

# **Metro**

*Los Angeles County Metropolitan Transportation Authority  
One Gateway Plaza  
3rd Floor Board Room  
Los Angeles, CA*



## **Agenda - Final**

**Wednesday, April 11, 2018**

**11:00 AM**

**One Gateway Plaza, Los Angeles, CA 90012,  
3rd Floor, Metro Board Room**

### **Ad Hoc Congestion, Highway and Roads Committee**

*Janice Hahn, Chair*

*John Fasana, Vice Chair*

*Kathryn Barger*

*Jacquelyn Dupont-Walker*

*Ara Najarian*

*Carrie Bowen, non-voting member*

*Phillip A. Washington, Chief Executive Officer*

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(ALSO APPLIES TO BOARD COMMITTEES)

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Notwithstanding the foregoing, and in accordance with the Brown Act, this agenda does not provide an opportunity for members of the public to address the Board on any Consent Calendar agenda item that has already been considered by a Committee, composed exclusively of members of the Board, at a public meeting wherein all interested members of the public were afforded the opportunity to address the Committee on the item, before or during the Committee's consideration of the item, and which has not been substantially changed since the Committee heard the item.

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- a. Disorderly behavior toward the Board or any member of the staff thereof, tending to interrupt the due and orderly course of said meeting.
- b. A breach of the peace, boisterous conduct or violent disturbance, tending to interrupt the due and orderly course of said meeting.
- c. Disobedience of any lawful order of the Chair, which shall include an order to be seated or to refrain from addressing the Board; and
- d. Any other unlawful interference with the due and orderly course of said meeting.

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**NOTE: ACTION MAY BE TAKEN ON ANY ITEM IDENTIFIED ON THE AGENDA**

**CALL TO ORDER****ROLL CALL**

5. **SUBJECT: METRO EXPRESSLANES DYNAMIC MESSAGE SIGNS** [2018-0036](#)

**RECOMMENDATION**

RECEIVE AND FILE report on Metro ExpressLanes Dynamic Message Signs.

**Attachments:** [Attachment A - Metro ExpressLanes Message Signs Presentation](#)

6. **SUBJECT: EXPRESSLANES CLEAN AIR VEHICLE POLICY** [2017-0800](#)

**RECOMMENDATION**

ADOPT the Clean Air Vehicle toll discount policy.

**Attachments:** [Attachment A - Impacts of 5 Percent Reduction in ExpressLanes Traffic Volume.pdf](#)  
[Attachment B - CAV Treatment on Express Lanes Facilities in the US.pdf](#)  
[Attachment C - CAV Treatment on FasTrak Roadway Facilities in CA.pdf](#)  
[Attachment D - Importance of Managing Demand.pdf](#)  
[CAV Board Presentation v5](#)

7. **SUBJECT: EXPRESSLANES TOLL BOND POOL** [2018-0128](#)

**RECOMMENDATION**

ESTABLISH a Toll Bond Pool of underwriters, listed in Attachment A, from which underwriters will be selected for future negotiated debt issues for toll revenue bonds and other toll revenue backed debt issued under the ExpressLanes program through June 30, 2021, with two further 1-year options to extend.

**Attachments:** [Attachment A - Summary of Underwriter Selection.pdf](#)

(ALSO ON FINANCE, BUDGET AND AUDIT COMMITTEE)

8. **SUBJECT: MEASURE R HIGHWAY SUBREGIONAL PROGRAM SEMI-ANNUAL UPDATE** [2018-0006](#)

**RECOMMENDATION**

CONSIDER:

- A. APPROVING \$20.841 million of additional programming within the capacity of the Measure R Highway Subregional Programs and funding changes via the updated project list, as shown in Attachment A for:

- Highway Operational Improvements in Arroyo Verdugo
- Highway Operational Improvement in Las Virgenes Malibu
- I-405, I-110, I-105 and SR-91 Ramp and Interchange Imp. (South Bay)
- I-605 Corridor “Hot Spots” Interchange Imp. In Gateway Cities
- I-710 South and/or Early Action Projects in Gateway Cities

B. AUTHORIZING the CEO or his designee to negotiate and execute all necessary agreements for approved projects

**Attachments:** [Attachment A - MRHSPL.pdf](#)

**9. SUBJECT: CALTRANS UPDATE**

[2018-0161](#)

**RECOMMENDATION**

RECEIVE report by the Caltrans District Director on Delivery of Projects on I-5.

**GENERAL PUBLIC COMMENT**

Consideration of items not on the posted agenda, including: items to be presented and (if requested) referred to staff; items to be placed on the agenda for action at a future meeting of the Committee or Board; and/or items requiring immediate action because of an emergency situation or where the need to take immediate action came to the attention of the Committee subsequent to the posting of the agenda.

**COMMENTS FROM THE PUBLIC ON ITEMS OF PUBLIC INTEREST WITHIN COMMITTEE'S SUBJECT MATTER JURISDICTION**

**Adjournment**



## Board Report

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**File #:** 2018-0036, **File Type:** Informational Report

**Agenda Number:** 5.

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### AD HOC CONGESTION HIGHWAY AND ROADS COMMITTEE APRIL 11, 2018

**SUBJECT: METRO EXPRESSLANES DYNAMIC MESSAGE SIGNS**

**ACTION: RECEIVE AND FILE**

#### **RECOMMENDATION**

RECEIVE AND FILE report on Metro ExpressLanes Dynamic Message Signs.

#### **ISSUE**

At the October 2017 Ad Hoc Congestion, Highway and Roads Committee, Director Hahn expressed concern that some of the terminology/abbreviations on the ExpressLanes Dynamic Message Signs (DMS) was confusing and did not clearly communicate its intent to customers. This report addresses those concerns by sharing the results of market research and recent consultation with Caltrans.

#### **BACKGROUND**

Per Title 23 of the Code of Federal Regulations, Part 655.603, all signage used on highways across the US, including the Metro ExpressLanes, must conform to the standards presented in the Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD is a set of federally applied rules and guidelines governing signage treatments on public roads adopted by each State. This includes, among other things, standards and guidelines with respect to usage of color, number of words, and allowable terminology/abbreviations. For example, the adopted version of the MUTCD in California requires that the term "HOV" be used rather than "Carpool" on all state-owned facilities, including the Metro ExpressLanes.

In order to assure visibility of signage, message options for ExpressLanes' DMSs are constrained by the size of the sign themselves, as characters must be at least a certain size, placing a limit on the number of characters that can fit on a given sign. The DMSs used on the ExpressLanes can generally support messages that are no more than three lines long, and no more than 20 characters per line.

For consistency of user experience across California, precise definitions and usage are also established for the FasTrak brand by the California Toll Operators Committee (CTOC) which includes

both the term “FasTrak” and the related but distinct term “FasTrak Flex.”

- **FasTrak** refers to the standard electronic tolling collection system used throughout California, which all toll operators with electronic payment systems are required to accept (this includes the Metro ExpressLanes).
- **Flex**, refers more precisely to a particular type of FasTrak transponder that includes a switch for declaring vehicle occupancy. The “Flex” suffix is essential for distinguishing these switchable transponders from other non-switchable types of FasTrak transponders. Flex is a common name for the switchable transponder that is used nationwide and in California by other tolling agencies. By using the term Flex, the ExpressLanes signage indicates that those with a non-Flex FasTrak transponder are assumed to be solo drivers and will have to pay the toll regardless of the number of occupants in their vehicle.

## **DISCUSSION**

In an effort to obtain feedback from ExpressLanes customers, staff held five focus groups on November 15 and 16, 2017. The focus groups were comprised of both frequent and in-frequent users of the 10 and 110 ExpressLanes and concentrated on the issue of signage and messaging.

### **Findings**

Relevant focus group findings are as follows:

- Participants experienced great difficulty in comprehending signs that included the word ‘HOV’. HOV was thought to be related to low-emission vehicles or high operations vehicles. Some participants understood that it had something to do with the number of people in the car.
- One of the least understood elements of the digital signs was the use of the word ‘FLEX’. Flex was speculated to refer to the flexibility of time and fees or the need to have a transponder.
- Participants were acquainted with the ExpressLanes signs presented to them with varying degrees of comprehension. For each sign discussed, participants quickly gathered their understanding of the message and sought to paraphrase it for simplicity.

Attachment A provides a side by side comparison of the current and proposed changes to the DMSs based on the recommendations of the focus groups and in consultation with Caltrans. Since some of the terms identified by the focus groups as unclear cannot be changed due to MUTCD requirements, physical limitations of the signs, and/or adopted CTOC guidelines, staff will develop a marketing and education campaign to more clearly communicate the intent of the DMS messages. Targeted education and outreach activities will include the development of:

- A Pocket Guide with promotional items will be mailed to all customers highlighting key Metro ExpressLanes messages.
- An Educational video which will be promoted through customer email notification, social

media, and metroexpresslanes.net.

- Social media marketing with digital signage that targets new and existing customers.
- Press release to highlight the new Metro ExpressLanes messages.

Metro staff will conduct focus groups to determine the effectiveness of the new messages and education/marketing campaign six to nine months after implementation in the summer.

### **FINANCIAL IMPACT**

Funding for the outreach and marketing efforts is included in the FY 18 budget of Cost Center 2220.

### **NEXT STEPS**

Staff will work with the marketing and communications department to start the educational and marketing outreach strategies. Staff will take the necessary steps to notify customers of the change and implement the new message signs.

### **ATTACHMENTS**

Attachment A - Metro ExpressLanes Message Signs

Prepared by: Silva Mardrussian, Manager Transportation Planning, (213) 418-3132  
Shahzad Amiri, Executive Officer, (213) 922-3061

Reviewed by: Stephanie Wiggins, Deputy Chief Executive Officer, (213) 922-1023



# METRO EXPRESSLANES

## New Digital Messaging Recommendations

EXISTING

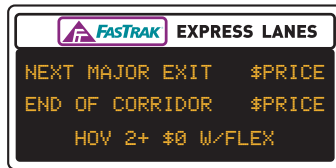
RECOMMENDED



The ExpressLanes are open to any driver, even if the driver does not have a transponder. Violations will not be processed and tolls will not be charged. Drivers may not cross the solid double white lines unless directed to do so by the CHP.



No one may enter or use the lane. Any driver who enters the lanes after the lanes are closed will be charged the maximum toll for the full corridor even if the driver did not travel the full length of the corridor.



The minimum non-peak or peak toll rate per mile will be charged.

Non-peak hour rate is \$0.10 per mile.  
Peak hour rate is \$0.35 per mile.

Flex – Switchable FasTrak transponder that has a switch that can be moved to indicate the number of occupants in the vehicle.



Any driver entering the lanes must have two or more occupants in the vehicle, and must also have a FasTrak Flex transponder set to the proper occupancy setting. Any driver entering the lanes without meeting these requirements will be subject to the maximum toll rate for the corridor, regardless of actual length traveled in the ExpressLanes. Drivers that were already in the ExpressLanes before encountering this sign may stay in the lane.



Any driver entering the lanes must have three or more occupants in the vehicle, and must also have a FasTrak Flex transponder set to the proper occupancy setting. Any driver entering the lanes without meeting these requirements will be subject to the maximum toll rate for the corridor, regardless of actual length traveled in the ExpressLanes. Drivers that were already in the ExpressLanes before encountering this sign may stay in the lane.

# **METRO EXPRESSLANES**

Item # -

March 14, 2018 Ad Hoc Congestion, Highway & Roads Committee

Metro ExpressLanes Dynamic Message Signs



# Metro ExpressLanes Dynamic Message Signs

At the October 2017 Ad Hoc Congestion, Highway and Roads Committee, Director Janice Hahn expressed concern that some of the terminology used on the ExpressLanes' Dynamic Message Signs (DMS) was confusing and did not clearly communicate its intent to system users. Specifically, among the areas of concern raised were the meaning of the word "Flex" and the usage of the acronym "HOV".



# Focus Groups

Five focus groups were held on November 15<sup>th</sup> & 16<sup>th</sup>.

- The focus groups were comprised of both frequent and infrequent users of the 10 and 110 ExpressLanes and concentrated on the issue of signage and messaging.



**Metro**

# Key Findings

## Key Findings from the Focus Group Interviews:

- Use of the word 'HOV'
  - Participants experienced great difficulty in comprehending signs that included the word 'HOV'.
- Unfamiliarity with the Flex transponder
  - One of the least understood elements of the digital signs was the use of the word 'FLEX'.
- Importance of simplified language
  - For each sign discussed, participants quickly gathered their understanding of the message and sought to paraphrase it for simplicity.



# Overarching Issues

Overarching issues govern the selection of terminology for highway DMSs:

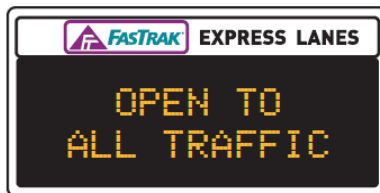
- Per federal regulations, all signage used on highways across the US must conform to the standards presented in the Manual on Uniform Traffic Control Devices (MUTCD).
- Message options for ExpressLanes' DMSs are constrained by the size of the sign themselves, character sizes, and the number of characters that can fit on a given sign.
- For consistency of user experience across California, precise definitions and usage are established for the FasTrak brand by the California Toll Operators Committee (CTOC).



# Existing & Recommended Signs

EXISTING

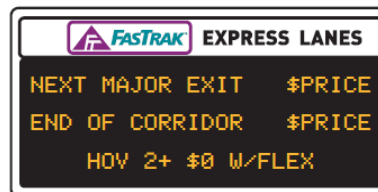
RECOMMENDED



The ExpressLanes are open to any driver, even if the driver does not have a transponder. Violations will not be processed and tolls will not be charged. Drivers may not cross the solid double white lines unless directed to do so by the CHP.



No one may enter or use the lane. Any driver who enters the lanes after the lanes are closed will be charged the maximum toll for the full corridor even if the driver did not travel the full length of the corridor.



The minimum non-peak or peak toll rate per mile will be charged.

Non-peak hour rate is \$0.10 per mile.

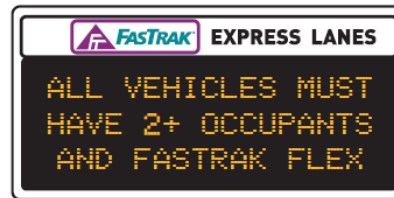
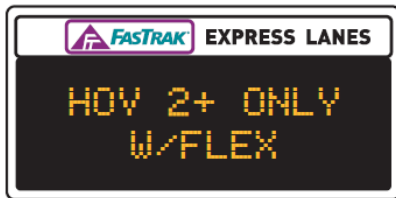
Peak hour rate is \$0.35 per mile.

Flex – Switchable FasTrak transponder that has a switch that can be moved to indicate the number of occupants in the vehicle.

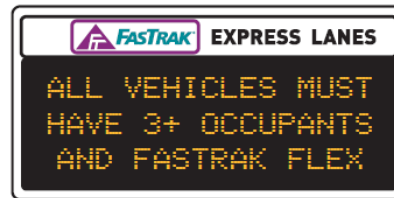
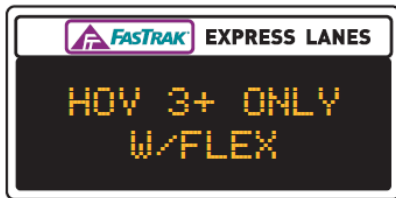
# Existing & Recommended Signs

EXISTING

RECOMMENDED



Any driver entering the lanes must have two or more occupants in the vehicle, and must also have a FasTrak Flex transponder set to the proper occupancy setting. Any driver entering the lanes without meeting these requirements will be subject to the maximum toll rate for the corridor, regardless of actual length traveled in the ExpressLanes. Drivers that were already in the ExpressLanes before encountering this sign may stay in the lane.



Any driver entering the lanes must have three or more occupants in the vehicle, and must also have a FasTrak Flex transponder set to the proper occupancy setting. Any driver entering the lanes without meeting these requirements will be subject to the maximum toll rate for the corridor, regardless of actual length traveled in the ExpressLanes. Drivers that were already in the ExpressLanes before encountering this sign may stay in the lane.



# Targeted Education & Outreach Schedule

*IMAGE OF BROCHURE*

<ul style="list-style-type: none"><li>• Press release</li></ul>	March 2018
<ul style="list-style-type: none"><li>• Pocket Guide with promotional items</li></ul>	April/May 2018
<ul style="list-style-type: none"><li>• Educational video</li></ul>	April/May 2018
<ul style="list-style-type: none"><li>• Social media marketing</li></ul>	April/May 2018
<ul style="list-style-type: none"><li>• Focus groups to determine the effectiveness of the new messages &amp; education/marketing campaign</li></ul>	Early 2019



**Board Report**

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**File #:** 2017-0800, **File Type:** Policy**Agenda Number:** 6.

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**AD HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE  
APRIL 11, 2018****SUBJECT: EXPRESSLANES CLEAN AIR VEHICLE POLICY****ACTION: APPROVE RECOMMENDATION****RECOMMENDATION**

ADOPT the Clean Air Vehicle toll discount policy.

**ISSUE**

Current ExpressLanes policy allows designated Clean Air Vehicles (CAVs) with valid DMV decals to access the Metro ExpressLanes for free at all times. However, as CAV penetration rates have risen, the ability to effectively manage ExpressLanes demand and to continue to meet performance targets regarding speed, reliability, and value to ExpressLanes customers has suffered because CAV users are artificially segregated from the population of paying customers and cannot be controlled using price signals.

At the time of the opening of the ExpressLanes, the number of CAV decals issued statewide was 30,000. Since then, that number has increased almost 1000% to 302,453 as of January 1, 2018, with an average annual increase of approximately 54,000 decals per year.

Concurrently, over the past two years, the penetration rate of Clean Air Vehicles in the most congested segment of the ExpressLanes has doubled. Measurements on I-110 North ExpressLanes in the vicinity of Slauson Ave from the first half of 2016 during the weekday AM Peak showed that CAVs constituted 3% of all ExpressLanes traffic. Corresponding measurements from the second half of 2017 revealed that this penetration rate had jumped to 6%.

For insight into the effect of CAVs on the current performance of ExpressLanes, a 6% change in peak period volumes corresponds to a travel time savings of 15 minutes and a speed improvement of 13 mph on I-110 North ExpressLanes. Additional details are shown in Attachment A.

It should be noted that the rise in CAV penetration rates in the ExpressLanes is only one of several variables correlated with the decline in speeds. Other contributing factors may include increases in occupancy switch setting violation rates, overall growth in traffic volumes in the ExpressLanes, and increased occurrence of illegal ExpressLanes ingress and egress to circumvent toll charges.

## **DISCUSSION**

### Background

Congestion Pricing is widely recognized as an effective method to practically mitigate congestion in real time. When traffic is uncongested, flow and density increase proportionally, and all vehicles get to travel at full speed. When demand exceeds the maximum capacity of a road, conditions shift from being uncongested to being congested-queues form, delays rise, and speeds drop. Once demand exceeds capacity and traffic shifts from an uncongested state to a congested state, additional flow-related inefficiencies often occur (which often reduce roadway capacity even more, thereby further exacerbating the congestion), and it can take a substantial amount of time for the facility performance to fully recover. This underscores the importance of keeping traffic demand from rising above roadway capacity to ensure travelers can still reach their destinations expeditiously.

An increase in CAVs on the ExpressLanes has been a contributing factor in the growth of ExpressLanes traffic volumes placing additional stress on the ExpressLanes system. CAVs are currently allowed to travel toll-free, effectively removing the price of the trip from their decision-making and reducing the ability to effectively manage ExpressLanes demand. The impacts of this situation are threefold:

- increased congestion severity in the ExpressLanes (i.e., slower speeds)
- longer durations of congestion in the ExpressLanes
- higher toll prices for paying customers of the ExpressLanes

Currently, Metro ExpressLanes allows CAVs with valid DMV decals to access the ExpressLanes for free. Originally, CAVs were required to receive a 100% toll discount in the ExpressLanes, but Metro received an exemption from this requirement for the demonstration phase, during which time CAVs were treated no differently than other ExpressLanes traffic. After that exemption expired, Metro maintained compliance with the law by directing CAVs to declare themselves as HOV 3+ vehicles (regardless of actual occupancy) when using the ExpressLanes, thereby traveling toll free. At the time the exemption expired, the resultant impacts of CAVs on ExpressLanes operations were minimal, as the number of eligible DMV CAV decal holders was substantially lower than present levels.

