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## **BOARD AGENDA**

Orange County Transportation Authority Board Meeting  
Orange County Transportation Authority Headquarters  
Board Room - Conference Room 07-08  
550 South Main Street  
Orange, California  
**Monday, September 10, 2018 at 9:00 a.m.**

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

### **Agenda Descriptions**

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

### **Public Comments on Agenda Items**

Members of the public may address the Board of Directors regarding any item. Please complete a speaker's card and submit it to the Clerk of the Board or notify the Clerk of the Board the item number on which you wish to speak. Speakers will be recognized by the Chairwoman at the time the agenda item is to be considered. A speaker's comments shall be limited to three (3) minutes.

### **Public Availability of Agenda Materials**

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

### **Call to Order**

#### **Invocation**

Director Jones

#### **Pledge of Allegiance**

Director Steel



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## **BOARD AGENDA**

### **Special Calendar**

There are no Special Calendar matters.

### **Consent Calendar (Items 1 through 4)**

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

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

#### **1. Approval of Minutes**

Approval of the Orange County Transportation Authority and affiliated agencies' regular meeting minutes of August 27, 2018.

#### **2. Consultant Selection for the Beach Boulevard Corridor Study**

Greg Nord/Kia Mortazavi

##### **Overview**

Consultant services are needed to conduct the Beach Boulevard Corridor Study. Proposals were received in accordance with the Orange County Transportation Authority's procurement procedures for professional and technical services. Board of Directors' approval is requested to select a firm to assist in the development of the Beach Boulevard Corridor Study.

##### **Recommendations**

- A. Approve the selection of Kittelson & Associates, Inc. as the firm to conduct the Beach Boulevard Corridor Study.
- B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-8-1683 between the Orange County Transportation Authority and Kittelson & Associates, Inc., in the amount of \$439,999, for an 18-month term through April 30, 2020, to conduct the Beach Boulevard Corridor Study.



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**BOARD AGENDA**

## **Orange County Local Transportation Authority Consent Calendar Matters**

### **3. Cooperative Agreements for Regional Traffic Signal Synchronization Program Projects**

Ron Keith/Kia Mortazavi

#### **Overview**

On June 11, 2018, the Orange County Transportation Authority Board of Directors approved programming of funds for six projects as part of the 2018 call for projects for the Measure M2 Regional Traffic Signal Synchronization Program. As part of the application process, the Orange County Transportation Authority was requested to be the lead agency on four of the six projects: Garden Grove Boulevard, Katella Avenue, Los Alisos Boulevard, and Main Street. Separate cooperative agreements are necessary for each of these projects to specify the amount of the local agency match.

#### **Recommendations**

- A. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1797 for the Garden Grove Boulevard Regional Traffic Signal Synchronization Project, with an agency match of \$529,168.
- B. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1798 for the Katella Avenue Regional Traffic Signal Synchronization Project, with an agency match of \$1,012,347.
- C. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1799 for the Los Alisos Boulevard Regional Traffic Signal Synchronization Project, with an agency match of \$444,446.
- D. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1800 for the Main Street Regional Traffic Signal Synchronization Project, with an agency match of \$764,544.



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**BOARD AGENDA**

**4. Comprehensive Transportation Funding Programs - Measure M2  
Environmental Cleanup Program Revised 2018 Tier 1 Projects**  
Brianna Martinez/Kia Mortazavi

**Overview**

The Orange County Transportation Authority's Environmental Cleanup Program provides Measure M2 funding for water quality improvement projects to address transportation-generated pollution. The fiscal year 2018-19 Tier 1 Grant Program call for projects was issued on March 12, 2018. Evaluations are now complete, and a list of projects and funding allocations are presented for review and approval.

**Recommendation**

Approve the revised 2018 Tier 1 Environmental Cleanup Program programming recommendations to fund 12 projects, in the amount of \$2,460,363.

**Regular Calendar**

**Orange County Local Transportation Authority Regular Calendar  
Matters**

**5. Measure M2 Next 10 Plan: Market Conditions Key Indicators Analysis  
and Forecast**  
Tamara Warren/Kia Mortazavi

**Overview**

On September 7, 2017, a Market Conditions Forecast and Risk Analysis was conducted and presented to the Board of Directors providing insight into delivery of the Measure M2 Next 10 Plan. At the request of the Board of Directors, continued monitoring of market conditions and potential risks of project delivery has taken place and a forecast has been developed. A presentation on the results of this effort is provided.

**Recommendation**

Continue to monitor market conditions and their effects on the advancement of the Next 10 Delivery Plan, and provide updates to the Board of Directors as appropriate.





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**BOARD AGENDA****6. Measure M2 2018 Update: Next 10 Delivery Plan**

Tamara Warren/Kia Mortazavi

**Overview**

The Measure M2 Next 10 Delivery Plan was originally approved on November 14, 2016, incorporating the 2016 revenue forecast with a plan for continued acceleration of the delivery of Measure M2 freeway, streets and roads, transit, and environmental projects through the year 2026. With annual updates to the Measure M2 sales tax revenue forecasts, staff reviewed the Next 10 Delivery Plan in 2017, and made needed adjustments to confirm that it remained able to be delivered and has just completed the same review for 2018. The results of this effort is presented to the Board of Directors.

**Recommendations**

- A. Adopt the 2018 Measure M2 Next 10 Delivery Plan with revised financial assumptions.
- B. Direct staff to continue to monitor revenue and project cost impacts that could affect the delivery plan and return to the Board of Directors with changes if necessary.

**7. Interstate 405 Improvement Project Update**

Jeff Mills/James G. Beil

**Overview**

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

**Recommendation**

Receive and file as an information item.



## **BOARD AGENDA**

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### **Discussion Items**

**8. Update on State Route 57 Northbound Improvement Project from Orangewood Avenue to Katella Avenue**

Niall Barrett/James G. Beil

Staff will provide a project update.

**9. Public Comments**

At this time, members of the public may address the Board of Directors regarding any items within the subject matter jurisdiction of the Board of Directors, but no action may be taken on off-agenda items unless authorized by law. Comments shall be limited to three (3) minutes per speaker, unless different time limits are set by the Chairwoman subject to the approval of the Board of Directors.

**10. Chief Executive Officer's Report**

**11. Directors' Reports**

**12. Closed Session**

A Closed Session will be held as follows:

Pursuant to Government Code Section 54956.9(d)(2) – Conference with General Counsel – Anticipated Litigation – Two Matters.

**13. Adjournment**

The next regularly scheduled meeting of this Board will be held at **9:00 a.m. on Monday, September 24, 2018**, at the Orange County Transportation Authority Headquarters, 550 South Main Street, Board Room - Conference Room 07-08, Orange, California.

Minutes of the  
Orange County Transportation Authority  
Orange County Transit District  
Orange County Local Transportation Authority  
Orange County Service Authority for Freeway Emergencies  
Board of Directors Meeting

## **Call to Order**

The August 27, 2018 regular meeting of the Orange County Transportation Authority (OCTA) and affiliated agencies was called to order by Chairwoman Bartlett at 9:03 a.m. at the OCTA Headquarters, 550 South Main Street, Board Room – Conference Room 07-08, Orange, California.

## **Roll Call**

Following the Invocation and Pledge of Allegiance, the Clerk of the Board noted a quorum was present, with the following Directors in attendance:

Directors Present:     Lisa A. Bartlett, Chairwoman  
                               Tim Shaw, Vice Chairman  
                               Laurie Davies  
                               Barbara Delgleize  
                               Andrew Do  
                               Lori Donchak  
                               Michael Hennessey  
                               Steve Jones  
                               Mark A. Murphy  
                               Al Murray  
                               Shawn Nelson  
                               Miguel Pulido  
                               Todd Spitzer  
                               Michelle Steel  
                               Tom Tait  
                               Gregory T. Winterbottom

Directors Absent:     Richard Murphy  
                               Gerardo De Santos, Acting District Director  
   California Department of Transportation District 12

Also Present:     Darrell E. Johnson, Chief Executive Officer  
                           Kenneth Phipps, Deputy Chief Executive Officer  
                           Laurena Weinert, Clerk of the Board  
                           Olga Prado, Assistant Clerk of the Board  
                           James Donich, General Counsel

## **Special Calendar**

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

**1. Presentation of Resolutions of Appreciation for Employees of the Month for August 2018**

Darrell E. Johnson, Chief Executive Officer (CEO), presented the OCTA Resolutions of Appreciation Nos. 2018-117, 2018-118, and 2018-119 to Heidi Johnson, Coach Operator; Rogelio Gutierrez, Maintenance; and Kriss Garbowski, Administration, as Employees of the Month for August 2018.

**2. Presentation of the 2018 Early Career Academy**

Darrell E. Johnson, CEO, provided background information on the Early Career Academy program and introduced the 2018 participants as follows:

- Christina Pirruccello, Associate Community Relations Specialist, External Affairs
- Denise Arriaga, Associate Transportation Funding Analyst, Planning
- Jacqueline Mood, Digital Marketing Specialist, External Affairs
- Jaymal Patel, Associate Government Relations Representative, External Affairs
- Luis Martinez, Associate Contract Administrator, Finance and Administration
- Leslie Tuiteleleapaga, Assistant Office Specialist, Operations
- Megan Abba, Associate Media Relations Specialist, Executive Office
- Megan Bornman, Associate Contract Administrator, Finance and Administration
- Michael Le, Contract Administrator, Finance and Administration
- Sam Sharvini, Associate Transportation Analyst, Planning
- Stephanie Chhan, Associate Project Management Analyst, Planning
- Rosa Guillen-Sanchez, Transportation Analyst, Operations (not present)

## **Consent Calendar (Items 3 through 13)**

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

#### **3. Approval of Minutes**

A motion was made by Director Donchak, seconded by Director Murray, and declared passed by those present, to approve the Orange County Transportation Authority and affiliated agencies' regular meeting minutes of August 13, 2018.

Director Nelson was not present to vote on this item.

#### **4. Approval of Board Members Travel**

Director Hennessey pulled this item, provided comments, and offered as the Legislative and Communications (L&C) Committee Vice Chairman, to also travel to Washington, D.C., and attend the interviews in order to have L&C Committee representation (along with Chairwoman Bartlett, Director Do, and OCTA staff.)

Director Spitzer inquired if the Levine Act pertained to this item. James Donich, General Counsel, stated that the Levine Act would pertain to this item if a Board Member received campaign contributions in excess of \$250 dollars.

A discussion ensued as follows:

- On August 13, 2018, the Board Members that would travel for this item received the proposals.
- The Contracts Administration & Materials Management Department typically will notify the Board Members of potential Levine Act issues.
- The firms that submitted a proposal for this item's Request for Proposals 8-1750 are Akin Gump, Cassidy & Associates, Potomac Partners, Squire Patton Boggs, and Van Scoyoc.
- Chairwoman Bartlett refunded campaign contributions to one firm in an excess of \$250 dollars.
- The Board Members determine if there is a Levine Act conflict.

A motion was made by Director Murray, seconded by Director Winterbottom, and declared passed by those present, to approve for Orange County Transportation Authority Chairwoman Lisa A. Bartlett, Director Andrew Do, and Director Michael Hennessey to travel to Washington, D.C., September 17-19, 2018, along with the Orange County Transportation Authority staff, as part of the proposal team for the Federal Legislative Advocacy and Consulting Services, Request for Proposals 8-1750.

Director Spitzer voted in opposition.

Director Nelson was not present to vote on this item.

**5. Draft Fiscal Year 2018-19 Internal Audit Plan**

Finance and Administration (F&A) Committee Chairman Do pulled this item, provided comments, and stated this direct to the Board item is coming forward because the August 22, 2018 F&A Committee meeting was cancelled due to lack of quorum.

F&A Committee Chairman Do and his staff discussed this item's work plan with Janet Sutter, Executive Director of External Affairs, and he supports the recommendations.

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

- A. Approve the Draft Fiscal Year 2018-19 Internal Audit Plan.
- B. Direct the Executive Director of Internal Audit to provide quarterly updates on the Fiscal Year 2018-19 Internal Audit Plan.

Director Nelson was not present to vote on this item.

**6. Federal Legislative Status Report**

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

Director Nelson was not present to vote on this item.

**7. Sole Source Agreement for Third-Party Hosting and Installation of the Counterpoint Point of Sale Application**

A motion was made by Director Donchak, seconded by Director Murray, and declared passed by those present, to authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-8-1844 between the Orange County Transportation Authority and Computer SOS, in the amount of \$37,921, to host the Counterpoint application and provide set-up, hosting, licensing, and server support services.

Director Nelson was not present to vote on this item.

**8. 2018 Title VI Plan Triennial Report**

Director Do pulled this item, noted some of the report's ethnic statistics, and asked the Board to consider ethnic diversity and personal background (e.g., familiar with OCTA's transit system) for their appointments on the Citizens Advisory Committee.

A discussion ensued to provide a different outreach approach and Board Members outreach is also important.

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

- A. Review, approve, and direct staff to submit the 2018 Title VI Plan Triennial Report to the Federal Transit Administration's Regional Office of Civil Rights on or before October 1, 2018.
- B. Review and approve the results of the Service Standards and Policies monitoring in Section 5 of the 2018 Title VI Plan Triennial Report.

Director Nelson was not present to vote on this item.

**9. Excess Workers' Compensation Insurance Policy**

A motion was made by Director Donchak, seconded by Director Murray, and declared passed by those present, to authorize the Chief Executive Officer to negotiate and execute Purchase Order No. A40164, in the amount of \$500,000, to Marsh Risk and Insurance Services, Inc., to purchase excess workers' compensation insurance on behalf of the Orange County Transportation Authority for the policy period of October 1, 2018 to October 1, 2019.

Director Nelson was not present to vote on this item.

**10. Amendment to Agreement for Temporary Staffing Services**

This item was continued by staff to the September 12, 2018 Finance and Administration Committee and September 24, 2018 Board meetings.

**11. Agreements for Health Insurance Services**

A motion was made by Director Donchak, seconded by Director Murray, and declared passed by those present, to:

- A. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-5-3649 between the Orange County Transportation Authority and California State Association of Counties - Excess Insurance Authority for Kaiser Permanente Health Plan, Inc., on a cost per employee basis, for prepaid medical services through December 31, 2019. The annual 2019 Kaiser Permanente Health Plan, Inc. premium cost will vary in accordance with actual enrollment.
- B. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-5-3650 between the Orange County Transportation Authority and California State Association of Counties - Excess Insurance Authority for Anthem Blue Cross, on a cost per employee basis, for prepaid medical services through December 31, 2019. The annual 2019 Anthem Blue Cross health maintenance organization premium costs will vary in accordance with actual enrollment.
- C. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-5-3651 between the Orange County Transportation Authority and California State Association of Counties - Excess Insurance Authority for Anthem Blue Cross, on a cost per employee basis, for preferred provider organization medical services through December 31, 2019. The annual 2019 Anthem Blue Cross preferred provider organization premium costs will vary in accordance with actual enrollment.
- D. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement No. C-5-3652 between the Orange County Transportation Authority and California State Association of Counties - Excess Insurance Authority for Anthem Blue Cross, on a cost per employee basis, for a consumer driven health plan through December 31, 2019. The annual 2019 Anthem Blue Cross consumer driven health plan premium costs and health savings account expenses will vary in accordance with actual enrollment.



**11. (Continued)**

- E. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 8 to Agreement No. C-1-2996 between the Orange County Transportation Authority and California State Association of Counties - Excess Insurance Authority for Delta Dental, on a cost per employee basis, for preferred provider organization dental services through December 31, 2019. The annual 2019 Delta Dental preferred provider organization premium costs will vary in accordance with actual enrollment.
- F. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 8 to Agreement No. C-1-2995 between the Orange County Transportation Authority and Delta Dental, on a cost per employee basis, for health maintenance organization dental services through December 31, 2019. The annual 2019 Delta Dental health maintenance organization premium costs will vary in accordance with actual enrollment.
- G. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-8-1869 between the Orange County Transportation Authority and California State Association of Counties - Excess Insurance Authority for Delta Dental, on a cost per employee basis, for health maintenance organization dental services through December 31, 2019. The annual 2019 Delta Dental health maintenance organization premium costs will vary in accordance with actual enrollment.
- H. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 6 to Agreement No. C-1-2997 between the Orange County Transportation Authority and California State Association of Counties - Excess Insurance Authority for Vision Service Plan, on a cost per employee basis, for vision services through December 31, 2019. The annual 2019 vision services premium costs will vary in accordance with actual enrollment.
- I. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Purchase Order No. C-7-1897 between the Orange County Transportation Authority and California State Association of Counties - Excess Insurance Authority for VOYA for life and accidental death and dismemberment insurance through December 31, 2019. The annual 2019 life and accidental death and dismemberment premium costs will vary in accordance with actual volume in the plan.

**11. (Continued)**

- J. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 2 to Purchase Order No. C-7-1898 between the Orange County Transportation Authority and California State Association of Counties - Excess Insurance Authority for VOYA to provide supplemental life insurance to employees at their own expense through December 31, 2019.
- K. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 1 to Purchase Order No. C-7-1899 between the Orange County Transportation Authority and California State Association of Counties - Excess Insurance Authority for VOYA for short-term and long-term disability insurance through December 31, 2019. The annual 2019 short-term and long-term disability premium costs will vary in accordance with actual volume in the plan.
- L. Authorize the Chief Executive Officer to negotiate and execute Amendment No. 1 to Purchase Order No. C-7-1900 between Orange County Transportation Authority and California State Association of Counties - Excess Insurance Activity for VOYA with Compsych to provide employee leave administration through December 31, 2019.

Director Nelson was not present to vote on this item.

**Orange County Local Transportation Authority Consent Calendar Matters**

**12. Consultant Selection for Program Management Consultant Services for Regional Rail Programs**

A motion was made by Director Donchak, seconded by Director Murray, and declared passed by those present, to:

- A. Approve the selection of HDR Engineering, Inc., as the firm to provide program management consultant services for regional rail programs.
- B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-8-1512 between the Orange County Transportation Authority and HDR Engineering, Inc., for a term of five years, with one, two-year option term, to provide program management consultant services for regional rail programs.

Director Nelson was not present to vote on this item.

**13. Approval to Release Invitation for Bids for Construction of the Laguna Niguel to San Juan Capistrano Passing Siding Project**

The original motion was made by Director Donchak, seconded by Director Murray, and declared passed by those present, to approve the release of Invitation for Bids 7-2018 for construction of the Laguna Niguel to San Juan Capistrano Passing Siding project.

Director Nelson was not present to vote on this item.

Chairwoman Bartlett made a motion to re-open this item, seconded by Vice Chairman Shaw, and with consensus from the Board this item was re-opened.

Directors Hennessey and Nelson were not present.

Chairwoman Bartlett stated the following:

- Concerns with the Disadvantaged Business Enterprise (DBE) requirements for bid submissions.
- When OCTA indicates deadlines for each form, use exhibit numbering in addition to the form name.
- OCTA needs to be very specific with the DBE bids submission requirements.
- Add a cover sheet, similar to the California Department of Transportation, and include on the cover sheet the following:
  - Specific scope of work
  - Subcontractor bid amount
  - Signature
  - Signators name and title
- OCTA's pre-bid workshop needs to cover, in detail, the DBE submission requirements. In addition, clarify what is required to have a successful "Good Faith Effort" for the DBE percentage threshold minimums and clearly identified.
- There have been some recent DBE procurement issues, and the noted directives will clarify OCTA's requirements.

A discussion ensued regarding:

- Move forward with this project.
- Darrell E. Johnson, CEO, stated the following:
  - The Board asked for a review of the DBE program through the F&A Committee, and the discussion is scheduled for October.
  - If there are DBE changes to be made, to have a thoughtful process.
  - To delay this item, there are concerns about the funding plan and costs.

**13. (Continued)**

- Every three years, the Federal Transit Administration (FTA) reviews the DBE program with OCTA, and for the last six years the FTA had no findings.
  - Mr. Johnson confirmed there are no financial implications if this item is delayed for a short period of time.
  - OCTA recently received the National Procurement Institute Excellence in Procurement Award.
- Chairwoman Bartlett does not want to rush potential changes to the DBE program and agreed to go forward with this item.

A motion was made by Chairwoman Bartlett, seconded by Director Davies, and declared passed by those present, to approve the release of Invitation for Bids 7-2018 for construction of the Laguna Niguel to San Juan Capistrano Passing Siding project.

Directors Nelson and Steel were not present to vote.

**Regular Calendar**

**Orange County Transportation Authority Regular Calendar Matters**

**14. OC Streetcar Vehicle Exterior Design**

Darrell E. Johnson, CEO, provided opening comments and introduced Stella Lin, Manager of Marketing and Customer Engagement, who provided a PowerPoint presentation for this item as follows:

- OC Bus and Bravo! Branding;
- OC Streetcar Vehicle Model, Vehicle Layout;
- Transit Agencies Examples of Streetcar Designs;
- OC Streetcar Exterior Design Considerations – Designs 1, 2, 3, and 4 Without and With Advertising;
- OC Streetcar Exterior Design Considerations – Designs 1, 2, 3, and 4 Without and With Advertising – Includes Stop and Location Setting;
- OC Streetcar – All Designs Without and With Advertising; and
- Next Steps.

A discussion ensued regarding:

- The Transit and L&C Committees consensus is as follows:
  - Design 1 would have high maintenance costs
  - Visibility and maintenance are key issues
  - White vehicle would have higher maintenance costs

**14. (Continued)**

- Director Tait noted for the record, his continued objection to the OC Streetcar Project and this items designs.

A motion was made by Director Murray, seconded by Director Davies, and declared passed by those present, to authorize staff to conduct public outreach to seek feedback and return to the Board of Directors with a recommendation.

Directors Spitzer and Tait voted in opposition.

Directors Nelson and Steel were not present to vote.

**Discussion Items**

**15. Attitudinal and Awareness Survey Results**

Darrell E. Johnson, CEO, provided opening comments and introduced Timothy McLarney, PhD, President of True North Research, who provided a PowerPoint presentation for this item as follows:

- Purpose of the Study;
- Methodology of Study;
- Most Important Issues;
- Comparison of Issues;
- Awareness of OCTA;
- Overall Opinion of OCTA;
- Statements about OCTA;
- Long-Range Transportation Plan Priorities;
- Carpool Lane Strategies; and
- Key Findings.

A discussion ensued regarding:

- The survey is consistent with statewide responses.
- Vice Chairman Shaw requested geographically the opinion of OCTA.
- The “Overall Opinion of OCTA” is based on whether or not the responder uses services provided by OCTA.
- Lack of consensus with carpool lanes strategies.
- The public is unclear with distinguishing between managed lanes, express lanes, toll roads, toll lanes, high-occupancy vehicle lanes, and high-occupancy toll lanes.
- The Long-Range Transportation Plan priorities subgroups could be analyzed, and Director Donchak is interested in the “fix potholes and repair roadways” priority analysis.

**15. (Continued)**

- Once the full report is completed, it will be posted to the OCTA website.
- Opportunities to communicate OCTA's message to the public through various communication channels.

**16. Public Comments**

A public comment was heard from:

Patrick Kelly, Teamsters Local 952 (Teamsters), who thanked the Board for its public service, as well as thanked the union and non-union OCTA employees.

Mr. Kelly stated that Teamsters is against Proposition 6 and encouraged people to register to vote and participate in voting. He also stated that all need to protect what we have in Orange County and California, make sure infrastructure moves forward, and jobs are protected.

**17. Chief Executive Officer's Report**

Darrell E. Johnson, CEO, reported on the following:

- Interstate 405 Improvement Project:
  - Over the weekend, the McFadden Avenue bridge demolition was completed.
  - The Slater Avenue bridge is anticipated to take place in mid-September.
- OCTA's annual Rodeo will be held on Saturday, September 15, 8:00 a.m., at the Santa Ana Base. The Board Members are invited to participate in the Executive competition, and the practice sessions are available on Wednesday, September 5, and Thursday, September 6.
- Director Tait was acknowledged for rescuing a youth from drowning off the coast of Laguna Beach.

**18. Directors' Reports**

Director Murray stated that he and Director Spitzer started the Orange County drowning awareness program, and acknowledged Director Tait for rescuing the youth from drowning.

Director Hennessey echoed the acknowledgements and complimented Director Tait for saving the youth from drowning.

**19. Closed Session**

A Closed Session was held as follows:

Pursuant to Government Code Section 54957 – Threat to Public Services or Facilities – Consultation with Authority General Counsel.

There was no report out for the Closed Session item.

Directors Pulido, Spitzer, and Steel were not present for the Closed Session item.

**20. Adjournment**

The meeting adjourned at 10:16 a.m.

The next regularly scheduled meeting of this Board will be held at **9:00 a.m. on Monday, September 10, 2018**, at the Orange County Transportation Authority Headquarters, 550 South Main Street, Board Room - Conference Room 07-08, Orange, California.

ATTEST:

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Laurena Weinert  
Clerk of the Board

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Lisa A. Bartlett  
OCTA Chairwoman



## COMMITTEE TRANSMITTAL

**September 10, 2018**

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

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

**Subject:** Consultant Selection for the Beach Boulevard Corridor Study

Regional Planning and Highways Committee Meeting of September 6, 2018

**Present:** Directors Delgleize, M. Murphy, Nelson, Pulido, and Steel

**Absent:** Directors Bartlett and Spitzer

### **Committee Vote**

This item was passed by the Members present.

Director Steel was not present to vote on this item.

### **Committee Recommendations**

- A. Approve the selection of Kittelson & Associates, Inc. as the firm to conduct the Beach Boulevard Corridor Study.
- B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-8-1683 between the Orange County Transportation Authority and Kittelson & Associates, Inc., in the amount of \$439,999, for an 18-month term through April 30, 2020, to conduct the Beach Boulevard Corridor Study.





**September 6, 2018**

**To:** Regional Planning and Highways Committee

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

**Subject:** Consultant Selection for the Beach Boulevard Corridor Study

### **Overview**

Consultant services are needed to conduct the Beach Boulevard Corridor Study. Proposals were received in accordance with the Orange County Transportation Authority's procurement procedures for professional and technical services. Board of Directors' approval is requested to select a firm to assist in the development of the Beach Boulevard Corridor Study.

### **Recommendations**

- A. Approve the selection of Kittelson & Associates, Inc. as the firm to conduct the Beach Boulevard Corridor Study.
- B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-8-1683 between the Orange County Transportation Authority and Kittelson & Associates, Inc., in the amount of \$439,999, for an 18-month term through April 30, 2020, to conduct the Beach Boulevard Corridor Study.

### **Discussion**

Beach Boulevard is a key north/south arterial highway that carries between 26,000 and 83,000 vehicles per day. This facility is generally operated by the California Department of Transportation (Caltrans) and is also known as State Route 39. The corridor is approximately 21 miles in length and traverses ten distinct local jurisdictions in Orange and Los Angeles counties. In 2010, the Orange County Transportation Authority (OCTA) finalized the Central County Corridor Major Investment Study (CCCMIS), which recommended various multimodal improvements for central Orange County. The CCCMIS recommended further study of Beach Boulevard to address north/south mobility needs and identify solutions generally within the existing right-of-way.

On May 1, 2018, Caltrans and OCTA entered into Cooperative Agreement No. C-8-1648 to establish a partnership to develop the Beach Boulevard Corridor Study (Study). Caltrans has been awarded state planning and research grant funds for the Study and will reimburse OCTA to provide project management services. Per the agreement, OCTA's responsibilities include procuring consultant services and managing the consultant contract.

A request for proposals (RFP) has been issued to seek qualified consultants to conduct this Study. OCTA, in partnership with Caltrans will incorporate a collaborative planning process involving participants from potentially affected jurisdictions and stakeholders. A broad range of multimodal transportation opportunities will be identified to enhance regional mobility. Refined alternatives will reflect a long-range strategic vision that can be carried forward into subsequent project development processes. The vision will consider local land use objectives and their interactions with transportation needs.

### ***Procurement Approach***

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

On May 22, 2018, RFP 8-1683 was issued electronically on CAMM NET. The project was advertised in a newspaper of general circulation on May 22 and 29, 2018. A pre-proposal conference took place on May 29, 2018, with 15 attendees representing 12 firms. Two addenda were issued to make available the pre-proposal conference registration sheets and presentation, as well as respond to questions related to the RFP.

On June 19, 2018, six proposals were received. An evaluation committee consisting of OCTA staff from the Contracts Administration and Materials Management and Transportation Planning departments, as well as external representatives from Caltrans, City of Anaheim, City of Buena Park, and

City of Westminster met to review all proposals received. The proposals were evaluated based on the following evaluation criteria and weights:

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

Several factors were considered in developing the evaluation criteria weights. Work plan was weighted highest at 30 percent as the project approach and understanding of the requirements are key to the success of the Study. The firm had to present an effective work plan by detailing its approach to performing each task and producing high-quality deliverables. Qualifications of the firm and staffing were both weighted at 25 percent each as experience and knowledge of state-of-the-art highway planning and design is necessary in developing viable alternatives and hot spot solutions. Cost was weighted at 20 percent to make sure the program will be delivered efficiently and that OCTA receives value for the services provided.

On July 9, 2018, the evaluation committee reviewed the proposals based on the evaluation criteria and short-listed the three most qualified firms listed below in alphabetical order:

ADVANTEC Consulting Engineers, Inc. (ADVANTEC)  
Irvine, California

HDR Engineering, Inc. (HDR)  
Irvine, California

Kittelson & Associates, Inc. (Kittelson)  
Orange, California

On July 17, 2018, the evaluation committee conducted interviews with the three short-listed firms. The interview consisted of a presentation to demonstrate the firms' understanding of OCTA's requirements. The firms' project managers and key team members had an opportunity to present each team's qualifications and respond to the evaluation committee's questions. Questions were asked relative to engaging stakeholders and building consensus, communicating technical information, and ensuring study recommendations would be locally-adopted and implemented. In addition, each team was asked specific clarification questions related to their proposal.

After considering the responses to the questions asked during the interviews, the evaluation committee reviewed the preliminary ranking and made adjustments to individual scores. As a result, the ranking of the firms changed.

Based on the evaluation of the written proposals and information obtained from the interviews, the evaluation committee is recommending Kittelson for consideration of the award. The following is a brief summary of the proposal evaluation results.

#### Qualifications of the Firm

Kittelson has been providing transportation engineering, planning, and research services since 1985. The firm has 220 employees and 24 offices nationwide, including an office in the City of Anaheim. Kittelson has provided multimodal transportation planning services, such as complete streets, traffic forecasting, and active transportation analysis to various public agencies, which include Los Angeles County Metropolitan Transportation Authority (LA Metro), Alameda County, and the Florida Department of Transportation. The firm has worked with OCTA on a variety of transportation planning projects, which include the Master Plan of Arterials and Highway Guidance, Central Harbor Boulevard Transit Corridor Study, and Active Transportation Count Program. Kittelson proposed to utilize five subcontractors to provide additional technical expertise in areas such as traffic engineering, cost estimating, technical working group coordination, complete streets planning, and public outreach.

HDR was founded in 1917 and has 10,000 employees across 200 offices nationwide. The firm has 400 employees in southern California, as well as an office in the City of Irvine. HDR has experience working with OCTA on the Pacific Coast Highway Corridor Study and Orange County Freeway Study. The firm has also worked with other public agencies, including LA Metro, San Diego Association of Governments, and the San Bernardino County Transportation Authority. HDR proposed to utilize two subcontractors to provide public outreach and transportation planning support.

ADVANTEC has been providing multimodal transportation planning, engineering, and technology services since 1998. The firm has 35 employees and six offices, including an office in the City of Irvine. The firm has worked with OCTA on the 2017 Corridor Operations Performance Report and the Regional Traffic Signal and Synchronization Program. The firm also has experience working with Caltrans District 12, the Town of Apple Valley, and Coachella Valley Association of Governments. ADVANTEC proposed to utilize two subcontractors to provide community outreach and project management support.

### Staffing and Project Organization

Kittelson proposed a project team with experience in various disciplines, such as transportation planning, complete streets planning, and community outreach. The proposed project manager has 21 years of planning and engineering experience related to corridor studies, active transportation planning, and travel demand management. The project team member's years of experience range from 18 years to 36 years, and the project team consists of transportation planners, transportation engineers, urban planners, and community liaisons. The project team is structured with a lead for each task to ensure all project tasks are addressed and completed. During the interview, the project team members discussed their roles in conducting the Study, as well as responded to the evaluation committee's questions.

HDR proposed a project team with relevant experience. The proposed project manager has 38 years of experience related to the management and development of transportation corridor and traffic engineering projects, including corridor studies and corridor planning. The project team member's years of experience range from nine years to 38 years with expertise in transportation analysis, planning and design, transportation engineering, and public outreach. The project team members discussed how they would complete the project requirements and responded to the evaluation committee's questions during the interview.

ADVANTEC proposed a project team with experience in transportation engineering, transportation planning, and traffic engineering. The proposed project manager has 29 years of experience in transportation systems and traffic engineering. The project team member's years of experience range from eight years to 35 years. During the interview, the team members discussed their approach for conducting the Study and responded to the evaluation committee's questions.

### Work Plan

Kittelson presented a work plan that addressed all of the tasks in the scope of work. The firm demonstrated an understanding of the Beach Boulevard corridor by identifying the jurisdictions, traffic conditions, and land use, as well as its various stakeholders, which include each corridor city, OCTA, and Caltrans. The firm discussed its approach for identifying multimodal solutions, engaging diverse stakeholders, and presenting recommendations that are feasible for implementation. The firm proposed several enhancements, such as reviewing existing transportation infrastructures along the corridor, using data sources to determine origin/destination patterns and seasonality, and conducting case

studies at certain locations along the corridor to assess the effects of proposed improvements on actual operations of the street. In addition, the firm detailed how it would reach out to different stakeholders and build consensus to ensure that recommendations are locally-adopted and implemented.

In its work plan, HDR discussed its approach for completing all the project tasks. The firm discussed the current traffic issues and existing conditions along the corridor and proposed solutions. The firm identified characteristics of the corridor and included opportunities and challenges as it relates to planning for additional users and high capacity transit. HDR discussed interagency coordination and building consensus among the stakeholders. However, the firm did not address in detail active transportation and focused more on vehicular solutions.

ADVANTEC presented its approach for conducting the Study in its work plan. The firm discussed the characteristics of the Beach Boulevard corridor, such as traffic volumes and synchronization performance, challenges for active transportation, transit operations, and proposed recommendations and potential solutions. However, ADVANTEC did not elaborate on the technical working group workshops and overall outreach effort.

#### **Cost and Price**

Pricing scores are based on a formula which assigned the highest score to the firm with the lowest total firm-fixed price, and scored the remaining proposals' firm-fixed price based on their relation to the lowest firm-fixed price. Although Kittelson did not propose the lowest total firm-fixed price, it was competitive among the other proposing firms.

#### **Procurement Summary**

Based on the evaluation of the written proposals, the firms' qualifications, as well as information obtained from the interviews, the evaluation committee recommends the selection of Kittelson as the top-ranked firm to conduct the Beach Boulevard Corridor Study.

#### **Fiscal Impact**

The project was approved in OCTA's Fiscal Year 2018-19 Budget, Planning Division, Account 1531-7519-A4461-10X. It is partially grant-funded through federal, state planning and research funds, as well as state planning, programming, and monitoring funds.

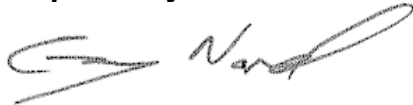
***Summary***

Based on the information provided, staff recommends the Board of Directors authorize the Chief Executive Officer to negotiate and execute Agreement No. C-8-1683 with Kittelson & Associates, Inc., to conduct the Beach Boulevard Corridor Study, in the amount of \$439,999, for an 18-month term.

***Attachments***

- A. Review of Proposals, RFP 8-1683 Beach Boulevard Corridor Study
- B. Proposal Evaluation Criteria Matrix (Short-Listed Firms), RFP 8-1683 Beach Boulevard Corridor Study
- C. Contract History for the Past Two Years, RFP 8-1683 Beach Boulevard Corridor Study

**Prepared by:**



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**Approved by:**



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**Review of Proposals**  
**RFP 8-1683 Beach Boulevard Corridor Study**

Presented to Regional Planning and Highways Committee - September 6, 2018  
Six firms proposed, three firms were interviewed, one firm is being recommended

Overall Ranking	Proposal Score	Firm & Location	Sub-Contractors	Evaluation Committee Comments	Total Firm-Fixed Price
1	88	<b>Kittelson &amp; Associates, Inc.</b> Orange, California	Albert Grover & Associates Arellano Associates Leslie Scott Consulting Optitans Civil Engineering Steer Davies Gleave	Highest-ranked firm overall. Experience with corridor planning, including complete streets. Proposed to utilize a mix of subcontractors with different expertise. Proposed project manager has 21 years of planning and engineering experience. Proposed project team consists of transportation planners, transportation engineers, urban planners, and community liaisons. Detailed its approach for completing each task and producing deliverables. Demonstrated an understanding of the Beach Boulevard corridor, as well as the various stakeholders along the corridor. Demonstrated an understanding of the California Department of Transportation. Proposed solutions and enhancements. Presented approach and answered questions during the interview. Received positive responses from references. Proposed a competitive total firm-fixed price.	\$439,999
2	85	<b>HDR Engineering, Inc.</b> Irvine, California	Arellano Associates IBI Group	Second-ranked firm. Experience in corridor studies, active transportation, and complete streets. Proposed to utilize subcontractors to provide additional support. Proposed project manager has 38 years of experience with transportation corridor and traffic engineering projects. Proposed project team has experience in transportation analysis, planning and design, transportation engineering, and public outreach. Discussed approach for performing the study. Did not expand on active transportation discussions; mostly focused on vehicular solutions. Presented approach and answered questions during the interview. Received positive responses from references. Proposed the lowest total firm-fixed price.	\$435,150
3	79	<b>ADVANTEC Consulting Engineers, Inc.</b> Irvine, California	Counts Unlimited, Inc. Ferh and Peers Rock E. Miller & Associates	Experience with multimodal transportation planning, engineering, and technology services. Proposed to utilize subcontractors to provide additional support. Proposed project manager has 29 years of experience in transportation systems and traffic engineering. Proposed project team has experience in transportation engineering, transportation planning, and traffic engineering. Discussed approach for performing the study. Demonstrated an understanding of the Beach Boulevard corridor. Did not elaborate on approach for engaging stakeholders and technical working group. Presented approach and answered questions during the interview. Received positive responses from references. Proposed a competitive total firm-fixed price.	\$441,055

**Evaluation Panel:**

Internal:  
Contracts Administration and Materials Management (1)  
Transportation Planning (1)  
External:  
California Department of Transportation (1)  
City of Anaheim (1)  
City of Buena Park (1)  
City of Westminster (1)

**Proposal Criteria**

Qualifications of the Firm  
Staffing and Project Organization  
Work Plan  
Cost and Price

**Weight Factors**

25%  
25%  
30%  
20%



**Proposal Evaluation Criteria Matrix (Short-Listed Firms)**  
**RFP 8-1683 Beach Boulevard Corridor Study**

<b>Kittelsohn &amp; Associates, Inc.</b>							<b>Weights</b>	<b>Overall Score</b>
<b>Evaluator Number</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>		
Qualifications of Firm	4.0	4.0	4.0	4.0	4.0	4.0	5	20.0
Staffing/Project Organization	4.5	4.5	4.5	4.5	4.5	4.5	5	22.5
Work Plan	4.5	4.5	4.5	4.0	4.0	4.0	6	25.5
Cost and Price	4.9	4.9	4.9	4.9	4.9	4.9	4	19.6
<b>Overall Score</b>	<b>89.1</b>	<b>89.1</b>	<b>89.1</b>	<b>86.1</b>	<b>86.1</b>	<b>86.1</b>		<b>88</b>

<b>HDR Engineering, Inc.</b>							<b>Weights</b>	<b>Overall Score</b>
<b>Evaluator Number</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>		
Qualifications of Firm	4.5	4.5	4.0	4.0	4.5	4.0	5	21.3
Staffing/Project Organization	4.0	4.0	4.0	4.0	4.0	4.0	5	20.0
Work Plan	4.0	4.0	4.0	4.0	4.0	4.0	6	24.0
Cost and Price	5.0	5.0	5.0	5.0	5.0	5.0	4	20.0
<b>Overall Score</b>	<b>86.5</b>	<b>86.5</b>	<b>84.0</b>	<b>84.0</b>	<b>86.5</b>	<b>84.0</b>		<b>85</b>

<b>ADVANTEC Consulting Engineers, Inc.</b>							<b>Weights</b>	<b>Overall Score</b>
<b>Evaluator Number</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>		
Qualifications of Firm	3.5	3.5	3.5	3.5	3.5	3.5	5	17.5
Staffing/Project Organization	3.5	3.5	3.5	3.5	3.5	3.5	5	17.5
Work Plan	4.0	4.0	4.0	4.0	4.0	4.0	6	24.0
Cost and Price	4.9	4.9	4.9	4.9	4.9	4.9	4	19.6
<b>Overall Score</b>	<b>78.6</b>	<b>78.6</b>	<b>78.6</b>	<b>78.6</b>	<b>78.6</b>	<b>78.6</b>		<b>79</b>

Range of scores for non-short-listed firms was 64 to 74.

**CONTRACT HISTORY FOR THE PAST TWO YEARS**  
**RFP 8-1683 Beach Boulevard Corridor Study**

Prime and Subconsultants	Contract No.	Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
<b>ADVANTEC Consulting Engineers, Inc.</b>						
Contract Type: Contract Task Order	C-2-1417	On-Call Traffic Engineering Services	June 11, 2012	December 31, 2019	N/A	\$ 7,574,420
Subconsultants:						
Pacific Traffic Data Services						
Crosstown Electrical and Data, Inc.						
Contract Type: Time-and-Expense	C-8-1627	Intelligent Transportation Systems On-Call Support Services	July 17, 2018	June 30, 2019	N/A	\$ 50,000
Subconsultants: None						
Contract Type: Firm-Fixed	C-6-1494	2017 Corridor Operations Performance	February 6, 2017	May 31, 2018		\$ 175,525
Subconsultants:						
AimTD, LLC					\$ 18,000.00	
Counts Unlimited, Inc.					\$ 54,000.00	
<b>Sub Total</b>						<b>\$ 7,799,945</b>
<b>HDR Engineering, Inc.</b>						
Contract Type: Contract Task Order	C-4-1786	On-Call Right-of-Way and Property Management Services	March 1, 2015	February 29, 2020	N/A	\$ 554,063
Subconsultants:						
APA Engineering						
The Bernard Johnson Group						
Cal Pacific Land Services, Inc.						
Coast Surveying Inc.						
Commonwealth Land Title/Lawyers Title						
Desmond, Marcello & Amster, LLC						
Donna Desmond & Associates						
Environmental Resources Management						
Hennessey & Hennessey, LLC						
Hodges Lacey & Associates, LLC						
Kiley Company						
Lazar & Associates						
Pacific Environmental Company						
Pacific Real Estate Consultants, Inc.						
Real Estate Consulting & Services, Inc.						
Stewart Title of California, Inc.						
VA Consulting, Inc.						
Wiggins Group						
Contract Type: Time-and-Expense	C-4-1854	Project Management Consultant Services for the Santa Ana-Garden Grove Streetcar Project	June 1, 2015	February 22, 2020	N/A	\$ 20,962,005
Subconsultants:						
Arellano Associates, LLC						
Booth Trasnit Consulting LLC						
CivilSource, Inc.						
IBI Group						
Intueor Consulting Inc.						
Maintenance Design Group, LLC						
Mott MacDonald, LLC						
Nossaman, LLP						
Shiels Oblatz Johnson, Inc.						
SNC - Lavalin Rail & Transit, Inc.						
Sperry Capital Inc.						
Steve Greene & Associates, PLLC						
Contract Type: Firm-Fixed	C-7-1613	GIS Technical Support	May 10, 2017	December 31, 2018	N/A	\$ 34,700
Subconsultants: None						

ATTACHMENT C

Prime and Subconsultants	Contract No.	Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
Contract Type: Firm-Fixed	C-7-0938	Consultant Services for PR/ED and PS&E - Northbound Orange Freeway (State Route 57) Improvements between Katella Avenue/ Lincoln Avenue	April 10, 2008	December 31, 2018		\$ 4,658,888
Subconsultants:						
Fehr & Peers					\$ 89,904.00	
Guida Surveying					\$ 258,711.00	
Leighton and Associates					\$ 294,261.00	
LSA Associates, Inc.					\$ 357,015.00	
PMK and Associates, Inc.					\$ 140,333.00	
Tasumi and Partners, Inc.					\$ 225,347.00	
Contract Type: Firm-Fixed	C-0-1587	PR/ED for the State Route 55 between Interstate 405 and Interstate 5	May 24, 2011	December 31, 2018		\$ 6,508,026
Subconsultants:						
Guida Surveying, Inc.					\$ 507,106.00	
Fehr & Peers					\$ 682,343.00	
Leighton Consulting, Inc.					\$ 348,974.00	
LSA Associates, Inc.					\$ 1,169,372.00	
MTS Engineering, Inc.					\$ 402,443.00	
TranSystems/RMC, Inc.					\$ 275,356.00	
The Wild Horse Group					\$ 72,505.00	
Contract Type: Firm-Fixed	C-6-1003	Orange County Freeway Study	April 27, 2016	June 30, 2018		\$ 99,998
Subconsultants:						
Fehr & Peers					\$ 819.00	
Contract Type: Firm-Fixed	C-6-1514	GIS Transit Analysis Tool	January 11, 2017	December 31, 2017	N/A	\$ 60,000
Subconsultants: None						
Contract Type: Contract Task Order	C-1-2603	On-Call GIS	October 6, 2011	September 30, 2016	N/A	\$ 690,000
Subconsultants:						
San Diego Data Processing Center						
Artisan Global						
					<b>Sub Total</b>	<b>\$ 33,567,681</b>
<b>Kittelson &amp; Associates, Inc.</b>						
Contract Type: Firm-Fixed	C-7-1565	Active Transportation Count Program	May 24, 2017	January 31, 2019		\$ 198,593
Subconsultants:						
TranspoGroup					\$ 15,000.00	
University of North Carolina - Highway Safety Resource Center					\$ 32,022.00	
Contract Type: Firm-Fixed	C-7-1568	Services	May 1, 2017	October 31, 2018		\$ 187,690
Subconsultants:						
Steer Davies Gleave					\$ 36,260.00	
Leslie Scott Consulting					\$ 8,370.00	
Contract Type: Time-and-Expense	C-5-3316	OCTAM Support	June 10, 2015	December 31, 2017	N/A	\$ 50,000
Subconsultants: None						
					<b>Sub Total</b>	<b>\$ 436,283</b>

GIS - Geographic Information Services / PR/ED - Project Report/Environmental Document / PS&E - Project, Scope, and Engineering / OCTAM - Orange County Transportation Analysis Model



## COMMITTEE TRANSMITTAL

**September 10, 2018**

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

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

**Subject:** Cooperative Agreements for Regional Traffic Signal Synchronization Program Projects

### Regional Planning and Highways Committee Meeting of September 6, 2018

**Present:** Directors Delgleize, M. Murphy, Nelson, Pulido, and Steel

**Absent:** Directors Bartlett and Spitzer

### **Committee Vote**

This item was passed by the Members present.

