorba Linda	willow riparian, oak-walnut woodland, cactus scrub	Planned
	Harriett Weider Regional Park	Bolsa Chica Conservancy	\$475,000	8.2	Huntington Beach	native grassland, CSS, riparian	Planned
	Lower Silverado Canyon	Irvine Ranch Conservancy	\$1,399,580 (\$1,414,435)**	44 (28.4)**	County of Orange	Riparian	Underway
	North Coal Canyon	California Department of Parks and Recreation	\$247,500	5.5	Yorba Linda	riversidian Alluvial fan CSS	Planned
	West Loma	Irvine Ranch Conservancy	\$1,296,000 (\$1,322,800)**	80 (62.47)**	County of Orange	scrub, riparian	Underway

*Proposed acreage is subject to change and may be adjusted slightly once the restoration work is completed.

**Amounts depicted in the table were revised/amended and approved by the OCTA Board of Directors in June 2016.

OCTA – Orange County Transportation Authority
 EMP – Environmental Mitigation Program
 M2 – Measure M2
 CSS – Coastal sage scrub



ORANGE COUNTY TRANSPORTATION AUTHORITY

Measure M2 Environmental Mitigation Program Update

Attachment B

**Bolsa Chica Conservancy
Harriett Wieder Restoration Project Area**

Original Proposed Project Area (8 acres)



FIGURE 2



Preferred Project Area (9.5 acres)



FIGURE 2





ORANGE COUNTY TRANSPORTATION AUTHORITY

**Proposed Response to Orange County Grand Jury Report
on the Orange County Transportation Authority's OC
Streetcar Project**

Staff Report



August 1, 2016

To: Executive Committee

From: Darrell Johnson, Chief Executive Officer

Subject: Proposed Response to Orange County Grand Jury Report on the Orange County Transportation Authority's OC Streetcar Project

Overview

Staff has prepared a response to the May 9, 2016, report issued by the Orange County Grand Jury entitled, "Light Rail: Is Orange County on the Right Track?" for Orange County Transportation Authority Board of Directors consideration.

Recommendation

Authorize the Chief Executive Officer to submit the proposed response to the Orange County Grand Jury report's findings and recommendations as required by California Penal Code 933(c).

Discussion

California Penal Code 933(c) states that the Orange County Transportation Authority (OCTA) Board of Directors (Board) shall comment on the findings and recommendations of the Orange County Grand Jury (Grand Jury) that pertain to public agency matters under the control of the Board within 90 days of the release of the Grand Jury's final report. The Grand Jury report entitled, "Light Rail: Is Orange County on the Right Track?" was released on May 9, 2016. The 90-day deadline occurs on August 8, 2016. The proposed response for the Board's consideration, if approved, will be submitted to the presiding Judge of the Superior Court, who empanels the Grand Jury, with copies filed with the OCTA Clerk of the Board and the Orange County Clerk of the Board of Supervisors.

The stated purpose of the Grand Jury's report (Attachment A) was to examine the progress being made toward implementing a rail transit system in Orange County. Additionally, the report sought to provide some input into solutions to help sustain the momentum of the OC Streetcar project.

Summary

The report completed by the Grand Jury was thorough and highlights the challenges along the path in getting the OC Streetcar Project to the point it is today. The report also states the importance to stay “on the right track.”

Throughout the Grand Jury’s report, as well as within the Grand Jury’s Findings and Recommendation, there is reference to “Light Rail” as a system in Orange County. Light Rail is also used at times to describe the OC Streetcar project, which is not correct. As pointed out several times during discussions with the Grand Jury, there are differences between a streetcar and light rail. A major difference is that a light rail system is typically located on separate rights-of-way, where streetcars typically occupy travel lanes in local streets and run with local traffic.

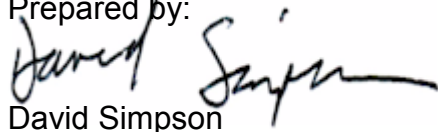
Additionally, the Board has not approved any expansion of the approved OC Streetcar project. A countywide Transit Master Plan study is under way that will look at bus, rail, and other demand responsive transit modes that could serve areas of Orange County in the future. A countywide bus, rail, and demand responsive transit vision may emerge from that effort, contingent on Board review and direction in 2017. It is also important to note that OCTA must work in cooperation with local agencies for any dedicated transit facilities on local streets.

Many of the report’s recommendations have been, or will be, addressed over time through planned improvements as outlined in the attached response (Attachment B).

Attachments

- A. Orange County Grand Jury Report
- B. Proposed Response to May 9, 2016, Grand Jury Report

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ORANGE COUNTY TRANSPORTATION AUTHORITY

**Proposed Response to Orange County Grand Jury Report
on the Orange County Transportation Authority's OC
Streetcar Project**

Attachment A

Orange County Grand Jury Report

LIGHT RAIL: IS ORANGE COUNTY ON THE RIGHT TRACK?



GRAND JURY 2015-2016

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EXECUTIVE SUMMARY

From the end of World War II until 2003 there was little interest in Orange County for any kind of light rail system that could link high density cities with other rail services, or even with each other. The old Pacific Electric (PE) light rail system which had linked Los Angeles with Orange County cities and with Riverside since early 1900 had been replaced by automobiles and buses.

Although Orange County had experienced the same traffic congestion and smog problems as the rest of Southern California, city and county managers expressed little interest in finding options for mass transportation beyond buses or local commuter rail. In contrast, both San Diego and Los Angeles Counties initiated master plans for transportation in the early 1980s and immediately started building second-generation light rail networks. These networks have been largely successful in helping to reduce traffic congestion and smog by reducing the number of automobiles on the roads.

The Centerline Project, conceived in the late 1990s by the then new Orange County Transportation Authority (OCTA) was an initial effort to introduce light rail to Orange County along with upgrades in road and bus capability. However, the twenty-eight mile rail component alone was estimated to cost just over \$1 billion and this, as well as the size of the project kept funding sources and political support at bay.

Now, since 2006, OCTA has been using its authority, funding access, planning, and management capabilities to create a more measured process for development of light rail and other transit extensions that link county Metrolink Rail Transportation Centers with light rail and other transit extensions.

In this report the Grand Jury has examined OCTA's work with respect to the OC Streetcar Project and the Anaheim Rapid Connection (ARC) Project, as well as complimentary efforts by the cities of Santa Ana, Garden Grove, Anaheim and Fullerton. The Grand Jury found that initial successes such as the OC Streetcar Project between Santa Ana and Garden Grove are significant, both for educating the public and for providing future project momentum.

Therefore, the Grand Jury has recommended that OCTA take a number of steps to educate the public through public outreach and marketing/promotion, to establish a draft transportation master plan which includes both intra and inter county light rail network possibilities. Finally, the Grand Jury finds that similar public outreach efforts by the cities that are part of this report are worthwhile and a number of recommendations follow.

The efforts documented show all are truly interested in supporting the public good and the incremental and disciplined approach being used by OCTA to develop light rail systems is placing Orange County on the right track.

BACKGROUND

Light Rail Defined

While the focus of this Grand Jury report is the potential for development and use of light rail systems in Orange County, definition of the more common types of rail systems is important in order to better differentiate light rail. Short definitions are provided below and in some cases a more complete definition can be found in the Glossary.

Light rail systems are electric powered rail-based systems found in urban environments and used to provide passenger transit from transportation centers to working, shopping, and entertainment centers or to their homes. Light rail systems may be called streetcars, cable-cars or heritage streetcars depending on their age and urban location and typically do not exceed three cars in any particular application. An example of this is the OC Streetcar System being developed to connect Santa Ana and Garden Grove (Light Rail in the United States, 1).

Same-grade or fixed guideway rail systems run at street level, sharing the same corridors with automobile traffic. While this normally avoids the expense of bridges and underpasses to separate rail from other traffic, it does require extensive planning and right of way control measures.

Grade-separated rail systems, such as commuter rail or heavy rail, are normally separated from other traffic by dedicated right of way, bridges or underpasses.

Heavy rail systems are defined by the American Public Transportation Association as high speed electric powered railways able to handle heavier passenger loads than light rail systems, but distinct from commuter rail and intercity rail systems. An example of Heavy Rail is the Amtrak System (Passenger, 5).

Commuter rail systems are defined by purpose and may use the same rail corridors as heavy rail. Commuter rail services are designed and scheduled to allow rapid commuter passenger transit from transportation center to transportation center and are generally scheduled to support riders going to and from their jobs or to major sporting events. Examples of commuter rail are the Metrolink system that services Orange, Riverside and Los Angeles Counties and the Coaster system that services San Diego and Oceanside, CA.

Light Rail in Southern California

Use of light rail in Southern California has transitioned through several cycles in the past 115 years.

In the early 1900s, growth of first generation light rail in Southern California paralleled population growth in urban centers. The public wanted convenient and inexpensive mass transit that was able to carry passengers more efficiently than early automobiles or horse and buggy. The first successful light rail venture in Southern California was the Pacific Electric (PE) Railroad Company which began construction of electric rail lines connecting the City of Los Angeles with surrounding cities in 1901.

This PE Red Car system served several districts with a Northern branch reaching into the San Gabriel Valley, a Western branch to Venice, and a Southern branch to Long Beach, Newport Beach, Huntington Beach and Santa Ana. By 1915, PE was the largest operator of interurban electric railway passenger service in the world, with 2,160 daily trains over 1,000 miles of track.

A phase-out of the PE System began in 1930 and continued until after World War II with light rail giving way to the popularity of automobiles as a primary means of transportation. Light rail impeded automobile traffic in urban areas, and the Eisenhower era emphasis on freeway construction soon replaced historic PE light rail routes.

Presently, much of the old PE Right of Way (ROW) has been re-used or “built out.” ROW that does still exist include a 100 foot-wide diagonal corridor half way between Interstate 405 and Interstate 5 and an 11.75 mile section running between the cities of Santa Ana in Orange County and La Palma in Los Angeles County. OCTA has purchased sections between the cities of Stanton and Santa Ana and some of this has been leased to provide maintenance revenue.

During the 1970s, increasing air quality concerns as well as urban population growth and the 1973 oil crisis spurred yet another cycle of light rail development. Los Angeles and San Diego County planners began to give serious consideration to mass transit systems that could support high density, urban areas without further crowding roads and freeways or increasing smog. As a result of this planning, these counties began construction of a number of second-generation light rail systems during the 1980s (Pacific Electric 2-9).

Second-generation light rail is an industry term applied to current efforts to create and use light rail in Southern California as well as the remainder of the United States. These systems began in San Diego in 1981 with the San Diego Trolley, followed by Los Angeles County in 1985 with the Metro System.

Now, according to the American Public Transportation Association, of the 30-odd cities with light rail in the United States, six of them (Boston, Los Angeles, Philadelphia, Portland [Oregon], San Diego, and San Francisco) move more than 30 million passengers each year (Light Rail in the United States, 1).

Los Angeles County's Metro Rail System

During the 1970s, Los Angeles County was ready to begin serious consideration of more environmentally friendly mass transit systems for high density urban areas without adding to crowded roads and freeways.

The Los Angeles public approved use of sales tax proceeds, as well as other funding, to support creation of additional rail transit capability. In 1985 the Los Angeles County Metropolitan Transportation Authority began construction of a Metro Rail System combining light rail and heavy rail systems. In many cases these light rail ROWs followed the old PE Red Car ROW.

Since 1985, Los Angeles County has expanded the light rail portion of its Metro Rail System to approximately 79 miles. For example, as of January 2014 the Blue Line travels from the Los Angeles financial district to downtown Long Beach, and the Gold Line links East Los Angeles to Pasadena. As noted in a July 14, 2015 article from the *Los Angeles Times*, "...the Blue Line, which turns 25 this week, eclipsed ridership benchmarks to become one of the most heavily traveled light-rail lines in the United States."

In addition, in 2003 the Metropolitan Transportation Authority authorized an independent agency, the Exposition Metro Line Construction Authority (EMLCA), to plan, design and construct a light rail line called the Expo Line to run from downtown Los Angeles to Culver City and then eventually to Santa Monica. The Expo Line is still under construction. When it is completed, the EMLCA will transfer Expo Line operation and management to the Los Angeles County Metropolitan Transportation Authority (Expo Line, 1).

South San Diego County and the San Diego Trolley

While the City of San Diego had enjoyed electric rail service as early as 1891, changes in mass transit mirrored those occurring in Los Angeles County. By 1949, the city of San Diego replaced its streetcar system with buses. Then in 1966, with San Diego Transit losing money, a San Diego Comprehensive Planning Organization (CPO) began to search for more economic options to meet longer term transit needs. Although the CPO had realized that some options might not be as cost effective or flexible as buses, it decided to study solutions that included a same-grade light rail system. Subsequently, the San Diego Metropolitan Transit Development Board (MTDB) determined that a same-grade system could best satisfy the following requirements:

- Any proposed corridor extend a long distance and offer high-speed operation;
- Low capital cost designs be adopted to keep costs affordable;
- Construction should be at-grade with mostly exclusive right-of-way; and
- Operating deficits should be minimized.

With funding due to expire by 1981, the MTDB moved to purchase the partially damaged San Diego and Arizona Eastern Railway (SD&AE) ROW that included freight capability east into the Imperial Valley as well as sufficient ROW to support an initial 13.5 miles of light rail. This light rail system is the oldest of the second generation light rail systems in the United States (San Diego Trolley 1).

In the past 25 years the San Diego Trolley has grown to include three main lines offering regular service from 5:00 AM to midnight seven days a week. The system now extends to 53.5 miles with 53 stations. Between 2:00 AM and 3:30 AM each day the trolley right of way is used by the San Diego and Imperial Valley Railway only to move freight (San Diego Metropolitan, 1-7).

The greater San Diego Metropolitan trolley system now links the downtown Santa Fe Depot with the San Diego Convention Center, Petco Park, the Mexican border, Qualcomm Stadium, major San Diego universities and Old Town San Diego, as well as other cultural and population centers within San Diego County. The Santa Fe Depot is also the southern terminal for Amtrak and Coaster train service. The average daily trolley ridership in 2014 was 119,800 passengers and the annual ridership number approximated 39.7 million passengers. An extension of 156 new miles is being proposed in the 2050 Regional Transportation Plan (San Diego Trolley, 7).

Members of the Grand Jury visited San Diego, rode the San Diego Trolley, and observed the pride exhibited by the San Diego public in their light rail system.

North San Diego County and the Sprinter Light Rail System

The Sprinter light rail system is an East/West oriented diesel powered system in north San Diego County linking the Oceanside Transportation Center to the Escondido Transportation Center. Owned and operated by the North County Transit District (NCTD), Sprinter runs for 22 miles and has 15 stations that include Palomar College and California State College, San Marcos. Daily ridership in 2013 was 8,500. Funding justification for Sprinter was partially based on the goal of reducing traffic congestion on California State Road 76 which also runs from Oceanside to Escondido. The transit extension service provided by Sprinter to Oceanside links passenger service with the Coaster, the Metrolink Orange County Line, the Metrolink Inland Empire-Orange County Line and the Amtrak Pacific Surf liner regional line (Sprinter, 1-6).

Prior Grand Jury Reports on Light Rail Development in Orange County

No Grand Jury has reported on development of light rail systems in Orange County. The 2009-2010 Orange County Grand Jury did, however, investigate the City of Santa Ana's decision making process when it chose Cordoba Corporation as the lead consultant for a technical analysis of Santa Ana's portion of OCTA's "Go Local" Phase II project, a precursor to the OC Streetcar Project (Santa Ana Streetcar, 1- 10).

“Go Local” was an OCTA initiative seeking to work with all 34 Orange County cities to find ways to increase Metrolink ridership by creating better connections between Metrolink Transportation Centers, these cities and employment centers. The City of Santa Ana was active in this pursuit and issued a Request for Proposal (RFP) for a feasibility study. During this process Cordoba was rated as least qualified among all applicants yet still won the contract to receive 75% of the initial \$4.85 million allocated by OCTA.

That 2009-2010 Grand Jury report suggested possible violations of Assembly Bill 1234, defining ethics law principles and conflicts of interest for public servants, and the Brown Act, which was enacted to facilitate public participation in local government decisions.

Scope and Focus of This Report

This report provides a brief history of the growth and decline of light rail in Southern California during the 20th Century. It also recaps some of the economic, smog and policy concerns that supported development of second generation light rail systems in both Los Angeles and San Diego Counties. It provides a baseline and comparison for investigation and analysis of second generation light rail development, or lack thereof, in Orange County.

The Grand Jury then examines and analyzes efforts by OCTA and the cities of Santa Ana, Garden Grove, Anaheim and Fullerton to advance, or consider advancing light rail as a preferred transit option. These are Orange County cities with Metrolink Stations, or transit links with Metrolink Stations, that have become actively engaged with OCTA’s goal to expand Metrolink ridership. Each city, through OCTA’s leadership, has the opportunity to use Orange County Tax Measure M2-Project S funding as well as the U.S. Department of Transportation’s New Starts grant money and other federal, state and local funds to establish light rail systems they believe will effectively increase ridership and provide economic development.

The Grand Jury chose to focus on these four Orange County cities based on current project activity, as well as OCTA recommendations. Each city represents a different set of public policy and economic circumstances which make light rail system development important for them to consider. As such, each city is on a pathway to obtain public and OCTA support, complete initial feasibility and environmental impact studies, and receive Department of Transportation and California State funding.

Appendix B compares light rail development status of each of these cities using a number of metrics that not only show the complexity of each project, but also provide a sense of funding, policy decisions and long timelines required from start to finish. As provided in the Appendix, this data also provides a continuum of Orange County cities ranging from well into a light rail project, to one still working to meet New Starts and OCTA criteria, to one that is still considering light rail as a preferred transit option.

The Grand Jury recognizes that each Orange County city already involved in a light rail project views light rail not only as an important transit option for their city, but also as a potential catalyst for economic growth. The Grand Jury also recognizes the City of Fullerton city council has not yet made a policy decision to pursue light rail as its preferred transit option for the future. However, the fact that funding for a light rail system option can be spread over a large number of financing sources makes that possibility very attractive.

Finally, this report provides some insight into economic development and return on investment (ROI) concepts that could impact all of Orange County if development of light rail systems can be incrementally and successfully pursued.

METHODOLOGY

The Grand Jury has taken the following actions to complete this report:

- Reviewed San Diego and Los Angeles County second-generation light rail systems;
- Examined the role of OCTA in leading development of light rail in Orange County and in working with the Federal Transportation Authority to obtain New Starts Grant funding;
- Briefly examined ROI expectations that can accompany light rail development;
- Interviewed OCTA, Santa Ana and Garden Grove senior staff involved in development and management of the OC Streetcar Project;
- Interviewed Anaheim senior staff involved in the Anaheim Rapid Connection (ARC);
- Interviewed Fullerton senior staff concerning prior studies for use of light rail in Fullerton; and
- Verified report facts through multiple interviews, cited references and official documentation.

INVESTIGATION AND ANALYSIS

Orange County and Light Rail Development, Analysis and Political Reality

Until 2005, efforts to develop second-generation light rail in Orange County in parallel with Los Angeles and San Diego counties had not been very successful.

Despite major changes in policy and sales tax use in both Los Angeles and San Diego counties over the past 25 years, Orange County has chosen not to follow suit. Even after public approval

of the M2 one-half cent sales tax in 2006, which provided some limited funding in support of alternate public transit systems such as light rail, seventy-five percent of that Orange County sales surtax remained focused on roads and highways. As a result, while urban growth gridlocked road and freeway systems, and smog concerns affected Orange County as much as Los Angeles and San Diego counties, efforts to reduce traffic congestion by widening roads and freeways, or sequencing traffic lights seemed to take priority.

Secondly a good portion of south Orange County views itself as not representative of any high density, urban community. As such, this population has not been overly interested in funding transportation options such as light rail systems that may be of more value to older North Orange County cities with higher population densities. These differences often make it difficult to get agreement about how to spend taxpayer dollars in a manner that will support specific city initiatives perceived to be in the public’s best interest.

The reality is that there are 34 incorporated cities in Orange County, each with differing levels of need and support for transit. Additional considerations include variances in city age, infrastructure and tax base, public planning policy and efforts, and ability to accommodate change. Some OCTA staff have opined that many residents of Orange County cling to a more nostalgic view of Orange County as a quiet suburban bedroom community that is best served by cars, buses, roads and freeways. Some suggest that this nostalgic view may have contributed to the lack of the county’s progress towards light rail and, as in retrospect; policy decisions may appear short-sighted.

To further investigate why light rail development has proceeded much slower in Orange County than in Los Angeles and San Diego Counties, the Grand Jury reviewed 2010 US Census data for these counties, as well as a number of selected cities.

Table 1 below provides selected data:

Table 1: Los Angeles, Orange and San Diego County Comparative Demographics.

County Comparisons:	Orange County	Los Angeles County	San Diego County	
2010 Population:	3,010,232	9,818,605	3,095,313	
Land Size in Square Miles:	791	4,058	4,207	
Density (Pop.(1000)/sq.mi.)	3,807	2,420	736	
Orange County Cities:	Santa Ana	Garden Grove	Anaheim	Fullerton
2010 Population:	324,528	170,253	336,264	135,161
Land Size in Square Miles:	27	18	50	22
Density (Pop.(1000)/sq.mi.)	11,901	9,570	6,748	6,047
Meets Urban Core City Definition:	Yes (7,500/sq.mi.)	Yes (7,500/sq.mi.)	No	No

Light Rail: Is Orange County on the Right Track?

Los Angeles County Cities:	Los Angeles	E. Los Angeles (1)	Santa Monica	Long Beach
2010 Population:	2,504,251	501,237	89,736	569,100
Land Size in Square Miles:	267	41	8	63
Density (Pop.(1000)/sq.mi.)	9,388	12,168	10,664	8,984
Meets Urban Core City Definition:	Yes (7,500/sq.mi.)	Yes (7,500/sq.mi.)	Yes (7,500/sq.mi.)	Yes (7,500/sq.mi.)
(1) Part of the City of Los Angeles but separated out by US Census Data.)				
San Diego County Cities:	San Diego	Carlsbad	Oceanside	
2010 Population:	2,259,401	105,459	167,086	
Land Size in Square Miles:	696	38	41	
Density (Pop.(1000)/sq.mi.)	3,245	2792	2,792	
Meets Urban Core City Definition:	No	No	No	
State and County Quickfacts. Quickfacts.census.gov.2010. Web. 11 Jan. 2016.				

The data show that the population density of portions of Los Angeles and Orange Counties approaches or exceeds 7,500 residents per square mile, meeting the industry definition of urban, core city (*Urban Cores*). This is not the case in San Diego County, particularly the City of San Diego which has a population density of approximately 3,245 residents per square mile.

The Grand Jury also noted that the land size of Los Angeles and San Diego Counties in square miles is similar, and that these counties are over five times the size of Orange County.

The Orange County cities selected by the Grand Jury for census data comparison match those selected for report analysis. The San Diego County cities selected for data analysis were San Diego and Oceanside, and the Los Angeles city choices were Santa Monica and Long Beach, along the Metro’s most successful Blue Line, running from downtown LA to Long Beach.

Similarities in population core densities exist between much of greater Los Angeles and north Orange County. Population demographics and city infrastructure age and tax base issues for these areas are also similar. Analysis of south Orange County as it morphs into greater San Diego County shows a trend toward lower population density, as well as newer city infrastructure.

In short, the Grand Jury finds evidence suggestive that there is no demographic answer as to why light rail system development is more readily supported in both Los Angeles and San Diego Counties than in Orange County.

Perhaps the best clues to the lack of support for light rail development in Orange County may simply rest with the diversity of cities within the county and the fact that Orange County has done little to effectively market a light rail concept. Until OCTA was created no single entity in Orange County had sufficient gravitas and motivation to initiate such a concept. This was not the case in Los Angeles and San Diego, both of which had a long history and understanding of light rail systems, as well as multiple city interests in making such a system work.

Although California state law created OCTA to serve as the public sector transportation planning body and mass transit service provider for Orange County (Orange County Transportation 1), this did not immediately facilitate county-wide transportation planning.

An example is the 1990s OCTA initiative to create a 28 mile Centerline Project linking several North Orange County high density cities with the Orange County Airport. As presented by OCTA, the \$1.04 billion light rail component of this project was accompanied by an additional \$185 million street widening component as well as an additional \$544 million bus service expansion component. (Mallinckrodt, 1-2)

The case might be made that planners were trying to present a balanced concept, but public reaction to the size and cost of the project was not positive and some analysis even suggested there would be no net reduction in traffic congestion or improvement in person-miles/day capacity. As a result, the scope of the project was changed to reduce estimated costs (Mallinckrodt, 1-2).

While local officials had hoped that the Federal Government would step in and pay for half of the proposed project's expense, the county's congressional delegation provided no support and this, along with the loss of local political confidence, resulted in the project being dropped in 2005 (Weikel, 2).

Orange County and Light Rail Development, a Change in Leadership and Focus

In 2006 OCTA decided to follow a more measured approach to planning, which included possible use of a light rail system as an alternate for mass transportation. The "Go Local" program was created. "Go Local" was a four step process for planning and implementing city-initiated transit extensions to OCTA's Metrolink commuter rail line. Steps one and two were funded via Measure M1.

Step one required each city to submit to OCTA a fixed-guideway concept proposing connection between a Metrolink station in that city and nearby destination/activities centers. The OCTA Board of Directors would then evaluate the city's concept, and if it met approval, would award \$5.9 million to the city so that it could continue proposed project planning and evaluation.

This effort would then lead to Step 2 which was completion of an alternative analysis, conceptual engineering and both state and federal environmental clearance. Steps 3 and 4 would then neatly mesh with acceptance by OCTA and the Department of Transportation (DOT), funded by Measure M2 and state and federal sources (Anaheim Go Local, ES-1).

The stated objective of "Go Local" was to satisfy Measure M1 sales tax requirements by asking all 34 of Orange County's incorporated cities to consider new ways to improve transit extensions to the Metrolink Stations. This plan would broaden the reach of Orange County's backbone rail

system to key employment, population and activity centers. OCTA offered funds to each city to explore new ideas, and several cities responded affirmatively. The cities of Santa Ana, Garden Grove and Anaheim were the first to move ahead.

In 2006, Measure M2 was approved by Orange County voters, extending the Measure M1 half-cent local transportation sales tax for an additional 30 years. This tax extension was to be used to help fund projects that include bridge and road upgrades, as well as projects associated with Metrolink improvements and would go into effect in 2011. A portion of this sales tax, called Measure M2 Project-S, was designated to provide funding to connect people between Metrolink stations in Orange County and their final destinations at activity and employment centers (Transit Extensions, 1-3).

In 2007, positive action at the city level began to take place. Santa Ana, Garden Grove and Anaheim, along with OCTA, began feasibility and environmental studies aimed at developing light rail or other transit solutions that would better service their Metrolink Transit stations and support each city's community.

In 2013 the city of Fullerton used Southern California Association of Governments (SCAG) funding to commission a study of transit options, including the potential use of light rail, to connect California State University Fullerton (CSUF) and its Metrolink Transportation Center.

These steps, although incremental, provided a much better venue for local political and public consideration, as well as the ability for each city to address "local impact" concerns. OCTA became the core coordinating agency, assuming both a leadership and coordinating role within Orange County. OCTA's role took the place of the "core city" presence that had characterized both Los Angeles and San Diego over the past 25 years.

Return on Investment Expectations

During much of the current federal administration, efforts to spur interest in transportation capital investment and development have continued to be supported through the President's Annual Budget process.

In 2008, the Department of Transportation's Federal Transit Administration (FTA) provided oversight of a Transit Investments in Greenhouse Gas and Energy Reduction (TIGGER) program that provided public agencies with one-time grants to improve energy efficiency. The TIGGER program received \$100 million in Recovery Act funding. FTA received applications for 561 projects totaling over \$2 billion, severely limiting grant project approval.

In October 2010, the United States Department of the Treasury, along with the Council of Economic Advisors, published an Economic Analysis of Infrastructure Investment report which concluded that correct investment had the potential to create a more livable community for

working Americans. To that end these agencies identified a number of principles for transportation investment:

- To provide more transportation choices in order to decrease household transportation costs, reduce dependence on oil, improve air quality and promote public health;
- To improve economic competitiveness in neighborhoods by giving people reliable access to employment centers, educational opportunities, services and other basic needs;
- To target federal funding toward existing communities – through transit-oriented development and land recycling; and
- To align federal policies and funding to remove barriers to collaboration; leverage funding and increase the effectiveness of programs to plan for future growth (United States. An Economic Analysis, 13-23).

In July 2012, Congress enacted the Moving Ahead for Progress in the 21st Century Act (MAP-21). This act outlined the New Starts program and the detailed process that proposed projects must satisfy to be eligible for capital investment grant funding from the Federal Transit Administration (FTA). The New Starts Program supports same-grade light rail projects.

MAP-21 specifies that proposed New Starts projects must be new fixed guideway projects or extensions to existing fixed guideway systems with an estimated capital cost greater than \$250 million. To qualify for the New Starts Program, the grantee must comply with a very specific list of program requirements showing:

- A funding commitment for at least 30% of non-grant investment;
- Selection of a locally preferred transportation alternative;
- Completed feasibility and environmental studies verifying no local impact; and
- A project management plan detailing key activities, milestones and elements, culminating with an expected completion date (*Final Interim Policy Guidance IV, 2-3*).

It is this specific program that Orange County, through OCTA, is using. At present OCTA sees little possibility of Congress ending this program as it has consistent bipartisan support and presents a direct link between infrastructure development, jobs and expectations for a positive Return on Investment (ROI). As such, it is a long term capital investment effort.

The U.S. Department of Transportation's portion of the President's proposed Budget for FY 2017, supporting the FTA Capital Investment Grant Program for New Starts Not Yet under Construction, includes a \$125 million line item for the Santa Ana and Garden Grove Streetcar that should be used in FY 2017. On February 11, 2016 the *Orange County Register* published an opinion piece where the author thought Congress should trim this amount. The public should note, however, that this is almost half of the total project funding required and demonstrates

DOT's willingness to speed up the project, not slow it down. This is grant money that should be authorized by the Congress for use beginning October 1, 2016 (*Budget Highlights*, 41).

Admittedly, there will always be arguments as to the best way to spend taxpayers' money for transit systems. Also, the Grand Jury recognizes that all roads, freeways, and transit systems are historically subsidized to a large degree by the public. Additionally, ridership and therefore the ability of any one system to pay more of its own costs rises or falls with fare levels, the price of gasoline, and the necessity of the public to use public transit to get to a job.

On January 28, 2016, *The Los Angeles Times* published an article written by a Times reporter discussing declining bus, light rail and subway ridership trends over the past 30 years in both Los Angeles and Orange Counties. It correctly noted that both the Metropolitan Transportation Authority and OCTA are losing riders at an increasing rate. The article quotes the CEO of OCTA as saying, "I don't know if this is long-term, but it doesn't feel like it's temporary when we have been dealing with 36 straight months of declining ridership."

In Orange County there continues to be public debate over changing bus routes so that OCTA can be both more efficient and cost effective, and it is apparent that it is difficult to separate Southern California drivers from their cars. There is also public debate concerning spending taxpayer money for light rail systems versus more bus lines, seeing one as less flexible than the other. Again, while all these arguments have merit in one form or another, they generally do not address long term requirements or changes in demographics that can reasonably be expected. These are the facts that transportation planners need to deal with.

Lastly, it is apparent that any public transportation authority such as OCTA must constantly try to find the best balance for services as it reacts to what the public chooses to do. Given the ability to make a choice, the transit rider will most likely buy a car in order to have the most personal flexibility. This probably will not change and therefore ridership and the ability of any one transit system to pay more of its own costs is dependent on the local economy and job availability, as well as if the system runs on time, has the best route, or is cost effective for those riding.

For those high density urban areas in Orange County pursuing or considering pursuit of a light rail system, the Grand Jury noted that Return on Investment (ROI) expectations differ for each city. Additionally, city policy and management objectives will vary depending on the city's tax base, gains or losses in development opportunities, or the current state of a city's budget. While each of these considerations may be the result of past policy decisions or have simply developed due to changes in the economy over time, each city must try to achieve the best balance for the good of the public.

To this point, city planners generally accept the following ROI possibilities as being associated with development of light rail, recognizing they are not absolutes:

- That real estate values within about 1/8th of a mile of those areas supported by light rail will normally increase by some increment;
- That new development is attracted by fixed-guideway systems that by definition do not move;
- That urban planners will normally decrease parking requirements for new developments based on the expectation that a number of people living near a light rail system will elect not to drive cars;
- That based on experiences in a number of urban areas nationally, light rail systems tend to create a positive impact on businesses and restaurants that are serviced by the system because the traveling public often finds it easier to access them; and
- That existence of a light rail system often provides a boost to public perception of how a city is managed or how a city presents itself to visitors and businesses.

The OC Streetcar Project Connecting Santa Ana and Garden Grove

The OC Streetcar Project is the most developed of the Orange County light rail systems considered by the Grand Jury in terms of its support from the public, local politicians, OCTA and the U.S. Department of Transportation. Substantive work on this project began in 2006 and Santa Ana has invested approximately \$7 million in its environmental impact report.

OCTA has identified and scheduled project funding to be provided by California Cap and Trade, the Orange County M2-Project S sales tax, the Department of Transportation New Starts Program and monies from the Federal Congestion Mitigation and Air Quality Improvement Fund.

The OC Streetcar Project is a 4.1 mile double track system that runs from the Santa Ana Regional Transportation Center (SARTC) in Santa Ana, through Santa Ana's downtown to the Civic Center complex and then northwest across the Santa Ana River to Garden Grove and Harbor Boulevard. The estimated cost of the project is \$70 million per mile of double track. This includes all utility work, light rail cars, stops and signage and a maintenance facility. Figure 1 provides a graphic representation of the system.



Figure 1: OC Streetcar Project Alignment. Courtesy of OCTA.

Excerpts from the Santa Ana to Garden Grove Fixed Guideway Project presentation to the OCTA Transit Committee featured the following supportive talking points:

- Santa Ana and Garden Grove both:
 - Have large transit dependent populations;
 - Require transit connection from the SARTC to job and government centers; and
 - Support establishment of a Garden Grove Transit Hub to link OC Streetcar with the Harbor Boulevard commercial and hotel corridor.
- Immediate project benefits include:
 - When completed, a reduction of traffic congestion on city streets and freeways;
 - Service to key destinations in Santa Ana and central Orange County; and
 - A commuting option, improved air quality and some reduction in automobile dependency.
- Santa Ana and Garden Grove’s commitments to the project are:
 - Financial participation in streetcar operations via Memoranda of Understanding with OCTA;
 - Staff and consultant support during planning; and
 - Provision of experienced leadership.

Santa Ana views the OC Streetcar System as a means to upgrade its downtown image, as well as a way to increase property values and local business. It focuses on increasing Metrolink ridership for the many people who work in the Civic Center complex by offering them an alternative to finding parking. The Civic Center Complex encompasses the Federal Courthouse, Homeland Security Offices, County Government Offices, the Superior Court, the Sheriff/Coroner’s Offices,

the Central Jail complex and Santa Ana city government offices, in addition to the restaurants and businesses that provide services to these agencies.

Garden Grove views the OC Streetcar System as a way to increase use of hotels and parks associated with Harbor Boulevard, as well as a means to increase property values and spur new development around the planned Transit Center at Harbor Boulevard. As Garden Grove's major tax revenues are directly affected by tourist use of hotels and amusement parks, any means for increasing this revenue is important.

Both cities are actively seeking long term benefit for their public image, recognizing that completion of the OC Streetcar Project in 2020 will provide a first success model for the rest of Orange County.

In 2014, based on the OC Streetcar project efforts of the cities of Santa Ana and Garden Grove, the OCTA Board of Directors approved OCTA to serve as the implementer and owner/operator for the OC Streetcar Project. OCTA's assigned responsibilities for the OC Streetcar Project are:

- To serve as the grantee for the Federal New Starts Program;
- To serve as the lead agency for continuing project development, engineering and construction;
- To own, operate, and maintain the system;
- To procure all services necessary to implement the project; and
- To provide annual operating subsidies net of fare box, city contribution and other revenues (OCTA Board Actions 1).

In May 2015, the FTA approved OCTA's entrance into Federal New Starts Program to continue funding and development of this project. By June 2015 an initial Cost, Risk Assessment, and Value Engineering (CRAVE) study for OC Streetcar Project was completed and in July 2015 the FTA assigned a project management oversight consultant to the project. The OC Streetcar Project is now entering its New Starts Engineering Phase (*OC Streetcar*).