In 2014, the legislature demonstrated their concurrence with charging a toll to CAVs by including language in AB 1721 (and again when the legislation was renewed in 2017 with AB 544), authorizing High-Occupancy Toll (HOT) lane operators to charge partial tolls to CAVs for more effective traffic demand management. Since then, technological advancements as well as rising CAV volumes and increasing demand for the ExpressLanes have made investment in a system that enables charging CAVs practical and reasonable.

Finally, from an equity perspective, it is justified to charge solo drivers in the ExpressLanes a toll regardless of the type of vehicle they drive. While CAVs mitigate negative air quality impacts, they do nothing to alleviate roadway congestion. The CAV discount policy also ensures that CAVs contribute toward the maintenance and management costs of the roadway-something that CAVs have largely been able to avoid to date, given that these fees are generally collected through gasoline taxes. For example, the average gas tax paid per month is \$11.50 for conventional internal combustion engine

vehicles, \$6.57 for hybrid CAVs, and \$0 for alternative fuel CAVs.

### Recommended Solution

To mitigate this issue and improve the performance of the ExpressLanes for all users, staff is recommending that the CAV toll policy be revised to allow for a 15% toll discount for CAVs in place of the current 100% discount policy. This recommendation is based on the following considerations:

- Economic analysis showing that the discount rate should be as low as possible; and,
- Literature review showing that the discount rate should be at least 10% to convey meaningful value.

### Supporting Research and Analysis

The above recommendation is based on a detailed investigation into the issue, its potential solutions, and the experiences of other peer agencies across the state and country. Below is a summary of the findings with respect to the handling of CAVs in comparable facilities in California and throughout the US:

- **Provisions in California and Federal law explicitly grant authority to charge CAVs for ExpressLanes use.** At the state level, this provision is found in Section (h) of AB-544, which was signed into law on October 10, 2017. The relevant portion of the law is provided below.  
*Notwithstanding Section 21655.9, and except as provided in paragraph (2), a vehicle described in subdivision (a) that displays a valid decal, label, or identifier issued pursuant to this section shall be granted a toll-free or reduced-rate passage in high-occupancy toll lanes as described in Section 149.7 of the Streets and Highways Code unless prohibited by federal law.*

At the federal level, the FAST Act granted public authorities the ability to offer HOV access for clean air vehicles at partially discounted toll rates through 2025. California authorization for CAV access to HOV lanes is scheduled to end at the same time as federal authorization. The following is a more detailed chronology of the California HOT-lane legislation as it applies to CAVs.

- September 27, 2012: AB-2405 grants CAVs free access to ExpressLanes. (Metro ExpressLanes is granted an exemption to this for its first year of operation)
- September 28, 2013: SB-286 again grants CAVs free access to ExpressLanes.
- September 21, 2014: AB-1721 grants CAVs “toll-free or reduced-rate passage” in ExpressLanes.
- October 10, 2017: AB-544 again grants CAVs “toll-free or reduced-rate passage” in ExpressLanes.
- **A majority of Express Lane facilities across the country are already charging clean air vehicles the same price as solo drivers.** A survey of the 37 Express Lane facilities currently in operation across the country reveals that 68% of them offer no discount for drivers of clean air vehicles. A listing of each facility and CAV discount policy (if any) is provided in Attachment B. Although none of the Express Lane facilities in California are currently offering partial discounts to CAVs, several are currently in the planning stages for such programs.
- **Most FasTrak facilities across the state are already charging clean air vehicles a partial**

**or full toll price.** A survey of the 18 FasTrak roadway facilities which includes bridges in California reveals that 78% of them have implemented some degree of tolling for CAVs, including 7 facilities that offer a discount of less than 50%, and an additional 5 facilities that offer no discount at all to CAVs. A listing of each facility and CAV discount policy (if any) is provided in Attachment C.

- **Unrestricted (or free) access to HOV and HOT facilities for Clean Air Vehicles is not a widely used strategy in 2018.** 80% of the states in the country are not currently offering HOV-lane access as an incentive for CAV drivers. A commonly cited reason for not offering CAV access to HOV lanes is the negative impact that such access would have on congestion in those lanes.
- **There are up to 17 other incentive programs offered in California to encourage CAV ownership and adoption in addition to the CAV decal program.** These include tax exclusions, exclusive parking access, rebates, utility discounts, registration discounts, and several financial incentive programs.
- **Metro ExpressLanes is currently subsidizing Clean Air Vehicle users \$2.2 million annually when considering just the AM Peak alone,** as a result of the existing 100% discount policy. Implementing a 15% discount policy would allow Metro ExpressLanes to recapture approximately \$1.9 million (85%) of this subsidy if all Clean Air Vehicles choose to continue using the lanes. If they choose to forgo their trip or utilize other travel means this would result in a reduction of traffic on the ExpressLanes.
- **According to economic theory as applied to a freeway facility, the optimal ExpressLanes discount for CAVs would be 0%.** Therefore, the ideal CAV discount rate for the ExpressLanes should be as low as possible, subject to considerations of customer perceptions and consistency. The more traffic that is allowed an exemption, or the more significant the discount offered, the greater the difficulty in achieving optimum traffic volumes and delivering maximum benefits to society with respect to mobility. This is further substantiated by data on the negative effects of congestion and inadequate demand management shown in Attachment D.
- **According to marketing research, the discount should be no less than 10% to ensure it is perceived by customers as a meaningful discount.** Research has shown that discounts should be at least 10% to successfully influence decision-making behavior and perceptions of 91%-94% of those surveyed (Ingene & Levy, Journal of Marketing, Vol 46).

## **ALTERNATIVES CONSIDERED**

The Board may elect not to modify the current CAV policy. This alternative is not recommended, as it would result in the continued inability to effectively manage a rapidly growing segment of the population of ExpressLanes users through market pricing of increasingly scarce roadway capacity.

## **NEXT STEPS**

Upon Board approval, staff will take the necessary steps to implement the new CAV toll discount policy and notify customers of the change with an outreach strategy and educational campaign. This will include email announcements, web site updates, welcome booklet enhancements, and close coordination with stakeholders. Staff will also provide supportive training to all customer service staff regarding CAV policy, and will update all ExpressLanes policies and procedures to reflect the new

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CAV discount. Pending Board approval of this CAV discount policy, implementation is expected to be complete in the second half of 2018.

Furthermore, staff will periodically review the CAV policy to ensure it continues to serve the best interests of the ExpressLanes, and will return to the Board with any further recommendations for enhancements to the policy, as appropriate.

**ATTACHMENTS**

Attachment A - Impact of 5% Reduction in ExpressLanes Traffic Volume

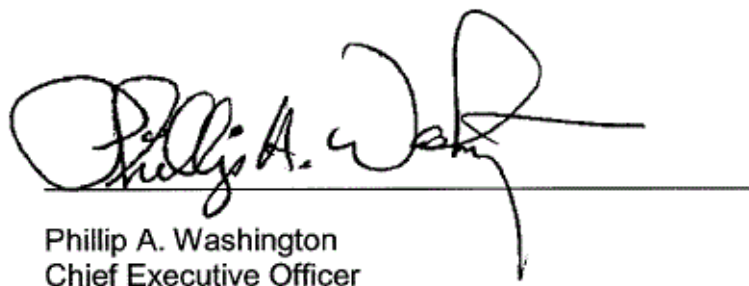
Attachment B - CAV Treatment on Express Lanes Facilities in the United States

Attachment C - CAV Treatment on FasTrak Roadway Facilities in California

Attachment D - The Importance of Managing Demand

Prepared by:            Robert Campbell, Manager, Transportation Planning, 213.418.3170  
                                  Shahrzad Amiri, Executive Officer, 213.922.3061

Reviewed by:            Stephanie Wiggins, Deputy CEO, 213.922.1023



Phillip A. Washington  
Chief Executive Officer

## ATTACHMENT A

### Impacts of 5% Reduction in ExpressLanes Traffic Volume

#### PURPOSE

To gain insight into the effect of Clean Air Vehicles (CAVs) on the performance of ExpressLanes, this analysis examines the operational impacts of reducing traffic volumes in the Metro ExpressLanes by 5% during the peak periods. This is based on data from November 2017 indicating that CAVs constitute 4-6% of traffic in the ExpressLanes during the AM Peak.

#### BASIC PRINCIPLE

This analysis takes advantage of the natural fluctuations in traffic from day to day to estimate the effects of reducing traffic volumes in the ExpressLanes by 5% by comparing conditions during normal or average traffic days to conditions in days where traffic volumes were 5% lower than the average. Details, assumptions, and parameters used to perform this quantitative analysis are documented in Appendix A.

#### FINDINGS

Based on this analysis methodology, impacts with respect to travel times and average speeds have been calculated for each of the ExpressLanes corridors during their respective peak periods. Table 1 summarizes these findings.

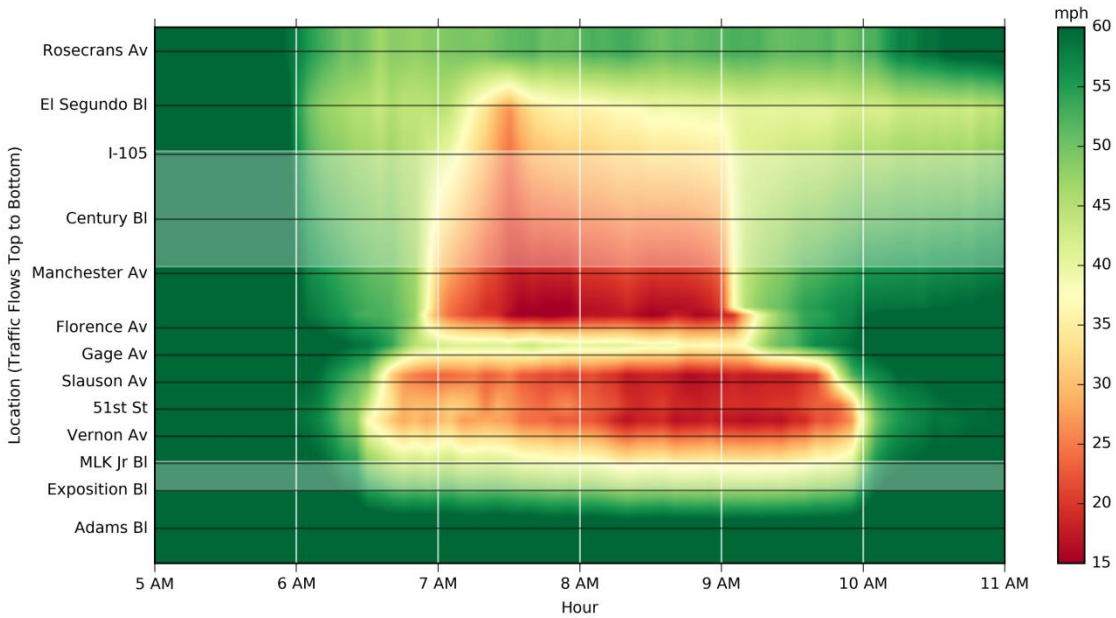
**Table 1. Summary of Performance Impacts for each ExpressLanes Corridor during Peak Periods**

Performance Metric	I-110 North ExpressLanes	I-110 South ExpressLanes	I-10 West ExpressLanes	I-10 East ExpressLanes
End-to-End Travel Time	48% faster (15 minutes faster)	13% faster (2 minutes faster)	32% faster (7 minutes faster)	38% faster (10 minutes faster)
Peak Hour Speed Improvement	40% faster (13 mph faster)	3% faster (1 mph faster)	24% faster (11 mph faster)	18% faster (8 mph faster)

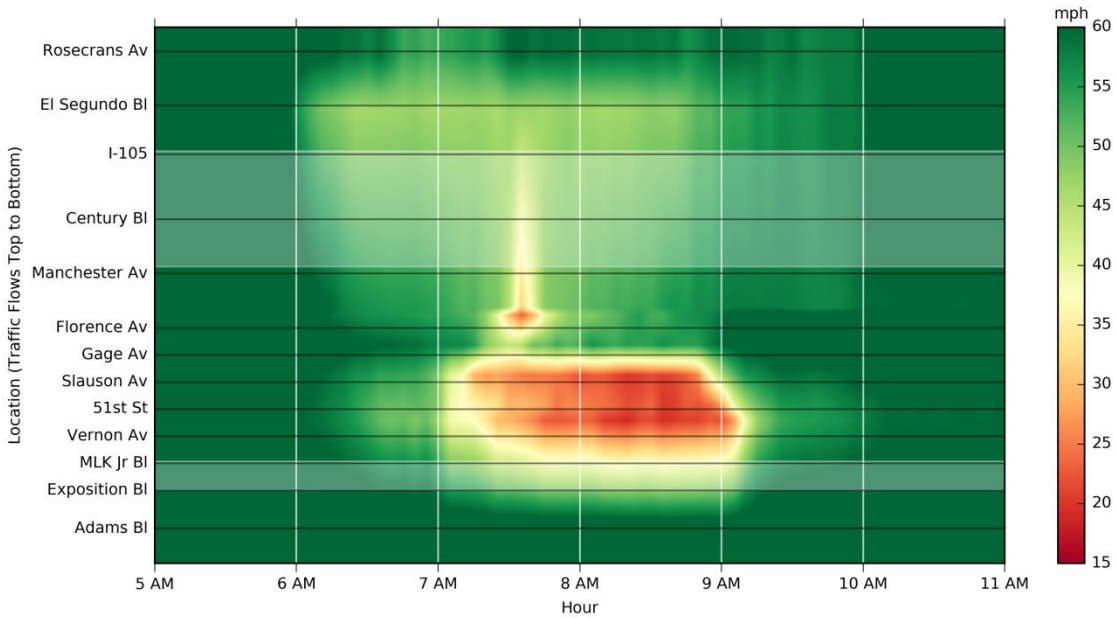
To illustrate the speed improvements on a more detailed level, Figure 1 provides a side-by-side comparison of speeds for an entire corridor (again, I-110 North during the AM Peak) under typical traffic conditions, and as calculated for a 5% reduction in traffic volumes. Similar figures for the other ExpressLanes corridors are provided in Appendix B.

To illustrate the travel time improvements on a more detailed level, Figure 2 compares the median travel times for one corridor (I-110 North during the AM Peak) under typical traffic conditions, and the calculated new median travel times based on a 5% reduction in traffic volumes. Similar figures for the other ExpressLanes corridors are provided in Appendix C.

**Figure 1. Comparison of speeds on I-110 North ExpressLanes during the AM Peak**  
TYPICAL TRAFFIC CONDITIONS



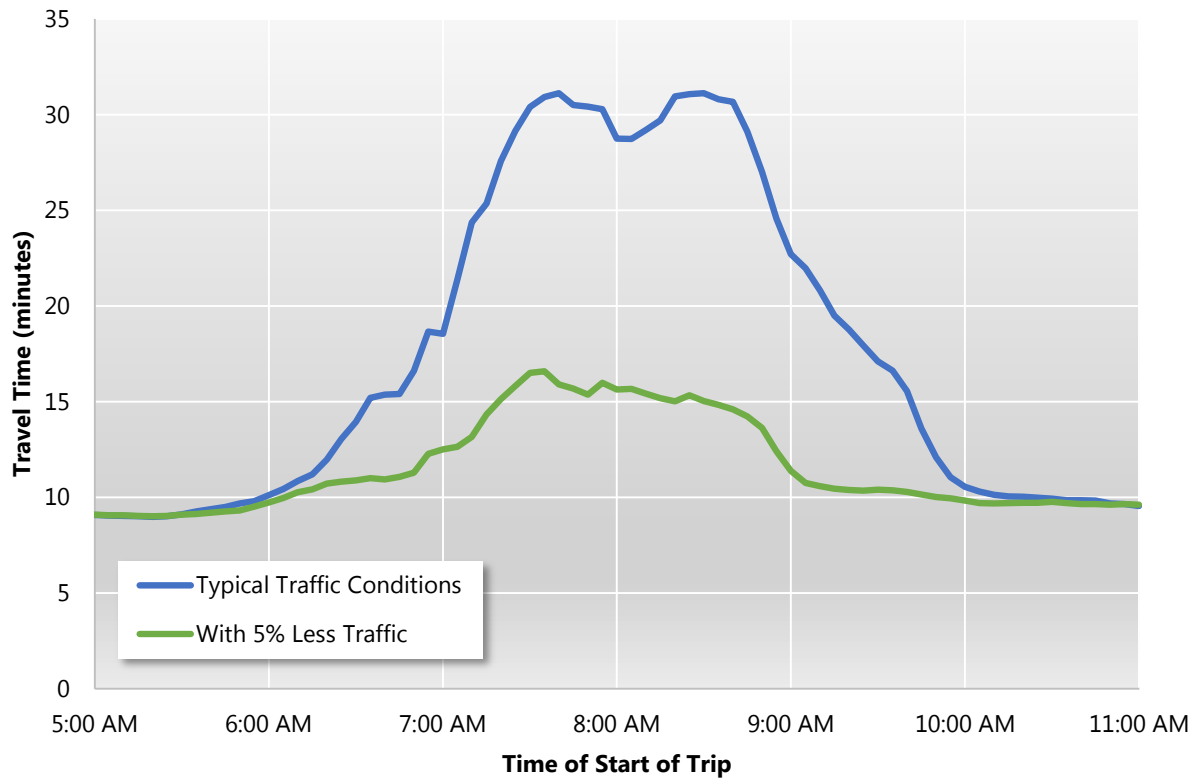
TRAFFIC CONDITIONS WHEN VOLUMES ARE 5% LOWER



*Note: Lighter bands in the figures indicate areas where detector coverage was poor and where results may be less reliable.*



**Figure 2. Comparison of End-to-End travel times on I-110 North ExpressLanes during the AM Peak**



### **INTERPRETATION OF RESULTS**

As Table 1 and the preceding figures reveal, a relatively minor reduction in traffic volumes can have a significant and substantial impact on performance when a facility is operating at capacity. This includes not only reductions in travel times and improvements in speeds, but also reductions in the duration of congestion and the extent of slow-moving traffic. This is readily appreciated in Figure 1, by noting that the yellow and red areas are more compressed horizontally (meaning that the peak period does not last as long) and vertically (meaning that fewer sections of the freeway are congested during the peak period) in the case of a 5% reduction in traffic volumes.

It is important to note that these results should not be interpreted as a direct prediction of impacts for charging CAVs a discounted toll, but rather as a source of insight into the difference that a change in traffic volume of 5% can have on facility performance. In practice, actually achieving a reduction in volumes of 5% is complicated by the fact that as some trips are removed, other trips quickly take their place as drivers shift from other routes, other times of day, and other travel modes to take advantage of the improved facility performance afforded by the original 5% volume reduction. This “induced demand” effect is the reason that dynamic roadway pricing is so critical to the ongoing achievement of performance targets, as congestion pricing controls demand and keeps it from exceeding target levels. This demand control ensures that the ExpressLanes continue to perform at their optimal level without being mired in congestion. Conversely, when ExpressLanes price signals are undermined by the provision of toll exemptions or moderate-to-substantial toll discounts for a non-trivial fraction of vehicles, the

prices become ineffective at controlling demand as intended, and traffic conditions more readily degrade in the ExpressLanes, resulting in congestion.

Care should be used when interpreting the results for corridors with significant congestion at the downstream exit from the ExpressLanes, such as on I-10 East, because of the probability of correlation between VMT in the ExpressLanes and VMT in the freeway general-purpose (GP) lanes. More precisely, the dates used for the “reduced traffic volume” scenario for ExpressLanes may correspond to reduced-VMT dates for the freeway mainline as well, which could account for a non-trivial proportion of the reduced congestion at the point where the ExpressLanes end and the ExpressLanes traffic is forced back into the freeway mainline. This is not an issue at any ExpressLanes access points where traffic is not forced to queue up to exit.

