



BOARD COMMITTEE TRANSMITTAL

April 22, 2013

To: Members of the Board of Directors
WK
From: Wendy Knowles, Clerk of the Board
Subject: Path Forward for the Interstate 405 Improvement Project Between State Route 55 and Interstate 605

Regional Planning and Highways Committee Meeting of April 15, 2013

Present: Directors Bates, Donchak, Harper, Lalloway, Miller, Murray, Nelson, and Spitzer
Absent: None

Committee Vote

This item was passed by the Members present.

Director Spitzer was not present to vote on this item.

Committee Recommendations

- A. Direct staff to proceed in accordance with an approach that advances project development of the Measure M2 Project K, which adds one general purpose lane in each direction on Interstate 405 between Euclid Street and Interstate 605.
- B. Direct staff to concurrently screen a new concept for improvements to Interstate 405, which adds two general purpose lanes in each direction and also explores converting the existing high-occupancy vehicle lane to a single high-occupancy toll lane. The screening will consider traffic and revenue implications, identify additional right-of-way needed for this concept, and is estimated to cost \$140,000.
- C. Direct staff to concurrently screen a new concept for improvements to Interstate 405, which truncates the second northbound general purpose lane of Alternative 2 at Valley View Street. The screening is estimated to cost \$15,000.
- D. Direct staff to return to the Board of Directors in September 2013 for further discussion of existing alternatives and to present findings from the analysis of the new concepts.



ORANGE COUNTY TRANSPORTATION AUTHORITY

**Path Forward for the Interstate 405 Improvement Project
Between State Route 55 and Interstate 605**

Staff Report



April 15, 2013

To: Regional Planning and Highways Committee

From: Darrell Johnson, Chief Executive Officer

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

Subject: Path Forward for the Interstate 405 Improvement Project
Between State Route 55 and Interstate 605

Overview

Project development and environmental documentation is under way for improvements to the Interstate 405 between State Route 55 and Interstate 605. On October 22, 2012, the Board of Directors selected Alternative 1, the Measure M2 Project K project, which adds one general purpose lane in each direction, as the locally preferred alternative. This report outlines a path forward to advance delivery of the Measure M2 project, but also provides opportunities for the Board of Directors to weigh in on alternatives and explore new concepts.

Recommendations

- A. Direct staff to proceed in accordance with an approach that advances project development of the Measure M2 Project K, which adds one general purpose lane in each direction on Interstate 405 between Euclid Street and Interstate 605.
- B. Direct staff to concurrently screen a new concept for improvements to Interstate 405, which adds two general purpose lanes in each direction and also explores converting the existing high-occupancy vehicle lane to a single high-occupancy toll lane. The screening will consider traffic and revenue implications, identify additional right-of-way needed for this concept, and is estimated to cost \$140,000.
- C. Direct staff to concurrently screen a new concept for improvements to Interstate 405, which truncates the second northbound general purpose lane of Alternative 2 at Valley View Street. The screening is estimated to cost \$15,000.

- D. Direct staff to return to the Board of Directors in September 2013 for further discussion of existing alternatives and to present findings from the analysis of the new concepts.

Background

In fall 2003, the Orange County Transportation Authority (OCTA) launched the Interstate 405 (I-405) Major Investment Study (MIS). On October 14, 2005, following an extensive public outreach effort and a comprehensive technical review, the OCTA Board of Directors (Board) adopted MIS Alternative 4 as the locally preferred strategy to move forward in the project development process. Alternative 4 adds one general purpose (GP) lane in each direction from an area near Brookhurst Street to Interstate 605 (I-605), generally staying within existing state right-of-way (ROW). This was the basis for improvements known as Project K, which was included in the Measure M2 (M2) Transportation Investment Plan, approved by voters on November 7, 2006.