Project completion, testing and operations are expected by early 2020 and all stakeholders are looking forward to a first for Orange County.

The City of Anaheim and the Anaheim Rapid Connection (ARC) Project

In 2006, Anaheim also took advantage of OCTA's "Go Local" program to establish and publish a Transit Master Plan. Then in 2011, Anaheim entered into a number of Cooperative Agreements with OCTA to advance the project. In 2014, OCTA approved Anaheim's selection of fixed guideway light rail as the locally preferred alternative for augmenting transit extensions for Metrolink.

The initial Alternative Analysis completed in 2014 showed little or no impact from the proposed project alignment. However, in 2015, the Anaheim city council directed staff to study an additional alignment to minimize any need to acquire private property for right of way access. Figure 2 provides a graphic of the new alignment.

As a result, a second environmental impact study was commissioned and is expected to be completed late 2016. This study is partially funded through the Anaheim Tourism Improvement District (ATID), a public/private entity created by an Anaheim city ordinance that collects a tax on hotel use to be used to promote tourism transportation. ATID has paid \$1.3 million toward the second environmental study.

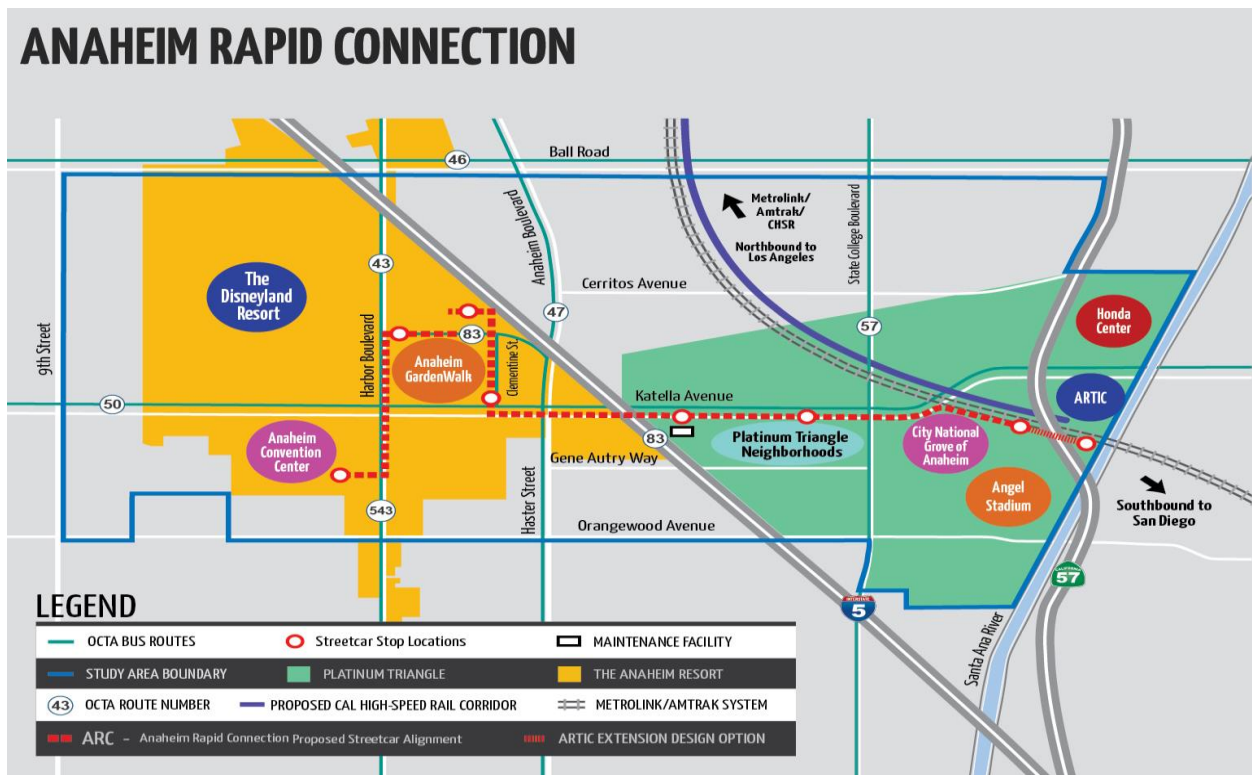


Figure 2: ARC Alignment. Courtesy of City of Anaheim

The ARC, as now proposed, is a 3.1 mile double track system that runs from the Anaheim Regional Transportation Intermodal Center (ARTIC) next to Angel Stadium, along Katella Avenue through the Platinum Triangle to Clementine Street. It will turn west to Harbor Boulevard and then south to Convention Way. The project will connect to a multi-use station at the intersection of Clementine Street and Disney Way which will be constructed by Disneyland. This light rail system will serve the Anaheim Convention Center as well as the hotels and services attendant to the Anaheim convention center and Disneyland.

The estimated cost of the ARC project is \$100 million per mile of double track which includes utilities, streetcars, stops, signage and a maintenance facility. While this is more than the \$70 million per mile estimated for the OC Streetcar Project, Anaheim has elected to tailor its proposed project so that it has station/stop upgrades that match ongoing city improvements. It also plans to buy additional light rail cars.

The Anaheim Visitors Bureau is very supportive of the ARC and views it as another transportation option for the city. In addition, the Visitors Bureau is closely aligned with the Anaheim Resort Transportation (ART), a private non-profit bus system run by Anaheim's hoteliers. The ART was created because it made more sense to have a shared bus system linking Anaheim's resorts and hotels than each hotel having its own shuttle buses. When the ARC project is completed, ART plans to reconfigure routes and service to take advantage of the ARC's routes and stations. This model has shown itself to be effective in San Diego and addresses some objections about light rail not being accessible to the public because it runs on a fixed route.

In addition to the creation of the new Star Wars venue at Disneyland, which is expected to bring significant new tourism, Anaheim is projecting major business and residential growth by 2021. Zoning for the Platinum Triangle allows for 18,988 residential units, 14.1 million sq. ft. of office space and 4.8 million sq. ft. of retail space. The Platinum Triangle includes Angel Stadium, the Honda Center and the Grove of Anaheim (*Initial Study 7-8*). According to the *Orange County Register's* November 19, 2015 Anaheim Bulletin, scheduled hotel and resort construction in Anaheim should create an additional 1,555 rooms by the end of 2016 and another 2,129 by 2021. On a somewhat longer horizon, Anaheim projects another 3.4 to 10 million sq. ft. of office and retail space requirements, 65% within 1/8 mile of projected light rail stops.

This forecasted development shows Anaheim becoming even more of a center for tourism and business, as well as a more exciting place to live.

Anaheim views the ARC project as primarily focused on providing enhanced mobility for the public. It also acknowledges that use of light rail systems can create economic development and welcomes that concept. A key phrase is that the proposed light rail system will encourage "walkability," the ability for workers and tourists to move around Anaheim's urban core, from home to stores, work and entertainment, without having to use a car.

Funding for the ARC Project will most likely be provided by California Cap and Trade, Orange County M2-S Sales Tax, the Department of Transportation New Starts Program and Federal Congestion Mitigation and Air Quality Improvement grants; however, these entities have not yet allocated the money.

Anaheim's resort industry currently does not completely satisfy the Federal Transit Authority's more traditional industry-based ridership model which assumes commuters are going to manufacturing, production or commercial jobs, rather than those that work in equally important services and entertainment jobs that primarily cater to the tourist industry. Because of this issue some OCTA Board members are concerned that the ARC will not qualify for the New Starts Program. To counter this concern, the Anaheim city staff is working closely with the FTA to define a ridership model that recognizes Anaheim service and resort worker commutes as well as resort guest mobility and large event transit needs.

Anaheim expects to be successful in this joint effort but recognizes this will require patience and a long-term commitment. The Grand Jury considers Anaheim to be "on the right track."

The City of Fullerton's Efforts to Study Use of Light Rail

While Fullerton has studied the potential for light rail as a transit option, the City Council has not yet given direction to pursue a specific project.

Fullerton has long been a railroad town and continues to see rail as most important to its future. Fullerton hosts a number of heavy rail and commuter rail providers. Along with Amtrak's Pacific Surf liner and Southwest Chief lines between San Diego and Los Angeles, there are seven miles of Metrolink rail joining the Metrolink 91 Line from Riverside and the Orange County Line, then proceeding into the heart of Los Angeles.

In addition to the above, there exists an unused Union Pacific ROW that could become a light rail extension with the purchase of an additional 2.5 miles of ROW. Fullerton is also interested in the long term potential for a light rail link with the Los Angeles Metro System and in 2010 sent a Letter of Support concerning this to the City of Whittier.

Fullerton's Metrolink Transportation Center, although small in size, leads all other Orange County Metrolink stations in ridership. By 2020, an anticipated 4,000 Metrolink riders per day are expected to use this transportation center. Reasons include ease of access and parking, as well as an interesting downtown with entertainment and restaurants. A large component of this ridership is passengers who commute the approximately 30 minutes from Orange County to Los Angeles and back each day.

The California High Speed Rail Authority (CHSRA) has identified the Fullerton Transportation Center for a possible skip-stop service on the Los Angeles to Anaheim portion of the high speed rail project. Skip-stop service reduces rail travel times and increases rail line capacity by allowing one train to wait on a parallel rail line while a faster train passes through.

The key to Fullerton's ability to use light rail rests with the two rush periods experienced by Metrolink each weekday, from 6 AM to 8 AM each morning and then from 4 PM to 6 PM each evening. By providing transit extension capability that does not necessarily require the use of automobiles, Fullerton seeks to open its historic downtown and schools to transit riders throughout Orange County, and sees this as a way to capitalize on what is an expanding population of transit riders.

The City wants to encourage commuters to use its historic downtown for dinner and entertainment after their work day and would like to see California State University at Fullerton (CSUF) students use Metrolink and a transit link to get to class, instead of using limited college parking. Finally, Fullerton is host to approximately 300 contract manufacturers that enjoy easy access to Los Angeles for business development.

In 2008, Fullerton participated in the OCTA "Go Local" program to study various ways to increase Metrolink ridership. At that time, the idea of a link connecting the Metrolink Transit Center with the Fullerton college complex was developed. Then in 2013, using money from SCAG, channeled through OCTA, Fullerton commissioned a College Connector Study to examine connecting its Metrolink Transit Center to CSUF and the college complex in the Eastern part of town. CSUF continues to be fully engaged in this process.

In February, 2014 the Fullerton city staff presented the College Connector Study to the Fullerton city council. The Council authorized submission of the study to OCTA as an "unconstrained" project involving light rail as one option and directed staff to move ahead with planning (Van Stratten 1).

The proposed transit alignment would be approximately four miles running from the Transit Center at 120 E. Santa Fe Avenue, through Fullerton's downtown area to the CSUF complex. While Fullerton has not made a final alignment selection, a route that generally follows both Commonwealth Avenue and Chapman Avenue in a loop makes sense.

Finally, Fullerton is looking for ways to capitalize on possible future growth along the Harbor Boulevard corridor and to attract residents and businesses interested in living in Orange County, and commuting to Los Angeles.

The Fullerton city council will need to make a number of policy decisions in order to become fully engaged with OCTA and Department of Transportation processes. These will most likely include:

- Full endorsement of light rail as a policy matter;

- Policies that encompass CSUF as well as the other colleges on the eastern side of Fullerton;
- Completion of a transportation plan and feasibility study;
- Completion of an environmental plan; and
- A commitment to provide financial support to help make all the above occur.

The Grand Jury supports Fullerton’s efforts and notes that OCTA has earmarked approximately \$3.5 million to help the city advance transit options once the city council has provided policy direction.

COMMENDATIONS

The Grand Jury would like to commend the employees of OCTA and the cities interviewed in the course of this investigation for their hard work and dedication to advancing light rail and other transit options in Orange County. Each seeks to promote the public good and economic growth in their communities and within Orange County based on their understanding of the benefits of various public transportation options. The Grand Jury also commends each for recognizing the need for a longer term County Transportation Master Plan that could help create an intra-county network of light rail and other transit options, as well as additional rail links with Los Angeles County.

FINDINGS

In accordance with *California Penal Code* Sections 933 and 933.05, the 2015-2016 Grand Jury requires responses from each agency affected by the findings presented in this section. The responses are to be submitted to the Presiding Judge of the Superior Court.

Based on its investigation titled “Light Rail: Is Orange County on the Right Track?” the 2015-2016 Orange County Grand Jury has arrived at five principal findings, as follows:

F.1. The lack of development of second-generation light rail in Orange County can be closely linked to the reality of different transit priorities for the thirty-four diverse cities in the county.

F.2. Orange County would benefit from the examples of Los Angeles and San Diego Counties with their history of promoting centrally organized and run light rail systems. As a result, these counties were well-positioned to plan for and develop second generation light rail systems expansion in the 1980’s.

F.3. Approval of OCTA as implementer and owner/operator of the OC Streetcar Project, and as subsequent grantee for the Federal New Starts Program, has created the basis for enabling further light rail development in Orange County to include public outreach and marketing/promotion efforts.

F.4. Creation by OCTA of a draft light rail Master Plan for Orange County that includes both intra and inter county transit connectivity options would be of considerable value to the public.

F.5. The long project times associated with light rail system establishment require not only careful planning and coordination by OCTA, but also consistent efforts to inform the public by those Orange County cities involved in development or possible development of light rail projects.

RECOMMENDATIONS

In accordance with *California Penal Code* Sections 933 and 933.05, the 2015-2016 Grand Jury requires responses from each agency affected by the recommendations presented in this section. The responses are to be submitted to the Presiding Judge of the Superior Court.

Based on its investigation titled “Light Rail: Is Orange County on the Right Track?” the 2015-2016 Orange County Grand Jury makes the following eight recommendations:

R.1. OCTA should initiate another “Go Local” effort in FY 16/17 encouraging more Orange County cities to advocate for light rail or other transit connections to assist Metrolink ridership. (F.1., F.3.)

R.2. OCTA should organize and lead focus groups during FY 16/17 to gauge public reaction to transportation options for Orange County that will be affected by the changes in working and population centers forecast for the next 20 years. (F.1., F.3.)

R.3. OCTA should use multi-lingual (English, Spanish, Korean and Vietnamese) Web and printed marketing materials to highlight Metrolink Transportation Center and light rail connectivity efforts in Orange County. (F.1., F.3.)

R.4. OCTA should create a draft phased light rail Master Plan during FY 16/17 that links the County’s high density urban areas and connects with Metrolink and Los Angeles County’s Metro light rail system. (F.4.)

R.5. OCTA should publish this Master Plan on its Website once it is created and provide a Website progress update every six months. (F.4.)

R.6. Santa Ana and Garden Grove should create links on their Websites within six months of receipt of this report that show their efforts to complete the OC Streetcar Project and then update these Websites every three months. (F.5.)

R.7. Anaheim should maintain its link on the city's Website that shows efforts to successfully complete the ARC project and then update that Website every three months. (F.5.)

R.8. Fullerton should create a link on the city's Website that describes the Fullerton City Council's policy decision process concerning the best transit option to support the College Connector Plan, and then update this Website every three months. (F.5.)

REQUIRED RESPONSES

The California Penal Code Section 933 requires the governing body of any public agency which the Grand Jury has reviewed, and about which it has issued a final report, to comment to the Presiding Judge of the Superior Court on the findings and recommendations pertaining to matters under the control of the governing body. Such comment shall be made *no later than 90 days* after the Grand Jury publishes its report (filed with the Clerk of the Court). Additionally, in the case of a report containing findings and recommendations pertaining to a department or agency headed by an elected County official (e.g. District Attorney, Sheriff, etc.), such elected County Official shall comment on the findings and recommendation pertaining to the matters under that elected official's *within 60 days* to the Presiding Judge with an information copy sent to the Board of Supervisors.

Furthermore, California Penal Code Section 933.05, subdivisions (a), (b), and (c), detail, as follows, the manner in which such comment(s) are to be made:

(a) As to each Grand Jury finding, the responding person or entity shall indicate one of the following:

(1) The respondent agrees with the finding

(2) The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefore.

(b) As to each Grand Jury recommendation, the responding person or entity shall report one of the following actions:

(1) The recommendation has been implemented, with a summary regarding the implemented action.

(2) The recommendation has not yet been implemented, but will be implemented in the future, with a time frame for implementation.

(3) The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a time frame for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This time frame shall not exceed six months from the date of publication of the Grand Jury report.

(4) The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefore.

(c) If a finding or recommendation of the Grand Jury addresses budgetary or personnel matters of a county agency or department headed by an elected officer, both the agency or department head and the Board of Supervisors shall respond if requested by the Grand Jury, but the response of the Board of Supervisors shall address only those budgetary/or personnel matters over which it has some decision making authority. The response of the elected official or department head shall address all aspects of the findings or recommendations affecting his or her agency or department.

Comments to the Presiding Judge of the Superior Court in compliance with Penal Code Section 933.05 are required from:

Responses Required:

Responses are required from the following governing bodies with 90 days of the date of publication of this report:

90 Day Required Responses:	F1	F2	F3	F4	F5
Board of Directors, OCTA:	X	X	X	X	X
City Council, City of Santa Ana:					X
City Council, City of Garden Grove:					X
City Council, City of Anaheim:					X
City Council, City of Fullerton:					X

90 Day Required Responses:	R1	R2	R3	R4	R5	R6	R7	R8
Board of Directors, OCTA:	X	X	X	X	X			
City Council, City of Santa Ana:						X		
City Council, City of Garden Grove:						X		
City Council, City of Anaheim:							X	
City Council, City of Fullerton:								X

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APPENDICES

Appendix A: Glossary

Anaheim Regional Transportation Intermodal Center (ARTIC)

The Metrolink Commuter rail station and transportation hub located at East Katella Avenue in Anaheim, CA. The ARTIC may become a terminal for the ARC Light Rail project being considered by the city of Anaheim that could eventually link the ARTIC with Anaheim's Platinum Triangle, Convention Center and Cultural Center.

Anaheim Tourism Improvement District (ATID)

On Sept. 4, 2010 the Anaheim City Council established the Anaheim Tourism Improvement District (ATID). This Special District is specifically designed to help fund promotion of local tourism and convention related programs, as well as transportation improvements helping to connect the ARTIC with the Anaheim Resort and Platinum Triangle. The ATID resolution sets aside 25% of its annual funding for planning, design, construction and operation of transit improvements. About \$3 million is generated annually that can be used to support ARC. In 2015 \$1.3 million was provided to help fund a second Environmental Impact Study required for Anaheim to meet Federal New Starts Program requirements.

Federal New Starts Program as defined by US DOT/FTA

Authorized by the Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted (by Congress) on July 6, 2012, this law...authorizes (a)...Capital Investment Grant Program (under the U.S. Department of Transportation, Federal Transit Administration)...which)...specifies ...New Starts projects must be fixed guideway projects or extensions to existing fixed guideway systems (and therefore)...can include...streetcars (Final Interim Policy Guidance 1-2).

High Density, Urban Core Cities

Defined as Urban Cities with a per square mile population of 7,500 or more people.

OC Streetcar as defined by OCTA

...the first modern streetcar project to be built in Orange County (to) serve Santa Ana's historic and thriving downtown...Expected to begin carrying passengers in late 2020; it will operate along a 4.15 mile route that connects the Santa Ana Regional Transportation Center (SARTC) and a new transit hub at Harbor Boulevard and Westminster Avenue in Garden Grove (OC Streetcar 1-3).

Santa Ana Regional Transportation Center (SARTC)

The Metrolink Commuter Rail station and transportation hub located at 1000 E. Santa Ana Blvd. in Santa Ana, CA. The SARTC is currently operated by the City of Santa Ana and will become one of the transit terminals for the OC Streetcar project.

Southern California Association of Governments (SCAG)

SCAG was established in 1965 as a California Joint Powers Authority. As an association of local governments and agencies, SCAG meets voluntarily to address regional issues for Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties. SCAG is designated under federal law as a Metropolitan Planning Organization and under California state law as a Regional Transportation Planning Agency and a Council of Governments. The agency provides long-range regional transportation planning that includes consideration for community strategy and growth, as well as regional housing requirements and air quality management.

Appendix B: Transit Options, Metrics Analysis by Selected City

Grand Jury Analysis of Preferred Transit Extension Option for Santa Ana and Garden Grove: (Metrics: Transit rider attractors, funding sources and current project status.)		
	<u>Santa Ana (OC Streetcar)</u>	<u>Garden Grove (OC Streetcar)</u>
<u>Transit Rider Attractors</u>	<u>Transit Rider Attractors</u>	<u>Transit Rider Attractors</u>
Manufacturing:	Yes	Yes(Largely Contract)
Sports Venues:	Yes (School)	Yes (School)
Metrolink Corridor/Amtrak Line:	Yes	Via Santa Ana
Convention Center:	No	No
City Government Center:	Yes	Yes
County Government Center:	Yes	No
US Government Center:	Yes	No
General Corporate Interest:	Yes	Yes
Destination Hotels	Yes	Yes
Destination Restaurants/Bars:	Yes	Yes
Regional Shopping Malls:	Yes	No
Cathedral:	No	Yes
Schools and Universities:	Yes	Yes
<u>Funding Sources:</u>	<u>Funding Sources:</u>	<u>Funding Sources:</u>
Initial SCAG or OCTA Go Local Support:	Yes, via Go Local Program	Yes
Special District Financial Support:	No	No
CA Cap & Trade:	\$40.00M	Yes
Orange County M2S Sales Tax:	\$55.92M	Yes
Dep. Of Trans. New Start Program:	\$144.37M Program Total	Yes
Proposed President's Budget:	\$125M for FY2017	Yes
Fed.Congestion Mitigation & Air Qual. Improv:	\$48.45M	Yes
<u>Current Project Status:</u>	<u>Current Project Status:</u>	<u>Current Project Status:</u>
Project Size in Miles:	4.1 miles of double track	Yes
Feasibility and Environmental Studies Published:	Completed	Completed
State and Local Funding Identified:	Completed	Completed
DOT approval to enter New Starts Program:	Completed	Completed
RFP release for Streetcar design:	Completed	Completed
CRAVE study publication:	Completed	Completed
DOT Project Mgmt. Consultant assigned:	Completed	Completed
Project Final Design/Engineering:	2015-2017	2015-2017
Project Construction:	2017-2020	2017-2020
Project Completion/Operations Begin:	2020	2020

Light Rail: Is Orange County on the Right Track?

**Grand Jury Analysis of Preferred Transit Extension Option for Santa Ana and Garden Grove:
(Metrics: General Information, relationship with OCTA, advocates & opponents and economic goals.)**

	<u>Santa Ana (OC Streetcar)</u>	<u>Garden Grove (OC Streetcar)</u>
<u>General Information:</u>	<u>General Information:</u>	<u>General Information:</u>
Meets M2S Criteria for Metrolink Transit Feed:	Yes	Via Santa Ana
Regional Transportation Center Linkage:	SARTC (AMTRAK/Metrolink)	Via Santa Ana
Current Project Investment by City:	\$6.976M	Linked to Santa Ana Effort
Est. cost per mile double track:	\$70M	\$70M
Increases mobility and flexibility of Labor Pool:	North County Regional Impact	North County Regional Impact
<u>Relationship with OCTA:</u>	<u>Relationship with OCTA:</u>	<u>Relationship with OCTA:</u>
Initial OCTA funded for "Go Local" Program:	Go Local Grant for Transit Study	Via Santa Ana
Initial Cooperative Agreement with OCTA:	C-6-0692 dtd. Mar. 21, 2007 as Amended	Re: Santa Ana Table
OCTA Board approves Proj. Mgmt & Ownership:	Aug. 11, 2014	Aug. 11, 2014
Add. Coop. Agreements with OCTA:	C-8-1157 dtd. Sep. 9, 2008 as Amended	Re: Santa Ana Table
Add. Coop. Agreements with OCTA:	N/A	Re: Santa Ana Table
MOU w/OCTA for Proj. Compl. & Ops. Funding:	MOU C-5-3295 Eff. 8/31/2015	MOU C-5-3418 Eff. 9/22/2015
<u>Advocates:</u>	<u>Advocates:</u>	<u>Advocates:</u>
Mayor:	Yes	Yes
City Council:	Unanimous	Unanimous
OCTA Board of Directors:	Majority	Majority
Light Rail knowledgeable City Staff:	Very	Very
Theme Parks & Sports Venues:	Yes (via Garden Grove)	Yes
Destination and Business Hotels:	Yes	Yes
Newspaper/OpEd/Blog:	Light rail project needs support	Light rail project needs support
Other Advocates:	Not identified	LaTerra Develop. LLC Invest.@ Harbor Blvd
<u>Opponents:</u>	<u>Opponents:</u>	<u>Opponents:</u>
Newspaper/OpEd/Blog:	Articles: "Buses more cost effective"	Articles: "Buses more cost effective"
Individuals:	Interview: Some downtown Business Owners	None Identified
<u>Economic Goals:</u>	<u>Economic Goals:</u>	<u>Economic Goals:</u>
Although these economic goals may not be all inclusive, based upon the Return on Investment expectations from Report interviews, they represent a reasonable order of priority.	To increase the Business & Tax Base.	To increase Tourist Trade & Tax Base.
	To increase ROW Adjacent Prop. Values.	To contribute to a Balanced City Budget.
	To enable a more upscale Downtown Image.	To increase ROW Adjacent Property Values.
	To attract New Business.	To attract New Business.
	To increase Transit use via Garden Grove.	A possible Harbor Blvd. N. Rail Extension.

Light Rail: Is Orange County on the Right Track?

Grand Jury Analysis of Preferred Transit Extension Options for Anaheim and Fullerton: (Metrics: Transit rider attractors, funding sources and current project status.)		
	<u>Anaheim (Anaheim Rapid Connection)</u>	<u>Fullerton (No Policy Decision)</u>
Transit Rider Attractors	Transit Rider Attractors	Transit Rider Attractors
Major and Light Manufacturing:	Yes(Largely Contract)	Yes(Largely Contract)
Sports Venues:	Yes	Yes
Metrolink Corridor/Amtrak Line:	Yes	Yes (Two Metrolink Corridors)
Convention Center:	Yes	No
City Government Center:	Yes	Yes
County Government Center:	No	No
US Government Center:	No	No
General Corporate Interest:	Yes	Yes
Destination Hotels	Yes	Yes
Destination Restaurants/Bars:	Yes	Yes
Regional Shopping Malls:	Yes	No
Cathedral:	No	No
Schools and Universities:	Yes	Yes
Funding Sources:	Funding Sources:	Funding Sources:
Initial SCAG or OCTA Go Local Support:	Yes, via Go Local Program	Yes, SCAG \$ for College Connector Study
Special District Financial Support:	ATID (\$1.3M for Environ. Study)	No
CA Cap & Trade:	Pending Fed New Starts Process Approval	TBD
Orange County M2S Sales Tax:	Pending Fed New Starts Process Approval	TBD
Dep. Of Trans. New Start Program:	Pending Fed New Starts Process Approval	TBD
No	No	\$3.5M via OCTA Pending
Fed.Congestion Mitigation & Air Qual. Improv:	Pending Fed New Starts Process Approval	TBD
Current Project Status:	Current Project Status:	Current Project Status:
Project Size in Miles:	3.1 miles of double track	Approx. 4 miles of transit connection
Feasibility and Environmental Studies Published:	Environmental Study #2 in Process	Pending Policy Decision
State and Local Funding Identified:	Pending	Pending Policy Decision
DOT approval to enter New Starts Program:	Pending	Pending Policy Decision
RFP release for Streetcar design:	Pending	Pending Policy Decision
CRAVE study publication:	Pending	Pending Policy Decision
DOT Project Mgmt. Consultant assigned:	Completed	Pending Policy Decision
Project Final Design/Engineering:	TBD	Pending Policy Decision
Project Construction:	TBD	Pending Policy Decision
Project Completion/Operations Begin:	TBD	Pending Policy Decision

Light Rail: Is Orange County on the Right Track?

**Grand Jury Analysis of Preferred Transit Extension Options for Anaheim and Fullerton:
(Metrics: General Information, relationship with OCTA, advocates & opponenents and economic goals.)**

	<u>Anaheim (Anaheim Rapid Connection)</u>	<u>Fullerton (No Policy Decision)</u>
<u>General Information:</u>	<u>General Information:</u>	<u>General Information:</u>
Meets M2S Criteria for Metrolink Transit Feed:	Yes	Yes
Regional Transportation Center Linkage:	ARTIC (AMTRAK/Metrolink)	AMTRAK/Metrolink (2 Corridors)
Current Project Investment by City:	\$3,603M	Not Yet
Est. cost per mile double track:	\$100M	Estimate: \$70M if light rail used
Increases mobility and flexibility of Labor Pool:	North County Regional Impact	North County Regional Impact
<u>Relationship with OCTA:</u>	<u>Relationship with OCTA:</u>	<u>Relationship with OCTA:</u>
Initial OCTA funded for "Go Local" Program:	Go Local Grant for Transit Master Plan Study	SCAG Grant for College Connector Study
Initial Cooperative Agreement with OCTA:	C-8-1156 dtd. 9/16/2015 as Amended	Not Yet
OCTA Board approves Proj. Mgmt & Ownership:	OCTA approves 6/24/14 Light Rail selection	Not Yet
Add. Coop. Agreements with OCTA:	C-1-2448 dtd. 3/14/2011 as Amended	Not Yet
Add. Coop. Agreements with OCTA:	C-1-3115 dtd. 1/4/2012 as Amended	Not Yet
MOU w/OCTA for Proj. Compl. & Ops. Funding:	Pending	Not Yet
<u>Advocates:</u>	<u>Advocates:</u>	<u>Advocates:</u>
Mayor	No	Pending Policy Decision
City Council	Oct. 2012 By Majority Vote	Majority
Majority	Majority OCTA Board	Early OCTA Support for Study
Light Rail knowledgeable City Staff	Very	Yes
Theme Parks & Sports Venues	Yes	Connections to other Cities
Destination and Business Hotels	Yes	Yes but local
Newspaper/OpEd/Blog:	Light rail project needs support	Light rail is a good solution
Other Advocates:	ATID (\$1.3M for Eviron. Study)	\$3.5M via OCTA Pending
<u>Opponents:</u>	<u>Opponents:</u>	<u>Opponents:</u>
Newspaper/OpEd/Blog:	Articles: "Buses more cost effective"	Some Community Opposition
Individuals:	Interview: Some Community Opposition	Interview: Some Community Opposition
<u>Economic Goals:</u>	<u>Economic Goals:</u>	<u>Economic Goals:</u>
Although these economic goals may not be all inclusive, based upon the Return on Investment expectations from Report Investigation, they represent a reasonable order of priority for each city.	To increase Tourist Trade & Tax Base. To increase ROW Adjacent Property Values. To inhance downtown image. To supt. Business & Urban Development. To increase Transit Use via ARTIC.	To promote College connectivity. To increase Transit Use to Los Angeles. To increase Tourist Trade & Tax Base. To increase Downtown Business Developm't. To supt. Business Development.

Appendix C: Continuity References

Entity Responding	Title	Mail Stop	Street Address	City	Postal Code	Phone Number
OCTA	CEO	PO Box 14184	550 South Main St.	Orange	928623-1584	714.560.6282
Santa Ana	City Manager	N/A	20 Civic Center Plaza	Santa Ana	92702	714.647.5400
Garden Grove	City Manager	N/A	11222 Acacia Parkway	Garden Grove	92840	714.741.5000
Anaheim	City Manager	N/A	200 S. Anaheim Blvd.	Anaheim	92805	714.765.4311
Fullerton	City Manager	N/A	3003 W. Commonwealth Ave.	Fullerton	92832	714.738.6300



ORANGE COUNTY TRANSPORTATION AUTHORITY

**Proposed Response to Orange County Grand Jury Report
on the Orange County Transportation Authority's OC
Streetcar Project**

Attachment B

Proposed Response to May 9, 2016, Grand Jury Report

~~June 13~~August 8, 2016

Honorable Charles Margines
Presiding Judge of the Superior Court
700 Civic Center Drive West
Santa Ana, CA 92701

Dear Judge Margines:

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OCTA takes very seriously its responsibility to Orange County taxpayers to develop and deliver transportation solutions that enhance the quality of life and keep Orange County moving. Similarly, we appreciate the Orange County Grand Jury's responsibilities that include the examination of all aspects of county government, including special districts, to ensure the county is being governed honestly and efficiently, and public funds are being handled appropriately. OCTA believes that any thoughtful review of how to handle the public's business can only provide for better outcomes.

While a rail transit project such as the OC Streetcar has been discussed for many years in Orange County, in the past few years progress has been made in working with local agencies and stakeholders to advance this project. The Grand Jury report was very thorough and highlights the difficulties faced by OCTA in implementing the project, as well as the need to stay "on the right track." Many ~~All~~ of the report's recommendations on the OC Streetcar Project have or will be addressed over time through planned improvements as outlined in the enclosed response.

Throughout the Grand Jury's report as well as within the Grand Jury's Findings and Recommendation, there is reference to "Light Rail" as a system in Orange -County. Light Rail is also used at times to describe the OC Streetcar project which is not correct. As pointed out several times during discussions with the Grand Jury, there are differences between a streetcar and light rail. One major difference is that a light rail system is typically located on separate rights-of-way where streetcars typically occupy travel lanes in local streets and run with local traffic.

Additionally, the Board has not taken a position on the expansion of the OC Streetcar project beyond what has been defined today within the cities of Santa Ana and Garden Grove. Additionally, the Board has not approved any expansion of the approved OC Streetcar project. A countywide Transit Master Plan study is under way that will look at bus, rail, and other demand responsive transit modes that could serve areas of Orange County in the future. A countywide bus, rail, and demand responsive transit vision may emerge from that effort, contingent on Board review and direction in 2017. It is also important to note that OCTA must work in cooperation with local agencies for any dedicated transit facilities on local streets.

Thank you again for the opportunity to respond to this report. If you have any questions, please feel free to contact me at (714) 560-5343.

Sincerely,

Darrell Johnson
Chief Executive Officer

DJ:ds
Enclosure

Orange County Transportation Authority (OCTA)

**Responses to Findings and Recommendations to the
May 9, 2016 report issued by the Orange County Grand Jury**

“Light Rail: Is Orange County on the Right Track?”

FINDINGS

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OCTA ~~agrees~~ partially disagrees with this finding. OCTA acknowledges that Local|local control is closely held and protected by local jurisdictions throughout Orange County. Successful capital projects generally enjoy the strong support of the communities they are built in. However, the reference to light rail is confusing as the OC Streetcar is not light rail nor are there further plans or funding identified beyond the approved Santa Ana-Garden Grove OC Streetcar project.

Finding 2 -- Orange County would benefit from the examples of Los Angeles and San Diego Counties with their history of promoting centrally organized and run light rail systems. As a result, these counties were well-positioned to plan for and develop second generation light rail systems expansion in the 1980's.

OCTA agrees with this finding. Although there are differences between light rail and street car systems, there are many lessons to be learned from the successful construction and operation of light rail in Los Angeles and San Diego counties. Both systems are thought of as having a positive impact on the communities they serve. The same can be said of other systems throughout the United States. OCTA has developed positive working relationships with these peer agencies who have implemented successful streetcar projects for lessons learned and best practices that will be of benefit to the development of the OC Streetcar Project.

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New Starts Program, has created the basis for enabling further light rail development in Orange County to include public outreach and marketing/promotion efforts.

OCTA agrees with this finding. OCTA has a well-respected, long-standing reputation within the United States Department of Transportation as having demonstrated the capacity to successfully manage and deliver capital projects on schedule and under budget. Based upon this experience, in August 2014, the OCTA Board of Directors (Board) assumed lead agency for implementation of the OC Streetcar Project.

Through the OCTA Board, OCTA has and will continue to lead this effort working in concert with local agencies and other stakeholders. At every stage of this effort, the public has been engaged and that practice will continue.

Finding 4 -- Creation by OCTA of a draft light rail Master Plan for Orange County that includes both intra- and inter-county transit connectivity options would be of considerable value to the public.

OCTA ~~agrees~~ partially disagrees with this finding. OCTA recognizes that a countywide transit plan is imperative. Orange County's current plan relies on the Metrolink commuter rail system as the primary backbone transit connector between Los Angeles and Orange Counties, augmented by express bus and vanpool services that meet longer-distance travel needs. In May of 2016, the Board approved a study effort called the Transit Master Plan that will take a high-level look at long term transit needs throughout Orange County as well as important connections to transit investments by other transit agencies. This plan will identify a series of corridors suitable for additional transit investment. Potential future considerations could range from bus rapid transit, the integration of Transportation Network Companies, to rail transit alternatives. This A-planned countywide Transit Master Plan will allow OCTA to update its long-term vision for intra- and inter-county transit service.