Director Steel was not present to vote on this item.


### **Committee Recommendations**

- A. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1797 for the Garden Grove Boulevard Regional Traffic Signal Synchronization Project, with an agency match of \$529,168.
- B. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1798 for the Katella Avenue Regional Traffic Signal Synchronization Project, with an agency match of \$1,012,347.
- C. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1799 for the Los Alisos Boulevard Regional Traffic Signal Synchronization Project, with an agency match of \$444,446.
- D. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1800 for the Main Street Regional Traffic Signal Synchronization Project, with an agency match of \$764,544.



**September 6, 2018**

**To:** Regional Planning and Highways Committee

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

**Subject:** Cooperative Agreements for Regional Traffic Signal Synchronization Program Projects

**Overview**

On June 11, 2018, the Orange County Transportation Authority Board of Directors approved programming of funds for six projects as part of the 2018 call for projects for the Measure M2 Regional Traffic Signal Synchronization Program. As part of the application process, the Orange County Transportation Authority was requested to be the lead agency on four of the six projects: Garden Grove Boulevard, Katella Avenue, Los Alisos Boulevard, and Main Street. Separate cooperative agreements are necessary for each of these projects to specify the amount of the local agency match.

**Recommendations**

- A. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1797 for the Garden Grove Boulevard Regional Traffic Signal Synchronization Project, with an agency match of \$529,168.
- B. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1798 for the Katella Avenue Regional Traffic Signal Synchronization Project, with an agency match of \$1,012,347.
- C. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1799 for the Los Alisos Boulevard Regional Traffic Signal Synchronization Project, with an agency match of \$444,446.
- D. Authorize the Chief Executive Officer to negotiate and execute Cooperative Agreement No. C-8-1800 for the Main Street Regional Traffic Signal Synchronization Project, with an agency match of \$764,544.

***Discussion***

The Orange County Transportation Authority (OCTA) is designated by request to be the lead agency on four regional traffic signal synchronization (RTSSP) projects: Garden Grove Boulevard, Katella Avenue, Los Alisos Boulevard, and Main Street. As authorized by the Board of Directors (Board), these four projects are planned to begin in fiscal year 2018-19 with completion in 2022. The projects are divided into two separate phases of primary implementation, lasting approximately one year, followed by an ongoing operations and maintenance phase of 24 months.

A separate cooperative agreement is developed for each of these projects to outline the roles and designate responsibilities of OCTA and the partnering agencies regarding the implementation of the projects and to specify the amount and type of each local agency's match.

- Garden Grove Boulevard (Valley View Street to Memory Lane at Bristol Street): the corridor is approximately nine miles and includes 34 traffic signals. The corridor passes through the cities of Garden Grove, Orange, Santa Ana, and Westminster, and carries daily traffic of up to 35,000 vehicles. The project cost is estimated at \$2,645,838, with local agency in-kind services and cash match totaling \$529,168.
- Katella Avenue (Interstate 605 ramps to Santiago Canyon Road at Jamboree Road): the corridor is approximately 20 miles and includes 73 traffic signals. The corridor passes through the cities of Anaheim, Cypress, Garden Grove, Los Alamitos, Orange, Stanton, Villa Park, and portions of unincorporated Orange County, and carries daily traffic of up to 59,000 vehicles. The project cost is estimated at \$4,936,835, with local agency in-kind services and cash match totaling \$1,012,347.
- Los Alisos Boulevard (Melinda Road at Santa Margarita Parkway to Aliso Viejo Parkway at Columbia/Polaris Way): the corridor/route is approximately nine miles and includes 40 traffic signals. The main part of the corridor/route is on Los Alisos Boulevard within the City of Mission Viejo. The corridor passes through the cities of Aliso Viejo, Laguna Hills, Lake Forest, Mission Viejo, and Rancho Santa Margarita. The corridor comprises five arterials (name and directional changes) to form a route beginning with Melinda Road at Santa Margarita Parkway in the northeast becoming Los Alisos Boulevard, turning southerly along a short section of Paseo de Valencia in Laguna Hills, then continuing

westerly along Laguna Hills Drive/Aliso Viejo Parkway where it terminates at Columbia/Polaris Way. The corridor carries daily traffic of up to 31,000 vehicles. The project cost is estimated at \$2,222,228, with local agency cash match only totaling \$444,446.

- Main Street (Culver Drive to Taft Avenue): the corridor is approximately 12 miles and includes 67 traffic signals. The corridor passes through the cities of Irvine, Orange, and Santa Ana, and carries daily traffic of up to 38,000 vehicles. The project cost is estimated at \$3,822,720, with local agency in-kind services and cash match totaling \$764,544.

#### **Fiscal Impact**

The total cost of implementing the four RTSSP projects is \$13,627,621. The funding for these four projects will come from M2 Project P funds (\$4,183,303), matching funds provided by the local agencies (\$2,750,505), and SB 1 (Chapter 5, Statutes of 2007) Local Partnership Program funds (\$6,693,813).

#### **Summary**

Staff requests Board approval for the Chief Executive Officer to negotiate and execute four cooperative agreements between OCTA, the respective cities, and the County of Orange for the Garden Grove Boulevard, Katella Avenue, Los Alisos Boulevard, and Main Street RTSSP projects to define roles, duties, governance, and fiscal responsibilities.

***Attachment***

None.

**Prepared by:**



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**Approved by:**



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Director, Contracts Administration and  
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## COMMITTEE TRANSMITTAL

**September 10, 2018**

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

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

**Subject:** Comprehensive Transportation Funding Programs - Measure M2  
Environmental Cleanup Program Revised 2018 Tier 1 Projects

Regional Planning and Highways Committee Meeting of September 6, 2018

**Present:** Directors Delgleize, M. Murphy, Nelson, Pulido, and Steel

**Absent:** Directors Bartlett and Spitzer

### **Committee Vote**

This item was passed by the Members present.

Director Steel was not present to vote on this item.

### **Committee Recommendation**

Approve the revised 2018 Tier 1 Environmental Cleanup Program programming recommendations to fund 12 projects, in the amount of \$2,460,363.



**September 6, 2018**

**To:** Regional Planning and Highways Committee

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

**Subject:** Comprehensive Transportation Funding Programs – Measure M2  
Environmental Cleanup Program Revised 2018 Tier 1 Projects

### **Overview**

The Orange County Transportation Authority's Environmental Cleanup Program provides Measure M2 funding for water quality improvement projects to address transportation-generated pollution. The fiscal year 2018-19 Tier 1 Grant Program call for projects was issued on March 12, 2018. Evaluations are now complete, and a list of projects and funding allocations are presented for review and approval.

### **Recommendation**

Approve the revised 2018 Tier 1 Environmental Cleanup Program programming recommendations to fund 12 projects, in the amount of \$2,460,363.

### **Background**

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

Tier 1 funds are available for Orange County local governments to purchase equipment and upgrades for existing catch basins and other related BMPs that supplement current requirements. Examples include screens, filters, and inserts for catch basins, as well as other devices designed to remove the

above-mentioned pollutants. Proposed projects must demonstrate a direct nexus to the reduction of transportation-related pollution, as developed and defined by the OCTA Environmental Cleanup Allocation Committee (ECAC).

To date, the Board has approved funding for 154 Tier 1 projects, totaling approximately \$20 million. An estimated million cubic feet of trash has been captured as a result of the installation of Tier 1 devices since the inception of the Tier 1 Grant Program in 2011.

The Board approved issuance of the 2018 ECP Tier 1 call for projects (call) on March 12, 2018. Up to \$2.8 million was made available for the 2018 call.

### ***Discussion***

The 2018 ECP Tier 1 call deadline to submit applications was May 18, 2018. Sixteen applications were submitted from 15 local agencies (City of Santa Ana submitted two project applications). Applications were reviewed and evaluated by an evaluation committee consisting of OCTA staff, the ECAC Chairman, and an additional member of the ECAC. Project applications were ranked based on the following Board-approved criteria:

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

The ECAC, which met and reviewed the evaluation committee's ranking on July 12, 2018, is recommending 12 projects for funding, in the amount of \$2,460,363, based on final scores (Attachment A). These programming recommendations result in approximately \$339,637 in program savings, which would be available for future calls.

The Tier 1 projects recommended for funding primarily consist of catch basin debris screen devices. More detailed project descriptions are outlined in Attachment A, and a brief overview of project types is provided below.

- Catch basin debris screen devices (ten projects): These screens prevent debris from entering the storm drain system. This recommendation would fund the construction of 1,293 connector pipe screens, 596 automatic retractable screens, and 55 curb inlet screens;
- Underground storm water detention and infiltration system (one project): This project consists of an underground, pre-manufactured detention and infiltration system, and repaving utilizing pervious surfaces. Reinforced concrete storm water conveyance pipes will direct visible trash and debris to the detention system; and
- Bioretention basin (one project): This project consists of a bioretention basin to intercept and infiltrate dry weather nuisance and stormwater flows. The bioretention basin will intercept flows and remove pollutants, effectively preventing their entry into the storm drain system.

As part of this grant program, local agencies agree to contribute a minimum cash match of 20 percent of the total project cost.

Given the competitive nature of this program, applications were evaluated and scored based upon the thoroughness of responses to application questions related to water quality benefits of the proposed project. For this call cycle, the recommendation is to program \$2,460,363, which is less than what was authorized for this cycle. The projects that were not recommended for funding did not provide the same level of detail in terms of quantifying project benefits and requirements, compared to the projects that were ultimately recommended by the evaluation committee and the ECAC. These projects can be resubmitted in the next funding cycle.

After initially presenting this item at the August 6, 2018 Regional Planning and Highways Committee (RPH) meeting, staff discovered an error in Attachment A of the staff report, which when corrected, increased the overall programming recommendation by \$260,000 (from \$2,200,363 to \$2,460,363). As result of this correction, the item was pulled from the August 13, 2018 Board agenda. Revised programming recommendations are being submitted for RPH and Board consideration and approval.

It should be noted that these proposed revisions do not affect project scoring or the number of projects being recommended for funding. These changes have also been shared with the City of Santa Ana (who was affected by the change) and the ECAC.

**Next Steps**

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

***Summary***

Staff is seeking Board approval to program \$2,460,363 to 12 projects through the Project X Tier I ECP call.

***Attachment***

- A. Measure M2 Environmental Cleanup Program 2018 Tier 1 Call for Projects, Revised Programming Recommendations

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**Measure M2 Environmental Cleanup Program 2018 Tier 1 Call for Projects  
Revised Programming Recommendations**

Projects Recommended for Funding					
Agency	Project	Project Description	Final Score	Funding	Cumulative
Placentia	Catch Basin Insert Project, Phase V	Install 93 CPS units and 183 ARS units.	85	\$ 160,000	\$ 160,000
Laguna Hills	Laguna Hills CPS and ARS Screen Project Phase VII	Install 37 CPS units and 171 ARS units.	84	\$ 100,000	\$ 260,000
Tustin	Catch Basin Retrofit Program	Install 383 CPS units.	80	\$ 152,794	\$ 412,794
Laguna Niguel	Installation of Trash Control Devices on Storm Water Catch Basins	Install 125 CPS units and 125 ARS units.	80	\$ 200,000	\$ 612,794
Newport Beach	Newport Bay Trash Mitigation Project	Install 425 CPS units.	79	\$ 125,726	\$ 738,520
Fullerton	Installation of Full Capture Trash Devices in Catch Basins	Install 100 CPS units.	77	\$ 82,280	\$ 820,800
Anaheim	Modjeska Park Underground Storm Water Detention and Infiltration System	Install an underground, pre-manufactured detention and infiltration system.	76	\$ 500,000	\$ 1,320,800
Costa Mesa	2018 CPS Installation Project	Install 130 CPS units.	75	\$ 39,864	\$ 1,360,664
Santa Ana	Mabury Park Stormwater Capture Project	Construct one bioretention basin and a Portland Concrete Cement cross-gutter.	74	\$ 380,000	\$ 1,740,664
Huntington Beach	Huntington Beach Trash Removal Project, Phase I	Install one CDS unit.	74	\$ 432,160	\$ 2,172,824
Seal Beach	Fiscal Year 2018-19 Storm Water Pollutant Capture Project	Install 55 curb inlet BMP units.	73	\$ 159,454	\$ 2,332,278
Los Alamitos	Catch Basin Installation Project (Citywide)	Install 117 ARS units.	71	\$ 128,085	\$ 2,460,363

Projects Not Recommended for Funding					
Agency	Project	Project Description	Final Score	Funding	Cumulative
Mission Viejo	TRAP: Via Fabricante and Los Alisos West	Install 50 CPS units, 45 ARS units, and drip irrigation.	65	\$ 316,805	\$ 2,777,168
Santa Ana	Bristol Street Widening Water Quality Improvements Phase 3b - Washington Avenue to 17th Street	Install four modular wetlands bio-filtration basins with perforated pipe underdrains.	64	\$ 120,000	\$ 2,897,168
Orange	CDS and CPS BMP Installation	Install one Bio Clean debris separating baffle box, and ten CPS units.	63	\$ 286,840	\$ 3,184,008
Lake Forest	CPS Catch Basin Retrofit, Phase VIII	Install 121 CPS units.	62	\$ 79,200	\$ 3,263,208

**Acronyms**

ARS - Automatic Retractable Screen

BMP - Best Management Practice

CDS - Continuous Deflection Separator

CPS - Connector Pipe Screen

TRAP - Trash and Runoff Abatement Project



**September 10, 2018**

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

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

**Subject:** Measure M2 Next 10 Plan: Market Conditions Key Indicators Analysis and Forecast

### **Overview**

On September 7, 2017, a Market Conditions Forecast and Risk Analysis was conducted and presented to the Board of Directors providing insight into delivery of the Measure M2 Next 10 Plan. At the request of the Board of Directors, continued monitoring of market conditions and potential risks of project delivery has taken place and a forecast has been developed. A presentation on the results of this effort is provided.

### **Recommendation**

Continue to monitor market conditions and their effects on the advancement of the Next 10 Delivery Plan, and provide updates to the Board of Directors as appropriate.

### **Background**

On November 7, 2006, Orange County voters approved the renewal of Measure M (M2), the one-half cent sales tax for transportation improvements. Since approval, the Orange County Transportation Authority (OCTA) Board of Directors (Board) has continued to advance implementation of M2 commitments through the adoption of a series of early delivery plans. These delivery plans are designed to streamline implementation of all projects and programs through 2041 as promised to the voters, bring transportation improvements earlier to residents and commuters of Orange County, and as appropriate, address slower growth in sales tax revenue projections through strategic financing and successfully capturing and augmenting the program with external revenue. To date there have been three early delivery plans, with the most recent being the Next 10 Plan (Next 10). The Next 10 provides a framework to accelerate the delivery of M2 freeway, streets and roads, transit, and environmental projects through the year 2026.

Following Board adoption of the Next 10 in November 2016, the Board directed staff to conduct a market analysis to analyze current resource demands and provide information on the impact on OCTA's delivery of M2 projects. Following OCTA's procurement policies, the contract was awarded to the Orange County Business Council (OCBC) with Dr. Wallace Walrod, Chief Economic Advisor to the OCBC, and Dr. Marlon Boarnet, Professor and Chair of the Department of Urban Planning and Spatial Analysis at the University of Southern California. The results of the analysis were presented to the Board in September 2017. In summary, this effort reviewed seven risk factors which led to the identification of four near-term cost risks that were expected to be particularly impactful: neighboring county transportation construction programs, construction wage pressures, sustained low statewide unemployment, and residential construction demand and the effect on the public works construction market. A brief summary of the identified risks in the 2017 report is included in Attachment A.

Overall, the consultant's analysis identified a strong potential that during the Next 10 delivery years, OCTA will experience an increasing cost environment. Following the presentation, the Board discussed the benefit of receiving annual sales tax revenue forecasts providing insight on the M2 revenue picture and that equally important would be for the Board to be aware of what is taking place from a market/cost side of delivering the M2 Program. The Board directed staff to continue to work with the consultant to monitor and track early warning indicators and provide the Board with updates to cost risk factors on project delivery.

### ***Discussion***

To better anticipate cost pressures during a rapidly changing construction market, staff looked to our consultant team for insight. The consultant team analyzed annual trends in material costs, labor costs, and general economic conditions to determine a range of potential cost impacts. Looking out at a time horizon through 2020 the team tracked relevant market data and indicators and performed data analytics on this information. This analysis resulted in the creation of a cost pressure index which provides a range of potential cost fluctuations.

### **Consultant Findings**

Using a series of regression analyses and forward-looking projections, the consultant team created an Infrastructure Construction Cost Pressure (ICCP) Index. The ICCP Index provides a ranking from 0-5, with each rank corresponding to a range of percent changes in overall construction costs.



The consultant provided a forecast looking out to the year 2020 and provided a range of cost fluctuation for OCTA to be aware of when reviewing the M2 cash flow to support successful delivery of M2 freeway capital projects. The consultant prepared a memo (Attachment B) sharing the basis for the forecast and the methodology supporting their findings.

According to the consultant, the ranges developed are built to be forecasting tools, with scores indicating public construction forecast cost increase. Index scores of two and three indicate somewhat normal inflationary environments. A value of four is a high inflation environment. A value of one is a low inflation/deflationary environment. Values of zero and five correspond to the most extreme conditions observed in Orange County immediately prior to and during the Great Recession and the high cost inflation environment that occurred in the building boom years of the early 2000s.

Using the ICCP Index described above, combined with a detailed trend analysis of building permits, unemployment rates, localized labor costs, material costs and general economic conditions; the consultant estimates an ICCP Index ranking of “four” in 2018, “three” in 2019, and “three” in 2020. This suggests potential cost increases ranging from six percent to 11 percent in 2018, two percent to six percent in 2019, and two percent to six percent in 2020.

OCBC OC Transportation ICCP Index Score, 2018-2020		
Year	Index Score	Range of Cost Fluctuation
2018	4	6%-11%
2019	3	2%-6%
2020	3	2%-6%

The consultant further shares that OCTA will need to be aware and ready to respond to two different cost pressure groupings which are described as systematic and idiosyncratic. Systematic risks have characteristics that are observable and more predictable. Systematic risks are captured in the ICCP Index through the cost pressure model. Cost pressures in this group are reflections of the construction/building environment, the state’s economy (which influences both the demand for construction services and the cost of construction labor and materials), and direct measures of material and labor costs.

Idiosyncratic risks are cost pressures which cannot be statistically modeled. These cost pressures are not related to historic or observable economic factors but are still real risks that may be important and warrant careful tracking. The consultant pointed to cost pressures in the idiosyncratic group as:

- Tariffs, and associated effects on cost of materials from the nation's changing trade policy,
- Regulatory requirements and changes that create additional hurdles during the bidding process.

Overall, the consultant's analysis identifies a strong potential that during the next few years of delivering Next 10, OCTA will experience an increasing cost environment. The Market Conditions Key Indicators Analysis and Forecast concludes OCTA may experience a cost increase of between six and 11 percent during the next two years of construction activity. OCTA's current assumptions developed by OCTA's Capital Programs Project Controls Department, assumes a four percent escalation in the near term (next three years), and then three and one-half percent escalation for projects beyond 2022. Project cost estimates also include a prudent contingency specifically developed for the project based on the individual project risks.

Project Controls cost estimating process uses historical information as well as current trends in the market and follows a consistent and defined process. Looking back at the last 20 years, OCTA's cost estimates have included three percent escalation, which on average during this timeframe provided the appropriate escalation to deliver projects successfully. Using four percent for construction escalation in the short-term and three and one-half percent in the longer term is staff's best estimate using industry standards on cost estimating.

OCTA is not alone in being concerned over the potential of experiencing bid prices above engineers' estimates. The Los Angeles County Metropolitan Transportation Authority (Metro) conducted a construction market analysis focused on Southern California (May 2018) and concluded similarly that construction costs are rising. The report mentions that, "A perfect storm of conditions is occurring in the construction industry with a construction labor shortage, low unemployment, and large amount of ongoing and planned work in the region." This is coupled with rising material pricing with subcontractors and suppliers not being able to guarantee pricing beyond a few months resulting in contractors including large contingencies to cover material price risk. For the Board's reference, the Metro report is included as Attachment C.

***Summary***

The Market Conditions Key Indicators Analysis and Forecast concludes that OCTA may experience a cost increase of between six percent and 11 percent during the 2018 through 2020 time period of construction activity. To reduce the potential risk of cost pressure and project delivery slowdowns due to unanticipated cost increases, staff has incorporated information from this analysis into the cash flow for the 2018 updated Next 10, which will be presented to the Executive Committee and Board on this same agenda following this item.

***Attachments***


- A. Orange County Business Council, Summary of Risks Identified in 2017 Market Conditions Analysis and Risk Forecast
- B. Orange County Business Council, Orange County Transportation Infrastructure Construction Cost Pressure Index, Prepared for the Orange County Transportation Authority
- C. 2018 Los Angeles Construction Market Analysis, May 2018

**Prepared by:**



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**Orange County Business Council**  
**Summary of Risks Identified in 2017 Market Conditions Analysis and Risk Forecast**

<b>Risk Factor</b>	<b>Impact on Costs</b>	<b>Likelihood</b>	<b>Comments</b>
Sustained low unemployment	Increases costs	Likely in the next two to five years	Wage pressure is still low, suggests that the economy has continued room to expand without necessitating policy efforts (i.e. interest rate increases) that would induce a recession.
Increased Building Permitting (hence residential construction)	Increases costs	Unlikely given long-term political factors, but regulatory change could be sudden	Increasing permitting depends in part on state or local political changes, but Inland Empire construction has been increasing rapidly.
Continued Consolidation in Construction and Architecture/Engineering Industry	Increases costs in near-term, then pressure for costs to remain high	Likely, given recent consolidation trends	The industry has been consolidating. Unclear whether that trend has played out or will continue.
Interest Rate Increases	Short-term cost increases as financing costs, for the Orange County Transportation Authority and contractors, increase long-term downward cost pressure if recession ensues	Highly likely to have moderate interest rate increases in next two to five years	The U.S. is near historically low interest rates; global savings glut will exert downward pressure on interest rates; on net, rate increases likely to be moderate and sustained.
Neighboring County Transportation Programs Exert Cost Pressure	Increases costs	Highly Likely; current work programs in neighboring counties meet or exceed level in Orange County	Recent self-help sales tax increases “lock in” sustained demand for public works contractors in Southern California.
Increasing Construction Wage Pressure	Increases costs	Likely in foreseeable future, unless residential market reverses course (which would likely coincide with a recession)	Construction wages increases by from 4.39 percent to 5.3 percent annually, 2014 to 2016, in Orange and neighboring Southern California Association of Governments region counties.
Recession	Decreases costs	Likely within the next ten years, but timing highly uncertain	Recession will reduce demand for private sector residential and commercial construction, but the public sector demand will remain although sales tax revenues will drop in a recession.

**Orange County Business Council  
Orange County Transportation Infrastructure Construction Cost Pressure Index  
Prepared for the Orange County Transportation Authority**

**Orange County Business Council Research Team**

Dr. Wallace Walrod – Chief Economic Advisor, Orange County Business Council

Dr. Marlon Boarnet – Professor and Chair, Department of Urban Planning and Spatial Analysis,  
University of Southern California

Benjamin Palmer – Research Associate, Orange County Business Council

**Background and Purpose**

As a supplementary examination to the recent Next 10: Market Conditions Forecast and Risk Analysis study delivered by Orange County Business Council (OCBC) in September 2017, the Orange County Transportation Authority (OCTA) Board of Directors (Board) requested further study and exploration of potential cost fluctuations beyond existing cost analysis from the California Department of Transportation's (Caltrans) Construction Cost Index (CCI) and internal OCTA analysis. Recent increases in construction costs combined with concerns over sales tax revenue growth trends have necessitated forward looking projections to determine the ability for OCTA to adequately fund a number of transportation and infrastructure projects aimed at alleviating traffic congestion and increasing the quality of life for Orange County residents.

In order to do so, the OCBC team has analyzed annual trends in material costs, labor costs and general economic conditions to determine a range of potential cost increases with a time horizon out until 2020 by collecting tracking relevant market data and indicators and performing data analytics on these datasets. In doing so, and providing these findings to OCTA's Board, more accurate budgets can be determined reducing the potential risk of cost pressure and project delivery slowdowns due to financial constraints. The result of this analysis has been the creation of an Infrastructure CCI which provides a range of potential cost fluctuations for 2018, 2019, and 2020.

**Findings**

OCBC used a series of regression analyses and forward-looking projections to create the Infrastructure Construction Cost Pressure (ICCP) Index. This ICCP Index provides a ranking from 0-5, with each rank corresponding to a range of percent changes in overall construction costs. The table below highlights each ICCP Index ranking and the proposed range of cost fluctuations, which have been provided on a low, midpoint, and high scale.

**Orange County Business Council**  
**Orange County Transportation Infrastructure Construction Cost Pressure Index**  
**Prepared for the Orange County Transportation Authority**

<b>OCBC Orange County Transportation ICCP Index Score Ranking</b>			
Implied Range of Construction Cost Change			
<b>Index Score</b>	<b>Low</b>	<b>Midpoint</b>	<b>High</b>
0	-17%	-9.5%	-2%
1	-2%	-0.5%	1%
2	1%	1.5%	2%
3	2%	4%	6%
4	6%	8.5%	11%
5	11%	25.5%	40%

These ranges are built to be forecasting tools, with scores indicating public construction forecast cost increase. Values of 2 and 3 indicate somewhat normal inflationary environments. A value of 4 is a high inflation environment. A value of 1 is a low inflation/deflationary environment. Values of 0 and 5 correspond to the most extreme conditions observed in Orange County over the past two decades, and hence the ranges for those values are wide due to the unusual nature of the highly deflationary environment that occurred immediately prior to and during the Great Recession and the high cost inflation environment that occurred in the building boom years of the early 2000s.

Using the index scale highlighted above, combined with a detailed trend analysis of building permits, unemployment rates, localized labor costs, material costs and general economic conditions; OCBC estimates an ICCP Index ranking of “4” in 2018, “3” in 2019, and “3” in 2020. This suggests potential cost increases ranging six percent to 11 percent in 2018, two percent to six percent in 2019, and two percent to six percent in 2020.

<b>OCBC Orange County Transportation ICCP Index Score, 2018-2020</b>		
<b>Year</b>	<b>Index Score</b>	<b>Range of Cost Fluctuation</b>
2018	4	6%-11%
2019	3	2%-6%
2020	3	2%-6%

### **Methodology**

To determine the Orange County Transportation ICCP Index, the OCBC team started by aggregating several datasets, measures, and indicators on an annual basis as far back as 1972. Among others, these measures included the Caltrans CCI, state-level building permits and unemployment rates, material costs, and labor costs.

**Orange County Business Council**  
**Orange County Transportation Infrastructure Construction Cost Pressure Index**  
**Prepared for the Orange County Transportation Authority**

The OCBC team examined how the various measures and indicators of construction costs varied with changes in (1) building permitting activity, (2) unemployment rates, (3) materials costs, (4) labor costs, and recently past trends in construction inflation. Using statistical analyses, the research team has built a forecasting model that projects forward cost increases, and predicted cost increases, which are grouped into the categorical ranges shown above. OCBC plans to continue to test and refine the cost forecast model, adding information going forward.

**Cost Risks - Systematic and Idiosyncratic**

Looking forward, we encourage OCTA to think of future cost pressures in two groups – systematic and idiosyncratic risks.

Systematic Cost Risks: These are cost risks that relate to observable and predictable characteristics of the economy and the construction environment. The cost pressure model is built to understand systematic relationships, through statistical modeling, and to use the statistical model to forecast cost pressure in future years. The primary systematic cost pressures are the construction/building environment, the state's economy (which influences both the demand for construction services and the cost of construction labor and materials), and direct measures of material and labor costs. We will continue to refine our measurement of systematic risks.

Idiosyncratic Risks: There are several potential future cost pressures which cannot be statistically modeled. Such cost pressures are not related to historic (and hence observable) economic factors, but rather are, as the name suggests, idiosyncratic. Several such risk factors may be important and warrant careful tracking, even while incorporating these cost pressures into a statistical model is likely not possible. Key idiosyncratic cost risks, at this point, include:

- Tariffs, and associated effects on materials costs, from the nation's changing trade policy.
- Regulatory requirements and changes that create additional hurdles during the bidding process.



# 2018 LOS ANGELES CONSTRUCTION MARKET ANALYSIS

MAY 2018



Prepared for:



**Metro**

Prepared by:



**KKCS/TRIUNITY JV**  
IN ASSOCIATION WITH CH2M



# Executive Summary

## Goals and Objectives

The purpose of this analysis is to assess near and long-term construction market conditions in the Los Angeles region. The assessment takes on considerable importance because market conditions and resource availability will affect Los Angeles County Metropolitan Transportation Authority's (Metro's) ability to deliver the Measure R, Measure M, and State of Good Repair programs over the next 10 years (2018 to 2028), including the Twenty-Eight by '28 projects targeted for completion in time for the 2028 Summer Olympic Games. The goals and objectives for this study are as follows:

- Perform a market analysis showing the current and projected construction activity in California, Southern California, and in the Los Angeles region, with emphasis on Los Angeles, Orange, Riverside, and San Bernardino counties.
- Analyze the qualified contractor and skilled labor availability in the region, including the number of potential bidders and employment trends in the construction industry.
- Query contractors to determine key factors leading to their decisions to bid or not bid on Metro contract opportunities.
- Provide recommendations as to how Metro can become an "Owner of Choice" in the region through comparison with other successful transit agencies, interviews with the contracting community, and continued implementation of best management practices.

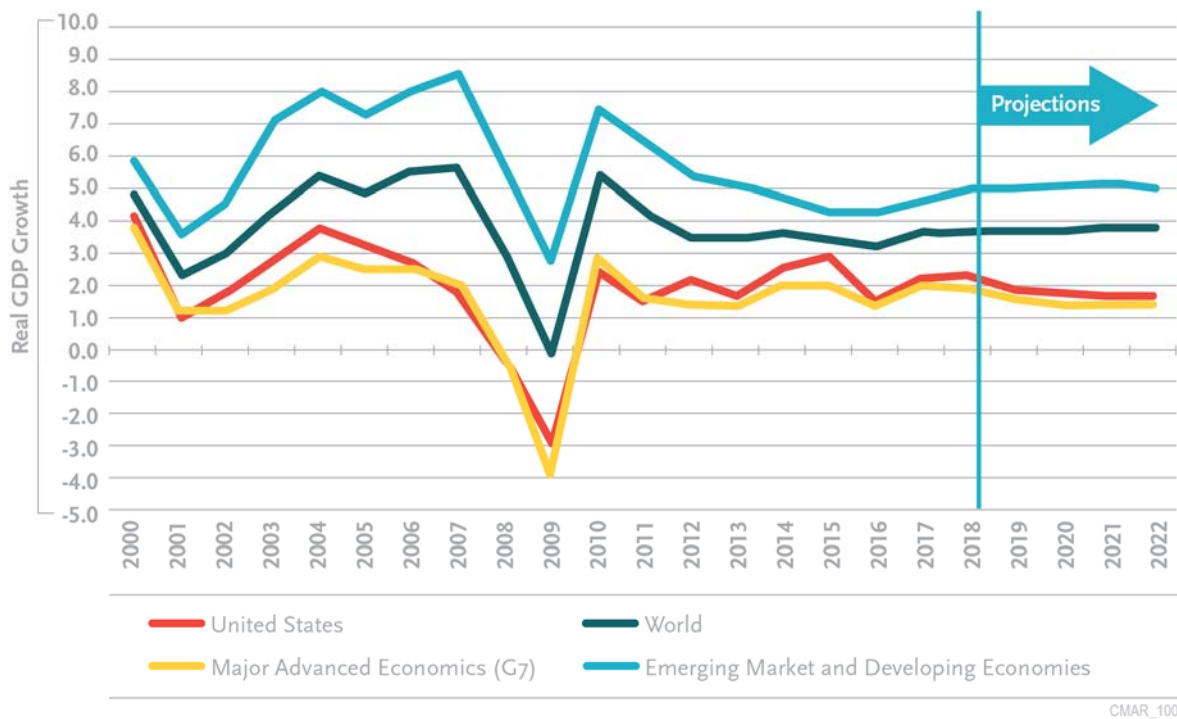
## Summary

For this analysis, the KKCS/Triunity Joint Venture (KTJV)—in association with CH2M—researched available data; conducted discussions and surveys with contractors; and interviewed subject matter experts. The research concludes that there is a robust economic environment with a growing construction market in the four-county area. In addition, there will be more construction projects than workers and firms available to complete the work, which means that Metro will need to compete with other agencies in a tightening marketplace. This conclusion is based on:

4. Economic outlook per the Gross Domestic Product (GDP) and anticipated construction value of planned projects
5. Employment outlook per the projected unemployment rate versus anticipated employment requirements in construction
6. Construction cost trends including building costs and inflation

## Economic Outlook

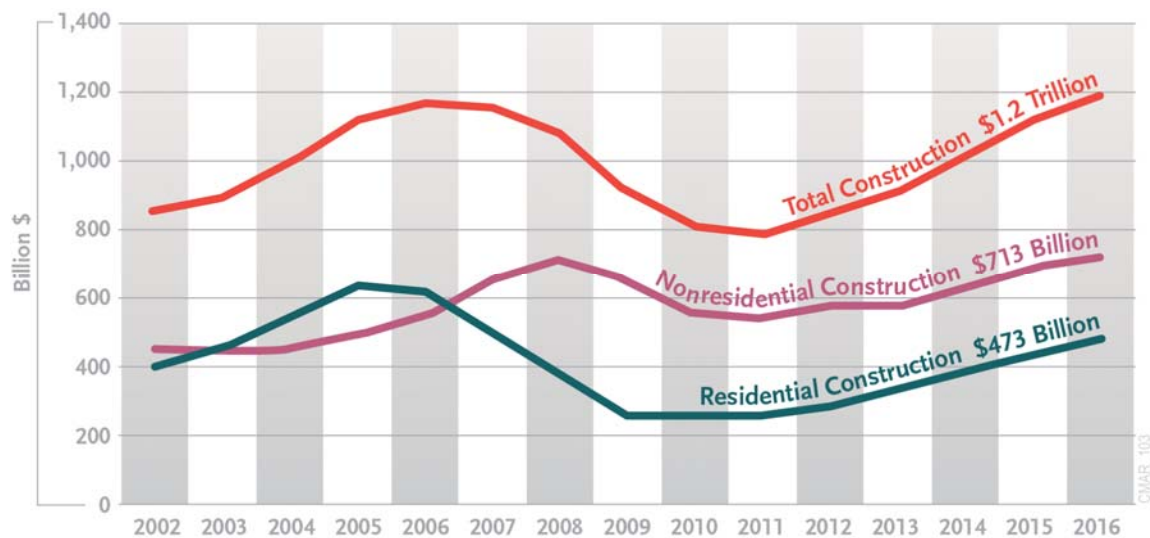
The economic outlook is strong and includes a GDP that is generally holding steady and a construction industry that is generally trending upward. The GDP rates appear to be stabilizing and there is no indication of large swings in the value, indicating a healthy economy that is much improved from the lows of the 2007 to 2009 timeframe (see Figure ES-1 on page ES-2).



**Figure ES-1. Real Gross Domestic Product 2000 to 2022**

Source: IMF, 2017

The improvement of the GDP from the lows of 2009 is also evident in the construction industry, with increased construction spending (see Figure ES-2). Construction peaked between 2005 and 2008 and then bottomed between 2009 and 2012. The industry has seen steady growth since 2011, with total construction growing 2.6 percent from December 2016 to December 2017. During this same one-year period, residential construction performed at an even higher 6.2 percent rate of growth.



**Figure ES-2. Annual Value of National Construction Put in Place, 2002-2016**

Source: US Census Bureau, 2017a and 2017b

*“The Infrastructure market looks to be improving considerably; therefore, staff and labor will begin to tighten along with available subcontractors and suppliers.”*

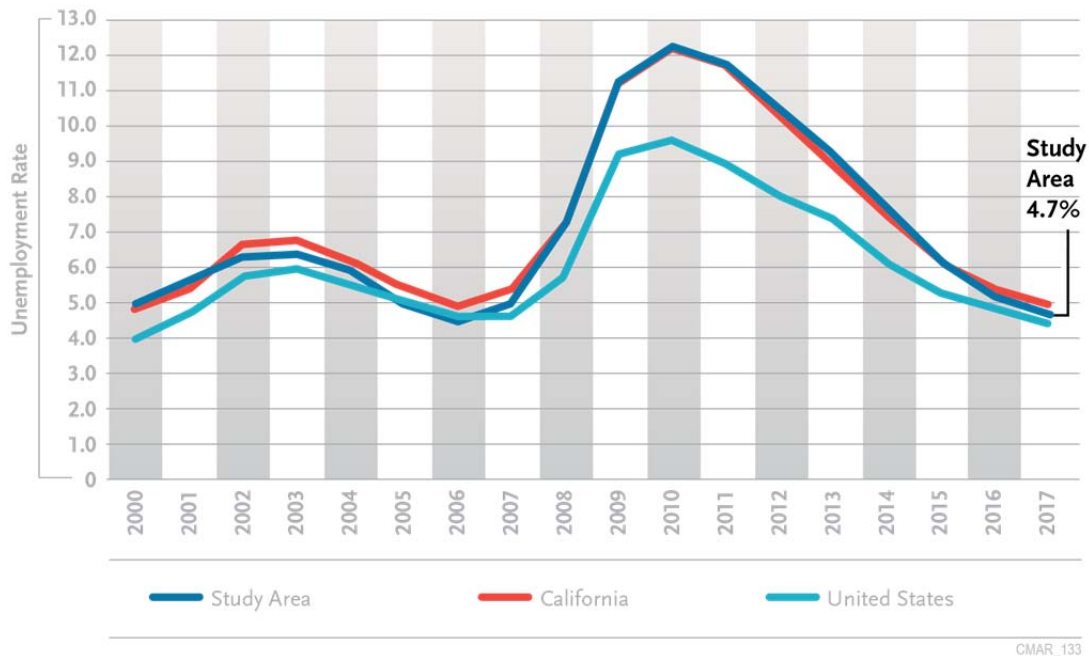
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The Los Angeles - Long Beach - Anaheim metropolitan areas are examples of growth in the region, where in 2017 building permits were issued for privately owned housing units valued at \$7.8 billion, representing a 23.7 percent increase from the 2014 level of \$5.9 billion. Another

example is the February 1, 2018 US Census Bureau Monthly Construction Spending Report indicating the value of total construction for transportation (one element of the total construction value shown on Figure ES-2) increased by 12.9 percent from December 2016 to November 2017, while construction for highways and streets increased 1.5 percent for the same period.

## Employment Outlook

A “perfect storm” of conditions is occurring in the construction industry with a construction labor shortage, low unemployment, and large amount of ongoing and planned work in the region. The regional unemployment rate has dropped from the high of 9.5 percent in 2010 to 4.5 percent in January 2018, with state and national averages showing even greater improvement (see Figure ES-3).



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**Figure ES-3. Unemployment Rate for US, State of California, and Study Area**

Source: US Bureau of Labor Statistics, 2017

Note: Data for 2017 is through October

Specific to the four-county focus area in this study, the unemployment rate is 4.3 percent in Los Angeles County, 2.8 percent in Orange County, 4.3 percent in Riverside County, and 3.9 percent in San Bernardino County. These unemployment statistics will be further affected by the construction growth rate projected in the range of 1.4 percent to 3.4 percent depending on the job classification and the county location, per the State of California Employment Development Department (EDD).

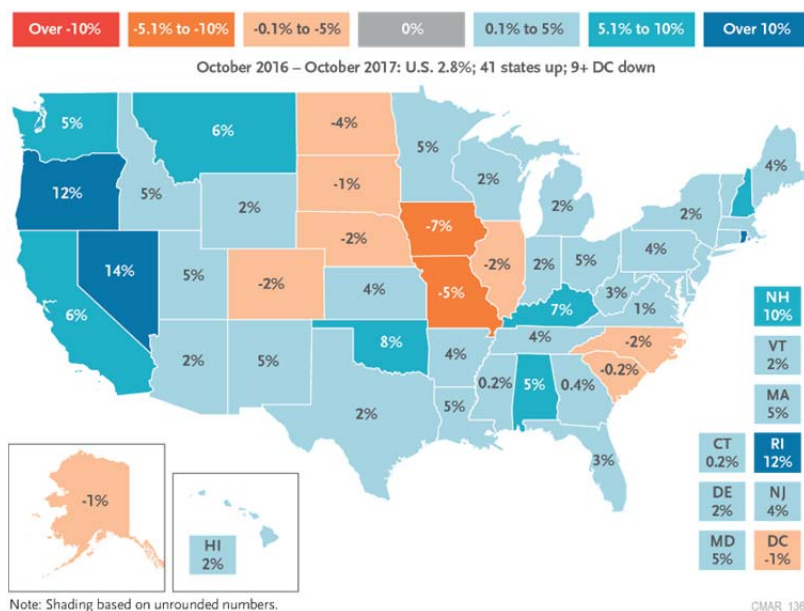
In an interview, one contractor stated that the labor shortage is exacerbated because construction workers are retiring and there is a lower supply of experienced workers to fill the void. Additionally, one source in this study indicated that as many as 1.7 million workers left the construction labor force after the housing collapse in 2008 to seek alternate employment, and almost 1.5 million have still not returned to the construction labor force as of 2016 (NAHB, 2018a).

Responding to a regional labor shortage would typically involve outreach beyond the study area or even outside of California to draw-in external labor to the local market. As shown on Figure ES-4, most of the western states are also seeing growth in construction employment, which will make outreach to a broader employment base more difficult.

*“Big shortages now getting worse. Have to pay premium over scale for best trades.”*

*“Labor shortage will drive up the cost of work and lengthen the duration to complete projects.”*

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**Figure ES-4. State Construction Employment Change**

Source: AGC, 2017

Even recruiting from states projecting negative construction growth may be difficult given the cost of living differential compared to California. For example, a labor force being recruited from North Dakota's shrinking construction market to the Los Angeles-Long Beach area would face a 139 percent increase in housing costs, 26 percent more for utilities, and 22 percent more for transportation. One option used in the construction industry has been to establish local dormitory-style housing to attract out-of-state construction labor; this concept is further discussed in the body of this report, but would need to be reviewed for compliance with Project Labor Agreements and local hiring requirements.

One of the best methods to address the labor shortage may be to develop a local labor force, including a joint effort with school districts and colleges to re-invigorate curriculum related to the construction industry, implement Metro's initiative to establish a vocational school, and identify unemployed persons living in Los Angeles County Measure H housing who are capable of re-training for the construction industry. Metro's Workforce Initiative Now-Los Angeles (WIN-LA) Program, currently under implementation, will focus on the development of construction labor and be expanded and tied to the unions to train those interested in construction. It may be worth exploring if WIN-LA can become a broader umbrella organization that supports workforce development, education/training, homeless/housing, and Science, Technology, Engineering, and Math (STEM) career development goals for the entire region.

*“The U.S. is busy. The Southern CA market is extremely busy with many mega projects. The skilled workforce is tapped, and there are not many others coming from out of town due to their home markets being busy.”*

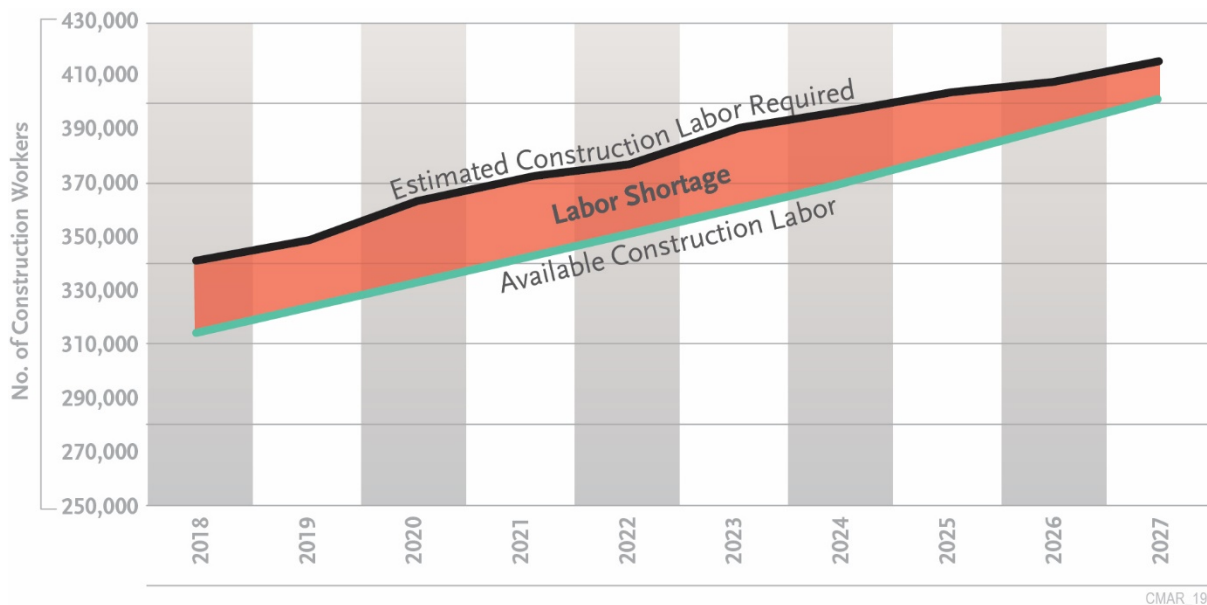
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## Labor Shortage

The average annual construction spending is estimated to be \$35 billion to \$42 billion per year from 2018 to 2028 in the four-county area (study area).<sup>1</sup> The unemployment rate currently ranges from 4.3 percent to 2.8 percent, depending on county, and it is expected to decrease further; this decrease presents challenges to Metro not only in accessing available resources but in addressing inflationary pressures.