Environmental Phase of Project Development

The environmental phase of project development for the I-405 Improvement Project (Project) began in early 2009 and included two build alternatives: Alternative 1, which adds one GP lane in each direction as approved by the voters, and Alternative 2, which adds two GP lanes in each direction. On January 26, 2009, the Board approved the addition of Alternative 3 to both maximize corridor mobility as well as help fund the overall project during difficult economic times when M2 sales tax forecasts were dropping. Alternative 3 studies the potential for managed lanes/tolled express lanes, similar to the 91 Express Lanes in northeast Orange County, while also delivering one GP lane, M2 Project K, as the basic commitment to the voters. A key milestone was the release of the Project draft environmental impact report/environmental impact statement (DEIR/EIS) on May 18, 2012. The DEIR/EIS includes one no-build and three build alternatives:

- **No-Build Alternative**

The No-Build Alternative keeps the I-405 in a status quo condition. This alternative includes no additional lanes or interchange improvements.

- **Alternative 1: Add one GP lane in each direction**

Alternative 1 adds a single GP lane in each direction on the I-405 from Euclid Street to the I-605 interchange. This is the M2 Project K.

- Alternative 2: Add two GP lanes in each direction

Alternative 2 adds one GP lane in each direction on I-405 from Euclid Street to the I-605 interchange (as in Alternative 1), plus adds a second GP lane in the northbound direction from Brookhurst Street to the State Route 22 (SR-22)/ 7th Street interchange, and a second GP lane in the southbound direction from the Seal Beach Boulevard on-ramp to Brookhurst Street.

- Alternative 3: Add one GP lane and one tolled express lane in each direction

Alternative 3 adds one GP lane in each direction on I-405 from Euclid Street to the I-605 interchange (as in Alternatives 1 and 2), plus adds a tolled express lane in each direction on I-405 from State Route 73 (SR-73) to SR-22 east. The tolled express lanes would be combined with existing high-occupancy vehicle (HOV) lanes to provide dual express lanes in both the northbound and southbound directions on I-405 between SR-73 and I-605.

Locally Preferred Alternative Selection

On October 22, 2012, the Board selected Alternative 1, the single GP lane, as the locally preferred alternative (LPA). Alternative 1 delivers the M2 Project K scope approved by voters, and also eliminates the need to reconstruct the Fairview Road bridge in the City of Costa Mesa. The approved recommendation also included a design variation to remove braided on- and off-ramp structures between Magnolia Street and Warner Avenue, which eliminates the need for up to four full commercial property acquisitions and business relocations in the City of Fountain Valley. Parking impacts in the City of Westminster have also been greatly reduced through design modifications. Alternative 1 does not necessitate the relocation of the soundwall that exists along Almond Avenue in the City of Seal Beach.

On January 31, 2013, the City of Long Beach sent a letter to the California Department of Transportation (Caltrans) requesting that the DEIR/EIS be recirculated due to additional traffic study information in the south Los Angeles County/Long Beach area, which was completed since the DEIR/EIS was circulated in May 2012. Caltrans has granted the request for recirculation of the traffic study portions of the DEIR/EIS, and this process will take approximately six months to complete. The required 45-day recirculation period is expected to begin in June 2013 and will include a public hearing in the City of Long Beach. When the recirculation period is complete and public comments have been received and reviewed, the project development team,

consisting of Caltrans and OCTA staff, will formalize the recommended Project preferred alternative for final approval by the Caltrans District 12 Director.

Project Costs

The cost estimates for Alternative 1, adding a single GP lane in each direction, are \$1.3 billion; Alternative 2, adding dual GP lanes in each direction, \$1.4 billion; and, Alternative 3 adding a single GP lane and a single express lane in each direction, \$1.7 billion. These estimates have been updated based on the latest preliminary engineering in the draft project report, dated May 2012, represent year-of-expenditure dollars, and assume a design-build delivery method of construction beginning in 2015.