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OCTA agrees with this finding. Large capital projects can take years to develop. Successful projects and programs that provide a public service must include public input in all phases of project delivery. OCTA has already launched a public awareness campaign for the OC Streetcar aimed at engaging and involving the public as the project progresses. These efforts include city involvement.

RECOMMENDATIONS

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This recommendation has not been implemented. Measure M’s Project’s V (Community Based Transit/Circulators) and S (Transit Extensions to Metrolink) offer opportunities for local agencies to engage in transit projects and programs. ~~Currently, OCTA is reviewing Project V grant applications submitted by local agencies. In June 2016,~~ The OCTA Board approved a slate of 17 projects (valued at \$26.7 million) submitted by local agencies ~~consideration of a slate of recommended projects is expected in June 2016,~~ with implementation of projects beginning in fiscal year (FY) 2016-17. -The OC Streetcar project is partially funded with Project S funds. ~~In addition, p~~ending completion of the Harbor Corridor Transit Study and the countywide Transit Master Plan, OCTA ~~may~~will consider additional “Go Local” funding opportunities in the future. In terms of timing, the Transit Master Plan is an 18-month effort so any further consideration of this matter is not expected until early 2018.

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This recommendation will be implemented. OCTA will be conducting focus groups in August 2016 and will use them to gauge public opinion on future transportation options.

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This recommendation has been implemented. OCTA uses multi-lingual marketing materials to support projects and programs. The languages currently used are English, Spanish, and Vietnamese. Demographic studies OCTA relied upon did not find a large enough number of Koreans in the region to justify the cost of translation; however, if we identified an area where translation to the Korean language would make sense, we would do so.

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In terms of funding for projects such as these, it is important to note that future projects that may be included in the constrained plan (funded portion) of OCTA's Long Range Transportation Plan must include viable funding sources. At this time there are no funds identified for an expansion of the OC Streetcar or other rail transit projects.

Recommendation 5 -- OCTA should publish this Master Plan on its Website once it is created and provide a Website progress update every six months. (F.4.).

This recommendation will be implemented. Upon OCTA Board approvals related to the Orange County Transit Master Plan, OCTA will develop an overall study schedule that will include public awareness efforts, including website content. Content on OCTA's website is ideally updated to reflect current status of projects on an ongoing basis.

Recommendation 6 -- Santa Ana and Garden Grove should create links on their Websites within six months of receipt of this report that show their efforts to complete the OC Streetcar Project and then update these Websites every three months. (F.5.)

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OCTA's practice to collaborate with cities on projects of mutual interest to maximize public awareness.

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ORANGE COUNTY TRANSPORTATION AUTHORITY

**Proposed Response to Orange County Grand Jury Report
on the Orange County Transportation Authority's OC
Streetcar Project**

Attachment B - Revised

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ORANGE COUNTY TRANSPORTATION AUTHORITY

Measure M2 Performance Assessment Report

Staff Report



August 1, 2016

To: Executive Committee
From: Darrell Johnson, Chief Executive Officer 
Subject: Measure M2 Performance Assessment Report

Overview

On November 7, 2006, Orange County voters approved the Renewed Measure M2 Transportation Ordinance and Investment Plan, now referred to as Measure M2. Ordinance No. 3 implements Measure M2 and requires specific safeguards and requirements that are to be followed. Included is a requirement for a performance assessment to be conducted every three years to evaluate the efficiency, effectiveness, economy, and program results of the Orange County Transportation Authority in delivering Measure M2. The third of these performance assessments, covering the period of July 1, 2012 through June 30, 2015 has been completed, and a report on the findings is presented.

Recommendation

Direct staff to implement the action plan outlined in the response to findings and to report back on the implementation progress to the Board of Directors in the Measure M2 quarterly reports.

Background

On November 7, 2006, the voters of Orange County approved the Measure M2 (M2) Transportation Investment Plan (Plan) with a 69.7 percent vote. The Plan provides a revenue stream, from April 1, 2011 through March 31, 2041, to fund a broad range of transportation improvements. The M2 Ordinance specifies specific safeguards and requirements that are to be followed.

Ordinance No. 3 states: "A performance assessment shall be conducted at least once every three years to evaluate the efficiency, effectiveness, economy, and program results of the Authority in satisfying the provisions and requirements of the investment summary of the Plan, the Plan, and the ordinance.

A copy of the performance assessment shall be provided to the Taxpayers Oversight Committee.”

Orange County Transportation Authority’s (OCTA) general counsel has opined that the ordinance became effective the day after the election, November 7, 2006, thus starting the clock on the three-year review period. The first M2 performance assessment was completed in October 2010, covering the period from November 2006 through June 2009. The second M2 performance assessment was completed in March 2013, covering the period from July 1, 2009 through June 30, 2012. Both assessment’s conclusions were positive overall and included a set of recommendations that was addressed in a timely manner.

Discussion

Consulting services were sought to conduct the third performance assessment. Following OCTA’s procurement policies, in July 2015, the contract was awarded to CH2M to cover the period from July 1, 2012 through June 30, 2015. The key objectives of the assessment are as follows: evaluate the status of findings from the second M2 performance assessment and the effectiveness of changes implemented, assess the performance of OCTA on the efficient delivery of M2 projects and programs, and identify and evaluate any potential barriers to success including opportunities for process improvements. In addition to reviewing the prior assessment findings and OCTA related actions, five main areas of focus were identified for the assessment:

- Project delivery
- Program management/responsiveness
- Compliance
- Fiscal responsibility
- Transparency and accountability

Work on the third performance assessment for fiscal year (FY) 2012-13 through FY 2014-15 has recently concluded. A copy of the consultant’s report is attached for Board of Directors’ review (Attachment A). The report includes a review of the prior assessment findings for the FY 2009-10 through FY 2011-12 period, which is detailed in Appendix A of the report. The prior assessment identified 12 findings with recommendations for OCTA to address. The consultant reviewed the 12 findings and OCTA’s response to each, and concluded affirmatively that OCTA adequately addressed each recommendation.

Overall, the FY 2012-13 through FY 2014-15 assessment commends OCTA’s commitment to the effective and efficient management and delivery of the M2 Program. In general, the assessment report finds that OCTA has made significant progress in the implementation of the M2 Program on all plan elements over the last three years.

The assessment determined that one of the largest risks facing the M2 Program is the changing direction of transportation policy from the State of California. As the California Department of Transportation's (Caltrans) strategic policy direction shifts away from system capacity enhancements, such as general purpose lane additions and includes a focus on construction and enhancement of managed lane systems, this causes conflict with OCTA's goal of delivering the Measure M Program as promised to the voters.

The focus on managed lanes conflicts with the public's expectations on some M2 projects. It may also result in inconsistencies with the existing and draft Regional Transportation Plan/Sustainable Communities Strategy documents which as approved achieve the set greenhouse gas emission reduction goals established by the California Air Resources Board pursuant to SB 375 (Chapter 728, Statutes of 2008). Navigating this challenge, by working closely with Caltrans, to address these differences has been identified by staff, as well as the performance assessment consultant as critical to the successful delivery of the M2 Freeway Program.

As part of the report, CH2M has nine findings related to the execution of the elements outlined in the scope of work. The findings either commented on appropriateness of actions to date or provided recommendations for improvements. There were no major recommendations that suggest there should be a change in the direction of OCTA's actions.

Recommendations focused on the following key areas.

- Continue to partner with Caltrans and explore the possibility of including OCTA Measure M freeway projects in Caltrans' annual Contract for Delivery to ensure awareness and accountability on project schedules and help reduce delays as well as the associated cost increases when delays occur.
- Work with Caltrans to develop language related to "betterments" in all freeway project cooperative agreements to keep focus on preventing scope creep which affects project costs.
- Continue to engage in strategic discussions in the program management office to increase awareness of M2, expand partnerships with other self-help counties, and increase collaboration with Caltrans.
- Continue to monitor ongoing expenditures for the one percent administrative cap. Continue to evaluate the optimum level of debt to issue and timing of debt issuance to deliver the M2 Program.

The attached summary outlines the findings as well as a staff response/action plan (Attachment B). These findings will be addressed during the next calendar year as M2 policies and procedures are updated and implemented.

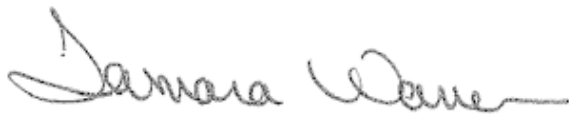
The Measure M Taxpayers Oversight Committee and Audit Subcommittee reviewed the report at the June 14, 2016 meeting.

Summary

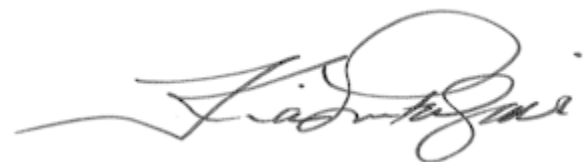
The Measure M2 Performance Assessment, as required by Ordinance No. 3, has recently been completed. While there were no significant findings, recommendations for improvements were made. The report, along with a summary of the findings and responses/action plan, is presented for Board of Directors' review.

Attachments

- A. Final Report – July 1, 2012 – June 30, 2015 - M2 Performance Assessment
- B. July 2012 – June 2015 Measure M2 Performance Assessment Response to Findings

Prepared by:

Tamara Warren
Manager, Program Management Office
(714) 560-5590

Approved by:

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



ORANGE COUNTY TRANSPORTATION AUTHORITY

Measure M2 Performance Assessment Report

Attachment A

FINAL REPORT

July 1, 2012 to June 30, 2015 M2 Performance Assessment

Prepared for



Orange County Transportation Authority

550 South Main Street
Orange, CA 92863

May 2016



6 Hutton Centre Drive, Suite 700
Santa Ana, CA 92707

In cooperation with:



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Executive Summary

In November 2006, Orange County, California voters approved Ordinance 3, the Renewed Measure M Transportation Investment Plan (M2), which extended the collection of a one-half cent sales tax in Orange County for 30 years to fund transportation improvements. M2 is administered by the Orange County Transportation Authority (OCTA) and is designed to reduce traffic congestion and enhance overall mobility.

M2 requires a performance assessment be conducted every three years to evaluate the efficiency, effectiveness, economy, and program results of the Orange County Transportation Authority (OCTA) in satisfying the provisions and requirements of the Investment Summary of the Plan, the Plan and the Ordinance.

The assessment, which covers the timeframe from July 1, 2012 to June 30, 2015, evaluates OCTA's performance on a range of activities covering planning, management, outreach, and delivery of the M2 Program. Key objectives of this assessment include the following:

- Evaluate the status of findings from the previous M2 performance assessment and the effectiveness of implemented changes
- Assess the performance of OCTA on the efficiency, effectiveness, and economy in the delivery of M2 projects and programs
- Identify and evaluate any potential barriers to success and opportunities for process improvements

This report contains the findings and recommendations from the third performance assessment of OCTA's management and delivery of the M2 Program.

The five areas of the assessment are: project delivery; program management and responsiveness, compliance, fiscal responsibility, and transparency and accountability.

Project Delivery

OCTA's implementation of the M2 Program has progressed significantly on all plan elements over the last three years. During this assessment period, OCTA completed construction of four freeway capital projects: three projects along State Route (SR) 57 (SR-57) (associated with Project G) and one project along SR-91 (associated with Project J). A key success for OCTA and the California Department of Transportation (Caltrans) was the development and approval of the Interstate 405 (I-405) cooperative agreement, which identifies agency roles and responsibilities for project delivery, funding and financing, and operations. To date, OCTA has provided local agencies with approximately \$249.3 million in M2 funding for local streets and roads improvement projects and about \$185 million in M2 Local Fair Share funding.

OCTA and the cities of Santa Ana and Garden Grove received certification for the Revised Environmental Assessment/Final Environmental Impact Report for the OC Streetcar in 2015, and the Federal Transit Administration (FTA) issued a Finding of No Significant Impact. Subsequently, OCTA received approval from FTA to enter into the Federal New Starts Program. OCTA was named the lead agency for the OC Streetcar and is proceeding with project design and construction. The City of Anaheim completed construction of the Anaheim Regional Transportation Intermodal Center (ARTIC) and held a grand opening ceremony in December 2014. ARTIC serves as a landmark facility and a regional transportation gateway.

Challenges with project delivery also exist. One of the largest risks facing the M2 Program is the changing direction from the State of California. New policies regarding greenhouse gases, sustainability,

and managed lane facilities were identified as potential scope, schedule, and budget adherence risks for the M2 Program. In some cases, Caltrans' preferences for project features differ from the projects described in the original M2 Ordinance. OCTA and Caltrans occasionally have differing viewpoints on issues related to the environmental phase for freeway projects, particularly related to traffic modeling and underlying growth assumptions that make up the 2035 no-build network. Also, during the review it was noted that there are growing requests for additional design elements from partner agencies, up until construction contract closeout.

Program Management/Responsiveness

OCTA's program management/responsiveness function has continued to evolve and mature. The Program Management Office (PMO) continues to demonstrate an exceptional commitment to meeting the provisions of the M2 Ordinance, and to the efficient and effective delivery of the M2 Program. The organizational structure and supporting contracting policies and procedures are conducive to efficient delivery of the M2 Program. OCTA filled a vacancy for a Measure M Program Analyst to the PMO. An additional full-time equivalent, a Measure M Program Analyst coordinator, was subsequently added in August 2015, just beyond the assessment period. The M2 Program Management Committee meets every 2 weeks and reviews M2-related issues, project status, and internal management items. The PMO maintains a matrix of M2 Ordinance provisions to actively track requirements and to assign and monitor roles and responsibilities with respect to M2 compliance. The PMO also leads preparation of M2 Quarterly Reports, which keep the OCTA Board of Directors (Board) and the public apprised of M2 Program progress, project status, project financials, current issues, challenges, and risks. The M2 Quarterly Reports were redesigned during the assessment period to be more comprehensive.

With the two new program analysts taking on increasing responsibilities, the PMO Manager has an opportunity to expand participation with external stakeholder groups; think strategically about building awareness, build relationships with other self-help county partner agencies; and increase collaboration with Caltrans. OCTA must continue strong cross-divisional coordination and communications through the Program Management Committee meetings and other venues.

Compliance

Key compliance requirements from the M2 Ordinance include the following:

- Administration, which limits the amount expended for salaries and benefits for OCTA administrative staff to no more than 1 percent of M2 gross revenue in any year
- Uses of Revenue, which defines the allocation of M2 net revenue among freeway projects, street and road projects, transit projects, and environmental projects
- Safeguards, which establishes safeguards to ensure strict adherence to the limitations on use of revenues including the Taxpayers Oversight Committee and performance assessments

OCTA developed a detailed Ordinance Tracking Matrix in early 2012 that is updated on a regular basis, and serves as a highly effective method for OCTA to track compliance with the M2 Ordinance.

The PMO completed the first Measure M2 Ten-Year Review Report in fall 2015, after the end of the assessment period. This report fulfilled its requirement to analyze M2 projects and programs, assessed internal and external barriers, and recommended improvements to increase the delivery and efficiency of M2. The report found that external changes to land use, demographics, land use transportation legislation, and project costs would not require significant changes to the M2 Plan. The report also concluded that OCTA upheld its initial Measure M2 commitments to Orange County voters with significant progress to date and continues to have the public's support for the priorities in the M2 Plan.

Fiscal Responsibility

The 2008 recession majorly impacted the sales tax revenue available for M2. The initial 2006 total sales tax revenue estimate was projected to be \$24.3 billion over the lifetime of M2. In 2010, the sales tax revenue was forecasted to be \$13.7 billion, a 44 percent decrease from the initial forecast. While more recent sales tax revenue forecasts have risen to \$15.7 billion, this revenue is still considerably lower than the original projections.

OCTA personnel continue to manage administrative expenses related to the M2 Program. OCTA ensured that M2 project-specific administrative costs were charged to the appropriate project and tracked both project-specific and non-project administrative charges on an ongoing basis. This process meets the ordinance requirements and allows charges that exceed the 1 percent cap to be offset by using other funding sources. OCTA funded a portion of M2 administrative expenses by borrowing from the Orange County Unified Transportation Trust Fund and has already paid back part of the funds borrowed.

OCTA continues to actively seek other funding sources to supplement M2 sales tax revenue. OCTA leveraged approximately \$918 million in committed external funding to support the M2 Program. This allowed OCTA to bridge the funding gap resulting from the lower sales tax revenue receipts. Based on current sales tax revenue forecasts and committed external funding, OCTA will continue to meet the project commitments of the M2 Program. Any new external funding will be used to protect against any financial risks, such as higher project costs or interest rates.

Transparency and Accountability

OCTA implemented a wide range of outreach methods to satisfy its constituents' communication needs. Its Web site, newsletters, and public meetings were praised for being thorough, carefully prepared, and informative. OCTA adopted the latest marketing solutions, including new technologies such as digital marketing, e-mail blasts, mobile-friendly media, text messaging, and social media. Digital solutions reduce outreach costs and are effective in reaching constituents in the impacted areas.

External stakeholders noted receiving information from public outreach efforts in multiple ways: targeted e-mails, visits to the OCTA Web site, weekly newsletters, mailers, door hangers, videos, television and radio advertisements, phone calls, publications of upcoming bids, public informational meetings, informal meetings, community-based meetings, board meetings, and newspaper advertisements. In addition to the use of traditional and social media, OCTA's bilingual staff and outreach consultants regularly attended community meetings to provide additional information and support. OCTA staff were present to provide information and answer questions at committee meetings (such as the Taxpayers Oversight Committee, Environmental Oversight Committee, and Environmental Cleanup Allocation Committee). The meetings were well organized, and handouts/meeting agendas were provided.

Introduction

1.1 Background

In November 2006, Orange County, California voters approved Ordinance 3, the Renewed Measure M Transportation Investment Plan (M2), which extended the collection of a one-half cent sales tax in Orange County for 30 years through 2041 to fund transportation improvements. M2 is administered by the Orange County Transportation Authority (OCTA) and is designed to reduce traffic congestion and enhance overall mobility. Key features in the plan include improving key freeways, upgrading major interchanges, adding capacity, and maintaining streets and roads, building and improving rail and bus transportation, enhancing programs for seniors and establishing localized bus service. Collection of sales tax revenues under M2 began on April 1, 2011.

M2 requires a triennial performance assessment to help ensure effective and efficient delivery of M2 projects and programs. Specifically, M2 (Section 10.6) states that:

A performance assessment shall be conducted at least once every three years to evaluate the efficiency, effectiveness, economy and program results of the Authority in satisfying the provisions and requirements of the Investment Summary of the Plan, the Plan, and the Ordinance.

The first triennial M2 performance assessment was completed in October 2010, and covered the period from November 2006 through June 2009. The second triennial assessment was completed in March 2013, and covered the period from July 2009 through June 2012.

In June 2015, OCTA selected CH2M HILL (CH2M) to conduct the third M2 performance assessment, which covers the period from July 1, 2012 through June 30, 2015. This report provides the findings and subsequent recommendations from this assessment.

The assessment involved evaluating OCTA's performance on a range of activities covering planning, management, and delivery of the M2 Program. Key objectives of this assessment included the following:

- Evaluate the status of findings from the previous M2 performance assessment and the effectiveness of implemented changes
- Assess the performance of OCTA on the efficient delivery of M2 projects and programs
- Identify and evaluate any potential barriers to success and opportunities for process improvements

The assessment consisted of the following five main areas:

- **Area 1: Project Delivery** — Evaluate OCTA's effectiveness in developing and implementing M2 projects and programs
- **Area 2: Program Management/Responsiveness** — Evaluate OCTA's approach to program management
- **Area 3: Compliance** — Evaluate OCTA's approach to ensuring compliance with M2
- **Area 4: Fiscal Responsibility** — Evaluate the extent to which OCTA is economical in structuring its approach to project and program delivery
- **Area 5: Transparency and Accountability** — Evaluate how fully, intelligibly, and otherwise appropriately, OCTA reports on M2 matters to the OCTA Board of Directors (Board), the Taxpayers Oversight Committee (TOC), the general public, and other stakeholders

1.2 Report Organization

The remainder of this report is organized according to the five main areas of the assessment and appendices containing supporting information:

- Section 2: Project Delivery
- Section 3: Program/Project Management and Responsiveness
- Section 4: Compliance
- Section 5: Fiscal Responsibility
- Section 6: Transparency and Accountability
- Section 7: Findings and Recommendations Summary
- Appendix A: Follow Up on Prior Assessment Findings
- Appendix B: Data Sources and Interviews
- Appendix C: Freeways Projects Activity Summaries (Projects A to N)
- Appendix D: Streets and Roads Projects Activity Summaries (Projects O to Q)
- Appendix E: Transit Projects Activity Summaries (Projects R to W)
- Appendix F: Environmental Cleanup Project Activity Summary (Project X)
- Appendix G: M2 Expenditures Summary Project Activity Summary
- Appendix H: Acronyms and Abbreviations

Sections 2 through 6 each contain an overview, observations, findings, and recommendations for their specific topics.

Section 7 summarizes the study team’s key findings and recommendations pertaining to each area of the assessment.

Appendix A provides a follow up on the recommendations made during the prior M2 assessment, covering FY 2010 to 2012.

Appendices B through F provide a chronological progression of project delivery for each M2 project during the assessment period per the M2 Quarterly Progress Reports.

Appendix G presents the forecasted project cost and forecasted completion date for the M2 Capital projects, and changes in those metrics from June 2012 to June 2015.

Note that though the review time period is from July 1 through June 30, 2015, information from documents more recent than June 30, 2015, has been included. This information is for informational purposes only. The review and corresponding findings and recommendations are limited to the review period.

Project Delivery

2.1 Accomplishments

2.1.1 Freeway Projects (Projects A-N including the Freeway Mitigation Program)

Freeway projects receive forty three percent of Measure M2 net revenues. Relieving congestion on State Route (SR) 91 (SR-91) is one of the centerpieces of the M2 Freeway Program. The Freeway Program also includes several other major upgrades, which include improving Interstate 5 (I-5) in south Orange County, I-405 in west Orange County, SR-55 in central Orange County, and SR-57 in north Orange County.

OCTA is advancing a wide range of freeway projects. Table 2-1 provides a summary of progress achieved by each project between the first quarter of FY 2013 and the final quarter of FY 2015.

During this review period, OCTA completed construction on four freeway capital projects — three projects along SR-57 (associated with Project G) and one project along SR-91 (associated with Project J). On all other projects, OCTA advanced the projects along the project delivery cycle.

A key success to advancing Project K was the development and approval of the I-405 Cooperative Agreement, without which Project K could not advance.

Table 2-1: Freeway Projects Progress During Review Period

Project	Project Title	First Quarter of FY 2013	Final Quarter of FY 2015
Project A	I-5 (SR-55 to SR-57)	Environmental Study Underway	Final Environmental Document and Project Report Approved and Design Phase to begin soon
Project B	I-5 (SR-55 to El Toro Y)	Project Study Report Approved	Environmental Phase underway
Project C and Part of Project D	I-5 (SR-73 to Oso Parkway/ Avery Parkway Interchange)	Environmental Study Underway	Design Phase Underway
	I-5 (Oso Parkway to Alicia Parkway/ La Paz Road Interchange)	Environmental Study Underway	Design Phase Underway
	I-5 (Alicia Parkway to El Toro Road)	Environmental Study Underway	Begin Design Phase
	I-5 (Avenida Pico to Avenida Vista Hermosa)	Final Design Underway	Construction Underway
	I-5 (Avenida Vista Hermosa to PCH)	Final Design Underway	Construction Underway
	I-5 (PCH to San Juan Creek Road)	Final Design Underway	Construction Underway
Project D	I-5 El Toro Road Interchange	Project Study Report Underway	Project Study Report/ Project Development Support Document Complete

SECTION 2 – PROJECT DELIVERY

Project	Project Title	First Quarter of FY 2013	Final Quarter of FY 2015
	I-5/ Ortega Highway Interchange	Construction To Start Soon	Construction Underway
Project E	SR-22 Access Improvements	Project Complete	Project Complete
Project F	SR-55 (I-405 to I-5)	Environmental Study Underway	Environmental Phase
	SR-55 (I-5 to SR-91)	Project Study Report Underway	Project Study Report/Project Development Support Document Completed
Project G	SR-57 NB (Lambert Road to Tonner Canyon Road)	None	Conceptual Phase Complete
	SR-57 NB (Yorba Linda Boulevard and Lambert Road)	Construction 60% Complete	Project Complete
	SR-57 NB (Orangethorpe Avenue and Yorba Linda Boulevard)	Construction 55% Complete	Project Complete
	SR-57 NB (Katella Avenue and Lincoln Avenue)	Construction 20% Complete	Project Complete
	SR-57 NB (Orangewood Avenue to Katella Avenue)	Project Study Report Underway	Procurement for the Environmental Phase Underway
Project H	SR-91 WB (SR-57 to I-5)	Construction To Start Soon	Construction Underway
Project I	SR-91 (SR-55 to Tustin Avenue Interchange)	Final Design And Row Activities Underway	Construction Underway
	SR-91 (SR-57 to SR-55)	Project Study Report Underway	Environmental Phase Underway
Project J	SR-91 Eastbound (SR-241 to SR-71)	Project Complete	Project Complete
	SR-91 (SR-241 to SR-55)	Construction Underway	Project Complete
	SR-91 (SR-241 to I-15)	Environmental Study Underway	RCTC's Design-Build Construction Underway
Project K	I-405 (SR-55 to I-605)	Draft EIS/EIR Released	Design-Build Procurement Underway
Project L	I-405 (SR-55 to the I-5)	Project Study Report Underway	Environmental Phase Underway
Project M	I-605 Interchange Improvements	Preliminary Engineering Starting Soon	Final Project Study Report/Project Development Support Document Signed and Complete
Project N	Freeway Service Patrol	Service On-Going	Service On-Going

Finally, OCTA also advanced significantly on the Freeway Mitigation Program (part of Projects A to M) with OCTA's acquisition of approximately 1,300 acres of conservation properties (Preserves) and funding

of 11 restoration projects approved by the OCTA Board. In October 2014, the Board approved a commitment to establish an endowment to pay for the long-term land management cost of the Preserves.

Project descriptions and information on project status can be found in Appendix C.

2.1.2 Streets and Roads Projects (Projects O-Q)

Streets and roads projects receive thirty two percent of Measure M2 net revenues. OCTA works with local jurisdictions in Orange County for street widening, street maintenance, intersection improvements, and traffic signal synchronization on roughly 7300 lane miles of streets and roads.

During the review period, under the OC Bridges Railroad Program, OCTA completed two of the seven grade separations and the remaining five were under construction. OCTA Board has committed to provide more than \$634 million in state, federal, and M2 funds for the OC Bridges program's grade separation projects.

By the end of Fiscal Year 2015, OCTA had cumulatively issued a total of five call for projects awarding a total of 103 projects worth \$193 million since 2011 under the Regional Capacity Program (Project O). Similarly, during the same time period, OCTA had cumulatively issued a total of five rounds of funding awarding a total of \$56.3 million for over 69 projects under the Regional Traffic Signal Synchronization Program (Project P). Between Regional Capital Program (Project O) and Regional Traffic Signal Synchronization Program (Project P), OCTA has awarded local agencies nearly \$249.3 million.

Under the Local Fair Share Program (Project Q), OCTA provided a total of \$185 million in payments to local agencies as of the end of the review period.

Project descriptions and information on project status can be found in Appendix D.

2.1.3 Transit Projects (Projects R-W)

Transit projects receive about twenty five percent of Measure M2 net revenues. The M2 transit projects build and improve rail and bus transportation in Orange County. M2 funding is used to add transit extensions to the Metrolink corridor, reduce bus fares for senior citizens and persons with disabilities, and establish local bus circulators.

OCTA and the cities of Santa Ana and Garden Grove received certification for the Revised EA/Final EIR for the OC Streetcar (Project S) in 2015, and FTA issued a Finding of No Significant Impact. Subsequently, OCTA received approval to enter into the Federal New Starts Program. OCTA was named the lead agency for the OC Streetcar and is proceeding with project design and construction.

The city of Anaheim established a framework for evaluating alternatives and, although stalled by a change in the preferred alternative, the City continues to make progress on evaluating alternatives for the Anaheim Rapid Connection (Project S) to carry forward in the environmental documentation.

The city of Anaheim completed construction of ARTIC (Project T) and held a grand opening ceremony in December 2014. ARTIC serves as a landmark facility and a regional transportation gateway.

During the review period, OCTA closely monitored and evaluated the redeployment of some intra-county Metrolink Service Expansion Program (MSEP) trains to increase ridership without significantly impacting the operating costs (Project R). Consequently, OCTA made service changes and redeployed trains to increase ridership. Metrolink made improvements to rail line and stations (Project R), including parking lot expansions, platform access improvements, and passing siding construction. OCTA completed the San Clemente beach train enhancements and completed parking lot expansion at Laguna

Niguel/Mission Viejo. Other projects were advanced through the environmental, design, and construction phases.

On Project U, the Senior Mobility Program (SMP) hit a milestone for achieving one million boardings and the Senior Non-Emergency Medical Transportation Program (SNEMT) carried more than 301,000 boardings. Between bus services and specialized ACCESS services the fare discount programs continued to provide and meet critical mobility needs of the seniors and persons with disabilities. Throughout the final quarter in FY 2015, approximately 3.5 million passenger related boardings were observed. The local agencies continued to demonstrate interest in expanding community based transit circulators program (Project V) and improving passenger amenities under safe transit stops (Project W) program.

Project descriptions and information on project status can be found in Appendix E.

2.1.4 Environmental Projects

Five percent of net revenues from the Freeway program is set aside for environmental mitigation programs to address any environmental impact of freeway improvements under the freeway mitigation program.

To date, the Tier 1 and Tier 2 grants under the Environmental Cleanup Program (Project X) has funded over 140 water quality improvement projects throughout Orange County, totaling just over \$40 million. These projects facilitate runoff reduction and improve water quality by removing pollutants. In addition, OCTA solicited input from the applicants to obtain feedback on the types of projects that should be considered and to improve upon the competitive funding program guidelines.

Project descriptions and information on project status can be found in Appendix F.

2.2 Observations on Project Controls for Schedule/Cost/Quality

OCTA employs key operations management tools, including a P6 Primavera system managed through its Project Controls Department in cooperation with OCTA's project managers. Primavera tracks start dates, end dates, and percent complete for primary milestones on a project-by-project basis, and identifies inter-dependencies that help establish critical path items and potential bottlenecks.

In addition to Primavera, the Project Controls Department works with project managers to prepare monthly project status reports that summarize projects status, schedules, budgets. The Project Controls Department consists of one controls manager, four project controls professionals, and one office specialist to handle invoices. OCTA also uses SharePoint sites to enable document management and control across M2 projects. Project risks are monitored throughout the project lifecycle and they managed and mitigated appropriately.

OCTA strengthened its project controls in significant ways over the past three years. These include the following:

- The Project Controls Department addresses baseline schedules and budgets, baseline revisions, and final progress reports and budgets.
- OCTA's Program Management Procedures (PMP) facilitate the delivery of M2 capital projects. The PMP applies to all OCTA M2 projects and is updated periodically by the Highway Programs Department. The PMP provides a set of procedures to effectively manage and monitor projects, and strategies for delivering the entire capital improvement program. The PMP consists of 12 sections, including: program planning, program controls (for example, schedule and cost control, and change management), quality management, risk management, document control, and other key areas. The PMP was most recently updated in 2013.

2.3 Notable Challenges

Identifying challenges with project delivery and suggesting mitigation strategies was a main objective of the assessment. Some challenges are detailed below.

2.3.1.1 Freeways

Several OCTA staff noted that one of the largest risks facing the M2 Program is the changing direction from the State of California. New policies regarding greenhouse gases, sustainability, and managed lane facilities were identified as potential risks with respect to scope, schedule, and budget adherence.

Differing philosophies regarding project approach/delivery for the Freeway Program have led to delays during the early phases of project development. OCTA's overall position is to stay true to the original M2 Ordinance and project intent approved by Orange County voters (promises made / promises kept). Caltrans' overall position is focused on delivering the best project to attain its mission to "Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability."

In some cases, Caltrans' view of the best project differs from the project described in several key OCTA documents including the original M2 Ordinance, OCTA's Long-Range Transportation Plan (LRTP), and the Southern California Association of Governments' Regional Transportation Plan (RTP). Both the LRTP and the RTP incorporate the OCTA Program Level EIR, which is the basis for M2 projects.

An example of the impact is Project K, I-405 Improvements, in which the OCTA Board approved general purpose lane additions as the preferred alternative (PA) while Caltrans supported a managed lanes alternative. This led to project delays while the agencies worked to resolve PA. Ultimately, a cooperative agreement between OCTA and Caltrans was reached to add one general purpose lane (M2 project) in each direction to I-405 from Euclid Street to the I-605 interchange, with tolled express lanes in each direction of I-405 from SR-73 to SR-22 east. The tolled I-405 express lanes and the existing HOV lanes will be managed jointly as a single tolled express facility, with two lanes in each direction from SR-73 to I-605. The general purpose lane portion will be funded by M2. The remainder of the project will be funded by a combination of funds in the form of Toll Revenue Bonds and possibly Transportation Infrastructure Finance and Innovation Act (TIFIA), as well as through future toll revenues.

Other challenges include the following:

- OCTA and Caltrans have differing viewpoints on issues related to the environmental phase for several freeway projects, particularly traffic modeling and underlying project assumptions that make up the 2035 no-build network. These differences have resulted in schedule delays.
- It was noted that there have been growing requests for additional design elements ("scope creep") from partner agencies up until construction contract closeout. Scope creep poses both budgetary and schedule risks to the project from project development through construction.
- The OCTA Freeway Program's reliance on Caltrans' resources to secure right-of-way (ROW), and the related impacts on schedule and division of scope responsibilities, were noted. OCTA worked with Caltrans to assist real estate acquisitions for the I-5 project in the form of a cooperative agreement.

2.3.1.2 Transit

As part of the Metrolink Service Expansion Program (Project R), the concepts evaluated by OCTA to increase ridership required redeployment of service and introduction of new trips between Orange County and Los Angeles. This required close coordination not only with the Metrolink member agencies but also with the host railroad, Burlington Northern Santa Fe (BNSF). OCTA's plan to add service to Los Angeles had to be delayed due to lack of availability of slots on BNSF. Additional trips to Los Angeles are not feasible until the completion of the third track between Los Angeles and Fullerton, which is

anticipated in mid to late 2016. Another challenge with service expansion was the rising cost of Metrolink operations due to unanticipated one-time cost events and increase in on-going costs, for example, PTC implementation. OCTA continues to be actively engaged in the Metrolink service and budget planning discussions with Metrolink and its member agencies to address these concerns.

The draft EIR for the ARC streetcar project (Project S) in the City of Anaheim was originally anticipated to be completed and circulated for public review by the end of 2014. The project was then delayed as the City of Anaheim evaluated alignment options for ARC. The total schedule impact is still under review by the city.

Finally, as a result of a decline in the projected revenues after the recession, OCTA was concerned about the availability of sufficient funding to meet the M2 Ordinance requirements for the Fare Stabilization Program (Project U). OCTA staff continued to update the Board periodically about the challenges of the revenue shortfalls. In June 2014 update, OCTA Board directed staff to evaluate alternatives and explore viable options to address the annual shortfall under this Program. While this falls outside of the revenue period, OCTA addressed the revenue shortfall during the Ten Year Comprehensive Program Review in late 2015.

2.3.1.3 Environmental

The Tier 1 water quality projects appear to have not experienced any significant challenges. OCTA continues to monitor recent legislation adopted by the State Water Resources Control Board to ensure that changes do not conflict with the intent of the Environmental Cleanup Program.

Tier 2 projects are more complex and varied in scope than Tier 1 projects, which makes setting evaluation criteria more challenging. This includes establishing a deliberate vetting process to verify the water quality benefits of the candidate projects. A number of Tier 2 projects have been delayed in the planning process because of challenges in gaining cooperation from partnering agencies (that is, inter-agency agreements) and design issues. OCTA held off the third call for Tier 2 projects for 2 years to allow prospective applicants more time to further develop their projects.

To assist cities in applying for Tier 2 project funds, OCTA reached out to cities to offer pre-research and calculations for developing projects. After each call for projects, OCTA strives to improve upon the Comprehensive Transportation Funding Program (CTFP) guidelines and application process by soliciting feedback from applicants.

2.4 Findings and Recommendations

Findings and recommendations for OCTA to consider in project delivery are noted below.