Economic modeling was used to identify the number of construction jobs that will be generated from construction activity for comparison to the currently available construction labor force. The modeling resulted in a range of potential jobs from high to low, which is detailed in Section 7 of the report. The construction labor required, as generated from the economic modeling, was compared to the available construction labor as determined by EDD. These projections were not in line with comments and assessments made by contractors during the interviews and surveys. To address the disconnect, an in-depth review and analysis of the data were performed and compared to trending data, based on historical values and information provided by the contractor interviews and surveys. This analysis is graphically depicted on Figure ES-5, Construction Labor Projections, showing a projected labor shortage through 2027. The data presented on Figure ES-5 is highly variable and will be affected by various events, including:

- Fluctuations in construction spending and pricing
- Economic volatility
- Unforeseen events (like a dramatic national policy decision)
- Natural and environmental disasters
- Immigration and emigration to the State of California



CMAR\_192

**Figure ES-5. Construction Labor Projections**  
Study Area

<sup>1</sup> Construction spending is based on regional agency/city data in addition to data and analytics provided by Dodge Data and Analytics. Some agency/city data required linear projections beyond 2018 and Dodge data beyond 2022. These projections will fluctuate because of economic and geopolitical influences and should be updated periodically.



As noted during the interview with the AGC's chief economist, projections beyond one-year can vary widely because of various conditions, including those listed above. Therefore, the data presented on Figure ES-5 may change, and it is recommended that the data be reviewed on an annual basis to determine if the labor supply and demand is trending as projected.

These summary results are discussed in the following pages, with expanded discussion throughout the report. Additionally, the study addresses how Metro can be competitive in its procurements based on contractor interviews and surveys, including contractors who currently do not bid Metro work; as well as Metro and peer transit agency comparisons, including discussions with Dallas Area Rapid Transit (DART) and Seattle Sound Transit primarily related to best management practices.

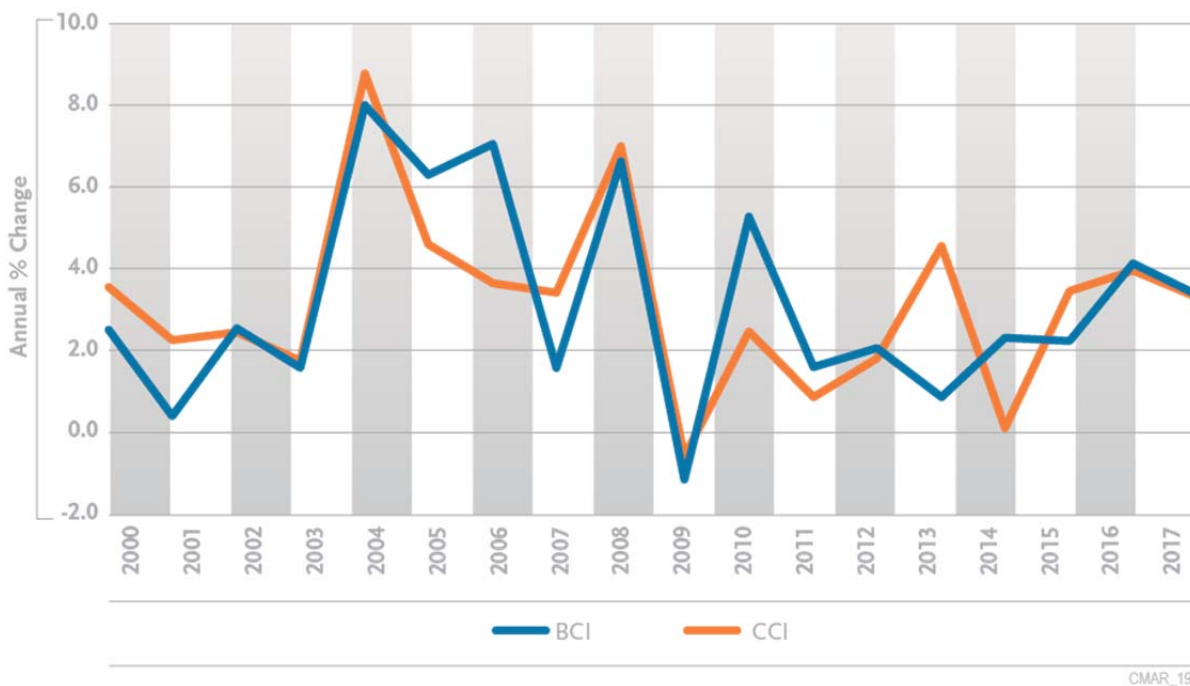
## Construction Cost Trends

The inflation projection is based on information contained in Engineering News-Record's (ENR) Building and Construction Costs Indices (CCI), which allow for a forecast to be developed based on historical experience. The annual percentage change in the CCI and Building Cost Indices (BCI) are trending upward from the values seen in 2013 and 2014.

This indicates a rise in construction and building costs as shown on Figure ES-6. Importantly, this historical information that is used to develop the forecast inflation does not account for factors that will be unique to the forecast period and are already evident, including mercurial commodity pricing that is trending upward overall, a significant rise in fuel oil prices, a likely significant rise in steel prices, labor cost increases that will result from a historically low unemployment rate, and an anticipated rise in interest rates that will drive inflationary pressures. These factors will increase projected escalation well beyond the historical trends and for that reason, the KTJV team believes that escalation factors will be under-reported if based only on past experience.

*"We see construction prices rising in the next 5 years. Currently, the market is at the end of the downturn cycle and the prices are starting to reflect a more robust market. Number of mega projects bidding within a short time will reduce competition, as well as anticipated skilled labor shortage will cause an upward trend in the prices."*

CMAR\_205



**Figure ES-6. Construction Cost and Building Cost Indices, 2000-2017**

Source: ENR, 2017

## Contractor Interviews and Surveys

Potential bidders are most likely to pursue work with agencies that have a positive reputation in the contracting community. The amount of work and tightening labor pool will allow potential bidders to focus on owners that are consistent in the administration of procurements and the contracting process and are perceived to treat contractors fairly, especially in terms of cost and schedule issues that arise over the course of a project.

The KTJV team conducted two separate efforts to gain insight from contractors, (1) one-on-one interviews with 24 of ENR's top 100 design-build contractors; and (2) an online survey made available to the Associated General Contractors of America (AGC) membership. Additionally, Metro conducted its own outreach to the contracting community at a Construction Industry Forum, also included in this report. The questions and conversations were designed to extract opinions focused on three topics:

- Construction market conditions
- Areas of improvement, for those currently working with Metro
- Barriers that impede participation, for those not working with Metro

### One-on-One Interviews

Details on the interview questions and responses are included in this report. In summary:

- 100 percent of those responding perceive there will be issues in the next 5 years with the labor market and resource availability.
- 75 percent of those responding who work or have worked with Metro perceive Metro's allotted window for proposal submission to be inadequate especially for design-build.
- 72 percent of those responding who work or have worked with Metro perceive Metro's Contract Specifications and General Requirements to be unclear and ambiguous.
- 71 percent of those responding who work or have worked with Metro perceive that Metro's change order and claims processes require improvement.
- 55 percent of those responding perceive there will be inadequate Disadvantage Business Enterprises (DBE)/Small Business Enterprises (SBE) local resources to achieve utilization requirements.

*"The availability of qualified professional and craft workers is declining, combined with increased compliance requirements, listed personnel requirements, and a general lack of interest in the hard work, long and often unusual hours required by construction."*

CMAR\_776

*"Need to recruit and develop more DBE or vastly decrease the requirements. Also need to recruit and develop more trade help."*

CMAR\_230

Additionally, the KTJV team noted the following consistencies among the respondents who provided expanded input as a part of the survey:

- **Risk Sharing.** Contractors noted the importance of sharing risk equally, and recommended working together with Metro prior to bid package advertisement to better define how risk can be most appropriately shared. This approach may also have a positive effect on bid pricing.
 

*“If the risk is not well-defined contractors will price it into the work and it will result in higher bid prices.”*

CMAR\_207
- **Partnering.** A common comment was to have true partnering on a project and to approach the work as a team, with some recommended re-emphasis on improving relationships between contractors and construction management consultants.
 

*“Work to improve the use of partnering in the true sense and support partnering from the top down.”*

CMAR\_208
- **Timely Document Processing.** The contractors noted that progress payments and change orders were reviewed and approved quickly at the field level, where field teams are empowered to make decisions. There is, however, a contractor perception that when documents are forwarded outside of the field office for further processing, timeliness suffers.
 

*“Timely processing of payments/changes in the finance/accounting team.”*

CMAR\_209
- **Short List/Qualification Selection Process.** Contractors stated that for them to pursue work with Metro, the selection of the contractor must have a short-listing qualification process, further indicating that if the selection is solely based on low bid, they will not participate.

For contractors not working in the region and/or not working with Metro, many of the respondents were not familiar with Metro or at least not aware that Metro was no longer doing business as its predecessor agencies had, including recent implementation of new best management practices. There is also a perception among respondents falling into this category that Metro has preferred companies in mind with whom to do business, placing the others at a disadvantage. In both cases, additional contractor outreach may be in order.

*“The politics and the relationship development is a barrier to pursuing projects in LA in general.”*

CMAR\_210

## AGC Questionnaires

In addition to the one-on-one interviews already discussed, a 13-question online survey was developed and issued to the AGC Southern California membership. The survey reached out to both large and small companies, and focused more on resource availability and less on doing business with Metro.

The most noteworthy of the 25 contractor responses received are:

- 88 percent anticipate labor shortages over the next 5 years.
- 80 percent anticipate difficulty fulfilling DBE/SBE utilization requirements in the next 5 years.
- 64 percent anticipate increased escalation over the next several years.

*“The market continues to tighten, and union benches are already empty for certain trades. As the market gets busier, it will become increasingly more challenging to find qualified labor.”*

CMAR\_216

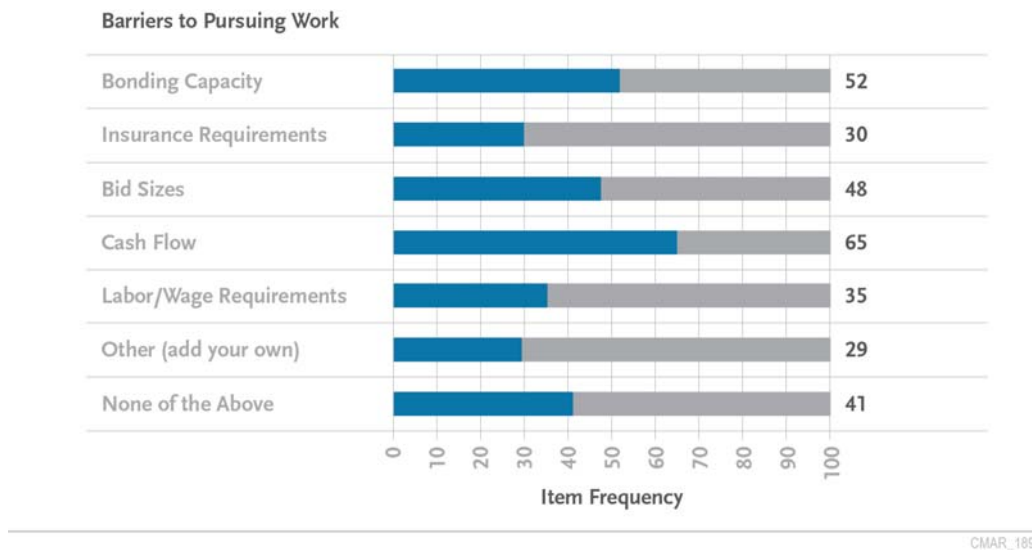
*“There are not enough qualified DBE/SBE firms that specialize in the work that needs to get done at the size of the projects and how slow the owner payment process is.”*

CMAR\_217



# Metro Construction Industry Forum Survey

Additional information was provided to the KTJV team from a survey conducted by Metro during a Construction Industry Forum at Metro Gateway in September 2017. This industry survey was completed by 144 respondents that represented small, medium and large construction firms, and covered the breadth of contractor skillsets. The survey was focused on six barriers impeding companies from pursuing work at Metro. The results are graphically depicted on Figure ES-7.



**Figure ES-7. Graphical View of Metro Construction Industry Forum Survey Results**

Source: Metro, 2017

Based on this analysis, the top three issues hindering contractors from pursuing work at Metro were related to smaller firms:

- Cash Flow.** Metro is currently assessing changes in the contract language to address contractor cash flow considerations, including methodologies to expedite payment to DBE/SBE firms. Other strategies were discussed with the survey respondents, including working with contractors and lending institutions to establish improved cash flow financing.
- Bonding Capacity.** Lack of bonding capacity often limits DBE/SBE firms that are otherwise capable of performing work. Survey respondents noted that lowering bonding capacity requirements in the contract would likely result in additional bidding participation, and some of the DBE/SBE firms may benefit with additional training on the Small Business Administration (SBA) Surety Bond Program. Metro is currently implementing a pilot bonding assistance program that may help alleviate this issue. Once the program is implemented and had an opportunity to run for six months, then a follow-up survey should be issued to determine if the program has addressed the issue and removed this barrier.
- Bid Sizes.** Smaller firms have difficulty forming large mega-teams for design-build projects, and would be better positioned to participate in Metro procurements on small and medium-sized design-bid-build packages or larger packages as a joint venture partner.

*“Finding DBE/SBE that are CAPABLE of performing significant work. Bonding and Insurance are issues for many...”*

CMAR\_220

## Peer Transit Agency Comparisons

DART and Sound Transit are peer transit agencies that have seen improved contractor bidding participation in recent years. The KTJV team contacted these agencies for insight into lessons learned and processes currently in place designed to remove barriers to pursuing work with each agency, with emphasis on:

- Contract Provisions
- Outreach Program
- Contract Type
- Project Sizing
- Improving Participation
- Risk Management/Risk Allocation
- Delegation of Authority

### DART

In August 2016 Metro conducted interviews with DART staff to gain insight into the agency's ability to transition itself to be an "Agency of Choice" with the local contracting community. DART representatives indicated the following changes were implemented, many of which coincidentally relate to feedback received from contractors in the Los Angeles region that were interviewed for this report:

- Streamlining and modifying Contract Provisions
  - Simplified the terms and conditions
  - Simplified the submittal requirements
  - Incorporated cost sharing agreements and cost and schedule incentives for performance
  - Incorporated aggressive forecasting and trend analysis for variances
- Conducting direct monthly discussions with the contractors
- Focusing DART staff on fair and consistent resolution of problems raised by the contractors
- Instituting a robust Lessons Learned program
- Implementing an ombudsman to meet with the contractors, channel communications, and help coordinate issue resolution

By implementing these comprehensive changes, DART was able to also change how it was perceived in the contracting community. The result was increased bidder participation as well as elimination of the "DART factor" bid markup as high as 40-percent for perceived risk.

### Sound Transit

Sound Transit indicated it had not made any specific changes to improve contractor bidding and participation in its procurements, but had made modifications to contract documents to incorporate lessons learned, industry best practices, and updated state and federal regulatory requirements. Sound Transit utilizes similar contract types as Metro, but also includes General Contractor/Construction Manager (GC/CM), which is similar to Construction Manager at Risk (CMAR) and Construction Manager/General Contractor (CMGC). The State of Washington has specific legislation and regulations for implementation of GC/CM.

Sound Transit individually evaluates each project to determine which delivery method is best for any particular project and that it can successfully meet the project goals along with addressing the constraints. For each procurement, Sound Transit holds a contract packaging workshop that is modeled on the Transit Cooperative Research Program (TCRP) Report 131, *A Guidebook for the Evaluation of Project Delivery Methods*. Additionally, it holds one-on-one meetings with contractors for DB procurement during the procurement phase to review the Request for Qualifications (RFQ), project requirements, and address any questions the contractors might have.

Use of GC/CM and one-on-one discussion with DB contractors may be two of the reasons why Sound Transit has not reported lack of competition in its procurement processes. Compared to the Los Angeles region, it was noted by several regional contractors in the interviews conducted for this study that there is also interest in CM/GC contracting, as well as more one-on-one interface between Metro and potential DB bidders.

## Conclusions

Over the next 5- to 10-year period there will be more construction work than workers and firms available to do the work and at a reasonable cost; Metro's Twenty-Eight by '28 program will be affected by this lack of resources. Metro's recent initiatives to implement best management practices and to initiate innovative approaches to developing local talent and resources are steps in the right direction to attract bidders and to expand available industry resources in a tightening and competitive marketplace.

Metro's access to resources can be improved by initiating an expedited and more bidder-friendly Request for Proposal (RFP) process, attracting companies outside of the region to participate in Metro procurements, building the craft labor base in the region, revisiting personnel qualifications requirements to strengthen the number of qualified candidates available, and structuring procurement packages to attract a greater range of responding firms.

As market demand increases, contractors will be increasingly selective in deciding which projects to pursue, dependent on the owner and the amount of risk an owner places on the contractor. Contract language that is perceived by contractors to be difficult, punitive, subject to interpretation, or inconsistent with other processes or procedures is viewed to be a source of conflict, uncertainty, and inefficiency, and can be a source of claims.

## Recommendations

Building on Metro's recent initiatives, this study provides specific recommendations designed to increase the number of firms and depth of craft and management resources available to build Metro projects; and make Metro an "Owner of Choice" as potential bidders select where proposal preparation dollars are best invested in the region. These recommendations are discussed in detail in the body of this report. The primary recommendations are highlighted in summary below.

- Reduce the time and cost to propose on Metro projects by (1) requiring standard bid forms be prepared outside of the proposal process where they are done once, placed on file at Metro, and remain in force until there is a change in the information, (2) allowing for electronic submission of forms, certificates, and licenses, (3) not requiring the submission of a cost proposal as part of the qualification process, only requiring submission once the short listed firms have been selected, and (4) considering a limit on the number of short-listed bidders to three firms due to the high cost for the contractors to develop a detailed cost estimate.
- Open the bidding process to more firms/teams through less prescriptive RFP requirements. For example, "Describe experience working on similar projects with the same team" limits accessing resources from outside of the region and structuring differing combinations of teams, and excludes firms that may otherwise be capable; Key Personnel Qualifications often require high levels of experience that further limit the ability for bidders to be responsive and can result in higher bids for firms that can respond.
- Develop a joint committee to include Metro, Los Angeles County Office of Education, Los Angeles Community College District, and educators from trade schools to develop curriculum promoting skillsets applicable to the construction market. These efforts would bolster Metro's existing initiatives to develop its own vocational training center and develop talent through the WIN-LA program.

- Develop a joint committee to include Metro, representation from the Mayor's Office, and representatives of the AGC to innovate ways to create affordable housing to attract labor from outside of the region, including construction of dormitory-style housing that could serve the dual purpose of housing unemployed persons with capability for job retraining into the construction field.
- Identify projects that lend themselves to design-bid-build method so firms that are otherwise not able to assemble mega design-build teams can respond. There would also be the added benefit of providing more DBE/SBE participation, as many medium-size firms are also smaller and/or disadvantaged businesses.
- Maintain an aggressive posture competing with other agencies for limited available resources, including onboarding project management staff when qualified candidates are identified and available, even if prior to actual need arising.
- Evaluate contract language that might result in a less-attractive bidding climate to proposers and at higher cost.
- Reduce and simplify the number of contracting templates; check for inconsistencies; standardize the General Conditions and related contract provisions across all projects; and assess contract language for ambiguity that may lead to differences in interpretation. Then, assure contracts are administered exactly as written.
- Conduct one-on-one meetings with proposers during the RFP process to evaluate where there may be risk transfer to contractors, but with little or no commensurate value to Metro, and how to best achieve balanced risk sharing; and incorporate appropriate changes to the contract through RFP addenda.
- Reduce the time required to reach change order resolution by delegating more authority at the Project Manager level and assuring clear assignment of single-point change order responsibility.
- Due to the variable nature in material price increases and considering the recent tariffs and potential trade war, re-evaluate cost estimates for future planned projects to ensure that unit rates assumed in the estimate are in line with the current market trends.
- Due to construction costs trending upwards and becoming volatile with the trend for multiple cost increases per month for some items, perform a review of the escalation percentages utilized by Metro in the development of engineer's estimates.
- Develop contract language to allow for addressing likely cost increases for projects that have long durations to limit the risk to both Metro and the contractors.
- In addition to the one-on-one meetings prior to the RFP process, institute active engagement with the contracting community through monthly meetings with contractor executives to discuss successful project delivery. The intent of the meetings is to develop relationships between Metro and contractors, and to market the agency and its projects.
- Conduct regular discussions with the contractors to identify lessons learned, including what went well, what challenges there were, and areas for improvement.
- Institute an ombudsman to interface with the contractors to address issues and work to seek resolutions.
- Assess methodologies to objectively and accurately evaluate contractors' performance and capabilities.

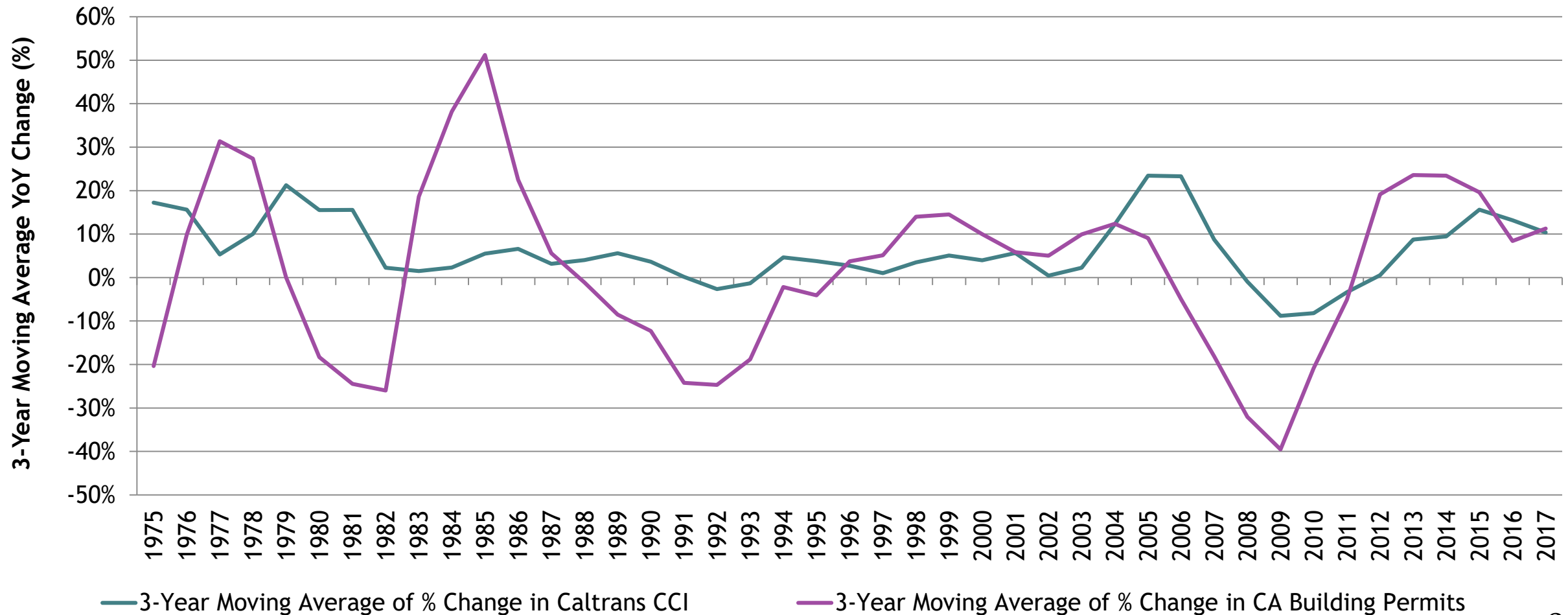
# Measure M2 Next 10 Plan: Market Conditions Key Indicators Analysis and Forecast

Orange County Business Council  
September 10, 2018

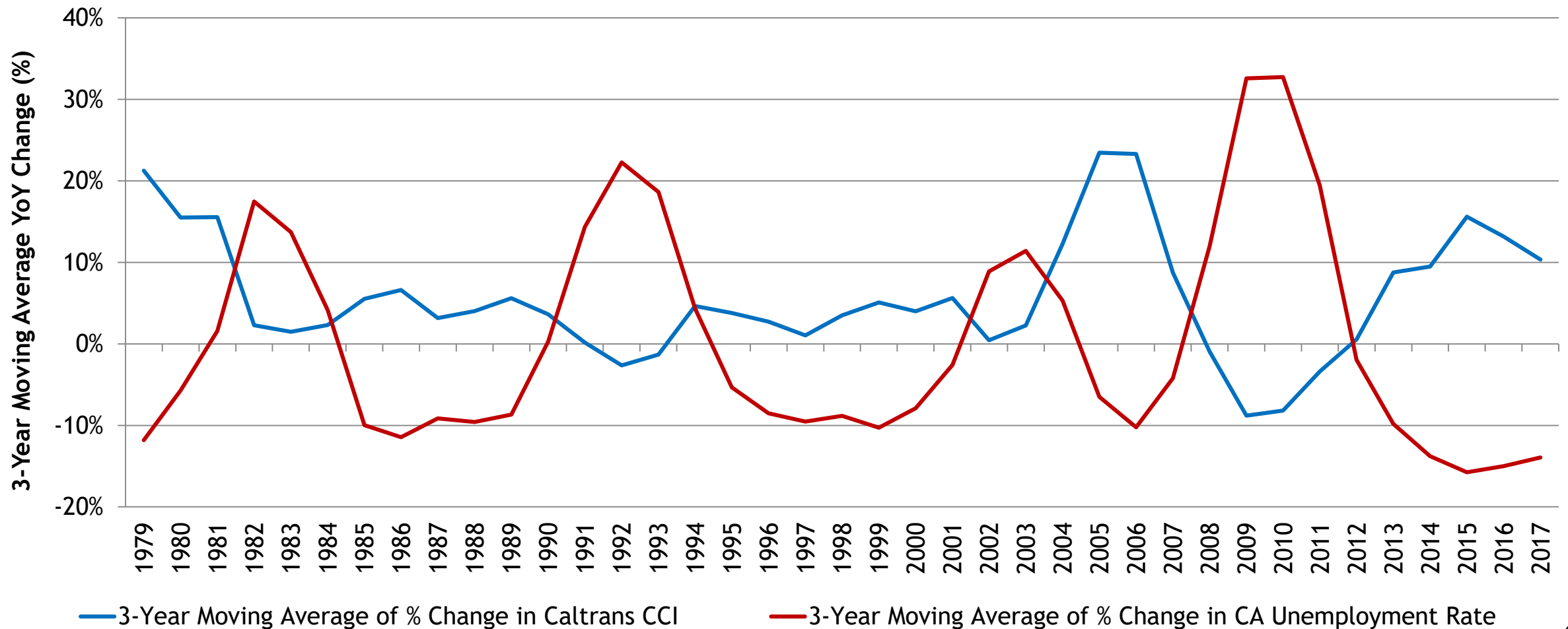
# Orange County Transportation Infrastructure Construction Cost Pressure Index Model Components

- Economic Trends - State-level building permits and unemployment rate (Census and California Employment Development Department (EDD));
- Material Costs - Construction Aggregate, PCC Pavement, PCC Structural Concrete, Structural Steel and Bar Steel (Caltrans).
- Labor Costs - Localized construction wages of NAICS defined sectors provided by Bureau of Labor Statistics (BLS).
- Economic Conditions - Tight economy in 2002-2005 and slack economy in 2007-2011.

# 3-Year Moving Average of Year-Over-Year Percent Change in Caltrans CCI and Building Permits

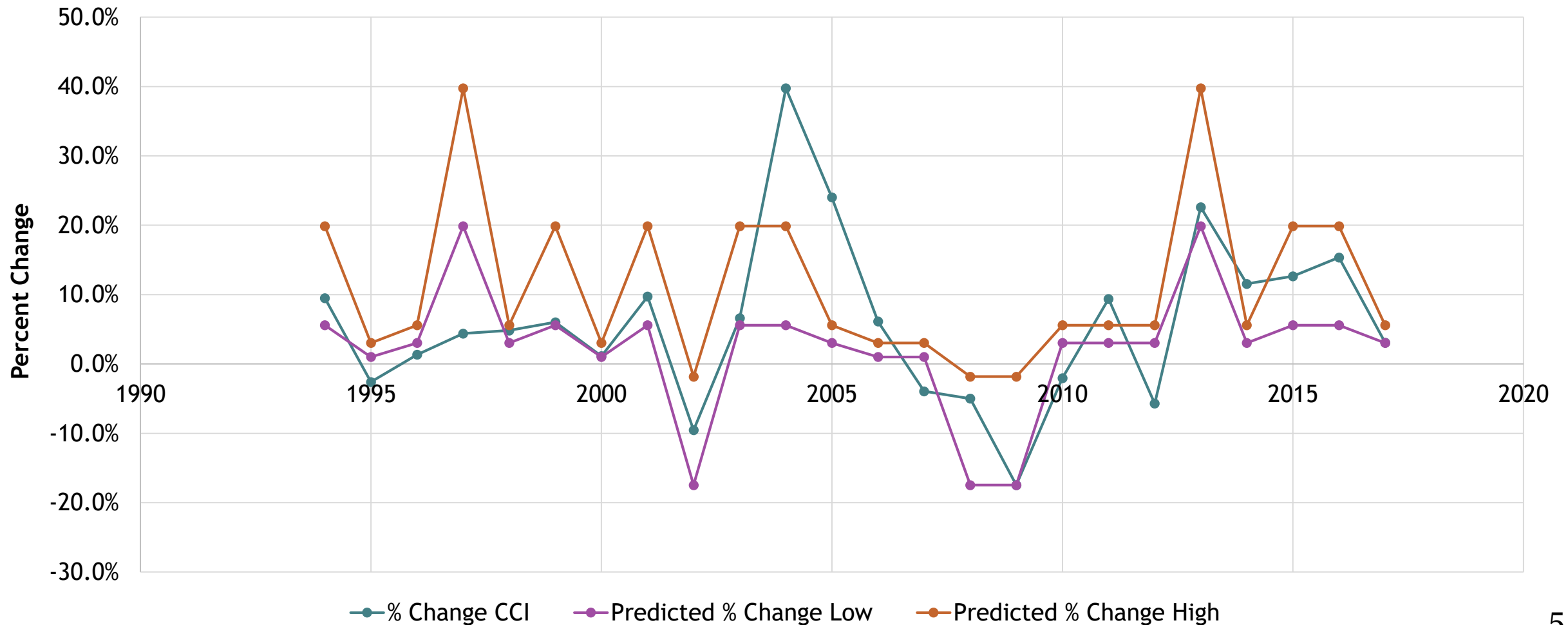


# 3-Year Moving Average of Year-Over-Year Percent Change in Caltrans CCI and CA Unemployment Rates





# Predicted vs. Actual Year-on-Year Percent Change in Caltrans CCI, 1994-2017



# Forecast and Range of Orange County Transportation Infrastructure Cost Increases by Index Value<sup>2</sup>

- 2018 - Forecasted Index Value: 4
- 2019 - Forecasted Index Value: 3
- 2020 - Forecasted Index Value: 3

Range of Cost Fluctuations by Index Score			
Index	Low	Medium	High
0	-17%	-9.5%	-2%
1	-2%	-0.5%	1%
2	1%	1.5%	2%
3	2%	4%	6%
4	6%	8.5%	11%
5	11%	25.5%	40%

# Potential Risks to Infrastructure Construction Cost Pressure Index

- Labor Costs

- Industry consolidation
- Aging construction workforce
- Weakening Housing Market

- Economic Trends

- Increased risk of Recession
- Weakening Economy
- Tariffs
- Political Uncertainty

## Orange County's Construction Workforce: Labor Market Flows

Occupation (SOC Code)	Over/Under Supply in Orange County*
Engineers (17-2000)	102
Civil Engineers (17-2051)	-130
Construction and Extraction Occupations (47-0000)	-10,799
First-Line Supervisors of Construction Trades and Extraction Workers (47-1011)	-443
Construction Trades Workers (47-2000)	-9,136
Construction Laborers (47-2060)	-1,944
Construction Equipment Operators (47-2070)	-392
Other Construction and Related Workers (47-4000)	-421

\*Undersupply is indicated by negative number, over supply is indicated by positive number

# Commuters as a Percent of Orange County Construction Jobs

Year	Construction and Extraction Occupations	First-Line Supervisors of Construction Trades and Extraction Workers	Construction Trades Workers	Construction Laborers	Reinforcing Iron and Rebar Workers
2001	12.8%	15.6%	12.8%	9.1%	-0.1%
2002	12.4%	15.1%	12.4%	9.4%	-0.6%
2003	14.3%	17.3%	14.2%	12.7%	2.9%
2004	16.6%	19.1%	16.6%	14.0%	3.0%
2005	18.5%	20.9%	18.5%	16.1%	5.3%
2006	19.6%	22.0%	19.7%	16.4%	6.8%
2007	25.0%	27.0%	25.2%	21.9%	16.4%
2008	20.0%	22.2%	20.2%	16.3%	10.5%
2009	19.2%	21.4%	19.6%	16.4%	8.6%
2010	19.5%	21.5%	19.9%	17.1%	6.8%
2011	19.0%	21.0%	19.3%	15.9%	8.1%
2012	20.4%	22.7%	20.6%	17.8%	11.6%
2013	20.2%	22.3%	20.4%	17.1%	12.3%
2014	20.6%	22.8%	20.7%	17.0%	13.9%
2015	20.6%	23.2%	20.7%	17.2%	14.8%
2016	21.0%	23.8%	21.0%	18.6%	14.2%
2017	21.3%	24.0%	21.4%	19.3%	14.2%

# OCBC Infrastructure Construction Cost Forecast

- Systematic Risks - more predictable and therefore in model
  - Construction/building environment
  - States economy influencing demand and cost
  - Direct measures of labor and materials cost

OCBC OC Transportation Infrastructure Construction Cost Index Score, 2018-2020		
Year	Index Score	Range of Cost Fluctuation
2018	4	6%-11%
2019	3	2%-6%
2020	3	2%-6%

- Idiosyncratic Risks - not predictable and therefore not in model
  - Tariffs and associated effects on cost of materials, from changing trade policy
  - Regulatory requirements/changes creating additional hurdles to the bidding process

# Questions



**September 10, 2018**

**To:** Members of the Board of Directors  
**From:** Darrell E. Johnson, Chief Executive Officer  
**Subject:** Measure M2 2018 Update: Next 10 Delivery Plan

### **Overview**

The Measure M2 Next 10 Delivery Plan was originally approved on November 14, 2016, incorporating the 2016 revenue forecast with a plan for continued acceleration of the delivery of Measure M2 freeway, streets and roads, transit, and environmental projects through the year 2026. With annual updates to the Measure M2 sales tax revenue forecasts, staff reviewed the Next 10 Delivery Plan in 2017, and made needed adjustments to confirm that it remained able to be delivered and has just completed the same review for 2018. The results of this effort are presented to the Board of Directors.

### **Recommendations**

- A. Adopt the 2018 Measure M2 Next 10 Delivery Plan with revised financial assumptions.
- B. Direct staff to continue to monitor revenue and project cost impacts that could affect the delivery plan and return to the Board of Directors with changes if necessary.

### **Background**

Expedited delivery of Measure M2 (M2) began in 2007 and has continued to date in an effort to bring transportation improvements to the public as early as possible. The 2008 Great Recession and changes in consumer spending habits, resulted in reductions to the M2 sales tax revenue forecast. In response, the Orange County Transportation Authority (OCTA) Board of Directors (Board) proactively revised the forecasting methodology and adjusted delivery plans to ensure the M2 plan of projects and programs are implemented as promised to the voters.



The initial strategy to overcome the drop in M2 revenues for the freeway program included reliance on external revenues rather than a self-sustaining approach, as originally designed. This strategy, combined with availability of one-time state and federal grants, and effective use of bonding, allowed OCTA to capitalize on competitive construction market conditions to continue expedited delivery of M2 Capital Program elements.

On November 14, 2016, with the adoption of the Next 10 Delivery Plan (Next 10), the Board directed staff to dedicate and set aside local revenues through the allocation of net excess 91 Express Lanes revenue, for eligible projects. The two eligible projects are on State Route 91: Project I, between State Route 55 (SR-55) and State Route 57, and Project J, between SR-55 and the Riverside County line. This approach was continued with the review and approval of the updated Next 10 on November 13, 2017. With the 2017 update, it included Project I designated as a priority project for advancement.

Staff continues to incorporate strategies to ensure the complete M2 program of projects is able to be delivered through tight project scope management including refinements as appropriate, adjusting schedules and aggressively seeking external revenue.

### ***Discussion***

On July 23, 2018, the Board received an early presentation on the 2018 sales tax revenue forecast of \$13.1 billion. The 2018 forecast is \$400 million lower than the 2017 forecast of \$13.5 billion. Staff incorporated the new revenue forecast, as well as updated programmed external revenues, project costs, and schedules into the M2 cash flow for each of the M2 Program elements. While a reduction in revenues affects the M2 Program as a whole, in most areas of the M2 Plan programs can be scaled to available revenues. The area where this is not possible is in the freeway program, due to set scopes for project delivery.

### **Next 10 Cash Flow Update**

The Next 10 cash flow incorporates the revised revenue forecast of \$13.1 billion, as well as the contribution from the Transportation Infrastructure Finance and Innovation Act, in the amount of \$153.9 million, which is a contribution to the M2 general purpose lane project. This amount is a direct benefit to the M2 portion of the Interstate 405 Improvement Project, as the loan will be repaid with toll revenues and not with M2. The cash flow also incorporates updated project cost estimates for all M2 Program elements, as well as committed programmed state and federal external revenues.

In addition to state and federal funding commitments, the cash flow also assumes the availability of a reasonable level of federal and/or state funds from 2017 to 2041 and makes specific assumptions about near term grants, such as the federal New Starts Program for OC Streetcar. Additionally, per the Board's direction, the cash flow also includes net excess 91 Express Lanes revenue within the freeway program for projects on the 91 corridor (as defined by the 91 Express Lanes governing legislation), in an amount not to exceed the total cost of Project I and Project J.

#### Freeway Program Cash Flow

The net forecasted freeway program sales tax and interest revenues in the 2017 revenue forecast was \$5.49 billion. The updated 2018 sales tax and interest revenue forecast is \$5.36 billion. This results in a net freeway program loss in forecasted revenues of \$127.1 million. OCTA has been successful in leveraging external funding in past years to offset reductions in sales tax revenues, and in the past year alone net external revenue for the freeway program increased by \$291.9 million that was not available or programmed in the prior year cash flow. While sales tax revenue is down, the additional external revenue has resulted in a net positive revenue in the freeway program of \$161.9 million.

With this 2018 update of Next 10, each project in the freeway program was reviewed and cost estimates updated. With the majority of the projects now either in the environmental phase or in design, project cost estimates have a higher level of engineering and are therefore better defined. While some project costs increased, others decreased and resulted in a net decrease of \$280 million. This cost reduction, in tandem with the amount of external revenue captured and the resulting reduction in bonding need, results in an overall positive outlook for the M2 Freeway Program.

#### Freeway Program Revenue Cash Flow Comparison 2017 vs 2018

Item	Influence	Impact on Cash Flow
Net Forecasted Sales Tax Revenue and Interest	Negative	- \$127.1 million decrease
Net External Revenue	Positive	+ \$291.7 million increase
Net Freeway Project Cost	Positive	- \$278.8 million decrease
Net Bonding Revenue	Positive	- 102.9 million decrease
Net Bonding Expense	Positive	+ \$205.6 million savings
Net Increase in FSP, EMP, Economic Uncertainty	Neutral	- \$520.7 million added for safety
Total Difference in Ending Balance	Net Positive	+ \$25.6 million for financial safety

FSP – Freeway Service Patrol / EMP – Environmental Mitigation Program

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**Key Financial Risks and Actions to Protect M2 Delivery**

While the entire M2 Program continues to demonstrate financial viability and delivery of the complete M2 plan of projects and programs, risks continue to challenge the program. These include financial, organizational, and policy risks. Key financial risks and OCTA staff actions are highlighted below. A complete list of risks to be updated and tracked as part of the M2 quarterly progress reports to the Board is included on page 5 of the attached 2018 updated Next 10 document (Attachment A).

- **Lower Sales Tax Revenues** - In March of 2016, the Board adopted a new sales tax forecasting methodology. This year's revenue forecast came in lower than what was forecasted just one year ago. In addition, presentations by the expert economic forecast entities were far more conservative than in the past. Although, this points to the probability of a more accurate forecast going forward, there are no assurances and, hence, the revenue outlook continues to be a risk.

OCTA staff will continue to monitor actuals to see how the forecast is performing and report to the Board quarterly.

- **Repeal of SB 1 (Chapter 5, Statutes of 2017) Gas Tax** - While the M2 cash flow includes only a small amount of direct SB 1 competitive funding, if Proposition 6, on the November 6, 2018 ballot is approved and the gas tax funding repealed, committed formula revenues may be impacted. Staff anticipates that up to \$170 million of funding commitments programmed in the State Transportation Improvement Program for M2 projects could be deprogrammed or delayed, impacting M2 delivery schedules with state funding commitments.

During the cash flow update of the Next 10, staff developed and analyzed two scenarios: one with current programmed commitments, which assumes current law with the gas tax in place, and a second scenario in the event of a repeal. While a total of \$291.9 million was secured in state and federal funding since last year, if SB 1 is repealed the impact is conservatively estimated at \$170.2 million. This remains a net positive. Attached are cash flow summary charts showing the difference between the cash flows with and without SB1 between now and 2041. Attachment B shows the cash flow with SB 1. Attachment C shows a comparison of the cash flow with and without SB 1. Attachment D shows a solvent cash flow with and without SB 1 but requires economic uncertainties to be lowered from 13 percent to seven percent if SB 1 is repealed. While both charts reflect a positive ending balance in all years and indicate that the full program (through 2041) is deliverable, the full impact of a repeal of

the gas tax on programmed external revenues is unknown. More details will be available pending the outcome of Proposition 6, and action by the California Transportation Commission on how to demobilize approved projects.

- Potential for Cost Increases Impacting Freeway Delivery - As presented on September 11, 2017, the Next 10 Market Conditions Forecast and Risk Analysis Report, conducted by respected local economists Dr. Wallace Walrod and Dr. Marlon Boarnet, identified a strong potential that OCTA could experience an increasing-cost environment during delivery of Next 10. The Board directed staff to continue to work with the consultant to monitor and track key early warning indicators. Through this follow on effort, the consultant team created a cost pressure index providing a range of potential cost fluctuations. The index identified that OCTA may experience a cost increase of between six to 11 percent during the 2018 through 2020 time period of construction activity.

In order to accommodate cost pressures, OCTA's Project Controls Department monitors and adjusts project cost escalation assumptions according to market trends. Project controls makes use of schedule control, cost control, progress reporting, and change management to effectively monitor and control project escalation and execution. Imbedded in the Next 10 are cost assumptions based on historical information, current trends in the market, as well as review of the California Department of Transportation's (Caltrans) Construction Cost Index. Higher cost assumptions are included on some elements of projects based on assessed potential risk. Additionally, to further protect against potential cost increases in our freeway capital program and conform to project controls' project estimating process, staff incorporated a 13 percent program level expense line item in the cash flow for economic uncertainties (without SB 1, the cash flow scenario includes seven percent). This is intended to safeguard the program and ensure that OCTA does not over commit delivery during this time of uncertainty.

- Project Alternative Selection - In addition to project cost increases as a result of market forces, the freeway program is also at risk of cost impacts during alternative selection in the environmental phase. OCTA is committed to funding projects promised to the voters, and ensuring community and business support, and staying generally within the existing ROW. A number of projects are currently moving through the environmental process and alternative selection is, or will be, underway soon. While OCTA provides the funding commitments for the projects, Caltrans ultimately makes the decision on alternative selection. One project in particular is of current concern. Interstate 5 between

SR-55 and Interstate 405 (Project B) is challenged with ROW constraints within the project area. Two alternatives are under study with both proving to have equal net traffic benefits. One alternative has greater community and business impacts; however, due to the need for the reconstruction of two bridges, resulting in a nearly \$300 million higher cost. The second alternative relies on design exceptions to provide the same capacity and same ultimate traffic benefit while minimizing community and business impacts. Given the constraints of the M2 Freeway Program, the impacts and lack of community and business support, OCTA is not in support of the higher cost alternative.

Keeping project scopes contained is critical to successful delivery of the entire M2 Freeway Program. With the current risk of a cost-increasing environment, and due consideration for the impacts, the higher cost alternative was not included in the cash flow. Inclusion of the constrained alternative ensures the same capacity improvement, the same net traffic benefit, and supports community and business wishes.

Updated revenue assumptions and commitments, along with revised bonding assumptions (the bonding plan is based on the scenario without SB 1 to ensure a conservative approach), result in a delivery plan that remains solvent. A balanced plan not only allows OCTA to secure favorable bond ratings when financing, but also allows OCTA to weather reasonable changes to cost or revenues. With a solvent cash flow, the Next 10 deliverables remain as adopted and are included along with a progress report as Attachment E.

### ***Summary***

In response to the latest revenue forecast, staff reviewed the Next 10 and updated the revenues, bonding assumptions, project costs and schedules into the M2 cash flow. The result of the review and update demonstrates a delivery plan that remains solvent. To address the potential of higher cost in the near term as it relates to the freeway program, the cash flow assumes a 13 percent expense at the program level for economic uncertainties in the freeway program cash flow between now and 2028. The 2018 updated Next 10 is presented for Board review and approval.