## **Appendix A: Detailed Analysis Methodology**

This appendix describes the source data used, the methods applied to perform the analysis, and the parameters associated with the methodology. Assumptions are declared in these sections as they are made.

### **SOURCE DATA**

#### **Disaggregate Data**

Data from inductive loops are used to measure flow, speed, and occupancy at fixed locations along Caltrans roadway facilities by lane. These data are publicly available in various aggregation intervals ranging between 30 seconds and 1 day through the Caltrans Performance Measurement System (PeMS) web site. For the purposes of this analysis, 5-minute detector data for the ExpressLanes (i.e., HOT lanes) are used unless otherwise specified.

#### **Data Filtering**

When data are not properly reported for a given time interval and lane location, PeMS automatically attempts to impute the missing data using other available data from its nearest neighbors in space and time (i.e., from other measured data at other locations for the same time interval, and from other measured data at the same location for other time intervals). The level of imputation is reported with all PeMS data as a “percent observed” quality rating, where a value of 100% means that the given data was fully measured in the field and 0% means that the given data was entirely imputed. For the purposes of this analysis, data with a “percent observed” less than 70% was discarded.

#### **Aggregated VMT Data**

In addition to these high resolution 5-minute PeMS detector data, this analysis also uses aggregated hourly data for vehicle miles traveled (VMT) at each detector location. VMT is a derivative quantity based on measured flow and the distance to the next available detectors immediately upstream and immediately downstream on the facility. VMT is calculated as the product of flow and effective detector coverage zone, where the effective detector coverage zone is measured by calculating the two midpoints between the detector and either of its immediate neighbors (i.e., the nearest neighbor upstream and the nearest neighbor downstream) and taking the distance between those two midpoints.

Because this analysis relies only on VMT for its relative magnitudes and fluctuations from day to day, but not on its absolute magnitude, data imputation may be reasonably expected to have a minimal impact on overall results assuming that imputation trends by detector remain relatively consistent throughout the analysis period (i.e., a detector that is highly imputed in one month will also be highly imputed in other months, and vice versa). Experience with PeMS data has shown this to be a highly appropriate and justifiable assumption. Therefore, no filtering by “percent observed” is done for VMT data.

### **PARAMETERS**

The following list summarizes key analysis parameters for the described methodology.

- The AM Peak applies to I-110 North and I-10 West, and spans the 5–11 AM period.
- The PM Peak applies to I-110 South and I-10 East, and spans the 2–8 PM period.
- PeMS data are used for the period between January 1 and December 31, 2017. Only weekdays are considered.

- Spatial analysis extents for each corridor are as follows, where post-miles (PMs) follow Caltrans “absolute milepost” measurement system.
- I-10: Between Alameda St (PM 15.3) and I-605 (PM 29.7)
- I-110: Between SR 91 (PM 10.6) and Adams Blvd (PM 20.5)

## METHODOLOGY

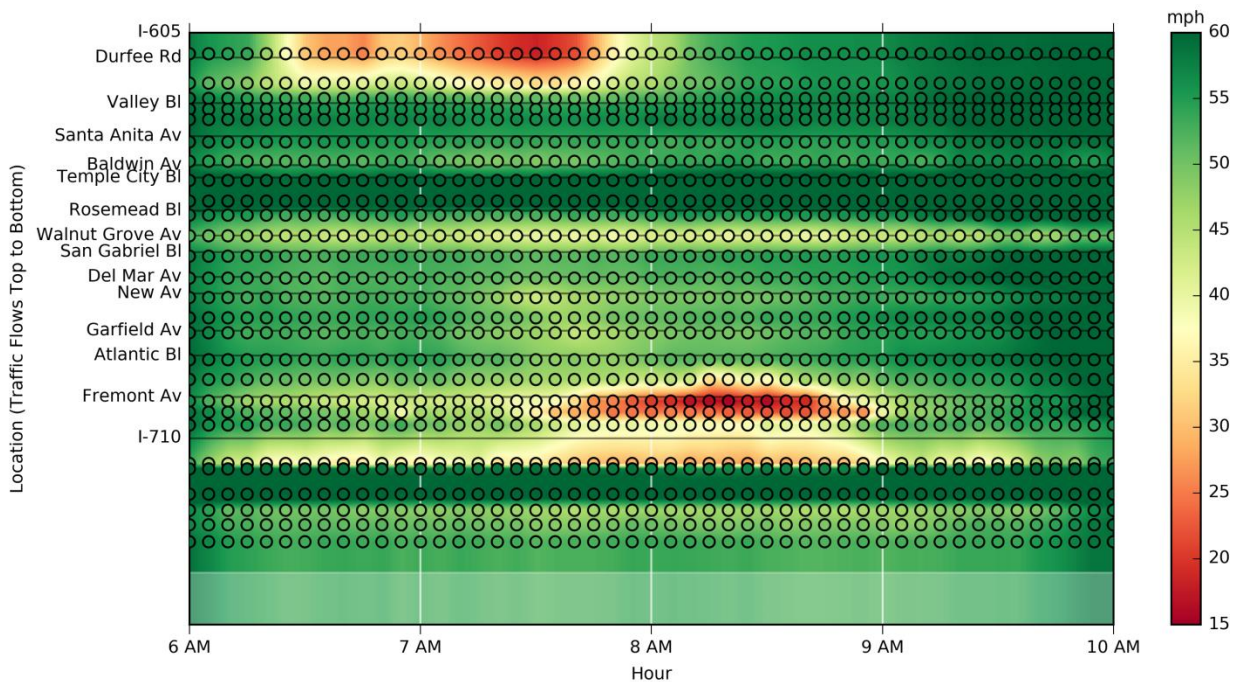
### Evaluating Corridor Speed Contours

A speed contour plot shows the distribution of speeds on a corridor in time and space. In other words, it shows how speeds vary by location along the corridor by time—and in this case, by time of day. In this analysis, speed contours are prepared by linearly interpolating between detector point speed measurements. Figure 3 shows the available data points as solid-colored circles, superimposed on the resultant speed contour plot.

When multiple days of data are available, the measurements for a given location and time of day are averaged using the statistical median to characterize the typical traffic patterns. Because of the asymmetrical distribution of speed data and the frequent occurrence of outliers caused by incidents, the median is a more reasonable and justifiable measure of expected value than the arithmetic mean.

In some instances, particularly when the source data set contains few usable dates to draw upon, there may be segments of roadway where detector coverage is relatively poor and the displayed speeds may be less reliable. On the speed contour plots, these cases are defined as any portions of roadway that are more than 0.75 miles from the nearest available valid detector data, and are indicated by lighter shading on those areas as shown at the bottom of Figure 3.

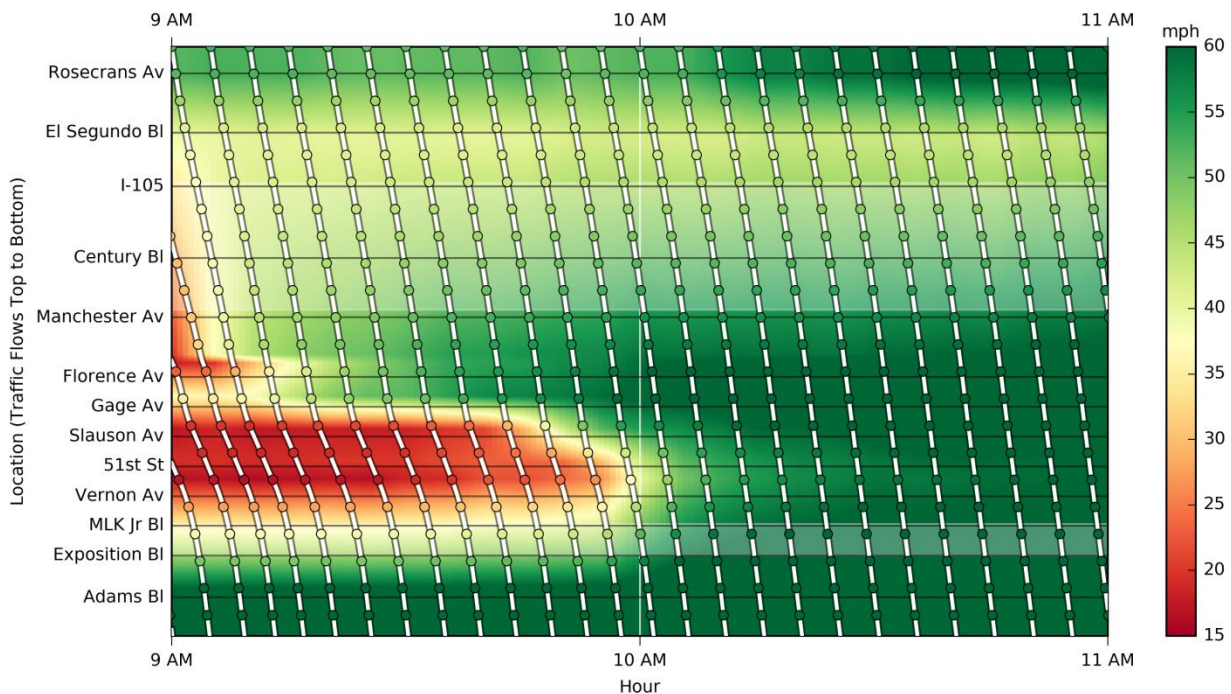
**Figure 3: Speed contour plot with source data points superimposed**



## Measuring Corridor Travel Times

In this analysis, travel times are estimated from point measurements along a given corridor (e.g., from inductive loop data) by simulating the progress of virtual vehicles from one end of the corridor to the other. In the case of this analysis, these vehicles are dispatched from the upstream end of the corridor every 5 minutes and their progress is re-evaluated every 45 seconds or every 30 feet along the corridor—whichever occurs first. The time between successive re-evaluations is called the simulation time-step. Generally, the distance threshold will govern, and vehicle progress will be re-evaluated every 30 feet. However, if traffic speeds drop very low, the time threshold of 45 seconds will be reached first, and progress will be re-evaluated after that amount of time. This is included as a protection to ensure that time steps do not grow excessively long when speeds are particularly low. At the start of each simulation time-step, the speed of the vehicle is calculated using the exact location and timestamp of the vehicle at that moment, using linear interpolation between the nearest 5-minute detector data in time and space. The vehicle is then assumed to proceed at that speed for the duration of the simulation time-step. Figure 4 shows the progress of simulated vehicles for the I-110 North ExpressLanes using this approach.

**Figure 4: Simulated vehicle progress across a corridor for a given set of speed conditions.**



In Figure 4, the white lines are the simulated vehicle trajectories traversing the corridor, where the top represents the upstream start of the corridor and the bottom represents the downstream end. Time is represented on the horizontal axis, such that the slopes of the white trajectory lines correspond to vehicle speeds. Consequently, steeper trajectories indicate faster-moving vehicles, and vice versa. The colored dots along each trajectory indicate the assumed speed of each simulated vehicle at that moment, based on the underlying speed contour plot data. Note that for visualization purposes, only every 250<sup>th</sup> dot is shown on the trajectories. In other words, the actual vehicle simulations involve re-evaluating vehicle progress much more often than the figure suggests (250 times more often, to be precise).

### **Measuring Corridor Traffic Volume**

While flows are a direct and reasonable measure of traffic volume at a point location, total VMT is a more suitable measure of flows across an entire corridor as the effective detector coverage zone gives proper weights to each detector's measured flow. Using VMT rather than aggregate detector flows on a corridor also avoids issues associated with counting the same vehicles at multiple detector locations along the roadway, since the unit of measure is vehicle-miles for VMT (which can be summed across locations) rather than vehicle count (which cannot be summed across locations without high risk of counting many vehicles more than once). Therefore, in this analysis, total corridor VMT will be used as a measure of total corridor traffic volume. As this analysis considers only the HOT lanes, only the VMT from the HOT lanes will be aggregated.

### **Identifying Days with Typical Traffic Volumes**

To identify dates with typical traffic volumes, VMT data are aggregated for each corridor across all hours of the respective peak period for that corridor (see the Parameters section) to yield a measure of total VMT for a given peak period and date. The distribution of total VMT throughout the year is then analyzed and the median or 50<sup>th</sup> percentile value identified. All days with VMT reasonably close to this median value then constitute the set of days with typical traffic volumes, where "reasonably close" is defined as the range between the 40<sup>th</sup> and 60<sup>th</sup> percentile total VMT values.

### **Identifying Days with Reduced Traffic Volumes**

Once the 40<sup>th</sup> and 60<sup>th</sup> percentile total VMT value are established, these two values are reduced by 5% to identify a new VMT range to define days where traffic volumes were 5% less than typical or average (median) values. All days with VMT within this modified range constitute the set of days with traffic volumes reduced by 5%.

### **Addressing a Complication of VMT and Congestion**

The intent of this analysis is to focus on the effect of taking 5% of vehicles off the road, rather than by reducing capacity so that 5% fewer vehicles can use the road. Unfortunately, either scenario can have the overall effect of reducing VMT by 5%, depending on the particular nature of the roadway congestion (i.e., the specific distribution of speeds in time and space). For example, compared to typical commuter traffic conditions, VMT can be expected to decrease on holidays (i.e., less congestion and higher speeds due to taking some vehicles off the road) and also on days with severe congestion that substantially limits the flow of vehicles on the roadway during the analysis period (e.g., a major incident near the downstream end of the corridor).

Fortunately, measurements of traffic density can be used to focus only on the days where VMT decreased due to a reduction in the number of vehicles on the road at any given time rather than the days when VMT decreased due to severe congestion and reduced capacity, as density decreases in the former situation and increases in the latter case. This is intuitive (but can be shown theoretically), as vehicles are packed more closely together on the road when congestion worsens, whereas they have more space between them when traffic gets lighter.

While density cannot be measured directly by inductive loops, occupancy data can be used in its place assuming traffic is roughly stationary (i.e., does not change in characteristics rapidly in time or space) in each detector's effective coverage zone for each 5-minute period. When traffic is stationary, occupancy and density are directly proportional to each other, assuming that the distribution of vehicle lengths on the road does not change over time.

Therefore, for this analysis, average peak period detector occupancy is calculated for each corridor and date using the 5-minute detector data, weighted by the length of each detector's

effective coverage zone. The median detector occupancy value is calculated for the “typical traffic volumes” days and the “reduced traffic volume” days combined. Any days in the “typical traffic volumes” set that are lower than the median detector occupancy are filtered out, and any days in the “reduced traffic volume” set that are higher than the median are filtered out, to ensure the overall traffic density decreases when going from the “typical traffic volume” set to the “reduced traffic volume” set as desired.

### **Characterizing Traffic Patterns for Days with Typical and Reduced Volumes**

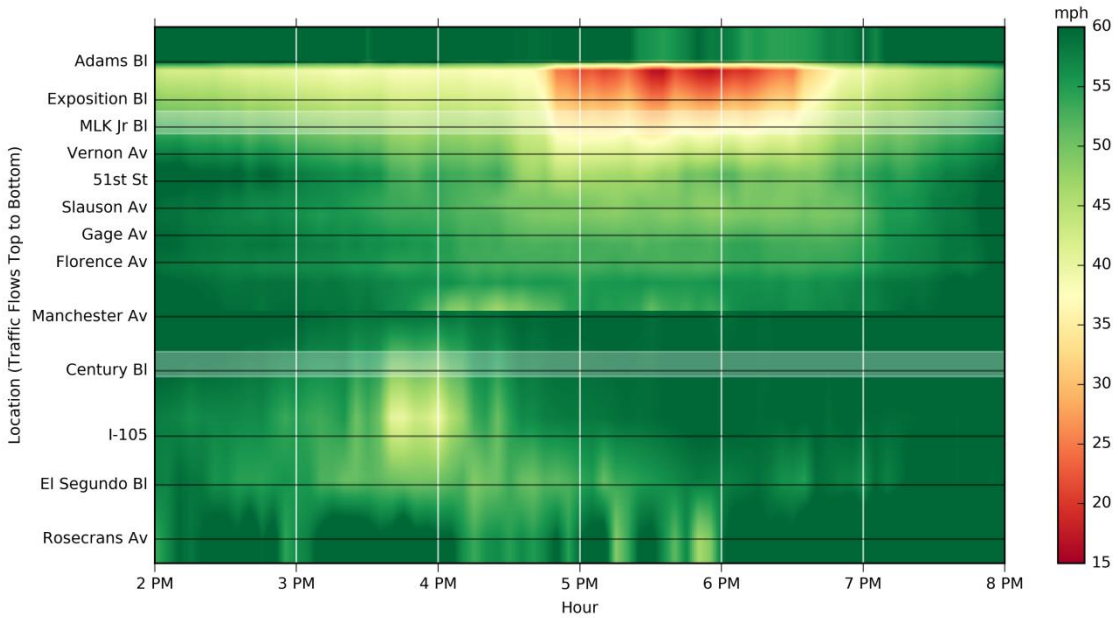
Travel time data are reported as median travel times by time of day, where the median value is calculated across all days in the data set. A median value is used in place of the arithmetic mean due to the asymmetrical nature of travel time distributions and a tendency for extreme outliers to exist more often on the higher end of the distribution. Using the median travel times by time of day, the peak hour can be identified to within 5 minutes, based on the one-hour interval with the highest total travel times in it (recall that travel times are evaluated every 5 minutes). The difference between the total travel times for this peak hour in the “typical traffic volume” and “reduced traffic volume” sets is then calculated and reported as both a percentage and an absolute value, where the absolute value is divided by the total number of travel time data points included in the peak hour analysis (i.e., 12 points) to represent an expected time savings for a single given trip.

Using the peak hour identified from the travel time data, the peak hour average speed for the corridor can also be calculated by taking the median speed data for the corridor and computing the arithmetic mean value across all detectors for the peak hour. In the latter case, the arithmetic mean is appropriate given that the median has already been used in an earlier calculation step as a form of outlier filtering that could have otherwise skewed the results, and that taking a median of a median set can generate misleading results due to the definition of the median. Furthermore, when characterizing speeds across two dimensions (time and space), it can be an asset rather than a liability to use a statistic (i.e., the mean) that gives equal consideration, weight, and influence to each source data point regardless of its value. Finally, because the ultimate quantity of interest is a difference between two datasets (i.e., the “typical traffic volume” and “reduced traffic volume” sets), issues of detector bias that can otherwise create issues with using the arithmetic mean instead of the median are less of a concern, as the bias would be present in both datasets being compared.

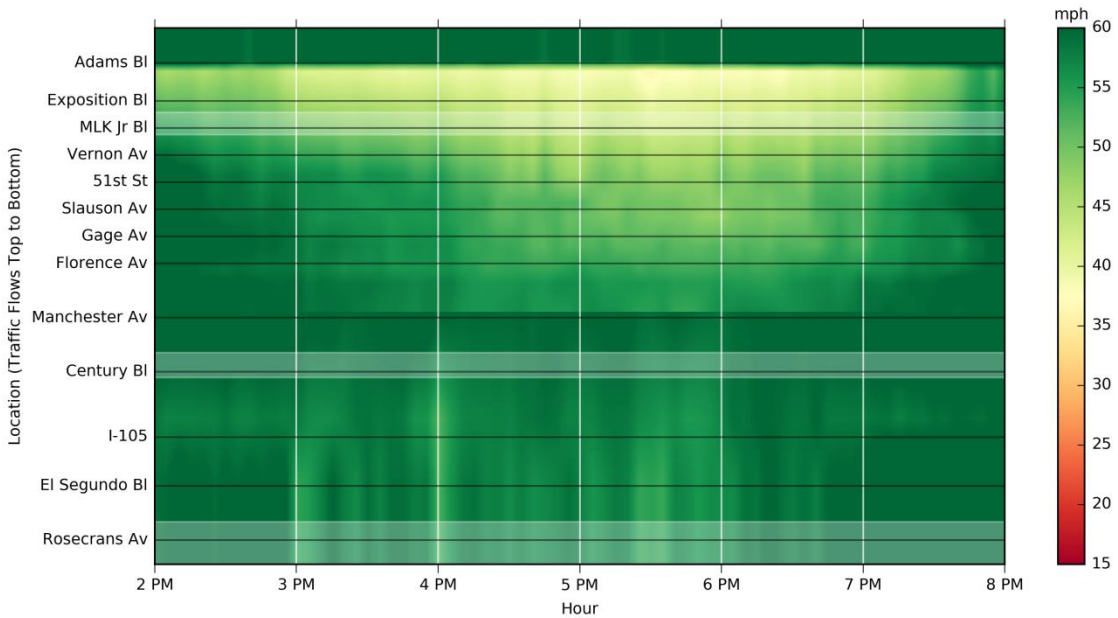
Once average speeds for the peak periods are calculated for both the “typical traffic volume” and “reduced traffic volume” datasets, the difference between the two is calculated and reported as both a percentage and an absolute value.