Project Delivery Finding #1: It is difficult to align particular aspects of the voter-approved M2 Program with changes to the state's priorities (for example, greenhouse gas reductions, sustainability, and managed lanes). These differences led to delays in project definition and environmental processes as OCTA and Caltrans worked to reconcile their differing goals, policies, and objectives.

Project Delivery Recommendation #1: Continue to partner with Caltrans at the technical levels for system planning and modeling, as well as throughout the environmental, design, and construction phases. This may resolve different priorities between agencies and identify projects where advanced coordination could help mitigate schedule delays while the agencies reconcile goals and objectives. An example of this partnership is for OCTA to work with Caltrans and explore the possibility of including OCTA projects on Caltrans list of approved projects in the fiscal year Contract for Delivery. This will enable Caltrans and OCTA to agree on milestones and timelines to level set expectation and commit the two stakeholders to meet the project delivery timeline.

Project Delivery Finding #2: It was noted that there appeared to be increasing occurrences of changes and/or growth in a project's scope. Scope creep was an issue during design and development phase;

sometimes, requests for modification to constructed elements were requested during the final Caltrans safety and maintenance walk through.

Project Delivery Recommendation #2: Include language that defines the term “betterment” in project-specific third-party agreements with state, regional, and local agencies. Particular agreements may define how betterments will be negotiated, if appropriate. The Santa Clara Valley Transportation Authority’s (VTA’s) definition of “betterment” is provided below as example.

- "Betterment" shall mean the upgrading (e.g., increase in capacity) of a new or existing facility, that is not attributable to construction of the Project and is made solely for the benefit of and at the election of DEPARTMENT (not including a technological improvement which is able to achieve such upgrade at costs equal to or less than the costs of a "like-for-like" replacement or relocation). VTA shall not be obligated to pay for any portion of any Betterment.

Design changes to project elements are inevitable. However, managing, identifying the necessity, and mitigating the impacts of potential design changes as early as possible can reduce more costly changes late in both design and construction. The following apply in cases for both OCTA design consultants and/or Caltrans design efforts for consistency.

- Formalize and document the project configuration at the earliest possible stage to set and manage the project design elements. Potential changes to established project configurations would go through a set process that could range from informal to formal, depending on the specific project and the extent of the changes.
- Engage the Caltrans unit(s) responsible for safety and maintenance early in design, and establish requirements for traffic safety and maintenance aspects of the design. Also encourage formal design review workshops specifically targeted toward presenting design features to Caltrans Maintenance and Caltrans Traffic Operations Safety personnel, as well as third party agencies if appropriate. These workshops could be held separately or be combined, depending on the project.
- Encourage studies/workshops during the project design phases, focused on maintainability and safety, and achieve agency concurrence.

Approaches to mitigating impacts of proposed scope modifications during construction include the following:

- Apply life cycle cost analysis for field change requests/change orders to help identify long-term maintenance impacts resulting from each change request
- Encourage periodic project walk through with Traffic Safety and Caltrans Maintenance units to identify issues/concerns before close out

Program/Project Management and Responsiveness

3.1 Overview

The OCTA M2 program management / responsiveness function is defined as employing process-based activities to support the multiple components of the M2.

The M2 program management responsibility spans multiple OCTA organizational areas, and originates with the OCTA Board and Chief Executive Officer's leadership and policy directives. In 2006, OCTA designated a staff member in the Finance and Administration Division as the M2 Program Manager (in addition to other responsibilities) as an interim step. This transitioned to the creation of a PMO under the Planning Division to address expanded program management needs. In 2011, the current full-time PMO Manager was designated.

The fully functional PMO, which includes two newly recruited Measure M program analysts, was judged to be fulfilling its prescribed charter during the review period. Specific PMO policies, procedures, and protocols are in place and continue to be refined.

The PMO charter, adopted in June 2011, highlights the significance of a separate PMO for the M2 Program and states the purpose of the PMO as follows:

OCTA is committed to fulfilling the promises made in M2. This means not only completing the projects described in the Investment Plan, but adhering to numerous specific requirements and high standards of quality called for in the Measure. The PMO is intended to provide unified oversight and action to ensure successful delivery. While other organizational units within OCTA carry out the Investment Plan's individual projects and programs, the PMO monitors and as appropriate analyzes and assesses, facilitates, coordinates, and reports on M2 activities and progress.

In addition, the PMO charter prescribes specific program management responsibilities to the PMO to promote unified oversight and support successful delivery of the M2 Program and projects. The PMO is designed to do the following:

- Ensure compliance and consistency with M2 ordinance provisions
- Establish appropriate business processes and systems for effective and efficient delivery of M2 plans
- Establish proper reporting of M2 receipts, expenditures, and accounting standards
- Coordinate reporting of M2 Program status to internal and external stakeholders
- Ensure implementation of safeguard measures established in the M2 Ordinance

Figure 3-1 summarizes the M2 project life cycle process including project definition, design, and delivery. M2 program management spans the project life cycle. Within the M2 ordinance and charter provisions, and through its management principles and practices, the PMO is engaged in a broad range of program

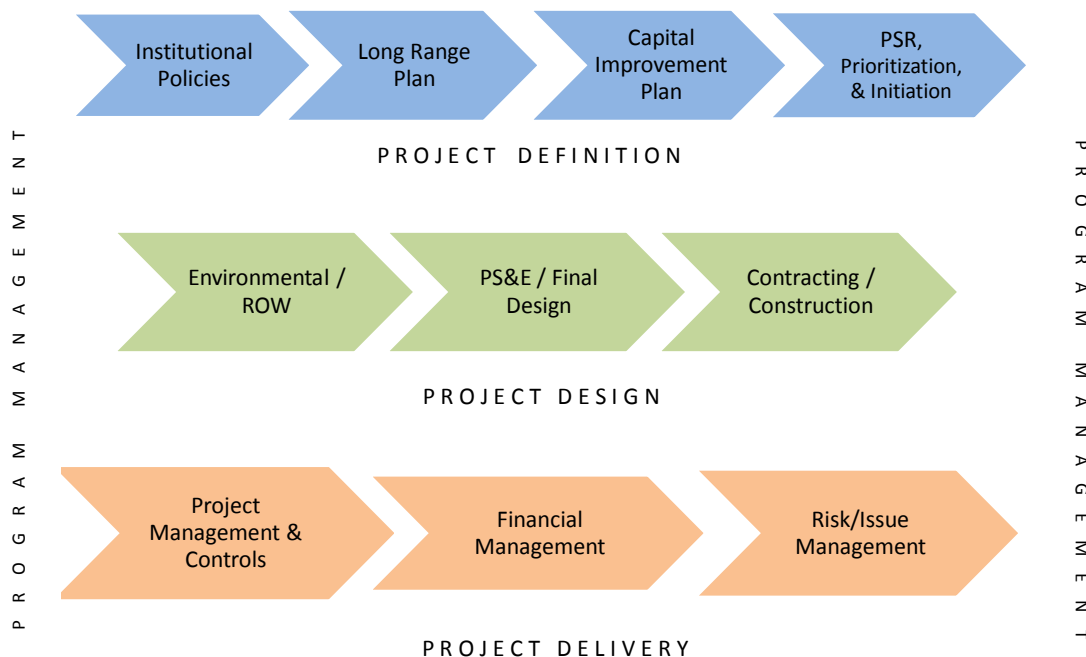


Figure 3-1. Summary of M2 Program Management Functions

OCTA's PMO function has continued to evolve and mature and continues to demonstrate an exceptional commitment to M2 Ordinance provisions and to efficient and effective delivery of the M2 Program.

The PMO analytically reviews the progress of and plans for M2 projects and programs. It identifies risks and pitfalls and ensures ongoing communication between key stakeholders, especially the executive team, to ensure OCTA is collectively managing the program, which includes proactively addressing and responding to issues with an agreed-upon and thoughtful plan. The following operations practices and management vehicles help establish and preserve effective program management:

- **PMO Office Staffing:** OCTA filled a vacancy for a Measure M Program Analyst. An additional full-time equivalent (FTE), also a Measure M Program Analyst coordinator, was subsequently added in August 2015, just beyond the performance assessment period. Filling these positions, in addition to using consultants on an as-needed basis, demonstrates the commitment of OCTA to program management and responsiveness.
- **M2 Program Management Committee:** The M2 Program Management Committee meets every 2 weeks and reviews M2 related issues, project status, and internal management items. This represents a critical aspect of the PMO's success. The PMO sets the agendas and runs the meetings (attendance is usually 12 to 15, mostly directors). OCTA uses a tracking matrix of action items that identifies lead staff and status. The Deputy Chief Executive Officer (CEO) attends on a regular basis, and the CEO attends when available.
- **M2 Ordinance Matrix:** The PMO maintains a matrix of M2 ordinance provisions to actively identify requirements and serve as a point of reference for internal roles and responsibilities with respect to M2 compliance.
- **M2 Quarterly Reports:** The PMO leads the preparation of M2 Quarterly Reports which keep the OCTA Board apprised of M2 program progress in a public setting, project financials and issues, and key project status. Quarterly reports were redesigned during the review period to be more comprehensive.

- **Public Information and Communications:** M2 Program information is managed through the Outreach and Government Relations Departments, as well as through the M2 Web page and related links on the OCTA Web site.

This section presents observations, specific findings, including challenges and opportunities, and recommendations to fine-tune the key M2 program management activity.

Organizationally, OCTA uses a shared administrative support model and has a dedicated Capital Programs Division. OCTA evolved from an agency with planning and operations to an organization that also provides significant capital delivery. The organizational structure, as currently set up within OCTA, provides for efficient delivery of programs and projects. Among best practices, there is an accepted practice that the span of control does not exceed seven or eight direct reports; a project controls unit that supports both highways and transit projects; and a separate, independent M2 Program Office under the Planning Division. Finally, OCTA Contract and Construction Management Policies and Procedures are important for program management and effectiveness, including for the M2 program.

3.2 Observations

OCTA completed all recommendations identified in the July 2009 – June 2012 M2 Performance Assessment. A range of general observations and findings were noted during the recent review. These are based on key document reviews and interviews with select OCTA staff, as well as the consultant team’s professional experience. The assessment underscores the baseline observation that the effectiveness and efficiency of the OCTA organization and of its program management function is centered in its strategic vision and mission statements and is supported by its operating principles, policies, protocols, and operations practices specific to this function. This subsection describes the following elements:

- M2 delivery principles
- PMO operations goals and protocols
- PMO operations management practices
- PMO operations management tools
- PMO challenges
- PMO opportunities
- Organizational structure
- Policies and procedures for contract management and construction management

3.2.1 M2 Delivery Principles

M2 operations management principles, adopted in the EAP and extended in the M2020 Plan, direct and focus the organization toward key values as the organization progresses through its day-to-day M2 Program activities. These key principles, first enumerated in the EAP and later carried forward to the M2020 Plan include the following:

- Project readiness
- Congestion relief and demand
- External funding availability
- Public opinion and support
- Project sequencing and connectivity
- Project duration and cycle

The OCTA Strategic Plan provides additional organization values, which are inherent to defining the OCTA organizational culture and are noteworthy as they permeate throughout OCTA. They include the following:

- **Integrity:** Deliver as promised and do so ethically, fairly, and with transparency
- **Customer Focus:** Treat our customers with care, consideration, and respect, and provide friendly and reliable professional service responsive to their needs
- **Can-Do Spirit:** Tackle challenges with innovation, vision, and strategic thinking
- **Communication:** Provide consistent, timely, and reliable information in an open, honest, and straightforward manner
- **Teamwork:** Work well together from a sense of shared purpose and mutual respect

The OCTA Comprehensive Business Plan (CBP) supplements these principles and values by providing financial analysis, strategic direction, and guidance toward establishing sound business principles for OCTA programs including M2.

3.2.2 Program Management Office Operations Goals and Protocols

A range of culture-based operating protocols are openly and visibly advanced through broader-based OCTA operations related to M2 program management operations. These include the following:

- **M2 Program Management Committee:** This committee meeting, chaired by the PMO Manager, meets every 2 weeks and reviews M2 related issues, project status, internal management items, and external influences.
- **M2 Ordinance Matrix and Compliance Tracking:** The PMO develops and maintains a matrix of M2 ordinance provisions to clearly identify requirements, serve as a touchstone for internal roles and responsibilities, and provide guidance on compliance requirements to OCTA personnel.
- **Triennial Performance Assessments:** Outside contractors, managed through the PMO, develop these assessments to provide an independent evaluation of OCTA's progress in implementing the M2 Program.
- **M2 Quarterly Reports to OCTA Board:** The PMO leads the preparation of quarterly reports designed to keep the Board and the public apprised of M2 program progress, financials, issues, risks, and key project status. The report format was considerably expanded and improved during the current review period. Reporting improvements include the following:
 - M2 Program schedule representation update
 - New delivery risk update section
 - M2020 plan objectives update section
 - Individual project status and summary of progress with more comprehensive descriptions and clearer linkage to project letters — especially helpful when there are multiple projects in a single category of projects
 - Graphics and professional layout of document
 - Celebratory flag icons for complete projects
 - Detailed program management office description of key activities
 - New finance section including current forecast and local fair share
- **Public Information and Outreach:** OCTA disseminates information to external stakeholders both in External Affairs and Government Relations divisions. The M2 Program Web page (housed on the

OCTA Web site) provides detailed, comprehensive, and timely information on M2 programs and projects. Fact sheets provide excellent detail on individual projects.

3.2.3 Program Management Office Operations Management Practices

Established operations practices and management vehicles are important for effective program management. The PMO function continues to evolve and mature. PMO practices include the following:

- **Project Delivery Priorities:** Project priorities are established early, first through the EAP and M2020 Plan, then most recently reported in the Ten-Year Review. Delivery schedules are tracked at various stages using P6 Primavera, with early warnings about project schedule slippage or cost escalations.
- **Inclusive Program Management Participation:** Both OCTA leadership and the PMO are in full engagement and participatory management of M2 delivery responsibilities. This principle is now mature but requires continuous monitoring and attention as it relates to key activities such as project controls, risk and issues management, change management, and stakeholder outreach, among other activities.
- **Open Communications:** The culture of OCTA as advanced through its Board and CEO and in combination with M2 ordinance provisions promotes an environment of openness and accessibility to internal and external interests. Internal awareness is recognized as very high, but there is a perception that external awareness/branding of the M2 Program could be strengthened.
- **Timely Progress Reporting:** M2 ordinance provisions set a baseline and pattern for timely reporting of progress in delivering M2 projects and programs, including scheduled reports to the OCTA Board and Taxpayers Oversight Committee (TOC), as well as providing M2 project information to a variety of external stakeholders.
- **Transparent and Informative Public Outreach:** Public information and outreach are a high-priority throughout the OCTA organization. OCTA's External Affairs and Government Relations Divisions use multiple mediums, including the OCTA Web site, M2 newsletters, speakers' bureaus, social media, digital communications, and other outreach mediums are employed to fulfill this function.

3.2.4 Project Management Operations Management Tools

OCTA employs key operations management tools, including a P6 Primavera system managed by its Project Controls Department in cooperation with OCTA's project managers. Primavera tracks start dates, end dates, and percent complete for primary milestones on a project-by-project basis, with dependencies identified that establish critical path items and potential bottlenecks.

In addition to the Primavera tool, the Project Controls Department also works with project managers to prepare monthly status reports for each project that summarize projects status, schedules, and budgets. The Project Controls Department consists of one project controls manager, four project controls professionals (three OCTA and one consultant), and one office specialist to handle invoices. In addition, OCTA uses SharePoint to enable document management and control across pilot projects for grade separation projects including the following:

- Financial management tracking
- Program management tracking
- Project management tracking
- Risk/issues management
- Document controls and archiving

Initially, the value and effectiveness of using the SharePoint site was successfully demonstrated through pilot projects, including grade separation projects, confirming broad benefits to OCTA program management functions. Projects tend to last about 9 years on average. SharePoint is used as a project

management tool for grade separation projects and as a repository tool for the M2 Document Center. To avoid overcrowding the SharePoint site, the Project Controls Department typically posts the budget, baseline schedule, any revisions to the baseline, and the final progress report and the final as-built schedule, but few or no “intermediate” files.

Implementing the SharePoint and Primavera web tools greatly improved OCTA’s program management effectiveness and efficiency. They are effectively being used for program and project management control. Key program management outputs from these applications improved interagency communications, provided a robust basis of documentation, and enhanced M2 public information and outreach activities.

The following subsections discuss current challenges and opportunities, particularly in light of the PMO operating environment and operations management systems, and provide suggestions for program refinements to help address these challenges and help capitalize on opportunities.

3.2.5 Program Management Office Challenges

3.2.5.1 M2 and M2020 Plan Implementation

The M2020 Plan calls for nearly \$5 billion in freeway, streets and roads, and transit projects, and environmental programs to be delivered through the year 2020. Delivery of M2020 requires a precise plan of finance, a capital improvement plan, a resource allocation plan, a freeway mitigation program, and a risk management plan, all directed at fulfilling an aggressive schedule of project activities. Despite recent improvements with the economy, there is a recognition that OCTA will likely never make up lost tax revenue because of the recent economic recession. OCTA has successfully leveraged external funding to be able to deliver the freeway program despite the shortfall in revenue. The other programs, for the most part, scale to projected revenues.

Other anticipated challenges include managing the changing project-delivery environment, including cost uncertainties, availability of qualified private contractors, and the associated challenge of meeting prescribed delivery schedules. Another general challenge is environmental cleanup requirements and general policy changes at the California state level, related to sustainability and greenhouse gas emissions reductions, which may affect OCTA’s ability to deliver highway projects as described in M2 in the future.

3.2.5.2 Staffing and Operating Resources and Training

The PMO filled a vacancy for the Measure M Management Analyst and acquired an additional FTE (for a total of two full-time Measure M Program Analysts). The second position was added just outside the window of the assessment period. The staff additions are helpful in keeping up as OCTA capital improvements and corresponding transportation operations activities grow. Staff resource balancing, training of new staff, and appropriate consultant management continue to be important.

3.2.5.3 External Communications and Coordination

Dedicated staff in the External Affairs and Government Relations Divisions handle cross divisional communication and outreach with the public and city stakeholders. However, there is some recognition that external awareness communications and coordination could be strengthened with additional resources. Examples include the desire to raise awareness through branding of additional outreach activities to M2 with external stakeholders.

3.2.5.4 Program Management Office / Project Manager Relationships

Project managers are ultimately responsible for keeping their projects on schedule, within scope, and on budget. In their roles, they closely interface with the M2 program management function. For example, early identification of project risks and issues or stakeholder concerns can allow for early resolution and

avert potentially greater impacts to the broader M2 Program. Challenges could be amplified by “distance” in the organizational structure between the PMO and project managers, which can be exacerbated with turnover and transition to new project managers.

3.2.5.5 Program Management Office Budget Limitations

The 1 percent administrative budget limitation established in the M2 Ordinance limits growth for staffing and associated administrative and operations costs, which creates an institutional challenge.

3.2.6 Program Management Office Opportunities

3.2.6.1 External Communications and Coordination

With the two new program analysts taking on increasing responsibilities, the PMO Manager has an opportunity to broaden the PMO by expanding participation with external stakeholder groups; thinking strategically about building awareness, building relationships with other self-help county partner agencies; and increasing collaboration with Caltrans. It will also be important to continue strong cross-divisional coordination and communications through Program Management Committee meetings and other venues.

3.2.6.2 Program Management Training

The OCTA staff has a strong base of skills to administer the M2 Program. The PMO is under the Planning Division, which provides the PMO team access to the planning resources and the group works readily across other OCTA divisions. The PMO Manager has been in her current position for 4 years, and before that, worked with the M1 Program. One of the new program analysts came from the Finance and Administration Division, and the other started in the early days of the PMO, and then went to External Affairs. This rich background of experience is directly applicable to PMO duties.

However, periodic training can still strengthen the PMO. Training benefits include enhancing the cohesiveness of the PMO and strengthening its commitment to its broad mission.

3.2.7 Organizational Structure

OCTA evolved from an organization with solely planning and operations to one that also provides significant capital delivery. OCTA uses a shared administrative support model with a dedicated Capital Programs Division, which is divided into Rail Programs and Facilities Engineering and Highway Programs Divisions. This organizational structure allows for efficient delivery of programs and projects. OCTA implements many industry best practices: each manager has no more than seven or eight direct reports; the project controls unit supports both highways and transit projects; and a separate, independent M2 PMO exists under the Planning Division.

During 2013, OCTA commissioned an M2 organizational readiness assessment. Four options were evaluated for the PMO, and while initially it was recommended to integrate the PMO with the Project Controls Department, ultimately the assessment determined that the current structure was working. OCTA concurred with that recommendation. Other approved recommendations included re-evaluating performance metrics and Planning staff participating in the environmental phase of project development. However, OCTA disagreed on merging real property activities because of the difference in scopes, and chose to revise the title of Rail ROW Administrator to Rail Maintenance ROW Administrator. This M2 assessment also concludes the current organization structure is satisfactory to deliver the program.

3.2.8 Policies and Procedures for Contract and Construction Management

Three documents define OCTA’s policies for contract and construction management: CAMM Policies and Procedures Manual, Program Management Procedures Manual and Construction Management

Procedures Manual. These policies detail the general procurement policy and standards for OCTA procurement activities and personnel engaged in these activities. They ensure that goods and services are obtained timely, efficiently, and economically, while adhering to principles of good public policy and practices, and sound business judgment. The policy manual provides a common understanding of the methods for initiating, developing, executing, and administering third-party contracts within the parameters of federal, state, local, and OCTA requirements. CAMM oversees the purchase and sale of all goods, and equipment services within OCTA. It also coordinates all activities of a contractual nature with vendors, suppliers and contractors. The Construction Management Procedures Manual was developed to assist the Construction Management Team in the administration of construction contracts. It provides a reference, defines the general duties and functions of the CM members.

Cooperative Agreements are vital to the delivery of certain projects that involve the Authority and other public entity or entities. They are contractual documents that record cost-sharing arrangements, receipts of revenue, and/or establish roles of and responsibilities of the Authority and other public entities. The Program Management Procedures Manual provides a brief overview of OCTA's roles as a Lead Agency and Cooperative Agency. Currently, OCTA's Construction Management Manual is utilized when OCTA is the lead agency, with the exception of Highway projects, at which point Caltrans' Construction Management Manual is adhered to. OCTA is responsible for hiring the consultants for the Highway projects, however these consultant's report to Caltrans and utilize Caltrans' Construction Manual.

An observation and ongoing challenge for OCTA, within their cooperative agreements with Caltrans, is that Caltrans has standardized clauses that make negotiating or adapting for the specific project difficult. For example, OCTA has requested to implement Not-to-Exceed clauses in contracts awarded for projects, and pressed for timeliness of invoices but with little success. In an effort to move forward with vital projects such as the I-405 Project, also known as Project K, OCTA has accepted Caltrans' requirements to move forward.

3.3 Findings and Recommendations

Findings and recommendations for the program management/ responsiveness area are detailed below.

Program Management Finding #1: The M2 PMO performance has matured and continued to perform at a high degree of professionalism and responsiveness. With the arrival of two new program analysts, OCTA is poised to oversee the growing program more fully, such as with the more comprehensive quarterly reports recently redesigned and through deeper involvement in project management review and analysis.

Program Management Recommendation #1: OCTA should communicate PMO staff member roles and responsibilities. Clear roles should be communicated across divisions to help promote coordination and communication. PMO roles should clearly define backup and mutual support activities. OCTA should broaden the PMO by expanding participation with external stakeholder groups; think strategically about building awareness, build stronger relationships with other self-help county partner agencies; and increase collaboration with Caltrans.

Program Management Finding #2: PMO staff have a strong base of skills to administer the M2 Program, including work experience across other OCTA divisions and history dating back to the early days of the PMO. Periodic training, such as enhancing the cohesiveness of the PMO and key stakeholders and strengthening OCTA commitment to its broad mission, could strengthen the PMO. OCTA-branded training modules specific to the M2 Program could further enhance abilities.


In the past, OCTA conducted a program management academy, which could serve as a model for the new training. Such a training program is in place now; conducting it this coming year was discussed.

Program Management Recommendation #2: OCTA should implement the program management academy in the short term. Such a program will benefit new staff, serve as refresher for existing staff, and strengthen collaboration between the PMO, Finance and Administration Division, and the respective project/program managers. The M2 ordinance and policy administration strategies should be shared as part of training. In addition, OCTA should consider Project Management Professional training for all PMO staff.

Compliance

4.1 Overview

This sections evaluates OCTA’s approach to ensuring compliance with the M2 Ordinance. Key requirements from the ordinance are summarized in Figure 4-1.

Environmental Cleanup Program		2% of Gross Revenues
Audits, Safeguards, and Taxpayer Protection		1% of Gross Revenues
State Board of Equalization (SBOE) Fees		1.5% of Gross Revenues
Authority Administrative Staff		No More Than 1% of Total
Use of Net Revenues		43% Freeways, 32% Streets and Roads, 25% Transit
Local Jurisdiction Participation		Eligibility Criteria and Matching Fund Requirements
Taxpayer Oversight Committee		Review and Certify Overall Spending Decisions

* Five percent of the freeway program is dedicated to the Freeway Environmental Mitigation Program

Figure 4-1. Summary of M2 Ordinance Compliance Requirements

Key compliance requirements are described in the subsections below.

4.1.1 Net Revenue

Net revenue is defined as gross revenue from the M2 sales tax, minus the following deductions:

- Amounts payable to the State Board of Equalization for the performance of administration and operation functions of the ordinance at 1.5 percent of gross revenue
- Costs related to OCTA’s administration of the ordinance, including salaries, wages, benefits, overhead, and services. The amount expended for OCTA staff salaries and benefits related to administration of the M2 Program must not exceed 1 percent of gross revenue in any year
- Two percent of gross revenue allocated annually for environmental cleanup
- Satisfaction of debt service requirements of bonds issued pursuant to the ordinance not satisfied out of separate allocations

Net revenue will be allocated solely for the transportation purposes described in the ordinance, which specifies the following:

- Forty-three percent of net revenues will be used for freeway projects with five percent dedicated to the freeway environmental mitigation programs, focused on freeway improvements.
- Thirty-two percent will be used for streets and roads projects, including fixing potholes, improving intersections, and synchronizing traffic signals.

- Twenty-five percent will be used for transit projects, including more frequent Metrolink Service, Metrolink gateways, mobility choices for seniors and persons with disabilities, and community-based transit/circulators and improved bus stops.

4.1.2 Safeguards

The safeguards established to ensure strict adherence to the limitations on using revenues include the following:

- Each jurisdiction will distinguish the receipt, maintenance, and expenditure of M2 net revenues separately from other funding sources.
- No jurisdiction can use net revenues for purposes other than what is authorized in the ordinance. Interest earned on net revenues must be expended only for those purposes for which the net revenues were allocated.
- A TOC will provide an enhanced level of accountability for expenditure of revenues under the ordinance.
- The TOC through the Chair will certify annually whether revenues were spent in compliance with the Plan.
- A performance assessment will be conducted every three years to evaluate the efficiency, effectiveness, economy, and results of OCTA in satisfying the provisions and requirements of the ordinance.
- Quarterly status reports regarding major M2 projects will be brought before OCTA in public meetings.
- OCTA will annually publish a report on how all revenues were spent and about progress in implementing M2 projects.
- A comprehensive review of all M2 projects and programs will be conducted at least every 10 years, to evaluate the performance of the overall program.

4.1.3 Maintenance of Effort

M2 streets and roads funding is meant to supplement existing local discretionary funds used for transportation improvements. Local jurisdictions in Orange County are to annually maintain, as a minimum, a maintenance of effort amount of local discretionary funds as specified in Ordinance No. 3, adjusted for inflation every three fiscal years.

4.1.4 Amendments

The ordinance can be amended to provide for using additional funding to account for unexpected revenue, or to take into account unforeseen circumstances. Public hearings on proposed amendments must be held, and amendment adoption requires a two-thirds vote of all of the TOC committee members (if related to the changes to the Plan) and a two-thirds vote of the OCTA Board for all amendments. Additional requirements (which may require going back to the voters) apply to amendments that change programs or projects, or that change funding allocations among the four major categories of freeway projects, street and road projects, transit projects, and environmental cleanup projects.

4.2 Observations

4.2.1 Net Revenue

A key requirement of the M2 Ordinance is an annual one percent cap on OCTA M2 administrative expenses. The EAP was approved in August 2007, and OCTA began delivering M2 projects in 2008 - before the start of M2 sales tax revenue collection in 2011. To cover administrative expenses incurred before the start of M2 revenue collection, the OCTA Board authorized borrowing funds from Orange County Unified Transportation Trust (OCUTT), which will be repaid over time. During the review period, OCTA continued to borrow funds from OCUTT on an as-needed basis and has paid back part of the borrowed funds.

OCTA tracks other compliance aspects associated with net revenue closely, including the allocation of net revenue between freeway, streets and roads, and transit projects; the revenue allocation to environmental cleanup; and satisfaction of debt service requirements. OCTA reports actual M2 revenues and expenditures to the TOC on a quarterly basis.

4.2.2 Safeguards

OCTA complies with each of the safeguards specified in the M2 Ordinance. This includes the following:

- OCTA works with each jurisdiction in Orange County to ensure M2 revenues are being used appropriately. OCTA personnel meet with representatives from every city at least twice a year to review project delivery and reporting requirements associated with M2 streets and roads projects.
- The TOC serves the functions specified in the M2 Ordinance, which includes determining if OCTA is proceeding in accordance with the ordinance. The TOC meets bimonthly at OCTA.
- An independent reviewer assesses OCTA every three years for satisfaction of the provisions and requirements of the M2 Ordinance. This report is the third M2 performance assessment, covering the period from July 2012 to June 2015.
- OCTA regularly reports its progress on M2 projects in Board meetings, Executive Committee meetings, Regional Planning and Highways Committee meetings, and Transit Committee meetings. These meetings are held at OCTA on a regular basis and are open to the public. OCTA also prepares quarterly reports on M2 progress for the OCTA Board.

4.2.3 Maintenance of Effort

OCTA certifies that each local jurisdiction in Orange County annually maintains a minimum maintenance of effort amount of local discretionary funds as specified in the M2 Ordinance, adjusted for inflation. OCTA reviews and ensures the maintenance of effort requirements are met as part of the annual review process.

4.2.4 Ordinance Tracking Matrix

OCTA developed a detailed ordinance tracking matrix in early 2012 that is updated on a regular basis. The matrix includes the following sections:

- Administrative and General Requirements
- General Requirements – Allocation of Net Revenues
- Requirements Related to All Freeway Projects
- Requirements Related to Specific Freeway Projects
- Requirements for Eligible Jurisdictions
- Requirements Related to Specific Streets and Roads Projects

- General Requirements Related to Transit Projects
- Requirements Related to Specific Transit Projects
- Requirements Related to Project X
- Safeguards and Audits

For each requirement, OCTA provides a description of the compliance item, the citation within the ordinance that the item stems from, the OCTA division primarily responsible for compliance, the compliance timeframe, the status, the responsible OCTA staff person, and notes. This matrix is a highly effective method for OCTA to track compliance with the M2 Ordinance.

4.2.5 Internal Audit

The Internal Audit Department provides the Board with reports detailing the results of audits of financial, administrative, and operational activities. The department operates independently of other OCTA functions and reports directly to the Board. The Internal Audit Department has several responsibilities related to M2. These responsibilities include the following:

- Assisting the TOC Audit Subcommittee in the design of agreed-upon procedures to be applied to the annual M2 Status Report
- Assisting the TOC Audit Subcommittee in the design of agreed-upon procedures to measure compliance with the Local Fair Share program, the Project U Senior Mobility Program, and the Senior Non-Emergency Medical Transportation Program
- Assisting the TOC Audit Subcommittee in review of the results of the annual financial and agreed-upon procedures review
- Performing internal audits of M2 related projects and programs as appropriate

4.2.6 Measure M2 Ten-Year Review

Though the performance assessment review time period is from July 1, 2012 through June 30, 2015, information from documents more recent than June 30, 2015, have been included. This information is for informational purposes only. The review and corresponding findings and recommendations are limited to the performance assessment review period.

OCTA is required to perform a comprehensive review of M2 projects and program elements at least every 10 years. The current 10-year cycle began on November 8, 2006 (the Measure M2 initiation date), and will continue until November 7, 2016. In fall 2015, the PMO completed the first 10 year review report. The report was submitted to the Executive Committee on October 5, 2015 and the full Board on October 12, 2015. The specific requirements of the review are described in Section 11 of Ordinance 3 and are described below.

4.2.6.1 Ten-Year Comprehensive Program Review

At least every 10 years, OCTA must conduct a comprehensive review of all projects and programs implemented under M2 to evaluate the performance of the overall program and may revise the plan to improve its performance. The review must consider changes to local, state, and federal transportation plans and policies; changes in land use, travel and growth projections; changes in project cost estimates and revenue projections; ROW and other project constraints; level of public support for the plan; and the progress of OCTA and jurisdictions in implementing the plan. OCTA may amend the plan based on its comprehensive review, subject to the requirements of Section 12.

OCTA established the following five major objectives for the 2015 report:

1. Research and identify external policy and/or regulatory changes at the local, state, and federal level, as well as changes in land use, travel, and growth projections that require consideration

2. Evaluate current project and program cost estimates and the financial capacity of the sales tax revenue through 2041 to confirm plan delivery
3. Review the M2 Program and project elements to determine performance issues or constraints to the promised delivery
4. Identify OCTA's and local jurisdictions' progress in implementing the plan
5. Assess public and stakeholder support for the plan

These objectives were broken down into four specific areas of analysis:

- Situation analysis
- Financial analysis
- Project delivery analysis
- Public priority analysis

Analysis for each area covered current conditions and potential future considerations. The PMO used internal research efforts across several departments, information and outreach conducted during the 2014 LRTP, and the 2015 update of OCTA's CBP to complete the report.

4.2.6.2 Situation Analysis

The situation analysis considered the possible impact of external factors on the delivery of M2. External factors considered included federal and state transportation legislation, state policy regarding transportation planning, and demographic/land use changes.

The report found that federal transportation legislation indirectly impacted M2 delivery. In particular, Moving Ahead for Progress in the 21st Century Act (MAP-21) impacted transportation funding and project delivery. This act provided \$18.8 billion in transportation funding. MAP-21 also included provisions for streamlining projects, which the report found to be beneficial to M2 delivery. However, MAP-21 also placed a greater emphasis on managed highway lanes, which led to a change in the managed lane policy of Caltrans. This new Caltrans policy conflicts with the M2 plan which was drafted before the new Caltrans policy. The overall state transportation legislation placed a greater emphasis on environmental sustainability. Given that M2 included numerous sustainability measures, the new state legislative measures were determined to not have a major impact on M2 delivery.

Demographic and land use analysis found that demographic growth in Orange County was slower than projected. Despite the slower than projected growth, the location of housing and employment development was generally consistent across the 2006 projections and the 2014 LRTP. Overall, the demographic and development patterns did not substantially change the delivery of M2.

4.2.6.3 Financial Analysis

The 2008 recession majorly impacted the sales tax revenue available for M2. The initial 2006 total sales tax revenue estimate was projected to be \$24.3 billion over the lifetime of M2. In 2010, the sales tax revenue was forecasted to be \$13.7 billion, a 44 percent decrease from the initial forecast. While more recent sales tax revenue forecasts have risen to \$15.7 billion, this revenue is still considerably lower than the original projections and is not expected to go back to original projections.

The decline in sales tax revenue posed the biggest challenge to the numerous freeway projects. This category of projects accounts for 43 percent of net M2 sales tax revenue. On the whole, freeway projects faced a shortfall of \$3.4 billion compared to the initial estimates. OCTA took several steps to address this shortfall, including advancing several freeway projects to take advantage of the lower construction bids and lower interest rates that accompanied the recession. Despite being planned as a self-funded measure, OCTA secured external funding to help deliver many freeway projects.

The streets and roads categories also faced a similar funding shortfall. OCTA secured funding for the majority of the OC Bridge Program by leveraging external funding. Because of the flexible scope per the ordinance, of the various other streets and roads projects, funding for these projects is scaled based on available revenue. Similarly, the funding for the projects in environmental cleanup program and Project R was scaled based on available revenue. Project R provides operating and capital funding for Metrolink service. This project has been scaled back based on available revenue, which has limited additional service expansions. Providing additional funds would allow the service to grow and meet the future demand and also support sustainability goals by providing an attractive travel option for the commuters. The Senior and Disabled Fare Stabilization Program within Project U is the only transit project which cannot employ a scaled funding approach. The M2 Ordinance states that Project U will receive 1 percent of net revenues to provide fare discounts for seniors and persons with disabilities. The M2 Ordinance also provides specific guidance that fares will be stabilized in an amount equal to the percentage of partial funding of fares for seniors and persons with disabilities as of the effective date of the ordinance. However, 1 percent of the adjusted net revenues based on the latest forecasts was not sufficient to fund the requirements outlined in the M2 ordinance. Thus, Project U requires additional funding beyond the dedicated 1 percent of net revenues.