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***Attachments***

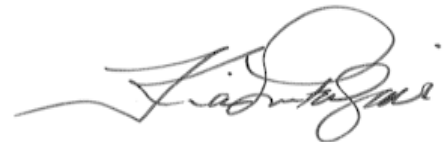
- A. 2018 Update, Next 10 Delivery Plan, 2017-2026, Draft
- B. 2018 Updated Next 10 Plan, M2 Program Cash Balance With SB 1 (Chapter 5, Statutes of 2017)
- C. 2018 Updated Next 10 Plan, M2 Program Cash Balance Comparison With And Without SB 1 (Chapter 5, Statutes of 2017)
- D. 2018 Updated Next 10 Plan, M2 Program Cash Balance With Adjusted Economic Uncertainty Allowance
- E. 2018 Update, Next 10 Delivery Plan, Next 10 Progress Report on Deliverables

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2018  
UPDATE

# NEXT 10

## DELIVERY PLAN



2017-2026

DRAFT



UPDATED ON SEPTEMBER 10, 2018



**On September 10, 2018, the Orange County Transportation Authority (OCTA) Board of Directors (Board) will consider adoption of the Draft 2018 Next 10 Delivery Plan (Next 10). Original commitments from the adopted Next 10 Plan remain largely unchanged with the exception of some required refinements due to changes in forecasted revenue assumptions as well as updated project information including cost estimates, schedules and available external funding.**



**Printed September 2018**

**For the latest version of the Next 10 Plan,  
including any edits or corrections,  
please visit: [www.octa.net/next10](http://www.octa.net/next10)**

**For status updates on M2 projects and programs,  
including quarterly progress reports,  
please visit: [www.octa.net/m2](http://www.octa.net/m2)**

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**2018**  
UPDATE

# **NEXT 10** **DELIVERY PLAN**

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## **Introduction**

# 2018 UPDATE NEXT 10 DELIVERY PLAN



## Introduction

On November 7, 2006, Orange County voters, by a margin of 69.7 percent, approved the renewal of the Measure M one-half cent sales tax for transportation improvements. Voters originally endorsed Measure M in 1990 (M1) with a sunset in 2011. With the approval of Renewed Measure M (M2), the voters agreed to a continued investment of local tax dollars in Orange County's transportation infrastructure for another 30 years to 2041.

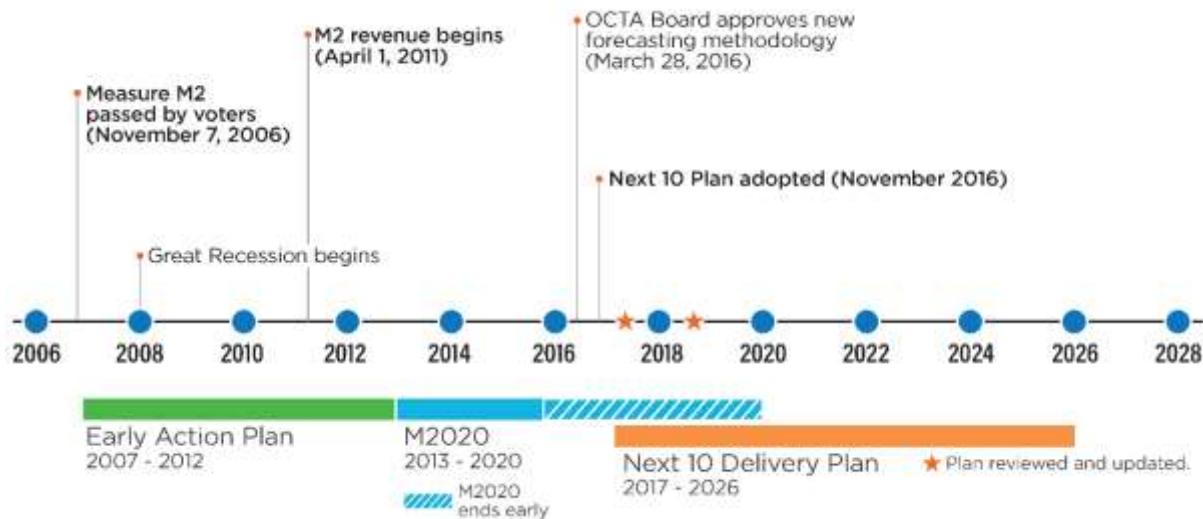
Since M2 approval, the Orange County Transportation Authority (OCTA) Board of Directors (Board) has continued to advance implementation of M2 through the adoption of a series of early delivery plans. These early delivery plans were designed to ensure the delivery of projects and programs through 2041 as promised to the voters, bring transportation improvements earlier to residents and commuters of Orange County, and as appropriate, address slower growth in sales tax revenue projections through strategic financing and successfully capturing and augmenting the program with external revenue. To date there have been three early delivery plans, these include a five-year Early Action Plan (EAP) adopted in 2007 (completed in 2012), an M2020 Plan adopted in 2012 (intended to go through 2020), and the Next 10 Delivery Plan (Next 10 Plan). The M2020 Plan had to be revised due to a decrease in the sales tax revenue and was replaced with the Next 10 Plan that spans ten years through 2026. See Measure M2 Timeline on the following page.

On November 14, 2016 the Next 10 Plan was approved by the Board providing a blueprint for continued advancement of M2 projects and programs from Fiscal Year (FY) 2016-17 through FY 2025-26. The 2016 adopted Next 10 Plan set M2 project and program priorities and was based on a revenue forecast of \$14.2 billion through 2041. Included with the adoption of the Next 10 Plan in 2016, was Board action to dedicate and set aside local revenues through the allocation of net excess 91 Express Lanes (EL) revenue, in an amount not to exceed the project costs for two eligible projects<sup>1</sup>. The 2017 Next 10 Plan incorporated a revised \$13.5 billion revenue forecast and required bonding adjustments and inclusion of the full amount of eligible excess 91 EL revenue. The 2017 update also designated Project I as a priority project for advancement.

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<sup>1</sup>The two eligible State Route 91 projects are Project I between State Route 55 (SR-55) and State Route 57 (SR-57), and Project J between State Route 241 (SR-241) and the Riverside County line.

## Measure M2 Timeline



## 2018 Review

On July 11, 2018, the Board received an early sales tax revenue forecast of \$13.1 billion. Although this sales tax forecast is preliminary until OCTA is in receipt of final year end actuals, it is not anticipated to vary significantly from the assumed \$13.1 billion forecast. The reduction from \$13.5 to \$13.1 represents a \$400 million gross reduction from what was assumed in the 2017 Next 10 Plan. While a reduction in revenues affects the M2 Program as a whole, in most areas within the M2 Plan, programs can be scaled based on available revenue. The greatest area of risk is within the freeway program because projects cannot be scaled due to set project scopes. The net sales tax revenue reduction to the freeway program is \$127.1 million.

To ensure the delivery of the Next 10 Plan, staff reviewed and updated the cash flow for the complete M2 plan of projects and programs. While the 2018 update incorporates the lower M2 sales tax revenue forecast, OCTA has been fortunate in capturing an additional \$291.8 million in external state and federal funding that was not committed or programmed in the 2017 cash flow. The 2018 revised cash flow incorporates the current M2 revenue assumptions, current programmed external revenue, and revised bonding assumptions. Original project delivery commitments remain unchanged in the 2018 Next 10 Plan, although some refinements were required to account for revised revenue projections and updated project cost estimates and schedules. Through this process, staff confirmed that the 2018 review and update of the Next 10 Plan remains deliverable.

## Program Delivery Risks

The Next 10 deliverables for projects and programs are not without risks. While the entire M2 Program continues to demonstrate financial viability and delivery of the complete M2 plan of projects and programs, risks continue to challenge the program. These include

financial, market, organizational, and regulatory risks. A table of risks is included on pages 5 through 7 with some of the key risks highlighted below.

Lower Sales Tax Revenues – OCTA has been challenged over the last six years with revenue forecasts not matching actuals and annual forecast updates coming in lower than the prior year. In March of 2016, the Board adopted a new sales tax forecasting methodology to address this issue. Using the new forecasting methodology, the sales tax forecast has been closer to actuals than in years past. This year's presentations by the four expert economic forecast entities were more conservative than in the prior years. Although this points to the probability of a more accurate forecast going forward, there are no assurances and, hence, the revenue outlook continues to be at risk.

OCTA regularly compares actual sales tax receipts with the forecast and provides updates to the Board quarterly.

Repeal of Senate Bill 1 (SB 1) (Chapter 5, Statutes of 2017) Gas Tax – With the passage of a gas tax increase in 2017, transportation funding was substantially increased and stabilized. If the repeal effort underway through Proposition 6 on the November 6, 2018 ballot is approved and the gas tax funding repealed, committed formula revenues may be impacted. While the M2 cash flow includes only a small amount of direct SB 1 competitive funding, staff anticipates that up to \$170 million of funding commitments programmed in the State Transportation Improvement Program (STIP) for M2 projects could be deprogrammed or delayed, impacting M2 delivery schedules with state funding commitments.

The cash flow update included in the Next 10 Plan assumes current law with the gas tax in place. To ensure the program remained deliverable in the event of a repeal, a second scenario was developed and analyzed with a reduction of \$170.2 million to the cash flow of currently committed state and federal funding. While this remains a net positive showing the full program (through 2041) is deliverable, the full impact of a repeal of the gas tax on programmed external revenues is unknown. More details will be available in late 2018/early 2019 pending the outcome of Proposition 6, and action by the California Transportation Commission on how to demobilize approved projects.

Potential for Cost Increases Impacting Freeway Delivery – In September of 2017, a Next 10 Market Conditions Forecast and Risk Analysis Report was conducted by respected local economists Dr. Wallace Walrod and Dr. Marlon Boarnet and identified a strong potential that OCTA would experience an increasing-cost environment during delivery of Next 10. The Board directed staff to continue to work with the consultant to monitor and track key early warning indicators. Through this follow on effort, the consultant team created a cost pressure index providing a range of potential cost fluctuations. The index identified that OCTA could experience a cost increase of between six to 11 percent during the 2018 through 2020 time period of construction activity. This is discussed further on page 17 in the section discussing Future Outlook.

Project Alternative Selection - In addition to project cost increases as a result of market forces, the freeway program is also at risk of cost impacts during alternative selection in the environmental phase. OCTA is committed to funding projects promised to the voters, and ensuring community and business support, while staying generally within the existing Right-of-Way (ROW). A number of projects are currently moving through the environmental process and alternative selection is, or will be, underway soon. While OCTA provides the funding commitments for the projects, the California Department of Transportation (Caltrans) ultimately makes the decision on alternative selection.

The cash flow of the Next 10 Plan includes estimated project costs based on the current information available. Funding projects that meet the intent of the M2 Plan with community and business support is important to successful delivery of the entire M2 Freeway Program. With the current risk of a cost-increasing environment this makes this even more important that OCTA work closely with our partners including Caltrans.

In order to be successful, OCTA needs to be aware and prepared to manage risks in several areas. A summary table of the risks, explanations, and suggested management actions are identified on the following pages and are tracked and reported in the M2 Quarterly Progress Reports presented to the Board, following each fiscal year quarter.

Delivery Risk		Explanation	Proposed Action
	On Track		One to Watch
Financial			
1	The 2018 M2 revenue forecast estimate is \$13.1 billion, which represents a 46 percent decrease in forecasted revenue since M2 adoption. If sales tax revenue continues to be lower than projections, this will further challenge delivery.	Sales tax revenue has been impacted by the recession and changes in consumer spending habits.	The 2018 lower forecast results in greater reliance on external funding to deliver the entire Freeway Program as listed. OCTA will continue to actively pursue available state and federal revenue, and work with the Caltrans to identify cost effective freeway alternative options for approval.
2	SB 1 gas tax repeal (Prop 6) on November 6, 2018 ballot.	While M2 does not rely on gas tax funding, if Prop 6 passes and SB 1 is repealed, there is a likelihood that current state funding commitments in the STIP for M2 projects could be impacted and could delay M2 freeway delivery schedules.	The 2018 update of the M2 cash flow included a sensitivity run with lower external revenue to test the adopted version. With assumptions on programming impacts of a repeal, the cash flow remains financially solvent. However, the true impact will not be known until decisions are made following an actual repeal.
3	Inability to scale the Freeway Program to available revenue and still deliver the promise.	The freeway program includes set project scopes leaving very little flexibility in what is delivered.	OCTA will work closely with Caltrans to value engineering strategies on freeway projects.

4	Delay in receipt of OC Streetcar Full Funding Grant Agreement (FFGA) from the Federal Transit Administration (FTA), could impact the overall delivery schedule.	While the FTA and the Congressional delegation continue to show strong support for the project, authorization for the New Starts FFGA remains outstanding.	Continue to communicate the merits of the OC Streetcar and need for swift action on receipt of the FFGA to FTA, Congress, and the Administration. Move cautiously to protect the delivery schedule while at the same time minimizing financial risk.
5	Sustain Metrolink train service, as an attractive alternative to driving in Orange County with the limits of available revenue.	Operational cost of Metrolink service continues to grow as system ages, track-sharing arrangements with Burlington Northern Santa Fe Railway (BNSF) are revised, and new air quality requirements. These changes may impact service long term.	Staff will continue to work closely with Metrolink and our partners to ensure cost increases are minimized, while seeking external revenue.
6	The Next 10 Market Conditions Forecast and Risk Analysis identified strong potential for an increasing-cost environment during the Next 10 delivery years.	A construction cost pressure index model was created to provide insight on forecasting capital costs. The index tracks four near-term cost risks: economic trends (building permits and unemployment), material costs, wage pressures, and economic conditions.	OCTA will continue to monitor and track key early warning indicators as recommended and include a program level line item for an economic uncertainty allowance in the freeway cash flow. This is intended to safeguard the program and protect against overcommitting during this time of uncertainty.
<b>Organizational</b>			
7	Availability of specialized staff, given the scope of the M2 capital program.	External demand for key talent is becoming more of an issue as large infrastructure programs move forward in the region. Timely completion of engineering and construction related support of the capital program is key to reduce project delivery risk.	Expert and timely coordination between OCTA and Caltrans are imperative to manage this risk. Staff is currently working with Caltrans to ensure resource needs are met. Internally OCTA's Human Resources Division continues to implement programs to retain and attract talent.
8	New operational responsibilities with the OC Streetcar.	With the implementation of the OC Streetcar service, OCTA will be increasing its overall role in operations. OCTA holds a strong track record in operating various transportation systems including both a fixed and demand-based bus network.	To ensure success of the OC Streetcar, OCTA hired a streetcar operations manager with proven start-up experience to oversee start-up and daily operations.



Regulatory			
9	New statewide directives create additional hurdles for the Freeway Program in particular.	New directives with greenhouse gas reductions and managed lane corridors focus, may impact approvals for four of the remaining freeway projects with general purpose lanes that are not yet environmentally cleared.	OCTA will monitor new directives and work closely with our partners including Caltrans to ensure that when freeway improvement projects are reviewed the commitment of the complete M2 program is understood.

## Guiding Principles

During the development of the EAP, guiding principles were established that set the direction for staff on establishing priorities for freeway project acceleration. These guiding principles continue to instruct us today.

- Project Readiness
- Congestion Relief and Demand
- External Funding Availability
- Public Opinion and Support
- Project Sequencing and Connectivity
- Project Duration

## Updated Next 10 Deliverables

The updated Next 10 Plan is based on ten deliverables intended to provide guidance on program and project delivery during the ten-year period 2017 through 2026. With nearly two years of the ten-year plan complete, progress on the ten deliverables and accomplishments to date is provided.

### Freeways

#### **1. Deliver \$3.5<sup>2</sup> billion of freeway improvements approved through construction.**

**Status:** The M2 freeway program currently consists of 27 projects or project segments. At the point of Next 10 adoption in September 2016, nine were already, and another nine designated to be complete within the Next 10 time-frame. Together, the nine segments designated for completion by 2026 make up a \$3.1 billion delivery promise. Since Next 10 adoption, three segments of the Interstate 5 (I-5) between Avenida Vista Hermosa and San Juan Creek Road, opened to traffic in March 2018, adding six miles of carpool lanes. The remaining six segments are in design or construction. Funded with 91 Express Lanes excess revenues, a tenth project, the SR-91 between SR-57 to SR-55 (Project I) was designated a priority project and is now part of Deliverable 1 and is planned to be

<sup>2</sup> Project I was originally part of Deliverable 2 as a "shelf ready" project, but through Board action to prioritize and fund with 91 Express Lanes excess revenues, it will be delivered by 2029. This change resulted in an increase of Deliverable 1 from \$3.1 billion to \$3.5 billion however an equal reduction to Deliverable 2, the net freeway deliverables remain at \$4.3 billion total.

complete by 2029. With this project, OCTA will deliver \$3.5 billion of freeway improvements approved through construction.

Completed			Year
1.	Project C	I-5, Vista Hermosa to PCH	2017
2.	Project C	I-5 between Avenida Pico and Avenida Vista Hermosa	2018
3.	Project C	I-5 between Pacific Coast Highway and San Juan Creek Road	2018
In Construction			Construction Complete
4.	Project K	I-405 between SR-73 and I-605	2023
In Design			Construction Complete
5.	Project A	I-5 between SR-55 and SR-57	2021
6.	Project C,D	I-5 between Oso Pkwy and Alicia Pkwy/La Paz Road Interchange	2023
7.	Project C	I-5 between Alicia Parkway and El Toro Road	2024
8.	Project C, D	I-5 between SR-73 and Oso Pkwy/Avery Pkwy Interchange	2024
9.	Project F	SR-55 between I-405 and I-5	2025
In Environmental			Construction Complete
10.	Project I <sup>1</sup>	SR-91, SR-57 to SR-55	2029

SR-71 – State Route 71 / SR-22 – State Route 22 / I-405 – Interstate 405 / SR-73 – State Route 73 / I-605 – Interstate 605

## 2. Invest approximately \$715<sup>3</sup> million more in revenues, bringing the completed Freeway Program improvements to \$4.3 billion (Projects A-M).

**Status:** The final eight remaining project segments (of the 27 total) are on track to be environmentally cleared by 2026, making them “shelf ready” for future advancement. In all, during the Next 10 time-period, approximately \$4.3 billion in freeway improvements promised to the voters in M2 will be completed or underway by 2026. Using the guiding principles adopted by the Board, Deliverable 2 includes approximately \$715 million in funding to move another project (or projects) directly into design and construction if assumptions on revenues and costs hold.

In Environmental			Scheduled to be Cleared
1.	Project L	I-405 between I-5 and SR-55	2018
2.	Project M	I-605 Katella Avenue Interchange	2018
3.	Project G	SR-57 NB Oranewood Avenue to Katella Avenue	2019
4.	Project B	I-5 between I-405 and SR-55	2019
5.	Project D	I-5 El Toro Road Interchange	2019
6.	Project F	SR-55 between I-5 to SR-91	2020

<sup>3</sup> Because Project I is now included with Deliverable 1, the original Deliverable 2 investment of \$1.2 billion has been reduced to \$715 million. The overall freeway deliverable commitment remains the same at \$4.3 billion.

Begin Environmental in ~FY 2020		Anticipated to be Cleared by
7.	Project G SR-57 NB Lambert Road to County Line	2023
8.	Project J SR-91 between SR-241 and I-15	2026

### **Streets and Roads**

- 3. Allocate nearly \$1 billion with \$400 million in competitive funding to local jurisdictions to expand roadway capacity and synchronize signals (Project O and P) and nearly \$600 million in flexible funding to local jurisdictions to help maintain aging streets or for use on other transportation needs as appropriate (Project Q). In addition to above, this deliverable also includes completion of the seven grade separations included in the OC Bridges program.**

**Status:** All seven bridges included in the OC Bridges program are complete. Since the adoption of the Next 10 Plan in November 2016, OCTA awarded approximately \$82 million in competitive funding through the Regional Capacity Program (Project O) and Regional Traffic Signal Synchronization Program (Project P). Additionally, \$98.1 million in Local Fair Share (Project Q) funds have been distributed to local agencies. This brings the total allocation to date to \$188.1 million. On August 13, 2018, the Board approved the release of the 2019 Call for Projects for approximately \$32 million for Project O and \$8 million for Project P and funding recommendations will be presented to the Board by mid-2019.

### **Transit**

- 4. Extend Metrolink service from Orange County into Los Angeles County, contingent upon cooperation and funding participation from route partners, complete six rail station improvements (Project R).**

Completed	Year
1. San Clemente Pier Metrolink/Amtrak Station Lighting	2017
2. Laguna Niguel/Mission Viejo Station American Disabilities Act Ramps	2017
<b>In Construction</b>	<b>Complete Construction</b>
3. Fullerton Transportation Center Elevator Upgrades	2018
4. Orange Station Parking Structure	2019
<b>In Design</b>	<b>Anticipated Construction Complete</b>
5. Anaheim Canyon Metrolink Station	2021
6. Placentia Metrolink Station	2021

- 5. Secure FFGA, start construction, oversee vehicle manufacturer and begin operating the OC Streetcar (Project S) and work with local agencies to consider recommendations from planning studies to guide development of future transit connections.**

**Status:** OC Streetcar - Activities continue to move forward, including final possession of remaining required ROW, procurement of demolition services, coordination with third parties on utility relocation, finalizing the California Public Utilities Commission safety approvals for the OC Streetcar's grade crossings certification, finalizing the scope of services for the operations and maintenance request for proposals, and continued coordination with the FTA on the status of the FFGA. The streetcar vehicle manufacturing contract has been executed and the notice to proceed has been issued.

The FTA continues to show strong support for the project, and a FFGA is anticipated in 2018.

**Status:** OC Transit Vision - The draft Transit Master Plan was presented to the Board in February 2018. The plan included an action plan which was divided into short, medium and long-term recommendations. The Board directed staff to consider the plan in the upcoming Long-Range Transportation Plan process. Staff will be advancing many of the short-term action plan items over the next year.

- 6. Provide up to \$115 million in funding to expand mobility choices for seniors and persons with disabilities (Project U).**

**Status:** Approximately \$20.2 million has been provided for the Senior Mobility Program (SMP), the Senior Non-Emergency Medical Transportation Program (SNEMT), and the Fare Stabilization Program since the Next 10 Plan adoption.

- 7. Work with local agencies to develop a plan for the next community circulator projects to provide grant opportunities for local agencies to implement efficient local transit services (Project V).**

**Status:** In December 2017, OCTA staff requested letters from local agencies to determine interest for a future round of Project V funding. OCTA received 13 letters of interest and in February 2018, the Board initiated a 2018 Project V Call for Projects. On June 25, 2018 the Board awarded \$6.8 million to fund six Community-Based Transit Circulators Projects.

- 8. Allocate up to \$7 million in funding to improve the top 100 busiest bus stops and support the modernization of the bus system to enhance the customer experience (Project W).**

**Status:** To date, the Board has approved up to \$1.2 million to support 51 city-initiated improvements and \$370,000 for OCTA-initiated improvements. The City of Anaheim postponed development of eight stops and plans to move forward in a future funding cycle. Of the remaining 43 stops, 14 stops have been completed and the remaining 29

stops are in the project closeout process. An additional funding cycle is anticipated in 2019.

## **Environmental**

### **9. Ensure the ongoing preservation of purchased open space which provides comprehensive mitigation of the environmental impacts of freeway improvements and higher-value environmental benefits in exchange for streamlined project approvals.**

**Status:** In 2017, OCTA received biological resource permits after completing a state and federal Natural Community Conservation Plan/Habitat Conservation Plan (Conservation Plan) for the Environmental Mitigation Program (EMP), allowing streamlined project approvals for the freeway improvement projects. The Conservation Plan also includes a streamlined process for coordination for streambed alternation agreements. In January 2018, the OCTA secured programmatic permits and assurances for federal and state clean water permitting requirements. Receipt of these permits represent the culmination of years of collaboration and support by the Board, environmental community, and regulatory agencies.

To ensure ongoing preservation of the open space, an endowment was established to pay for the long-term management of the conservation properties (Preserves). The second deposit into the endowment was made in August 2017, and approximately \$2.9 million will be deposited on an annual basis.

### **10. Work with the Environmental Cleanup Allocation Committee to develop the next tiers of water quality programs with a goal of providing up to \$40 million in grants to prevent the flow of trash, pollutants and debris into waterways from transportation facilities. In addition, focus on improving water quality on a regional scale that encourages partnerships among the local agencies as part of the Environmental Cleanup Program (Project X).**

**Status:** Since adoption of the Next 10 Plan in November 2016, OCTA issued two calls for Tier 1 Environmental Cleanup Program (ECP) projects. The Board awarded approximately \$3.1 million to fund Tier 1 projects during the 2017 annual call for projects. The 2018 Tier 1 Call for Projects was released on March 12, 2018 and funding recommendations are anticipated in late summer.

In total, during the Next 10 time period (2017-2026) more than \$6 billion in transportation improvements promised to the voters in M2 will be completed or underway by 2026.

## **Oversight and Safeguards**

The 2018 Next 10 Plan is taking place with the full oversight and regular reporting promised to the voters. Regular progress reports on implementing the Next 10 Plan will continue to be included in the M2 Quarterly Progress Reports that are prepared for the Board. These reports are included on the OCTA website, as well as other means, to

ensure accessibility and transparency of the information. Contact information for the OCTA staff member responsible for each program or project is included.

Additionally, as specified in the M2 Ordinance No. 3, Section 10, there will be three performance assessments conducted during the Next 10 time period. Performance assessments are to be conducted at least once every three years to evaluate the efficiency, effectiveness, economy, and program results of OCTA in satisfying the provisions and requirements of the M2 Plan and Ordinance No. 3. These assessments will take place during years 2018 (currently underway), 2021, and 2024.

Also included in Ordinance No. 3, Section 11, the second ten-year comprehensive review of M2 programs and projects will be initiated at the end of the Next 10 time period. Due to the early initiation of project development activities prior to the start-up of revenue collection in 2011, the first review was completed in fiscal year 2015. The second review is planned to take place in fiscal year 2025 (or sooner if warranted) and will determine the basis for setting the direction of future refinements to the M2 Plan. The ten-year review includes a comprehensive review of all projects and programs implemented under the M2 Plan to evaluate the performance of the overall program and may result in revisions to further improve performance.

### **Sustainable Communities Strategy**

It is important to note that M2 also supports and enhances the ability of OCTA to support the regional Sustainable Communities Strategy in Orange County. M2 projects and programs are part of a larger suite of transportation improvements included in the 30-year M2 Plan. More than 50 percent of M2 funds are intended to fulfill transit, system optimization, enhanced environmental elements and infrastructure preservation goals.

The M2 Program was publicly reviewed through a Program Environmental Impact Report prior to voters approving the ballot measure in November 2006. Since 2008, the M2 Program has been included in the Regional Transportation Plans, Sustainable Communities Strategies, and the associated Program Environmental Impact Reports prepared by the Southern California Association of Governments (SCAG).

In addition to funding freeway improvements, the M2 Program dedicates funding for many transit and local street improvement projects. These include improvements such as:

- New transit connections between major Orange County activity areas that reduce the need for short automobile trips;
- Enhanced convenience and reliability for bus services and Metrolink commuter rail to encourage transit as a dependable commute option;
- Local funding for development of multimodal corridors and roadway preservation that improves the quality of mobility for all users; and,
- Signal synchronization on 750 miles of roadways throughout Orange County to reduce congestion and tailpipe emissions.

The Freeway EMP has preserved 1,300 acres of wild lands that will be converted to the Preserves to enhance connectivity and wildlife movement between existing conservation areas - such as the Cleveland National Forest, the Chino Hills State Park, and the Irvine Ranch Conservancy lands - and to coastal areas. Furthermore, the program also provides critical habitat for endangered or listed species. Additionally, the ECP has funded over 176 projects totaling over \$48 million to treat storm water runoff and help keep waterways and beaches clean in Orange County. The aforementioned transit, local streets, and environmental programs collectively contribute to and enhance the quality of life, as well as provide a sustainable future, and an efficient transportation system that benefits the region.

Brief summaries of the specific programs are listed below.

- ✓ Projects A through N – Freeway improvements and Freeway Service Patrol to provide emission reductions through congestion relief
- ✓ Projects O and P – Signal synchronization and street improvements that provide emission reductions through congestion relief and allow for bike and pedestrian project elements
- ✓ Project Q – Local funding for city-selected transportation projects that provides for preservation of the streets and roads system and includes bike, pedestrian, water quality, and transit enhancements as eligible expenditures
- ✓ Project R – Expanded Metrolink train capacity including improvements to stations and parking to improve transit reliability and convenience and reduce reliance on highways while also supporting potential transit-oriented development
- ✓ Project S – Transit extensions to improve access between Metrolink stations and residential/employment centers, and provide an alternative to driving
- ✓ Project T – Station improvements to connect to planned future High-Speed Rail services
- ✓ Project U – Sustain mobility choices for seniors and persons with disabilities and provides an alternative to driving
- ✓ Project V – Community-based circulators to complement regional transit services with local communities and provides an alternative to driving
- ✓ Project W – Transit stop improvements to support transfers between major bus lines, and support the implementation of mobile ticketing to ensure ease of fare purchase and convenience for bus passengers
- ✓ Project X – Water quality improvement programs/projects to meet federal Clean Water Act standards for urban runoff, and augment required mitigations
- ✓ Freeway Mitigation Program – Natural resource protection strategy to provide for more comprehensive mitigation of environmental impacts from M2 freeway improvements

## Updated Next 10 Plan Funding Assumptions

Funding assumptions are included in the 2018 Next 10 Plan. The revenue assumptions of \$13.1 billion are based on the latest 2018 M2 revenue forecast. The 2018 revenue forecast results in a 46 percent reduction from the original 2005 sales tax projection of \$24.3 billion.

The Next 10 cash flow incorporates the revised revenue forecast of \$13.1 billion, as well as the contribution from the Transportation Infrastructure Finance and Innovation Act (TIFIA) in the amount of \$153.9 million, which is a contribution to the M2 general purpose lane project of the \$629 million TIFIA loan. This amount is a direct benefit to the M2 portion of the I-405 Improvement Project, as the loan will be repaid with toll revenues and not with M2. The cash flow also incorporates updated project cost estimates for all M2 Program elements, as well as committed programmed state and federal external revenues.

In addition to state and federal funding commitments, the cash flow also assumes the availability of a reasonable amount of federal and/or state funds from 2017 to 2041 and makes specific assumptions about near-term grants such as New Starts. Additionally, per the Board's direction, the cash flow also includes net excess 91 Express Lanes revenue within the freeway program for projects in the 91 corridor (as defined by the 91 Express Lanes governing legislation), in an amount not to exceed the total cost of Project I and Project J.

Revenues and expenses are merged into a high-level cash flow model. Bond assumptions are also included to support the project delivery schedules in the Freeway Program. Bond assumptions are constrained to debt coverage ratios, and the Appendix on page 92 of the 2018 Next 10 Plan includes a more detailed discussion on assumed revenues, costs, and debt service.

For the 2018 Next 10 Plan development, forecasted revenues and costs through 2041 were tested. This effort was conducted to ensure the complete M2 Program could be delivered consistent with commitments provided to the voters as part of M2 approval in November 2006. While a reduction in revenues affects the M2 Program as a whole, in many areas within the M2 Plan, programs can be scaled based on available revenues. The areas where this is not possible is in the Freeway Program due to set scopes for project delivery, and the Fare Stabilization Program portion of Project U within the Transit Program. The net freeway program loss in forecasted revenues from last year when the Next 10 was updated and adopted is \$127.1 million.

The funding assumptions in the freeway mode assume \$9.6 billion in total revenue, with costs for the same period totaling \$9.5 billion. OCTA has been very successful in capturing external funding in past years to offset the reduction in sales tax revenue and in the past year alone, net external revenue for the freeway program increased by \$291.9 million that was not available or programmed in the prior version of Next 10. While sales



tax revenue is down, the additional external revenue has resulted in a net positive revenue in the freeway program of \$164.8 million.

With the 2018 Next 10 Plan, each project in the freeway program was reviewed and cost estimates updated. With the majority of the projects now either in the environmental phase or in design, project cost estimates have a higher level of engineering and are therefore better defined. While some project costs increased, others decreased and resulted in a net decrease of \$278.8 million. This cost reduction, in tandem with the amount of external revenue captured and the resulting reduction in bonding need, provides an overall M2 revenue savings in the freeway program. Given concern over the potential of entering an increasing cost environment, this savings allowed for the addition of a 13 percent program level expense line item in the cash flow for an economic uncertainty allowance. This provides some financial protection against rising costs or lower revenues. This is discussed further on page 17 in the section discussing Future Outlook. These changes along with revised bonding assumptions, results in a delivery plan (through 2041) that remains solvent.

The long-term M2 freeway plan relies on the total receipt of \$1.6 billion in state and federal revenues. This assumes \$1.5 billion in programming commitments (this number is inclusive of \$46 million from Caltrans for Project F Segment 1, and \$153.9 million in TIFIA proceeds). Additionally, the program assumes \$1.9 billion in bond proceeds, and \$741.7 million in net excess 91 Express Lanes revenue, and \$10 million a year (a conservative amount of unprogrammed revenue) beginning in 2022 through 2036 in federal and/or state funds.

The funding assumptions in the streets and roads mode assume \$4.7 billion in total revenue, with costs for the same period totaling \$4.7 billion. The projects within the Streets and Roads Program are scaled to available revenue and are cash flowed on a pay-as-you-go basis. The Streets and Roads Program relies on the total receipt of \$601.1 million in external revenues (state, federal, and local) primarily for the OC Bridges grade separation projects. More detailed program assumptions for the Streets and Roads Program can be found in the Appendix on page 95.

For the transit mode, \$3.7 billion in total revenue is assumed, with costs for the same period totaling \$3.7 billion. The projects within the Transit Program are scaled to available revenue with the exception of one, Project U's Fare Stabilization Program. Ordinance No. 3 specifically requires that the Fare Stabilization Program subsidize fares for seniors and persons with disabilities to the extent of maintaining the reduced fare rate effective on July 24, 2006 through 2041. While this program is not scalable, it remains solvent. The remaining transit mode programs are assumed on a pay-as-you-go basis. The funding for the transit mode assumes the total receipt of \$526.8 million in local, state and federal revenues. This number is inclusive of \$148.96 million in Federal New Starts and \$25.52 million in State Cap-and-Trade revenues to partially fund the OC Streetcar project. More detailed program assumptions for the Transit Program can be found in the Appendix on page 95.

The ECP assumes \$260 million in total revenue, with costs for the same period totaling \$260 million. The projects within the ECP are scaled to available revenue and are cash flowed on a pay-as-you-go basis. More detailed program assumptions for the ECP can be found in the Appendix on page 95.

With careful management of the projects and use of financial resources, the full scope of the M2 Program can be delivered as promised.

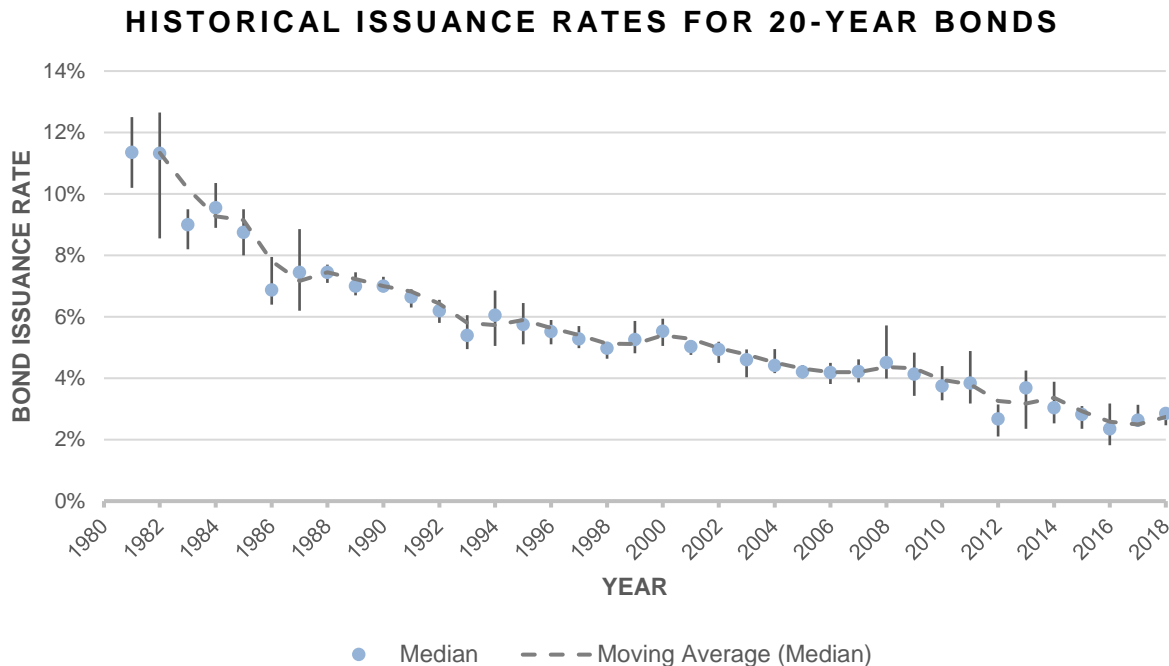
## **Funding and Financing**

The Board's vision in developing the EAP created a great opportunity for the M2 Program. While the economy took a significant downturn due to the 2008 Great Recession, OCTA advanced projects years before revenue became available. Projects were accelerated, making them shelf-ready. This allowed OCTA to capture significant one-time external funding provided through State Proposition 1B and the American Recovery and Reinvestment Act. Using the revised forecasting methodology implemented in March 2016, the 2018 M2 sales tax revenue forecast is \$13.1 billion.

When it comes to the bidding environment, OCTA significantly benefited during the recession by capitalizing on a low-cost environment with early project development and acceleration. When the M2020 Plan was adopted in late 2012, staff reported that freeway construction bids were consistently coming in between 10 to 20 percent below engineers' estimates. Since that time, construction bids have been coming in closer to the engineers' estimates. Looking forward, it is anticipated that construction bids will begin to exceed the engineers' estimates (requiring estimates to adjust upward), which will put additional cost pressure on OCTA's delivery of M2 and the Next 10 Plan. This is a result of several factors. First, with the economy picking up, the demand for contractors has increased which results in less competition and higher bids. Additionally, the large amount of construction activity in the region is putting significant demand on available resources. This includes materials and skilled and professional labor resources.

To address the risk of cost increases and ensure a positive cash flow moving forward during Next 10 freeway delivery, staff incorporated a 13 percent economic uncertainty allowance line item into the freeway program cash flow in FY 2019 and through 2029. This is included at the program level and will provide financial stability in the event of a significant turn of events while projects within the Next 10 Plan move into and through construction.

Pay-as-you-go project funding is identified in Ordinance No. 3 as the preferred method of financing, while bond financing is an option that is within the purview of the Board. While the current cost of debt has increased it continues to be attractive relative to historic lows. Current 20-year bond rates remain at 2.89 percent versus all-time lows of 1.82 percent. While short-term rates increased significantly, long-term rates remain near all-time lows, producing a relatively "flat" yield curve that allows OCTA to take advantage of attractive mid- and long-term rates. See the graph below showing historical issuance rates of 20-year bonds.



OCTA has a strong track record of successfully delivering projects early by utilizing bond financing, as seen in M1, as well as M2, under the EAP and M2020 Plan. The updated Next 10 Plan anticipates bond financing for the Freeway Program as a means to deliver the freeway projects.

### Future Outlook

As noted in the Risks section starting on page 3, major capital work is underway in the Southern California region that may impact OCTA's ability to secure resources needed for future project and program delivery. Competition for available resources for capital projects has increased with the major capital work currently underway in Los Angeles, Riverside, and San Bernardino counties. For future projects going forward, engineers, ROW experts, skilled labor, and materials will be in higher demand.

On September 11, 2017, the Board was presented with a Next 10 Market Conditions Forecast and Risk Analysis report conducted by economists Dr. Wallace Walrod and Dr. Marlon Boarnet. The consultant's analysis identified strong potential for OCTA to experience an increasing-cost environment during the Next 10 delivery years. The Board directed staff to continue to work with the consultant team to monitor and track key early warning indicators and provide OCTA information on changes to the risk factors and potential cost impacts. The consultant team analyzed annual trends in material costs, labor costs, and general economic conditions to determine a range of potential cost increases. Looking out at a time horizon through 2020 the team tracked relevant market data and indicators and performed data analytics on this information. This analysis resulted in the creation of a cost pressure index which provides a range of potential cost fluctuations. Using the Infrastructure Construction Cost Pressure (ICCP) Index, combined

with a detailed trend analysis of building permits, unemployment rates, localized labor costs, material costs and general economic conditions; the consultant estimates potential cost increases ranging from six percent to 11 percent in 2018, two percent to six percent in 2019, and two percent to six percent in 2020.

OCBC OC Transportation ICCP Index Score, 2018-2020		
Year	Index Score	Range of Cost Fluctuation
2018	4	6%-11%
2019	3	2%-6%
2020	3	2%-6%

The consultant further shares that OCTA will need to be aware and ready to respond to two different cost pressure groupings which are described as systematic and idiosyncratic. Systematic risks have characteristics that are observable and more predictable. Systematic risks are captured in the ICCP Index through the cost pressure model. Cost pressures in this group are reflections of the construction/building environment, the state's economy (which influences both the demand for construction services and the cost of construction labor and materials), and direct measures of material and labor costs.

Idiosyncratic risks are cost pressures which cannot be statistically modeled. These cost pressures are not related to historic or observable economic factors but are still real risks that may be important and warrant careful tracking. The consultant pointed to cost pressures in the idiosyncratic group as:

- Tariffs, and associated effects on cost of materials from the nation's changing trade policy,
- Regulatory requirements and changes that create additional hurdles during the bidding process.

In order to mitigate cost pressures, OCTA's Project Controls Department monitors and adjusts project cost escalation assumptions according to market trends. Project Controls makes use of schedule control, cost control, progress reporting, and change management to effectively monitor and control project escalation and execution. Imbedded in the Next 10 are cost assumptions based on historical information, current trends in the market, as well as review of the Caltrans Construction Cost Index. Higher cost assumptions are included on some elements of projects based on assessed potential risk. OCTA's current assumptions developed by OCTA's Capital Programs Project Controls Department, assumes a four percent escalation in the near term (next three years), and then three and one-half percent escalation for projects beyond 2022. Project cost estimates also include a prudent contingency specifically developed for the project based on the individual project risks. Additionally, to further protect against potential cost increases in our freeway capital program and conform to project controls' project estimating process, staff incorporated a 13 percent program level expense line item in the cash flow for an economic uncertainty allowance. This is intended to safeguard the program and ensure that OCTA does not over commit delivery during this time of uncertainty.

**2018**  
UPDATE

# **NEXT 10** **DELIVERY PLAN**

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## **Freeway Program**

## M2 Freeway Projects



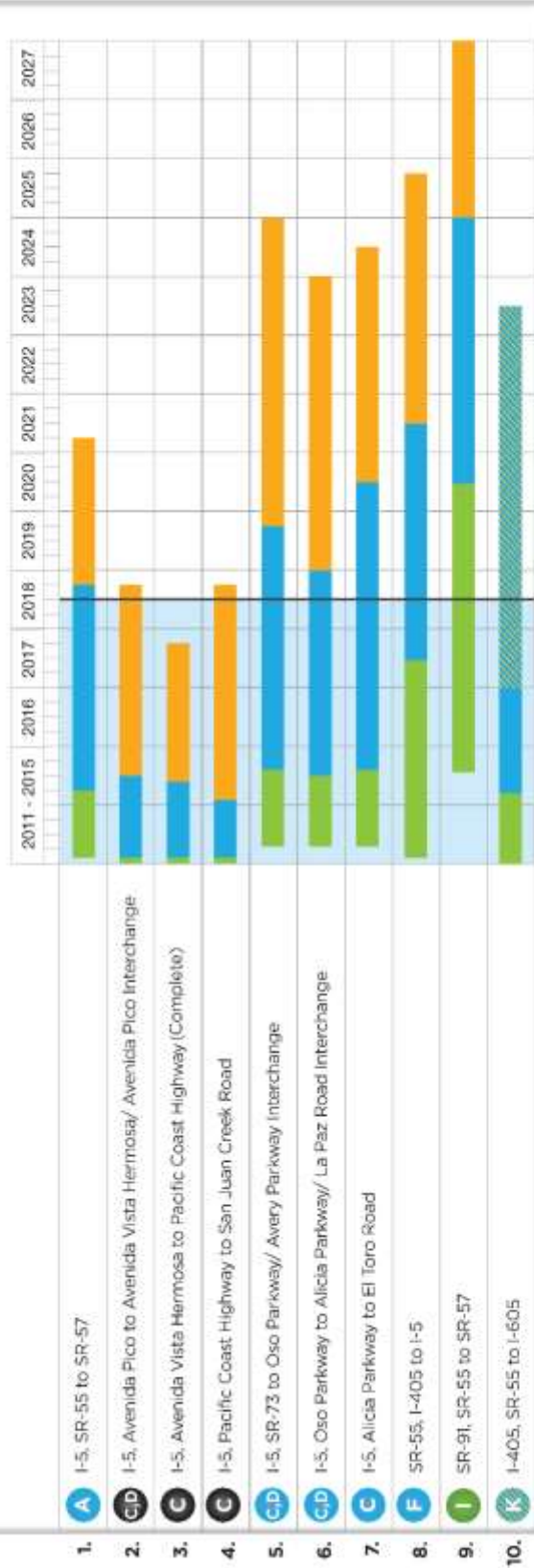
- A I-5 Widening (SR-55 to SR-57)
- B I-5 Widening (SR-55 to I-405)
- C, D I-5 Widening (PCH to Avenida Pico)
- C, D I-5 Widening (El Toro Road to SR-73)
- D I-5/SR-74 (Ortega Hwy) Interchange Improvements
- D I-5 at El Toro Road Interchange Improvements
- E SR-22 Access Improvements
- F SR-55 Widening (I-405 to I-5)
- F SR-55 Widening (I-5 to SR-22)
- G SR-57 Widening (Orangethorpe Ave. to Lambert Road)
- G SR-57 Widening (Katella Ave. to Lincoln Ave.)
- G SR-57 NB Widening (Orangethorpe Avenue to Katella Avenue)
- G SR-57 NB Widening (Lambert Road to Courty Line)

- H SR-91 Widening (I-5 to SR-57)
- I SR-91 Widening (SR-55 to Tustin Ave.)
- I SR-91 Widening (SR-57 to SR-55)
- J SR-91 Widening (SR-55 to SR-71)
- J SR-91 Widening (SR-241 to I-15)\*
- K I-405 Widening (I-605 to SR-73)
- L I-405 Widening (SR-55 to I-5)
- M I-605/Katella Ave. Interchange Improvements

\* Project environmentally reviewed as part of the Riverside County Transportation Commission's Corridor Improvement Project. Additional studies needed prior to construction.



M2 Freeway Projects Through Construction



Please note that schedules are updated as of June 30, 2018. Shown schedules are subject to change.