When implementation of the design variation to eliminate the braided ramps in the City of Fountain Valley is included, the cost estimate of the alternatives is reduced by approximately \$50 million. In addition, should the express lanes in Alternative 3 be truncated at Euclid Street/Ellis Street, rather than connecting the SR-73, thus eliminating the need to replace the Fairview Street overcrossing, the cost estimate for Alternative 3 is further reduced by \$180 million. These design variation modifications to the alternatives give revised cost estimates of \$1.25 billion for Alternative 1, \$1.35 billion for Alternative 2, and \$1.47 billion for Alternative 3. The preliminary cost estimates are based on the scope contained in the draft project report which represents approximately 20 percent of complete design.

External Influences

On July 6, 2012, the Moving Ahead for Progress in the 21st Century (MAP-21) Act that reauthorized the federal aid highway program was signed into law. As part of MAP-21, a state that allows low emission and energy-efficient vehicles to use an HOV facility, or the HOV facility is used for High-Occupancy Toll (HOT), or both, must annually certify that operational performance monitoring programs and enforcement programs are in place to ensure that the performance of the subject facility is not degraded and is operated in accordance with the restrictions and requirements of 23 U.S.C. 166. As part of the certification, the state must document that the performance of the facility is not currently degraded and must further document the actions that will be taken to guarantee that operational performance will not become degraded in the future. If the operation of an HOV facility open to HOT or low emission and energy-efficient vehicles becomes degraded, states must take necessary actions, such as limiting or discontinuing the use of HOV facilities by the subject vehicles or increasing the price paid by non-exempt vehicles for access to HOV lanes. States are required to study and implement solutions to ensure that HOV lanes, which were funded mostly with federal dollars, operate at or above minimum federal standards for speed during peak hour periods.

Senate Bill 535 (Chapter 215, Statutes of 2010), allows inherently low emission, electric, and plug-in hybrid vehicles, which are appropriately registered with the California Department of Motor Vehicles, to drive single occupancy in HOV lanes throughout the state until January 1, 2015. Therefore, the existing HOV lanes are subject to the federal degradation correction requirements.

On April 8, 2013, Caltrans presented the degradation status of the Orange County HOV system, including I-405, to the Board for discussion. Per federal requirements, Caltrans will prepare a strategy to address statewide HOV lane degradation within 180 days of the finalization of the degradation report. The MAP-21 requirements may drive a change in the HOV occupancy requirement, from HOV2+ to HOV3+, on deficient corridors such as I-405 should other solutions to HOV degradation not be derived.

New Concepts

In addition to the three build alternatives previously described, there have been suggestions by members of the Board and Caltrans to consider new concepts. These concepts all include the existing M2 Project K which adds one GP lane in each direction as approved by the voters.

Concept A: The first concept is considered a new Project alternative for the DEIR/EIS. It is assumed this alternative would be constructed within the existing footprint of one of the existing Project alternatives that have been studied. It includes adding another GP lane in each direction (two new GP lanes, similar to Project Alternative 2) and also converting the existing HOV lane to a single HOT lane. It assumes that the occupancy rate of the HOV lane would be changed to a minimum requirement of three or more persons per carpool. This concept may address the degraded HOV condition and the tolls may provide supplemental funding for the Project. A Traffic and Revenue (T&R) Study that analyzes one HOT lane in each direction would take approximately three months and cost approximately \$140,000. On completion of this T&R Study, the Board could determine if this concept is viable and whether it should move forward in the DEIR/EIS.

Concept B: The second concept being forwarded by Project corridor cities is a design variation of the existing Project Alternative 2. The concept is to build Alternative 2 and truncate the second northbound GP lane at Valley View Street. The intent of this concept is to avoid impacts to the soundwall, which borders the I-405 along Almond Avenue. The second GP lane is beyond the scope of the M2 project and is unfunded. Preliminary analyses, which includes participation by Caltrans, has determined this concept unfeasible due to the traffic impacts at the confluence of SR-22 and I-405, an extremely high volume traffic area, which would result in significant bottlenecks

on the mainline freeway as well as traffic impacts to surface streets within the cities of Garden Grove, Seal Beach, and Westminster. However, a more in-depth traffic analysis of this option could be completed at a cost of approximately \$15,000, and would take up to three months to complete.