**Appendix B:** Speed Data for other ExpressLanes corridors  
Results for I-110 North are provided in the main body of the technical memo.

**Figure 5. Comparison of speeds on I-110 South ExpressLanes during the PM Peak**  
TYPICAL TRAFFIC CONDITIONS



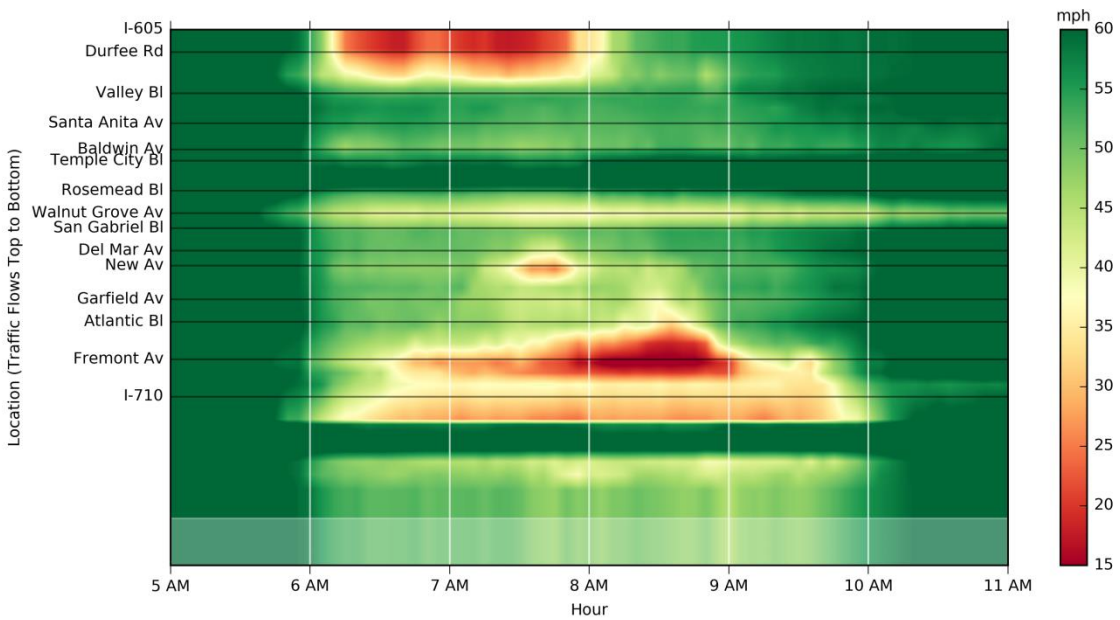
TRAFFIC CONDITIONS WHEN VOLUMES ARE 5% LOWER



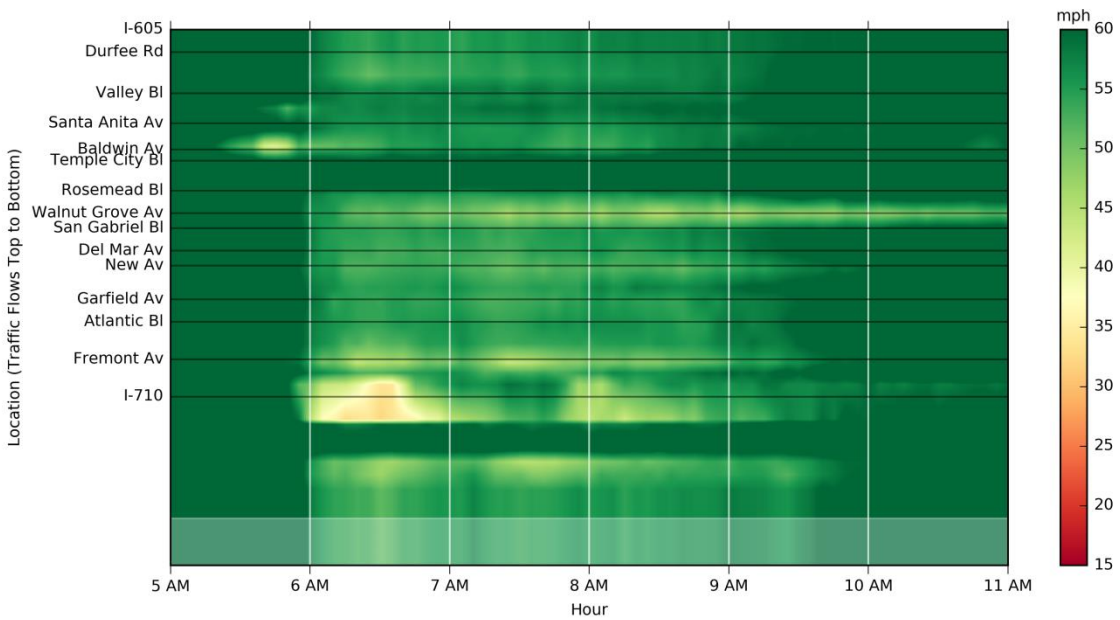
*Note: Lighter bands in the figures indicate areas where detector coverage was poor and where results may be less reliable.*



**Figure 6. Comparison of speeds on I-10 West Express Lanes during the AM Peak**  
**TYPICAL TRAFFIC CONDITIONS**

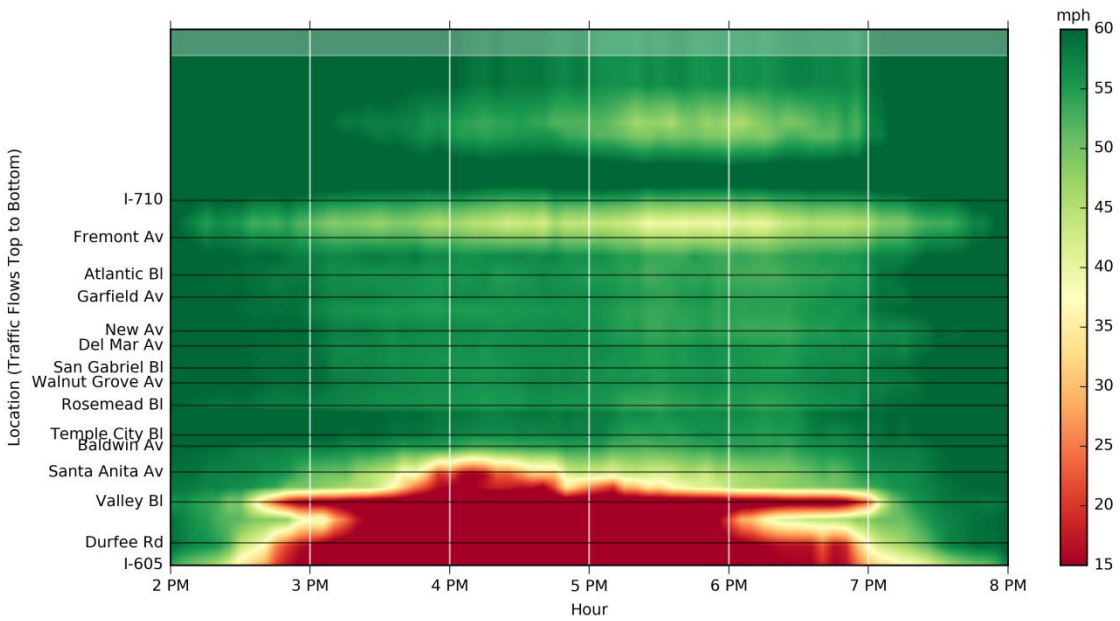


**TRAFFIC CONDITIONS WHEN VOLUMES ARE 5% LOWER**

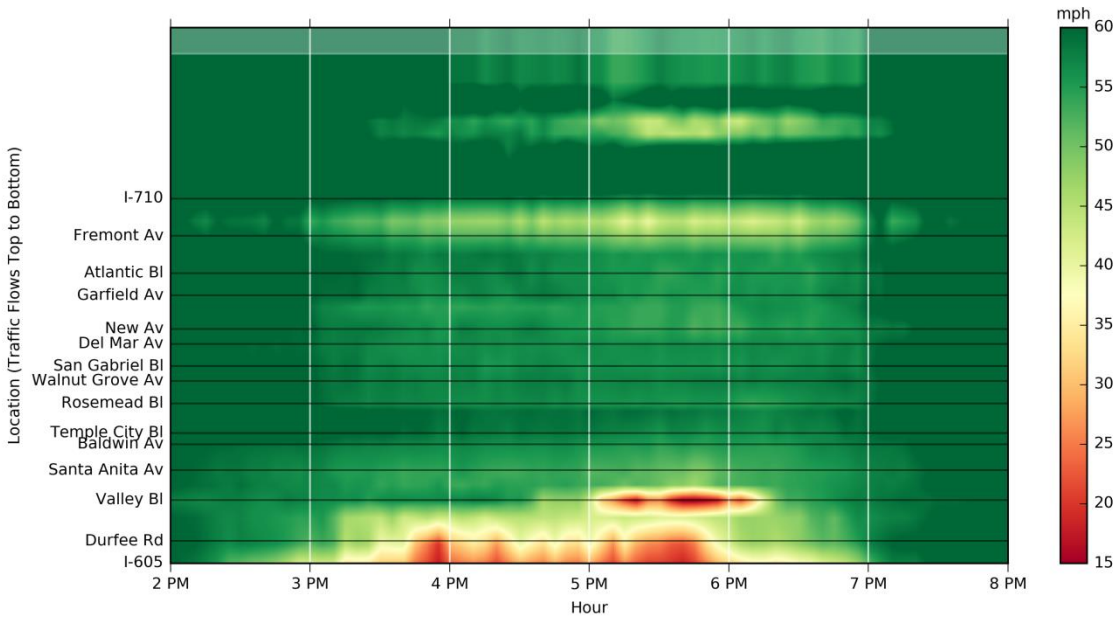


*Note: Lighter bands in the figures indicate areas where detector coverage was poor and where results may be less reliable.*

**Figure 7. Comparison of speeds on I-10 East ExpressLanes during the PM Peak**  
**TYPICAL TRAFFIC CONDITIONS**



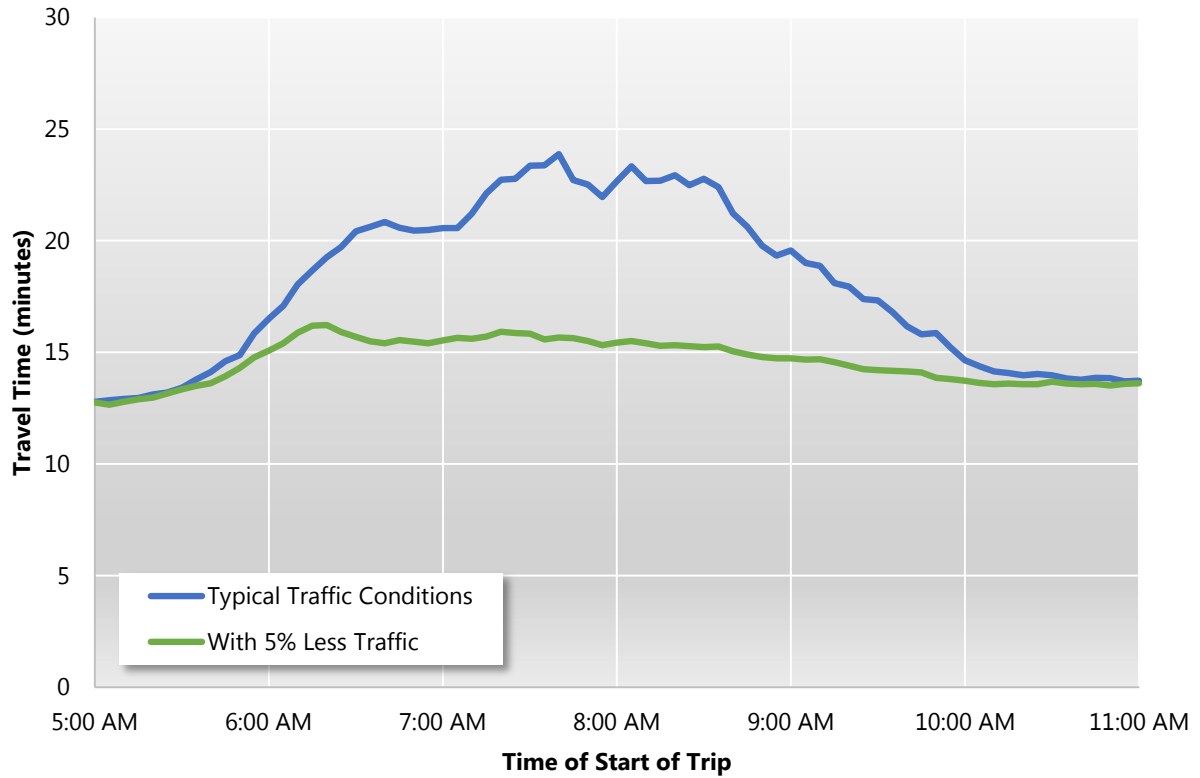
**TRAFFIC CONDITIONS WHEN VOLUMES ARE 5% LOWER**



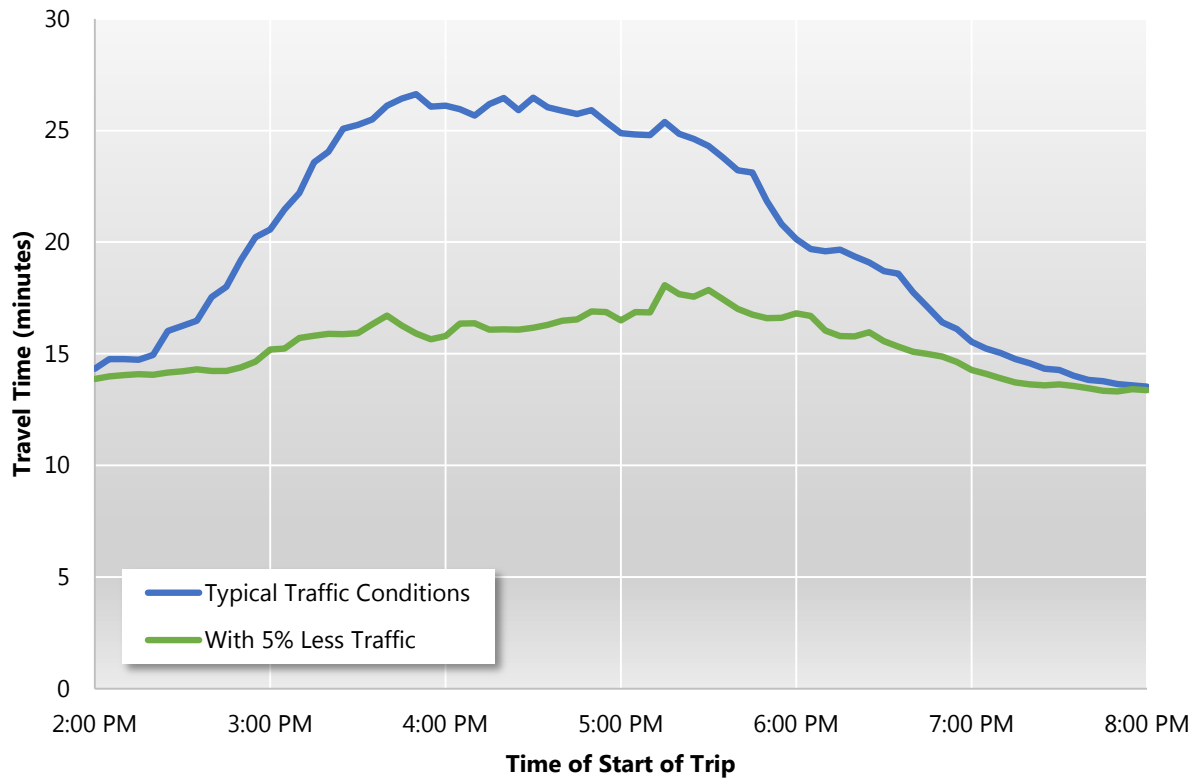
*Note: Lighter bands in the figures indicate areas where detector coverage was poor and where results may be less reliable.*

**Appendix C: Travel Times for other ExpressLanes Corridors**  
Results for I-110 North are provided in the main body of the technical memo.

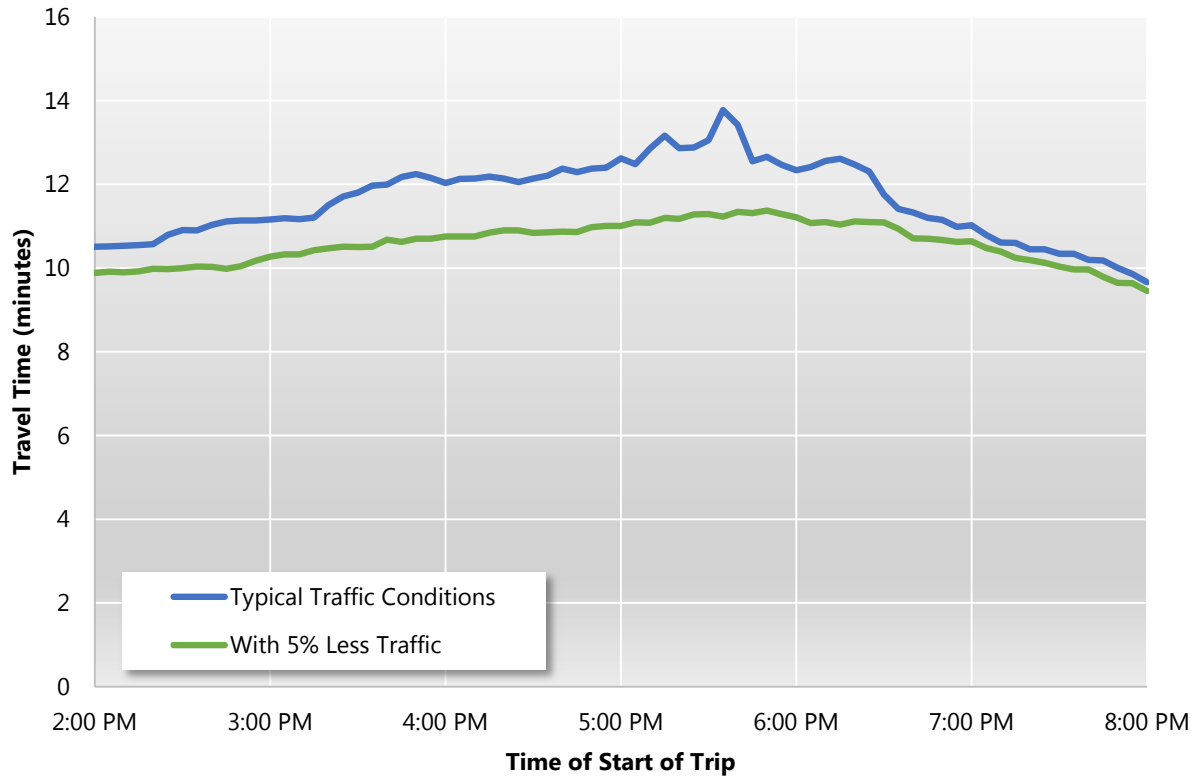
**Figure 8. Comparison of End-to-End travel times on I-10 West ExpressLanes during the AM Peak**



**Figure 9. Comparison of End-to-End travel times on I-10 East ExpressLanes during the PM Peak**



**Figure 10. Comparison of End-to-End travel times on I-110 South ExpressLanes during the PM Peak**



## ATTACHMENT B

### CAV Treatment on Express Lanes Facilities in the United States

State	Facility	CAV Discount
CA	SR 91 Express Lanes	100%, except 50% during PM Peak (EB only)
	I-15 Express Lanes	100%
	I-580 Express Lanes	100%
	I-680 Express Lanes	100%
	SR 237 & I-880 Express Lanes	100%
CO	I-25 Central Express Lanes	100%
	US 36	100%
	I-25 North Segment	100%
	I-70 Mountain Express Lane	100%
FL	I-95 Express Lanes	100%
	I-595	0%
GA	I-85 Express Lanes	100%
	I-75 Express Lanes	0%
MD	I-95 Express Toll Lanes	0%
MN	I-394 Managed Lanes	0%
	I-35W Managed Lanes	0%
	I-35E Managed Lanes	0%
TX	I-10 Katy Fwy Managed Lanes	0%
	I-45 North Fwy HOT Lanes	0%
	I-45 Gulf Fwy HOT Lanes	0%
	US 59 Eastex Fwy HOT Lanes	0%
	US 59 Southwest Fwy HOT Lanes	0%
	US 290 Northwest Fwy HOT Lanes	0%
	LBJ TEXpress Lanes and I-635 East Express	0%
	DFW Connector TEXpress Lanes	0%
	NTE (I-35W) TEXpress Lanes	0%
	I-30 TEXpress Lanes	0%
	MoPac Loop 1 Express Toll	0%
	SH 71 Toll Express	0%
	I-35E TEXpress Lanes	0%
SH 114 TEXpress Lanes	0%	
UT	I-15 Express Lanes	100%
VA	I-495 Express Lanes	0%
	I-95 Express Lanes	0%
	I-66 Express Lanes	0%
WA	SR 167 HOT Lanes	0%
	I-405 Express Lanes	0%

#### Sources:

- Individual agency informational materials, phone calls, and press releases.
- Turnbull, K. *Impact of Exempt Vehicles on Managed Lanes*. Texas A&M Transportation Institute. Report FHWA-HOP-14-006. March 2014.