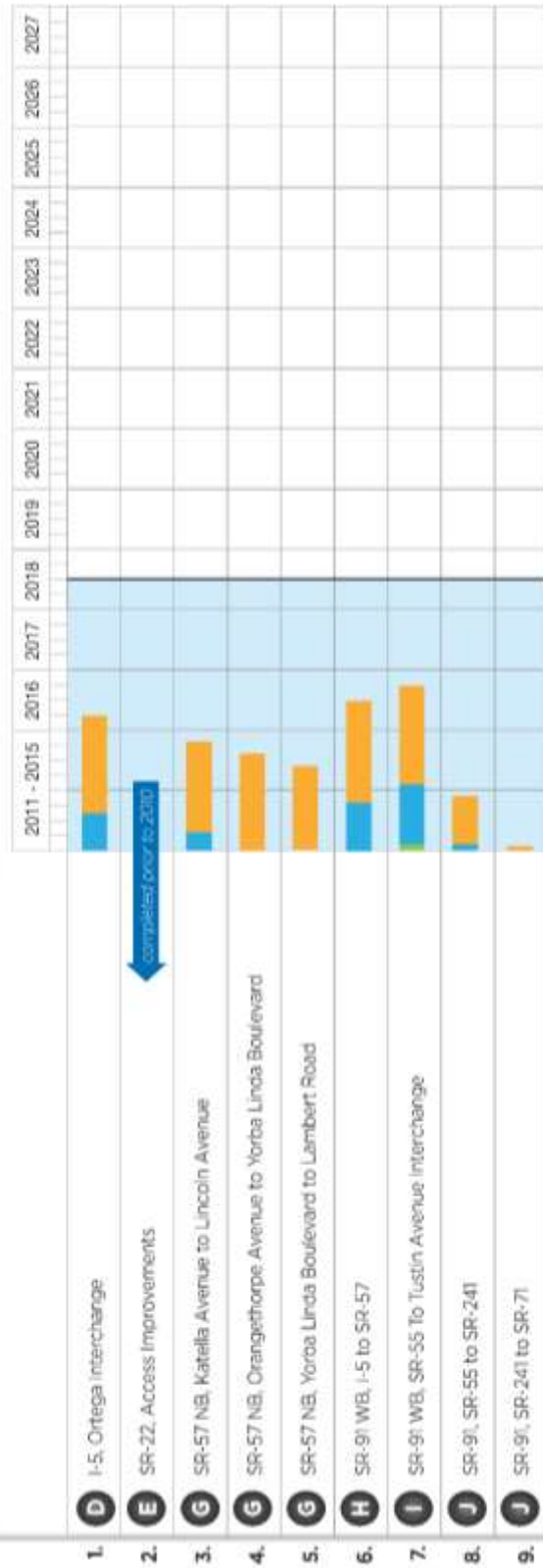


Please note that schedules are updated as of June 30, 2018. Shown schedules are subject to change. Next 10 sets direction through 2026, as projects listed are completed, schedules and revenues will be reviewed, and the Board will adopt a new delivery plan providing direction on further advancement.

\*Project environmentally reviewed as part of the Riverside County Transportation Commission's Corridor Improvement Project. Additional studies needed prior to construction.



M2 Freeway Projects Completed Prior to Next 10 Adoption



## Freeway Program



### Overview:

The Freeway Program accounts for 43 percent of the M2 Program. Over the life of M2, approximately \$5.1 billion is expected to be generated in sales tax revenues for freeway Projects A-N (not including the five percent of net revenues apportioned to the EMP). Improving Orange County freeways is the greatest investment of the M2 Program.

To ensure delivery of the Freeway Program, the Next 10 Plan includes the following framework:

- Bring congestion relief.
- Deliver projects using the guiding principles of congestion relief, cost escalation risk, and readiness.
- Continue to make M2 projects the priority for external funding.
- Work with Caltrans to seek cost effective measures on freeway projects through changes in scope and design parameters where possible.
- Tightly manage project scopes and schedule to reduce cost escalation risk.

### Next 10 Deliverables:

When M2 originally passed, 13 freeway projects were highlighted in the M2

Transportation Investment Plan. Since then, these projects have been segmented into 27 projects. Of this amount, nine were completed prior to the adoption of Next 10. The remaining 18 freeway projects are included in the Next 10 deliverable goals through 2026 and have been adjusted to reflect Board action regarding Project I<sup>4</sup>:

1. Deliver construction of ten<sup>4</sup> freeway project segments; seven along I-5 (three recently completed in 2018), one along I-405, one along SR-55, and one along SR-91 (Projects A, C, C/D, F, I, and K).
2. Complete the environmental phase for the remaining eight project segments to be shelf ready. This includes one on I-5, I-405, SR-91, and SR-55; two along SR-57; and two interchange projects, one at I-5/El Toro Road and one at Interstate 605 (I/605)/Katella Avenue (Projects B, D, F, G, J, L, and M).
3. Invest approximately \$715<sup>4</sup> million in revenues (bringing the completed Freeway Program total to 78 percent) in revenues to move “shelf ready” projects forward using the guiding principles.

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<sup>4</sup> With its own local funding source (91 Express Lanes excess revenue), Project I is now included to move directly into design and construction and the cash flow assumes ten projects to be complete or in construction during the 2017-2026 timeframe. The deliverables have been adjusted to reflect this Board directed change

## A. I-5 (SR-55 to SR-57)

### Description:

Project A will reduce freeway congestion by adding a second High-Occupancy Vehicle (HOV) lane, northbound and southbound, on I-5 between SR-55 and SR-57. The project will generally be constructed within the existing ROW.

### Cost:

\$41.66 million (Year of Expenditure [YOE]).

### Status:

Design was completed in mid-2017. Construction is expected to begin in late 2018 and the project is expected to be open to traffic in early 2021.



### Present Day:

The current daily traffic volume on this segment of I-5 is about 380,000 vehicles and is severely congested. Traffic volumes are expected to increase nearly seven percent by 2035, bringing it up to 406,000 vehicles per day. The HOV lanes experience more

congestion in the peak period than the adjacent general purpose lanes, underscoring the need to add HOV capacity on this freeway segment.

### Benefits:

This project will increase the capacity of the HOV facility on I-5 in Santa Ana to meet traffic demands and eliminate bottlenecks. Improvements are needed to accommodate HOV traffic from both the SR-55/I-5 and SR-57/I-5 direct HOV connectors.

Originally considered under this project, the extension of the auxiliary lane from southbound I-5 to southbound SR-55 through the McFadden Avenue exit ramp on SR-55 to Edinger Avenue, is now part of the SR-55 Project F.

### External Funding:

The Board has approved \$33.74 million in federal funds to support this project.

### Risks:

Overall time, scope, and cost risks are moderate with this project. Bids were opened in May 2018 and the three Lowest Bidders were deemed "unresponsive." All remaining bidders rescinded their offers, which required the project to be rebid. Caltrans re-advertised the project in August 2018 and the bids will be opened in October 2018.

### Related Projects:

Projects B and F.

## **A. I-5 (SR-55 to SR-57)**

### **Involved Agencies:**

OCTA, City of Santa Ana, Caltrans, CTC, Federal Highways Administration (FHWA), and Southern California Regional Rail Authority (SCRRA).

### **Assumptions:**

Costs based on June 2018 M2 Program Cash Flow.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- June 2018 Capital Action Plan
- Capital Funding Program Report – State Highway Project (June 2018)

## B. I-5 (SR-55 to the El Toro “Y” Area)

### Description:

Project B will increase I-5 freeway capacity and reduce congestion by constructing new northbound and southbound general purpose lanes and improving key interchanges in the area between SR-55 and State Route 133 (SR-133) (near the El Toro “Y”). This segment of I-5 is the major route serving activity areas in the Cities of Irvine, Tustin, Santa Ana, and north Orange County. The project will generally be constructed within the existing ROW.

### Cost:

\$438.3 million (YOE), including advancement to environmental phase.

### Status:

This project is currently in the environmental phase. The Next 10 Plan includes funding this project through the environmental phase. Environmental clearance is scheduled for early-2019.

### Present Day:

The current traffic volume on this segment of I-5 is about 358,000 vehicles per day and is expected to increase by nearly 16 percent by 2035, bringing it up to 416,000 vehicles per day.

### Benefits:

Project improvements would alleviate congestion and reduce delay.

### External Funding:

The Board has approved providing \$15.37 million in federal funds and \$12.63 million in state funds for preliminary engineering. Future phases are also eligible for state and federal funds. Any additional funding is expected to be submitted for Board approval at a later time.

### Risks:

Overall time, scope, and costs risks are high with this project due to tight ROW and need for design variations.



## **B. I-5 (SR-55 to the El Toro “Y” Area)**

### **Related Projects:**

Projects A and F.

### **Involved Agencies:**

OCTA, Cities of Tustin and Irvine, Caltrans, and FHWA.

### **Assumptions:**

Cost based on June 2018 M2 Program Cash Flow.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- 2015 Freeway Plan
- June 2018 Project Status Report
- Capital Funding Program Report – State Highway Project (June 2018)

## C. I-5 (El Toro Road to SR-73 includes Avery & La Paz Interchanges)

### Description:

Project C will add new lanes to I-5 from El Toro Road in the City of Lake Forest to the vicinity of State Route 73 (SR-73) in the Cities of Mission Viejo, Laguna Niguel, Laguna Hills, Laguna Woods, and Lake Forest. Improvements include continuous HOV access completion and major improvements at the Avery Parkway and La Paz Road interchanges, as part of Project D. The project will generally be constructed within the existing ROW. This project is divided into three segments as described below.

#### Segment 1:

This portion consists of the SR-73 to Oso Parkway segment, which will add one general purpose lane in each direction between SR-73 and Oso Creek (approximately 2.2 miles), reconstruct Avery Parkway interchange, and add auxiliary lanes where needed to increase freeway

capacity and reduce congestion in Laguna Niguel, Mission Viejo, and Laguna Hills areas.

#### Segment 2:

This portion consists of the Oso Parkway to Alicia Parkway segment, which will add one general purpose lane in each direction between Oso Creek and Alicia Parkway (approximately 2.6 miles), reconstruct La Paz Road interchange, and add auxiliary lanes where needed to increase freeway capacity and reduce congestion in Mission Viejo, and Laguna Hills areas.

#### Segment 3:

This portion consists of the Alicia Parkway to El Toro Road segment, which will add one general purpose lane in the southbound direction between Alicia Parkway and El Toro Road (approximately 1.7 miles), continue the additional general



## **C. I-5 (El Toro Road to SR-73 includes Avery & La Paz Interchanges)**

purpose lane in the northbound direction from Segment 2 through Alicia Parkway, extend the second HOV lane in both directions from El Toro Road to Alicia Parkway, and add auxiliary lanes where needed to increase freeway capacity and reduce congestion in Laguna Hills and Lake Forest areas.

### **Cost:**

Segment 1: \$188.12 million (YOE)  
Segment 2: \$188.64 million (YOE)  
Segment 3: \$164.17 million (YOE)

Landscaping for all three segments:  
12.365 (YOE)

### **Status:**

Segment 1 is scheduled to complete design in late 2018 and Segment 3 is scheduled to complete design in mid-2019. Construction is expected to start in early 2019 for Segment 2, and in 2019/20 for Segments 1 and 3, with all segments open to traffic in 2024.

### **Present Day:**

The current traffic volume on I-5 near the El Toro “Y” is about 343,000 vehicles per day. This volume will increase in the future by 22 percent by 2035, bringing it up to 420,000 vehicles per day.

### **Benefits:**

This project will help alleviate congestion and reduce traffic delays. The second HOV extension for Segment 3 will enable more efficient operation of general purpose lanes and increase capacity for future projected traffic volumes. Adding an additional general purpose lane in Segment 1 and 2 will increase capacity of the freeway

to accommodate future projected traffic volumes. The I-5/La Paz Road and I-5/Avery Parkway interchange improvement projects called for in M2 Project D will reduce chokepoints and congestion, as well as accommodate future traffic demands on the local roads at each interchange.

### **External Funding:**

The Board has approved funding that supports this project including:

Segment 1: \$28.17 million in federal funds and \$91.98 million in state funds.

Segment 2: \$55.60 million in federal funds.

Segment 3: \$49.90 million in federal funds and \$69.91 million in state funds.

Additionally, \$6.00 million in state funds have been approved for landscaping planting across all three segments.

### **Risks:**

Overall time, scope, and costs risks are high with this project due to potential ROW impacts and delay from STIP funding schedule.

### **Related Projects:**

Project C (Avenida Pico to San Juan Creek Road) and Project D (El Toro Road interchange).

### **Involved Agencies:**

OCTA, Cities of Mission Viejo, Laguna Hills, and Laguna Niguel, Transportation Corridor Agencies, Caltrans, CTC, and FHWA.



## **C. I-5 (El Toro Road to SR-73 includes Avery & La Paz Interchanges)**

### **Assumptions:**

Costs based on June 2018 M2  
Program Cash Flow.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- 2015 Freeway Plan
- June 2018 Project Status Report
- Capital Funding Program Report – State Highway Project (June 2018)

## C. I-5 Avenida Pico to San Juan Creek Road (includes Pico Interchange)

### Description:

Project C reduced freeway congestion on I-5 by extending the HOV lanes from Avenida Pico to San Juan Creek Road in the Cities of San Juan Capistrano, Dana Point, and San Clemente. Major interchange improvements were also included at Avenida Pico, as part of Project D. The project was generally constructed within the existing ROW. This project was divided into three segments as described below.

#### Segment 1:

This portion consists of the Avenida Pico to Avenida Vista Hermosa segment, which added new continuous-access HOV lanes in each direction between Avenida Vista Hermosa Overcrossing and Avenida Pico Undercrossing. The Avenida Pico Interchange was reconstructed to optimize the traffic movements within the interchange and provide bicycle

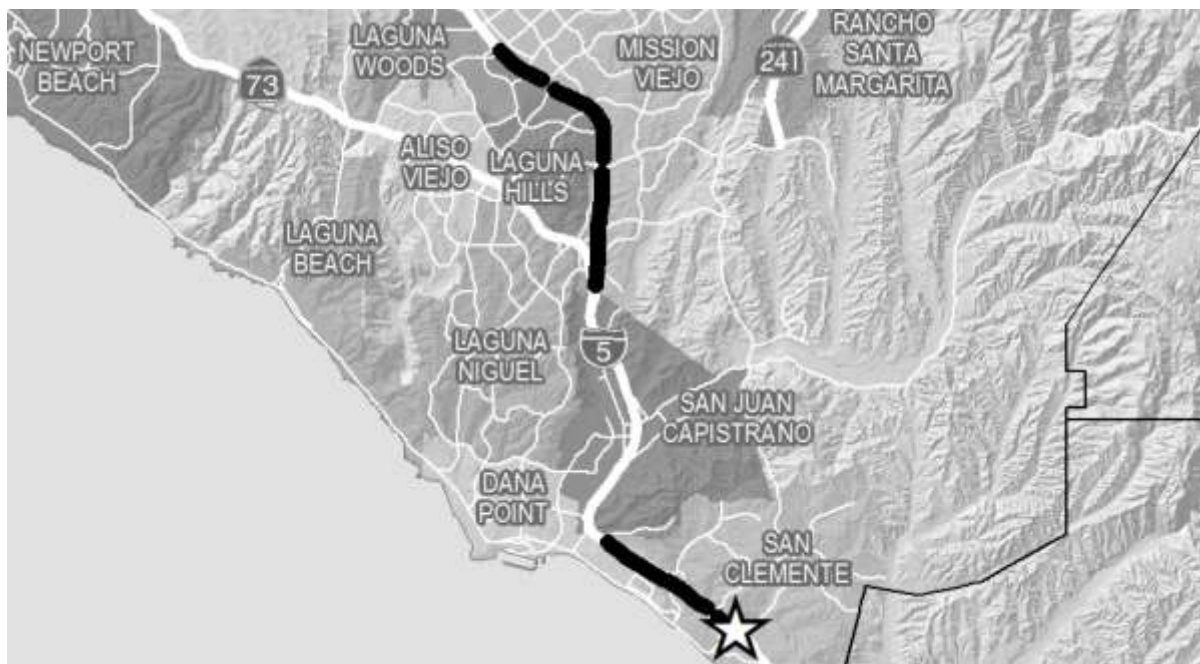
lanes in both directions of Avenida Pico.

#### Segment 2:

This portion consists of the Avenida Vista Hermosa to Pacific Coast Highway (PCH) segment, which added new continuous-access HOV lanes in each direction between Avenida Vista Hermosa Overcrossing and PCH Undercrossing. The project also reconstructed on- and off-ramps at Avenida Vista Hermosa and Camino de Estrella, and re-established existing auxiliary lanes. Avenida Vaquero Undercrossing was be widened in both directions to accommodate the new HOV lanes.

#### Segment 3:

This portion consists of the PCH to San Juan Creek Road segment, which added new continuous-access HOV lanes in each direction between



## **C. I-5 Avenida Pico to San Juan Creek Road (includes Pico Interchange)**

Camino Estrella Overcrossing to San Juan Creek Road Undercrossing. On- and off-ramps at Camino Las Ramblas/ PCH were reconstructed. Additionally, the I-5/PCH northbound connector and I-5/Camino Las Ramblas Undercrossing were widened in both directions.

### **Cost:**

Segment 1: \$85.85 million  
Segment 2: \$71.43 million  
Segment 3: \$71.19 million

### **Status:**

All segments of Project C were opened to traffic at the same time in early 2018. Segment 2 was completed in July 2017 and Segment 3 in July 2018. Remaining punch list work remains on Segment 1.

### **Present Day:**

This portion of I-5 has high levels of traffic during the weekdays and weekends, as well as holidays, throughout the proposed project limits. The current traffic volume on this segment of I-5 is about 250,000 vehicles per day and is expected to increase by nearly six percent by 2035, bringing it up to 266,000 vehicles per day.

### **Benefits:**

This project eliminated a southbound lane drop at PCH by extending the southbound HOV lane between Camino Capistrano and Avenida Pico, and the northbound HOV lane between Avenida Pico and PCH. Elimination of the lane drop enabled more efficient operation of general purpose lanes and

serves projected traffic volumes for the year 2040.

### **External Funding:**

The Board has approved funding that supports these projects including:

Segment 1: \$33.34 in federal funds and \$43.74 million in state funds.

Segment 2: \$13.47 million in federal funds and \$46.78 million in state funds.

Segment 3: \$11.80 million in federal funds and \$20.79 million in state funds.

### **Risks:**

Overall time and scope risks are low with this project as all segments have been opened to traffic. Remaining punch list work remains on Segment 1. Cost risk is low.

### **Related Projects:**

Project D.

### **Involved Agencies:**

OCTA, Cities of San Clemente, Dana Point and San Juan Capistrano, Caltrans, CTC and FHWA.

### **Assumptions:**

Costs based on June 2018 M2 Program Cash Flow.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- June 2018 Project Status Report
- Capital Funding Program Report - State Highway Project (June 2018)

## D. I-5 (El Toro Interchange)

### Description:

Proposed Project D improvements at I-5/El Toro Road Interchange include modifying entrance and exit ramps and modifying or replacing existing bridge structures.

### Cost:

\$112.32 million (YOE), including advancement of the environmental phase.

### Status:

The environmental phase for this project began in April 2017. The Next 10 Plan includes funding this project through environmental, with environmental clearance expected in late 2019.

### Present Day:

This portion of I-5 has high levels of traffic during the weekdays and weekends, as well as holidays, throughout the proposed project limits.

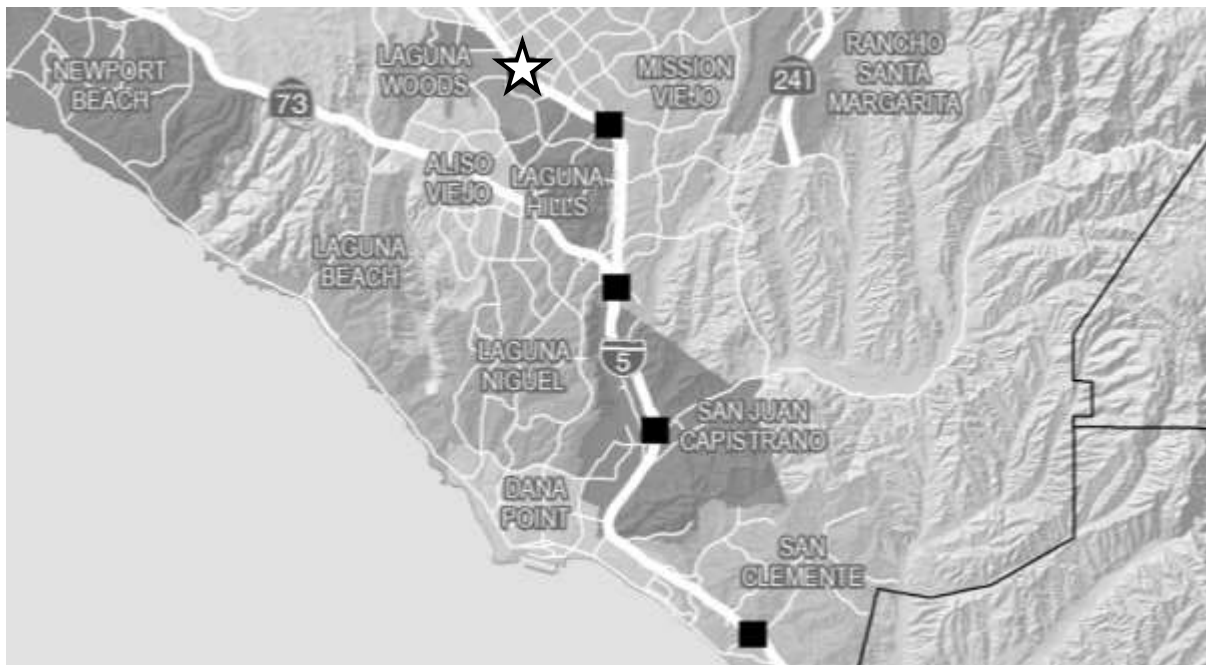
The current traffic volume on this segment of I-5 is about 355,000 vehicles per day and is expected to increase nearly nine percent by 2035, bringing it up to 388,000 vehicles per day.

### Benefits:

This project would reduce the chokepoint and better accommodate forecasted traffic demands. Modification of the entrance and exit ramps would alleviate congestion at adjacent intersections.

### External Funding:

The Board has approved providing \$4.40 million in federal funds for the environmental phase. Future phases are also eligible for state and federal funds. Any additional funding is expected to be submitted for Board approval at a later time.



## **D. I-5 (El Toro Interchange)**

### **Risks:**

Overall time, scope, and costs risks are high with this project due to community issues and potentially high ROW impacts with most of the alternatives.

### **Related Projects:**

Project C.

### **Involved Agencies:**

OCTA, Cities of Laguna Hills, Laguna Woods, and Lake Forest, Caltrans, and FHWA.

### **Assumptions:**

Cost based on June 2018 M2 Program Cash Flow.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- 2015 Freeway Plan
- June 2018 Project Status Report
- Capital Funding Program Report - State Highway Project (June 2018)

## D. I-5 (Ortega Highway Interchange)

### Description:

Reconstruct the I-5 interchange at State Route 74 (SR-74) in south Orange County, including widening SR-74, modifying entrance and exit ramps, and replacing the existing bridge structure.

### Cost:

The cost for this project was \$75.17 million.

### Status:

The project was opened to traffic on September 4, 2015, and was officially completed on January 15, 2016.

### Present Day:

Prior to completion of the project, the existing freeway overcrossing and on- and off-ramps did not accommodate existing and projected to-and-from street/freeway traffic.

### Benefits:

This project alleviated a major chokepoint and reduced congestion by widening the Ortega Highway Bridge and improving local traffic flow through reconfigured streets and on- and off-ramps.

### External Funding:

\$752,000 in federal funds, \$73.48 million in state funds, \$2.50 million in M1 funds from the regional interchange program, and \$5.01 million in other local funds were used for the project.

### Risks:

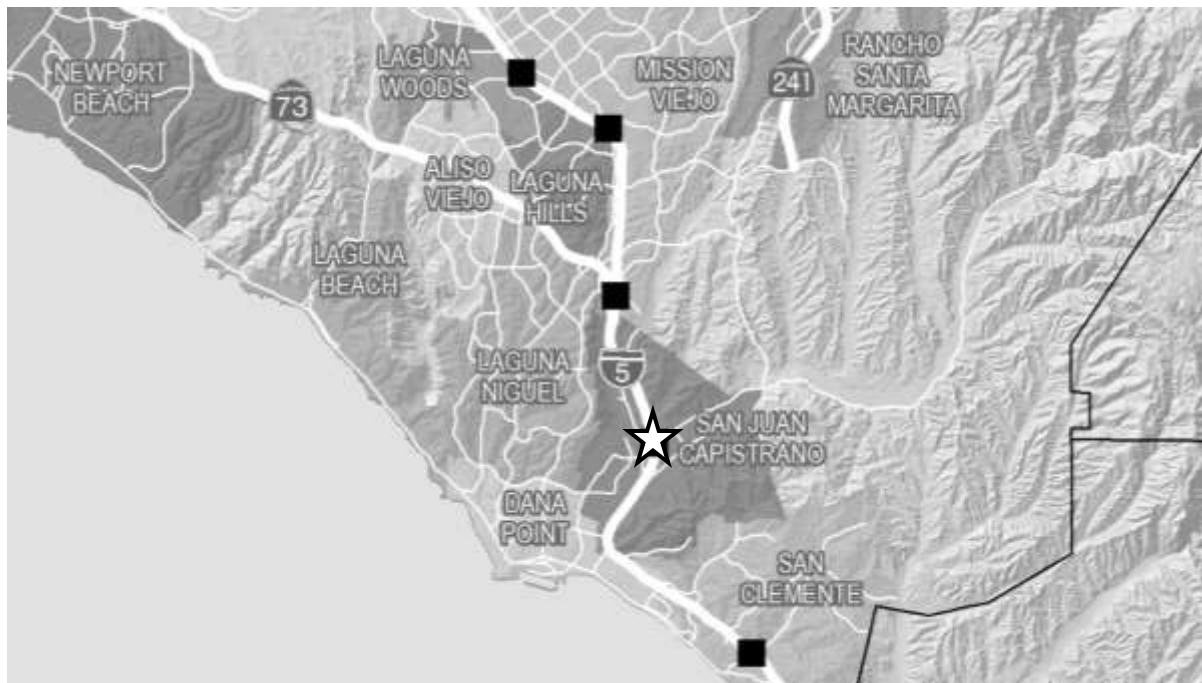
None – project completed.

### Related Projects:

Project C.

### Involved Agencies:

OCTA, City of San Juan Capistrano, Caltrans, and CTC.



## **D. I-5 (Ortega Highway Interchange)**

### **Assumptions:**

Cost based on June 2018 M2 Program  
Cash Flow.

### **References:**

- OCTA 2014 Long Range  
Transportation Plan
- June 2018 Project Status Report
- Capital Funding Program Report -  
State Highway Project (June 2018)

## E. SR-22 Access Improvements

### Description:

Construct interchange improvements at Euclid Street, Brookhurst Street, and Harbor Boulevard to reduce freeway and street congestion near these interchanges.

### Cost:

The cost for this project was \$25.8 million.

### Status:

These projects were completed in 2006 as part of the SR-22 widening project completed in late 2007 using M1 funds.

### Present Day:

Prior to completion of the project, the existing freeway overcrossings did not allow clearance for the widening of these three streets to accommodate existing and projected traffic.

### Benefits:

The project reconstructed the freeway overcrossings to allow these streets to be widened through the interchange area. These improvements reduced congestion and delay at all three interchanges.

Additional improvements also include new freeway-to-freeway carpool ramps to the SR-22/I-405 and I-405/I-605 interchanges, which were completed in 2015 as part of a separate project.

### External Funding:

\$15.9 million of M1 funds and \$9.9 million of other non-M2 (federal, state and city) funds were used for the project.

### Risks:

None – project completed.

### Related Projects:

West County Connector (WCC) improvements at SR-22/I-405 and I-405/I-605 interchanges.

### Involved Agencies:

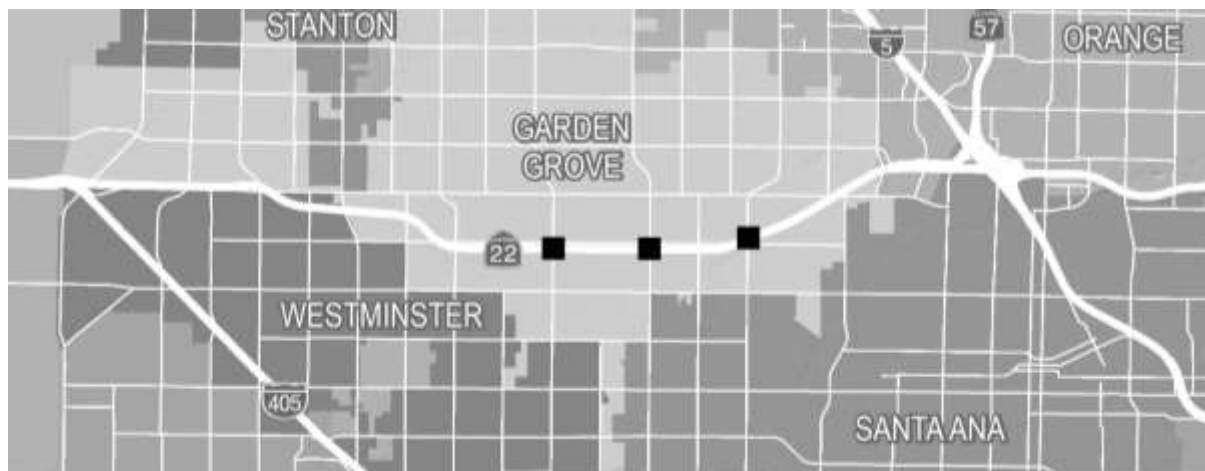
OCTA, City of Garden Grove, and Caltrans.

### Assumptions:

Completed as part of the M1 SR-22 Design Build project.

### References:

- OCTA 2014 Long Range Transportation Plan





## F. SR-55 (I-405 to SR-91)

### Description:

Project F will increase freeway capacity and reduce congestion by adding lanes and operational improvements to SR-55 between I-405 and SR-91. This project is divided into two segments as described below.

#### Segment 1:

This portion will add one general purpose lane (approximately six miles) between I-5 and I-405, including merging lanes between interchanges to smooth traffic flow. The South Segment will generally be constructed within the existing ROW. The general purpose lane will be funded with M2, state, and federal funds. Concurrent with these efforts, an additional, second HOV lane will also be constructed between I-5 and I-405 with state and local funds.

#### Segment 2:

This future portion would add new lanes between SR-22 and I-5, including merging lanes between interchanges to smooth traffic flow. Operational improvements between SR-22 and SR-91 would also be incorporated. The Next 10 Plan includes advancing the North Segment through the environmental phase. The North Segment will generally be constructed within the existing ROW.

### Cost:

Segment 1: \$410.91 million (YOE) including cost for potential ROW risk.

Segment 2: \$227.92 (YOE) including advancement of environmental phase.

### Status:

Segment 1 is currently in the design phase. This project was accelerated by two years and construction is now expected to begin in 2021. Segment 2 began the environmental phase in late 2016, with the environmental document expected to be complete by early 2020.

### Present Day:

This freeway carries about 316,000 vehicles on a daily basis. This volume is expected to increase by nearly eight percent by 2035, bringing it up to 340,000 vehicles per day in the future.



## **F. SR-55 (I-405 to SR-91)**

### **Benefits:**

This project will increase freeway capacity, improving mobility and reducing congestion in central Orange County areas, by adding new lanes and operational improvements that provide an improved level of operation for existing and forecasted traffic volumes (especially for weaving and lane efficiency at ramp junctions).

### **External Funding:**

Segment 1: The Board has approved providing \$103.81 million in federal funds and \$80.00 million in state funds. As previously mentioned, Caltrans has also committed \$46.80 million in state (SHOPP) funds for this project. This project is eligible for future state and federal funds.

Segment 2: The Board has approved providing \$5.00 million in federal funds for this project to support the environmental phase. This project is eligible for future state and federal funds.

### **Risks:**

Overall time, scope, and costs remain high on Segment 1 due to ROW impacts which rely on design exceptions, increased project cost, and delay from STIP funding schedule.

Overall time, scope, costs, and risks are low on Segment 2.

### **Related Projects:**

Projects A and B.

### **Involved Agencies:**

OCTA, Cities of Orange and Santa Ana, Caltrans, and FHWA.

### **Assumptions:**

Costs based on June 2018 M2 Program Cash Flow.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- 2015 Freeway Plan
- June 2018 Project Status Report
- Capital Funding Program Report - State Highway Project (June 2018)

## G. SR-57 Improvements

### Description:

Project G will increase capacity and reduce congestion by adding one general purpose lane in the northbound direction from Orangewood Avenue in the City of Orange to approximately Tonner Canyon in the City of Brea. Select northbound undercrossings will also be widening and seismically retrofitted, as required. The project is divided into three segments as described below.

#### Segment 1:

This portion consists of three northbound sections including Katella Avenue to Lincoln Avenue, Orangethorpe to Yorba Linda Avenue, and Yorba Linda Boulevard to Lambert Road in the Cities of Anaheim, Placentia, Fullerton, and Brea. Projects in this segment are complete.

#### Segment 2:

This portion would include the addition of a northbound truck-climbing lane from Lambert Road in the City of Brea to one-half mile north of the Los Angeles County line (approximately Tonner Canyon Road).

#### Segment 3:

This portion would include adding one northbound general purpose lane from approximately Orangewood Avenue in the City of Orange to Katella Avenue in the City of Anaheim. Segment improvements would maintain the existing auxiliary lane and address existing non-standard features between Orangewood Avenue and Katella Avenue.



### Cost:

Segment 1: \$144.36 million.

Segment 2: \$167.55 million (YOE), including advancement of environmental phase.

Segment 3: \$47.69 million (YOE), including advancement of environmental phase.

### Status:

Segment 1 was completed and opened to traffic in 2014. The Next 10 Plan includes funding Segments 2 and 3

## G. SR-57 Improvements

through the environmental phase. Segment 2 is scheduled to begin the environmental phase in 2020. Segment 3 is currently in the environmental phase and environmental clearance is scheduled for early 2019.

### **Present Day:**

This freeway carries about 302,000 vehicles on a daily basis. This volume is expected to increase by nearly 13 percent by 2035, bringing it up to 342,000 vehicles per day in the future.

### **Benefits:**

This project will substantially improve existing and future mobility, reduce congestion, improve mainline weaving, and merge/diverge movements, which will improve both traffic operations and safety. Combined improvements from Orangethorpe Avenue to Tonner Canyon Road could achieve a 40 percent reduction in total delay through the SR-57 northbound corridor.

### **External Funding:**

Segment 1: \$104.68 million in state funds were used for the project.

Segment 2: The Board has approved the use \$4.05 million in state funds for the project.

Segment 3: The Board has approved \$2.50 million in federal funds to support the environmental phase of this project. Segments 2 and 3 are eligible for future state and federal funds.

### **Risks:**

Overall time, scope, costs, and quality risks are low with this project due to construction within the existing ROW and relatively straightforward design issues.

### **Related Projects:**

Project H.

### **Involved Agencies:**

OCTA, CTC, FHWA, Caltrans, and the Cities of Orange, Anaheim, Placentia, Fullerton, and Brea.

### **Assumptions:**

Costs based on June 2018 M2 Program Cash Flow.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- 2015 Freeway Plan
- June 2018 Project Status Reports
- Capital Funding Program Report - State Highway Project (June 2018)

## H. SR-91 (I-5 to SR-57)

### **Description:**

Widen westbound SR-91 by connecting existing auxiliary lanes through interchanges, thus forming a fourth continuous general purpose lane between SR-57 and I-5. Replace the existing auxiliary lanes on westbound SR-91 between State College Boulevard and Raymond Avenue, and between Euclid Street and Brookhurst Street, and add a new auxiliary lane between Raymond Avenue and Lemon Street.

### **Cost:**

The cost for this project was \$58.95 million.

### **Status:**

The project was opened to traffic in March 2016, and was officially completed in June 2016.

### **Present Day:**

SR-91 serves as a major commuting route connecting Orange County with

Riverside and Los Angeles counties.

SR-91 is also one of the most congested freeways in Southern California. This freeway carries about 290,000 vehicles on a daily basis. This volume is expected to increase by nearly 5 percent by 2035, bringing it up to 304,000 vehicles per day in the future.

### **Benefits:**

This project alleviated congestion and increased mainline capacity by adding a continuous general purpose lane and replacing existing auxiliary lanes, which improved merging operations at each interchange.

### **External Funding:**

\$27.23 million in state funds were used for the project.

### **Risks:**

None – project completed.



## H. SR-91 (I-5 to SR-57)

**Related Projects:**

Project I.

**Involved Agencies:**

OCTA, Cities of Fullerton and Anaheim, Caltrans, and CTC.

**Assumptions:**

Cost based on June 2018 M2 Program Cash Flow.

**References:**

- OCTA 2014 Long Range Transportation Plan
- June 2018 Project Status Report
- Capital Funding Program Report – State Highway Project (June 2018)

## I. SR-91 (SR-55 to SR-57)

### Description:

Project I will add an auxiliary lane in the westbound direction from the SR-55/SR-91 connector to Tustin Avenue, one westbound general purpose lane from Glassell Street to State College Boulevard, and one eastbound general purpose lane between SR-57 and SR-55. The project is divided into two segments as described below.

#### Segment 1:

This completed segment added a westbound auxiliary lane, beginning at the northbound SR-55 to westbound SR-91 connector, through the Tustin Avenue interchange. The overall segment length was approximately two miles. Additional features of this project included widening the westbound Santa Ana River Bridge to accommodate the auxiliary lane.

#### Segment 2:

This future segment would include adding an eastbound general purpose lane on SR-91 between SR-57 and SR-55 and a westbound general purpose lane from Glassell Street to State College Boulevard. Additional features would include improvements to the Glassell, Tustin, and Lakeview interchanges, and freeway-to-freeway connectors from northbound SR-57 to SR-91 and southbound SR-57 to westbound SR-91. Select auxiliary lanes would be added or re-established. Segment 2 would generally be constructed within the existing ROW. The Next 10 Plan includes advancing this project through the environmental phase.



## **I. SR-91 (SR-55 to SR-57)**

### **Cost:**

Segment 1: The cost for this segment was \$42.63 million.

Segment 2: \$456.19 million (YOE), including advancement of the environmental phase of the project.

### **Status:**

Segment 1 was completed in July 2016.

Segment 2 is currently in the environmental phase. Environmental clearance is expected by mid- 2019.

### **Present Day:**

Current freeway volume on this segment of the SR-91 is about 250,000 vehicles per day. This vehicular demand is expected to increase by 12 percent by 2035, bringing it up to 280,000 vehicles per day in the future.

### **Benefits:**

Segment 1 addressed choke-point conditions and reduced operational problems, including weaving and merging maneuvers, which were primarily caused by extensive weaving between the northbound SR-55 to westbound SR-91 connector and the westbound SR-91 off-ramp to Tustin Avenue.

Segment 2 improvements are expected to alleviate congestion and reduce delay by improving the connection from SR-57 to southbound SR-55.

### **External Funding:**

Segment 1: \$29.75 million in state funds were used for the project.

Segment 2: The Board has approved providing \$7.00 million in federal funds to support the environmental phase of this project and the Board approved the use of SR-91 Express Lanes excess revenue for this project. Segment 2 is eligible for future state and federal funds.

### **Risks:**

Overall time, scope and costs risks are low with Segment 2.

### **Related Projects:**

Projects H and J.

### **Involved Agencies:**

OCTA, Cities of Orange and Anaheim, Caltrans, CTC, and FHWA.

### **Assumptions:**

Costs based June 2018 M2 Program Cash Flow.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- 2015 Freeway Plan
- June 2018 Project Status Report
- Capital Funding Program Report – State Highway Project (June 2018)



## J. SR-91 (SR-55 to SR-71)

### Description:

Project J adds capacity on the SR-91 beginning at SR-55 and extending to SR-71 in Riverside County. The project is divided into three segments as described below.

#### Segment 1:

This completed segment improved the portion of SR-91 east of SR-241 by adding one eastbound lane from one mile east of SR-241 to SR-71 in Riverside County. This project was led by the Riverside County Transportation Commission (RCTC) in coordination with Caltrans District 8.

#### Segment 2:

This completed segment improved the approximate 6-mile portion of SR-91 between SR-55 and SR-241 by adding one new lane in each direction and improving key interchanges. Additional improvements included the widening and seismic retrofitting for the Imperial Highway and Weir Canyon Road undercrossing bridges. This project was led by the OCTA in coordination with Caltrans District 12.

#### Segment 3:

This segment would add one additional generally purpose lane on SR-91 beginning at SR-241 and extending to State Route 71 in Riverside County. This projects is contingent upon RCTC's delivery of the complementary improvements within Riverside County.

### Cost:

Segment 1: \$57.77 million.

Segment 2: \$79.74 million.

Segment 3: \$292.53 million (YOE), including advancement of the environmental phase.

### Status:

Segment 1 was completed in January 2011, and Segment 2 was completed in March 2013.

Segment 3 is contingent on the future widening in Riverside County to match the planned lanes in Orange County. The segment was environmentally reviewed as part of the RCTC's Corridor Improvement Project. Additional studies will be needed prior to construction.



## **J. SR-91 (SR-55 to SR-71)**

### **Present Day:**

Today, this freeway carries about 328,000 vehicles every day. This volume is expected to increase by 15 percent, bringing it up to 378,000 vehicles by 2035.

### **Benefits:**

Segment 1 improvements added one general purpose lane, which improved weaving by reducing the volume of exiting vehicles in the SR-91 mainline through lanes that are exiting at Green River Road and SR-71.

Segment 2 improvements helped to alleviate congestion and reduce delay. Segment 3 proposed improvements are expected to reduce congestion and delay and improve operational efficiency by increasing capacity and by reducing the existing chokepoints within the project limits.

### **External Funding:**

Segment 1: \$45.91 million in federal funds and \$4.92 million in local funds were used for this project.

Segment 2: \$79.19 million in state funds were used for this project.

Segment 3: The Board has approved the use of SR-91 Express Lanes

excess revenue for this segment, however this project requires coordination with the planned RCTC project.

### **Risks:**

No risks for Segments 1 and 2, as they are complete. Overall time, scope, and costs risks for Segment 3 are dependent upon required coordination with RCTC, local jurisdictions and affected communities.

### **Related Projects:**

Project I and the Riverside County Corridor Improvement Project.

### **Involved Agencies:**

OCTA, Cities of Anaheim and Yorba Linda, County of Orange, Caltrans, CTC, and FHWA.

### **Assumptions:**

Costs based on June 2018 M2 Program Cash Flow.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- 2015 Freeway Plan
- June 2018 Project Status Report
- Capital Funding Program Report – State Highway Project (June 2018)

## K. I-405 Widening (SR-73 to I-605)

### Description:

Project K will add new lanes to I-405 between SR-73 and I-605. The project will make the best use of available freeway property by staying generally within the freeway ROW and updating key local interchanges to current standards. The project will add one general purpose lane in each direction of I-405 from Euclid Street to I-605.

Concurrently with Project K, an additional lane will be added in each direction that would combine with the existing HOV lane to provide dual express lanes in each direction on I-405 from SR-73 to I-605. The general purpose lanes will be funded with M2, state, and federal funds; the express lanes will be funded primarily with toll revenues.

### Cost:

M2 Portion: \$1.43 billion (YOE).

Express Lanes Portion: \$475 million (YOE).

### Status:

Project K is currently in the design/construction phase. This schedule is based on the design/build (D/B) project delivery method in which one team is hired to perform both the design and construction of the project. The project is expected to be open to traffic in 2023.

### Present Day:

On average, I-405 carries between 392,000 vehicles daily. The volume is expected to increase by 20 percent by 2035, bringing it up to 472,000 vehicles daily. The project will increase freeway capacity, reduce congestion, enhance operations, increase mobility, improve trip reliability, and maximize throughput on I-405.

### Benefits:

Project K includes the addition of auxiliary and general purpose lanes. These improvements would help reduce congestion and improve travel times. Additional improvements include



## **K. I-405 Widening (SR-73 to I-605)**

interchange and local street improvements, and a direct Express Lanes connector at the I-405/SR-73 Interchange.

The express lanes will operate congestion-free throughout the day, due to toll rates that vary based on traffic demand. The express lanes provide commuters with a reliable travel option compared to the adjacent, general purpose lanes.

M2 improvements, in combination with express lanes improvements, will provide more throughput in the corridor. These improvements will add two additional freeway lanes to I-405 in both directions between Euclid Street to the I-605 interchange.

### **External Funding:**

The Board has approved funding supporting this project, including \$89.77 million in a contribution of state funds, and \$45.65 million in federal funds. Recently, a \$628.93 million TIFIA loan was successfully secured. The M2 cash flow will benefit from \$153.93 million in TIFIA revenues for this project. The entire TIFIA loan will be paid back solely with toll revenues.

### **Risks:**

Overall time, scope, and costs risks are high with this project due to the extensive project scope.

### **Related Projects:**

Project L and WCC improvements at SR-22/I-405 and I-405/I-605 interchanges (mentioned under Project E).

### **Involved Agencies:**

OCTA, cities of Costa Mesa, Fountain Valley, Huntington Beach, Westminster, Seal Beach, the Community of Rossmore, Caltrans, CTC, FHWA, and Build America Bureau TIFIA Office.

### **Assumptions:**

Costs based on June 2018 M2 Program Cash Flow. Toll revenues will primarily pay for the 405 Express Lanes, and M2 will only pay for the addition of the general purpose lanes.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- June 2018 Project Status Report
- Capital Funding Program Report – State Highway Project (June 2018)

## L. I-405 (SR-55 to I-5)

### Description:

Project L will add new lanes to I-405 from SR-55 to the vicinity of I-5 to alleviate congestion and reduce delay. The project could also improve chokepoints at interchanges and add merging lanes near on/off ramps (such as Lake Forest Drive, Irvine Center Drive, and SR-133) to improve the overall freeway operations in the I-405/I-5 El Toro “Y” area. The project will generally be constructed within the existing ROW.

### Cost:

\$323.60 million (YOE), including advancement to the environmental phase.

### Status:

The project is currently in the environmental phase. The Next 10 Plan includes funding this project through environmental. Environmental clearance is expected in late 2018.

### Present Day:

This segment of the freeway carries 296,000 vehicles a day. This number will increase by nearly 22 percent, bringing it up to 362,000 vehicles per day by 2035.

### Benefits:

Improvements between SR-55 and the El Toro ‘Y’ would help alleviate congestion and reduce delay.

### External Funding:

The Board approved providing \$8.00 million in federal funds to support the environmental phase of the project. This project is eligible for future state and federal funds.

### Risks:

Overall time, scope, and costs risks are low with this project due to low ROW impacts and straightforward design.

### Related Projects:

Project K.



## **L. I-405 (SR-55 to I-5)**

### **Involved Agencies:**

OCTA, City of Irvine, Transportation Corridor Agencies, Caltrans, CTC, and FHWA.

### **Assumptions:**

Costs based on June 2018 M2 Program Cash Flow.