Project T (Gateways to High Speed Rail) was completed under budget with the completion of the Anaheim Regional Transportation Intermodal Center. The remaining balance of Project T (\$219 million) is sufficient to cover the budgetary shortfalls of Project U (Senior and Disabled Fare Stabilization) and of Project R (Metrolink Operations).

The report recommended that \$69 million of the remaining balance be transferred to Project U (Senior and Disabled Fare Stabilization) and the remaining \$150 million transferred to Project R (Metrolink Operations).

4.2.6.4 Project Delivery Analysis

Overall, project delivery has occurred at a very fast pace. All M2 programs have been initiated, with some already completed. Approximately \$3 billion dollars has been invested/allocated to the various projects. However, a gulf developed between the freeway project delivery priorities of OCTA and Caltrans, which is a major concern for project delivery. Caltrans now requires a broader range of alternatives be considered for analysis. These new requirements differ from those which were in place during the drafting of the M2 highway plan. This could expand project footprint, change intent, add costs, and/or cause scheduling impacts.

4.2.6.5 Public Priority Analysis

OCTA conducted thorough public outreach for the M2 plan to gauge feedback from a wide range of stakeholders. These included government officials, community and business leaders, transportation professionals, multicultural leaders, and the general public. OCTA provided the general public with many platforms to provide comments, including an online questionnaire, roundtables, outreach meetings, letters, a public opinion survey, and promotion through traditional media.

Public opinion of M2 is still favorable. The public generally supported the plan as passed. Many participants suggested that OCTA should also continue efforts to include multi-modal options including transit, street, freeway, and active transportation projects.

The requirements in the Ten-Year Review Report to analyze M2 projects and programs, assess internal and external barriers, and recommend efficiency improvements for M2 delivery were fulfilled. External changes to land use, demographics, land use transportation legislation, and project cost/revenue projects will not require significant changes to the M2 Plan. All projects listed in the plan were initiated, thus OCTA has upheld its initial commitments to voters.

Overall, OCTA was able to implement scalable funding systems and external revenue to make up for shortfalls in projected sales tax revenue. The report found that the balance of remaining funding in Project T is sufficient to address the projected budgetary shortfalls of Project R and Project U over the life of the M2 Program. The report recommended formally adding an amendment to allow for the transfer of funds between transit programs.

On December 14, 2015 the Board approved an amendment to the Renewed Measure M Local Transportation Authority Ordinance No. 3 and Transportation Investment Plan. The amendment was correctly stated in all communications and transmittals including the action taken by the Board on the dollar amounts. However, an error was found in the accompanying attachments reflecting the action. In order to ensure the record is clear on the action taken, a staff report with revised attachments were reviewed and approved by the Board on March 14, 2016.

4.3 Findings and Recommendations

No findings and recommendations are provided for Area 3, Compliance.

Fiscal Responsibility

5.1 Overview

This section evaluates OCTA’s efficiency and effectiveness in structuring the fiscal approach to M2 project and program delivery. As described in the M2 PMO Charter, the PMO’s functional responsibilities with respect to fiscal responsibility include ensuring the following:

- Proper reporting and ongoing review of M2 receipts, expenditures, and accounting of M2 proceeds to meet business and agency standards
- Uses of M2 and related external funding follow the provisions of the ordinance

More holistically, OCTA’s fiscal responsibilities for the M2 Program include a broader spectrum of activities such as project selection, management and oversight of M2 funds, and ensuring compliance with financial aspects of M2 mandates (such as using M2 funds to leverage opportunities to expand project funding). These areas, summarized in Figure 5-1, were considered during the assessment.



Figure 5-1. Orange County Transportation Authority’s Fiscal Responsibility Objectives and Strategies for the M2 Program

5.2 Observations

5.2.1 Administrative Expenses

OCTA personnel continue to manage administrative expenses related to the M2 Program. The M2 Ordinance sets an annual one percent cap on salaries and benefits for OCTA administrative staff. OCTA ensured that M2 project-specific administrative costs were charged to the appropriate project and tracked both project-specific and non-project administrative charges on an ongoing basis. This process meets the ordinance requirements and allows charges that exceed the one percent cap to be offset by using other funding sources. OCTA funded M2 administrative expenses in excess of the cap by borrowing from OCUTT, and has already paid back a portion of the funds.

5.2.2 Program Financing and Funding

The Transportation Investment Plan, in its discussion of taxpayer safeguards and audits, mandates that every effort be made “to maximize matching state and federal transportation dollars.” While the M2

Ordinance states “Pay as you go financing is the preferred method of financing transportation improvements and operations under this Ordinance,” it permits bond financing where pay-as-you-go financing is not feasible.

5.2.2.1 Program Financing

OCTA did not issue any additional debt to finance M2 projects during the review period. However, the OCTA Board decided to retire the Tax Exempt Commercial Paper (TECP) facility, which was established in 2008 to finance the M2 EAP because M2 sales tax collections did not begin until 2011. Even though they were authorized to issue debt for approximately \$400 million using the TECP, OCTA issued debt for only \$100 million under the TECP facility. In 2010, OCTA issued long-term sales tax revenue bonds and paid back approximately \$75 million of the debt issued under the TECP facility. This reduced the outstanding debt issued under the TECP facility to about \$25 million. The OCTA Board retired the TECP program in 2014.

Though OCTA issued no debt during the review period, its current cash flow forecasts anticipate issuing debt to finance M2 projects.

5.2.2.2 Program Funding

Building on the success of securing Proposition 1B and American Recovery and Reinvestment Act funding from the 2009-2012 period, OCTA continues to actively seek other funding sources to supplement M2 sales tax revenue. OCTA leveraged approximately \$918 million in committed external funding for the M2 Program. This level of funding allowed the agency to bridge the funding gap caused by the recession.

Project K and Project S provide two examples of securing additional funding. For Project K, OCTA is working with Caltrans to widen the San Diego Freeway (I-405) between SR-73 and I-605. OCTA is actively seeking federal loans through the TIFIA program to finance the project. For Project S, OCTA is seeking funding for the OC Streetcar project through the federal New Starts process, working in close cooperation with FTA.

OCTA updated its cash-flow projections during the October 2015 Comprehensive Ten-Year Program Review of the M2 Program, which was completed outside the review period of this study. In these projections, OCTA’s financial assumptions included committed, external funding already programmed to specific freeway projects. Based on the current sales tax revenue forecasts and committed external funding, OCTA determined it will be able to meet the intent of the commitments made to Orange County voters. Any new external funding will be used to protect against any financial risks (higher project costs or interest rates).

5.2.3 Process to Forecast Cash Flow Needs

OCTA reports its cash flow projections for the M2 Program in the CBP, which is updated every year and published every other year. During the review period, OCTA published the CBPs in FY 2012-13 and FY 2014-15. As the Ten Year M2 Program Review was completed in 2015, OCTA also updated the M2 cash flow needs in October 2015.

To forecast the M2 revenues, OCTA continues to use sales tax forecasts from three universities. These projections are available annually. For informational purposes, the latest sales tax projections are shown in

Table 5-1. OCTA is currently reviewing the methodology used to estimate sales tax forecasts.

Table 5-1. M2 Sales Tax Revenue Forecasts, Growth Projections

Forecast Period	University of California, Los Angeles	Chapman	California State University, Fullerton
1-year rate (FY 2016)	6.51%	5.68%	7.98%
Average 3-year rate (FY 2016 - FY 2018)	4.94%	5.66%	7.15%
Average 5-year rate (FY 2016 – FY 2020)	4.81%	5.40%	6.37%
Average 10-year rate (FY 2016 – FY 2025)	4.49%	4.95%	5.37%
Average 30-year rate (FY 2016 – FY 2041)	4.35%	4.53%	4.68%
Sales Tax Forecast (\$ Billions)	\$15.1	\$15.8	\$16.4

Source: OCTA. 2015. Measure M2 Sales Tax Forecast. Finance and Administration Committee Meeting. November.

OCTA updates the cash flow needs once a year or as needed driven by the situation. The cash flow does not need to be updated more frequently unless there is a compelling reason to do so. Any changes in methodology used to forecast sales tax revenues will impact the M2 cash flow forecasts.

5.2.4 Technical Project Selection Process

OCTA established a specific process for awarding M2 grants to streets and roads, transit, and environmental projects. The review process included interviewing OCTA staff overseeing these programs and reviewing the corresponding processes documented in guidelines and other documents on OCTA's Web site. This documentation included the following:

- CTFP Guidelines
- Measure M2 Eligibility Guidelines
- Select Program Guidelines (Project T, Project S, and Environmental Program)
- Preparation guidelines for various plans (Project Management Plan, Congestion Management Program, and Capital Improvement Program)

The CTFP guidelines provide information and procedures for local agencies to apply for funding for transportation projects. In general, this document lays out the program overview, eligibility, requirements, application process, and other requirements. The eligibility and project selection requirements are consistent with the requirements of state and federal grants (for example, Project S projects must be consistent with FTA process and policies). The process is logical, thorough, and complete.

The M2 Eligibility Guidelines require local agencies to satisfy 13 requirements as identified in the M2 Eligibility Guidelines to be eligible to receive funds. OCTA's review process ensures local agencies are meeting the eligibility requirements. The eligibility review process is reviewed by OCTA staff, TOC, and Annual Eligibility Review subcommittee periodically. Recommendations from the eligibility reviews and the expenditure reports are then approved by the Board. OCTA has thorough guidance materials and conducts outreach with local agencies to ensure they have sufficient tools and the resources required to meet the annual eligibility requirements.

5.2.5 Investment Policy and Priorities Review

The investment policy and priorities review focused on whether OCTA invests the M2 funds balancing various priorities such as security of the principal, market average returns, and meeting the cash flow needs. Staff were interviewed and investment policies adopted by the Board in January 2012 (2011

Annual Investment Policy), June 2013 (2013 Annual Investment Policy), and July 2014 (2014 Annual Investment Policy) were reviewed.

The OCTA Board adopted an investment policy every year during the review period. The OCTA Finance and Administration Committee reviewed the investment policy every year during the review period and recommended changes to the investment policy. M2 does not require annual updates to the investment policy. An annual review is recommended under California Government Code Section 53646(a)(2), which requires the statement of investment policy be rendered to the Board and any changes be approved in a public meeting. During the review period, OCTA met the requirement for reviewing and approving the investment policy in 2013 and 2014. The 2011 Annual Investment Policy, which was not approved until early 2012, may also have been used to guide investments in 2012.

OCTA's Annual Investment Policy governs all investments made by OCTA, irrespective of the funding source. This appears a reasonable approach considering that the M2 Ordinance does not have specific policies or practices for investing M2 funds.

OCTA's investment policy is to ensure capital preservation, provide liquidity, and achieve market average rate of return. It also lays out priorities with regard to safety, cash flow needs, and returns. Investment objectives include the following (for exact definitions review OCTA's Annual Investment Policy):

- Safety of Principal – avoid capital losses
- Liquidity – ensure investments offer the flexibility to be easily sold at any time with minimal risk of loss of principal and interest
- Total Return – ensure investments attain market average rate of return through economic cycles
- Diversification – diversify investments to avoid unreasonable market risks

These objectives and the definitions remained unchanged during the review period.

To ensure that OCTA's investments comply with these objectives, OCTA provides a copy of the investment policy to the investment manager as part of its contract with the investment manager. OCTA regularly monitors the compliance of its portfolio manager and has provisions in place in case the investments are not in compliance.

Overall, OCTA's policies and processes protect the security of the principal, meet the cash-flow needs, and earn market average rate of return.

5.2.6 Expenditure Reporting Template

M2 guidelines require local agencies to adopt an annual expenditure report to account for net revenues, developer/traffic impact fees, and funds expended by local agencies that satisfy the maintenance of effort requirements. The M2 guidelines require that the expenditure reporting template include the following:

- All net revenue fund balances and interest earned
- Expenditures by type (capital, operating, and administration) and program or project

The expenditure reporting template is organized effectively and collects the following information required by the M2 Ordinance:

- Schedule 1 collects the beginning and ending fund balance by funding source for the fiscal year.
- Schedule 2 collects incoming sources of revenue and outgoing expenditures by fund, tracking the interest separately. This schedule also compiles the sources and uses of funds by project/program, and distinguishes interest from other amounts.

- Schedule 3 collects expenditures by fund source for the streets and roads program by administration/overhead, construction, and operations and maintenance.
- Schedule 4 collects the amount expended by fair share project list.

The expenditure report is collected annually and is submitted 6 months after the end of the fiscal year to allow for reporting audited financials. The reporting format and template are also adequate and complete.

5.2.7 Payment Process for Grant Funding Disbursement under Streets and Roads Program

This review consisted of interviewing OCTA staff and reviewing CTFP guidelines.

The disbursements for Project Q, Local Fair Share Program, are made bi-monthly using a formula once the minimum eligibility requirements are met, which are reviewed annually.

In general, the disbursements for Project O, Regional Capacity Program, and Project P, Regional Traffic Signal Synchronization Program, are generally released through two payments. The initial payment constitutes 75 percent of the contract award or allocation amount, whichever is less. The initial payment can be disbursed after the local agency submits the request including contract award and relevant information. The final 25 percent can be disbursed after OCTA receives the final report and the supporting documentation. The agencies must submit payment requests using OCTA's online platform. For Project P, the initial payment can be 75 percent of the primary implementation allocation. The remaining 25 percent can be disbursed after completion of the primary implementation phase and submission of required documentation. Payment for ongoing operations and maintenance can only be made upon submittal of the final invoice with proof of work performed.

Detailed instructions for submitting payment requests and supporting documentation are available for local agencies' reference. In addition, OCTA staff can assist the agencies with this process.

The 75-25 payment approach balances the up-front cash-flow needs of local agencies to initiate and make substantial progress and also provides OCTA some protection. In addition, a feedback loop is built in to review the process annually and make necessary adjustments based on lessons learned and stakeholder feedback. The payment process is working well for OCTA and, hence, no changes are proposed.

5.2.8 Process to Monitor Timely Use of Grants to Local Agencies

OCTA is required to review all active CTFP projects through the semi-annual review process. OCTA administers this process using the OCFundTracker. The review includes project cost, project scope, local match verification, project schedule, project viability, and in-kind match confirmation for the Environmental Cleanup Program. The reviews are conducted every six months generally, initiated in March and September, when local agencies are notified of the upcoming reviews and requested to submit project updates. Local agencies are given an opportunity to request changes per the CTFP guidelines, which are then reviewed on a case-by-case basis based on the information provided. The proposed changes may include changes to the project schedules, scope modifications, delays, advances and timely-use of funds extension request. OCTA staff review the proposed changes to ensure they are consistent with the CTFP guidelines and present the recommendations to the Technical Advisory Committee to initiate the approval process, and to the OCTA Board for final approval.

Several local agencies did not request an extension for expending the funds within the three year deadline imposed by the ordinance. Over time, OCTA may investigate whether there is a developing pattern of behavior and whether this pattern is indicative of a broader issue that should be addressed.

5.3 Findings and Recommendations

Findings and recommendations for OCTA to consider for fiscal responsibility are detailed below.

Fiscal Responsibility Finding #1: During the review period, OCTA implemented controls to improve tracking and administration of the one percent cap on administrative expenses. Though OCTA has borrowed from another funding source to satisfy the M2 requirement, OCTA staff are confident they will be able to satisfy the one percent cap requirement over the long term. OCTA has already paid back part of the amount borrowed.

Fiscal Responsibility Recommendation #1: Continue monitoring ongoing expenditures for administrative expenses, including labor charges by project, and determine whether any changes are required in the future.

Fiscal Responsibility Finding #2: OCTA regularly evaluates the optimum level of debt financing and the timing of debt issuance required to deliver the M2 Program in a cost-effective manner. While OCTA has indicated an ability to deliver the M2 Program without additional external funding, it continues to seek alternate sources of funding to supplement M2 funds when available. OCTA has processes in place to periodically update its cash-flow needs for the M2 Program.

Fiscal Responsibility Recommendation #2: Continue to evaluate the optimum level of debt to issue and timing of debt issuance to deliver the M2 Program. Continue efforts to seek alternate sources of funding to supplement M2 funds, including using M2 funding to meet local match requirements.

Fiscal Responsibility Finding #3: OCTA noted that three local agencies failed to request timely use of funds extension during the semi-annual review process, and, thus did not receive their full allocation.

Fiscal Responsibility Recommendation #3: Over time, evaluate whether there is a pattern developing by local agencies neglecting to request timely use of funds extensions, when such extensions are necessary. Should a pattern emerge, identify and address the underlying root causes.

Transparency and Accountability

6.1 Overview

This section evaluates how fully, intelligibly, and otherwise appropriately OCTA reports on M2 matters to the Board, TOC, general public, and other stakeholders. The M2 Program is a transparent and publicly visible program at OCTA. The review of OCTA's transparency and accountability included interviews, in-person or by phone, with OCTA staff working in the offices of External Affairs and Government Relations, as well as with a broad cross-section of external stakeholders as identified in Table 1-3. The interviews were to evaluate ongoing outreach efforts and obtain feedback from internal and external stakeholders. The project team also reviewed OCTA's Web site as a tool for outreach and providing project updates to the public and compared it to those of two similar transit agencies: the Los Angeles County Metropolitan Transportation Authority (LA Metro) and the San Diego Association of Governments (SANDAG).

6.2 Observations

External stakeholders lauded OCTA as a good partner, stating that OCTA has done a good job with M2 program outreach. Collectively, the OCTA staff is passionate and committed to disseminating M2 information to stakeholders and the public. However, balancing the appropriate levels of effort for transparency and accountability relative to the costs of implementing various strategies can be challenging given funding constraints. The following subsections outline the feedback and highlight successes and challenges.

6.2.1 OCTA Outreach Staff Feedback

OCTA outreach and government relations staff were interviewed about transparency and accountability efforts related to the M2 Program. Successes and areas for improvement noted during the interviews are highlighted below. The list of staff interviewed is provided in Table 1-3.

6.2.1.1 Successes

Collectively, staff members were passionate and committed to disseminating M2 information to external stakeholders and the public. Staff mentioned the updated OCTA Web site, which was launched in July 2015, provides consistent updates on new M2 projects and program information. Personnel photos and contact information of key OCTA staff are now provided on M2 project Web pages, so that stakeholders and the public can put a face to a project and easily provide input and feedback. The Web site is user-friendly, easy to navigate, and compatible with mobile and social media platforms. OCTA's internal design and Information Technology team provides quick assistance with Web site updates and basic maintenance. OCTA tailored its outreach strategies for each project to address different social, economic, and demographic needs with the help of subject matter experts and diverse community outreach consultants. These community outreach strategies included public informational meetings; automatic outgoing calls for senior citizens; and translated materials for the Hispanic, Vietnamese, and Cambodian communities, among others. In addition to conducting outreach activities during typical weekday work hours, OCTA outreach staff also facilitated and participated in after-hours and weekend activities.

6.2.1.2 Areas for Improvement

Staff stated that limited staff resources make it hard to stay on top of keeping information current and implementing a robust awareness program. For each project and program, OCTA staff members set a high standard to serve the general public by being responsive 24/7.

OCTA outreach team's efforts to communicate project related information through digital marketing solutions and traditional media such as television, radio, and print media was highly regarded by external stakeholders. However, the 2015 Attitudinal and Awareness Survey revealed that awareness of Measure M declined since last survey. About 74 percent of the respondents said that they had not heard of Measure M. In general, this presents a potential opportunity to improve the branding and awareness of Measure M and educate the public that the projects are in fact funded using Measure M.

Overall, staff working on government relations and outreach noted that the extended period of heavy workload presented a challenge to maintaining strategic planning, staff retention, and work-life balance. Stakeholders suggested that adding additional staff could reduce the pressure on current staff and improve the quality of the government relations and outreach efforts.

6.2.2 External Stakeholder Feedback

External stakeholders were interviewed about transparency and accountability efforts related to the M2 Program. Successes and areas for improvement noted during the interviews are highlighted below. The list of external stakeholders interviewed is provided in Table 1-3 (see page 1-5).

6.2.2.1 Successes

External stakeholders lauded OCTA as a good partner and indicated that overall OCTA has done a good job with M2 outreach. The majority of external stakeholders reported that OCTA has been timely in its communications and that they were encouraged to provide feedback that would be incorporated into decision making. Many external stakeholders have established long-term partnerships with OCTA. The stakeholders also praised OCTA staff for being professional, cooperative, and available.

Multiple external stakeholders noted that during committee meetings (TOC, Environmental Oversight Committee, and Environmental Cleanup Allocation Committee), several OCTA staff members were present to provide information and answer questions. The meetings were well organized, and handouts/meeting agendas were provided. When an issue was addressed during a committee meeting, OCTA staff responded immediately. If a particular question or information request brought up during a committee meeting was more complicated than could be satisfactorily addressed with the information on hand, OCTA staff would research the information and provide a follow-up response. Generally, external stakeholders thought follow-up communications were effective and largely attributed that success to a functional tracking system.

The majority of stakeholders who were interviewed were satisfied with the frequency of communication with OCTA. Many reported meeting and speaking frequently with multiple OCTA representatives on several different occasions. Most external stakeholders received their information (meeting agendas and project updates) via e-mail and were aware of the OCTA Web site and social media platforms. However, in-person meetings and phone calls were their preferred methods of communication. In-person meetings were regarded as the most effective method for soliciting input and feedback.

6.2.2.2 M2 Project Highlights

External stakeholders noted two high-profile M2 projects involving a large number of external stakeholders in particular had notable OCTA outreach efforts. A majority of external stakeholders mentioned the I-405 Improvement Project, which has been highly publicized and has continued to receive much attention from the public and stakeholders. Outreach efforts for this project improved

since the project's inception. Ultimately, most external stakeholders viewed communication for this project positively.

The Environmental Mitigation Program was the other noted project. The program involves a wide variety of external stakeholders, some of whom have been reluctant to accept the change in property ownership as well as OCTA's intent to protect the Preserves in perpetuity. OCTA diligently worked with environmental and community groups to address these concerns. Resource Management Plans (RMPs) for a number of properties were prepared well ahead of the required timeframe to address land management, protection of biological resources, and public access. Although not required, OCTA invited public input on the RMPs as well as organized public meetings to generate program awareness. OCTA also hosted wilderness hikes and rides (since 2011) on various Preserves to educate the public on the program's objectives, which were viewed positively by the public.

6.2.2.3 Areas for Improvement

The majority of external stakeholders reported that OCTA could improve its community outreach efforts through better use of stakeholder channels. External stakeholders represent organizations with member bases, and OCTA could use the stakeholders' communication channels such as e-mail, newsletters, Web site banners, meetings, printed ads, and mailers to improve their outreach efforts. While most stakeholders felt they were adequately informed about M2 projects and programs by receiving information at meetings, a few stakeholders stated they did not receive many subsequent project- or program-related e-mails, updates, or briefings and were interested in receiving more information about particular projects. Many external stakeholders expressed interest in receiving regular OCTA project and program information outside of their representative committee, district, or city. External stakeholders were primarily interested in M2 projects directly impacting their members' and constituents' interests. The stakeholders appreciated receiving quarterly reports, but were interested in receiving information with more specific project and program summary updates as it related to the needs and interests of their members and constituents. One-page information sheets to provide M2 project updates tailored to specific city or project interests were suggested.

A majority of the stakeholders acknowledged they rarely conducted an active search for information on the OCTA Web site or social media sites. However, they noted the Web site was well laid out and easy to use. Multiple stakeholders indicated that the outreach efforts could help facilitate sharing information with other areas of focus and other committees. More education across committees about M2 projects, via handouts and in-person briefings with stakeholder communities was suggested.

6.2.3 Assessment of Availability of Information on M2 Projects

This assessment of outreach methods is based on the feedback from internal and external stakeholders, as well review of the 2013 OCTA Measure M2 Organization Readiness Assessment Study: Staff Report, M2 Final Project Status Reports, OCTA's West County Connectors Public Outreach Plan, and OCTA's Web site.

6.2.3.1 Successes

To effectively engage the public and provide information on M2 projects, OCTA implements a wide range of outreach methods. External stakeholders praised the OCTA Web site, newsletters, and public meetings regarding M2 projects for being thorough, carefully prepared, and informative. OCTA adopted the latest marketing solutions, including new technologies such as digital marketing, e-mail blasts, mobile-friendly media, text messaging, and social media. The advantages to including digital media as part of OCTA's outreach strategy is reduced cost and increased effectiveness in reaching constituents in the impacted areas.

External stakeholders noted receiving information on M2 projects from public outreach efforts in multiple ways: targeted e-mails, visits to the OCTA Web site, weekly newsletters, mailers, door hangers,

videos, television and radio commercials, phone calls, publications of upcoming proposals, public informational meetings, informal meetings, community-based meetings, Board meetings, and newspaper advertisements. The informational materials ranged from a single page summary to quarterly reports numbering 45 to 60 pages; presentation formats ranged from print to digital. External stakeholders noted they liked receiving regular updates that provided a lot of information.

OCTA's outreach staff were proud of the capabilities of the OCTA's bilingual staff. To improve outreach, bilingual staff and consultants regularly attended community meetings to provide additional information and support. Printed materials and Web site communications were translated into different languages to provide information to the diverse communities throughout Orange County. The M2 logo was listed on its program and project marketing materials for consistent branding. A section of the OCTA Web site was dedicated to M2, and it was updated frequently. The committee meeting schedule and agendas were also posted on the Web site.

Another important aspect is how the outreach team receives and responds to public questions and comments. Providing timely responses to public comments was noted as a highlight of OCTA's outreach strategy by both staff and external stakeholders. OCTA outreach staff delivered acknowledgements and responses to all public comments within 24 to 48 hours. If a question was more in-depth, the staff member researched the topic and followed up as quickly as possible with a reply. During construction phases, multiple staff members received updates from one central e-mail inbox for receiving feedback from the general public to ensure an outreach staff was always available to respond to comments in a timely manner. For every M2 project, OCTA staff recorded the comments and categorized them as positive, negative, or neutral for trend analysis. The response time to committee members and elected officials varied because of the relative complexity of the subject matter.

OCTA outreach staff also noted the importance of coordinating outreach with other agencies for effective communication. OCTA provided resources and collaborated with its representative cities and Caltrans. To ensure that public outreach is effectively carried out for each M2 project, OCTA issues standalone outreach contracts. By issuing outreach and communication contracts separately, instead of including these functions in the construction project scope of work, OCTA designs projects such that the outreach efforts receive sufficient attention and support for successful implementation.

6.2.3.2 Areas for Improvement

Both OCTA staff and external stakeholders noted the challenges associated with OCTA receiving proper recognition from the public on how Measure M funding is used to create M2 projects and programs, despite OCTA's outreach efforts. TOC members noted there are more opportunities to educate members of the community – neighbors and friends – who do not yet fully appreciate the benefits of M2. OCTA marketing materials were branded with the M2 logo; however, the placement and size of the M2 logos should be larger and more prominent on city signage. Developing marketing and branding guidelines for cities that receive M2 funds on how best to promote and explain projects could improve the recognition of M2 projects.

Furthermore, the complexity of the subject matter has consistently made outreach efforts more challenging. Small cities lack the staff to review all materials and documents. Many cities also had a "silo" mentality, and were focused only on their own issues, which reduced efficiency. OCTA endeavored to bridge the gap by educating the city managers on M2 projects and programs.

Term limits and a high turnover rate of OCTA Board members, elected officials, and retiring city staff was an ongoing challenge to OCTA's outreach efforts. With changes in leadership comes the natural process of bringing the new member up to speed on OCTA activities. This can sometimes effect how quickly projects are able to move forward. To address this issue, as it relates to Board members, OCTA prepared a Board briefing book, which outlines all aspects of the organization and processes.

6.2.4 Quantitative Rating

As a benchmark for future reviews, interviewees were asked to rate OCTA’s performance in transparency and accountability on a scale of 1 to 10, with 10 being best. Among those willing to give a numerical rating, no rating was below 6, the mean was 8, and the highest rating was a 9.

6.2.5 Orange County Transportation Authority Web site and Social Media

One of the main improvements mentioned in the interviews was the OCTA Web site and social media platform. For all stakeholders, and especially the general public, the OCTA Web site, M2 web pages, and M2 project one-pager information sheets were a user-friendly doorway to finding specific M2 Program information and details about each project. The fact sheets, which were kept up to date, and committee agenda packages were especially helpful.

Figure 6-1 provides a sample graphic from the M2 Schedules Web page, with select freeway project schedules identified. Figure 6-2 provides a sample project fact sheet with detailed information pertaining to the I-405 Improvement Project. Figure 6-3 provides a screenshot of the M2 Web page; more program and project information is listed on a drill-down menu in the left pane. M2 funding projects are differentiated with a Measure M logo on the Web page for easy identification. Figure 6-4 shows a wide range of social media channels for outreach, including text messages (SMS), e-mail, Facebook, Twitter, YouTube, and Instagram, which generate interest and facilitates dialogue with the general public.

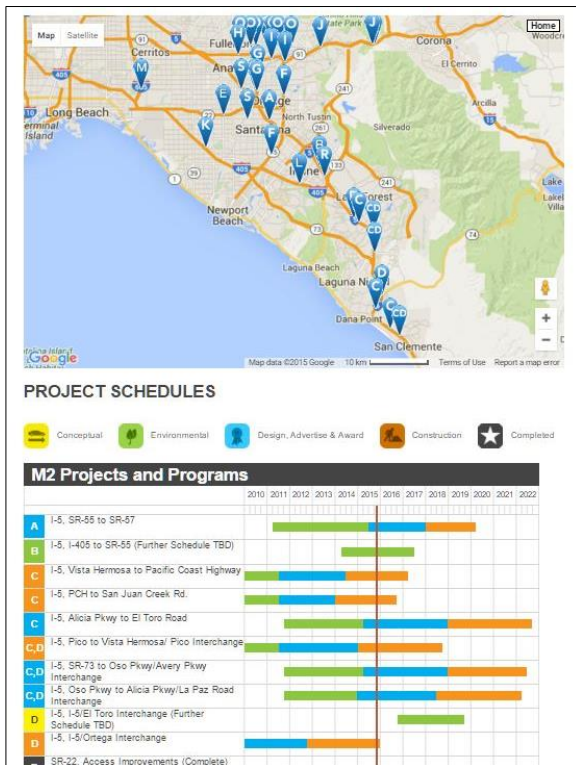


Figure 6-1. Sample of M2 Schedules on the Orange County Transportation Authority Web site

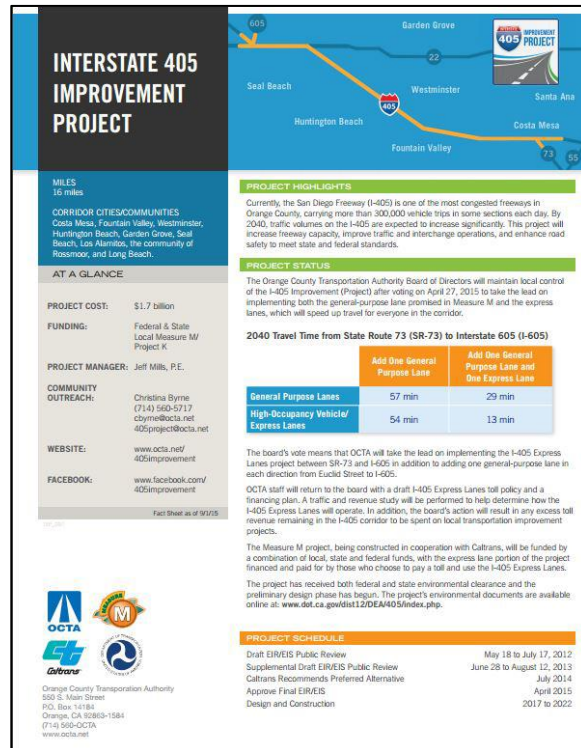


Figure 6-2. Sample of Project Fact Sheet, M2 Funding Project, I-405 Improvement Project (SR-73 to I-605)

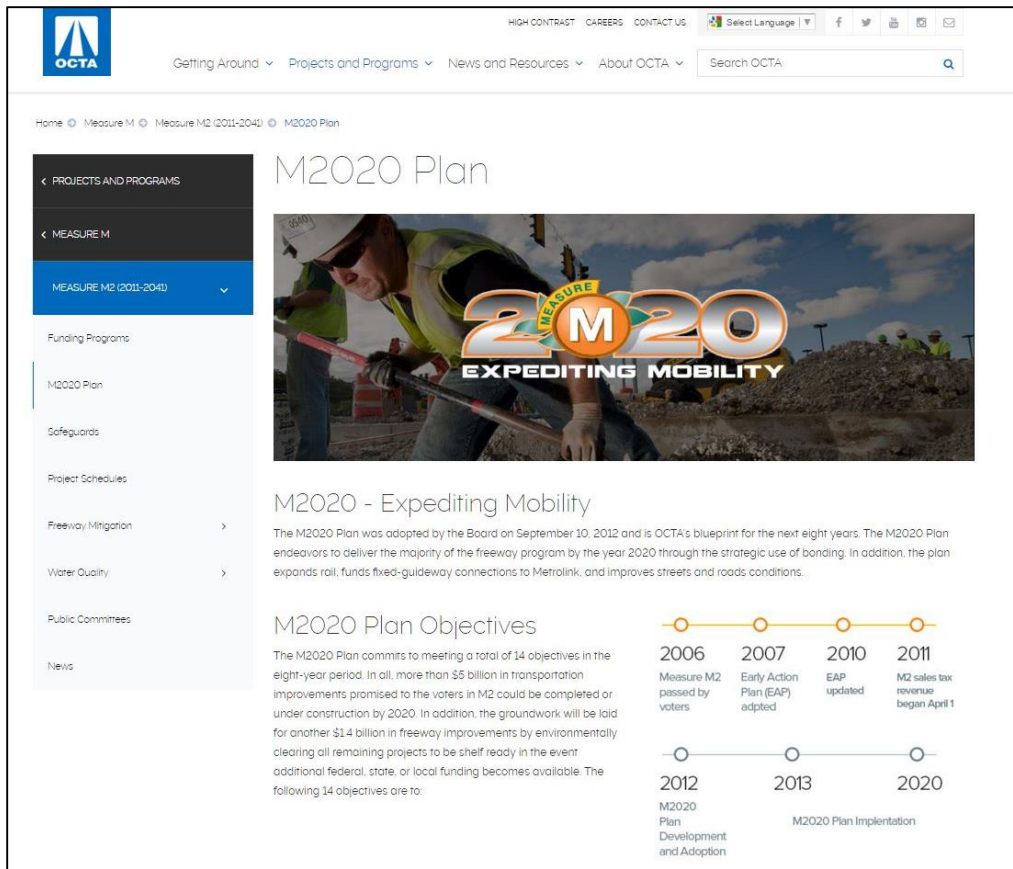


Figure 6-3. Orange County Transportation Authority M2 Web page

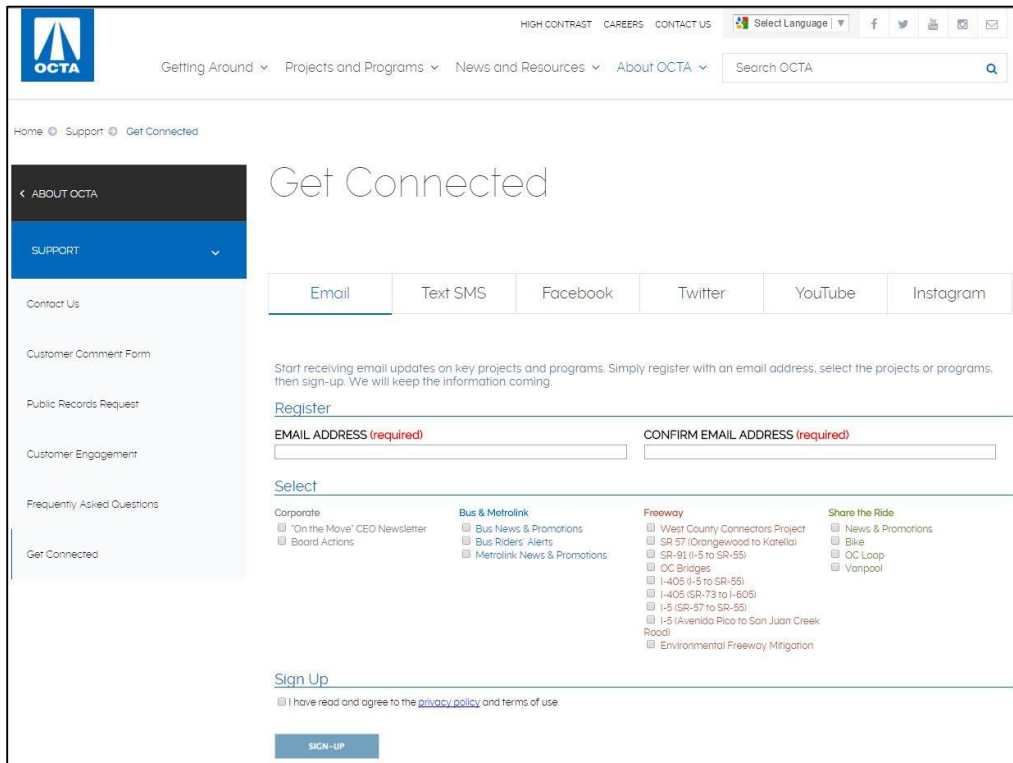


Figure 6-4. M2 Programs and Projects Social Media Outreach Efforts, Orange County Transportation Authority Web site

6.2.5.1 Comparison against Other Transit Agency Websites

This subsection compares various aspects of the OCTA Web site, including presentation, user function, and availability of project information, to the Web sites of two other similar transit agencies, LA Metro and SANDAG. The OCTA Web site provided a great deal of information in a clear and accessible manner. However, OCTA could improve access to information by providing downloadable PDF documents of project information and offering more users the ability to find information about project updates via project search or an interactive map display. Table 6-1 shows the review of the OCTA, LA Metro, and SANDAG Web sites for user function and comparison of programs similar to OCTA’s M2 Projects.