## ATTACHMENT C

### CAV Treatment on FasTrak Roadway Facilities in California

Agency	Facility	Effective CAV Discount
OCTA and RCTC	SR 91 Express Lanes	97% <sup>1</sup>
SANDAG	I-15 Express Lanes	100%
	SR 125 South Bay Expressway	0%
ACTC	I-580 Express Lanes	100%
	I-680 Express Lanes	100%
VTA	SR 237 & I-880 Express Lanes	100%
TCA	SR 73	0%
	SR 133	0%
	SR 241	0%
	SR 261	0%
BATA	Antioch Bridge (SR 160)	19%. <sup>2</sup>
	San Francisco-Oakland Bay Bridge (I-80)	21%. <sup>2</sup>
	Benicia-Martinez Bridge (I-680)	18%. <sup>2</sup>
	Carquinez Bridge (I-80)	16%. <sup>2</sup>
	Dumbarton Bridge (SR 84)	28%. <sup>2</sup>
	Richmond-San Rafael Bridge (I-580)	20%. <sup>2</sup>
	San Mateo-Hayward Bridge (SR 92)	24%. <sup>2</sup>
Golden Gate Bridge District	Golden Gate Bridge (US 101)	6%. <sup>3</sup>

#### Notes

1. 50% during PM Peak (EB only). 100% all other situations. The volume-weighted average discount is approximately 97%.
2. Based on a 50% discount during the peak periods, and no discount at all other times. Traffic volumes are used to calculate a weighted average of the two discount levels to obtain an effective overall average.
3. Based on a 30% discount during the peak periods, and no discount at all other times. Traffic volumes are used to calculate a weighted average of the two discount levels to obtain an effective overall average.

# ATTACHMENT D

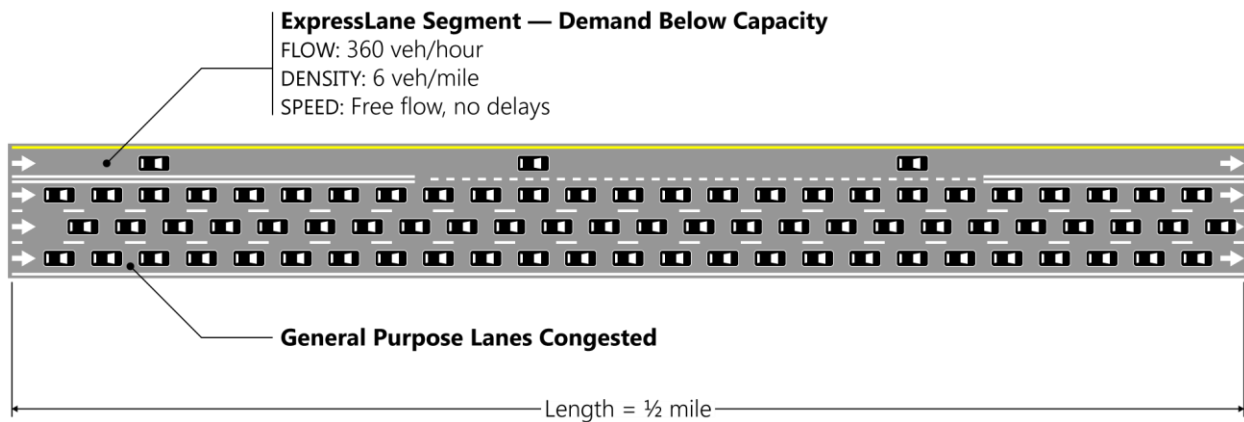
## The Importance of Managing Demand

Congestion Pricing is widely recognized as an effective, justifiable method for transportation demand management (TDM). This briefing document provides an overview of the reasons that TDM is such an important topic, particularly in the context of facilities carrying vehicular traffic such as freeways.

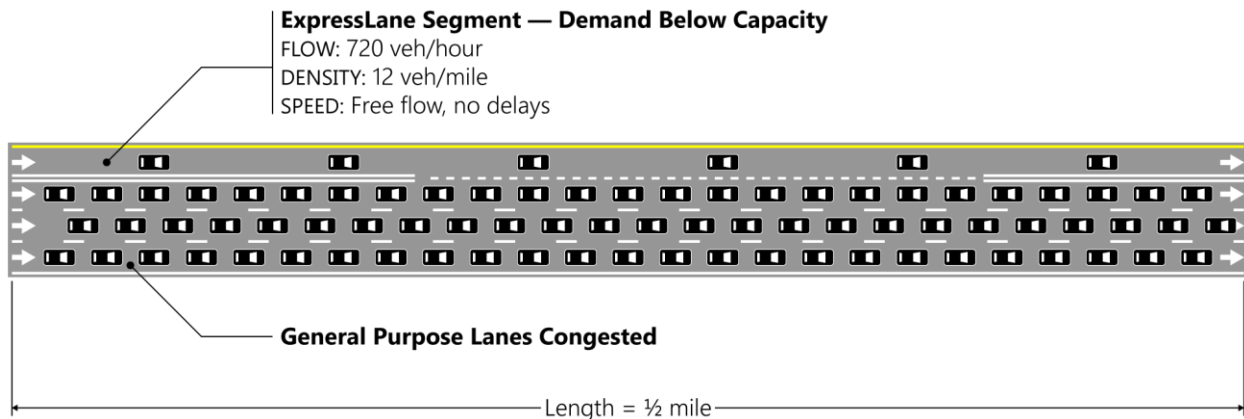
### GOVERNING PRINCIPLE

According to traffic flow theory, there is a key fundamental relationship between the flow of vehicles in a given lane and the corresponding density of vehicles in that lane. When traffic is uncongested, flow and density increase proportionally, and all vehicles get to travel at full speed. This is intuitive, and can be easily seen in Figure 1 and Figure 2, where density doubles when flow doubles, but speeds remain the same because the lane has not yet reached its capacity threshold.

**Figure 1: ExpressLanes traffic conditions for a demand of 360 vehicles per hour**



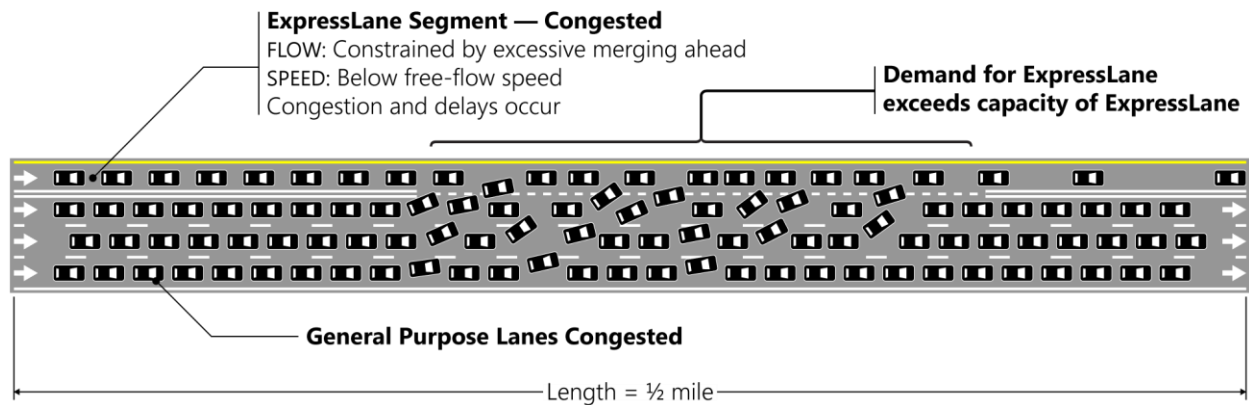
**Figure 2: ExpressLanes traffic conditions when demand doubles to 720 vehicles per hour**





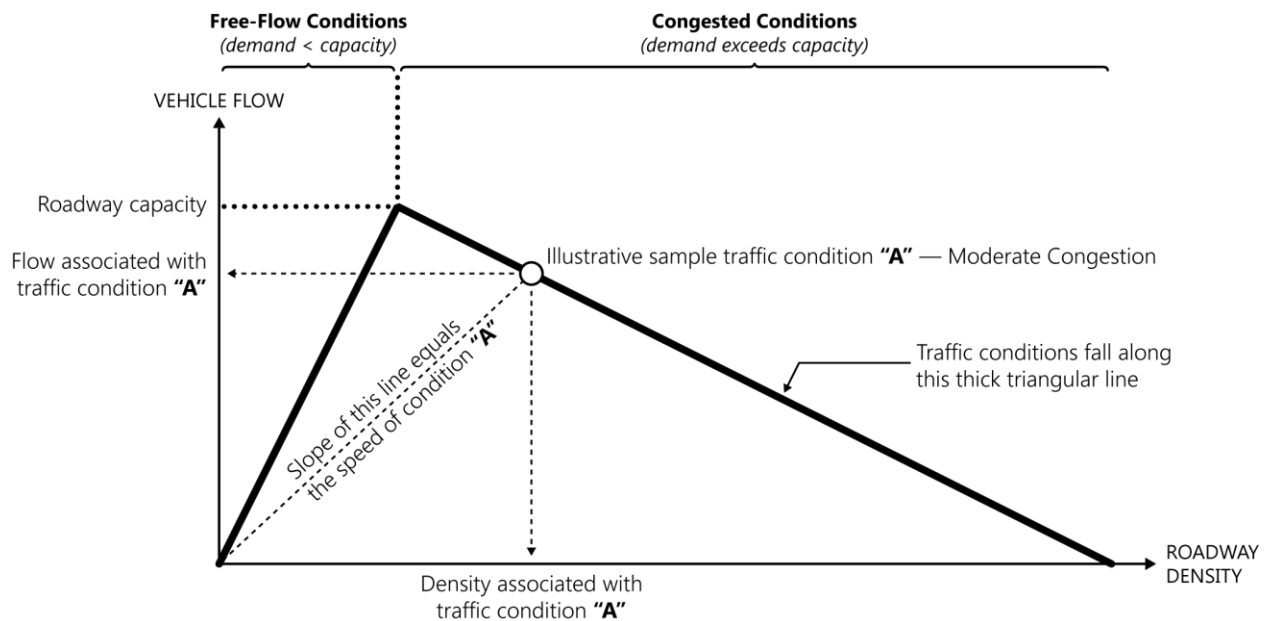
When demand exceeds the maximum capacity of a road, conditions shift from being uncongested to being congested and the relationship between flow and density changes drastically—yet predictably. Flow becomes constrained as more vehicles attempt to access the road than it can accommodate. Queues form, delays rise, and speeds drop. In these congested conditions, the more constrained the flow becomes (or the greater the imbalance between demand and capacity), the farther the speeds drop. This condition is shown in Figure 3.

**Figure 3: ExpressLanes traffic conditions when demand exceeds capacity**



The relationship between speed, flow, and density can be represented visually in what is referred to as the “fundamental diagram,” which is shown in Figure 4. As the figure shows, traffic speeds start dropping immediately once demand rises above capacity. The extents of the resultant delays caused by the congestion are specific to each roadway configuration and demand profile.

**Figure 4: Fundamental diagram showing relationship between traffic flow, density, and speed**

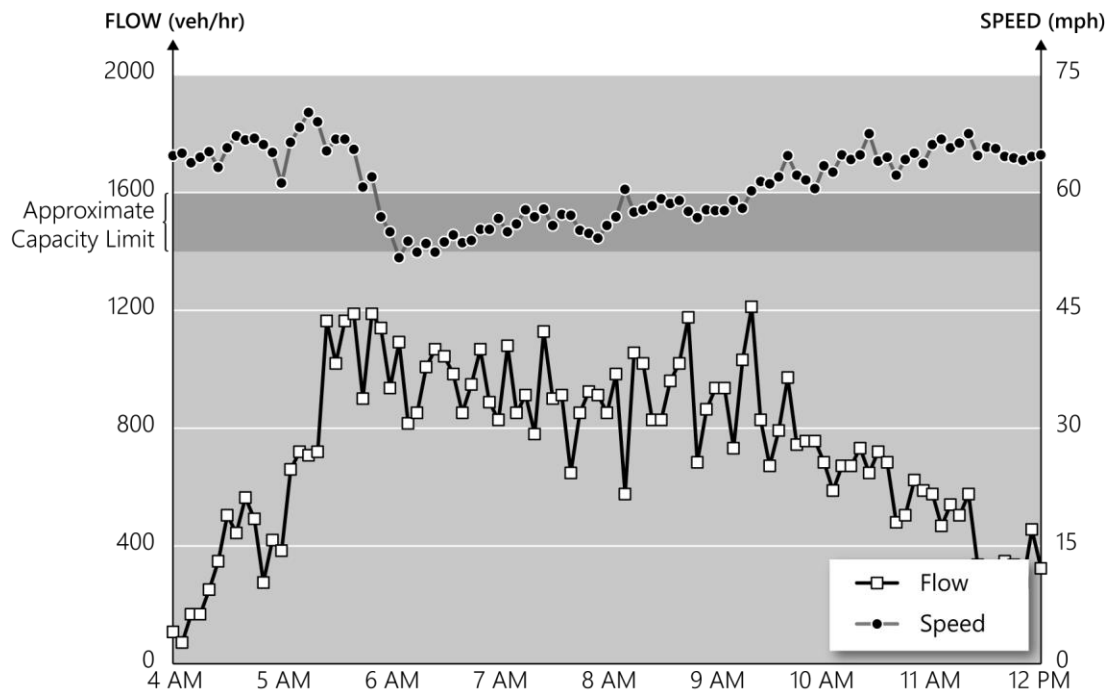




## REAL-WORLD DATA

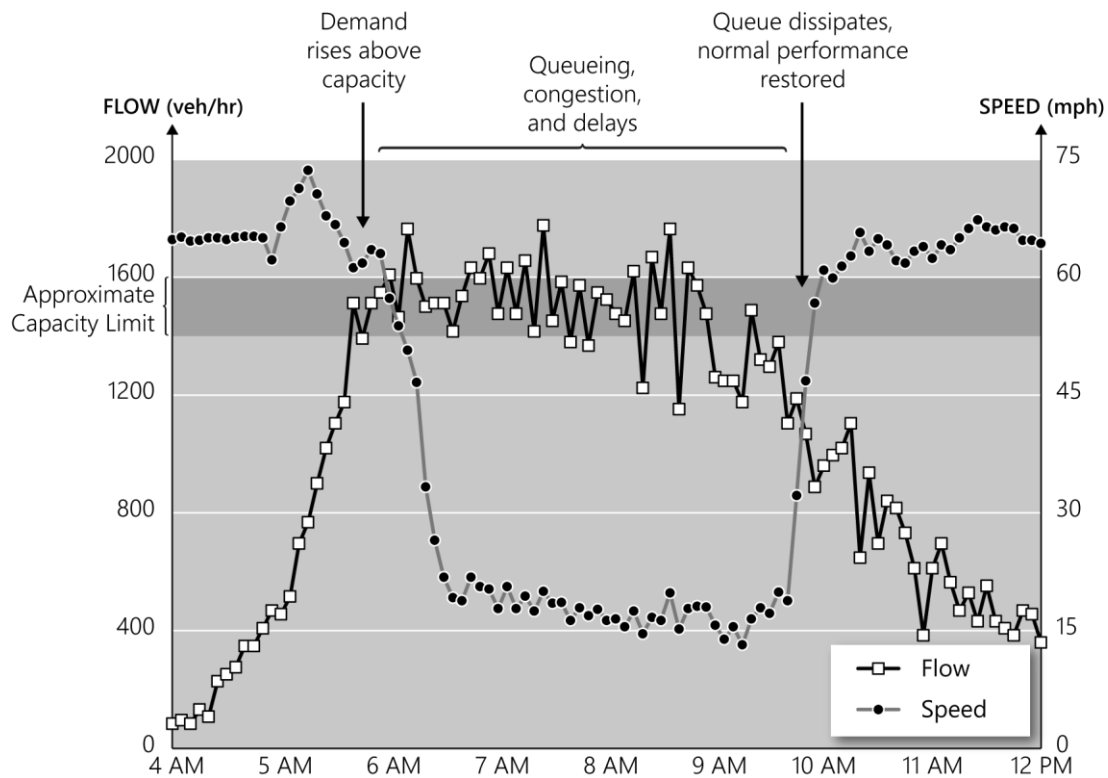
The effects described in the previous theoretical discussion can be readily observed in the Metro ExpressLanes. Measurements taken from the I-10 Westbound ExpressLanes at the 710 Freeway split reveal the negative impacts of allowing demand to exceed capacity. Figure 5 shows traffic data from a date where the traffic demand never exceeded the ExpressLanes capacity, which is approximately 1,400–1,600 vehicles per hour on this segment. As the speed data reveal, the ExpressLanes continued to provide customers with a high-speed journey the entire time.

**Figure 5: Speed and flow data from I-10 West ExpressLanes at I-710 when demand stays below capacity**



In contrast, Figure 6 shows traffic data from a date where the traffic demand exceeded capacity during the AM Peak period, resulting in an extended period of congestion as indicated by the lower speeds. During this period of excessive demand, flows were constrained to approximately 1,600 vehicles per hour, queues formed upstream, and travelers experienced delays. Demand eventually dropped, allowing the queues to dissipate and the ExpressLanes to return to normal operations (e.g., free-flow speeds).

**Figure 6: Speed and flow data from I-10 West ExpressLanes at I-710 when demand exceeds capacity**



Once demand exceeds capacity and traffic shifts from an uncongested state to a congested state, additional flow-related inefficiencies often occur (which often reduce roadway capacity even more, thereby further exacerbating the congestion), and it can take a substantial amount of time for the facility performance to fully recover. This underscores the importance of keeping traffic demand from rising above roadway capacity to ensure travelers can still reach their destinations expeditiously.