### **References:**

- OCTA 2014 Long Range Transportation Plan
- 2015 Freeway Plan
- June 2018 Project Status Report
- Capital Funding Program Report – State Highway Project (June 2018)

## M. I-605 Interchange Improvements

### Description:

Project M will improve freeway access and arterial connection to I-605 at Katella Avenue, which serves the communities of Los Alamitos and Cypress. The project will be coordinated with other planned improvements along the SR-22 and the I-405. Specific improvements will be subject to approved plans developed in cooperation with local jurisdictions and affected communities. Operational improvements have been identified on I-605 and Katella in order to increase the efficiency and safety of the interchange.

### Cost:

The cost for this project is estimated to be \$29.59 million (YOE).

### Status:

The planning phase for this project is complete and was done in cooperation with the City of Los Alamitos. The environmental phase began in 2016. The Next 10 Plan includes funding this project through the environmental

phase, which is expected to be completed in late 2018.

### Present Day:

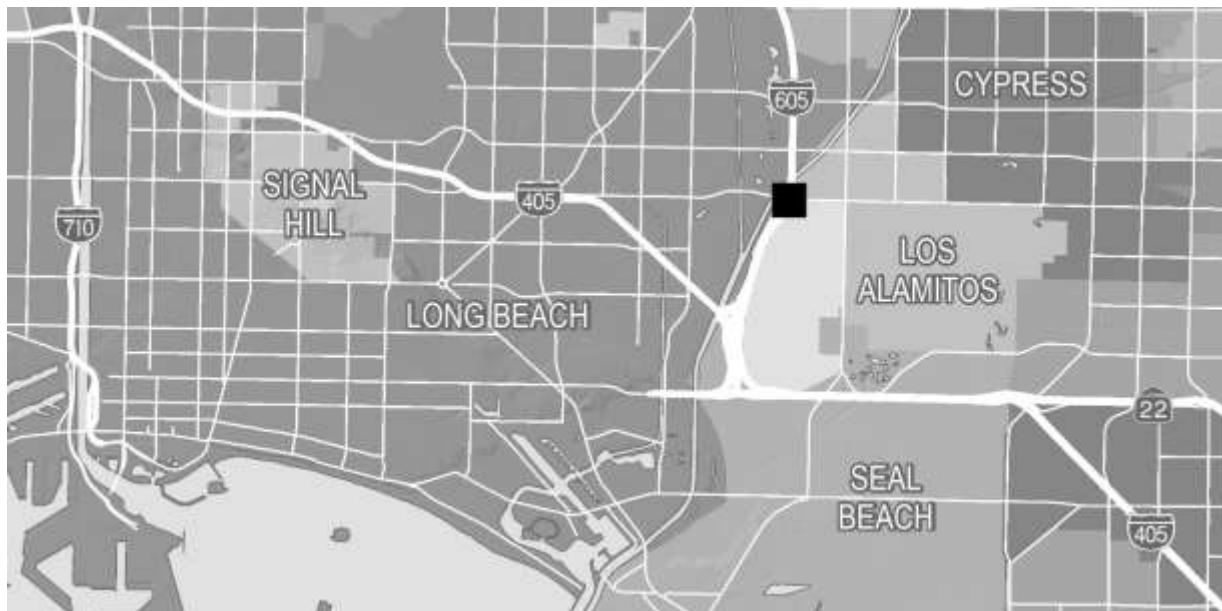
The existing interchange design is outdated and results in both arterial congestion and freeway queuing in the interchange area.

### Benefits:

The I-605/Katella Avenue interchange project would include both freeway and arterial improvements that would improve interchange traffic operations, enhance safety, and improve bicycle and pedestrian facilities while minimizing adjacent ROW and environmental impacts. Additionally, these improvements would reduce congestion, traffic queuing, and delay within the interchange area.

### External Funding:

No external funding is currently programmed for this project. However, this project is eligible for future state and federal funds.



## **M. I-605 Interchange Improvements**

### **Risks:**

Overall time, scope, and costs risks are low with this project due to low ROW impacts and straightforward design.

### **Related Projects:**

I-405/I-605/SR-22 HOV connector project (West County Connector).

### **Involved Agencies:**

OCTA, City of Los Alamitos, and Caltrans.

### **Assumptions:**

Costs based on June 2018 M2 Program Cash Flow.

### **References:**

- 2015 Freeway Plan
- June 2018 Project Status Report
- Capital Funding Program Report - State Highway Project (June 2018)



## N. Freeway Service Patrol

### Description:

The Freeway Service Patrol (FSP) provides competitively-bid, privately-contracted tow truck service. This service helps stranded motorists, quickly clearing disabled vehicles and large debris from freeway lanes to minimize congestion caused by blocked traffic lanes and passing motorists rubbernecking. Currently FSP is available on various Orange County freeways, seven days a week. This project assures that this basic level of service will be continued through 2041.

### Program Funding:

\$48.7 million in M2 revenue between 2017 and 2026.

### Status:

FSP is largely funded by State Highway Account (SHA) funds. OCTA meets matching fund requirements by utilizing its share of Service Authority for Freeway Emergencies (SAFE) funds, which are collected by the Department of Motor Vehicles each year.

As demand and congestion levels increase, this project will permit service hours to be extended throughout the day and on weekends on additional freeway segments.

Measure M2 also helps support CHP as the partner responsible for field supervision. Currently, M2 funds a full time dispatcher to ensure coverage seven days a week.

### Present Day:

As of June 2018, M2 and construction-funded Freeway Service Patrol has provided a total of 69,265 assists to

motorists on the Orange County Freeway system.

### Benefits:

To keep Orange County moving, FSP provides a range of free services from a jump start or a gallon of gas, to changing a flat tire or towing a disabled vehicle off the freeway.

In FY 2015-16, statewide, for every dollar invested in this program approximately \$8 of congestion relief benefit was received.

In Orange County, for every dollar invested in the program approximately \$12 of congestion relief benefit was received. The result is the elimination of more than 2.8 million vehicle hours of delay and an estimated reduction of 4.8 million gallons of gasoline.

### External Funding:

SHA allocation provided by Caltrans – approximately \$2.6 million annually. SB1 also provides funding for this program.

SAFE (\$1 per vehicle registration fee) – approximately \$2.8 million annually.

### Risks:

Should the State of California stop funding FSP through the SHA, M2 will not be sufficient to maintain existing service levels.

### Related Projects:

M2 Project N funds are designated to support FSP service for construction of Projects A-M.

## **N. Freeway Service Patrol**

### **Involved Agencies:**

OCTA, Caltrans, and the California Highway Patrol

### **Assumptions:**

Project N is assumed to be funded on a pay-as-you-go basis. Funding provided through the SHA and the SAFE program are allocated first and then M2 funding is applied as needed.

### **References:**

- Measure M2 Project N Guidelines Freeway Service Patrol Project, Approved on February 13, 2012
- 2015 Freeway Plan

# Environmental Mitigation Program



## Overview:

The EMP provides for allocation of five percent of the total M2 freeway budget for comprehensive environmental mitigation related to impacts from freeway improvements. The EMP was approved by Orange County voters under the M2 half-cent sales tax for transportation improvements in 2006.

A master agreement between OCTA, Caltrans, and state and federal resource agencies was approved in January 2010. This offers higher-value environmental benefits such as habitat protection, connectivity, and resource preservation in exchange for streamlined project approvals for the 13 (segmented into 27) M2 freeway projects.

To adhere to the promise of M2, the Next 10 Plan includes the following framework for the Mitigation Program as it relates to Projects A-M:

- Streamline freeway projects through the biological permitting process.
- Provide comprehensive environmental mitigation.
- Partner with state and federal resource and regulatory agencies.
- Provide higher-value environmental benefits such as habitat protection, connectivity, and resource preservation.

## Next 10 Deliverables:

In 2009, the Board approved a policy to allocate approximately 80 percent of the revenues to acquisitions and 20 percent to fund restoration projects. This policy will need to be revisited periodically to ensure it continues to meet program needs. The Next 10 Plan recommends four major initiatives through 2026 consistent with the above framework:

1. Oversee and manage the Preserves while the endowment is being established and determine long term land manager(s) and endowment holder(s).
2. Focus environmental mitigation program resources funding as a first priority toward the establishment of the endowment for the Preserves.
3. Finalize the resource management plans on M2 Preserves including provisions for public access as appropriate (projects A-M).
4. Complete approximately 350 acres of restoration projects funded through M2 to fulfill the Conservation Plan commitments.

## Environmental Mitigation Program

### Description:

In July 2010, OCTA began preparing a Conservation Plan, which examines habitat resources within broad geographic areas and identifies conservation and mitigation measures to protect habitat and species. This analysis was completed in late 2016; in accordance with the master agreement “advance credit” provision, funds were allocated prior to completion of the Conservation Plan.

Concurrent with efforts made toward completing the Conservation Plan and EIR/EIS, OCTA has been working with the United States Army Corps of Engineers (USACE) and the State Water Resources Control Board (SWRCB) - regulatory agencies - to streamline the regulatory permitting process.

In conjunction with the preparation of the final Conservation Plan 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.

### Cost:

In summer 2007, the Board approved approximately \$55 million as part of the EAP. Accordingly, \$42 million and \$10.5 million were allocated for acquisition and restoration, respectively. An additional \$2.5 million was allocated for the Conservation Plan development and program support, including appraisals and biological surveys.

### Status:

Since September 2010, a total of \$10 million has been allocated for 12 projects to restore approximately 350 acres of open space lands throughout Orange County.

On September 26, 2016, the Board approved the selection of the endowment fund manager, and the third endowment deposit was made in early August 2018. Annual endowment deposits will continue to be made near the beginning of each fiscal year.

The United States Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (CDFW) – collectively referred to as Wildlife Agencies – finalized the issuance of their respective permits, as well as executing the Implementing Agreement in June 2017. In January 2018, OCTA secured advance streamlined state and federal clean water permitting requirements.

### Present Day:

Five of the seven Preserve RMPs have been finalized and approved by the resources agencies in September 2017. The remaining two RMPs (Eagle Ridge Preserve and Horizon Preserve) will be finalized by late summer 2018.

In consultation with the local fire authority, staff will be preparing fire management plans for the seven Preserves. The Plans will provide guidelines for decision-making at all stages including fire prevention, pre-fire vegetation management, suppression activities, and post-fire responses that are compatible with conservation and

## Environmental Mitigation Program

stewardship responsibilities. These Plans are a requirement of the Conservation Plan and will require approval by the Wildlife Agencies.

### **Benefits:**

The completed Conservation Plan and regulatory permitting process are tools by which OCTA obtains biological and regulatory permits/assurances for the 13 (27 segmented) M2 freeway projects. This comprehensive process enables OCTA to streamline future M2 freeway improvement projects.

### **External Funding:**

Examples of external funding available for this program include:

- USFWS contribution toward the acquisition of open space land in the Trabuco Canyon area.
- USFWS Habitat Conservation Planning Assistant Grant to help fund the completion of the Conservation Plan.
- Restoration project sponsors utilize external funds and resources to implement their projects.

### **Risks:**

The success of the restoration projects will support OCTA's Conservation Plan and regulatory permitting processes. However, recent wildfires occurring in short intervals may require plant reestablishment to ensure successful implementation of the restoration project, if Wildlife Agencies have not signed off on the project.

OCTA will need to establish the endowment over a ten to twelve-year period.

OCTA currently holds the title and interim land management responsibility of the Preserves, but will eventually need to secure a long-term land manager(s).

### **Related Projects:**

Projects A-M.

### **Involved Agencies:**

CDFW, USFWS, Caltrans, USACE, SWRCB and the environmental community.

### **Assumptions:**

This program is assumed to be funded primarily on a pay-as-you-go basis in the future, in addition to prior bonding issuances. More detailed assumptions are included in the appendices.

### **References:**

- Final Conservation Plan and EIR/EIS
- Additional resources can be found online: [www.octa.net/environmental](http://www.octa.net/environmental)

**2018**  
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# **NEXT 10**

## **DELIVERY PLAN**

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### **Streets & Roads Program**

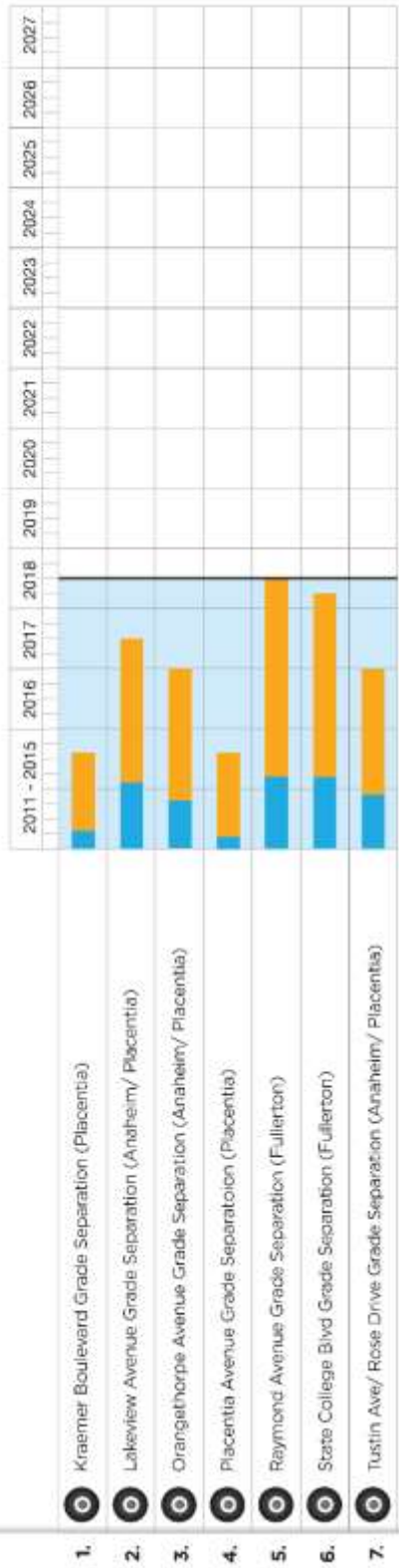
## M2 Streets & Roads Program



- R Regional Capacity Program** (not mapped)
  - Up to 300 miles of roadway improvements
  - Competitive Program with annual call for projects
  - OC Bridges Grade Separation Projects (●●)
- P Regional traffic Signal Synchronization Program** (see grid above)
  - Over 2,000 coordinated signals

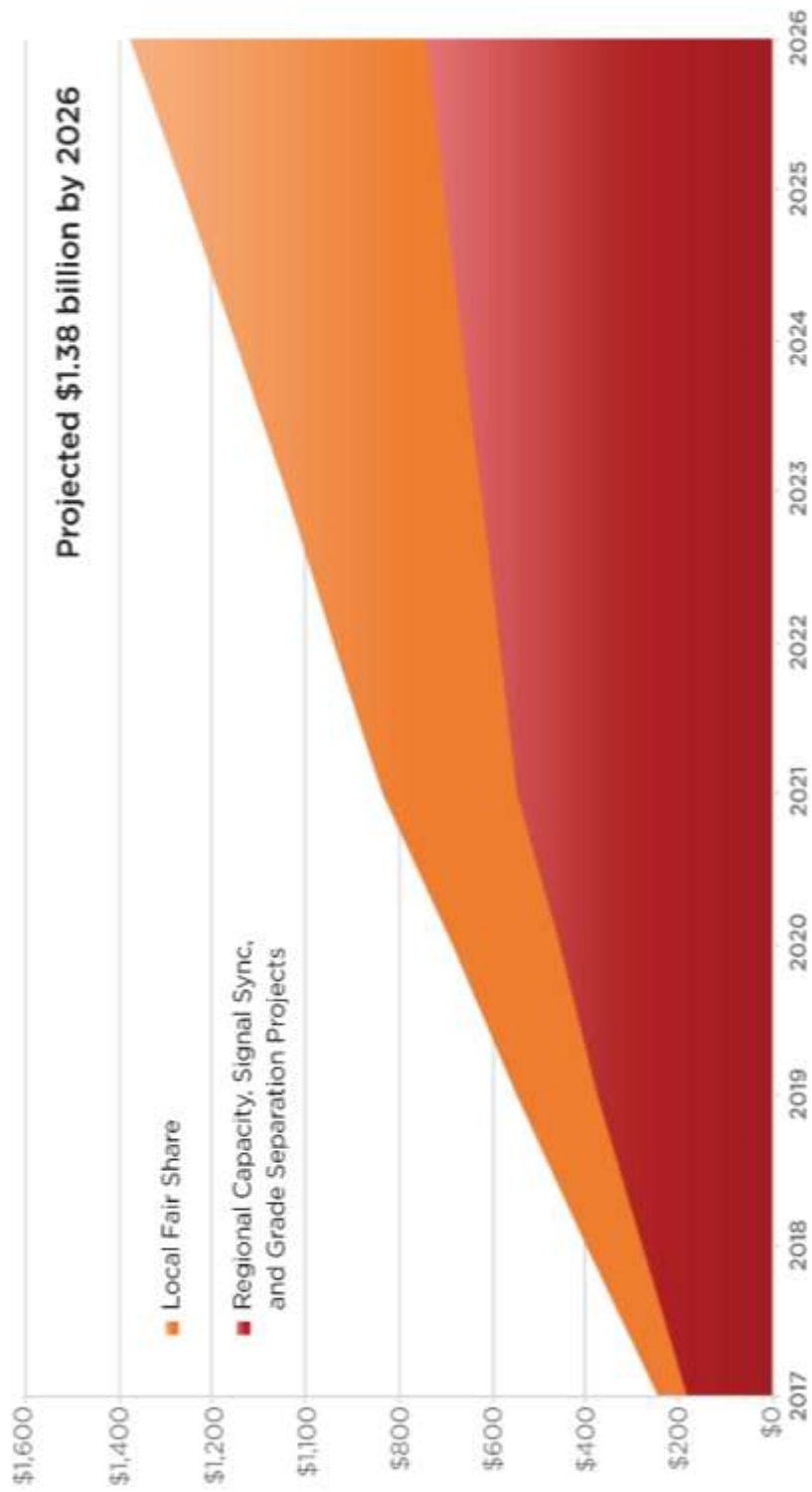
- L Local Fair Share Program** (not mapped)
  - Street maintenance and improvements

M2 Grade Separation Projects





M2 Streets and Roads Cumulative Expenditures



## Streets and Roads Program



### Overview:

Local streets provide the capacity for the movement of people and goods which is essential to Orange County's commerce and vitality. Streets carry approximately half of Orange County's car and truck traffic and nearly all of Orange County's bicycle and pedestrian traffic. Keeping people moving on local streets is an essential function of the M2 funding programs for local streets. To meet this broad mobility goal, the Next 10 Plan includes the following framework for the Streets and Roads Program:

- Target M2 competitive program funds for streets with the worst traffic congestion.
- Maintain the value of investments in streets by synchronizing traffic signals and keeping pavement in good condition.
- Keep traffic moving on Orange County streets by completing key grade separations along the BNSF corridor in north Orange County.
- Consider all modes of travel when planning for added street capacity.

### Next 10 Deliverables:

Allocate nearly \$1 billion in funding to improve the countywide network of streets and roads making them safer and more efficient. The Next 10 Plan for streets and roads recommends three major initiatives through 2026, consistent with the above framework:

1. Provide \$400 million in competitive funding to local jurisdictions to expand roadway capacity and synchronize signals (Project O and P).
2. Complete the remaining OC Bridges grade separation projects by late 2018.
3. Provide approximately \$600 million in flexible funding to local jurisdictions to help maintain aging streets or for use on other transportation needs as appropriate (Project Q).

## O. Regional Capacity Program

### **Description:**

Project O provides funding through a competitive process to local jurisdictions for recommended streets and roads projects which complete the Orange County Master Plan of Arterial Highways (MPAH), relieve congestion, are cost effective, and can proceed to construction quickly. These projects fall into one of two categories as described below.

#### **Regional Capacity Program (RCP):**

This portion of Project O provides a funding source to complete the Orange County MPAH, a plan for future roadway improvements throughout Orange County, that includes considerations for bicycle and pedestrian components as part of each project as applicable to local conditions. This includes intersection improvements and other projects that help improve street operations and reduce congestion. The M2 goal for these projects is to complete roughly 1,000 miles of new street lanes, mostly in the form of widening existing streets to their ultimate planned width. Matching local funds are required for these projects.

#### **OC Bridges:**

This portion of Project O includes funding for completion of seven over- or underpass grade separations that will eliminate car and train conflicts along the BNSF Railway (Orangethorpe corridor) in northern Orange County. These grade separations increase safety for everyone traveling through the intersections and eliminate the delays caused by trains.

### **Program Funding:**

Project O and P: \$400 million for new competitive RCP and Regional Traffic

Signal Synchronization Program (RTSSP) calls for projects between 2017 and 2026.

OC Bridges: The current program funding is \$664.36 million. M2 is contributing a total of \$144.53 million.

### **Status:**

To date, OCTA has awarded \$295 million to 146 projects through eight competitive RCP calls for projects. It is anticipated that there will be annual calls for projects between 2017 and 2026.

To date, all seven planned grade separation projects are complete (Placentia, Kraemer, Orangethorpe, Tustin/Rose, Lakeview, Raymond and State College).

### **Present Day:**

Approximately 820 miles of new lanes remain to be completed, mostly in the form of widening existing streets to ultimate planned widths.

### **Benefits:**

Improvements funded through this program are projected to improve peak period arterial speeds by nearly 25 percent by 2035 compared to not constructing those projects. Completion of the MPAH system, including grade separations and traffic signal synchronization, will result in better traffic flow and a more efficient transportation system.

### **External Funding:**

#### **RCP:**

Local agencies are required to provide a 50 percent minimum local match.

## O. Regional Capacity Program

Matching funds may be reduced contingent on participation in pavement and signal programs, as well as use of non-M2 funds for local match. While other external state and federal funding are not typically used for RCP projects, there have been eight projects to date which qualified for and received SLPP state funds, amounting to approximately \$24 million.

### OC Bridges:

The Board approved the use of \$218.05 in federal funds and \$262.49 million in state funds for this project. Additionally, local agencies provided \$39.30 million in funding. OC Bridges funding includes 78 percent in external local, state, and federal funds.

### Risks:

Local agencies must meet eligibility requirements to receive funding. Local agencies must meet timely use of funds provisions included in M2.

### Related Projects:

Project P and Project Q.

### Involved Agencies:

All local agencies (cities and County of Orange).

### Assumptions:

Project O is assumed to be funded primarily on a pay-as-you-go basis with bonding for the seven OC Bridges projects. More detailed assumptions are included in the appendices.

### References:

- Orange County Master Plan of Arterial Highways Guidelines
- Commuter Bikeways Strategic Plan
- Capital Funding Program Report – Local Road Project (June 2018)

## **P. Regional Traffic Signal Synchronization Program**

### **Description:**

Project P will provide funds to local agencies to implement new signal timing on a 750-mile regional network that covers most of Orange County. Optimizing traffic signal timing is a low-cost, high-benefit approach to reducing congestion and improving traffic flow. Better signal timing results in fewer traffic stops, delays, and pollution, and saves commuters gas and money.

### **Program Funding:**

Project O and P: \$400 million for new competitive RCP and RTSSP calls for projects between 2017 and 2026.

### **Status:**

To date, OCTA has more than \$98 million, including \$18 million in external funding, to 103 projects.

Including early efforts, OCTA and local agencies have implemented 66 corridor-based signal synchronization projects since 2008 for a cost of approximately \$44 million (including non-M2 funds). Another 37 projects are planned or underway. From 2017-2026, the entire network of signals is anticipated to have been retimed or optimized at least two times. This equates to more than 4,000 intersections retimed over a 10-year period (2017 to 2026).

### **Present Day:**

In the past, many traffic signal synchronization projects were limited to segments of roads in individual cities. M2 provides funds to expand these projects to benefit neighboring cities and regional corridors.

### **Benefits:**

Optimizing signal timing offers substantial benefits in reducing traffic delays and improving air quality. To date, OCTA has implemented optimized signal timing on 66 corridors with 2,258 intersections covering 597 miles of roadway. On the average, each project resulted in a 13 percent travel time savings for corridor end-to-end travel, saving commuters time and money for a relatively low investment. Future projects may see comparable benefits when combined with capital improvements to reduce physical bottlenecks where appropriate.

### **External Funding:**

Local agencies are required to provide a 20 percent minimum local match. Matching funds may be in-kind services. There may be future needs for more capital intensive investments as systems age. Projects started prior to the 2011 call for projects were funded with M1, federal Congestion Mitigation and Air Quality Improvement (CMAQ), and Prop 1B funds. The 2013 call for projects was partially funded with MSRC grant money. The 2018 call was able to leverage \$6.85 million in SB 1 Local Partnership Program competitive grant funds. In all, external funding (not including funds provided by local agencies) contributed is approximately \$18.65 million.

### **Risks:**

Local agencies must meet eligibility requirements and timely-use-of-funds provisions to receive M2 funding.

## **P. Regional Traffic Signal Synchronization Program**

### **Related Projects:**

Project O (RCP) and Project Q.

### **Involved Agencies:**

All local agencies (cities and County of Orange) and Caltrans.

### **Assumptions:**

Project P is assumed to be funded on a pay-as-you-go basis.

### **References:**

- M2 Eligibility Guidelines
- OCTA's Comprehensive Business Plan
- Capital Funding Program Report – Local Road Project (June 2018)

## Q. Local Fair Share Program

### **Description:**

Project Q provides formula “Local Fair Share” funds that local agencies may use for a variety of purposes and needs, including repairing aging streets, residential street projects, bicycle lanes, and pedestrian safety (plus other transportation uses).

Key among these needs includes pavement preservation, which involves extending the useful life of pavement and avoiding costly street reconstruction. Preserving and maintaining roads in good condition is a key goal of M2 and Project Q in particular.

### **Program Funding:**

Approximately \$600 million between 2017 and 2026.

### **Status:**

Orange County streets are in generally good condition on average (with a pavement condition index of 78 based on the 2016 statewide report). As roadway pavement conditions deteriorate, however, the cost for repairs increases exponentially. For example, it costs as much as 14 times more to reconstruct a pavement than to preserve it when it is in good condition.

### **Present Day:**

The cost of street rehabilitation has increased substantially in recent years, and gas tax revenues have not kept pace with these increases which has a direct impact on the ability to fund street maintenance and rehabilitation. As of June 2018, approximately \$342.35 million in Local Fair Share payments have been provided to local agencies and the County.

### **Benefits:**

Investments in streets and roads save future costs, keep traffic moving, and offer expanded travel choices.

Local Fair Share funds are also flexible and can be used as matching funds for capacity and safety projects, bike and pedestrian facilities, as well as local transit services.

### **External Funding:**

This program is not externally funded.

### **Risks:**

Local agencies must meet eligibility requirements and timely-use-of-funds provisions to receive M2 funding.

### **Related Projects:**

Project O (RCP) and Project P.

### **Involved Agencies:**

All local agencies (cities and County of Orange).

### **Assumptions:**

Project Q is assumed to be funded on a pay-as-you-go basis.

### **References:**

- M2 Eligibility Guidelines
- 2016 California Statewide Local Streets and Roads Needs Assessment
- OCTA’s Comprehensive Business Plan
- Capital Funding Program Report – Local Road Project (June 2018)

**2018**  
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# NEXT 10

## DELIVERY PLAN

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### Transit Programs



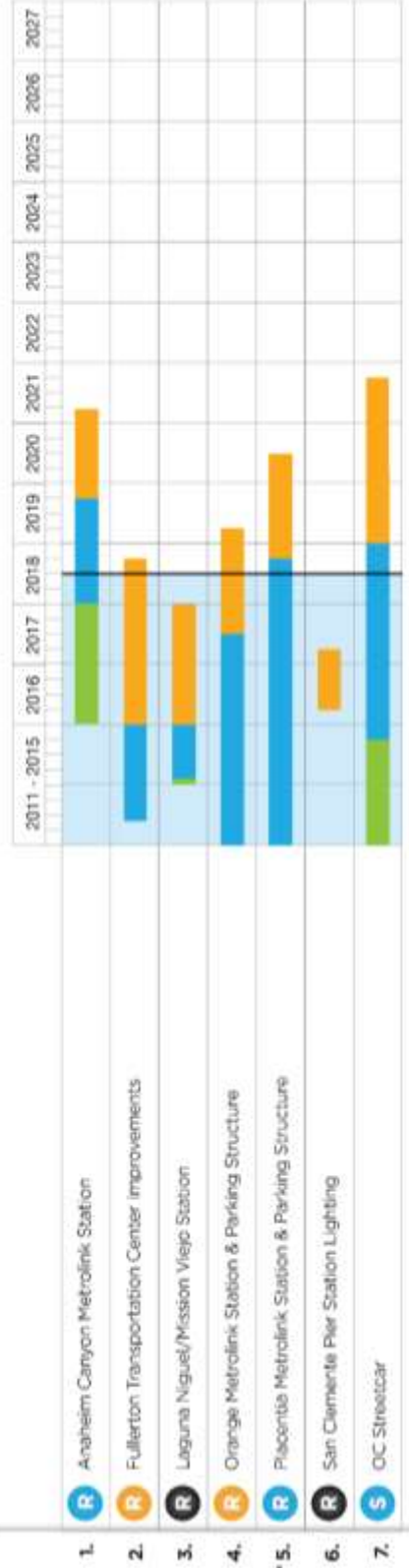
## M2 Transit Projects



- R Metrolink Service Expansion Program**
    - Metrolink Grade Crossing Improvements (🚆🚗)
    - High Frequency Metrolink Service (🚆)
    - existing rail line/station (🚆)
    - proposed station (🟡)
  - S Transit Extensions to Metrolink**
    - OC Streetcar (🚶🚲)
  - T Metrolink Gateways** (🚶🚲)
  - U Expand Mobility Choices for Seniors and Persons with Disabilities** (countywide, not mapped)
  - V Community Based Transit/Circulators** (countywide, not mapped)
  - W Safe Transit Stops** (countywide, not mapped)

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DELIVERY PLAN

M2 Transit Projects Through Construction



Please note that schedules are updated as of June 30, 2018. Shown schedules are subject to change.

\* The Placentia Metrolink Station's ability to move into construction is subject to a track sharing agreement with Burlington Northern Santa Fe Railway

## Transit Program



### Overview:

The goal of the Transit Program is to build a visionary transit system that is safe, clean, and convenient, with a focus on Orange County's transportation future. Providing mobility choices and connectivity for Orange County residents and workers are key components of the overall M2 Plan. To meet this broad mobility goal, the Next 10 Plan includes the following framework for the Transit Program:

- Ensure efficient and integrated Metrolink service for Orange County residents.
- Assess and deliver transit options providing commuters last mile connections and alternatives to driving.
- Provide services and programs to meet the growing transportation needs of seniors and persons with disabilities.
- Support local agency efforts to deliver Board-approved community-based transit projects.
- Advance improvements to the busiest transit stops across the County to provide passenger amenities that ease transfers between bus lines.

### Next 10 Deliverables:

The Next 10 Plan for transit recommends nine major initiatives

through 2026, consistent with the above framework.

1. Complete six rail station improvements.
2. Maintain existing Metrolink service levels.
3. Expand Metrolink service from Orange County into Los Angeles County, contingent upon cooperation and funding participation from route partners.
4. Complete design, construction and begin operating the OC Streetcar.
5. Incorporate recommendations from planning studies to guide development of future transit connections.
6. Provide \$49 million to stabilize OCTA's bus fares for seniors and persons with disabilities, provide \$33 million for senior community transportation programs and \$33 million for senior non-emergency medical transportation services.
7. Support and provide grant opportunities for local agencies to implement effective local transit services.
8. Allocate \$7 million in funding to improve the top 100 busiest bus stops in Orange County.
9. Support the modernization of the OC Bus system to enhance the customer experience.

## R. High Frequency Metrolink Service

### **Description:**

Project R provides for sustained and expanded rail service into Los Angeles and Orange Counties along the three along the three Metrolink lines serving Orange County (Orange County, Inland Empire-Orange County, and 91 Lines). Project R also provides for safety and operational improvements to the railroad infrastructure necessary to support existing and expanded train service, including grade crossing improvements, track improvements, signal and communications system improvements, as well as other projects as necessary to support the rail system. Grade separation projects will be considered as available funding permits.

### **Program Funding:**

Approximately \$335 million between 2017 and 2026 in sales tax revenue.

### **Status:**

Metrolink is currently operating 54 weekday trains in Orange County. To date, rail safety enhancements at 52 at-grade rail-highway crossings have been completed, and as a result, quiet zones have been established in Anaheim, Dana Point, Irvine, Orange, San Clemente, Santa Ana, San Juan Capistrano, and Tustin (as part of the OCX improvements completed during the EAP).

Early station improvements completed during the EAP include parking expansion projects at the Fullerton Transportation Center, Tustin Station, and Laguna Niguel/Mission Viejo Station, and safety repairs to the San Clemente Pier Station platform.

The San Clemente Pier Metrolink/Amtrak Station lighting was completed in March 2017 and the Laguna Niguel/Mission Viejo Metrolink Station Americans with Disabilities Act (ADA) ramps was completed in September 2017. Four other rail station improvements are currently underway: Orange Transportation Center Parking Structure, Placentia Metrolink Station, Anaheim Canyon Metrolink Station improvement project, and Fullerton Transportation Center elevators. All projects are expected to be complete by 2020.

Completed rail corridor improvements include Control Point Stadium, the San Clemente Beach Trail Audible Warning System, and six Project Study Reports for potential grade separations along the Los Angeles-San Diego-San Luis Obispo Rail (LOSSAN) corridor, including: Santa Ana Boulevard, Ball Road, Orangethorpe Avenue, Main Street, Grand Avenue, and 17<sup>th</sup> Street. Rail corridor improvements underway include: the Laguna Niguel to San Juan Capistrano Passing Siding project, San Juan Creek Railroad Bridge Replacement, Control Point at 4<sup>th</sup> Street, Railroad ROW Slope Stabilization Project, Metrolink Preventive Maintenance Capitalized Operation, Metrolink Rehabilitation/ Renovation, and ongoing operation of Positive Train Control.

### **Present Day:**

Most capital improvements required for expansion of Metrolink service during mid-day are complete. OCTA and partner agencies are working together with Metrolink and BNSF to implement improvements allowing expansion of

## R. High Frequency Metrolink Service

service to Los Angeles. OCTA is coordinating with LOSSAN and its member agencies to continue to support improved service integration and coordination within the corridor.

### **Benefits:**

Project R allows for sustained operation and enhanced capacity of Metrolink trains serving Orange County, providing a viable alternative to single-occupant vehicle travel, thereby reducing congestion on crowded roadways and freeways. During the peak hour, Metrolink carries the equivalent number of passengers that would fill one freeway lane on I-5.

### **External Funding:**

State: STIP, Propositions 1A, 1B, and 116, and Transit and Intercity Rail Capital Program (TIRCP) totaling \$289.48 million.

Federal: CMAQ, the Surface Transportation Block Grant (STBG) Program, and Federal Transit Administration (FTA) Sections 5307, 5309, and 5337, totaling \$342.27 million.

Local Other: Local funding from the cities as well as other entities is programmed for \$83.71 million.

M1 also provided \$135.28 million.

### **Risks:**

The current sales tax revenue projections limit the ability to expand Metrolink service to Los Angeles. Future expansion plans are contingent upon the cooperation and participation of route partner agencies.

### **Related Projects:**

Project S, Project T, and Project V.

### **Involved Agencies:**

Metrolink, Caltrans, CTC, California State Transportation Agency (CalSTA), FTA, Los Angeles County Metropolitan Transportation Authority, RCTC, San Bernardino County Transportation Authority, Ventura County Transportation Commission, BNSF, California Public Utilities Commission (CPUC), California Office of Emergency Services, and all corridor agencies.

### **Assumptions:**

Funding and operating agreements with partner agencies will be successfully implemented.

### **References:**

- OCTA Comprehensive Business Plan
- Capital Funding Program Report - Rail Project (June 2018)

## **S. Transit Extensions to Metrolink**

### **Description:**

Project S establishes a competitive program for local jurisdictions to broaden the reach of Metrolink to other Orange County cities, communities, and activity centers via transit, to connect passengers to their final destinations. With approximately 60 percent of Orange County's population and employment centers located within a four-mile radius of Metrolink stations, the emphasis of Project S is on expanding access to the core rail system and establishing connections to destinations that are not immediately adjacent to the Metrolink corridor, within the central core, north and south of Orange County. These connections may include a variety of transit technologies such as conventional bus or vanpool (Rubber Tire), bus rapid transit or high capacity rail transit systems (Fixed Guideways), as long as they can be fully integrated and provide seamless transition for the users.

### **Program Funding:**

Approximately \$296 million between 2017 and 2026 (for fixed guideways and rubber tire) in sales tax revenue.

### **Status:**

Fixed Guideway: Through a competitive process, one project, the OC Streetcar, is moving forward through the design process. This project will operate in the Cities of Santa Ana and Garden Grove. There is potential for future calls for projects at the Board's discretion.

Rubber Tire: One call for projects has been issued since 2012, providing approximately \$730,000 for four projects in the Cities of Anaheim and

Lake Forest. One project is in service and three have been cancelled.

### **Present Day:**

Maintaining and growing Metrolink ridership relies on convenient and seamless bus and rail connections. Currently, OCTA fixed bus service and company shuttles are the prime providers of transit connections. However, more recently Uber/Lyft paid-ridesharing services have been a growing presence.

### **Benefits:**

Project S will provide expanded transit access to the centralized Metrolink system, thereby allowing Metrolink commuters to connect to other parts of the County without using an automobile.

### **External Funding:**

Fixed Guideways: External funds for two preliminary studies for the Cities of Anaheim and Santa Ana were funded with \$4.12 million in federal FTA Section 5307 and city local funds. Additional external funding for the OC Streetcar project includes state Cap and Trade, federal CMAQ, and FTA Section 5307 and anticipated New Starts funding, totaling \$407.76 million.

M1 also provided \$10.98 million for preliminary studies.

Rubber Tire: None. These projects are funded by M2 and local agency matching funds.

## **S. Transit Extensions to Metrolink**

### **Risks:**

While the FTA and the Orange County Congressional delegation continue to show strong support for the project, authorization for the New Starts FFGA remains outstanding. Delay in receipt of OC Streetcar FFGA from the FTA, could impact the overall delivery schedule.

### **Related Projects:**

Project R (High Frequency Metrolink Service), Project T, and Project V.

### **Involved Agencies:**

Local jurisdictions, CTC, Caltrans, CalSTA, CPUC, and FTA.

### **Assumptions:**

OC Streetcar: Cities of Santa Ana and Garden Grove will be able to provide their required match and OCTA, is approved for New Starts funding for the guideway project.

Rubber Tire: Future calls for projects will be based on the level of interest from local jurisdictions.

### **References:**

- M2 Eligibility Guidelines
- Federal 5309 Funding Guidelines
- OCTA's Comprehensive Business Plan
- Capital Funding Program Report - Rail Project (June 2018)
- OC Streetcar Project Revised Funding Plan (July 2018)

## **T. Convert Metrolink Stations to Regional Gateways that Connect Orange County with High-Speed Rail Systems**

### **Description:**

Provide funding for local improvements to stations along the LOSSAN corridor in Orange County to facilitate connections to future high-speed rail systems, thereby ensuring Orange County's presence in the development and implementation of high-speed rail systems that will serve Orange County. One project, the Anaheim Regional Transportation Intermodal Center (ARTIC), moved forward to completion.

### **Cost:**

M2 contributed \$35.29 million of the \$225.53 million cost of the ARTIC project.

### **Status:**

As part of EAP efforts, OCTA held a competitive call for projects in 2009 for eligible station cities for the development and implementation of station projects in preparation of future high-speed rail systems. The Cities of Anaheim, Fullerton, Irvine, and Santa Ana were awarded funding for planning of major expansions of their Metrolink Stations. The City of Anaheim received environmental clearance for the ARTIC project in early 2012. The completed facility opened to rail and bus service on December 6, 2014.

On December 14, 2015, the Board of Directors amended the M2 Ordinance No. 3 and Transportation Investment Plan to officially close out Project T by considering the completion of ARTIC as fulfilling the intent of Project T, as the only Orange County station on the planned High Speed Rail route. The remaining balance of M2 funds were then transferred to two projects in need: the

Metrolink Service Expansion Program (part of Project R), and the Fare Stabilization Program for Seniors and Persons with Disabilities (part of Project U).

### **Present Day:**

In partnership with transportation agencies, corridor cities, and stakeholders, the California High-Speed Rail Authority (CAHSRA) is building a High-Speed Rail (HSR) system that is planned to extend as far north as Sacramento and as far south as San Diego. The system will be constructed in two phases, with Phase 1 extending from San Francisco to Anaheim. Phase 2 will be constructed as two connecting lines extending north to Sacramento from Merced, and south to San Diego from Los Angeles via the Inland Empire. Phase 1 includes construction of the connection between Los Angeles Union Station and the Anaheim ARTIC station. Expanding service to Phase 1 stations is planned to take place in 2029.

### **Benefits:**

Early completion of Project T allowed for early investment in the Orange County rail system to facilitate the ultimate integration of various high-speed rail systems within the County. Additionally, this resolves long term parking constraints through the relocation of the station.



## **T. Convert Metrolink Stations to Regional Gateways that Connect Orange County with High-Speed Rail Systems**

### **External Funding:**

State: STIP totaling \$29.22 million.

Federal: CMAQ, Regional Surface Transportation Program (RSTP), FTA Sections 5309 and 5337, FTA Bus Livability, and Highway Safety Improvement Program, totaling \$74.00 million.

M1 also provided \$87.02 million of which \$32.50 million for ROW will be repaid plus interest by the City of Anaheim by 2025.

### **Risks:**

None – project completed.

### **Related Projects:**

California High-Speed Rail System

### **Involved Agencies:**

CTC, Caltrans, FTA, CAHSR, Metrolink and the Cities of Anaheim, Fullerton, Irvine, and Santa Ana.

### **Assumptions:**

The California High-Speed Rail System will extend to the City of Anaheim as identified in their 2016 Business Plan.

### **References:**

- M2 Eligibility Guidelines
- California High-Speed Rail 2016 Business Plan
- Capital Funding Program Report - Rail Project (June 2018)

## **U. Expand Mobility Choices for Seniors and Persons with Disabilities**

### **Description:**

Project U provides funding to support mobility choices for seniors and persons with disabilities. This project is divided into three programs as described below. Each of these programs support OCTA's effort to expand mobility options for seniors.

The Fare Stabilization Program ensures that fares for seniors and persons with disabilities continue to be discounted at the same percentage as 2006 levels.

The SMP, administered by OCTA, was first established in 2001. For the first ten years, this program was supported with Transit Development Act (TDA) funds. The allocation of M2 Project U funding ensures the continuation of dedicated resources to sustain this program for the next 25 years.

The SNEMT Program was established by the County of Orange in 2003, utilizing Tobacco Settlement Revenue (TSR) to fund the program. M2 Project U funding supplements existing TSR resources to expand the capacity of the program and increase the number of available SNEMT trips.

### **Program Funding:**

\$115 million on a pay-as-you-go basis between 2017 through 2026.

### **Status:**

Fare Stabilization: In December 2015, the Board approved an amendment to the M2 Ordinance No. 3 and Transportation Investment Plan that backfilled a funding shortfall identified

in this program with remaining Project T funds. Effective January 2016, an amendment to the M2 Ordinance No. 3 adjusted this amount to 1.47 percent of net M2 revenues. With the amendment, projected Fare Stabilization revenues are expected to be solvent through the life of the M2 Program.

SMP: This program offers a variety of senior transportation resources for medical, nutrition, shopping, and social trips to participating cities. Currently, there are 31 cities which participate.

SNEMT: This program is administered by the County of Orange Office on Aging and is carried out by two transportation contractors. This program provides approximately 140,000 annual trips under Project U for non-emergency services such as trips to doctor and dental appointments, therapy, dialysis, and pharmacy visits.

### **Present Day:**

Studies of senior mobility needs have identified seniors' preference for utilizing local, community-based transportation services rather than countywide or regional services.

As of June 2018, more than \$22.46 million has supported over 96 million trips through the Fare Stabilization, \$17.45 million provided 1.955 million trips through SMP, and \$19.02 million provided 727,000 trips through SNEMT.

The SMP allows participating cities to identify the specific mobility needs of

## **U. Expand Mobility Choices for Seniors and Persons with Disabilities**

the seniors in their communities and develop transportation programs to best meet those needs with available funding.

The SNEMT fills a gap in senior transportation services, as trips are often provided to seniors who do not qualify for OCTA ACCESS service, or to seniors whose advanced age or disposition make it difficult to use ACCESS service. Contracting with social service agencies to provide SNEMT services allows this program to provide enhanced service elements beyond the requirements of ACCESS, a paratransit service that complements OCTA's fixed route bus service and is provided to comply with ADA.

**Benefits:** M2 funding of these programs, combined with OCTA ACCESS service and other senior transportation services funded with public and private resources, provide a menu of mobility options for Orange County seniors, allowing them to select the service that most appropriately meets their transportation need.

### **External Funding:**

Cities contribute a 20 percent match to their SMP services. A variety of funding sources are used by cities for their SMP match requirement, including general fund, Community Development Block Grants, sponsorships, advertising revenue, and administrative in-kind resources. The County of Orange utilizes primarily TSR funds to meet their maintenance of effort (MOE) requirement.

### **Risks:**

Cities must provide matching funds for SMP.

### **Related Projects:**

Not Applicable

### **Involved Agencies:**

Nearly all local agencies – Participating SMP cities include: Aliso Viejo, Anaheim, Brea, Buena Park, Costa Mesa, Cypress, Dana Point, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, Laguna Hills, Laguna Niguel, Laguna Woods, La Habra, Lake Forest, Mission Viejo, Newport Beach, Orange, Placentia, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster, and Yorba Linda. The Orange County Office on Aging administers the SNEMT Program.

### **Assumptions:**

Project U is assumed to be funded on a pay-as-you-go basis.

### **References:**

- Project U Funding and Policy Guidelines
- OCTA's Comprehensive Business Plan

## V. Community Based Circulators

### **Description:**

Project V provides funding to local jurisdictions through a competitive process to develop local bus transit services, such as community-based circulators, shuttles, and bus trolleys that complement regional bus and rail services, and meet local needs in areas not adequately served by regional transit. Projects will need to meet performance criteria for ridership, connection to bus and rail services, and financial viability to be considered for funding.

### **Program Funding:**

\$67.3 million on a pay-as-you-go basis between 2017 through 2026.