Table 6-1. Review of Orange County Transportation Authority and Other Transit Agency Websites







Agency / Web site Attribute	Orange County Transportation Authority	LA Metro	SANDAG
Program Description and Homepage Display	 <p>When clicking on the M2 tab, the following is exhibited: “The M2020 Plan was adopted ... the year 2020 through the strategic use of bonding.”</p> <p>This could be improved by displaying the following message: “Half-cent 20-year sales tax (Measure M) was approved in 1990. Extension (Measure M2) was approved in 2006 for an additional 30 years, to 2041.”</p>	 <p>Measure R is a half-cent sales tax for Los Angeles County to finance new transportation projects and programs, and accelerate those already in the pipeline. The tax took effect July 2009 for FY 2010-2039.</p> <p>A November 2012 vote to extend the sales tax (Measure J) did not pass. Metro continues to explore 2016 ballot Measure R.</p>	 <p>TransNet is the half-cent sales tax for local transportation projects that was first approved by voters in 1988, and extended in 2004 for another 40 years.</p>
Program Home Page Accessibility	Good. Under the top navigation bar on the OCTA homepage, second pull down.	Good. Under the top navigation bar, LA Metro homepage second pull down.	Very good. On the SANDAG home page, left pane.
Project Dashboard	Good. The Project Schedules landing page shows an interactive map. There is also a snapshot of all projects and programs that include status updates.	Very Good. The Interactive Dashboard landing page shows high-level summaries in a graph and chart; detailed information is available when scrolling down. The Project Tracker landing page shows each project name and type. Each project status, cost, and city/region is available in spreadsheet format. Information can be viewed or saved in a downloadable PDF or exported into Excel.	Good. The Transnet Dashboard is accessible from the SANDAG home page. There are three dashboard landing pages representing the Program, the Corridor, and the Segment. Performance and Trends information is also available. The information is presented in graphs, maps, and charts.
General Navigability	Generally good. Navigability could be enhanced through greater use of Google Maps to highlight program content and project status. Information is easy to understand.	Excellent navigability. Information is interactive, balanced with images, and easy to understand.	Information is static and the look and feel appears outdated. Program and project information are hosted on different sites. The layouts, names of the landing pages, and brand images are difficult to read.
Program / Project Content	Complete, interactive, and in-depth. In addition to the top navigation bar, there are sub-navigation bars on the left.	Complete, interactive, and in-depth. Project budget and status	In-depth projects and programs information is available, but is presented inconsistently.

Table 6-1. Review of Orange County Transportation Authority and Other Transit Agency Websites

Agency / Web site Attribute	Orange County Transportation Authority	LA Metro	SANDAG TransNet 25 Years of Keeping San Diego Moving
			
Project maps and fact sheets are listed and can be downloaded.	Project maps and fact sheets are listed and can be downloaded.	information is available and can be downloaded.	
Frequency of Project Updates	Monthly and quarterly updates are available through committee meetings; an annual report is available.	Daily construction notices are posted for projects/programs.	Monthly updates are given through committee meetings; an annual report is available.
User Feedback Feature	User feedback is offered through a helpline, text messages, a customer comment form, social media, photos, and lists of personnel, phone numbers, and e-mail addresses.	User feedback is offered through social media, an e-mail subscription, project-direct phone numbers and e-mail addresses, and outreach team information.	User feedback is offered through lists of personnel, phone numbers, and e-mail addresses.
Connectivity to Social Media	Offers links to Facebook, Instagram, YouTube, Twitter, and the OCTA blog.	Offers links to Facebook, Twitter, and Ustream TV.	Offers links to Facebook, Twitter, and YouTube.
Language Translation	The Google Language Selector is at the top right of the Web page.	The Google Language Selector is at the top right of the Web page.	The Google Language Selector is at the lower left of the Web page.
Mobile Compatibility	Information is easy to use, and readability is excellent on mobile devices. OCTA offers four mobile apps to help users plan their trips: Google Maps, HotStop, The Transit App, and City Maps.	Offered, but navigability and accessibility are cumbersome. LA Metro offers its own mobile app Go Metro. The Web site also lists several third-party mobile apps such as Google Maps, HotStop, The Transit App, City Maps, allSchedules, and iTransitBuddy.	Offered, but navigability and accessibility are cumbersome. SANDAG provides real-time traveler information via its mobile app 511 San Diego.
Other Notes	Web site could be enhanced by giving more clarity on project status, budget, cost-to-date, cost forecast, and city/region.	Measure R Introductory video is an excellent overview and could be expanded with follow-up updates.	No additional comments.

6.3 Findings and Recommendations

Findings and recommendations for transparency and accountability are detailed below.

Transparency and Accountability Finding #1: Some external stakeholders noted that there seems to be a lack of recognition of M2 funding and a lack of association of M2 with its projects and programs within their organizations and among the general public.

Transparency and Accountability Recommendation #1: Improve branding and awareness of M2 projects and programs. Implement M2-specific marketing efforts to educate the general public and stakeholders and to collaborate with cities. To keep the branding efforts consistent, develop guidelines or a media toolkit for city staff, including logo, branding, and signage specifications, to better highlight M2 projects at construction sites.

Transparency and Accountability Finding #2: Small cities reported not having enough staff to review all M2 materials and documents.

Transparency and Accountability Recommendation #2: Develop an information card for each M2 program and project with easy-to-understand information and status updates for city staff and constituents.

Findings and Recommendations Summary

Table 7-1 provides a summary of the key findings and recommendations pertaining to each area of the assessment.

Table 7-1. Findings and Recommendations Summary

No.	Finding	Recommendation
Area 1: Project Delivery		
1	It is difficult to align particular aspects of the voter-approved OCTA M2 Program with changes to the state's priorities (for example, greenhouse gas reductions, sustainability, and managed lanes). These differences led to delays in project definition and environmental processes as OCTA and Caltrans worked to reconcile their differing goals, policies, and objectives.	Continue to partner with Caltrans at the technical levels for system planning and modeling, as well as throughout the environmental, design, and construction phases. This may resolve different priorities between agencies and identify projects where advanced coordination could help mitigate schedule delays while the agencies reconcile goals and objectives. An example of this partnership is for OCTA to work with Caltrans and explore the possibility of including OCTA projects on Caltrans list of approved projects in the fiscal year Contract for Delivery. This will enable Caltrans and OCTA to agree on milestones and timelines to level set expectation and commit the two stakeholders to meet the project delivery timeline.
2	It was noted that there appeared to be increasing occurrences of changes and/or growth in a project's scope. Scope creep was an issue during design and development phase; sometimes, requests for modification to constructed elements were requested during the final Caltrans safety and maintenance walk through.	<p>Include language that defines the term "betterment" in project-specific third-party agreements with state, regional, and local agencies. Particular agreements may define how betterments will be negotiated, if appropriate. Following is the definition used by the SCVTA.</p> <p>"Betterment" shall mean the upgrading (e.g., increase in capacity) of a new or existing facility, that is not attributable to construction of the Project and is made solely for the benefit of and at the election of DEPARTMENT (not including a technological improvement which is able to achieve such upgrade at costs equal to or less than the costs of a "like-for-like" replacement or relocation). VTA shall not be obligated to pay for any portion of any Betterment.</p>
Area 2: Program Management/Responsiveness		
3	The M2 PMO performance has matured and continued to perform at a high degree of professionalism and responsiveness. With the arrival of two new program analysts, OCTA is poised to oversee the growing program more fully, such as with the more comprehensive quarterly reports recently redesigned and through deeper involvement in project management review and analysis.	OCTA should communicate PMO staff member roles and responsibilities. Clear roles should be communicated across divisions to help promote coordination and communication. PMO roles should clearly define backup and mutual support activities. OCTA should broaden the PMO by expanding participation with external stakeholder groups; think strategically about building awareness, build stronger relationships with other self-help county partner agencies; and increase collaboration with Caltrans.

Table 7-1. Findings and Recommendations Summary

No.	Finding	Recommendation
4	<p>PMO staff have a strong base of skills to administer the M2 Program, including work experience across other OCTA divisions and history dating back to the early days of the PMO. Periodic training, such as enhancing the cohesiveness of the PMO and key stakeholders and strengthening OCTA commitment to its broad mission, could strengthen the PMO. OCTA-branded training modules specific to the M2 Program could further enhance abilities.</p> <p>In the past, OCTA conducted a program management academy, which could serve as a model for the new training. Such a training program is in place now; conducting it this coming year was discussed.</p>	<p>OCTA should implement the program management academy in the short term. Such a program will benefit new staff, serve as refresher for existing staff, and strengthen collaboration between the PMO, Finance and Administration Division, and the respective project/program managers. The M2 ordinance and policy administration strategies should be shared as part of training. In addition, OCTA should consider Project Management Professional training for all PMO staff.</p>
Area 3: Compliance (No findings or recommendations)		
Area 4: Fiscal Responsibility		
5	<p>During the review period, OCTA implemented controls to improve tracking and administration of the one percent cap on administrative expenses. Though OCTA has borrowed from another funding source to satisfy the M2 requirement, OCTA staff are confident they will be able to satisfy the one percent cap requirement over the long term. OCTA has already paid back part of the amount borrowed.</p>	<p>Continue monitoring ongoing expenditures for administrative expenses, including labor charges by project, and determine whether any changes are required in the future.</p>
6	<p>OCTA regularly evaluates the optimum level of debt financing and the timing of debt issuance required to deliver the M2 Program in a cost-effective manner. While OCTA has indicated an ability to deliver the M2 Program without additional external funding, it continues to seek alternate sources of funding to supplement M2 funds when available. OCTA has processes in place to periodically update its cash-flow needs for the M2 Program.</p>	<p>Continue to evaluate the optimum level of debt to issue and timing of debt issuance to deliver the M2 Program. Continue efforts to seek alternate sources of funding to supplement M2 funds, including using M2 funding to meet local match requirements.</p>
7	<p>OCTA noted that three local agencies failed to request timely use of funds extension during the semi-annual review process, and, thus did not receive their full allocation.</p>	<p>Over time, evaluate whether there is a pattern developing by local agencies neglecting to request timely use of funds extensions, when such extensions are necessary. Should a pattern emerge, identify and address the underlying root causes.</p>
Area 5: Transparency and Accountability		
8	<p>Some external stakeholders noted that there seems to be a lack of recognition of M2 funding and a lack of association of M2 with its projects and programs within their organizations and among the general public.</p>	<p>Improve branding and awareness of M2 projects and programs. Implement M2-specific marketing efforts to educate the general public and stakeholders and to collaborate with cities. To keep the branding efforts consistent, develop guidelines or a media toolkit for city staff, including logo, branding, and signage specifications, to better highlight M2 projects at construction sites.</p>
9	<p>Small cities reported not having enough staff to review all M2 materials and documents.</p>	<p>Develop an information card for each M2 program and project with easy-to-understand information and status updates for city staff and constituents.</p>

Appendix A
Follow Up on Prior
Assessment Findings

Table A-1. Follow Up on Prior Assessment Findings

Prior Recommendation (March 2013)	OCTA Statement (October 2013)	Assessment Finding (December 2015)
<p>1. Having well qualified project managers in place is critical to proper oversight of the M2 program. It is important for OCTA to recruit highly qualified personnel to fill position vacancies in a timely manner and implement proven staff retention strategies.</p>	<p>The OCTA Board of Directors (Board) has reinstated a performance based rewards program with a merit pool and a special award program. Additionally, to assist OCTA's ability to be competitive, Human Resources is doing a compensation and class study to hire at a higher level within the grade pay range of a position. This will allow for greater flexibility to recruit qualified personnel.</p> <p>Status: Complete</p>	<p>OCTA has addressed this recommendation.</p>
<p>2. There are two suggestions related to Project Controls.</p> <p>First, the Project Controls Department and the PMO office need to work closely together as a team to fulfill the PMO functional roles of compliance, management, fiscal responsibility, transparency and safeguards. In effect the Project Controls Department, while located under Capital Programs should function as direct extension of PMO office capability.</p> <p>Second, OCTA should ensure every M2 project manager has the latest training with the P6 Schedule module. Project managers need to be responsible for overall content accuracy. This is true even where a different agency is the delivery lead.</p>	<p>To ensure the project controls group and the PMO work closely, the PMO has been meeting regularly with project controls staff and Capital Program Division program managers. Additionally, the PMO staff attends monthly California Department of Transportation/OCTA project meetings to keep informed.</p> <p>Status: Complete</p> <p>A determination was made that adding a staff person in the PMO to serve as a liaison between the Capital Programs Division would be beneficial. The position was approved in the FY 2013-2014 budget. Recruitment and selection is complete.</p> <p>Status: Complete</p> <p>Staff will ensure that regular P6 training (OCTA's in house program for monitoring capital programs cost and schedule) is provided for Measure M2 [M2] project managers and emphasize the importance of the information provided.</p> <p>The Project Manager Academy included a session on P6. Additionally, to provide open access, Project Controls has added schedules and progress reports to the Intranet for all OCTA to review if desired.</p> <p>Timeframe: Complete</p>	<p>OCTA has addressed this recommendation.</p>
<p>3. The PMO office should develop a listing of all the Calls, including project type, frequency, and time of year for the respective Calls. This would alleviate potential bunching and facilitate Call applications.</p>	<p>Staff has redesigned the streets and roads funding section of the Web site and added a page specifically for call for projects programs. The site lists past, current, and future calls to provide local jurisdictions with a place to find out what opportunities there are for capturing these funds. The site also includes the guidelines for each program in this specific area to provide easy access.</p> <p>Status: Complete</p>	<p>OCTA has addressed this recommendation.</p>
<p>4. Enhance project delivery metrics through the M2 Dashboard, by: clarifying cost reporting, adding a percent program expenditure field, and list a description and completion status at the designated</p>	<p>Staff enhanced the reporting for projects as a whole on OCTA's Website by adding all Measure M projects and provide schedule information and listed them as shown in the Transportation Investment Plan as Projects A-M.</p>	<p>OCTA has addressed this recommendation.</p>

Table A-1. Follow Up on Prior Assessment Findings

Prior Recommendation (March 2013)	OCTA Statement (October 2013)	Assessment Finding (December 2015)
M2 project level tied to individual projects.	Status: Complete	
5. Review organization-level M2 program management functions and definitions of associated functional responsibilities. Identify a precise definition of M2 administration and associated activities relating specifically to M2 program activity. This would include clear demarcations of project-based work, and appropriate limitations on administrative expenses that are not directly attributable to project-based activity.	OCTA completed an organizational review to ensure it is functionally capable of delivering on the promises of M2. The staff report highlighting the findings along with proposed actions was presented to the Board on November 8, 2013. The review included recommendations for adjustments which will be addressed as part of the FY 2013/14 budget process. Status: Complete	OCTA has addressed this recommendation.
6. Improve coordination and communication by enhancing uses of Primavera system outputs, enhancing internal program coordination and communications vehicles, promoting early project issues identification and resolution, and initiating individual and project team recognition programs that promote M2 project and program management enhancements.	Executive staff continues to meet every two weeks to discuss the M2 program and ensure that all key players are informed and any issues are addressed. Status: Complete A determination was made that adding a staff person in the PMO to serve as a liaison between the Capital Programs Division would be beneficial. The position was approved in the FY 2013-2014 budget. Additionally, to provide open access, Project Controls has added schedules and progress reports to the Intranet for all OCTA to review if desired. Status: Complete	OCTA has addressed this recommendation.
7. Conduct training for new staff, and refresher training for existing staff, on M2 Ordinance provisions and compliance approaches, M2 Program delivery policies and associated policy administration strategies, cost allocation, time management, and timesheet reporting requirements.	The PMO and Capital Programs Division have worked together to refresh past Program Manager Academy (Academy) materials. Because interest in the Academy spanned over multiple divisions, more presenters were invited and topics. A new session on the PMO was added along with a session on CEQA/NEPA and the importance and background on timesheet reporting requirements. There are a total of 10 sessions that were covered over 10 weeks lasting from September 18 until November 20. Status: Complete	These training sessions should be provided for OCTA personnel who have either joined the agency or changed their roles since 2013. OCTA should provide new and refresher training every 2 to 3 years. Next training is planned for late 2016 or early 2017.
8. Request project managers to fill out the project by project portion of the M2 Ordinance Tracking Matrix (that is, pages 6 to 15) for status and progress, to be maintained by the PMO office. Also, the matrix should be made available to the M2 Taxpayers Oversight Committee.	The Ordinance Tracking Matrix now includes status with documentation for each item. The Ordinance Matrix will be updated annually by the PMO office in January. The Ordinance Tracking Matrix has been circulated throughout OCTA for updates covering January 1, 2012- December 31, 2013. The next update will be in January 2014. The Ordinance Tracking Matrix will be provided to the TOC annually following each update. Status: Complete	OCTA has addressed this recommendation.
9. Continue efforts to manage administrative costs, ensure that project-	While there is a 1% cap on administration, the delivery pace and related transparency is still a	OCTA has effectively taken steps to address

Table A-1. Follow Up on Prior Assessment Findings

Prior Recommendation (March 2013)	OCTA Statement (October 2013)	Assessment Finding (December 2015)
<p>specific administrative costs are charged appropriately, and confirm a strategy for funding administrative costs that exceed the 1% cap over the course of the M2 program, including M2 administrative expenses incurred before April 2011 and after March 2041.</p>	<p>required priority. As was the case in Measure M, it is expected that administrative costs as a percentage of total costs will steadily decline over the life of the program. This is because many projects have been advanced to the beginning of the program, which places a heavier administrative burden than will be the case towards the end of the program when it is expected that most projects will be complete. Closeout activities at the end of the program will require administrative charges, but it is expected that overall costs will balance over time. As such, the need to fund administrative costs above the 1% cap should be unnecessary. However, in the event that administrative costs do exceed the 1% cap for a given year, OCTA currently has Board approval to use funds from the Orange County Unified Transportation Trust Fund with the idea that those funds will be repaid with interest in other years that OCTA administrative costs fall below the 1% cap.</p> <p>Labor meetings are still occurring quarterly to closely monitor 1% administrative charges.</p> <p>Status: Complete</p>	<p>this recommendation during the assessment period. This is an ongoing item that should continue to be monitored going forward.</p>
<p>10. In order to manage M2 administrative expenses, it is important for PMO staff to understand the indirect costs that are allocated to the M2 administrative expense code. Currently, the detail is not readily identifiable. OCTA should determine the extent of these charges and make that information available to the Project Management Office, to assist them in understanding the extent of the impacts of the current CAP allocations on M2 administrative expenses and in managing the administrative expense budget.</p> <p>OCTA should also consider alternatives to the CAP that more effectively allocate indirect charges to capital projects. One way to recognize and allocate these costs could be through a basis such as the dollar value of capitalized contracts. Other approaches to minimizing the impact of the CAP on administrative expenses could include automating time reporting and reassigning the non-project time of staff who work exclusively on M2 projects to M2 administration for the specific M2 project. In reviewing this alternative, OCTA should evaluate their costs and benefits, including the implications of</p>	<p>Finance and Administration Division staff has created a report that details the indirect charges by function as outlined in the cost allocation plan. This report will be available annually each fall, in conjunction with the completion of the FY cost allocation plan.</p> <p>Status: Complete</p> <p>At the recommendation of the assessment consultant team, staff applied state planning funds which brought down the charges to the 1% administrative cost. This allowed OCTA to begin pay back of the Orange County Unified Transportation Trust Fund. At the end of 2013, \$800,000 of the amount borrowed was paid back reducing the total amount borrowed to \$4.4 million. Additionally, quarterly labor meetings are held to closely monitor 1% administrative charges.</p> <p>Status: Complete</p>	<p>OCTA has addressed this recommendation.</p>

Table A-1. Follow Up on Prior Assessment Findings

Prior Recommendation (March 2013)	OCTA Statement (October 2013)	Assessment Finding (December 2015)
the cost of borrowing to fund overruns against the 1% cap.		
11. With respect to M2 revenue projections, consider providing the range of forecast scenarios (high and low) in addition to OCTA’s average forecast approach. This would underscore the variability of sales tax forecasts that OCTA uses to project M2 revenues and help OCTA manage towards revised revenue projections over the life of the M2 program.	On an annual basis, OCTA receives forecasts from three universities and each university presents their forecast to the Finance and Administration Committee. Staff provided a report to the Board that compared the forecasts from all three universities and how they are combined to create the “three-university average” that OCTA uses for planning purposes. Staff added a comparison of what different forecasts would yield independently to underscore the variability of sales tax forecasts. Status: Complete	OCTA has addressed this recommendation.
12. Consider enhancements to the OCTA Web site and M2 program information and outreach web pages, with broader utilization of the M2 brand.	Staff is continually improving the M2 section of the Web site. Since the start of the performance assessment, the OCTA Web site including the Measure M portion of the Web site has been overhauled. The M2 section of the Web site was a key focus of improvements and will continue to be reviewed quarterly to ensure transparency and ease of use for the public. Staff continues to look into enhancing the Measure M brand throughout the Web site. Status: Complete	OCTA has addressed the component of this recommendation pertaining to the M2 Web site. Additional actions are recommended for other marketing and branding activities.

Appendix B

Data Sources and Interviews

Data Sources

Table 1-1 lists the major data sources provided by OCTA that the study team used for the assessment. Other sources include meeting minutes, other working files, and project-related materials.

Table B-1. M2 Assessment Major Data Sources

Source	Relevance
M2 Triennial Performance Assessment, July 2009 – June 2012 (March 2013)	Fiscal Year (FY) 2010-2012 M2 assessment of OCTA, prepared by CH2M
M2 Triennial Performance Assessment, Year 2006 – 2009 (October 25, 2010)	2006-2009 M2 assessment of OCTA, prepared by the Orange County Business Council
Measure M2 Eligibility Guidelines, FY2015-16 (Effective April 13, 2015)	Describes the eligibility requirements for jurisdictions to receive M2 Local Fair Share and competitive program funds
Measure M2 Fact Sheet (August 24, 2015)	Provides background information on M2
Measure M2 Final M2020 Plan (September 10, 2012)	Provides the plan for delivery of M2 projects through 2020
Measure M2 Freeway Plan (February 2012)	Describes projects, schedules, key considerations, benefits, and costs for M2 freeway projects
Measure M Program Management Office (PMO) Charter (2011)	Identifies goals and functional responsibilities for OCTA's M2 PMO
Measure M2 Progress Reports, provided annually for each year during the assessment period	Highlights progress on M2 projects and programs for the OCTA Board, and made available to the general public
Measure M2 Progress Reports, provided on a quarterly basis for each quarter during the assessment period	Highlights progress on M2 projects and programs for the OCTA Board, and made available to the general public
Measure M2 Project Schedules of M2 Projects and Programs on OCTA's Web site	Provides a visual summary of current progress and planned schedule for M2 projects
Measure M2 Sales Tax Forecast, Staff Report (October 28, 2015)	Forecasts M2 sales tax revenues
Measure M2 Schedule of Revenues, Expenditures, and Changes in Fund Balance (end of each fiscal year during the assessment period)	Provides actual M2 revenues and expenditures by line item and by M2 project
OCTA Contracts Administration and Materials Management (CAMM) Policy Manual (June 2014)	Includes policies, procedures, and forms for OCTA's CAMM Department
OCTA Capital Programs Division – Capital Action Plan Performance Metrics (Fourth Quarter, FYs 2012-2015)	Provides budgeted and forecasted cost and schedule information for M2 capital projects
OCTA Comprehensive Business Plan (CBP), FY 2014-15 (January 12, 2015)	Presents OCTA's plan to ensure financial feasibility of OCTA programs
OCTA Comprehensive Transportation Funding Program Guidelines (August 2014)	Includes guidelines and procedures for Orange County agencies to apply for funding from OCTA
OCTA Construction Management Procedures Manual (March 4, 2011)	Describes procedures pertaining to construction management of OCTA construction contracts
OCTA Government Relations sample project fact sheets	Presents facts for M2 projects that OCTA distributes
OCTA M2 Capital Programming Policies by Fund Source (December 2014)	Describes policies for programming of M2 funds, by M2 program
OCTA M2 Capital Projects Outreach information (staffing plan and sample information: weekly progress update, scope of work, communication plans, closeout survey,	Provides information on how OCTA conducts outreach for its capital projects

Table B-1. M2 Assessment Major Data Sources

Source	Relevance
documentation reports, and metrics/social media analytics report)	
OCTA M2 Ordinance Tracking Matrix - Ordinance No 3 (for period ending December 31, 2014)	Tracks OCTA's compliance with specific requirements for M2
OCTA M2 select monthly Project Status Reports and Schedules (FY 2013 – FY2015)	Provides M2 summary project status and schedule information
OCTA Measure M2 Annual Eligibility Review, FY 2015 (November 10, 2014)	Provides FY 2015 eligibility verification for jurisdictions to receive competitive M2 funding
OCTA Measure M2 Eligibility Review Recommendations for FY 2014 Expenditure Reports (May 4, 2015)	Presents staff approval of FY 2014 M2 expenditure reports submitted by jurisdictions
OCTA Measure M2 Organizational Readiness Assessment Study (October 2013)	Examines the capacity of OCTA to deliver the M2020 Plan, with findings and recommendations
OCTA Measure M2 Program Management Committee, sample meeting notes (FY 2013 – FY 2015)	Provides information on discussion topics at OCTA's M2 program management committee meetings
OCTA Organization Charts (as of July 10, 2015)	Shows OCTA personnel organization
OCTA Program Management Procedures, Highway Project Delivery Department (April 2013, Revision 1)	Describes OCTA's program management procedures to facilitate the delivery of the M2 capital improvement program
OCTA Regional Planning Update Staff Report (November 2, 2015)	Provides background on OCTA's coordination with other agencies on regional planning
OCTA Response to Findings from July 2009 – June 2012 M2 Performance Assessment (October 31, 2013)	Presents OCTA's actions and status on addressing the 12 findings from the FY 2010-2012 Triennial M2 Assessment
OCTA Response to Recommendations from Organizational Readiness Assessment (May 30, 2014)	Provides OCTA's response to recommendations from the Measure M2 Organizational Readiness Assessment Study
OCTA Staff Report: 2012 State and Federal Programming Guidelines (December 3, 2012)	Presents OCTA updated programming guidelines for the use of state and federal funds
OCTA Staff Report: Repayment of the Orange County Unified Transportation Trust (OCUTT) Fund for Measure M2 Early Action Plan Costs (December 2, 2011)	Provides the plan for OCTA to repay the OCUTT fund for funds borrowed to pay for M2 Early Action Plan administrative costs
Ordinance No 3: Renewed Measure M Transportation Ordinance and Investment Plan (July 24, 2006)	Provides governing language for M2 program transportation improvements and requirements authorized by Orange County voters
Project K – I-405 Project Implementation of Alternative 3: Preliminary OCTA/ California Department of Transportation (Caltrans) Agreement on Terms (as of April 16, 2015)	Describes preliminary agreement on roles and responsibilities for OCTA and Caltrans for the I-405 project, with respect to project delivery, funding and financing, and operations
Project Q – M2 Local Fair Share FY 2015 Funding	Identifies funding provided to jurisdictions through the Project Q Local Fair Share program
Renewed Measure M Eligibility Guidelines (March 12, 2012)	Provides eligibility requirements for local jurisdictions to receive M2 funding
Renewed Measure M Comprehensive Ten-Year Review (October 12, 2015)	Presents OCTA's Ten-Year Review of Measure M2, which covers the timeframe from November 2006 to fall 2015

Table B-1. M2 Assessment Major Data Sources

Source	Relevance
Renewed Measure M – Transportation Investment Plan (approved by voters on November 7, 2006; as amended on November 9, 2012)	Provides a description of the projects included in the Renewed Measure M Transportation Investment Plan

Interviews

The study team conducted interviews with a number of OCTA personnel. Table 1-2 shows the list of interviewees. An interview guide with specific, targeted questions covering each major area of the M2 performance assessment was used to support the interviews.

Table B-2. M2 Assessment Orange County Transportation Authority Interviewee List

Orange County Transportation Authority Interviewees	
<ul style="list-style-type: none"> • Chief Executive Officer • Deputy Chief Executive Officer • Executive Director, Capital Programs • Executive Director, External Affairs • Executive Director, Finance and Administration • Executive Director, Government Relations • Executive Director, Internal Audit • Executive Director, Planning • Director, Contracts Administration and Materials Management • Director, Finance and Administration • Director, Highway Programs • Director, Rail Programs and Facilities Engineering • Director, Strategic Planning • Deputy Director, Los Angeles to San Diego Joint Powers Authority 	<ul style="list-style-type: none"> • Department Manager, Public Outreach • Department Manager, Rail Capital Programs • General Manager, Treasury/Toll Roads • Program Manager, Environmental Programs • Program Managers, Freeway Projects (four personnel) • Program Manager, M2 Program Office • Project Manager, Rail Programs • Senior Section Manager, Project Controls • Section Manager, Capital Projects Outreach • Section Manager, Measure M Local Programs • Manager, Capital Programming • Manager, Community Transportation Services • Community Relations Officer, Planning and Measure M • Program Analysts, Measure M (two personnel)

CH2M also conducted interviews with select external stakeholders, identified by OCTA as representing organizations that work with OCTA on particular aspects of the M2 Program. Table 1-3 identifies the external organizations interviewed for this assessment.

Table B-3. M2 Assessment External Organization Interview List

External Organizations	
<ul style="list-style-type: none">• Automobile Club of Southern California• Building Industry Association• Caltrans, District 12• California Transportation Commission / Commissioner California Transportation Commission Chair• Citizen Advisory Committee Member• Technical Advisory Committee Chair• Los Angeles / Orange Counties Building and Construction Trades Council	<ul style="list-style-type: none">• LSA Associates, Inc. and Orange County Business Council• M2 Environmental Oversight Committee Member• North Orange County Community College District Board of Trustees / Citizen Advisory Committee Chair• Orange County Taxpayers Association• Past TOC Member• Rancho Mission Viejo Company• Santa Ana College / Citizen Advisory Committee Bike and Pedestrian Subcommittee Chair• The Irvine Company

Appendix C
Freeways Projects Activity Summaries
(Projects A to N)

Appendix C: Freeway Projects Activity Summary (Projects A-N)

Project A: I-5 Improvements (SR-55 to SR-57)

Project A increases high-occupancy vehicle (HOV) lane capacity and improves operations by adding a second HOV lane in both directions along I-5 between SR-55 and SR-57 in Santa Ana.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> OCTA continued conducting an environmental study to add lanes to the I-5 between SR-55 and SR-57 in Santa Ana. The study will evaluate options to add capacity to the existing high-occupancy vehicle (HOV) lanes and improve traffic circulation within the I-5/ SR-55 interchange.
FY 2014	<ul style="list-style-type: none"> Traffic study and air quality study were approved. Work continued on noise study report, evaluation of options, and discussions on way-finding signage package. The mandatory design exception fact sheets and all technical studies were approved.
FY 2015	<ul style="list-style-type: none"> The final Environmental Document was approved by Caltrans on April 8, 2015. The final Project Report was approved by Caltrans on May 1, 2015. The project design phase began on June 30, 2015.

Project B: I-5 Improvements (SR-55 to the El Toro “Y” Area)

Project B adds one general purpose lane in each direction of the I-5 corridor and improves the interchanges in the area between SR-55 and SR-133 (near the El Toro “Y” and I-405) in Tustin and Irvine. An environmental study will consider the addition of one general purpose lane on I-5 between just north of I-405 to SR-55. Additional features of Project B include various operational improvements (for example, interchange ramps and auxiliary lanes).

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> A consultant was selected to prepare the Project Report and Environmental Document, and work is anticipated to begin in September of 2013.
FY 2014	<ul style="list-style-type: none"> Environmental assessment was approved by Caltrans and released for public review. The environmental study began on May 8, 2014.
FY 2015	<ul style="list-style-type: none"> The project has been delayed while OCTA and Caltrans have continued discussions on the traffic methodology. The draft Project Report and draft Environmental Document are expected to be complete by March 2017.

Project C & Part of Project D: I-5 Improvements (South of El Toro “Y”)

Project C adds new lanes on two different stretches along I-5. The project includes a northern segment, which stretches between El Toro Road and SR-73, and a southern segment, which stretches between San Juan Creek Road and Avenida Pico.

The northern segment includes three improvements involving construction of additional general purpose lane(s) in each direction from SR-73 to El Toro Road. The improvements in the northern segment include the following:

- Between SR-73 and Oso Parkway
- Between Oso Parkway and Alicia Parkway
- Between Alicia Parkway to El Toro Road

The southern segment includes three improvements involving adding a carpool lane in each direction on I-5. All improvements in the southern segment are currently under construction. The improvements in the southern segment include the following:

- Between Avenida Pico and Avenida Vista Hermosa/ (Project D: Avenida Pico Interchange)
- Between Avenida Vista Hermosa and Pacific Coast Highway

- Between Pacific Coast Highway and San Juan Creek Road

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> • .100 percent Plan Specifications & Engineering (PS&E) for I-5 between Avenida Pico and San Juan Creek Road were completed and submitted to Caltrans. • The draft Environmental Assessment for I-5 between SR-73 and El Toro Road was completed and submitted to Caltrans for review in May 2013.
FY 2014	<ul style="list-style-type: none"> • For I-5 between Avenida Pico and San Juan Creek Road, Segment 1 final design was submitted to Caltrans, a cooperative agreement with Caltrans for Segment 2 construction phase was executed, and Segment 3 was advertised for construction. • The draft Environmental Assessment for I-5 between SR-73 and El Toro Road was approved by Caltrans, and the draft document was released for a 30-day public review period. OCTA and Caltrans held a public hearing in September 2013. • The Project Development Team, consisting of OCTA, Caltrans, and cities in the project area, selected a preferred alternative for I-5 between SR-73 and El Toro Road in November 2013. • Construction work for Segment 3 broke ground on March 3, 2014. • Caltrans approved the Initial Study/Environmental Assessment (IS/EA) document for I-5 between SR-73 and El Toro Road on May 6, 2014. The final Project Report was reviewed by Caltrans and approved on June 5, 2014.
FY 2015	<ul style="list-style-type: none"> • For Segment 2, construction began on September 2, 2014. • In September 2014, OCTA and Caltrans entered into a cooperative agreement to provide oversight during the design phase, and to advertise and award the construction project, for I-5 between SR-73 and El Toro Road. • For Segment 1, construction began on February 9, 2015. • Design phase work began on I-5 between SR-73 and Oso Parkway in March 2015. • For I-5 between SR-73 and El Toro Road, the design phase work is ongoing and is being conducted in three segments. Design work for one of the segments is scheduled to be complete in 2017; design work for the other two segments are scheduled to be complete in 2018.