# ***METRO EXPRESSLANES***

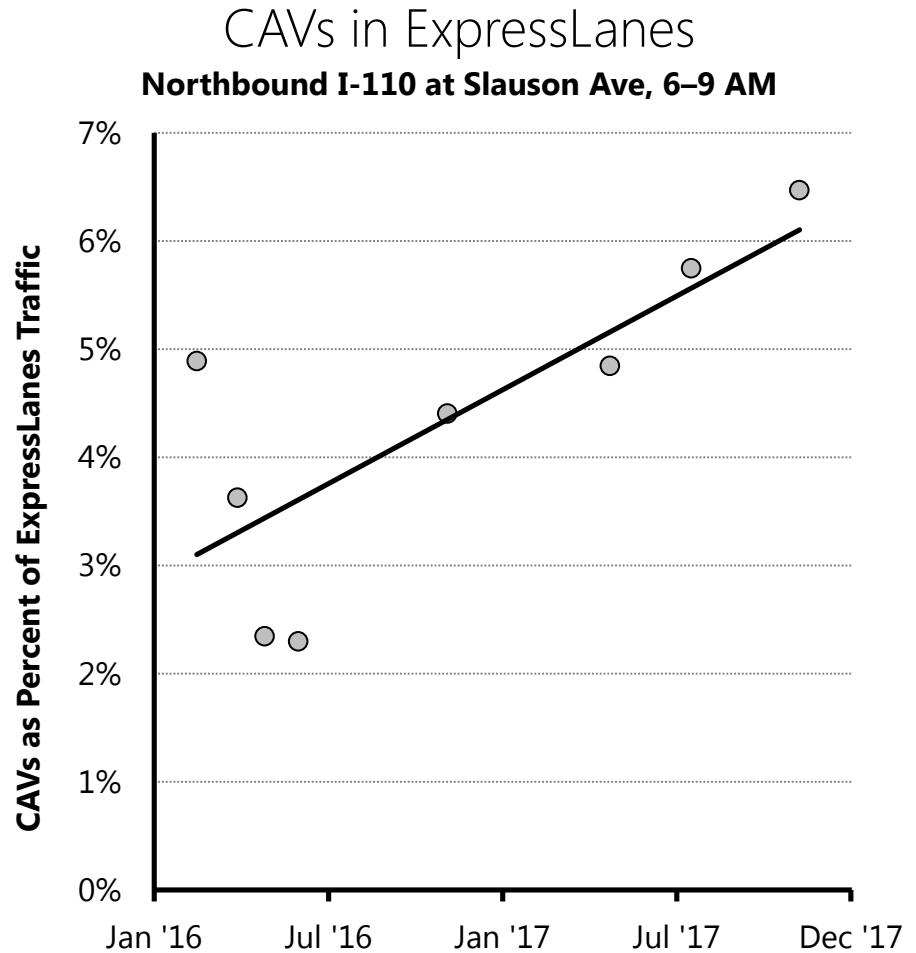
Clean Air Vehicle Policy



ISSUE:

# Existing CAV Policy Contributes to ExpressLanes Congestion

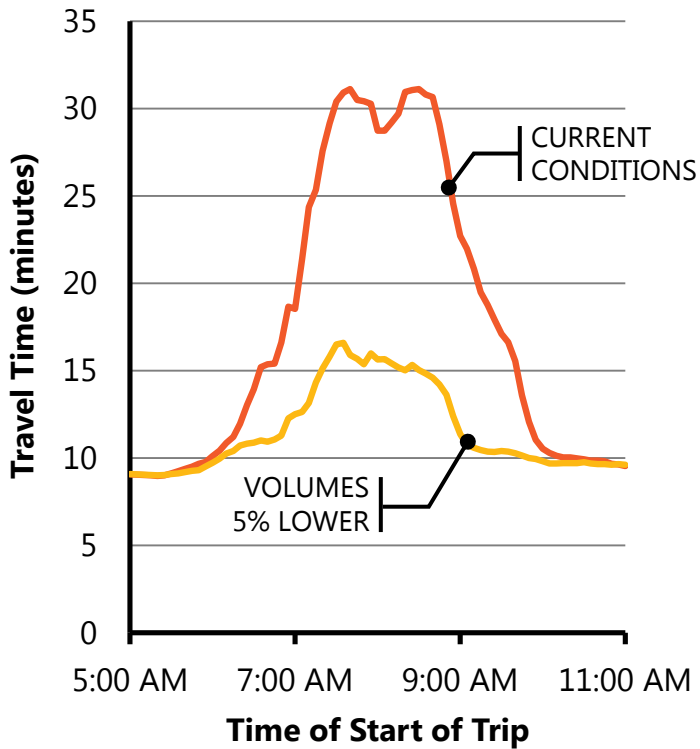
- Clean Air Vehicles (CAVs) are a growing class of ExpressLanes users. AM Peak CAV volumes have doubled since 2016.
- CAVs contribute to congestion just as much as any other vehicle type.
- Without pricing to control CAV volumes, ExpressLanes congestion increases.



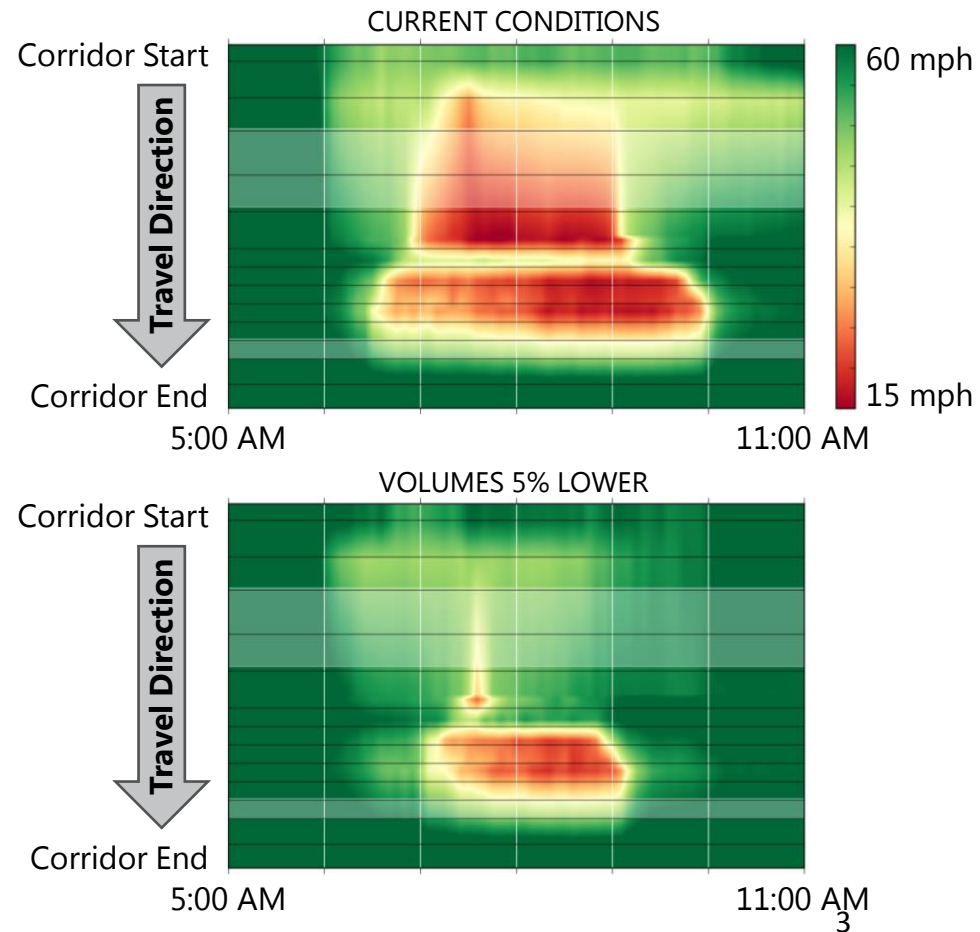
CONTEXT:

# Impact of a Reduction in ExpressLanes Traffic Volume

End-to-End Travel Times  
Northbound I-110 during AM Peak



Corridor Speeds  
Northbound I-110 during AM Peak



## KEY ANALYSIS:

# Research on CAV Policies in California and Across the Country

- Provisions in California and Federal law explicitly grant authority to charge CAVs a discounted toll for ExpressLanes use.
- 68% of Express Lane facilities across the country are already charging clean air vehicles the full toll price.
- 78% of FasTrak facilities across the state are already charging clean air vehicles a partial or full toll price.
- 80% of the states in the country are not currently offering free HOV-lane access as an incentive for CAV drivers.
- There are up to 17 other incentive programs offered in California to encourage CAV ownership and adoption in addition to the CAV decal program.



RECOMMENDATION:

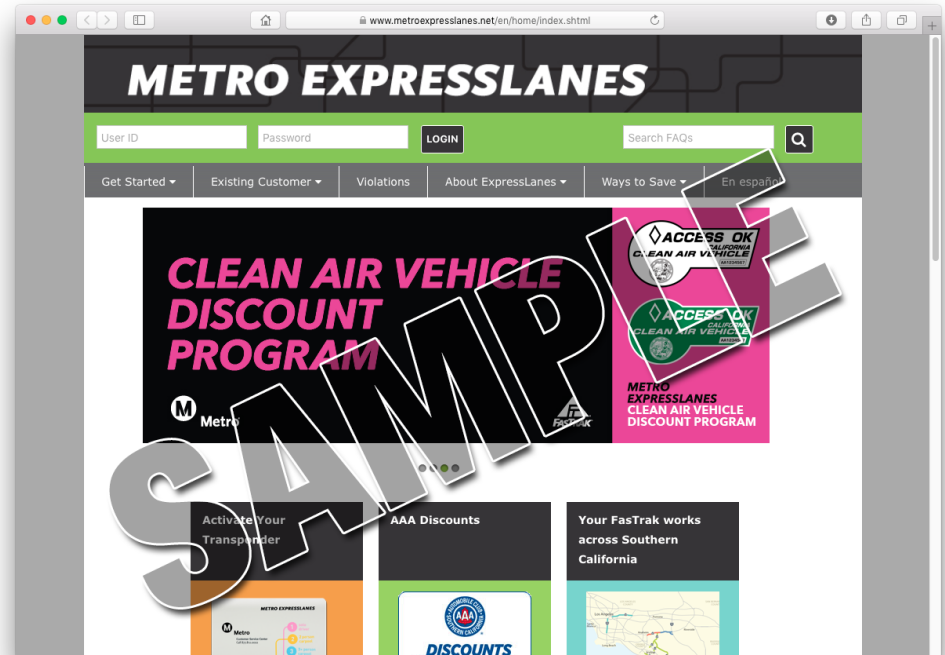
## Adopt a Toll Discount for CAVs

- Recommended a 15% Discount based on:
  - Maximizing mobility benefits
  - Economic theory
  - Research on price perception and consumer behavior

NEXT STEPS:

# Outreach Plan for CAV Discount Policy

- Educational campaign will include:
  - E-mail announcements
  - Web site updates
  - Welcome booklet enhancements





Thank you



## Board Report

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**File #:** 2018-0128, **File Type:** Program

**Agenda Number:**

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**AD HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE  
FINANCE, BUDGET AND AUDIT COMMITTEE  
APRIL 11, 2018**

**SUBJECT: EXPRESSLANES TOLL BOND POOL**

**ACTION: ESTABLISH AND APPOINT TOLL BOND POOL OF UNDERWRITERS**

**RECOMMENDATION**

ESTABLISH a Toll Bond Pool of underwriters, listed in Attachment A, from which underwriters will be selected for future negotiated debt issues for toll revenue bonds and other toll revenue backed debt issued under the ExpressLanes program through June 30, 2021, with two further 1-year options to extend.

**ISSUE**

To expand ExpressLanes in Los Angeles County and to construct the Tier 1 and Tier 2 projects identified in the 2017 ExpressLanes Strategic Plan (ELSP), Metro needs to determine how these projects will be funded and whether it is feasible to accelerate them. The ELSP assumes that virtually all the ExpressLanes projects will need to be funded by financing mechanisms.

At the September 2017 meeting, the Board approved the staff recommendation to develop solutions and programs based on a system financing approach and to present these to the Board for approval as they are finalized, as appropriate.

Staff has determined that establishing an underwriting pool for toll revenue bonds and any other toll revenue backed debt is an appropriate step in developing a process for the use of inter-fund borrowing of net toll revenues to support creation of the ExpressLanes network.

**DISCUSSION**

**Establishment of a Toll Bond Pool**

To date, no debt has been issued for the ExpressLanes projects now in operation. Almost all of Metro's existing debt has been secured by, and repaid from, three of its four sales tax revenue measures. No debt secured by Measure M sales taxes has been issued yet.

In 2016, an unsolicited proposal was submitted to the Office of Extraordinary Innovation that identified financing strategies that would enable acceleration of ExpressLanes projects consistent with a system financing approach.

Staff recommends the establishment of a Toll Bond Pool of underwriters with expertise in issuing debt for ExpressLanes, supplementary to Metro's current pool of underwriters (which expires in June 2019), because of the unique nature of toll backed debt. Since Metro has never issued toll revenue backed debt and it is relatively uncommon for toll revenue bonds to be issued via competitive sales, it is likely that Metro will utilize negotiated sales for debt issuance as discussed in the Board-approved Debt Policy.

The Toll Bond Pool will be used in future negotiated debt issues for toll revenue bonds and any other toll revenue backed debt issued under the ExpressLanes program. For negotiated sales, staff will select underwriters using a mini-RFP process. Consistent with Metro's Debt Policy, the selection of the underwriting team will assure the participation of Small Business Enterprise (SBE), Disabled Veterans Business Enterprise (DVBE), and Disadvantaged Business Enterprise (DBE) firms, subject to board approval of the financing. The senior manager(s) will be selected from the Toll Bond Pool. The other members of the underwriting team for toll revenue transactions may include members of both the Toll Bond Pool and members of Metro's existing underwriting pool, as appropriate. A complete list of our existing underwriting pool is included in Attachment A. Participation in any transaction will depend on the size of the debt issue, timing and the type of debt issued.

#### Advantages of a Toll Bond Pool

While Metro is developing potential financing structures for the delivery of Tier 1 and Tier 2 Projects, the Toll Bond Pool will be able to provide market information and insight. The pool will also enable Metro to move quickly in forming financing teams if a negotiated sale is the recommended approach for a bond issue. The ability to select underwriters early in the underwriting process will enable us to benefit from their participation in structuring the debt, bond document development, and preparation for credit presentations.

All proposed debt transactions for the ExpressLanes will be presented to the Board for consideration with relevant financing documents, a proposed underwriting syndicate, and any other required documents consistent with Metro's current financing approval process.

#### Toll Bond Pool Selection Process

Consistent with our Debt Policy, the Toll Bond Pool is recommended based on a competitive Request for Proposal (RFP) process conducted by Sperry Capital Inc., the ExpressLanes financial advisor. RFPs were distributed on December 11, 2017, to 43 firms and 19 proposals were received. Members of the Congestion Reduction Department, Treasury and the ExpressLanes financial advisor reviewed the proposals, evaluating them based on the criteria listed in the RFP.

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The four firms that were ranked the highest by the review team are recommended for inclusion in the Pool. All firms have relevant experience and expertise, specific to the structuring and sale of toll backed debt, including the use of TIFIA loans. Additionally, each firm has a local presence with an investment banking office in Los Angeles County. The Toll Bond Pool will be retained through June 30, 2021 with two further 1-year options. See Attachment A, Summary of Underwriter Selection.

### **DETERMINATION OF SAFETY IMPACT**

Approval of this item will have no impact on safety.

### **FINANCIAL IMPACT**

There is no cost related to the establishment of a Toll Bond Pool of underwriters. The Toll Bond Pool is not guaranteed any compensation.

### **ALTERNATIVES CONSIDERED**

The selection of an underwriting pool may be deferred or the Board may elect not to establish a pool. These options are not recommended. The Debt Policy identifies that for a negotiated bond sale, the financial advisor will conduct a competitive process to select underwriters, either for a specific bond issue or through the establishment of a pool of underwriters to be used for bond issues over a defined time period. With a pool, it will be faster and easier to move forward with negotiated transactions because a full solicitation process will not have to be completed each time, which could save several months. The time saved would likely translate into construction cost savings by avoiding escalating costs as well as a lower rate in a volatile interest rate environment.

### **NEXT STEPS**

- Notify underwriters of their appointment to the Toll Bond Pool.
- Continue developing solutions and programs to support implementing a system financing.
- Present solutions and programs to the Board for approval.

### **ATTACHMENTS**

Attachment A - Summary of Underwriter Selection

Prepared by:

Shahzad Amiri, Executive Officer - Congestion Reduction Programs (213) 922-3061

LuAnne Edwards Schurtz, Deputy Executive Officer - Finance (213) 922-2554

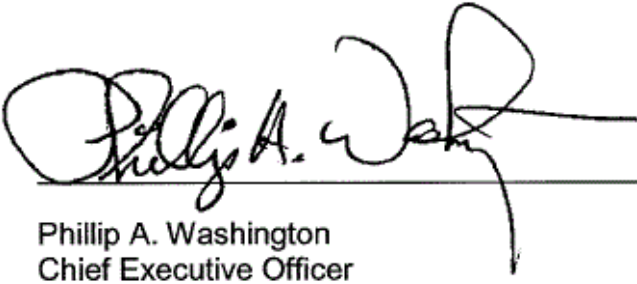
Danny Ray Jasper, Jr. - Debt Manager (213) 922-4026

Reviewed by:

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Stephanie Wiggins - Deputy Chief Executive Officer (213) 922-1023

Nalini Ahuja - Chief Financial Officer (213) 922-3088



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Phillip A. Washington  
Chief Executive Officer

**Summary of Underwriter Selection  
for the  
ExpressLanes Toll Bond Pool**

**Recommended Firms for Toll Bond Pool (in alphabetical order):**

Bank of America Merrill Lynch Barclays Citigroup Goldman Sachs
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**Members of Metro's Existing Underwriting Pool (eligible for participation as Co-Managers)**

Bank of America Merrill Lynch  
Barclays Capital Inc.  
Citigroup Global Markets Inc.  
Drexel Hamilton LLC (Disabled veteran owned firm)  
J.P. Morgan Securities LLC  
Loop Capital Markets LLC (Minority owned firm)  
Morgan Stanley  
Ramirez & Co., Inc. (Minority owned firm)  
RBC Capital Markets, LLC  
Siebert Cisneros Shank & Co., L.L.C (formerly Siebert Brandford Shank) (Minority owned firm)  
Stifel, Nicolaus & Company, Incorporated  
Wells Fargo Bank, N.A.

**Evaluation of Proposals:**

The Request for Proposals ("RFP") for ExpressLanes Toll Revenue Bond Underwriting Services was sent on December 11, 2017, to 43 firms who had previously expressed interest in serving as an underwriter on Metro's debt issuances or were known as active in the California municipal bond market. All members of Metro's existing bond underwriting pool were sent the RFP. Proposals were due on January 26, 2018. Metro received proposals from the 19 firms listed alphabetically below:

<b><u>List of Proposers</u></b>
Bank of America Merrill Lynch Barclays Cabrera Capital Markets Citigroup Fidelity Capital Markets Goldman Sachs Hutchinson Shockey Erley



Janney Montgomery Scott Jefferies J.P. Morgan Loop Capital Markets Morgan Stanley Piper Jaffray Ramirez RBC Capital Markets Siebert Cisneros Shank Stifel Nicolaus UBS Wells Fargo Securities
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Proposals were evaluated in accordance with the guidelines and the following criteria established in the RFP:

- Relevant experience of the firm (15%);
- Relevant experience of the personnel assigned to Metro's ExpressLanes (15%);
- Quality of the proposal (20%);
- Firm's understanding of Metro's ExpressLanes (20%);
- Indicative cost (10%); and
- Capabilities of the firm of underwriting and distributing toll revenue debt (especially for express lanes) (20%).

The RFP requested proposers to describe the relevant experience of their firm and personnel including experience as senior managing underwriter for express lanes and toll revenue backed debt, as well as advisory experience with project sponsors of tolled facilities utilizing the U.S. Department of Transportation TIFIA credit program. The RFP requested case studies which highlighted the firm's experience with express lanes and toll revenue backed debt. The RFP also requested references.

Additionally, the RFP included questions to determine the firm's understanding of Metro's ExpressLanes program. Responders were asked to provide specific suggestions related to:

- System financings using interfund borrowing
- The use of Measure M sales tax revenues to accelerate Metro's ExpressLanes network
- Rating agency considerations for express lanes projects
- Relevant debt structuring considerations for express lanes debt financings.

Firms were also asked to provide a detailed debt capacity analysis for Metro's existing ExpressLanes facilities.