### **Status:**

To date, the Board has approved three rounds of funding, totaling over \$43.6 million for 28 projects (service expansions from the 2018 call counted as separate projects) and 7 planning grants located in the Cities of Anaheim, Costa Mesa, County of Orange, Dana Point, Fountain Valley, Garden Grove, Huntington Beach, Irvine, La Habra, Lake Forest, Laguna Beach, Laguna Niguel, Mission Viejo, Newport Beach, Placentia, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Tustin, and Westminster.

Out of the projects programmed by OCTA: 14 are currently active; five are expected to initiate new services; three have been cancelled (due to low ridership – Westminster in April 2017, La Habra in October 2017, and Anaheim in March 2018); and one is anticipated to be cancelled (Costa Mesa). In May 2017, the City of Garden

Grove sent a letter to OCTA to cancel the planning study that would evaluate ridership demand for expansion of Westminster's circulator route.

### **Present Day:**

Project V helps address the regularly-expressed need for local community-based transit service by Orange County communities.

### **Benefits:**

Community based circulators can provide relief to arterials in high traffic areas, and provide non-auto based mobility options that meet specific local needs.

### **External Funding:**

The local match requirement for both capital and any operating funds authorized by the Board is a minimum of 10 percent.

### **Risks:**

Local agencies must meet eligibility requirements to receive funding. Ability to sustain service will be key to moving projects forward.

### **Related Projects:**

Project S (some Project S and V routes could serve dual purposes).

### **Involved Agencies:**

OCTA and 17 participating cities

## V. Community Based Circulators

### **Assumptions:**

Project V is assumed to be funded on a pay-as-you-go basis.

### **References:**

- M2 Eligibility Guidelines
- Project V Guidelines (under development)
- OCTA's Comprehensive Business Plan

## W. Safe Transit Stops

### **Description:**

Project W provides funding for passenger amenities at the 100 busiest transit stops across Orange County. The intent is to assist bus riders in the ease of transfer between bus lines and provide passenger amenities.

### **Program Funding:**

\$7.4 million on a pay-as-you-go basis between 2017 through 2026.

### **Status:**

Eighty percent of available Project W funds will be provided to construct local bus stop amenities implemented by cities. Up to 20 percent of available Project W funds are proposed to be directed towards the development and implementation of regional, customer-facing technologies, such as real-time systems and other elements that benefit the 100 busiest stops, as well as the overall bus system.

Project W Guidelines were presented to the Board on March 10, 2014. Based on October 2012 ridership data (daily weekday passenger boardings), OCTA staff identified 15 cities eligible to receive Project W funding for city-initiated bus stop improvements. For the first call for projects, seven cities applied for funding and the Board approved up to \$1.2 million for 51 projects.

The City of Anaheim was not able to initiate the improvements for their eight projects and will reapply in the future. Upgrades to 14 of the busiest stops in the Cities of Brea, Costa Mesa, Irvine, Orange and Westminster have been completed to date, and the remaining

29 stop improvements in Santa Ana are currently in the project closeout process.

To date, \$370,000 has been contributed towards an OCTA-initiated improvement, a mobile ticketing application (app) that makes it more convenient to purchase bus passes, obtain trip information, and board buses using smart phone devices to display bus passes as proof of payment. In 2017, the app was launched and is now in use across all services including OC Fair, fixed route, and Express Bus service. The app may be used by fixed route and college pass users, and is available for seniors and persons with disabilities.

### **Present Day:**

OCTA bus stops currently do not have real-time schedule and arrival time information, and some high volume stops lack passenger amenities commensurate with the volume of riders.

### **Benefits:**

Passenger information and amenities such as real-time information and better lighting at key stops will be a significant benefit for OC Bus customers.

### **External Funding:**

None. These projects are funded by M2 only.

## W. Safe Transit Stops

### Risks:

City-initiated: Cities are responsible for amenities at bus stops. Depending on the amenities selected, long-term maintenance and operating costs could be hard to sustain.

OCTA-initiated: Purchased passes are saved to customers' mobile devices to avoid data/service connection issues, however digital passes are not accessible without battery power. While mobile capabilities are a strong incentive to use OCTA services, customers in need of on-demand services will likely utilize Uber and Lyft real-time pick-up services as opposed to waiting for fixed-route, scheduled bus service.

### Related Projects:

Not Applicable.

### Involved Agencies:

Local agencies (cities and the County of Orange) with a top 100 busiest stop are eligible to receive funding.

### Assumptions:

Project W is assumed to be funded on a pay-as-you-go basis

### References:

- M2 Eligibility Guidelines
- Project W Guidelines
- OCTA's Comprehensive Business Plan

**2018**  
UPDATE

# **NEXT 10**

## **DELIVERY PLAN**

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### **Environmental Cleanup Program**

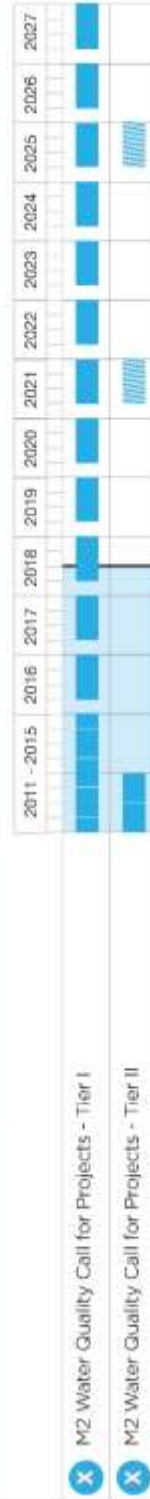




2018 UPDATE  
**NEXT100**  
 DELIVERY PLAN

M2 Environmental Cleanup Grants and Call for Projects

Call for Projects  
 Call for projects to be determined based on revenue flow



**Tier 1** grants program consists of funding for equipment purchases and upgrades to existing storm drains and related best management practices.

**Tier 2** grants program consists of funding for regional, potentially multi-jurisdictional, capital-intensive projects.

# Environmental Cleanup Program



## Overview:

The ECP (Project X) allocates approximately \$269.7 million toward improving overall water quality in Orange County from transportation-related pollution. Project X was approved by Orange County voters under the M2 half-cent sales tax for transportation improvements in 2006.

To adhere to the promise of M2, the Next 10 Plan includes the following framework for Project X:

- Provide supplemental funds (not supplant) for existing transportation related water quality programs
- Allocate funds on a competitive basis to improve water quality standards in Orange County
- Reduce transportation-generated pollutants along Orange County's streets, roads and freeways
- Implement best management practices to improve runoff from streets, roads and freeways

Additionally, as part of the overall M2 Plan, all M2 capital projects (freeway, street, and transit) must include water quality mitigation as part of their respective project scope and cost. Therefore, this source of funding is not eligible for environmental mitigation efforts.

## Next 10 Deliverables:

The Next 10 Plan for Project X recommends two major initiatives through 2026 consistent with the above framework:

1. Protect Orange County beaches by removing 25 ton<sup>5</sup> of trash (during the ten year period) from entering waterways and inlets that ultimately lead to the ocean.
2. Work with the Environmental Cleanup Allocation Committee to develop the next tiers of water quality funding programs with a goal of providing up to \$40 million of grants to prevent the flow of trash, pollutants and debris into waterways from transportation facilities. In addition, focus on improving water quality on a regional scale that encourages partnerships among the local agencies as part of Project X.

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<sup>5</sup> Trash removal achieved by funded projects will be additive with each new call for projects and will continue yielding greater benefits as equipment is in operation over time

## X. Environmental Cleanup Program

### **Description:**

Project X implements street- and highway-related water quality improvement programs and projects that assist Orange County cities, the County of Orange and special districts in meeting federal Clean Water Act standards for urban runoff. Project X is intended to augment, not replace existing transportation-related water quality expenditures and to emphasize high-impact capital improvements over local operations and maintenance costs.

In May 2010, the Board approved a two-tiered approach to fund Project X. The Tier 1 grant program is designed to mitigate the more visible forms of pollutants, such as litter and debris that collect on roadways and in storm drains. Tier 1 consists of funding equipment purchases and upgrades to existing catch basins and related best management practices, such as screens and other low-flow diversion devices.

The Tier 2 Grant Program consists of funding regional, potentially multi-jurisdictional, and capital-intensive projects. Examples include constructed wetlands, detention/infiltration basins, and bioswales which mitigate pollutants such as heavy metals, organic chemicals, and sediment and nutrients.

### **Program Funding:**

Up to \$41.2 million will be available for the Tier 1 and Tier 2 grants funding programs over a ten-year period between 2017 and 2026, on a pay-as-you-go basis.

It is anticipated that there would be more frequency of calls for projects under the Tier 1 program. Depending on the availability of revenues for this program,

there may be one to two Tier 2 calls for project during this ten-year period.

### **Status:**

The Board has awarded approximately \$20 million to fund 154 Tier 1 projects in 33 cities and the County of Orange through seven rounds of funding. An eighth call for projects was released in March 2018 in the amount of approximately \$2.8 million and programming recommendations are anticipated for late summer. The Board has also awarded approximately \$28 million for 22 Tier 2 projects in 12 cities and the County of Orange.

Annual Tier 1 calls for projects are anticipated moving forward. The timing and amount of the next Tier 2 call for projects will be determined based on funding availability and project readiness.

### **Present Day:**

Staff has estimated that over a 6.2 million cubic feet of trash has been captured as a result of the installation of Tier 1 devices since the inception of the Tier 1 program in 2011. This is equivalent to over 2,600 forty-foot shipping containers (or 5,200 twenty-foot equivalent units). As the equipment is in service over time, the volume of trash captured is expected to increase. The funded Tier 2 projects have the potential to recharge 157 million gallons of groundwater annually.

### **Benefits:**

Improvements funded through this program will improve overall water quality in Orange County. Funds allocated on a countywide competitive basis will assist jurisdictions in meeting federal Clean

## **X. Environmental Cleanup Program**

Water Act requirements for controlling transportation-generated pollution.

### **External Funding:**

Local agencies are required to provide a 20 percent (Tier 1) and 50 percent (Tier 2) minimum local cash match. Tier 2 matching funds may be reduced, depending on project readiness and operations and maintenance above the ten-year minimum requirement.

### **Risks:**

Local agencies must meet eligibility requirements and timely-use-of-funds provisions to M2 receive funding.

### **Related Projects:**

Not Applicable.

### **Involved Agencies:**

All local agencies (cities and County of Orange). Third parties such as water and wastewater public entities, environmental organizations, non-profit groups, and homeowner's associations cannot be a lead agency applicant; however, they could jointly apply with an eligible applicant.

### **Assumptions:**

Funds will be allocated on a countywide competitive basis to assist jurisdictions with improving water quality related to transportation pollution.

### **References:**

- Tier 2 Grant Program Planning Study
- OCTA's Comprehensive Business Plan

**2018**  
UPDATE

# NEXT 10

## DELIVERY PLAN

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### Appendix

To determine the status of the M2 Program, staff developed cash flows for the Next 10 Plan for each of the program elements to test whether commitments provided to the voters as part of the M2 approval in November 2006 remain achievable. This cash flow is reviewed annually and was updated as part of this 2018 Next 10 review. The revenue assumptions are based on the 2018 M2 revenue forecast of \$13.1 billion using the latest M2 revenue forecast methodology approved by the Board. Additionally, the Next 10 Plan assumes approved TIFIA proceeds and the availability of a viable amount of discretionary federal and/or state funds from 2017 to 2041 and makes specific assumptions about near term grants such as New Starts and net excess 91 Express Lanes revenues for eligible projects. Revenues and expenses were merged into a high-level cash flow model that will be refined through the Plan of Finance. Bond assumptions were also included to address projected negative ending balances by year (compared to a pay-as-you-go scenario) and are constrained to minimum debt coverage ratios.

### Freeway Program

Revenues for the M2 Freeway Program assumed a proportional share (43 percent) of net M2 revenue. From inception to 2026, the Freeway Program would receive approximately \$2.034 billion in M2 revenue, \$1.2 billion in bond proceeds (including \$95.4 million in prior bond proceeds), and \$1.3 billion in state/federal grants (\$1.3 billion of which is already programmed), \$153.9 million in committed proceeds, \$208.4 million in net excess 91 Express Lanes revenue for eligible projects, \$33.4 million in interest, and \$20 million transferred in from M1 for a total of \$5.036 billion in total revenue. With OCTA's success in bringing in significant external revenue during the most recent state and federal funding cycle along with a reduction in project costs, this has allowed for \$332.9 million (13 percent per year) program level line item to be added into the cash flow for economic uncertainties. Costs for the same period total \$4.694 billion. The Next 10 Plan assumes four new bond issuances between 2019 and 2026. Bond issues (treated as revenue source for cash flow purposes) would exceed the forecasted Freeway Program shortfall since debt service payments follow each bond issue. Bonding would be constrained to legal debt coverage ratios, and a Plan of Finance will be brought separately to the Board for approval as needed with refined bond assumptions.

For the Next 10 Plan Freeway Program update, forecasted revenues and costs through 2041 were also tested. This effort was conducted to ensure the complete M2 Freeway Program could be delivered consistent with commitments provided to the voters as part of M2 approval in November 2006. For shelf-ready projects (projects currently in environmental or final design), project schedules and costs were based on data provided by OCTA's Project Controls Department. For projects that have not yet entered the environmental phase, conceptual estimates were prepared based on a scoring of congestion relief, project readiness, and cost escalation risks (associated with project delays) and escalated to YOY dollars (with schedules and costs

constrained to ending balances by year). These future projects may be advanced based on revenue availability. The table on the following page summarizes revenues and costs assumed in the M2 Freeway Program through 2041 (in YOE dollars).

These assumptions assume that current law with regard to the recently enacted gas tax remains in place. If the repeal of the gas tax is successful, the program level economic uncertainties allowance would need to be reduced from 13 percent to seven percent but the program continues to be solvent. The freeway program cash flow has a low ending balance in 2022. This is the current control point of the program and will need to be closely monitored as OCTA continues to move into the potential of an increasing cost environment.

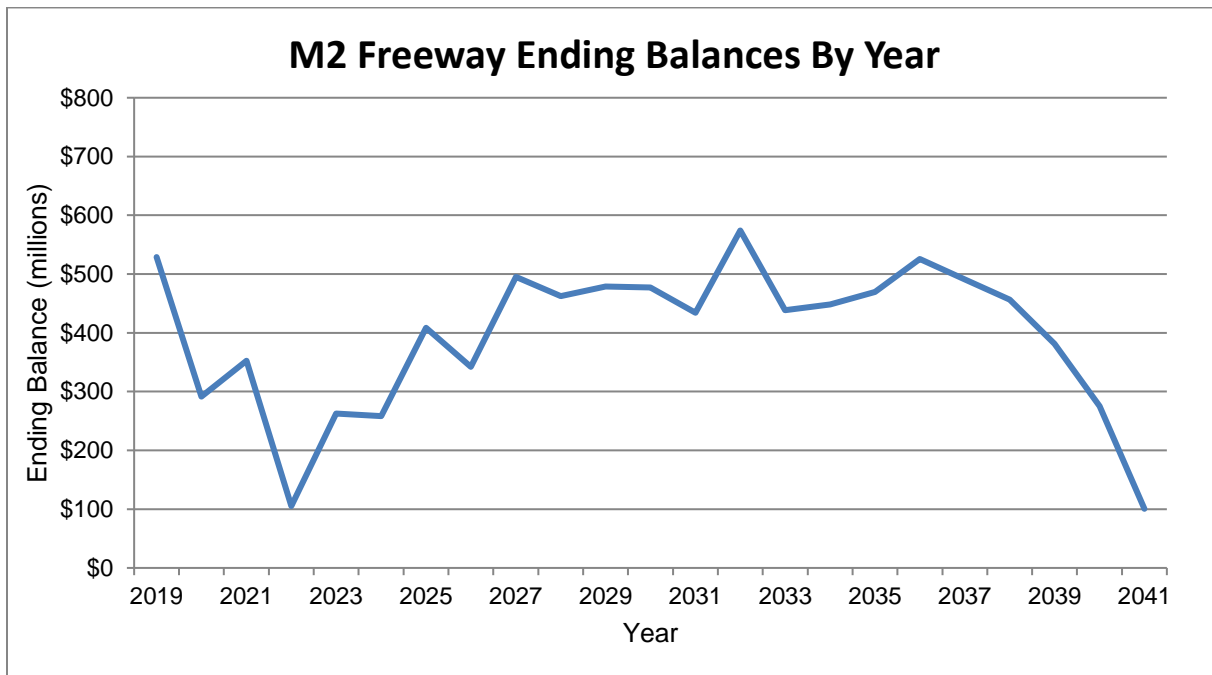
In summary, the analysis shows that despite the reduction in sales tax revenue and the potential of increasing costs, the addition of secured programmed external funds along with refined project costs and revised bonding assumptions allows the full scope of the M2 Program to be delivered as promised through 2041. The cash flow includes a program level line item allowance for economic uncertainties to provide OCTA with financial protection of unknown market risks.



## Projected M2 Freeway Program Revenues, Estimated Costs, and Ending Balances

(Millions of Dollars; Year of Expenditure)

	M2 Projected Revenue	Other Revenue	Estimated Costs (YOE)	Project Revenues - Costs
<b>M2 Freeway Project</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D = A + B - C</b>
Project A (I-5, SR-55 to SR-57)	\$488.6	\$33.7	\$41.7	\$480.7
Project B (I-5, SR-55 to "Y")	\$312.1	\$28.0	\$438.3	\$(98.2)
Project C (I-5, South of "Y")	\$651.8	\$471.5	\$781.8	\$341.5
Project D (I-5 interchanges)	\$268.2	\$86.1	\$187.5	\$166.8
Project E (SR-22 access improvements)	\$124.7	-	-	\$124.7
Project F (SR-55 improvements)	\$380.5	\$235.6	\$638.8	\$(22.8)
Project G (SR-57 improvements)	\$268.9	\$111.2	\$359.6	\$20.6
Project H (SR-91, I-5 to SR-57)	\$145.5	\$27.2	\$59.0	\$113.8
Project I (SR-91, SR-57 to SR-55) <sup>1</sup>	\$433.0	\$485.9	\$498.8	\$420.1
Project J (SR-91, SR-55 to OC/RC line) <sup>1</sup>	\$366.1	\$422.6	\$430.0	\$358.6
Project K (I-405, I-605 to SR-55) <sup>2</sup>	\$1,115.2	\$289.3	\$1,425.0	\$(20.5)
Project L (I-405, SR-55 to I-5)	\$332.3	\$8.0	\$323.6	\$16.7
Project M (I-605 access improvements)	\$20.8	-	\$29.6	\$(8.8)
Project N (Freeway Service Patrol)	\$155.9	-	\$155.8	\$0.1
Mitigation Program @ 5%	\$266.5	-	\$222.7	\$43.8
Transfer from M1 Savings	-	\$20.0	-	\$20.0
Interest Earnings	-	\$33.4	-	\$33.4
Bond Interest Costs <sup>3</sup>	-	-	\$909.3	\$(909.3)
Other Non-Programmed Revenue	-	\$150.0	-	\$150.0
Freeway Program Economic Uncertainties <sup>4</sup>	-	-	\$1,130.6	\$(1,130.6)
<b>Subtotal Revenues and Costs</b>	<b>\$5,330.0</b>	<b>\$2,402.6</b>	<b>\$7,632.1</b>	
<b>2041 Projected Balance:</b>				<b>\$100.6</b>



<sup>1</sup> \$741.7 million in SR-91 Express Lanes excess revenues has been incorporated into Other Revenues for Project I (currently assumed at \$449.2 million) and Project J (currently assumed at \$292.5 million).

<sup>2</sup> \$153.9 million has been incorporated into Other Revenues for Project K. This amount is a direct benefit to the M2 portion of the I-405 Improvement Project, as the loan will be repaid with toll revenues and not with M2.

<sup>3</sup> Total debt service less bond proceeds and investment earnings

<sup>4</sup> The Plan allocates funds for economic uncertainties programmed in the first 10 years and the last 5 years of the Program.



## **Streets and Roads**

The M2 Streets and Roads Program consists of Project O (RCP), Project P (RTSSP), and Project Q (Local Fair Share Program). Combined M2 revenues for these programs assume a proportional share (32 percent) of net M2 revenue. From inception to 2026, the Streets and Roads Program would receive approximately \$1.514 billion in M2 revenue, \$22.1 million in interest, \$121.6 million in prior bond proceeds, and \$607.9 million in M1 and state/federal grants (primarily for the OC Bridges Program), for a total of \$2.265 billion in total revenue. This includes \$6.9 million in SB 1 funding leveraged for Project P. Costs for the same period would total approximately \$2.368 billion (including debt service payments against prior bonding). While the overall Streets and Roads Program balance by 2026 runs a total deficit of \$102.8 million during the Next 10 years, the program is solvent by 2041. There are several years where internal borrowing is necessary to address negative ending balances.

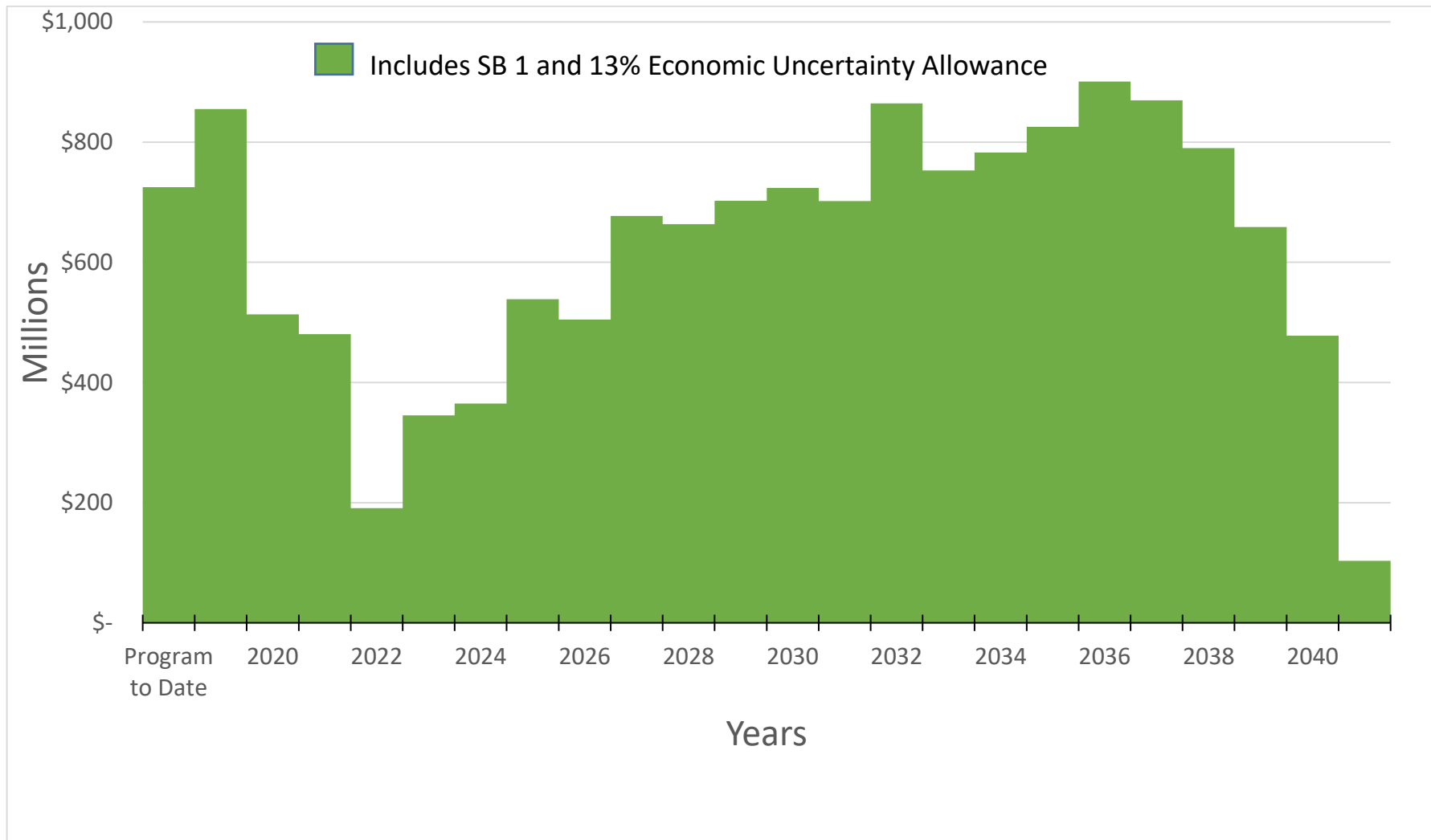
## **Transit Program**

The M2 Transit Program consists of Project R (High Frequency Metrolink Service), Project S (Transit Extensions to Metrolink), Project T (Metrolink Gateways), Project U (Seniors/Disabled Persons Mobility Programs), Project V (Community Based Transit/Circulators), and Project W (Safe Transit Stops). Revenues for the M2 Transit Program assume a proportional share (approximately 25.0 percent) of net M2 revenue. From inception to 2026, the Transit Program would receive approximately \$1.201 billion in M2 revenue, \$51.7 million in prior bond proceeds, \$526.9 million in external revenue, and \$9.4 million in interest for a total of \$1.788 billion. Expenses for this same time period total \$1.507 billion. The cash flow includes the assumption of \$148.96 million in Federal New Starts funding, \$85.47 million in federal CMAQ, and \$25.52 million in State Cap-and-Trade for the OC Streetcar project. The un-programmed balance for Project S allows for capacity of an additional future transit connection project.

## **Environmental Cleanup Program**

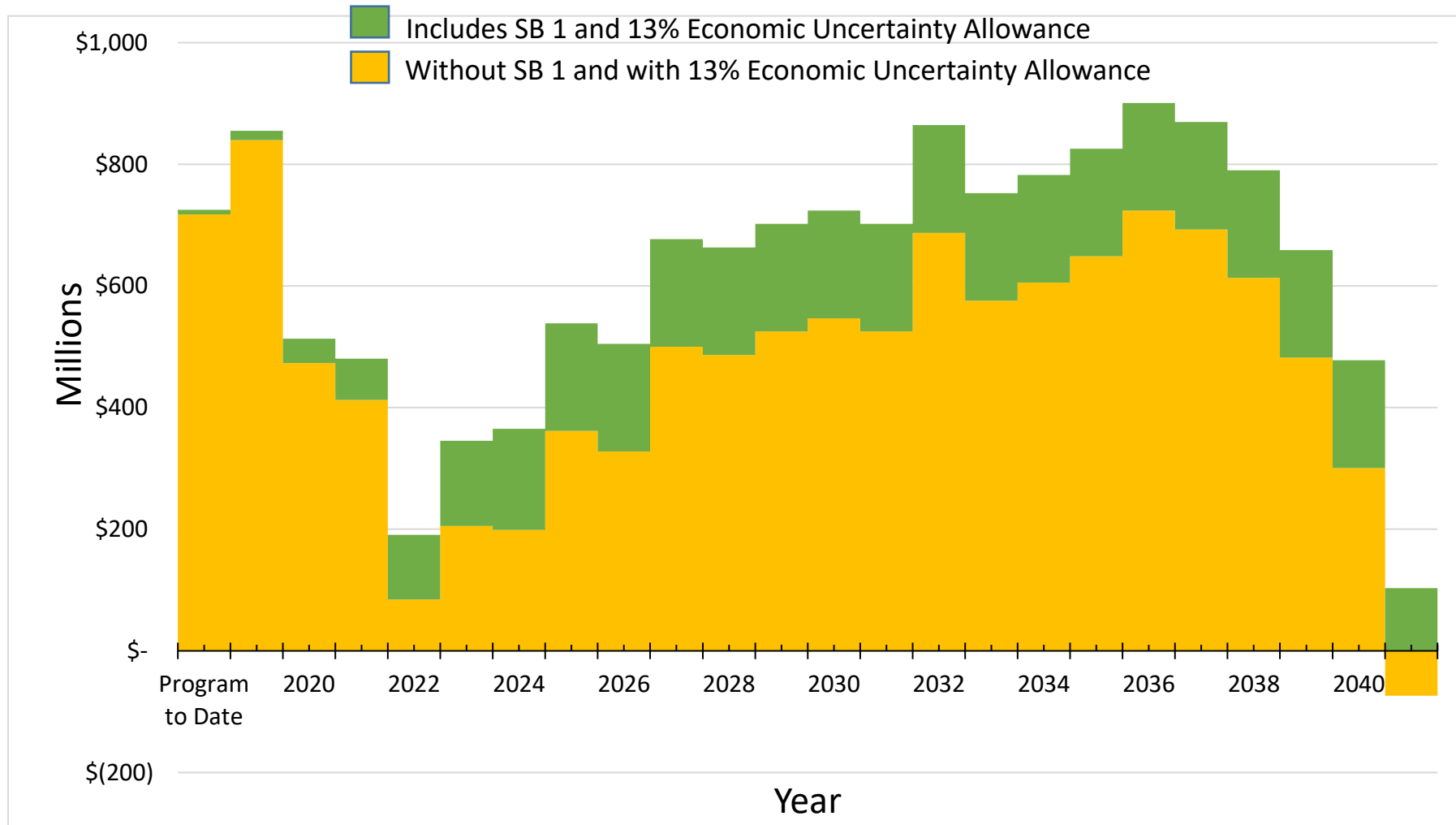
The M2 ECP consists of Project X (Cleanup Highway and Street Runoff that Pollutes Beaches). Revenues for the M2 ECP assume two percent of gross annual M2 sales tax revenue. From inception to 2026, the ECP would receive approximately \$97.8 million in M2 revenue. Expenses for this same time period total \$97.8 million. Conservation of water quality improvements are on schedule with significant accomplishments at or above the planned objectives goal.

**2018 Updated Next 10 Plan  
M2 Program Cash Balance with SB 1 (Chapter 5, Statutes of 2017)**



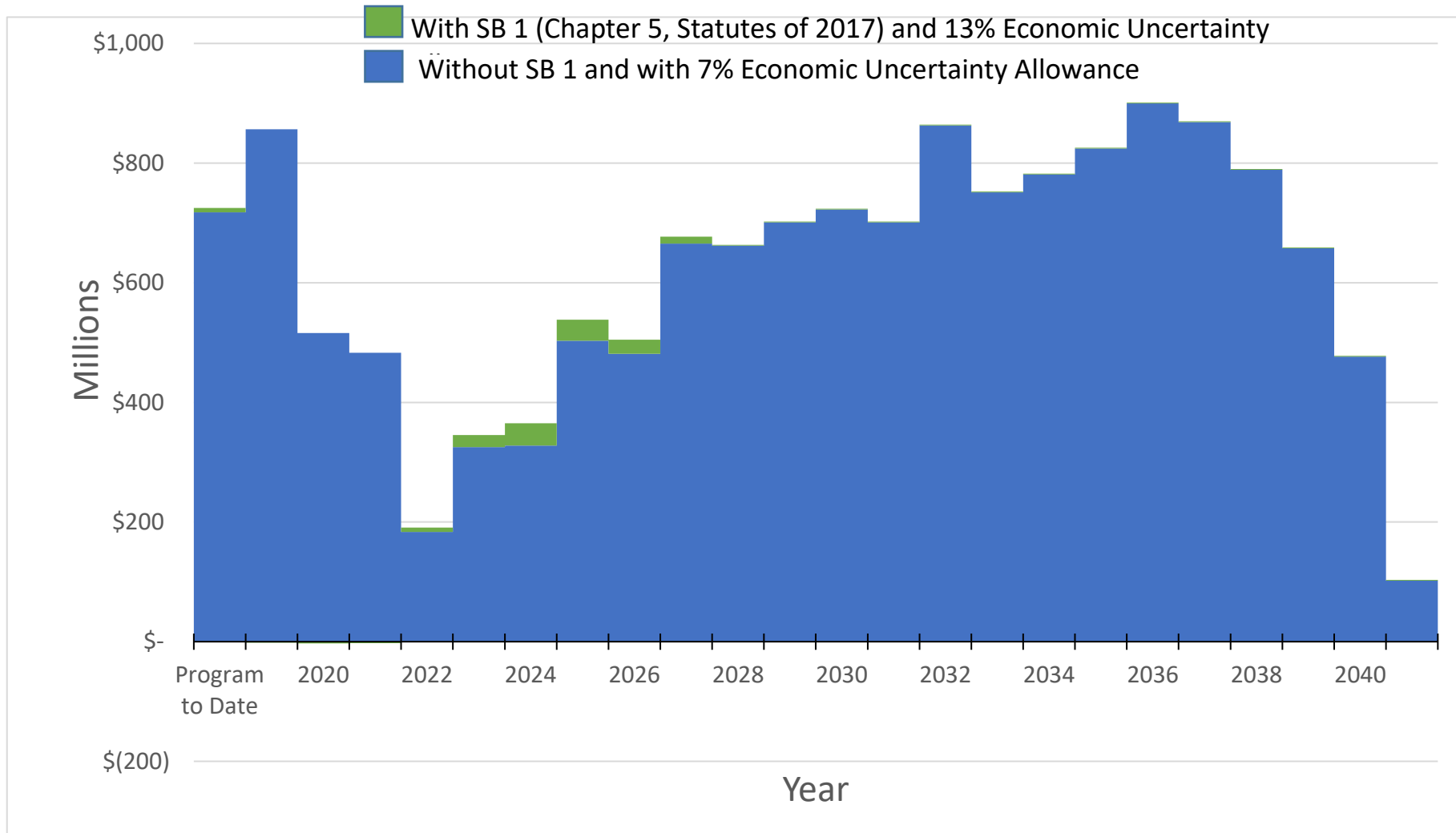
# 2018 Updated Next 10 Plan

## M2 Program Cash Balance Comparison With And Without SB 1 (Chapter 5, Statutes of 2017)



# 2018 Updated Next 10 Plan

## M2 Program Cash Balance With Adjusted Economic Uncertainty Allowance





## Next 10 Progress Report on Deliverables

The 2018 Updated Next 10 Delivery Plan (Next 10) is based on ten deliverables intended to provide guidance on program and project delivery during the ten-year period 2017 through 2026. With nearly two years of the ten-year plan complete, progress on accomplishments is provided.

### Freeways

#### **1. Deliver \$3.5<sup>1</sup> billion of freeway improvements approved through construction.**

**Status:** The Measure M2 (M2) Freeway Program currently consists of 27 projects or project segments. At the point of the Next 10 adoption in September 2016, nine were already complete, and another nine designated to be complete within the Next 10 time-frame. Together, the nine segments designated for completion by 2026 make up a \$3.1 billion delivery promise. Since Next 10 adoption, three segments of the Interstate 5 between Avenida Vista Hermosa and San Juan Creek Road, opened to traffic in March 2018, adding six miles of carpool lanes. The remaining six segments are in design or construction.

Funded with 91 Express Lanes excess revenues, a tenth project, the State Route 91 between State Route 57 to State Route 55 (Project I) was designated a priority project and is now part of Deliverable 1 and planned to be complete by 2029. With this project, the Orange County Transportation Authority (OCTA) will deliver \$3.5 billion of freeway improvements approved through construction.

#### **2. Invest approximately \$715<sup>1</sup> million more in revenues, bringing the completed freeway program improvements to \$4.3 billion (Projects A-M).**

**Status:** The final eight remaining project segments (of the 27 total) are on track to be environmentally cleared by 2026, making them “shelf ready” for future advancement. In all, during the Next 10 time-period, approximately \$4.3 billion in freeway improvements promised to the voters in M2 will be completed or underway by 2026. Using the guiding principles adopted by the Board of Directors (Board), Deliverable 2 includes approximately \$715 million in funding to move another project (or projects) directly into design and construction if assumptions on revenues and costs hold.

### Streets and Roads

#### **3. Allocate nearly \$1 billion with \$400 million in competitive funding to local jurisdictions to expand roadway capacity and synchronize signals (Project O and Project P), and nearly \$600 million in flexible funding to local jurisdictions to help maintain aging streets or for use on other transportation needs as appropriate (Project Q). Additionally, complete the OC Bridges Program.**

**Status:** All seven bridges included in the OC Bridges program are complete. Since the adoption of the Next 10 Plan in November 2016, OCTA awarded approximately \$82 million in competitive funding through the Regional Capacity Program (Project O) and Regional Traffic Signal Synchronization Program (Project P). Additionally, \$98.1 million in Local Fair Share (Project Q)

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<sup>1</sup> Because Project I is now included with Deliverable 1, the original Deliverable 1 investment increased to \$3.5 billion, and the original Deliverable 2 investment of \$1.2 billion has been reduced to \$715 million. The overall freeway deliverable commitment remains the same at \$4.3 billion.

funds have been distributed to local agencies. This brings the total allocation to date to \$188.1 million. On August 13, 2018, the Board approved the release of the 2019 Call for Projects for approximately \$32 million for Project O and \$8 million for Project P and funding recommendations will be presented to the Board by mid-2019.

#### **Transit**

#### **4. Extend Metrolink service from Orange County into Los Angeles (LA) County, contingent upon cooperation and funding participation from route partners, complete six rail station improvements (Project R).**

**Status:** Extend Metrolink into LA - Additional trains into LA are contingent on completion of a triple track project anticipated in early 2019 and successful negotiation of an agreement with the BNSF Railway for the shared use of their corridor and associated indemnification and liability. Negotiations are underway.

**Status:** Six rail station projects - Two are complete - San Clemente Pier Station Lighting and Laguna Niguel/Mission Viejo Station Americans with Disabilities Act ramps. Two station projects are in construction - the Fullerton Transportation Center Elevator Upgrades and the Orange Transportation Center parking structure. The final two are in design – Anaheim Canyon Station improvements and the Placentia Metrolink Station project.

#### **5. Secure Full Funding Grant Agreement (FFGA), start construction, oversee vehicle manufacturer and begin operating the OC Streetcar (Project S) and work with local agencies to consider recommendations from planning studies to guide development of future transit connections.**

**Status:** OC Streetcar - Activities continue to move forward, including final possession of remaining required right-of-way, procurement of demolition services, coordination with third parties on utility relocation, finalizing the California Public Utilities Commission safety approvals for the OC Streetcar's grade crossings certification, finalizing the scope of services for the operations and maintenance request for proposals, and continued coordination with the Federal Transit Administration (FTA) on the status of the FFGA. The notice to proceed (NTP) for the streetcar vehicle manufacturing contract was issued. Award of the construction contract and NTP is anticipated by the end of the year.

The FTA continues to show strong support for the project, and a FFGA is anticipated in 2018.

**Status:** OC Transit Vision - The draft Transit Master Plan was presented to the Board in February 2018. The plan included an action plan which was divided into short, medium and long-term recommendations. The Board directed staff to consider the plan in the upcoming Long-Range Transportation Plan process. Staff will be advancing many of the short-term action plan items over the next year.

#### **6. Provide up to \$115 million in funding to expand mobility choices for seniors and persons with disabilities (Project U).**

**Status:** Approximately \$20.2 million has been provided for the Senior Mobility Program, the Senior Non-Emergency Medical Transportation Program, and the Fare Stabilization Program since the Next 10 adoption.

**7. Work with local agencies to develop a plan for the next community circulator projects to provide grant opportunities for local agencies to implement efficient local transit services (Project V).**

**Status:** In December 2017, OCTA staff requested letters from local agencies to determine interest for a future round of Project V funding. OCTA received 13 letters of interest, and in February 2018, the Board initiated a 2018 Project V call. On June 25, 2018, the Board awarded \$6.8 million to fund six community-based transit circulators projects.

**8. Allocate up to \$7 million in funding to improve the top 100 busiest bus stops and support the modernization of the bus system to enhance the customer experience (Project W).**

**Status:** To date, the Board has approved up to \$1,205,666 to support 51 city-initiated improvements, and \$370,000 for OCTA-initiated improvements. The City of Anaheim postponed development of eight stops and will move forward in a future funding cycle. Of the remaining 43 stops, 14 stops have been completed, and the remaining 29 stops are in the project closeout process. An additional funding cycle is anticipated in 2019.

**Environmental**

**9. Ensure the ongoing preservation of purchased open space which provides comprehensive mitigation of the environmental impacts of freeway improvements and higher-value environmental benefits in exchange for streamlined project approvals.**

**Status:** In 2017, OCTA received biological resource permits allowing streamlined project approvals for M2 freeway projects. In January 2018, OCTA secured programmatic permits and assurances for federal and state clean water permitting requirements. Receipt of these permits represent the culmination of years of collaboration and support by the Board, environmental community, and regulatory agencies. To ensure ongoing preservation of the open space, an endowment was established to pay for the long-term management of the Preserves. Two deposits into the endowment have taken place with approximately \$2.9 million to be deposited annually.

**10. Work with the Environmental Cleanup Allocation Committee (ECP) to develop the next tiers of water quality programs with a goal of providing up to \$40 million in grants to prevent the flow of trash, pollutants, and debris into waterways from transportation facilities. In addition, focus on improving water quality on a regional scale that encourages partnerships among the local agencies as part of the ECP (Project X).**

**Status:** Since adoption of the Next 10 Plan in November 2016, OCTA issued two calls for Tier 1 ECP projects. The Board awarded approximately \$3.13 million to fund Tier 1 projects during the 2017 annual call. The 2018 Tier 1 call was released on March 12, 2018, and funding recommendations are anticipated in late summer.