Project D: I-5 Local Interchange Upgrades

Project D consists of several interchange improvements on I-5 in south Orange County. These interchanges are located either within or outside of the northern segment of Project C. The improvements include the following:

- El Toro Road Interchange
- SR-74 (Ortega Highway) Interchange
- Major interchange improvements at Avenida Pico, Avery Parkway, and La Paz Road

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> • The California Department of Transportation (Caltrans) approved the construction contract on September 18, 2012 for the reconstruction of the interchange at SR-74 in San Juan Capistrano • Caltrans began construction in February on the two-year \$86 million project that will reconstruct the SR-74 Ortega Highway Bridge. • Completed draft I-5/El Toro Road interchange study and submitted to Caltrans for review in May 2013.
FY 2014	<ul style="list-style-type: none"> • Final draft Project Study Report/Project Development Support Report was submitted to Caltrans for final review in November 2013. • Caltrans began construction in February 2013 that will reconstruct the SR-74 Ortega Highway Bridge over the freeway and improve local traffic flow along the SR-74 and Del Obispo Street in the City of San Juan Capistrano.

FY 2015	<ul style="list-style-type: none"> • Caltrans approved the modified alternatives, with one additional request. Per Caltrans request, OCTA has submitted a revised PSR-PDS. • Project activities focused on awarding the construction contract, which occurred on December 18, 2014. • Caltrans approved the PSR-PDS on February 20, 2015. • For the I-5/EI Toro Road interchange, the environmental phase is expected to begin in late 2016. • For the I-5/Ortega Highway interchange, construction is 82% complete, and is scheduled for completion by December 2015.
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Project E: SR-22 Access Improvements

Project E consists of improvements at key SR-22 interchanges Brookhurst Street, Euclid Street, and Harbor Boulevard to reduce freeway and street congestion in the area. The project was completed in 2008, through OCTA’s Early Action Plan (EAP) was a bonus project under the first Measure M (1991-2011).

Project F: SR-55 Improvements

Project F consists of SR-55 improvements between I-405 and SR-22, including lane additions and merging lanes between interchanges to smooth traffic flow, and potential operational improvements between SR-22 and SR-91. Project F consists of two phases. Phase I includes improvements on SR-55 between I-405 and I-5. Phase II will add capacity between I-5 and SR 22, and provide operational improvements between SR-22 and SR-91.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> • OCTA initiated a Project Study Report / Project Development Study (PSR/PDS) for SR-55 between I-5 and SR-91. • The administrative draft report to increase capacity on SR-55 in the cities of Irvine, Santa Ana, and Tustin was submitted to Caltrans and the Draft Environmental document is scheduled to be completed by the end of August 2013. • Project Study Team refined the alternatives and associated technical reports, and is now prepared to finalize which alternatives to recommend for further study in the next phase.
FY 2014	<ul style="list-style-type: none"> • OCTA staff submitted the draft PSR-PDS for SR-55 between I-5 and SR-91 to Caltrans to begin their independent quality assurance review, which is the first step in initializing Caltrans’ review and finalization of a PSR-PDS document. • For SR-55 (I-405 to I-5), Caltrans reviewed key project reports and refined their request for modified alternatives to be studied. To incorporate the proposed changes, the project is expected to result in a 17-month delay. • OCTA staff refined the draft PSR-PDS for SR-55 between I-5 and SR-91 using input from Caltrans and the final draft was resubmitted to Caltrans for approval.
FY 2015	<ul style="list-style-type: none"> • For SR-55 between I-405 and I-5, the draft Environmental Document was put on hold. • OCTA, in coordination with Caltrans, finalized the PSR-PDS for SR-55 between I-5 and SR-91 in January 2015. The environmental phase is scheduled to begin by mid-2016.

Project G: SR-57 Improvements

Project G consists of improvements on SR-57. Phase I includes three completed projects: (1) Katella Avenue to Lincoln Avenue; (2) Orangethorpe Avenue to Yorba Linda Boulevard; and (3) Yorba Linda Boulevard to Lambert Road. The project also includes adding a truck-climbing lane from Lambert Road to Tonner Canyon Road (this requires coordination with Los Angeles Metro because the project is located at the county line), and increasing capacity on northbound SR-57 from Orangewood Avenue to Katella Avenue, with a study to address how to add capacity in the northbound direction of SR-57 from Orangewood Avenue to Katella Avenue.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> Construction continued on three segments of the SR-57 freeway to add a new northbound general purpose lane through the cities of Anaheim, Brea, Fullerton, and Placentia. Caltrans is overseeing construction. For SR-57 Northbound from Orangewood Avenue to Katella Avenue, OCTA initiated a PSR/PDS
FY 2014	<ul style="list-style-type: none"> For the project's northern most segment between Yorba Linda Boulevard and Lambert Road, construction was completed on May 2, 2014. For the central segment between Orangethorpe Avenue and Yorba Linda Boulevard, final traffic striping was completed and the new general purpose lane was opened to traffic in April 2014. OCTA initiated a Project Study Report/Project Development Support (PSR-PDS) document to add capacity in the northbound direction of SR-57 from Orangewood Avenue to Katella Avenue.
FY 2015	<ul style="list-style-type: none"> For SR-57 NB (Katella Avenue and Lincoln Avenue), the new freeway lanes were opened to traffic on November 20, 2014. An open to traffic ceremony was held on December 22, 2014. For SR-57 NB (Orangewood Avenue to Katella Avenue), the PSR-PDS was approved by Caltrans. The environmental phase is scheduled to begin in November 2015 and to be completed by mid-2018. For SR-57 NB (Lambert Road to Tonner Canyon Road), the segment is scheduled to be cleared environmentally by 2020.

Project H: SR-91 Improvements (I-5 to SR-57)

Project H consists of SR-91 improvements between I-5 and SR-57 to add a westbound general purpose lane with operational improvements at on- and off-ramps Brookhurst Street and State College Boulevard.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> OCTA and Caltrans approved the final design. OCTA and Caltrans successfully negotiated and awarded the construction contract. On May 1, 2013, OCTA and Caltrans broke ground on State Route 91 (SR-91) between the Interstate 5 and State Route 57 (Project H), third series of "A Better 91" projects. Construction has started which will add a new, four-mile westbound general purpose lane to a key stretch of the SR-91 in the cities of Anaheim and Fullerton.
FY 2014	<ul style="list-style-type: none"> Construction was underway on the project by the end of the fiscal year, construction as 41 percent complete.
FY 2015	<ul style="list-style-type: none"> Construction is about 76% complete, and is scheduled for completion by early 2016.

Project I: SR-91 Improvements (SR-57 to SR-55)

Project I includes improvements to SR-91 between SR-57 and SR-55, including a new westbound auxiliary lane, an eastbound general purpose lane, and interchange improvements.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> Final design and right-of-way phases for the SR-91 between SR-55 and the Tustin Avenue interchange were completed in April 2013, and the project was advertised on June 17, 2013. Completed draft PSR for SR-91 between SR-57 and SR-55, and provided draft PSR to Caltrans for review in May 2013.
FY 2014	<ul style="list-style-type: none"> Construction began during the quarter on January 21, 2014. Work involved installing temporary safety barriers and electrical systems
FY 2015	<ul style="list-style-type: none"> The PSR-PDS for SR-91 between SR-57 and SR-55 was approved by Caltrans. The environmental phase for SR-91 between SR-57 and SR-55 began in January 2015. For SR-91 between SR-55 and the Tustin Avenue interchange, construction is about 63% complete and is scheduled for completion by mid-2016. For SR-91 between SR-57 and SR-55, the feasibility study portion of the environmental phase is scheduled for completion in September 2015 and the environmental phase is scheduled to be complete by late 2018.

Project J: SR-91 Improvements (SR-55 to Orange/Riverside County Line)

Project J consists of improvements to SR-91 between SR-55 and SR-71 (Riverside County), including lane additions and interchange improvements. In March 2013, 6 miles were added in the westbound and eastbound directions for a key stretch between SR-55 and SR-241, and second eastbound exit lanes were added at Lakeview Avenue, Imperial Highway, and Yorba Linda Boulevard/Weir Canyon Road off-ramps. Eastbound improvements between SR-241 and SR-71 opened in January 2011. The remaining segment, a design-build project, is managed by the Riverside County Transportation Commission as part of its SR-91 improvements. OCTA is responsible for adding a westbound lane between Green River and SR-241.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> For SR-91 between SR-55 and SR-241, construction was completed. Opened a new, six-mile general purpose lane on SR-91 in Anaheim and Yorba Linda. Held opening ceremony on February 21, 2013. For SR-91 between SR-241 and I-15 (Riverside County portion of the project), the project's draft environmental document was completed in January 2013.
FY 2014	<ul style="list-style-type: none"> RCTC's contractors broke ground on the Riverside County portion in December 2013.
FY 2015	<ul style="list-style-type: none"> Work on the Riverside County portion of the project is ongoing.

Project K: I-405 Improvements (I-605 to SR-55)

Project K consists of improvements on I-405 between SR-73 and I-605.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> The OCTA Board selected Alternative One as the Locally Preferred Alternative In October 2012. On April 22, 2013, the Board approved the exploration of Concept A (two general purpose lanes in each direction plus conversion of the existing high-occupancy vehicle lane to a high-occupancy toll/express lane in each direction) and Concept B (two general purpose lanes in each direction, but truncating the second general purpose lane in the northbound direction at Valley View Street). The recirculation of a supplemental draft environmental impact report (EIR)/environmental impact statement for Interstate 405 (Project K) began in June 2013.
FY 2014	<ul style="list-style-type: none"> The Board approved exploration of Concept A and B and upon further analysis Board eliminated Concept B. In December 2013, the Board reaffirmed and recommended Caltrans to select Alternative 1 as the locally preferred alternative, which would add one general purpose lane in each direction.
FY 2015	<ul style="list-style-type: none"> On July 25, 2014, Caltrans chose Alternative 3 as the preferred alternative, to be implemented in a phased approach. Under this phased approach, OCTA would construct one GP lane in each direction from Euclid Street to I-605, consistent with Measure M2, as the first phase of the project. The final EIS/EIR was approved by Caltrans on March 26, 2015. On April 27, 2015, the Board authorized the design-build cooperative agreement, approved the terms and conditions that OCTA staff negotiated with Caltrans, and directed staff to take steps to implement the preferred alternative. The federal Record of Decision was issued on May 15, 2015; the revised design-build Request for Qualifications was issued on May 28, 2015; and the state Notice of Determination was issued on June 17, 2015.

Project L: I-405 Improvements (SR-55 to I-5)

Project L will add one general purpose lane in each direction of the I-405 corridor and improve the interchanges in the area between I-5 and SR-55 in Irvine. Additional features include improvements to various interchanges, auxiliary lanes, and ramps. Currently, unresolved issues relating to environmental study traffic modeling methodology generated delays for the project.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> Completed draft PSR and submitted to Caltrans for review in May 2013.

FY 2014	<ul style="list-style-type: none"> Final PSR/PDS was approved by Caltrans.
	<ul style="list-style-type: none"> The final I-405 Project Study Report/ Project Development Support (PSR-PDS) for Project L was approved by Caltrans.
FY 2015	<ul style="list-style-type: none"> Contract was signed on December 10, 2014 to initiate engineering and environmental work.
	<ul style="list-style-type: none"> The draft Project Report and draft Environmental Document are scheduled to be complete by March 2017.

Project M: I-605 Access Improvements

Project M will improve freeway access and arterial connections for I-605 at Katella Avenue in the City of Los Alamitos and Orange County. Improvements may include enhancements at the on- and off-ramps, in addition to operational improvements at the I-605/Katella Avenue interchange. Caltrans signed the PSR/PDS in May 2015. The project is scheduled to begin the environmental phase in fall 2016.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> The Request for Proposals (RFP) was released in October 2012
FY 2014	<ul style="list-style-type: none"> The project study team finalized the Purpose and Need Statement for the project. Conceptual project alternatives are being developed for the interchange and will be further studied as part of the Project Study Report-Project Development Support (PSR-PDS) report.
FY 2015	<ul style="list-style-type: none"> OCTA submitted the final PSR-PDS to Caltrans for review and approval. The final PSR-PDS was approved by Caltrans on May 11, 2015. The project is now eligible to advance to the Project Approval/Environmental Document (PA/ED) phase.

Project N: Freeway Service Patrol

Project N funds the Freeway Service Patrol (FSP) on Orange County freeways during weekday peak periods, and along select freeways during the midday and weekends. FSP began operations in June 2012 and provides tow truck service for motorists with disabled vehicles on the freeway system to quickly clear freeway lanes and minimize congestion. The FSP services are ongoing throughout the life of the M2 Program. This is an on-going service. Since inception, FSP provided a total of 34,887 assists to motorists on the Orange County freeway system.

Freeway Mitigation Program

The Freeway Mitigation Program provides higher-value environmental benefits such as habitat protection, wildlife corridors, and resource preservation in exchange for streamlined project approvals and greater certainty in the delivery of Projects A-M. The program is proceeding as planned, with seven properties acquired (1,300 acres), and 11 restoration projects approved for funding by the Board, totaling approximately 350 acres. Ten of these restoration project plans have been approved by the wildlife agencies and are currently being implemented, with the remaining project currently under development.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> To date, the Board has approved 11 restoration projects for funding, totaling approximately 400 acres. Staff continued to work with project sponsors on technical documents and draft restoration plans. At the end of FY 2013, acquired about 950 acres of open space property. Staff continued to work towards release of draft conservation plans and draft EIS/EIR.
FY 2014	<ul style="list-style-type: none"> The Board approved the Freeway Mitigation Program Draft Natural Community Conservation Plan/ Habitat Conservation Plan (NCCP/HCP) and Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) on January 27, 2014 for public release. The Board also directed OCTA staff to prepare a long-term expenditure plan for Environmental Mitigation Program funds on January 27, 2014. On June 9, 2014, the Board authorized OCTA staff to enter into a new interim management agreement for the Hayashi Preserve with the California Department of Parks and Recreation.

FY 2015	<ul style="list-style-type: none">• OCTA publicly released the NCCP/HCP and EIR/EIS on November 7, 2014. Two public meetings were held, on November 20, 2014 and on December 3, 2014.
	<ul style="list-style-type: none">• On March 4, 2015, OCTA staff received endorsement on a set of recommendations on Guiding Principles, Long-Term Funding Strategy, and an expenditures option list from the Environmental Oversight Committee.
	<ul style="list-style-type: none">• On May 22, 2015, the Board approved a framework for the use of remaining Mitigation Program revenues to off-set environmental impacts from future state highway improvement projects.

Appendix D
Streets and Roads Projects Activity
Summaries (Projects O to Q)

Appendix D: Streets and Roads Projects Activity Summary (Projects O-Q)

Project O: Regional Capacity Project and OC Bridges Railroad Program

Project O, known as the Regional Capacity Program, funds completion of the Orange County MPAH, intersection improvements, and other projects to improve traffic flow. Local jurisdictions apply for Project O funding through a competitive process and generally provide a 50 percent match in local funds, with a lower match requirement for specified projects that address key objectives.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> • OCTA Board approved updates to the Comprehensive Transportation Funding Programs (CTFP) guidelines. 2013 Regional Capacity Program call for projects was issued. • For Tustin/Rose Grade Separation, OCTA released the advertisement for construction in October 2012, and five bids were received in November 2012. Construction began in April 2013 • For Orangethorpe Grade Separation, OCTA released the advertisement for construction on September 12, 2012 and six bids were received on November 6, 2012. Construction began in April 2013. • Programming recommendations for the 2013 Regional Capacity Program were approved by the OCTA Board on April 8, 2013. This included 10 projects with about \$35 million in funding.
FY 2014	<ul style="list-style-type: none"> • Board authorized staff to issue the 2014 Regional Capacity Program Call for Projects in August 2013. • For State College Grade Separation and for Lakeview Grade Separation, released advertisement for construction in September 2013. • On January 13, 2014, OCTA staff presented the OC Bridges Railroad Grade Separation Program Funding Plan Changes to the OCTA Board of Directors (Board). The Board approved OCTA staff's recommended funding plan to support the revised estimated cost to complete the OC Bridges Railroad Grade Separation Program. • For Placentia Avenue Grade Separation, the grade separation was opened to traffic in March 2014. • For Raymond Avenue Grade Separation, the construction contract was awarded on February 4, 2014. • For State College Boulevard Grade Separation, the City of Fullerton awarded the construction contract on February 4, 2014. • The Board approved the 2014 Regional Capacity Program programming recommendations on April 14, 2014, with \$35.4 million in funding for 17 projects. • For Kraemer Boulevard Grade Separation, the grade separation was opened to traffic in June 2014. Work continues on landscaping and fencing adjacent to the pump station.
FY 2015	<ul style="list-style-type: none"> • Board authorized staff to issue the 2015 Regional Capacity Program Call for Projects in August 2014. • For Lakeview Avenue Grade Separation, construction activities began in July 2014. • The Board approved the 2014 Regional Capacity Program programming recommendations on April 13, 2015, with 23 recommended projects. To date, the five Regional Capacity Program calls for projects have provided funding for a total of 103 projects in the amount of more than \$193 million. • Two of the seven grade separation projects (Kraemer Boulevard, Placentia Avenue) are complete. • For the other five projects, the status is as follows. Lakeview Avenue is about 28% complete, with scheduled completion by early 2017. Orangethorpe Avenue is about 63% complete, with scheduled completion by mid-2016. Raymond Avenue is about 45% complete, with scheduled completion by mid-2018. State College Boulevard is about 31% complete, with scheduled completion by early 2018. Tustin Avenue/Rose Drive is about 62% complete, with scheduled completion by mid-2016.

Project P: Regional Traffic Signal Synchronization Program

Project P, the Regional Traffic Signal Synchronization Program, implements and funds ongoing operations for regional signal coordination programs covering over 2,000 signalized intersections

throughout Orange County and across jurisdictional boundaries. Local jurisdictions provide a 20 percent match in local funds.

- In FY 2011-12, sixteen corridor-based signal synchronization projects were implemented.
- In FY 2012-13, twenty-three projects were selected.
- In FY 2013-14, thirteen projects were implemented.
- In FY 2014-15, ten projects were implemented.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> • Released 2013 annual call for projects in August 2012. • All interagency agreements have been finalized for OCTA-led projects. These projects are First/Bolsa, Ball Road, Edinger Avenue, Oso/Pacific Park, Los Alisos Boulevard, Santa Margarita Parkway, and Lake Forest Drive. • Fourteen projects were approved by the OCTA Board in April 2013, covering 108.5 miles with 829 intersections at a cost totaling about \$19.4 million.
FY 2014	<ul style="list-style-type: none"> • Released 2014 annual call for projects in August 2013. • Ten projects were approved by the OCTA Board in April 2014, totaling about \$8.4 million.
FY 2015	<ul style="list-style-type: none"> • Released 2015 annual call for projects in August 2014. • Seven projects were approved by the OCTA Board in April 2015, totaling about \$16.3 million. • To date, there have been five rounds of funding, providing a total of 69 projects with more than \$56.3 million in funding. To date, OCTA and local agencies have synchronized 1,413 intersections along 363 miles of streets.

Project Q: Local Fair Share Program

Project Q, the Local Fair Share Program, provides flexible funding for local jurisdictions and Orange County to maintain streets and meet other local transportation needs such as safety enhancements. Funds are distributed by formula to local jurisdictions and Orange County. The formula is based on population, street mileage, and amount of sales tax collected. Funding is disbursed to the agencies every 2 months. The agencies that receive funding agree to abide by a specified set of project requirements.

FISCAL YEAR	SUMMARY
APR – JUN 2013	<ul style="list-style-type: none"> • To date, approximately \$88.6 million in Local Fair Share payments have been provided to local agencies.
APR – JUN 2014	<ul style="list-style-type: none"> • To date, approximately \$135 million in Local Fair Share payments have been provided to local agencies.
APR – JUN 2015	<ul style="list-style-type: none"> • To date, approximately \$185 million in Local Fair Share payments have been provided to local agencies.

Appendix E
Transit Projects Activity Summaries
(Projects R to W)

Appendix E: Transit Projects Activity Summary (Projects R-W)

Project R: High Frequency Metrolink Service

Project R, the High Frequency Metrolink Service project, consists of service frequency improvements, track improvements, additional vehicles, and other needs to enhance Metrolink commuter rail service provision within Orange County and to/from downtown Los Angeles. As part of the Metrolink Service Expansion Program, this project completed the enhancement of 52 Orange County at-grade rail-highway crossings with safety improvements. The cities of Anaheim, Dana Point, Irvine, Orange, Santa Ana, San Clemente, San Juan Capistrano, and Tustin have established quiet zones at respective crossings.

In 2011, OCTA deployed 10 new Metrolink intra-county trains operating between Fullerton and Laguna Niguel/Mission Viejo. Efforts are underway to increase ridership on these trains through an evaluation of service redeployment, which may provide new train trips between Orange County and Los Angeles County. OCTA staff are working with Metrolink, Los Angeles Metro, and Burlington Northern Santa Fe Railroad to address track sharing issues, operating constraints, and funding that impact options for redeployment.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> Enhancement of the designated 52 Orange County at-grade rail-highway crossings was completed as part of the Metrolink Service Expansion Program (MSEP).
FY 2014	<ul style="list-style-type: none"> OC Link day pass was discontinued on July 2, 2013.
FY 2015	<ul style="list-style-type: none"> For Sand Canyon Avenue Grade Separation, the westbound lanes were opened to traffic in June 2014 and the eastbound lanes opened to traffic in July 2014. A road opening ceremony was held in August 2014. On April 5, 2015, several schedule changes were made effective for the Metrolink Service Expansion Program to increase ridership through a redeployment of trains. OCTA continues to work with its partner agencies to move towards providing new Metrolink trips between Orange County and Los Angeles County.

Project S: Transit Extensions to Metrolink

Project S, the Transit Extensions to Metrolink project, involves planning, developing, and implementing a new fixed guideway and bus/shuttle services that strengthen connections between communities in Orange County with the Metrolink system. Local jurisdictions apply for Project S funding through a competitive process. There are two ongoing fixed guideway projects: the Anaheim Rapid Connection (ARC) project in Anaheim and the OC Streetcar project in Santa Ana and Garden Grove.

The City of Anaheim, working closely with OCTA, prepared an Alternatives Analysis in 2012 and the Anaheim City Council selected the streetcar as the Locally Preferred Alternative (LPA) for further environmental analysis. The OCTA Board approved the completion of the alternatives analysis and selection of the LPA and authorized the City of Anaheim to complete draft environmental documents for the LPA. A Notice of Preparation of the Environmental Impact Report (EIR) was released on December 1, 2013. The draft EIR was originally anticipated to be completed and circulated for public review by the end of 2014. The project was then delayed as the City of Anaheim evaluated alignment options for ARC. In 2015, OCTA and the City of Anaheim received the Notice to Proceed, and work on the draft EIR is currently underway.

The cities of Santa Ana and Garden Grove completed the Alternatives Analysis and Environmental Assessment (EA)/Draft EIR for the Santa Ana/Garden Grove Fixed Guideway Project in early 2015. OCTA and the cities selected Streetcar Alternative 1 as the LPA, and the Revised EA/Final EIR was certified in

January 2015. In April 2015, Federal Transit Administration (FTA) issued a Finding of No Significant Impact for the project and OCTA received approval to enter the Federal New Starts Program.

The OCTA Board approved OCTA as the lead agency for the project going into the design and construction phases. OCTA rebranded the project as the OC Streetcar. OCTA will serve as the owner and operator for the OC Streetcar, working closely with the cities of Santa Ana and Garden Grove. OCTA recently selected a firm to complete final design for the project; final design work will begin in early 2016. Construction is scheduled to begin in 2017, and the OC Streetcar is scheduled to begin revenue service in 2020

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> • For Bus and Station Van Extensions Project, four applications were received in April 2012. The applications were approved by the TAC and the Board in June and July 2012, respectively. • The ARC Alternatives Analysis (AA) report is completed and was submitted to the Federal Transit Administration (FTA) in October 2012 for review. • Based upon the results of the AA report and community input, the Anaheim City Council adopted the streetcar as the locally preferred alternative (LPA) for ARC in October 2012. • The draft AA/EA/EIR for the SA-GG project was submitted to FTA for review in December 2012. • For the Bus and Station Van Extension Project, services for four approved applications began in November 2012.
FY 2014	<ul style="list-style-type: none"> • City of Anaheim presented summary of completed ARC milestones to the OCTA Board in July 2013. Board provided approval for the ARC project to advance into the environmental phase. • Two public environmental scoping meetings for the ARC project were held on January 14. During these meetings, the City of Anaheim provided the public with information about the proposed project and described the environmental review process. • Provided updates on the SA-GG project to the OCTA Transit Committee and the OCTA Board in March 2014. • In May 2014, the environmental assessment/draft environmental impact report (EA/DEIR) for the SA-GG project was completed. The City of Santa Ana released the EA/DEIR for public comment. Three public meetings were held in June to discuss the EA/DEIR and obtain comments.

FY 2015	<ul style="list-style-type: none"> • On August 5, 2014 the Santa Ana City Council approved Streetcar Alternative 1 as the Locally Preferred Alternative for the SA-GG project. • On August 11, 2014 the OCTA Board approved staff proposed financial and implementation plans for the project for the SA-GG project. OCTA was identified to serve as the lead agency for continued project development, and will own and operate the system. • The completion of project milestones, including the alternatives analysis, draft environmental document, and approval and adoption by the Santa Ana City Council of the LPA was approved by the Board on September 22, 2014. • OCTA submitted the revised environmental assessment/final environmental impact report (REA/FEIR) for the SA-GG project to FTA for review and approval in October 2014. • On January 20, 2015, the Santa Ana City Council certified the FEIR for the SA-GG project. On February 10, 2015, the Garden Grove City Council approved the LPA adopted by the Santa Ana City Council. On February 13, 2015, OCTA submitted its request to enter FTA's New Starts Project Development for the SA-GG project. On February 23, 2015, the Board approved a project management consultant contract for the SA-GG project. On March 10, 2015, the FTA issued a Finding of No Significant Impact for the SA-GG project, which completed the environmental phase. • The City of Anaheim continues to evaluate alternative alignments for the ARC project. • On May 5, 2015, the FTA formally approved the SA-GG project, or the OC Streetcar project, to move into the Project Development phase of the New Starts program. • OCTA will procure a design consultant for the OC Streetcar project, with Notice to Proceed scheduled by the end of 2015.
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Project T: Convert Metrolink Stations to Regional Gateways that Connect Orange County with High-Speed Rail Systems

Project T, the Convert Metrolink Stations to Regional Gateways project, provides for improvements to regional transit centers and transit services to connect Metrolink stations in Orange County with the future California High Speed Rail system. Project T consists of the Anaheim Regional Transportation Intermodal Center (ARTIC), located in Anaheim.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> • In July 2012, the Board approved the sale of approximately 13.5 acres of real property to the City. • In August 2012, the City of Anaheim (City) received eight bids for the construction of ARTIC. • In September 2012, the City awarded the construction contract to Clark Construction Group (Clark) in the amount of \$126,997,000. The City issued a Notice to Proceed to Clark in September 2012. • The General Contractor mobilized to the site in October 2012 • In October 2012, the contractor began demolition of the existing structures on site. • Construction of ARTIC is underway, beginning with work on the foundation of the facility.
FY2014	<ul style="list-style-type: none"> • Douglas Road was re-opened to traffic on March 27, 2014. • Construction of ARTIC was proceeding with about 80 percent completed by the end of the FY.
FY2015	<ul style="list-style-type: none"> • The City of Anaheim opened the ARTIC facility to rail and bus service on December 6, 2014; held a ribbon cutting ceremony on December 8, 2014; and held a grand opening celebration on December 13, 2014.

Project U: Expand Mobility Choices for Seniors and Persons with Disabilities

Project U, the Expand Mobility Choices for Seniors and Persons with Disabilities project, funds transit fare discounts for seniors and persons with disabilities, expands local community van services through the Senior Mobility Program (SMP), and supplements the Orange County Senior Non-Emergency Medical Transportation Program (SNEMT). Thirty-one local jurisdictions are currently participating in the SMP, and the SNEMT is in operation. Since inception, more than 1,076,000 boardings and 340,000 boardings have been provided through the SMP and SNEMT programs, respectively.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> The City of Mission Viejo joined the program in February. In February 2013, Staff provided the Board with a staff report which indicated the Fare Stabilization Program funding levels may only be sufficient until FY 2019-20.
	<ul style="list-style-type: none"> In total, more than \$4.5 million in Project U funding was provided in FY2013 for the SMP and SNEMT. OCTA hosted a Senior Mobility Program Forum in May, with 24 cities participating. To date, about \$5.5 million has been allocated to stabilize fares for seniors and persons with disabilities through the Fare Stabilization Program.
FY 2014	<ul style="list-style-type: none"> In total since inception, about \$22 million in M2 Project U funding has been provided through the SMP, the SNEMT, and the Fare Stabilization Program.
FY 2015	<ul style="list-style-type: none"> In total since inception, about \$31 million in M2 Project U funding has been provided through the SMP, the SNEMT, and the Fare Stabilization Program

Project V: Community Based Transit/Circulators

Project V, the Community Based Transit/Circulators project, involves planning, developing, and implementing a new local bus shuttle and circulator services that complement existing transit services in Orange County. On June 24, 2013, the OCTA Board approved \$9.8 million to fund five proposals from the cities of Dana Point, Huntington Beach, La Habra, Laguna Beach, and Lake Forest. The cities serve as the lead agencies for these services, and have the option to operate the services directly or contract out operations. Service began in Laguna Beach on March 6, 2015. Staff is currently working on the next Call for Projects for Project V; several cities have expressed interest in participating.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> Draft Project V guidelines were presented to the Technical Advisory Committee (TAC) in October, approved by the Executive Committee and the Board in November 2012. The call for projects was issued in December 2012. Program Guidelines for Project V were approved by the Board last quarter and the first call for projects was issued for \$28 million. Five applications were received. Five applications from the cities of Dana Point, Huntington Beach, La Habra, Laguna Beach, and Lake Forest were approved by the Transit Committee for Project V (Community-Based Transit/Circulators) on June 13, 2013, for a total of up to \$9.8 million.
FY 2014	<ul style="list-style-type: none"> The City of Lake Forest began operating their service in January 2014. Projects proceeding to implement service in other cities. OCTA executed agreement documents with other participating cities.
FY 2015	<ul style="list-style-type: none"> OCTA procured the buses to operate La Habra Shuttle service and service started on August 4, 2014. Service began in Laguna Beach in March 2015. On June 24, 2015, OCTA held a Project V workshop with the TAC to obtain feedback on guidelines and provide information for the next call for projects. OCTA staff plan to present revised Project V guidelines to the TAC in August 2015 and to the Board in October 2015, and plan for the next call for projects.

Project W: Safe Transit Stops

Project W, the Safe Transit Stops project, provides for passenger amenities, including improved shelters, lighting, traveler information, and ticket vending machines at the 100 busiest transit stops across Orange County. On July 14, 2014, the OCTA Board approved \$1.2 million in funding for city-initiated improvements and \$370,000 for OCTA-initiated improvements in FY 2015. Fifteen cities are eligible for Safe Transit Stops funding. Seven cities applied for funds, and 51 projects will be funded per OCTA Board approval.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> OCTA staff refined draft Project W guidelines and submitted them to members of the Service Review Committee for review and input in December 2012. Completed development of a definition of "busiest

	<p>bus stops”, completed an inventory of 100 busiest stops, and commenced an industry review of best practices.</p>
FY 2014	<ul style="list-style-type: none"> • The OCTA Board of Directors approved the Project W framework at their March 10, 2014 meeting as presented by the OCTA staff. The proposed framework will provide up to \$950,000 for city-initiated improvements, and \$240,000 for OCTA-initiated improvements in FY 2015. • Seven out of 15 eligible cities applied for Project W funding.
FY 2015	<ul style="list-style-type: none"> • At the July 14, 2014 business meeting, the Board approved about \$1.2 million in M2 Project W funds for city-initiated improvements and \$370,000 for OCTA-initiated improvements in FY 2014-15. Fifteen cities are eligible for Safe Transit Stops’ funding, seven cities applied for funds, and 51 projects will be funded per the July Board approval. • Local agencies including Anaheim, Costa Mesa, Irvine, and Westminster reported that their projects have been awarded as of June 30, 2015. Other agencies including Brea, Orange, and Santa Ana have requested extensions to award their funds.

Appendix F
Environmental Cleanup Project
Activity Summary (Project X)

Appendix F: Environmental Cleanup Activity Summary (Project X)

Project X: Water Quality Program

Project X, the Measure M2 Environmental Cleanup Program, improves overall water quality in Orange County, which was impacted by transportation-generated pollution. Projects are chosen on competitive basis to assist jurisdictions in meeting the Clean Water Act requirements for controlling transportation-generated pollution. Eligible applicants include the County of Orange and cities in Orange County. Third parties, such as water and wastewater public entities, environmental resource organizations, nonprofit 501(c) environmental institutions, and homeowners associations can jointly apply with a city and/or the County of Orange, provided the eligible jurisdiction sponsors the project.

The Environmental Cleanup Program consists of a two-tiered funding program: Tier 1 projects mitigate the more visible forms of pollutants, such as litter and debris, which collects on roadways and in storm drains. Funding covers equipment purchases such as screens, filters, inserts, and other low-flow diversion projects to upgrade catch basins and collect debris. Tier 2 projects are multi-jurisdictional capital-intensive projects, such as constructing wetlands, and detention/infiltration basins.

FISCAL YEAR	SUMMARY
FY 2013	<ul style="list-style-type: none"> • In August 2012, the Board authorized funding of 33 projects totaling \$2.76 million to 25 cities plus the County of Orange for the second Tier 1 call for projects. • OCTA released the third Tier 1 call for projects, with Board approval. • OCTA released the second Tier 2 call for projects, with Board approval.
FY 2014	<ul style="list-style-type: none"> • The Board approved the funding recommendations for the third Tier 1 call for projects in September 2013, in the amount of \$2.83 million. • OCTA released the fourth Tier 1 call for projects, with Board approval. • Funding recommendations for the second Tier 2 call for projects were approved by the Board on April 14, 2014 in the amount of \$15.2 million.
FY 2015	<ul style="list-style-type: none"> • Funding recommendations for the fourth Tier 1 call for projects were approved by the Board on September 22, 2014 in the amount of \$2.8 million. • In September 2014, OCTA received a prestigious award for its innovative efforts to improve water quality across Orange County. The award, for Outstanding Stormwater Implementation Program in California, recognizes OCTA for best management practices under the Measure M2 Environmental Cleanup Program. • OCTA released the fifth Tier 1 call for projects, with Board approval.

Appendix G
M2 Expenditures Summary Project
Activity Summary

Appendix G: M2 Performance Metrics Summary

This appendix provides the forecasted project cost and forecasted completion date for M2 capital projects, and the changes in those metrics from June 2012 to June 2015. The source is the Capital Action Plan Performance Metrics Staff Reports, for Fourth Quarter FY2012 and Fourth Quarter FY2015.