The selection committee, made up of Metro Staff and our ExpressLanes financial advisor, Sperry Capital Inc., reviewed all proposals and scored the firms based on the evaluation criteria. Following the proposed evaluation process, the top ranked firms were shortlisted to participate in oral interviews with the selection committee. The seven shortlisted firms are listed alphabetically below:

<b>Shortlist of Proposers</b>
Bank of America Merrill Lynch
Barclays
Citigroup
Goldman Sachs
J.P. Morgan
Morgan Stanley
RBC Capital Markets

The oral interviews overseen by the selection committee consisted of a 15-minute presentation from the proposer followed by a 30-minute question and answer period. The four firms that ranked the highest after the oral interviews are being recommended for inclusion in the Toll Bond Pool.



Board Report

File #: 2018-0006, File Type: Program

Agenda Number: 8.

AD HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE  
APRIL 11, 2018

SUBJECT: MEASURE R HIGHWAY SUBREGIONAL PROGRAM  
SEMI-ANNUAL UPDATE

ACTION: APPROVE ADOPTION OF UPDATED SUBREGIONAL PROJECT LIST

**RECOMMENDATION**

CONSIDER:

- A. APPROVING \$20.841 million of additional programming within the capacity of the Measure R Highway Subregional Programs and funding changes via the updated project list, as shown in Attachment A for:
  - Highway Operational Improvements in Arroyo Verdugo
  - Highway Operational Improvement in Las Virgenes Malibu
  - I-405, I-110, I-105 and SR-91 Ramp and Interchange Imp. (South Bay)
  - I-605 Corridor “Hot Spots” Interchange Imp. In Gateway Cities
  - I-710 South and/or Early Action Projects in Gateway Cities
- B. AUTHORIZING the CEO or his designee to negotiate and execute all necessary agreements for approved projects

**ISSUE**

The Measure R Highway Subregional Program update allows the Highway Program and each subregion or lead agency to revise delivery priorities and amend project budgets for the implementation of the Measure R Highway subregional projects. The attached updated project lists include projects which have already received prior Board approval, as well as proposed changes related to schedules, scope, funding allocation and the addition or removal of projects. The Board’s approval is required as the updated project lists serve as the basis for Metro to enter into agreements with the respective implementing agencies.

**DISCUSSION**

The Measure R Expenditure Plan included the following Highway Capital Project Subfunds:

- Highway Operational Improvements in Arroyo Verdugo
- Highway Operational Improvements in Las Virgenes Malibu
- I-405, I-110, I-105 and SR-91 Ramp and Interchange Imp. (South Bay)
- I-605 Corridor “Hot Spots” Interchange Imp. In Gateway Cities
- I-710 South and/or Early Action Projects in Gateway Cities
- State Route 138 Capacity Enhancements in North County

These Highway Capital Projects are not fully defined in the Measure R Expenditure Plan. Definition and development of specific projects with independent utility are advanced through collaborative efforts by Metro’s Highway Program staff, the subregional authorities/Councils of Governments for the subfund, the project sponsor, and Caltrans for projects on their facilities.

At the October 2017 Board meeting (File#2017-0573), revised project lists and funding allocations for the Highway Capital were approved. This update recommends changes requested by each subregion.

The changes in this update include \$20.841 million in additional programming for 35 projects which are either new or existing, in four subregions - Arroyo Verdugo, Las Virgenes Malibu, Gateway Cities and South Bay - as detailed in Attachment A. Highway Program staff will continue to work closely with each subregion and/or lead agency to identify and deliver Highway Operational Improvement Projects.

A nexus determination has been completed for each new project added to the list. All of the projects on the attached project list provide highway operational benefits and meet the Highway Operational and Ramp/Interchange definition approved by the Board.

### **Highway Operational Improvements in Arroyo Verdugo**

The subregion had listed 44 projects to be funded by Measure R Subregional Funds. Of those, 11 projects have been completed. The subregion has invested \$29.3 million of their funds in projects. The 22 active projects are in planning, design, or construction phases. This funding adjustments to 3 existing projects recommended as follows:

#### **City of Glendale**

- Allow design phase work to be reimbursed as eligible expenses for MR310.04 - Grandview and Sonora Ave at-grade Rail Crossing Improvements. The effective date of eligible design work expenses was July 1, 2009, the first collection date of Measure R Sales Taxes. This modification will allow project charges for both design and construction to be eligible expenses for the project. Total expenses for both phases of work are within the life of project budget.
- Program an additional \$370,000 for MR310.13 - Glendale Narrows Bikeway Project. Funds will be programmed in FY18 for a total programmed budget of \$1,246,500. Required coordination with LA County and the U.S. Army Corps of Engineers to obtain construction permits caused significant delays at the beginning of construction, which resulted in escalation

in construction bid item costs.

- Allow design phase work to be reimbursed as eligible expenses for MR310.18 - Sonora Ave. At-grade Rail Safety Upgrade. The effective date of eligible design work expenses was July 1, 2009, the first collection date of Measure R Sales Taxes. This modification will allow project charges for both design and construction to be eligible expenses for the project. Total expenses for both phases of work are within the life of project budget.
- Program an additional \$250,000 for MR310.37 - Verdugo Blvd Traffic Signal Modifications at Vahili Way and SR-2. The \$250,000 will be programmed in FY19, adding to the current \$600,000 budget. The revised project budget is \$850,000. The current signal design required additional roadway modifications. As a result, the construction bids received were higher than the original engineers estimate.
- Program an additional \$250,000 for MR310.41 - Doran St. (from Brand Blvd. to Adams St). The funds will be programmed in FY19 for a total project budget of \$1,450,000. Construction bids for the project came in higher than the engineer's estimate and additional funds are required for construction.
- Reprogram funding for MR310.43 - Verdugo Road Street Improvements Project (Traffic Signal Modification). Move the \$585,000 in previous years programming to FY20. Also, change the title to Verdugo Road Traffic Signal Modifications. While the city will incorporate non traffic signal work in the construction contract the city will provide a segregated estimate to isolate the Measure R work from the non-measure R work.

### **Highway Operational Improvements in Las Virgenes Malibu Subregion**

The subregion had listed 22 projects to be funded by Measure R Subregional Funds. Of those, 9 projects have been completed. The subregion has invested \$94.8 million of their funds in projects. The 11 active projects are in planning, design, or construction phases. This update includes funding adjustments to 4 projects as follows:

#### **City of Agoura Hills**

- Deobligate \$350,000 for MR311.05 - Agoura Road Widening. The revised project budget is \$36,500,000. Funds are being deobligated due to construction capital cost saving. The city desires to reprogram the deobligate funds to another city project MR311.14 - The Kanan Road Overpass Expansion Project Study Report (PSR).
- Program an additional \$350,000 in FY18 for MR311.14 - Kanan Road Overpass (PSR) to cover the anticipated cost of the consultant contract. The additional funds will be programmed in FY18. The revised project budget is \$500,000. Moreover, the project title will be revised to "Kanan Road Corridor from Thousand Oaks Blvd. to Cornell PSR" to reflect the modified project limits.

City of Calabasas

- Deobligate \$500,000 from MR311.20 - Off-ramp for US 101 at Las Virgenes Road. The revised project budget is \$0. The city had programmed funds to improve the operations at the off-ramp as mitigation measure to handle anticipated increases in traffic volumes due to construction at a nearby interchange. Anticipated traffic impacts due to the adjacent project did not materialize and the city no longer wants to move forward with this project. The executed funding agreement for the project will be canceled.
- Program an additional \$2,500,000 for MR310.06 - Lost Hills Overpass and Interchange. The funds will be programmed in FY18 and the revised project budget is \$35,500,000. \$2,000,000 of the additional funding for the project is from the Las Virgenes Malibu Subregion and \$500,000 is from the deobligation of project funds for MR311.20. Design changes are driving change orders which have resulted in construction cost growth.

**I-405, I-110, I-105 and SR-91 Ramp and Interchange Improvements (South Bay)**

The subregion had listed 77 projects to be funded by Measure R Subregional Funds. Of those, 11 projects have been completed. The subregion has invested \$65.5 million of their funds in projects. The 33 active projects are in planning, design, or construction phases. This update includes 10 new projects and funding adjustments to 4 existing projects recommended as follows:

Metro

- Program an additional \$281,000 in FY18 for MR312.55 - Feasibility Study on I-405 from I-110 to I-105 and I-105 from I-405 to I-110. The total revised project budget is \$881,000. Funds are being added to the project to cover the full cost of the Project Study Report. Additionally, the project title will be revised to reflect the correct project limits (PSR on I-405 from El Segundo Blvd to Artesia Blvd).

Caltrans

- Program \$150,000 for Caltrans IQA reviews of the I-405 PSR from El Segundo Blvd to Artesia Blvd. Caltrans, as the owner operator of the state highways, will review and approve the PSR being prepared for I-405 and requires compensation for their staff time.

County of Los Angeles

- Deobligate \$14,756,700 from MR312.16 - Del Amo Blvd Improvements Project. The revised project budget is \$307,000. The project was completed and a final invoice was submitted for reimbursement. Total invoices for the project at this time are \$306,104.42. Staff will audit and close out the project. The excess funds are being reprogrammed into other projects which will commence work in the coming fiscal year.

City of Hawthorne:

- Program \$1,995,000 for the Imperial Highway Signal Improvements and Intersection Capacity Project from Prairie Ave to Inglewood Ave. The funds will be programmed over 4 fiscal years, FY19, FY20, FY21 and FY22. The total project budget is \$1,995,000. Imperial Highway is a major east-west parallel arterial to I-105 and carries over 34,000 vehicles daily. This project will widen the intersections of Imperial Highway at Hawthorne Blvd, Inglewood Ave, and Freeman Ave to provide additional turning movements. The traffic signals will also be upgraded within the project limits.

Measure R NEXUS to Highway Operational Definition: This is Highway eligible Highway Operational Improvement project which will widen intersections on Imperial Highway and upgrade traffic signals and timing within the project limits. Improvements on Imperial Highway will improve traffic flow, enhance intersection capacity, public transit efficiency and pedestrian safety.

- Program \$3,200,000 for the Rosecrans Ave Signal Improvements and intersection capacity enhancements project over 4 fiscal years FY19, FY20, FY21 and FY22. The total project budget is \$3,200,000. Rosecrans Ave is a major east-west arterial which provides access to I-405 and carries approximately 70,000 vehicles per day. This project will widen the intersections of Rosecrans at Isis Ave, Inglewood Ave, and Prairie Ave to provide additional turning movements. The traffic signals will also be upgraded within the project limits.

Measure R NEXUS to Highway Operational Definition: This is Highway eligible Highway Operational Improvement project which will widen intersections on Imperial and upgrade traffic signals and timing within the project limits. Improvements on Rosecrans Ave will improve traffic flow, enhance intersection capacity, public transit efficiency and pedestrian safety.

- Program \$2,000,000 for El Segundo Boulevard Improvements Project (Phase I) from Van Ness Ave. to Aviation Blvd. The funds will be programmed over 4 fiscal years FY19, FY20, FY21, and FY22. The total project budget is \$2,000,000. El Segundo Ave is a major east-west arterial which provides direct access to I-405 and carries approximately 45,000 vehicles per day. This project will widen the intersections of El Segundo at Van Ness Ave and Isis Ave to provide additional turning movements. The traffic signals will also be upgraded within the project limits.

Measure R NEXUS to Highway Operational Definition: This is Highway eligible Highway Operational Improvement project which will widen intersections on El Segundo Blvd and upgrade traffic signals and timing within the project limits. Improvements on El Segundo Blvd will improve traffic flow, enhance intersection capacity, public transit efficiency and pedestrian safety.

- Program \$600,000 for the El Segundo Blvd at I-405 North Bound and South Bound on/off ramp improvements. The funds will be programmed over 3 fiscal years FY19, FY20 and FY21. The total project budget is \$600,000. El Segundo Blvd is a major east-west arterial which

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provides direct access to I-405 and carries approximately 45,000 vehicles per day. This project will environmentally clear and develop preliminary designs for intersection improvements at the I-405 at El Segundo on/off ramps and at intersections of El Segundo Blvd at La Cienega Blvd and Ocean Gate Ave.

Measure R NEXUS to Highway Operational Definition: This is an eligible Highway Operational Improvement project which will widen intersections on El Segundo Blvd at the I-405 on/off ramps and upgrade traffic signals and timing within the project limits. Improvements on El Segundo Blvd will improve traffic flow, enhance intersection capacity, public transit efficiency and pedestrian safety.

City of Inglewood

- Program \$80,000 for the La Cienega Boulevard Signal Synchronization Project between Hill St. and Arbor Vitae St. The funds will be programmed in FY19. The total project budget is \$80,000. La Cienega Blvd is a major north-south arterial which provides direct access to I-405 and carries approximately 85,000 vehicles a day. This project will design and implement traffic signal improvements and develop AM peak, mid-day, PM peak coordination plans for each intersection on La Cienega within the project limits.

Measure R NEXUS to Highway Operational Definition: This is an eligible Highway Operational Improvements project which will improve traffic flow and reduce congestion by developing morning, mid-day, and afternoon traffic signal coordination on La Cienega Boulevard.

- Program \$130,000 for the Arbor Vitae Signal Synchronization Project from Aviation Blvd to Prairie Ave. The funds will be programmed in FY19. The total project budget is \$130,000. Arbor Vitae is a major east-west arterial which provides access to I-405, carries 23,000 vehicles a day and experiences delays during peak AM and PM traffic hours. This project will design and implement signal improvements and develop AM, mid-day and PM peak traffic coordination plans for each signalized intersection on Arbor Vitae.

Measure R NEXUS to Highway Operational Definition: This is an eligible Highway Operational Improvements project which will improve traffic flow and reduce congestion by developing morning mid-day and afternoon traffic coordination plan on Arbor Vitae.

- Program \$255,000 for the Florence Ave Signal Synchronization Project from Manchester Blvd. to High St. The funds will be programmed in FY19. The total project budget is \$255,000. Florence Avenue is a major east-west arterial which provides direct access to I-405 and carries approximately 35,000 vehicles a day and experiences delays during the am and pm peak traffic hours. This project will design and implement signal improvements and develop, AM, mid-day and PM peak traffic coordination plans on Florence Ave.

Measure R NEXUS to Highway Operational Definition: This is an eligible Highway Operational Improvements project which will improve traffic flow and reduce congestion by developing morning mid-day and afternoon traffic coordination plan on Arbor Vitae.



- Deobligate \$1,000,000 from MR312.12 - Intelligent Transportation System (ITS): City of Inglewood Phase IV Master Plan. The revised project budget is \$2,500,000. Funds are being deobligated due to project scope items being reduced and bids coming in below the conceptual project estimate. Additionally, the construction contract has been awarded and the project will be completed within the revised project budget.

#### City of Los Angeles

- Program \$3,580,000 for the Alameda St. Widening Project - East Side Improvements Project. The total project budget for Project Development, Design and ROW is \$3,580,000. Alameda St. is a major north-south arterial which provides direct access to SR-1, SR-47 and the Ports of Los Angeles and Long Beach. Alameda St. experiences delays during the AM and PM peak traffic hours. This project will widen Alameda to a Major Class II Highway from Anaheim St to 300 ft. south of PCH.

Measure R NEXUS to Highway Operational Definition: This is an eligible Highway Operational Improvement project which will widen Alameda St to a Class II Highway for improved capacity and operation.

#### Port of Los Angeles

- Program an additional \$2,930,000 for MR312.32 the SR-47/Vincent Thomas Bridge and Front St./Harbor Boulevard Interchange Reconfiguration Project. The funds will be programmed over two fiscal years FY19 and FY20. The total revised project budget for PAED/PS&E is \$3,830,000.

#### City of Redondo Beach

- Program \$992,000 for Kingsdale Ave and Artesia Boulevard Intersection improvement project. The funds will be programmed in FY19. The total project budget is \$992,000. Kingsdale Ave is a north south arterial which provides direct access to the Redondo Beach Transit Center, The South Bay Galleria, Artesia Blvd, and SR-107. This project will fund construction of dual right turn lane on Kingsdale Ave.

Measure R Nexus to Highway Operational Definition: This is an eligible Highway Operational Improvement project which will widen the intersection of Kingsdale Ave at Artesia Blvd to reduce congestion and improve mobility on major arterials.

#### City of Torrance

- Project limits revision for MR312.60 - Del Amo Blvd to Dominguez Street Improvements. The City recently advertised a construction contract and bids came in higher than the original estimated cost for the project. To complete the project, will down scope the proposed improvements. The revised project limits will be Crenshaw Blvd at the intersection of 208<sup>th</sup> St.

and Torrance Transit Center. There is no impact to the project budget and construction is scheduled to start in summer of 2018.

- Program \$2,784,000 for the Plaza del Amo at Western Ave (SR-213) Mobility Enhancements Project. The funds will be programmed over 4 fiscal years FY18, FY19, FY20 and FY21. Plaza del Amo between W 223<sup>rd</sup> St and S.Western Ave is not utilized as through street and restricts access to SR-213. This project will provide a new east-west route between 223<sup>rd</sup> and Western Ave.

Measure R NEXUS to Highway Operational Definition: This is an eligible Highway Operational Improvement project which will provide additional roadway capacity and operational improvements by filling a gap in the local arterial street system.

### **I-605 Corridor “Hot Spots” Interchanges**

The Gateway Cities subregion had listed 54 projects to be funded by Measure R Subregional Funds, investing \$71.8 million of their funds in projects. The 37 active projects are in planning, design, or construction phases. This update includes 2 new projects and adjustments to 6 existing projects recommended by the SR-91/I-605/I-405 Technical Advisory Committee as follows:

#### Gateway Cities COG

- Program an additional \$800,000 for MOU.306.03 - Gateway Cities Council of Governments Engineering Support Services. The revised project budget has increased from \$300,000 to \$1,100,000. Funds will be programmed as follows: \$900,000 in Prior Years and \$200,000 in FY19. The revised budget is \$1,100,000. The programming of additional funds is to cover support services required and to equally cost share expenditures between the I-710 Early Action Projects and the I-605 Hot Spots programs. The additional funds will cover only 1 year of work, through April 30, 2019.

#### City of Bellflower

- Program an additional \$1,132,800 for MR315.16 - Bellflower Blvd at Artesia Blvd Intersection Improvement Project. The funds will be programmed in FY18. The revised project budget is \$8,442,800. The project budget increase is the result of changes in scope including additional property acquisition and new improvements, required by Caltrans for approval. These funds will be for the construction phase of the project.
- Program an additional \$358,000 for MR315.33 - Lakewood Blvd at Alondra Blvd Intersection Improvement Project. The funds will be programmed in FY18. The revised project budget is \$1,002,000. The project budget increase is the result of additional scope requirements, including traffic signal modifications, deeper pavements sections, and more extensive pavement replacement within the intersection.

City of Downey

- Project limits revision for MR315.14 - Lakewood Blvd at Imperial Hwy Intersection Improvements. In October 2017, board report number 2017-5373, identified the following incorrect project limits, Lakewood Blvd at Firestone Blvd Improvements. The correct project limits are Lakewood Blvd at Imperial Hwy. There is no change in funding to the project budget.
- Program an additional \$3,615,000 for MR315.27 - Lakewood Blvd at Florence Ave Intersection Improvements. Funds will be programmed as follows: \$3,615,000 in FY18. The revised budget is \$4,945,000. This project proposes to widen Lakewood Blvd in both directions by adding additional SB and NB left turn lane, and a WB right turn lane reducing the queuing during peak periods. The additional funding is for the environmental, PS&E, right-of-way acquisition, and utility relocation. The original budget was based on a planning-level estimate and did not consider required ADA clearances. Funding for construction will be requested once Final Design is completed.
- Program an additional \$1,300,000 for Lakewood Blvd at Firestone Blvd Intersection Improvements. The funds will be programmed in FY18. Lakewood Blvd, formerly State Route - 19 (SR-19), at the intersection of Firestone Blvd, experiences heavy traffic delays in morning and in the afternoon from 4-7 pm. This intersection is operating at a deficient level of service.