Another concept that surfaced in discussions with Caltrans proposes to add the M2 Project K single GP lane plus one HOV2+ lane in each direction. The HOV2+ lane would be combined with the existing HOV2+ lane to form a dual HOV2+ facility. This concept was studied as Alternative 8 in the I-405 MIS, but was not chosen as the locally preferred strategy. This concept would deliver on the promise of M2 Project K, as well as address the degraded HOV condition on this stretch of I-405. However, there is no identified funding to construct a dual HOV lane concept. Caltrans has not determined the method to address HOV degradation on the entire I-405 corridor and, therefore, it is not recommended it be further studied.

Path Forward

The proposed path forward keeps the voter-approved M2 Project K project development on schedule and provides an opportunity for the Board to explore new concepts and/or weigh in on the existing alternatives. Depending on the outcome of the concept screening, the overall Project schedule would either remain on schedule or be delayed by approximately one year. Under either of these paths, the Board has an opportunity to consider the addition of lanes beyond the M2 Project K.

The schedule included as Attachment A outlines the three paths being considered. These include proceeding with Alternative 1, the LPA, Alternative 2 with modest design variations, or inclusion of a new alternative in the DEIR/EIS.

Should the Board proceed with Alternative 1 or 2, with a modest design variation, the schedule is minimally impacted while staff returns to the Board with findings/recommendations/consideration of new concepts. Time is made up by advancing some of the design and ROW concurrent with the analysis of new concepts. The existing Project schedule is generally maintained, the M2 Project K is delivered by 2020, and inflationary risk is minimized.

Should the Board select a new alternative to the DEIR/EIS within the existing footprint of the three build alternatives previously studied, it would require new technical studies that would need to be incorporated into the DEIR/EIS which would need to be recirculated. A supplemental DEIR/EIS would need to be prepared and a new round of public hearings would need to be carried out with public input recorded and addressed. It is estimated that this additional environmental work could take up to 18 months to complete and cost

\$1.7 million. The projected Project schedule delay is approximately one year and adds inflationary costs of one year to the design-build phase of the Project. The overall Project delay is minimized by continuing with preliminary design and performing the first stage of releasing the design-build request for proposals (RFP), releasing the request for qualifications (RFQ), with options as to which alternative is to be constructed.

Recommendations and Next Steps

It is recommended the Board proceed with development of the M2 Project K (Alternative 1) and if desired, on a parallel path, explore new concepts. This approach includes commencement of preliminary design and ROW activities, which offers the best opportunity to deliver the M2 Project generally on the current schedule and mitigate the potential for inflationary risk and cost increases. It also provides the Board an opportunity to consider one or both of the new concepts described.

Should the Board select any of the three alternatives currently being developed or a design variation of one of the three, the design-build RFQ is scheduled to be released in early 2014, with the RFP scheduled to be released in late 2014. Construction is expected to begin in mid-2015 and, depending on the alternative, would take between four and four and a half years, from mid-2015 to late 2019, delivering the M2 project by 2020, and minimize inflationary risk. An RFP for construction management services is scheduled to be issued later in 2013 to provide construction management services during the RFP and design-build phases.

Should the Board decide to add an alternative to the DEIR/EIS (within the existing project footprint), the design-build RFQ is scheduled to be released in early 2015, with the RFP scheduled to be released in late 2015. Construction of this alternative is expected to take approximately four and a half years, from late 2015 to mid-2020. This schedule delay would likely result in inflationary pressures to the cost of the Project. Staff will return to the Board in September 2013 with the findings of the additional analysis and an updated cost estimate.

Fiscal Impact

Funding for the additional work was included in the OCTA's Fiscal Year 2012-13 Budget, Account 0017-7519-FK101-N1C. Upon Board approval, the necessary funds will be transferred from Capital Programs Division, Account 0017-7519-FK101-TZF, for the additional requirements. These M2 funds will then be reimbursed by Orange County Unified Transportation Trust funds.