# Measure M2

2018 UPDATE

# NEXT 10 DELIVERY PLAN



# M2 Delivery Plan - Goals

- Accelerates projects and programs
- Delivers improvements sooner and realizes savings
- Utilizes debt financing to minimize escalation impacts
- Readies projects to capture external funding



# M2 Delivery Plans Timeline

- Early Action Plan - adopted in 2007 (five year plan)
- M2020 - adopted in 2012 (eight year plan – replaced mid stream)
- Next 10 Plan - adopted in 2016 (ten year plan – 2017-2026)
  - ✓ 2017 review and update
  - ✓ 2018 review and update

Next 10 Plan – Next 10 Delivery Plan

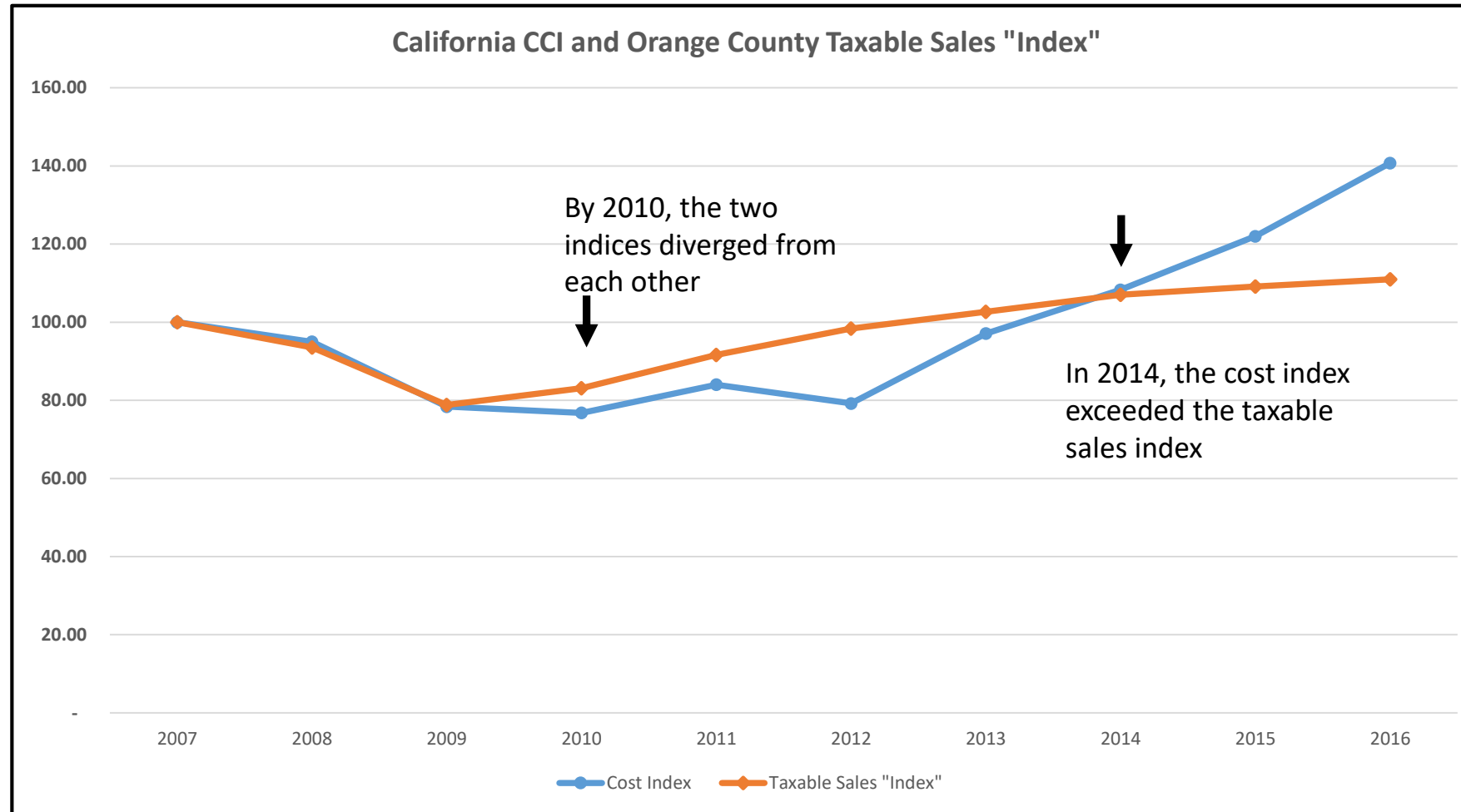


# M2 Sales Tax Revenue Forecast

- Updated 2018 forecast is \$13.1 billion
  - \$400 million less than the 2017 forecast
- Most areas of M2 Plan scale to available revenue
- Freeway program doesn't scale due to set scopes
  - Net freeway program sales tax revenue loss - \$127.1 million

MEASURE M M2 Projects and Programs		
Freeway Projects		
I-5	Santa Ana Freeway Interchange Improvements	A
I-5	Santa Ana/San Diego Freeway Improvements	B C D
SR-22	Garden Grove Freeway Access Improvements	E
SR-55	Costa Mesa Freeway Improvements	F
SR-57	Orange Freeway Improvements	G
SR-91	Riverside Freeway Improvements	H I J
I-405	San Diego Freeway Improvements	K L
I-605	Freeway Access Improvements	M
All	Freeway Service Patrol	N
Streets & Roads Projects		
	Regional Capacity Program	O
	Regional Traffic Signal Synchronization Program	P
	Local Fair Share Program	Q
Transit Projects		
	High Frequency Metrolink Service	R
	Transit Extensions to Metrolink	S
	Metrolink Gateways	T
	Expand Mobility Choices for Seniors and Persons with Disabilities	U
	Community Based Transit/Circulators	V
	Safe Transit Stops	W
Environmental Cleanup		
	Clean Up Highway and Street Runoff that Pollutes Beaches	X
Taxpayer Safeguards and Audits		
	Collect Sales Taxes (State charges required by law)	
	Oversight and Annual Audits	

# Comparison of CCI and Taxable Sales



CCI 40% increase between 2007 -2016











Taxable sales 11% increase between 2007 -2016

- Revenue
  - Lower sales tax revenues
  - Repeal of SB 1 (Chapter 5, Statutes of 2017)
- Cost
  - Market pressures
  - Project estimates
  - Interest rates
- Regulatory
  - State and federal

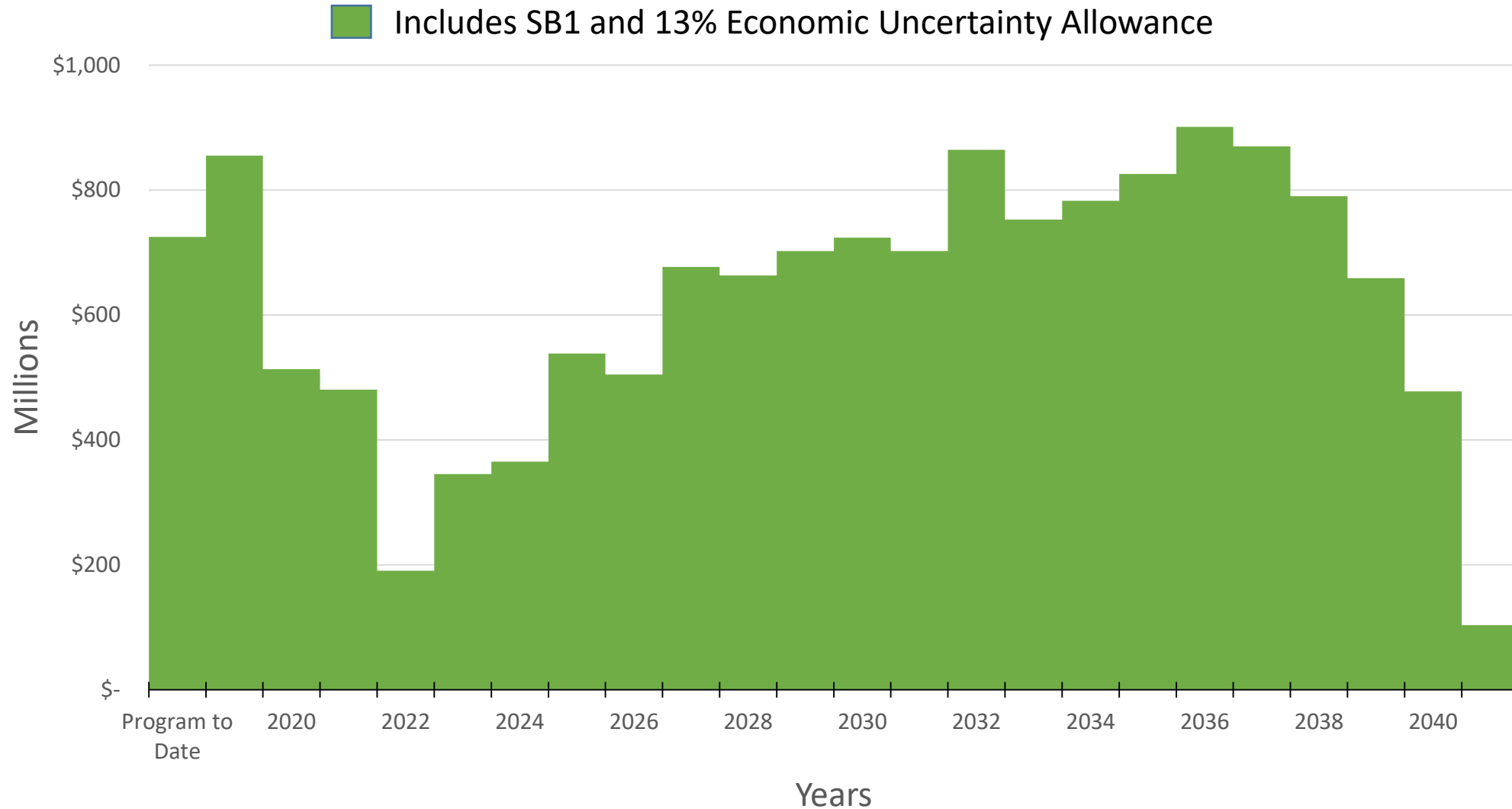


# Freeway Cash Flow 2017 to 2018

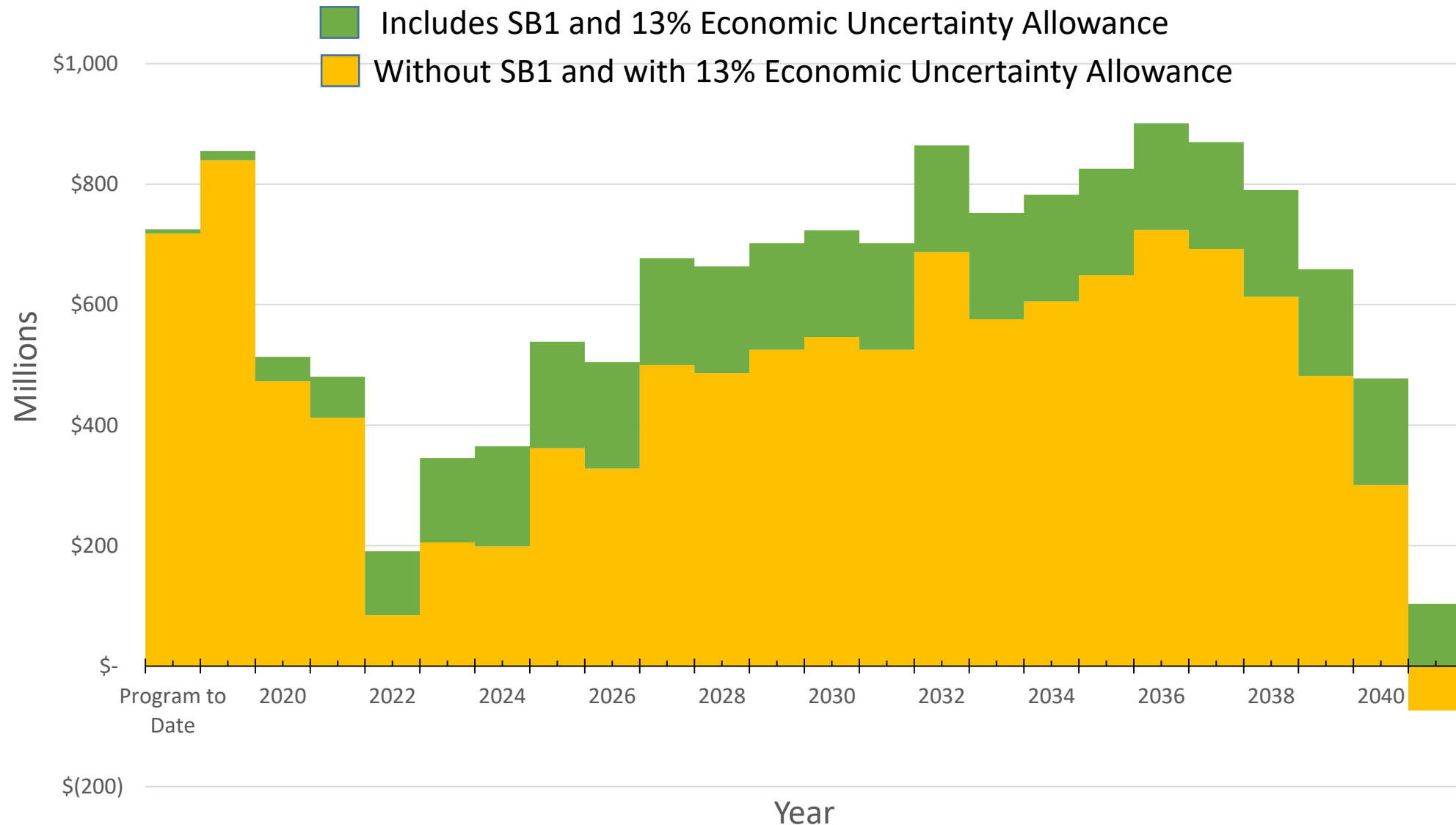
- Net sales tax revenue  \$127.1 million
- Net external revenue  \$291.7 million
- Project cost  \$278.8 million
- Net benefit required less bonding 
- Allows for 13% economic uncertainties 

- 
- Maintains a minimum \$100 million ending balance 
  - Ensures 1.3x debt coverage ratio minimum 
  - Funds complete program of projects 

# M2 Program Cash Balance with SB 1

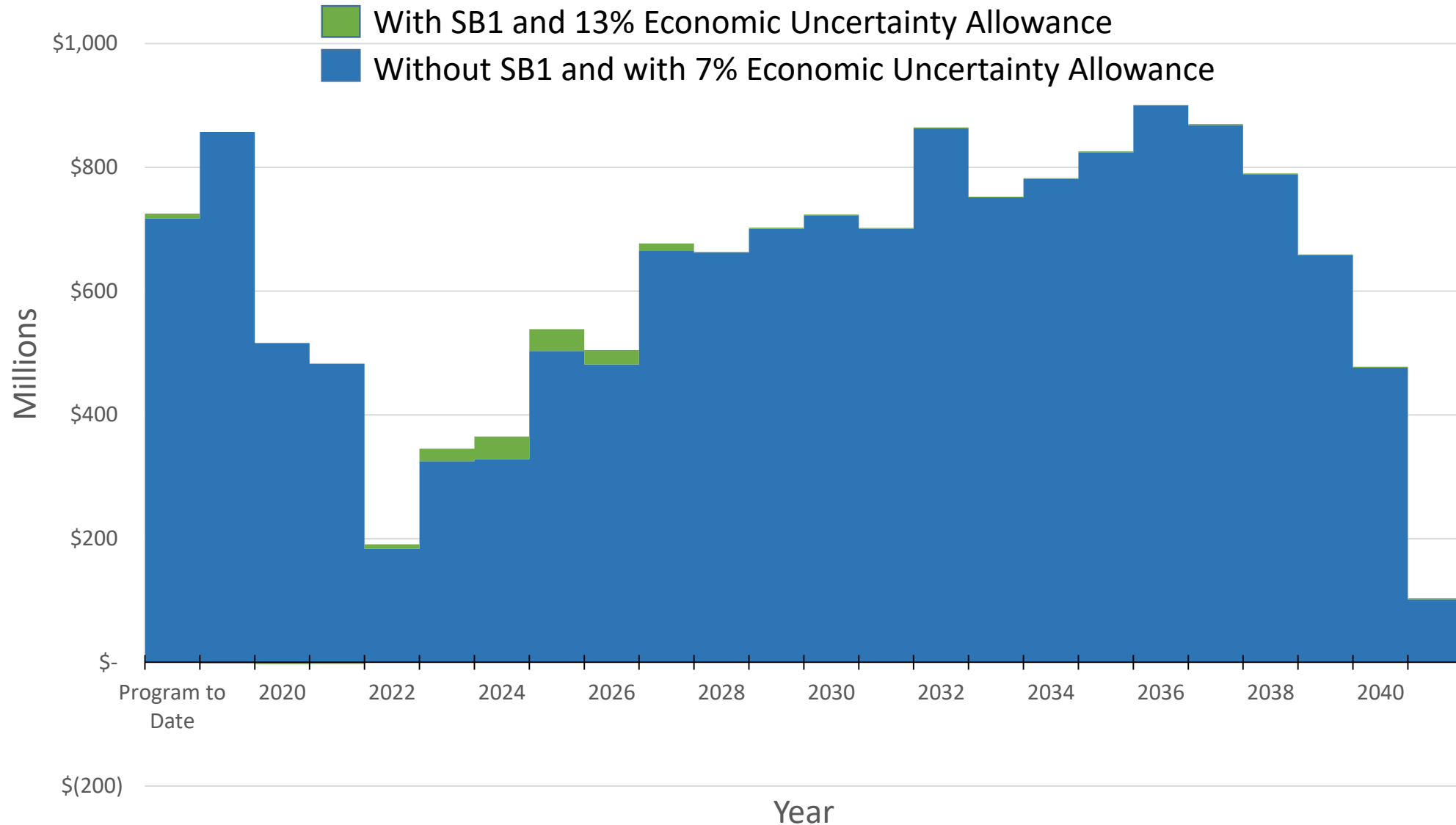


# M2 Program Cash Balance Layered





# M2 Program Cash Balance Layered



# Next 10 Deliverables 2017-2026

- Deliver up to \$4.3 billion in freeway projects
- Allocate nearly \$1 billion of funding for streets and roads improvements
- Invest approximately \$1 billion to enhance access to rail and transit including delivery of the OC Streetcar
- Ensure ongoing preservation of open space Preserves and provide \$40 million in water quality grants



- Distribute the 2018 updated Next 10 Plan to local jurisdictions and stakeholders
- Work with our transportation partners to seek cost saving measures on delivery of the Next 10 Plan of projects and programs
  - ✓ Continue to identify cost-effective alternates that meet the intent of the M2 scope as projects advance through project development for Board of Directors (Board) consideration
- Monitor the risk associated with the changing environment and return to the Board with updates as appropriate



COMMITTEE TRANSMITTAL

**September 5, 2018**

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

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

**Subject:** Interstate 405 Improvement Project Update

Regional Planning and Highways Committee Meeting of September 6, 2018

**Present:** Directors Delgleize, M. Murphy, Nelson, Pulido, and Steel

**Absent:** Directors Bartlett and Spitzer

**Committee Vote**

Following the discussion, no action was taken on this receive and file as an information item.

**Staff Recommendation**

Receive and file as information item.



**September 6, 2018**

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

### **Overview**

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

### **Recommendation**

Receive and file as an information item.

### **Background**

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

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

***Discussion***

A number of activities are ongoing as the final design, right-of-way (ROW) acquisition, and construction activities continue to advance. Additionally, the final baseline schedule, a detailed schedule of design and construction activities, was recently approved. The following provides a more detailed status of project activities:

**Tolling Contracts**

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

Staff has initiated the development of a request for proposals for the back office support and customer service center contract for the 405 Express Lanes, and plans to seek Board approval for its release in 2019.

**TIFIA Loan**

On July 26, 2017, OCTA executed a TIFIA loan agreement with the USDOT for up to \$628.93 million. Pursuant to the terms identified in the loan agreement, OCTA staff submits periodic reimbursement requisitions to the USDOT Build America Bureau and Federal Highway Administration. OCTA received the first TIFIA loan reimbursement in April of this year. The next reimbursement is anticipated for the end of 2018.

**Design**

The final design is approximately 70 percent complete overall and is anticipated to be fully complete in mid-2019.

**ROW Acquisition**

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

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

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

- 248 offers presented
- 188 agreements reached (65 percent of total properties needed)
- 43 resolutions of necessity approved

#### Utility Relocations

There are currently 102 utilities that require relocation as part of the Project. OCTA is coordinating with the 21 impacted utility companies to identify and resolve issues. There are several utility relocation challenges that staff continues to focus on as utilities are a shared risk between OCTA and OC405.

#### Construction

OC405 began construction on March 6, 2018. Initial construction activities included restriping portions of the freeway and setting up concrete barriers on the outside of the freeway to protect work areas for activities such as tree removals and grading. These initial construction activities are generally complete in the southbound direction and over 50 percent complete in the northbound direction. Clearing and grubbing, including tree and ground cover removal, has begun in earnest and rough grading activities have been initiated.

More significant roadway construction activities, such as installation of drainage systems and paving operations, are anticipated to begin in the fall.

Bridge construction began in August as the McFadden Avenue bridge was closed to traffic on both sides of I-405 and the bridge was demolished. The bridge will be closed for approximately 12 months as the new bridge is built at this location.

The Slater Avenue bridge over I-405 is anticipated to be closed to traffic and demolished in late September.

Settlement fills are anticipated to be placed adjacent to the abutments of the Goldenwest Street and Magnolia Street bridges over I-405 in September, and partial demolition of these two bridges is anticipated for November. Both of these bridges will be two-stage bridges, which means the bridge will be open to traffic during construction.

#### Public Outreach

OCTA hosted six open houses throughout the Project corridor in May and June 2018, focused on sharing general Project information and the preliminary schedule for bridge construction, and encouraging the public to sign up for construction updates and connect with the Project via social media. More than 55,000 door hangers about the meetings were distributed to residents and businesses near the Project area. In addition, staff utilized targeted social media advertisements, Chamber of Commerce and corridor city websites, and other communication media to invite the public to attend. More than 400 community members participated, and a video of the open house presentation and materials were posted on the Project website for those who were unable to attend.

OCTA began targeted outreach in early July in anticipation of the demolition and construction of the McFadden Avenue and Slater Avenue bridges. A detailed outreach plan was developed for each bridge, consisting of one-on-one briefings with nearby businesses and other key stakeholders, coordination meetings with emergency responders and city representatives, and weekend neighborhood meetings with area residents prior to bridges being closed.

Flyers were distributed to residents and business owners directly adjacent to the bridges to notify them of the neighborhood meetings, and again prior to major milestone activities such as demolition and pile driving. More than 150 community members have participated in the meetings to date. Staff also coordinated with OCTA's Bus Operations and Central Communications to ensure detour routes were in place in advance of the bridge closures and rider alerts were prepared.

Additional outreach efforts include attendance at events such as the City of Westminster's National Night Out, the City of Fountain Valley's Summerfest and Business Expo, and briefings with cities of Westminster and Fountain Valley High Schools, cities of Westminster and Fountain Valley School Districts, Goldenwest College, and the Goldenwest Neighborhood Association.



As construction has ramped up and following the open houses, staff has fielded nearly 400 calls and emails from the public, responding to inquiries about construction activities, detours, and Project plans and designs. As a result, OCTA has produced a robust set of online resources to keep the public informed, including a dedicated Project construction page that includes new features such as a printable PDF of closures and highlights of each bridge's construction.

In the coming weeks, the Project mobile app will launch. This free app will feature Project closure and detour information, photos and videos from the field, access to the interactive map, and ways to contact the outreach team. In the fall, staff will conduct a Stakeholder Working Group meeting, bringing together Project area community leaders for a comprehensive update, and to solicit feedback on construction progress and outreach efforts.

#### **Next Steps**

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

#### **Summary**

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

#### **Attachment**

None.

#### **Prepared by:**



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

#### **Approved by:**



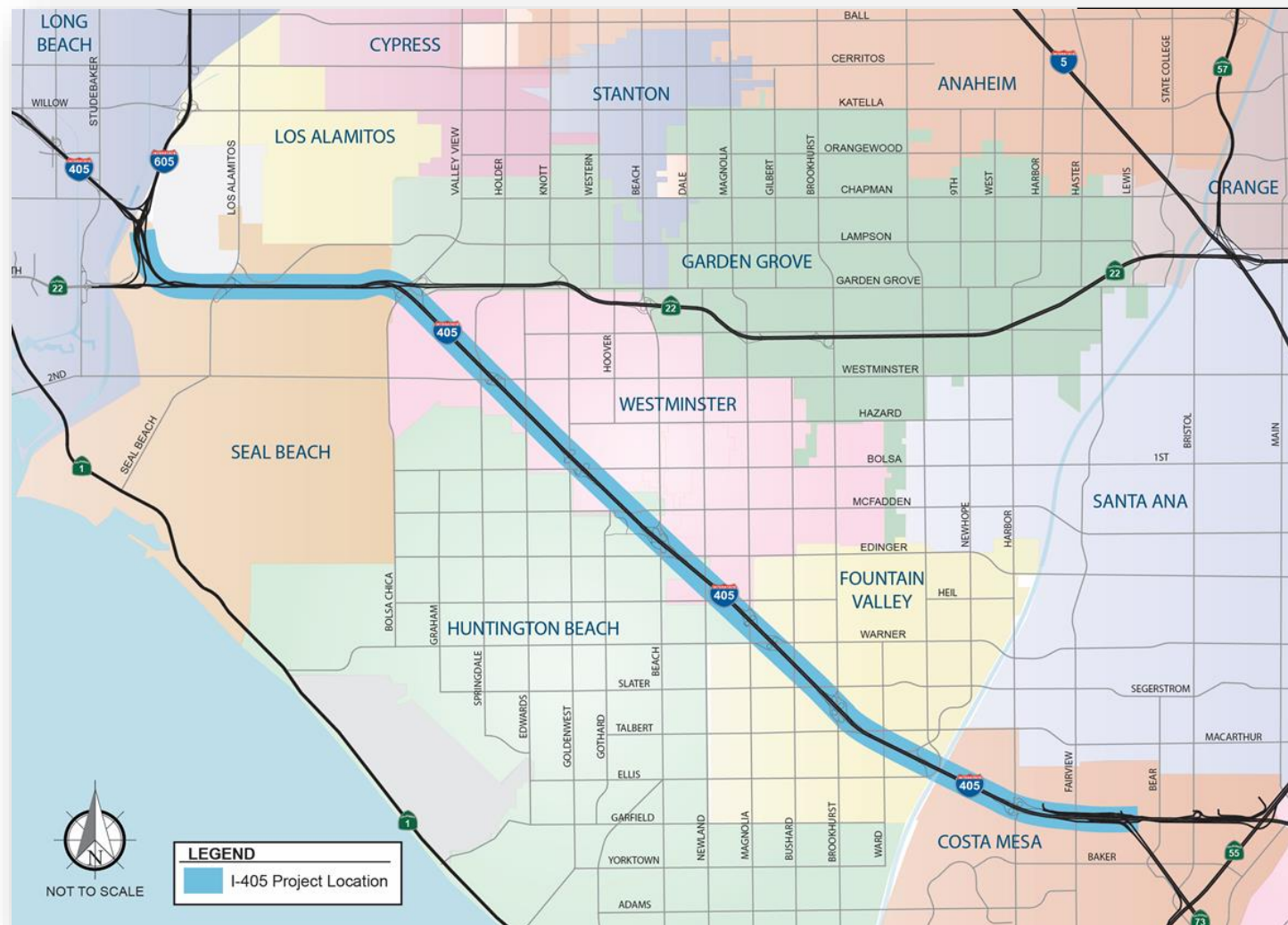
James G. Beil, P.E.  
Executive Director, Capital Programs  
(714) 560-5646



# Interstate 405 Improvement Project Update



# Project Location and Key Features



# Background



- On November 14, 2016, the Orange County Transportation Authority (OCTA) Board of Directors (Board) awarded the design-build contract to OC 405 Partners (OC405)
- On January 31, 2017, OCTA executed the contract with OC405 and issued Notice to Proceed (NTP) No. 1
- On June 26, 2017, the Board approved the Transportation Infrastructure Finance and Innovation Act (TIFIA) loan
- On July 27, 2017, OCTA issued NTP No. 2 to OC405



# Project Update



## General

- Final baseline schedule approved
- Toll lanes system integrator under contract and working in project office
- \$165 million TIFIA loan reimbursement received in April

## Design

- Project design approximately 70 percent complete
- Design anticipated to be fully complete in mid-2019

## Right-of-Way

- 288 properties impacted – on schedule overall
- 248 offers presented
- 188 agreements reached (65 percent of total properties needed)
- 43 resolutions of necessity adopted by the Board

# Construction Update



**Re-striping**



**Placing k-rail**

Southbound work is generally complete, northbound is more than 50 percent complete



# Construction Update



**Clearing and grubbing**



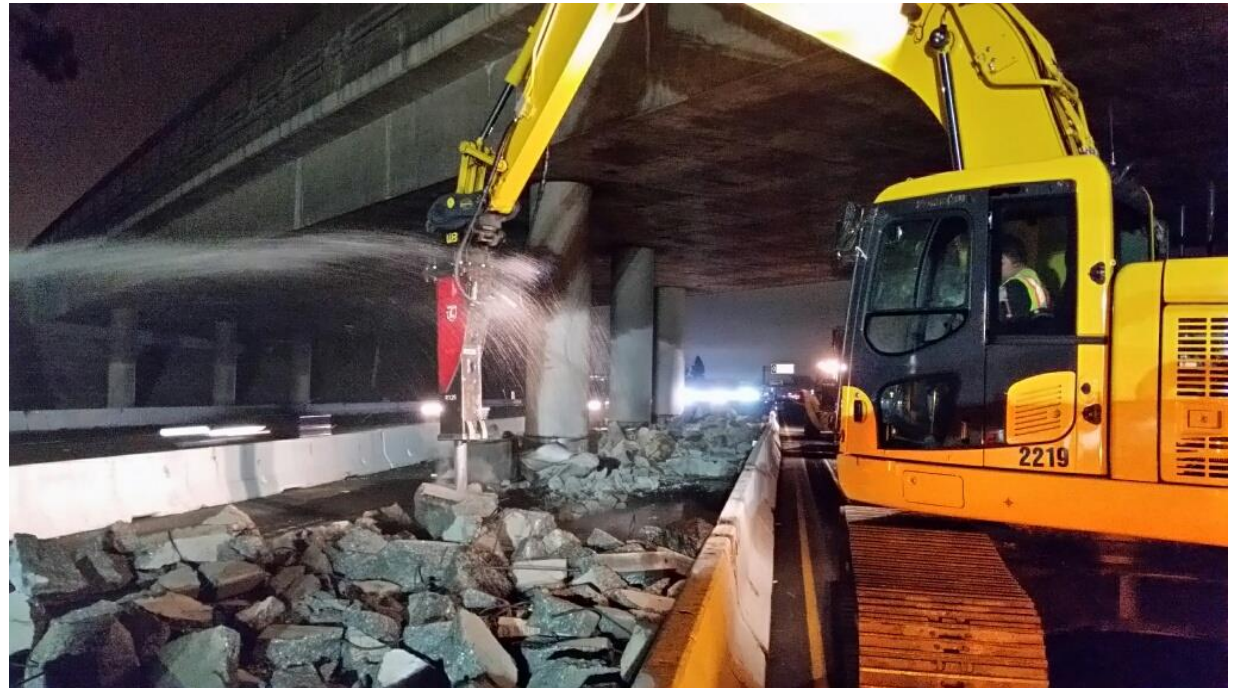
**Temporary asphalt paving**



# Construction Update



**First utility relocation**



**Median concrete barrier removal**



# Construction Update



**McFadden Avenue bridge demolition**

# Roadway Construction Look Ahead



- Continue freeway re-striping
- Continue installation of k-rail on outside of freeway
- Clearing and grubbing (tree and ground cover removal, etc.)
- Temporary paving
- Rough grading
- Concrete and asphalt paving and other roadway activities begin in fall

# Upcoming Bridge Work



## **Slater Avenue** (Fountain Valley)

- Single-stage bridge (closed to traffic)
- Expected to close and be demolished in late September

## **Goldenwest Street** (Westminster)

- Two-stage bridge (open to traffic)
- 60-day settlement fill will be placed in September
- Partial demolition to follow in late November

## **Magnolia Street** (Fountain Valley/ Westminster)

- Two-stage bridge (open to traffic)
- 60-day settlement fill will be placed in September
- Partial demolition to follow in November

# Bridge Construction Map





# Open House Meetings



Please join the Orange County Transportation Authority and the California Department of Transportation to learn about the I-405 freeway construction.

There will be a presentation from 6:30 to 7 pm at each open house. Presentation topics will include a project overview, tentative bridge construction schedule, and an interactive map and Waze app demonstration.

**THURSDAY  
MAY 10, 2018**

6 to 8 pm  
**Westminster Senior Center**  
8200 Westminster Boulevard  
Westminster, CA 92683

**THURSDAY  
MAY 31, 2018**

6 to 8 pm  
**Fountain Valley School District Board Room**  
10055 Slater Avenue  
Fountain Valley, CA 92708

**THURSDAY  
JUNE 7, 2018**

6 to 8 pm  
**Rush Park Auditorium**  
3021 Blume Drive  
Rossmore, CA 90720

**THURSDAY  
MAY 24, 2018**

6 to 8 pm  
**VA Long Beach Facility**  
5901 E. 7th Street  
Bldg 165, The Egg Auditorium  
Long Beach, CA 90822

**TUESDAY  
JUNE 5, 2018**

6 to 8 pm  
**Senior Center in Central Park**  
18041 Goldenwest Street  
Huntington Beach, CA 92648

**THURSDAY  
JUNE 14, 2018**

6 to 8 pm  
**Orange Coast College Student Center**  
2701 Fairview Road  
Costa Mesa, CA 92626



## STAY INFORMED

SIGN-UP TO RECEIVE PROJECT UPDATES AND ALERTS BY VISITING  
[www.octa.net/405improvement](http://www.octa.net/405improvement)

Si prefiere recibir información en español, por favor llame a Evelyn French al (951) 972-2591.

Nếu bạn thích để nhận được thông tin này trong tiếng Việt, xin vui lòng liên hệ với Gia Ly (888) 662-6569.

(888) 400-8994

405project@octa.net

@405improvement

facebook.com/405improvement

@405\_improvement





# Neighborhood Meetings



## NEIGHBORHOOD MEETING MCFADDEN AVENUE BRIDGE CONSTRUCTION

The Orange County Transportation Authority (OCTA) would like to invite you to attend a neighborhood meeting to learn more about the I-405 Improvement Project.

(See reverse side for locations and times)

The 405 Outreach Team will be available to answer questions regarding the upcoming McFadden Avenue bridge construction.

The McFadden Avenue bridge is tentatively scheduled for full demolition in mid- or late August 2018. The bridge will be closed during construction. Construction of the new bridge is anticipated to take approximately 12 months.

*Please be advised that this work may be loud.*

### FOR MORE INFORMATION

PROJECT HELP LINE:	(888) 400-8994
PROJECT EMAIL:	405project@octa.net
WEBSITE:	octa.net/405improvement
FACEBOOK:	facebook.com/405Improvement
TWITTER:	@405Improvement
INSTAGRAM:	@405_Improvement
INTERACTIVE MAP:	octa.net/405map

Bilingual staff or professional interpreters will be available at the meeting.  
Si prefiere recibir información en español, por favor llame a Evelyn French al (951) 972-2501.  
Nếu quý vị muốn nhận được thông tin này bằng tiếng Việt, xin vui lòng liên lạc với cô Lý桂 (888) 662-6569.

### ► COLLEGE PARK MEETING

**When:** Saturday, Aug. 4, 2018  
9 to 10 a.m.

**Where:** College Park  
15422 Vermont St.,  
Westminster, CA 92683

### ► JOHN F. LAND SCHOOL MEETING

**When:** Saturday, Aug. 4, 2018  
11 a.m. to noon

**Where:** John F. Land School  
15151 Temple St.,  
Westminster, CA 92683





# Update on State Route 57 Northbound Improvement Project from Orangewood Avenue to Katella Avenue



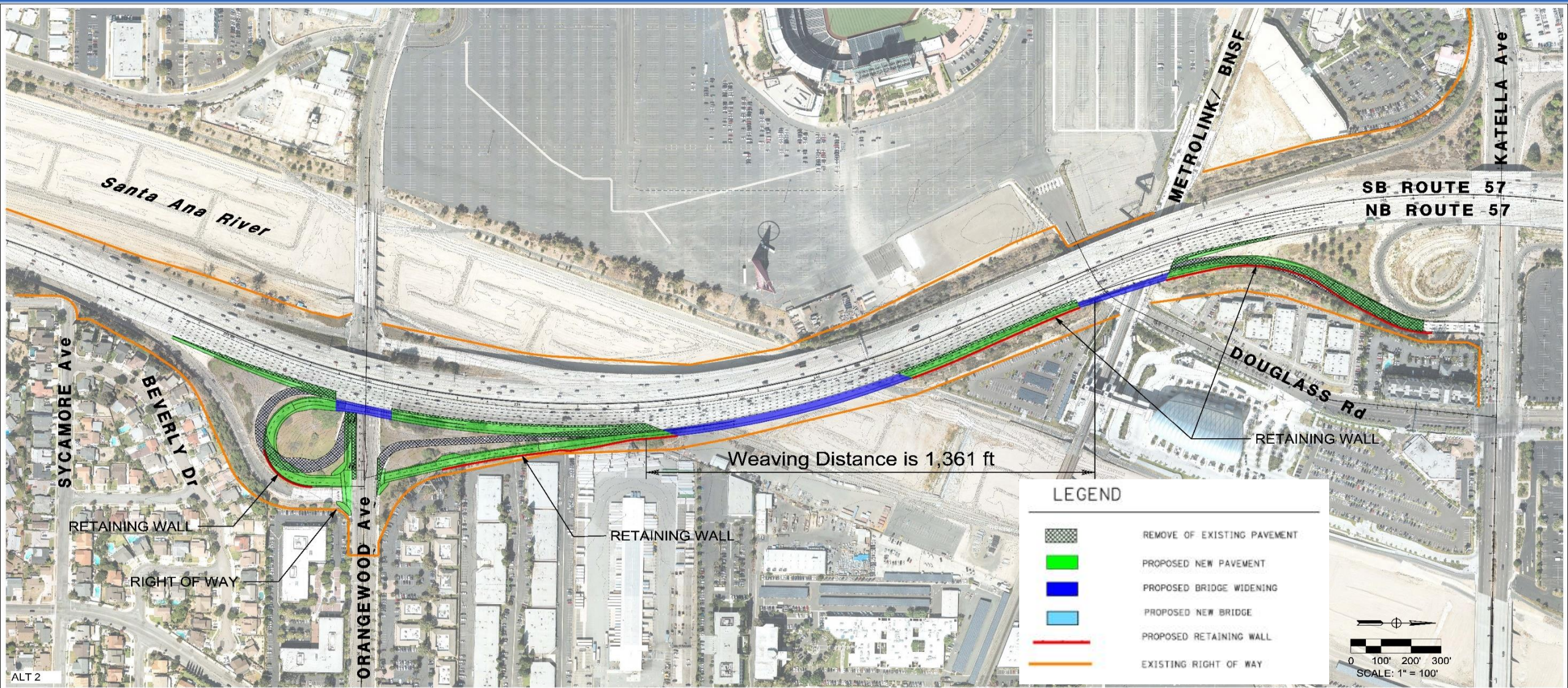
# Project Improvements

- Project G in Measure M2 Plan
- Initial Study/Environmental Assessment
- PM 11.5 to PM 12.5
- Provide lane continuity by adding a fifth general purpose (GP) lane from Orangewood Avenue to Katella Avenue
- Improve merge and diverge traffic movements from Orangewood Avenue to Katella Avenue



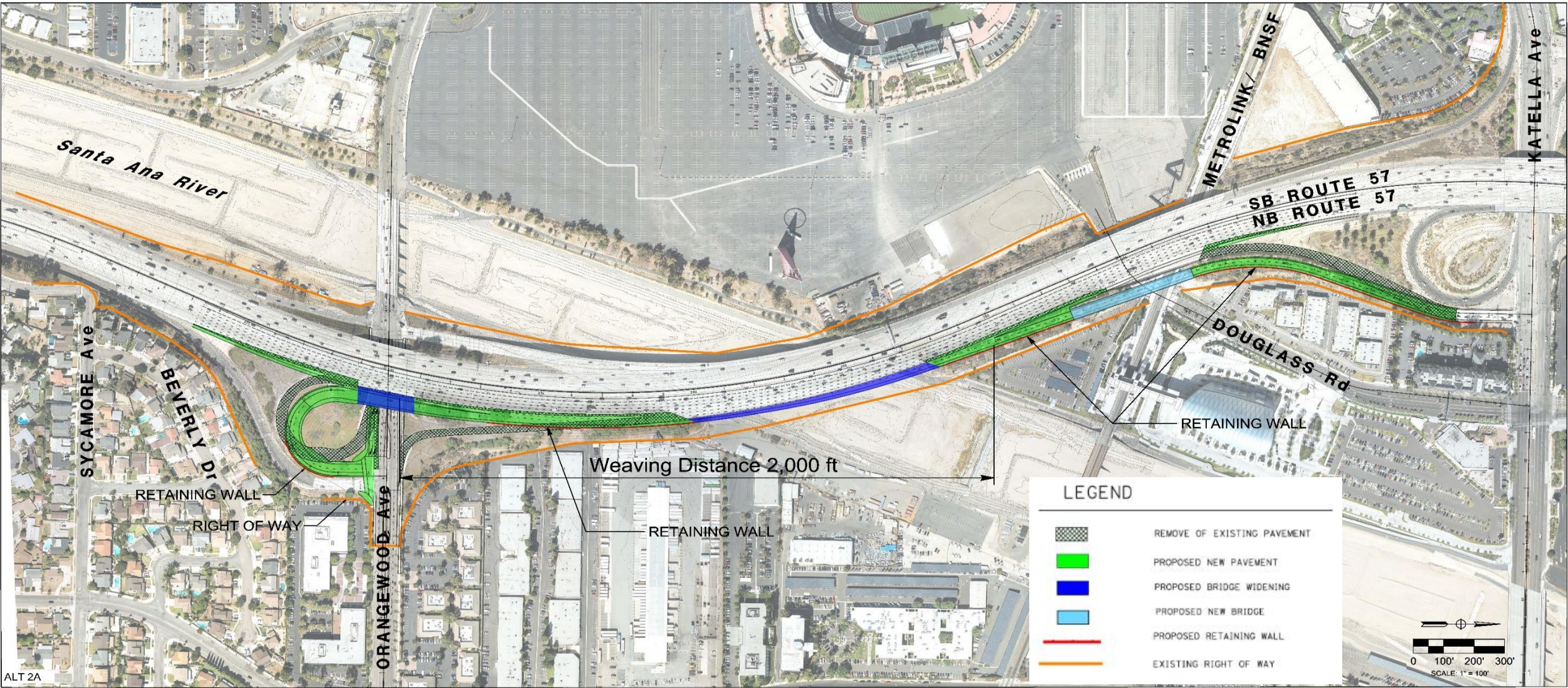


# Alternative 2



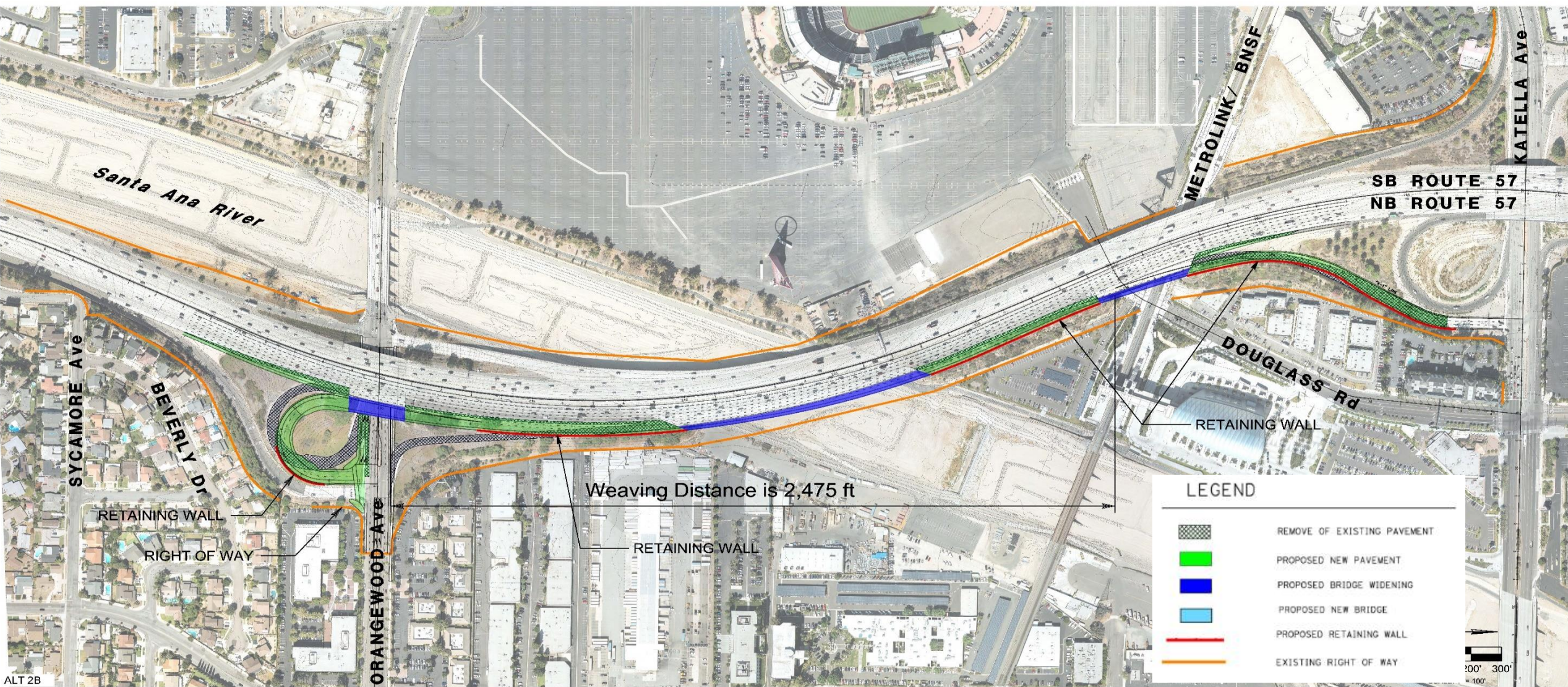


# Alternative 2A





# Alternative 2B



ALT 2B

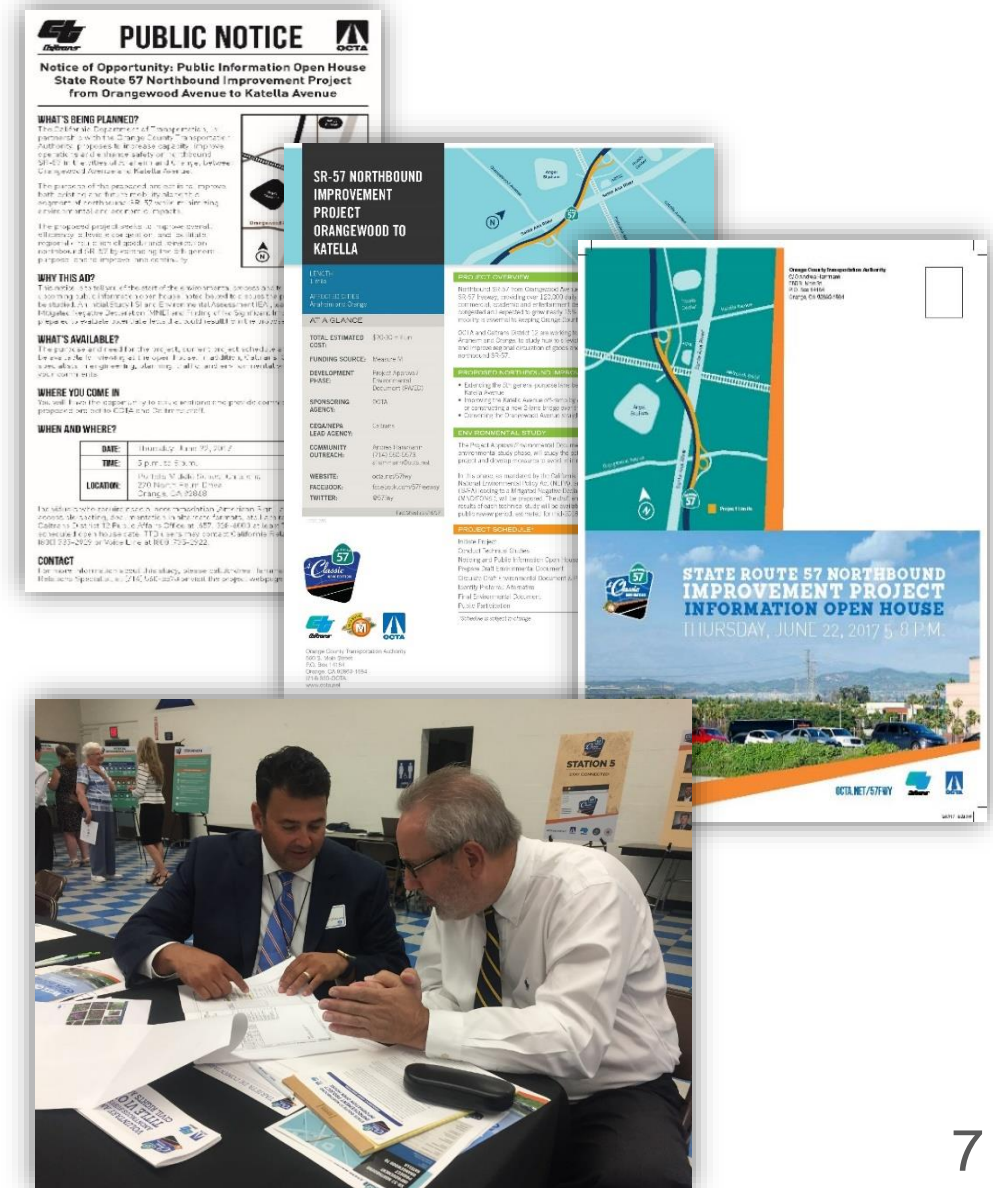


# Project Benefits

Improvement	Alternative 2	Alternative 2A	Alternative 2B
Provide lane continuity with fifth GP lane and maintain existing auxiliary lane	X	X	X
Provide two-lane northbound off-ramp at Katella Avenue	X	X	X
Widen northbound inside shoulder to improve sight distance	X	X	X
Improve northbound mainline weaving distance	X	X	X
Achieve standard weaving distance by removing northbound Orangewood Avenue slip on-ramp		X	X
Northbound Katella Avenue off-ramp spans station platform and Douglass Road by constructing new bridge		X	

# Public Noticing and Outreach

- Notices published online and in newspapers
- Widespread direct mail program targeting neighborhoods, businesses, and stakeholders
- Government and media relations
- Project webpage, e-blasts, and social media
- One-on-one and flier canvassing



# Environmental Phase Schedule



Activity	2016	2017	2018
Environmental and Technical Studies	Mid-2016 – Early 2018		
Public Information Open House		June 22, 2017	
Draft Project Report and Draft Initial Study/Environmental Assessment (30-Day Public Circulation)			October – November 2018
Public Hearing (Open House Format)			October 25, 2018
Incorporate Public Comments			Late 2018
Preferred Alternative Selection			Late 2018
Final Project Report and Mitigated Negative Declaration/Finding of No Significant Impact			January 2019