Project Letter & Name	Forecasted Cost (June 2012)	Forecasted Cost (June 2015)	Change in Forecasted Cost	Forecasted Completion (June 2012)	Forecasted Completion (June 2015)	Change in Completion Date
FREEWAY PROJECTS						
A: I-5, SR-55 to SR-57	\$46.4 m	\$36.9 m	-\$9.5 m	Mar 2018	Dec 2019	21 months
B: I-5, I-405 to SR-55	n/a	TBD	-	n/a	TBD	-
C: I-5, Pico to Vista Hermosa	\$113.0 m	\$91.9 m	-\$21.1 m	Aug 2017	Aug 2018	12 months
C: I-5, Vista Hermosa to PCH	\$75.6 m	\$71.5 m	-\$4.1 m	Jan 2016	Mar 2017	14 months
C: I-5, PCH to San Juan Creek Rd	\$70.7 m	\$60.2 m	-\$10.5 m	Nov 2015	Sep 2016	10 months
C & D: I-5, SR-73 to El Toro Road	\$558.7 m	\$481.7 m	-\$77.0 m	Jul 2022	Sep 2022	2 months
D: I-5, I-5/Ortega Interchange	\$90.9 m	\$81.3 m	-\$9.6 m	Sep 2015	Dec 2015	3 months
D: I-5, I-5/El Toro Rd Interchange	n/a	TBD	-	n/a	TBD	-
F: SR-55, I-405 to I-5	\$274.9 m	\$274.6 m	-\$0.3 m	Nov 2020	Dec 2023	37 months
F: SR-55, I-5 to SR-91	n/a	TBD	-	n/a	TBD	-
G: SR-57 NB, Orange-wood to Katella	n/a	TBD	-	n/a	TBD	-
G: SR-57 NB, Katella to Lincoln	\$37.7 m	\$40.7 m	+\$3.0 m	Sep 2014	Apr 2015	7 months
G: SR-57 NB, Orange-thorpe to Yorba Linda	\$57.5 m	\$52.9 m	-\$4.6 m	Mar 2014	Nov 2014	8 months
G: SR-57 NB, Yorba Linda to Lambert	\$56.5 m	\$54.6 m	-\$1.9 m	Dec 2013	May 2014	5 months
G: SR-57 NB, Lambert to Tonner Canyon	n/a	TBD	-	n/a	TBD	-
H: SR-91 WB, I-5 to SR-57	\$72.8 m	\$63.5 m	-\$9.3 m	Nov 2015	Jul 2016	8 months
I: SR-91 WB, SR-57 to SR-55	n/a	TBD	-	n/a	TBD	-
I: SR-91 WB, Tustin Interchange to SR-55	\$49.9 m	\$47.8 m	-\$2.1 m	May 2015	Jul 2016	14 months
J: SR-91, SR-55 to SR-241	\$85.2 m	\$79.9 m	-\$5.3 m	Dec 2012	Mar 2013	3 months
J: SR-91, SR-241 to SR-71	\$58.2 m	\$57.8 m	-\$0.4 m	Jan 2011	Jan 2011	-
K: I-405, SR-55 to I-605	\$1,727.6 m	\$1,791.0 m	+\$63.4 m	Dec 2019	Oct 2022	34 months
L: I-405, I-5 to SR-55	n/a	TBD	-	n/a	TBD	-
L: I-405, SR-133 to University Drive	n/a	\$16.4 m	-	n/a	Nov 2019	-
M: I-605, I-605/Katella Interchange	n/a	TBD	-	n/a	TBD	-
GRADE SEPARATION PROJECTS						

Project Letter & Name	Forecasted Cost (June 2012)	Forecasted Cost (June 2015)	Change in Forecasted Cost	Forecasted Completion (June 2012)	Forecasted Completion (June 2015)	Change in Completion Date
O: Raymond	\$78.2 m	\$116.3 m	+\$38.1 m	May 2016	Aug 2018	27 months
O: State College	\$74.6 m	\$92.8 m	+\$18.2 m	May 2016	May 2018	24 months
O: Placentia	\$67.3 m	\$61.3 m	-\$6.0 m	Nov 2014	Dec 2014	1 month
O: Kraemer	\$67.8 m	\$64.2 m	-\$3.6 m	Oct 2014	Dec 2014	2 months
O: Orangethorpe	\$114.9 m	\$104.6 m	-\$10.3 m	Mar 2016	Sep 2016	6 months
O: Tustin/Rose	\$91.3 m	\$99.2 m	+\$7.9 m	Mar 2016	May 2016	2 months
O: Lakeview	\$95.5 m	\$99.2 m	+\$3.7 m	Dec 2015	Mar 2017	15 months
R: Sand Canyon	\$55.2 m	\$63.7 m	+\$8.5 m	May 2014	Jul 2015	14 months
R: 17th St	n/a	TBD	-	n/a	TBD	-
RAIL AND STATION PROJECTS						
R: Grade Crossing Safety Enhancements	\$94.4 m	\$94.4 m	No change	Dec 2011	Dec 2011	No change
R: San Clemente Beach Trail Enhancements	n/a	\$4.9 m	-	n/a	Mar 2014	-
R: San Juan Capistrano Passing Siding	n/a	\$25.3 m	-	n/a	Jan 2019	-
R: Placentia Metrolink Station and Parking	n/a	TBD	-	n/a	TBD	-
R: Metrolink Service Expansion Program	\$134.0 m	n/a	-	Sep 2012	n/a	-
S: Anaheim Rapid Connection	\$676.0 m	TBD	-	Aug 2018	TBD	-
S: Santa Ana/Garden Grove Fixed Guideway	\$252.0 m	TBD	-	May 2018	Dec 2019	19 months
R & T: ARTIC in Anaheim	\$227.4 m	\$230.4 m	+\$3.0 m	Oct 2014	Dec 2014	2 months

Appendix H

Acronyms and Abbreviations

Acronyms and Abbreviations

ARC	Anaheim Rapid Connection
ARTIC	Anaheim Regional Transportation Intermodal Center
Board	Board of Directors
Caltrans	California Department of Transportation
CAMM	Contracts Administration and Materials Management
CBP	Comprehensive Business Plan
CEO	Chief Executive Officer
CTFP	Comprehensive Transportation Funding Program
EAP	Early Action Plan
EIR	Environmental Impact Report
FSP	Freeway Service Patrol
FTA	Federal Transit Administration
FTE	full-time equivalent
FY	Fiscal Year
HOV	high-occupancy vehicle
I	Interstate
LA Metro	Los Angeles County Metropolitan Transportation Authority
LPA	Locally Preferred Alternative
L RTP	Long-Range Transportation Plan
M2	Renewed Measure M Transportation Investment Plan
MAP-21	Moving Ahead for Progress in the 21 st Century Act
MPAH	Master Plan of Arterial Highways
OCTA	Orange County Transportation Authority
OCUTT	Orange County Unified Transportation Trust
PMO	Program Management Office
PMP	Program Management Procedures
PSR/PDS	Project Study Report/Project Development Support
RMP	Resource Management Plan
ROW	right-of-way
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SMP	Senior Mobility Program
SNEMT	Senior Non-Emergency Medical Transportation Program
SR	State Route
TECP	Tax Exempt Commercial Paper
TIFIA	Transportation Infrastructure Finance and Innovation Act

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TOC Taxpayers Oversight Committee

VTA Santa Clara Valley Transportation Authority



ORANGE COUNTY TRANSPORTATION AUTHORITY

Measure M2 Performance Assessment Report

Attachment B

No.	Finding	Recommendation	OCTA Response
Area 1: Project Delivery			
1.	It is difficult to align particular aspects of the voter-approved Orange County Transportation Authority (OCTA) Measure M2 (M2) Program with changes to the state’s priorities (for example, greenhouse gas reductions, sustainability, and managed lanes). These differences led to delays in project definition and environmental processes as OCTA and the California Department of Transportation (Caltrans) worked to reconcile their differing goals, policies, and objectives.	Continue to partner with Caltrans at the technical levels for system planning and modeling, as well as throughout the environmental, design, and construction phases. This may resolve different priorities between agencies and identify projects where advanced coordination could help mitigate schedule delays while the agencies reconcile goals and objectives. An example of this partnership is for OCTA to work with Caltrans and explore the possibility of including OCTA projects on Caltrans list of approved projects in the fiscal year contract for delivery. This will enable Caltrans and OCTA to agree on milestones and timelines to level set expectation and commit the two stakeholders to meet the project delivery timeline.	Staff continues to partner with Caltrans District 12 at all levels during project delivery. Additionally, staff has approached Caltrans with a request for consideration of including OCTA’s M2 projects in Caltrans contract for delivery. Lastly, staff has raised this with the Self Help County Coalition to see if others share a similar interest.
2.	It was noted that there appeared to be increasing occurrences of changes and/or growth in a project’s scope. Scope creep was an issue during design and development phase; sometimes, requests for modification to constructed elements were requested during the final Caltrans safety and maintenance walk through.	Include language that defines the term “Betterment” in project-specific third-party agreements with state, regional, and local agencies. Particular agreements may define how Betterments will be negotiated, if appropriate. Following is the definition used by the Santa Clara Valley Transportation Authority. "Betterment" shall mean the upgrading (e.g., increase in capacity) of a new or existing facility, that is not attributable to construction of the Project and is made solely for the benefit of and at the election of DEPARTMENT (not including a technological improvement which is able to achieve such upgrade at costs equal to or less than the costs of a "like-for-like" replacement or relocation). Valley Transportation Authority shall not be obligated to pay for any portion of any Betterment.	Staff included language related to “Betterments” in the recently completed Interstate 405 project cooperative agreement between Caltrans and OCTA. Staff will develop boiler plate language to be modified as appropriate for inclusion in future projects cooperative agreements with Caltrans. Caltrans will ultimately have to agree to the language.

Area 2: Program Management/Responsiveness

3.	The M2 Program Management Office (PMO) performance has	OCTA should communicate PMO staff member roles and	With the addition of staff, this has allowed the PMO department to expand
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July 2012 – June 2015 M2 Performance Assessment Response to Findings

No.	Finding	Recommendation	OCTA Response
4.	<p>matured and continued to perform at a high-degree of professionalism and responsiveness. With the arrival of two new program analysts, OCTA is poised to oversee the growing program more fully, such as with the more comprehensive quarterly reports recently redesigned and through deeper involvement in project management review and analysis.</p> <p>PMO staff have a strong base of skills to administer the M2 Program, including work experience across other OCTA divisions and history dating back to the early days of the PMO. Periodic training, such as enhancing the cohesiveness of the PMO and key stakeholders and strengthening OCTA commitment to its broad mission, could strengthen the PMO. OCTA-branded training modules specific to the M2 Program could further enhance abilities.</p> <p>In the past, OCTA conducted a program management academy, which could serve as a model for the new training. Such a training program is in place now; conducting it this coming year was discussed.</p>	<p>responsibilities. Clear roles should be communicated across divisions to help promote coordination and communication. PMO roles should clearly define backup and mutual support activities. OCTA should broaden the PMO by expanding participation with external stakeholder groups; think strategically about building awareness, build stronger relationships with other self-help county partner agencies; and increase collaboration with Caltrans.</p> <p>OCTA should implement the program management academy in the short term. Such a program will benefit new staff, serve as refresher for existing staff, and strengthen collaboration between the PMO, Finance and Administration Division, and the respective project/program managers. The M2 ordinance and policy administration strategies should be shared as part of training. In addition, OCTA should consider Project Management Professional (PMP) training for all PMO staff.</p>	<p>its role within the organization. The PMO will reach out to each of the executive directors to seek input on how the department can further assist them in their M2 delivery goals. Additionally, regular communication with partner agencies is planned to ensure lessons learned are communicated and learned.</p> <p>While PMO staff roles and responsibilities are defined, PMO staff is crossed trained to allow flexibility and respond to fluctuating workflows.</p> <p>The most recent program management academy took place in late 2013 and is designed to be conducted as appropriate when enough staff turnover takes place to make the effort timely. Working with the executive directors to determine the appropriate timeframe, the PMO intends to conduct the next academy in 2017.</p> <p>Additionally, PMO staff will enroll in project management PMP in fiscal year 2016-17.</p>

July 2012 – June 2015 M2 Performance Assessment Response to Findings

No.	Finding	Recommendation	OCTA Response
Area 3: Compliance (No findings or recommendations)			
Area 4: Fiscal Responsibility			
5.	During the review period, OCTA implemented controls to improve tracking and administration of the one percent cap on administrative expenses. Though OCTA has borrowed from another funding source to satisfy the M2 requirement, OCTA staff are confident they will be able to satisfy the one percent cap requirement over the long-term. OCTA has already paid back part of the amount borrowed.	Continue monitoring ongoing expenditures for administrative expenses, including labor charges by project, and determine whether any changes are required in the future.	The PMO and executive directors from each of the divisions meet quarterly and review labor charges to ensure that project-specific administrative costs are charged appropriately. Additionally, administrative expenses are reported in the M2 Quarterly Reports to ensure transparency and management of the 1% administrative cap. This level of ongoing monitoring, will continue throughout the life of M2.
6.	OCTA regularly evaluates the optimum level of debt financing and the timing of debt issuance required to deliver the M2 Program in a cost-effective manner. While OCTA has indicated an ability to deliver the M2 Program without additional external funding, it continues to seek alternate sources of funding to supplement M2 funds when available. OCTA has processes in place to periodically update its cash-flow needs for the M2 Program.	Continue to evaluate the optimum level of debt to issue and timing of debt issuance to deliver the M2 Program. Continue efforts to seek alternate sources of funding to supplement M2 funds, including using M2 funding to meet local match requirements.	The M2 cash flows are updated annually in response to the ever-changing economic conditions, and most important to ensure the program is financially sustainable to be delivered as promised to the voters of Orange County. Reviewing and reporting on current and future needs for debt financing is part of these updates along with separate plans of finance taken to the Board for consideration whenever new debt is required. Annual updates are done through the Comprehensive Business Plan updates as well as through M2 Plan updates such as the M2020 Plan.
7.	OCTA noted that three local agencies failed to request timely use of funds extension during the semi-annual review process, and, thus did not receive their full allocation.	Over time, evaluate whether there is a pattern developing by local agencies neglecting to request timely use of funds extensions, when such extensions are necessary. Should a pattern emerge, identify and address the underlying root causes.	Staff reaches out to each local jurisdiction prior to expiration of timely use of funds. This practice will continue to ensure that cities are aware of the impending deadline well in advance of expiration.

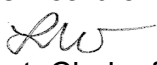
July 2012 – June 2015 M2 Performance Assessment Response to Findings

No.	Finding	Recommendation	OCTA Response
Area 5: Transparency and Accountability			
8.	Some external stakeholders noted that there seems to be a lack of recognition of M2 funding and a lack of association of M2 with its projects and programs within their organizations and among the general public.	Improve branding and awareness of M2 projects and programs. Implement M2-specific marketing efforts to educate the general public and stakeholders and to collaborate with cities. To keep the branding efforts consistent, develop guidelines or a media toolkit for city staff, including logo, branding, and signage specifications, to better highlight M2 projects at construction sites.	Staff is currently working to improve the M website to provide more comprehensive information on the program. Additionally, staff is in process of creating signage guidelines for each of the M2 projects and programs to ensure a tie back to M2 for each improvement as appropriate.
9.	Small cities reported not having enough staff to review all M2 materials and documents.	Develop an information card for each M2 program and project with easy-to-understand information and status updates for city staff and constituents.	Staff is working to improve the M website to assist all cities with an easy way understand the funding programs available to them. Additionally, staff will continue to conduct workshops on M2 programs to assist all cities with one on one or group communication and information.



COMMITTEE TRANSMITTAL

August 8, 2016

To: Members of the Board of Directors
From:  Laurena Weinert, Clerk of the Board
Subject: OC Bridges Railroad Grade Separation Program Cost-to-Complete Update

Regional Planning and Highways Committee Meeting of August 1, 2016

Present: Directors Bartlett, Do, Lalloway, Miller, Nelson, and Ury
Absent: Directors Donchak and Spitzer

Committee Vote

Due to lack of quorum, no action was taken on this item.

Staff Recommendation

Direct staff to return to the Board of Directors with an amended funding plan and budget authority in consideration of eligible use of federal, state, and local fund sources to support the revised estimated cost-to-complete the OC Bridges Railroad Grade Separation Program.



ORANGE COUNTY TRANSPORTATION AUTHORITY

OC Bridges Railroad Grade Separation Program Cost-to-Complete Update

Staff Report



August 1, 2016

To: Regional Planning and Highways Committee

From: Darrell Johnson, Chief Executive Officer

Subject: OC Bridges Railroad Grade Separation Program Cost-to-Complete Update

Overview

The Orange County Transportation Authority is implementing the OC Bridges Railroad Grade Separation Program, which includes seven railroad grade separation projects along the Orangethorpe railroad corridor in the cities of Anaheim, Fullerton, and Placentia. The funding for the program is provided by a combination of federal, state, and local funds. Based on updated costs, supplemental funding will be needed to complete the OC Bridges Railroad Grade Separation Program.

Recommendation

Direct staff to return to the Board of Directors with an amended funding plan and budget authority in consideration of eligible use of federal, state, and local fund sources to support the revised estimated cost-to-complete the OC Bridges Railroad Grade Separation Program.

Background

The Orange County Transportation Authority (OCTA), in coordination with the cities of Anaheim, Fullerton, and Placentia, is implementing the OC Bridges Railroad Grade Separation Program (OC Bridges Program). Undercrossings at Placentia Avenue and Kraemer Boulevard and overcrossings at Orangethorpe Avenue, Tustin Avenue/Rose Drive, and Lakeview Avenue are being implemented directly by OCTA. The City of Fullerton (Fullerton) is implementing undercrossings at State College Boulevard and Raymond Avenue. A map showing the locations of these projects is included in Attachment A.

These projects are regionally significant due to substantial rail and vehicular traffic volumes that currently traverse the crossings and that are forecasted to increase substantially in the future. The proposed grade separations are on

streets that are primary north/south arterial connectors in the cities of Anaheim, Fullerton, and Placentia. The projected average daily traffic volumes on the primary arterial connectors range from 19,000 to 33,000 vehicles, and up to 130 trains per day are expected to use the rail corridor by the year 2030. These projects provide much needed benefits to the region, including enhanced safety, reduced delay and improved travel time, reduced emergency response times, air quality benefits, and noise reduction.

Based on the need and importance of these grade separation projects, OCTA and the cities of Fullerton and Placentia successfully applied for funding from the state's Proposition 1B Trade Corridor Improvement Fund (TCIF) program. This provided OCTA the one-time opportunity to fund the OC Bridges Program with TCIF funds and other federal, state, and local sources. A chronological summary of programming and funding actions related to the OC Bridges Program is included in Attachment B.

Discussion

The OC Bridges Program is progressing well with the Lakeview Avenue, Raymond Avenue, and State College Boulevard grade separation projects continuing in the construction phase. The Tustin Avenue/Rose Drive and Orangethorpe Avenue grade separation projects are nearing construction completion and were opened to public traffic on December 7, 2015 and June 23, 2016, respectively. The Placentia Avenue and Kraemer Boulevard grade separation projects were opened to public traffic on March 12, 2014 and June 28, 2014, respectively, and are complete. Attachment C provides the status of each of the seven railroad grade separation projects.

The OC Bridges Program's original baseline cost estimate was developed in 2008. At that time, OCTA was the lead implementing agency for the Placentia Avenue, Kraemer Boulevard, Orangethorpe Avenue, Tustin Avenue/ Rose Drive, and Lakeview Avenue grade separation projects. Fullerton was the lead implementing agency for the State College Boulevard and Raymond Avenue grade separation projects, with OCTA providing funding and general oversight.

In 2012, Fullerton requested that OCTA accept the lead agency role for right-of-way (ROW) delivery for both Fullerton projects. In August 2012, the OCTA Board of Directors (Board) approved an amendment to Cooperative Agreement No. C-9-0576 between OCTA and Fullerton to enable OCTA to expand its role for the delivery of the Fullerton projects. At that time, OCTA performed a comprehensive analysis of program costs and determined additional funds were required to meet previously unanticipated ROW, construction, and design needs for the OC Bridges Program.

Subsequently, the Board approved funding plan changes in October 2013 and January 2014 to increase funding for the program by \$33.5 million and \$10.9 million, respectively. These funding adjustments for the program were based on project design and ROW requirements known at the time OCTA assumed the expanded role on the two Fullerton projects. The January 2014 Board meeting resulted in an OC Bridges Program budget of \$634.6 million.

On June 13, 2016, the Board approved additional funding plan changes to address unused TCIF and Congestion Mitigation and Air Quality Improvement Program funds from the completion of the Kraemer Boulevard grade separation project and unused Proposition 1B Transit System Safety, Security, and Disaster Response Account and Public Transit Modernization, Improvement, and Service Enhancement Account funds. These Board-approved funding plan changes reduced the budget by \$3.4 million to the current OC Bridges Program budget of \$631.2 million.

OCTA staff has recently performed a comprehensive analysis of actual and estimated remaining costs for each project and has developed updated estimated costs-to-complete the program. Results of this analysis indicate that the estimated cost-to-complete the program is \$664 million, which is \$32.7 million (5.2 percent) over the current available funding of \$631.2 million. A detailed summary of estimated costs for each project, by phase, is included in Attachment D.

It should be noted that the \$32.7 million funding gap will be reduced by approximately \$2.9 million from additional third-party project contributions that have been realized subsequent to the January 13, 2014 Board action on the OC Bridges Program funding plan. The October 7, 2013 Board action also directed the return of funds from the sale of excess properties to Project O, Regional Capacity Program. Staff estimates a return of approximately \$13.1 million in revenue from the rental and sale of excess property assets which were acquired by the OC Bridges Program. Most of the excess properties are anticipated to be sold while the remaining projects are being constructed, so proceeds from the sales of these assets could be kept within the OC Bridges Program for recovery and used to help fund the ongoing projects.

ROW Cost Assessment

A significant portion of the program cost increase is attributed to ROW cost increases for the Tustin Avenue/Rose Drive, Lakeview Avenue, State College Boulevard, and Raymond Avenue grade separation projects. The cost increases are primarily due to settlements regarding property and business impacts, and a number of full property acquisitions not originally anticipated.

Administrative settlements are for amounts above the appraised value, and OCTA approved a number of large administrative settlements for property acquisitions involving severance damages, the need for additional temporary construction easements (TCE), and time extensions for current TCEs. Additionally, there were a number of large administrative settlements which covered business impacts, including loss of business goodwill claims.

There have been several administrative settlements that exceeded OCTA's appraised amount by over \$1 million. These administrative settlements were necessary to secure agreements with property owners and businesses to mitigate potential litigation. Although these administrative settlements have contributed significantly to the increase in ROW costs for the OC Bridges Program, these settlements were necessary to avoid potentially much higher costs if individual ROW matters were to proceed into litigation. As a result of the numerous potential litigation matters and administrative settlements, corresponding increases in OCTA legal costs have also been realized.

The Board approval was provided for the full fee acquisition of five separate buildings and one land parcel which were determined to be subjected to damage and rendered non-functional during construction activities. The cost to acquire these five buildings and one land parcel was approximately \$21.1 million. These five buildings and one land parcel will be sold by OCTA as excess properties. The value of these properties has been diminished permanently by the projects primarily due to reductions in visibility and loss of access. It has been estimated that the residual value of the five buildings and one land parcel is \$10.5 million. OCTA has also received approximately a net \$500,000 in rental revenue since the buildings were acquired.

In addition, the City of Placentia (Placentia), as lead agency for ROW activities for the Placentia grade separation project, approved the full acquisition of three land parcels prior to OCTA assuming the project delivery. The cost to acquire these three parcels prior to construction was approximately \$6 million. In Amendment No. 2 to Cooperative Agreement No. C-9-0412 between OCTA and Placentia, Placentia agreed to sell or transfer excess properties to OCTA for the Placentia grade separation project. Placentia has agreed to reimburse OCTA the current appraised value of \$2.1 million for the three parcels by September 2016.

In total, OCTA and Placentia approved nine full acquisitions at a cost of \$27.1 million. The excess property assets have a conservative estimated value of \$13.1 million that could be considered an OC Bridges Program asset and utilized to reduce the current funding shortfall if the Board so directs.

Construction Cost Assessment

The more significant increases in design and construction costs are for the Lakeview Avenue and Raymond Avenue grade separation projects. For the Lakeview Avenue grade separation project, construction change orders (CCOs) were issued to address utility conflicts and design changes which occurred after the construction bidding phase. The Raymond Avenue grade separation project is extremely complex and has the longest contract construction duration of 1,310 days. The construction management consultant contract had to be amended by Fullerton several times to address the construction challenges and duration. In addition, contaminated material was encountered on the Raymond Avenue grade separation project and resulted in several large CCOs. The design budget was exceeded due to additional design revisions for newly discovered conflicts and staging concerns that were required after the bidding phase.

There are also realized and anticipated decreases in the overall costs for the Placentia Avenue and Orangethorpe Avenue grade separation projects, respectively. The Placentia Avenue grade separation project was successfully completed well below the project budget. The Orangethorpe Avenue grade separation project had bid savings and is on track for completion within the project budget.

Future Actions

Contingent upon approval of the recommended action herein, staff plans to return to the Board this fall with a comprehensive funding plan with recommended programming actions to cover the current funding gap. The proposed funding plan will be developed with the intent to maximize the OC Bridges Program's current federal and state funds and limit the use of additional local funds to the extent possible. Because supplemental funding is required, staff will need to consider the impacts of the contemplated funding options on the overall capital improvement program.

Fiscal Impact

Funds are included in OCTA's Fiscal Year 2016-17 Budget, Capital Programs Division, from various accounts to accommodate the current OC Bridges Program budget, and are funded with a combination of federal, state, and local funds. Necessary budget adjustments will be made in the future contingent upon Board approval of a revised funding plan for the OC Bridges Program.

Staff will also review contract change orders to assess potential recovery of cost from design consultants for errors and omissions.

Summary

The current approved budget for the OC Bridges Program is not sufficient to complete the construction of the Tustin Avenue/Rose Drive, Lakeview Avenue, State College Boulevard, and Raymond Avenue grade separation projects. Supplemental funding and reprogramming of existing fund sources between projects and project phases will be required. OCTA staff will develop a revised funding plan to be recommended for Board approval this fall.

Attachments

- A. OC Bridges Railroad Grade Separation Program Project Map
- B. OC Bridges Railroad Grade Separation Program Budget Update Summary of Programming and Funding Actions
- C. OC Bridges Railroad Grade Separation Program Status Update
- D. OC Bridges Railroad Grade Separation Program Summary of Project Funding Detail

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ORANGE COUNTY TRANSPORTATION AUTHORITY

OC Bridges Railroad Grade Separation Program Cost-to-Complete Update

Attachment A

OC BRIDGES RAILROAD GRADE SEPARATION PROGRAM PROJECT MAP





ORANGE COUNTY TRANSPORTATION AUTHORITY

OC Bridges Railroad Grade Separation Program Cost-to-Complete Update

Attachment B

**OC Bridges Railroad Grade Separation Program Budget Update
Summary of Programming and Funding Actions**

The OC Bridges Railroad Grade Separation Program (OC Bridges Program) is being managed by the Orange County Transportation Authority (OCTA) as a program of projects and is currently programmed to be delivered with more than 13 different funding sources, making this one of the most complex funding programs OCTA has ever managed. State and federal programming documents reflect funding on a project-by-project basis for each phase of project delivery, not as a program of projects. The state and federal funding sources have very specific rules for eligibility for each phase of project delivery and limitations for capturing construction bid savings.

The use of state and federal funds for the OC Bridges Program of projects started in 2005, when the City of Fullerton (City) secured \$12.8 million in federal grant funding for the State College Boulevard grade separation project. Several years later, in January 2008, OCTA and the cities of Fullerton and Placentia applied for funding from the state's Proposition 1B Trade Corridor Improvement Fund (TCIF) program for the seven grade separation projects. In April 2008, the California Transportation Commission (CTC) programmed a total of \$182.8 million in TCIF funds for the projects toward the total estimated OC Bridges Program cost of \$416.7 million.

In July 2010, the OCTA Board of Directors (Board) approved a revised OC Bridges Program cost of \$589.6 million, an increase of \$172.9 million, which was supported with \$144.7 million in federal funds and \$28.2 million in M2 funds.

In February 2013, the Board approved actions to reprogram TCIF bid savings from the Kraemer Boulevard, Placentia Avenue, Orangethorpe Avenue, and Tustin Avenue/Rose Drive grade separation projects to the Lakeview Avenue and State College Boulevard grade separation projects.

In October 2013, the Board approved an amendment to the OC Bridges Program funding plan which included several programming actions to add funds, as required, based on updated project costs. The October 2013 Board action resulted in a revised OC Bridges Program cost of \$623.7 million.

In January 2014, the Board approved actions to submit a TCIF nomination to the CTC for the Raymond Avenue grade separation project to use TCIF bid savings from the Lakeview Avenue grade separation project. The January 2014 Board action also resulted in a use of Proposition 1B Transit System Safety, Security, and Disaster Response Account (TSSSDRA) funds and additional Regional Surface Transportation Program funds. The OC Bridges Program cost was amended to \$634.6 million, an increase of \$10.9 million.

In June 2016, the Board approved actions to reprogram unused TCIF savings for the Interstate 405 Improvement Project and add additional TSSSDRA and Public Transportation Modernization, Improvement, and Service Enhancement Account funds. The OC Bridges Program cost was amended to \$631.2 million, a decrease of \$3.4 million.



ORANGE COUNTY TRANSPORTATION AUTHORITY

**OC Bridges Railroad Grade Separation Program Cost-to-
Complete Update**

Attachment C

**OC Bridges Railroad Grade Separation Program
Status Update**

Raymond Avenue

Construction commenced in June 2014 and is approximately 65 percent complete. The railroad bridge structure was completed in July 2016 and BNSF Railway will shift from the railroad shoofly to the mainline tracks in late August 2016. Construction is anticipated to be complete in mid-2018.

State College Boulevard

Construction commenced in June 2014 and is approximately 55 percent complete. The railroad bridge structure was completed in July 2016, and BNSF Railway will shift from the railroad shoofly to the mainline tracks in late August 2016. Construction is anticipated to be complete in mid-2018.

Placentia Avenue

Placentia Avenue was opened to public traffic in March 2014, and construction was completed in December 2014.

Kraemer Boulevard

Kraemer Boulevard was opened to public traffic in June 2014, and construction was completed in December 2014.

Orangethorpe Avenue

Construction commenced in July 2013 and is approximately 97 percent complete. The new Orangethorpe Avenue bridge was completed in February 2016, and the reconstructed Orangethorpe Avenue was opened to public traffic on June 23, 2016. Current project activities include completion of Miller Avenue, landscaping, 72-inch water line, and construction administration. Construction is anticipated to be complete by the end of summer 2016.

Tustin Avenue/Rose Drive

Construction commenced in July 2013 and is approximately 97 percent complete. The new Tustin Avenue/Rose Drive bridge was completed in November 2015, and the reconstructed Tustin Avenue/Rose Drive was opened to public traffic on December 7, 2015. Current project activities include minor roadway and bridge work, landscaping, and construction administration. Construction is anticipated to be complete by the end of summer 2016.

Lakeview Avenue

Construction commenced in July 2014 and is approximately 55 percent complete. The new Lakeview Commercial Loop Road and Lakeview Connector Road were opened to public traffic on May 12, 2016 and July 21, 2016, respectively. The new Lakeview Avenue bridge is anticipated to be completed and opened to public traffic in spring 2017. Current project activities include roadway and bridge work, retaining walls, drainage, electrical, and construction administration. Construction is anticipated to be complete by summer 2017.



ORANGE COUNTY TRANSPORTATION AUTHORITY

OC Bridges Railroad Grade Separation Program Cost-to-Complete Update

Attachment D

**OC Bridges Railroad Grade Separation Program
Summary of Project Funding Detail**

Project Phase	Current Cost Estimate (\$000s)	Board Approved Funding (\$000s)	Surplus/ (Shortfall) (\$000s)
Design (Preliminary & Final Engineering)	44,390	41,469	(2,921)
Right of Way	216,228	195,161	(21,067)
Construction	358,685	347,019	(11,666)
Project Management and Support ¹	44,660	43,447	(1,213)
Contingency	-	4,135	4,135
TOTALS	663,963	631,231	(32,732)
Third Party Utility Reimbursements ²			2,900
TOTAL			(29,832)

NOTES

1. Project Support includes OCTA staff, city support, public outreach and legal services.
2. Additional third party project contributions that have been realized subsequent to the 1/13/14 Board Actions

Project Funding Detail
Raymond Avenue Undercrossing Project

Project Phase	Current Cost Estimate (\$000s)	Board Approved Funding (\$000s)	Surplus/ (Shortfall) (\$000s)	Comments
Design (Preliminary & Final Engineering)	5,606	4,862	(744)	Increase in design costs due to design changes made after the bidding phase
Right-of-Way (ROW)	36,494	34,901	(1,593)	Increase in ROW costs due to a number of administrative settlements for property acquisitions involving severance damages, loss of business goodwill claims and the need for temporary construction easement time extensions.
Construction	73,877	62,927	(10,950)	The construction management consultant contract amount was originally under estimated and had to be amended several times to address various construction challenges and long contract duration. In addition railroad cost increased, and contaminated material were encountered on the project and resulted in several large CCOs.
Project Management and Support	8,856	9,500	644	The project management and support costs are anticipated to less and under budget
TOTALS	124,833	112,190	(12,643)	

Project Funding Detail
State College Boulevard Undercrossing Project

Project Phase	Current Cost Estimate (\$000s)	Board Approved Funding (\$000s)	Surplus/ (Shortfall) (\$000s)	Comments
Design (Preliminary & Final Engineering)	5,831	5,612	(219)	Increase in design costs due to additional environmental and engineering services needed to address contaminated soils and construction support.
Right-of-Way (ROW)	32,518	23,868	(8,650)	Increase in ROW costs due to a number of administrative settlements for property acquisitions involving severance damages, loss of business goodwill claims and the need for temporary construction easement time extensions.
Construction	52,066	52,197	131	Construction costs are anticipated to be slightly less and under budget.
Project Management and Support	6,554	4,327	(2,227)	The project management and support costs are over budget due to increased legal costs to address potential litigation matters and administrative settlements.
TOTALS	96,969	86,004	(10,965)	

Project Funding Detail
Placentia Avenue Undercrossing Project

Project Phase	Current Cost Estimate (\$000s)	Board Approved Funding (\$000s)	Surplus/ (Shortfall) (\$000s)	Comments
Design (Preliminary & Final Engineering)	4,538	4,625	87	Design was completed under budget.
Right-of-Way (ROW)	18,357	20,856	2,499	ROW closeout effort is anticipated to be completed under budget.
Construction	37,515	39,490	1,975	Construction was completed under budget.
Project Management and Support	4,033	4,454	421	Project Management closeout effort is anticipated to be completed under budget.
TOTALS	64,443	69,425	4,982	

Project Funding Detail
Kraemer Boulevard Undercrossing Project

Project Phase	Current Cost Estimate (\$000s)	Board Approved Funding (\$000s)	Surplus/ (Shortfall) (\$000s)	Comments
Design (Preliminary & Final Engineering)	6,138	6,168	30	Design was completed within budget.
Right-of-Way (ROW)	7,648	7,418	(230)	ROW closeout administrative effort is anticipated to be slightly over budget.
Construction	46,482	41,776	(4,706)	The full TCIF funds could not be utilized due to the reimbursement rate limitation. Therefore construction is shown over budget due to reprogrammed unused \$5.5 million in TCIF funds for the Interstate 405 Improvement Project.
Project Management and Support	3,194	3,700	506	Project Management closeout effort is anticipated to be completed under budget.
TOTALS	63,462	59,062	(4,400)	

Project Funding Detail
Orangethorpe Avenue Overcrossing Project

Project Phase	Current Cost Estimate (\$000s)	Board Approved Funding (\$000s)	Surplus/ (Shortfall) (\$000s)	Comments
Design (Preliminary & Final Engineering)	8,301	8,266	(35)	Design costs are anticipated to be slightly over budget.
Right-of-Way (ROW)	30,663	30,350	(313)	Increase in ROW costs due to for temporary construction easement time extensions.
Construction	63,387	65,465	2,078	Construction is anticipated to be completed under budget.
Project Management and Support	6,249	6,414	165	Project Management closeout effort is anticipated to be completed under budget.
TOTALS	108,600	110,495	1,895	

Project Funding Detail
Tustin Avenue / Rose Drive Overcrossing Project

Project Phase	Current Cost Estimate (\$000s)	Board Approved Funding (\$000s)	Surplus/ (Shortfall) (\$000s)	Comments
Design (Preliminary & Final Engineering)	6,863	6,389	(474)	Design costs are anticipated to be over budget due permitting fees from various resource agencies and additional construction support services for consultant.
Right-of-Way (ROW)	41,957	35,090	(6,867)	Increase in ROW costs due to a number of administrative settlements for property acquisitions involving severance damages, loss of business goodwill claims and the need for temporary construction easement time extension.
Construction	41,519	46,224	4,705	Construction is anticipated to be completed under budget.
Project Management and Support	7,915	6,568	(1,347)	Increase in legal fees to address potential litigation and administrative settlements.
TOTALS	98,254	94,271	(3,983)	

Project Funding Detail
Lakeview Avenue Overcrossing Project

Project Phase	Current Cost Estimate (\$000s)	Board Approved Funding (\$000s)	Surplus/ (Shortfall) (\$000s)	Comments
Design (Preliminary & Final Engineering)	7,113	5,547	(1,566)	Design costs are anticipated to be over budget due to design changes made after the bidding phas and additional construction support services for consultant.
Right-of-Way (ROW)	48,591	42,678	(5,913)	Increase in ROW costs due to a number of administrative settlements for property acquisitions involving severance damages, and loss of business goodwill claims.
Construction	43,839	38,940	(4,899)	The construction costs increased due to many construction change orders (CCO) that were issued to address utility conflicts and design changes made after the bidding phase.
Project Management and Support	7,859	8,484	625	Project Management closeout effort is anticipated to be completed under budget.
TOTALS	107,402	95,649	(11,753)	