Summary

On October 22, 2012, the Board of Directors selected Alternative 1 as the locally preferred alternative for the Interstate 405 Improvement Project. Staff is recommending a path forward to advance delivery of the Measure M2 Project K, while at the same time providing opportunities for the Board of Directors to concurrently consider other alternatives and/or introduce new concepts into the process.

Attachment

- A. Paths Forward Schedule

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ORANGE COUNTY TRANSPORTATION AUTHORITY

**Path Forward for the Interstate 405 Improvement Project
Between State Route 55 and Interstate 605**

Attachment A

Paths Forward Schedule

Activity/Milestone	Alternative 1 (LPA)	Alternative 2 (with truncation variation)	New Alternative (within footprint)
Recirculate the supplemental DEIR/EIS (City of Long Beach)	June - July 2013	June - July 2013	June - July 2013
Begin preliminary design and ROW tasks common to Alternatives 1, 2, 3	July 2013	July 2013	July 2013
Screen new concepts	May - August 2013	May - August 2013	May - August 2013
Board consideration of concepts and alternatives	September 2013	September 2013	September 2013
Supplemental DEIR/EIS and recirculation	N/A	N/A	October 2013 - April 2015
Caltrans selection of preferred alternative	October 2013	October 2013	April 2015
Issue design-build RFP	Fall 2014	Fall 2014	Fall 2015
Design-construct the Project	Mid 2015 - Early 2020	Mid 2015 - Early 2020	Mid 2016 - Early 2021



Path Forward for the Interstate 405 Improvement Project Between State Route 55 and Interstate 605





Build Alternatives

Alt*	General Description	Original Cost Estimate	Revised Cost Estimate With Variations**
1	Add one general purpose (GP) lane each direction (Measure M2 Project K)	\$1.3 billion	\$1.25 billion
2	Add two GP lanes each direction	\$1.4 billion	\$1.35 billion
3	Add one GP lane and one high-occupancy toll (HOT)/express lane	\$1.7 billion	\$1.47 billion

* Alt = Alternative

**Alts 1, 2, 3 – eliminates braided ramps in City of Fountain Valley (reduces costs by \$50 million)

Alt 3 – truncates express lanes at Euclid Street/Ellis Street, eliminates State Route 73 connector (reduces costs by \$180 million)

Note: Costs based on scope contained in draft project report, approximately 20 percent design



Last Several Months

- October 2012 Locally preferred alternative selected
- December 2012 Long Beach traffic study prepared
- April 2013 Caltrans high-occupancy vehicle (HOV) lane degradation findings submitted
- January to March 2013 New concepts suggested



Locally Preferred Alt and New Concepts

Alt 1: Measure M2 Project K
Add one GP Lane Each Direction
(Included in all alternatives and concepts)

Concept A*

M2 Project
+
one GP
+
Convert HOV to HOT

Concept B**

M2 Project
+
one GP

*Alt 2 and convert existing single HOV lane to HOT lane
** Alt 2 variation, second northbound GP lane eliminated north of Valley View Street



Design Variation



New Alternative



Path Forward

Activity	Proceed with Alt 1 or 2*	New Alt
Recirculate supplemental draft environmental impact report/environmental impact statement (DEIR/EIS) (Long Beach traffic)	July 2013	July 2013
Proceed with preliminary design and right-of-way tasks**	July 2013	July 2013
Complete screening new concept(s)	August 2013	August 2013
Return to the Board of Directors with findings***	September 2013	September 2013
Develop/recirculate supplemental DEIR/EIS	N/A	March 2015
Select preferred alternative (Project Development Team)	October 2013	April 2015
Issue design-build request for proposals	Fall 2014	Fall 2015
Design-complete construction of project	Early 2020	Early 2021

* With design variation within the footprint of existing alternatives

** Tasks common to all alternatives

***Board of Directors direction on new concept or alternative selection



Recommendations and Next Steps

- Advance project development of M2 Project K (Alt 1)
- Initiate preliminary design and right-of-way tasks
- Screen Concept A and Concept B
- Amend existing agreement to screen concepts
- Return to the Board of Directors in September 2013