Measure R NEXUS to Highway Operational Definition: This project proposes intersection improvements to reduce congestion at the Lakewood Blvd and Firestone Blvd Intersection. The improvements will improve traffic flow on this major arterial. This is an eligible Measure R Highway Operational Improvement.

City of Long Beach

- Program \$1,450,000 for the Artesia Boulevard Project. The funds will be programmed in FY18. The total project cost estimate is \$22,500,000. The city has other funding totaling \$6,500,000. The funding is requested for the Preliminary Engineering and Environmental Document phase.

Measure R NEXUS to Highway Operational Definition: This project proposes operational improvements to reduce congestion along Artesia Boulevard and improve speed and reliability for general purpose traffic flow. Improving operational conditions along Artesia Blvd. will enhance conditions on arterials parallel to SR-91 and improve both safety and mobility. This is an eligible Measure R Highway Operational Improvement.

City of Norwalk

- Program \$2,000,000 for the Firestone Boulevard Widening Project. The funds will be programmed as follows: \$2,000,000 in FY18. The funding is being requested for Environmental document and preliminary Engineering Phase (PAED). This project proposes to add an additional travel lane in each direction, install Class II and III bike lanes, and reconstruct sidewalks and medians. The project cross section will reduce bottlenecks along

the Firestone corridor once the I-605 Freeway Interchange is constructed.

Measure R NEXUS to Highway Operational Definition: This eligible Highway Operational Improvement project will address operational deficiencies, improve traffic flow, and increase mobility within the region.

### **I-710 South and/or Early Action Projects**

The Gateway Cities subregion had listed 16 projects to be funded by Measure R Subregional Funds. Of those, 3 projects have been completed. The subregion has invested \$75 million of their funds in projects. The 10 active projects are in planning, design, or construction phases. This update includes 1 new project and funding adjustments to 5 existing projects recommended by the I-710 Technical Advisory Committee as follows:

#### Metro

- Program an additional \$200,000 in FY19 for utility relocation design services to Southern California Edison (SCE) in support of the I-710 Soundwall Early Action Package 3 (MR306.47). The total revised programmed amount for utility relocation design of SCE is \$400,000.

#### Gateway Cities COG

- Deobligate \$600,000 for MOU.306.03 - Gateway Cities Council of Governments Engineering Support Services. Funds will be programmed in Prior Years. The revised budget is \$1,100,000. The reduction of programmed funds from the I-710 South/Early Action project list is to cost share required support services utilized for both I-605 Hots Spots Program and I-710 Early Action Project programs. Funds for engineering and support services will cover only 1 year of work, through April 30, 2019.

#### City of Bell

- Deobligate \$2,173,153 from MR306.44 - Gage Avenue Bridge Improvement Project. The programmed amount for this project will be reduced from \$2,240,000 to \$66,847. The funds are being programmed by phase and Measure R funds is being used as the local contribution to a federally awarded Highway Bridge Program (HBP) grant. The initial phase to be programmed is Project Approval and Environmental Document. The funds will be reprogrammed as follows: \$66,847 in FY19 for a total project budget of \$66,847.
- Deobligate \$2,000,112 from MR306.45 - Slauson Avenue Bridge Improvement Project. The programmed amount for this project will be reduced from \$2,040,000 to \$39,888. The funds are being programmed by phase and Measure R is being used as the local contribution to a federally awarded Highway Bridge Program (HBP) grant. The initial phase to be programmed is Project Approval and Environmental Document. The funds will be reprogrammed as follows: \$39,888 in FY19 for a total project budget of \$39,888.

### City of Bell Gardens

- Deobligate \$36,400 from MR306.30 - Eastern Avenue and Florence Avenue RSTI Project. The programmed amount for this project will be reduced from \$1,221,000 to \$1,184,713. Measure R is being used as a local match to Call for Project number F7120. Project costs have been revised to a lower amount and Measure R can only contribute a specific percentage of the total project cost. As a result, Measure R contributions have been lowered to match the revised project cost. The remaining funds will be reprogrammed as follows: \$623,044 in FY17 and \$561,669 in FY18 for a total project budget of \$1,184,713..

### City of Downey

- Program \$3,185,000 for the Paramount Boulevard/Imperial Highway Intersection Improvement Project. Funding will be programmed over two Fiscal Years: \$1,185,000 in FY19 and \$2,000,000 in FY20. The total project budget is \$3,185,000. This project includes double left-turn lanes in the southbound and westbound directions, widening along the east and west sides of Paramount Boulevard to provide sufficient width for the double left-turn lanes, the reconstruction of the raised median islands along Paramount Blvd., pavement reconstruction and rehabilitation of the intersection and approaches, modification of traffic signal, and incidental striping, signage, and pavement markings.

Measure R NEXUS to Highways Operational Definition: This project is to address current and future traffic projections reflected in the I-710 Corridor Project EIR/EIS. The Paramount Boulevard/Imperial Highway intersection is defined as a major intersection and operates at a LOS of "F" during peak hours. Paramount Boulevard and Imperial Highway are both major arterials that carry regional traffic. The project is necessary in order to alleviate congestion at the intersection by improving the LOS at the intersections to "C" and "D" during peak hours.

### Long Beach

- Program an additional \$5,500,000 for FY19 and FY20 for the Shoemaker Bridge Replacement Project (MR306.19). The funds will be re-programmed as follows: \$4,000,000 in Prior Years, \$1,500,000 in FY17, \$2,000,000 in FY19 and \$3,500,000 in FY20. The additional funding is necessary to support the finalization of the project's environmental phase, including preliminary design. The total re-programmed amount for Shoemaker Bridge Replacement Project is \$11,000,000.

### State Route 138 Capacity Enhancements

The subregion has executed 11 agreements for projects along the SR-138/SR-14 in Palmdale and Lancaster, which are in planning, design, or construction phases, and has invested \$28 million of their funds in projects.

## **DETERMINATION OF SAFETY IMPACT**

The recertification of the project list and funding allocations will have no adverse impact on the safety of Metro's patrons and employees and the users of the referenced transportation facilities.

## **FINANCIAL IMPACT**

Funding for the highway projects is from the Measure R 20% Highway Capital subfund earmarked for the subregions. Funds are available for Arroyo Verdugo (Project No. 460310), Las Virgenes Malibu (Project No. 460311), and South Bay (Project No. 460312) subregions in FY18 budget. These three programs are in the FY18 Budget under Cost Center 0442 in Account 54001 (Subsidies to Others).

Funding for the SR-138 Project Approval and Environmental Document (September 2012 Board Action) is included in the FY18 budget under project No. 461330, Cost Center 4730 in Account 50316. The remaining funds are distributed from the Measure R 20% Highway Capital Subfund via funding agreements to Caltrans, and the Cities of Palmdale and Lancaster under Cost Center 0442 in Project No. 460330, Account 54001 (Subsidies to Others).

Funding for the I-605 Corridor "Hot Spots" Projects, is included in Project No. 460314, Cost Center 0442, Account 54001 (Subsidies to Others), 461314, Task 5.2.100; 462314, Task 5.2.100; 463314, Task 5.2.100; 463714, Task 5.2.100; 468314, Task 5.3.100; 469314, Task 5.3.100; 460345, Task 5.2.100; 460346, Task 5.2.100; in Cost Centers 4720 and 4730, Account 50316 (Professional Services); and for I-710 Early Action Projects, in Project No. 460316 in Cost Center 0442, Account 54001 (Subsidies to Others) and also under 462316, Task 5.2.100; 463316, Task 5.3.100; 463416, Task 5.3.100; and 463516, Task 5.3.100 in Account 50316 (Professional Services) in Cost Center 4720, are all included in the FY18 budget.

Moreover, programmed funds are based on estimated revenues. Since each MRHSP is a multi-year program with various projects, the Project Managers, the Cost Center Manager and the Senior Executive Officer, Program Management, Highway Program will be responsible for budgeting the costs in current and future years.

### **Impact to Budget**

Should additional funds be required for FY18, staff will revisit the budgetary needs using the mid-year adjustment process.

The source of funds for these projects is Measure R 20% Highway Funds. This fund source is not eligible for Bus and rail Operations or Capital expenses.

## **ALTERNATIVES CONSIDERED**

The Board may choose to not approve the revised project lists and funding allocation. However, this option is not recommended as it will be inconsistent with Board direction given at the time of the 2009 L RTP adoption and may delay the development and delivery of projects.

**NEXT STEPS**

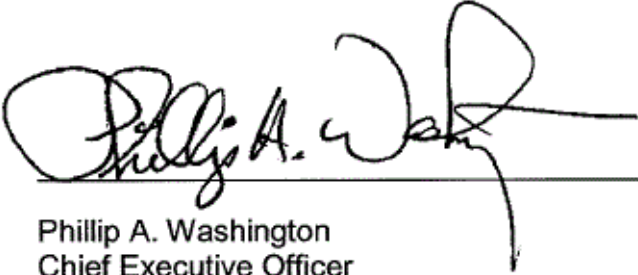
Metro Highway Program Staff will continue to work with the subregions to identify and deliver projects. As work progresses, updates will be provided to the Board on a semi-annual and as-needed basis.

**ATTACHMENT**

Attachment A - Measure R Highway Subregional Project List

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Reviewed by: Richard F. Clarke, Chief Program Management Officer, (213) 922-7557



Phillip A. Washington  
Chief Executive Officer

**ATTACHMENT A**

<b>Measure R Highway Operational Improvements Projects</b>													
<i>(Dollars in Thousands)</i>													
			<b>HIGHWAY OPS IMP GRAND TOTAL</b>										
				1,014,561		20,841	1,035,403	729,940	130,460	106,684	70,699	14,025	1,695
<b>Lead Agency</b>	<b>Fund Agr (FA) No.</b>	<b>PROJECT/LOCATION</b>	<b>Notes</b>	<b>Prior</b>	<b>Alloc</b>	<b>Alloc Change</b>	<b>Current Alloc</b>	<b>Prior Yr Program</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>
<b>Arroyo Verdugo Operational Improvements</b>				<b>67,506.3</b>		<b>870.0</b>	<b>68,376.3</b>	<b>37,352.2</b>	<b>14,175.2</b>	<b>7,350.0</b>	<b>2,135.0</b>	<b>7,364.0</b>	<b>0.0</b>
Burbank	MR310.06	San Fernando Blvd. / Burbank Blvd. Intersection		2,325.0		0.0	2,325.0	590.0	1,735.0				
Burbank	MR310.07	Widen Magnolia Blvd / I-5 Bridge for center-turn lane		3,967.0		0.0	3,967.0	0.0	250.0			3,717.0	
Burbank	MR310.08	I-5 Corridor Arterial Signal Improvements <b>(Completed)</b>		2,600.0		0.0	2,600.0	2,600.0					
Burbank	MR310.09	SR-134 Corridor Arterial Signal Improvements		2,975.0		0.0	2,975.0	2,975.0					
Burbank	MR310.10	Widen Olive Ave / I-5 Bridge for center-turn lane		3,897.0		0.0	3,897.0	0	250.0			3,647.0	
Burbank	MR310.11	Olive Ave. / Verdugo Ave. Intersection Improvement		1,600.0		0.0	1,600.0	1,600.0					
Burbank	MR310.23	Chandler Bikeway Extension <b>(call match) F7506</b>		659.8		0.0	659.8	185.8	474.0				
Burbank	MR310.31	SR-134 Corridor Arterial Signal Improvements - Phase 2		1,300.0		0.0	1,300.0	0.0	1,300.0				
Burbank	MR310.33	Media District Traffic Signal Improvements		1,400.0		0.0	1,400.0	0.0	1,400.0				
Burbank	MR310.38	I-5 Corridor Arterial Signal Improvements - Phase 2		800.0		0.0	800.0	0.0	800.0				
Burbank	MR310.46	Glenoaks Blvd Arterial and First St Signal Improvements		1,900.0		0.0	1,900.0	0.0	500.0	1,400.0			
<b>TOTAL BURBANK</b>				<b>23,423.8</b>		<b>0.0</b>	<b>23,423.8</b>	<b>7,950.8</b>	<b>6,709.0</b>	<b>1,400.0</b>	<b>0.0</b>	<b>7,364.0</b>	<b>0.0</b>
Glendale	MR310.01	Fairmont Ave. Grade Separation at San Fernando Rd. <b>(Construction) (Completed)</b>		1,658.7		0.0	1,658.7	1,658.7					
Glendale	MR310.02	Fairmont Ave. Grade Sep. at San Fernando -- Design <b>(FA canceled and funds previously moved to MR310.01)</b>		0.0		0.0	0.0	0.0					
Glendale	MR310.04	San Fernando/Grandview At-Grade Rail Crossing Imp. <b>(Completed)</b>	Chg	1,850.0		0.0	1,850.0	1,850.0					
Glendale	MR310.05	Central Ave Improvements / Broadway to SR-134 EB Offramp <b>(Completed)</b>		3,250.0		0.0	3,250.0	3,250.0					
Glendale	MR310.13	Glendale Narrows Bikeway Culvert	Chg	876.5		370.0	1,246.5	876.5	370.0				
Glendale	MR310.14	Verdugo Road Signal Upgrades <b>(Completed)</b>		557.0		0.0	557.0	557.0					
Glendale	MR310.16	SR-134 / Glendale Ave. Interchange Modification		1,585.5		0.0	1,585.5	1,585.5					
Glendale	MR310.17	Ocean View Blvd. Traffic Signals Installation and Modification		1,000.0		0.0	1,000.0	1,000.0					
Glendale	MR310.18	Sonora Avenue At-Grade Rail Crossing Safety Upgrade <b>(Completed)</b>	Chg	2,700.0		0.0	2,700.0	2,700.0					
Glendale	MR310.19	Traffic Signal Sync Brand / Colorado-San Fernando / Glendale-Verdugo <b>(Completed)</b>		340.9		0.0	340.9	340.9					
Glendale	MR310.20	Verdugo Rd / Honolulu Ave / Verdugo Blvd Intersection Modification <b>(Completed)</b>		397.3		0.0	397.3	397.3					
Glendale	MR310.21	Colorado St. Widening between Brand Blvd. and East of Brand Blvd. <b>(Completed)</b>		350.0		0.0	350.0	350.0					
Glendale	MR310.22	Glendale Narrows Riverwalk Bridge		600.0		0.0	600.0	600.0					



**ATTACHMENT A**

Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
Glendale	MR310.24	Construction of Bicycle Facilities		244.3	0.0	244.3	244.3					
Glendale	MR310.25	210 Soundwalls Project		4,520.0	0.0	4,520.0	0.0	1,520.0	3,000.0			
Glendale	MR310.26	Bicycle Facilities, Phase 2 (Class III Bike Routes)		165.0	0.0	165.0	165.0					
Glendale	MR310.28	Pennsylvania Ave Signal at I-210 On/Off-Ramps		400.0	0.0	400.0	400.0					
Glendale	MR310.32	Regional Arterial Performance Measures (Call Match) F7321		100.0	0.0	100.0	0.0	100.0				
Glendale	MR310.34	Regional Bike Stations (Call Match) F7709		332.1	0.0	332.1	0.0	332.1				
Glendale	MR310.36	Signalizations of SR-2 Fwy Ramps @ Holly		600.0	0.0	600.0	0.0		100.0	500.0		
Glendale	MR310.35	Signal Installations at Various Locations		1,500.0	0.0	1,500.0	1,500.0					
Glendale	MR310.37	Verdugo Boulevard Traffic Signal Modification at Vahili Way and SR-2	Chg	600.0	250.0	850.0	0.0	50.0	800.0			
Glendale	MR310.39	Widening of SR-2 Fwy Ramps @ Mountain		1,200.0	0.0	1,200.0	0.0		150.0	1,050.0		
Glendale	MR310.40	Pacific Ave: Colorado to Glenoaks & Burchett St: Pacific To Central Street Improvements		3,315.0	0.0	3,315.0	3,315.0					
Glendale	MR310.41	Doran St. (From Brand Blvd. to Adams St.)	Chg	1,200.0	250.0	1,450.0	1,200.0		250.0			
Glendale	MR310.42	Arden Ave. (From Highland Ave. to Kenilworth St.) (Completed)		623.2	0.0	623.2	623.2					
Glendale	MR310.43	Verdugo Rd. Street Improvements Project (Traffic Signal Modification)	Chg	585.0	0.0	585.0	0.0			585.0		
Glendale	MR310.47	Traffic Signals on Glenwood Rd. and Modificaitons on La Crescenta and Central Ave.		1,200.0	0.0	1,200.0	0.0	1,200.0				
Glendale	MR310.48	San Frenando Rd and Los Angeles Street Traffic Signal Installation & Intersection Modification		400.0	0.0	400.0	0.0	400.0				
Glendale	MR310.49	Traffic Signal Modification & Upgrades on Honolulu Ave		1,800.0	0.0	1,800.0	0.0	150.0	1,650.0			
		<b>TOTAL GLENDALE</b>		<b>33,950.5</b>	<b>870.0</b>	<b>34,820.5</b>	<b>22,613.4</b>	<b>4,122.1</b>	<b>5,950.0</b>	<b>2,135.0</b>	<b>0.0</b>	<b>0.0</b>
La Canada Flintridge	MR310.03	Soundwalls on Interstate I-210 (Completed)		4,588.0	0.0	4,588.0	4,588.0					
La Canada Flintridge	MR310.45	Soundwalls on Interstate I-210 in La Canada-Flintridge (phase 2)		1,800.0	0.0	1,800.0	1,200.0	600.0				
		<b>TOTAL LA CANADA FLINTRIDGE</b>		<b>6,388.0</b>	<b>0.0</b>	<b>6,388.0</b>	<b>5,788.0</b>	<b>600.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
LA County	MR310.44	Soudwalls on Interstate I-210 in LA Crescenta-Montrose		3,044.0	0.0	3,044.0	1,000.0	2,044.0				
		<b>TOTAL LA COUNTY</b>		<b>3,044.0</b>	<b>0.0</b>	<b>3,044.0</b>	<b>1,000.0</b>	<b>2,044.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Metro/Caltrans	MR310.29	NBSSR on I-210 frm Pennsylvania Ave. to West of SR-2		700.0	0.0	700.0	0.0	700.0				
		<b>TOTAL METRO</b>		<b>700.0</b>	<b>0.0</b>	<b>700.0</b>	<b>0.0</b>	<b>700.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
		<b>TOTAL ARROYO VERDUGO OPS IMPS</b>		<b>67,506.3</b>	<b>870.0</b>	<b>68,376.3</b>	<b>37,352.2</b>	<b>14,175.2</b>	<b>7,350.0</b>	<b>2,135.0</b>	<b>7,364.0</b>	<b>0.0</b>

**ATTACHMENT A**

Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
<b>Las Virgenes/Malibu Operational Improvements</b>				154,651.0	2,000.0	156,651.0	128,301.0	16,350.0	12,000.0	0.0	0.0	0.0
Westlake Village	MR311.01	Lindero Canyon Road Interchange, Phase 3A Design		443.7	0.0	443.7	343.7	100.0				
Westlake Village	MR311.02	Highway 101 Park and Ride Lot <b>(Design Completed)</b>		243.7	0.0	243.7	243.7					
Westlake Village	MR311.10	Rte 101/ Lindero Cyn. Rd. Interchange Improvements, Phase 3B,4B Construction <b>(Completed)</b>		3,251.0	0.0	3,251.0	3,251.0					
Westlake Village	MR311.18	Rte 101/ Lindero Cyn. Rd. Interchange Improvements, Phase 3A Construction		9,419.0	0.0	9,419.0	9,419.0					
Westlake Village	MR311.19	Highway 101 Park and Ride Lot <b>(Completed)</b>		4,943.6	0.0	4,943.6	4,943.6					
<b>TOTAL WESTLAKE VILLAGE</b>				18,301.0	0.0	18,301.0	18,201.0	100.0	0.0	0.0	0.0	0.0
Agoura Hills	MR311.03	Palo Comando Interchange		11,000.0	0.0	11,000.0	4,000.0	2,000.0	5,000.0			
Agoura Hills	MR311.04	Aguora Road/Kanan Road Intersection Improvements		1,000.0	0.0	1,000.0	1,000.0					
Agoura Hills	MR311.05	Agoura Road Widening <b>(Completed)</b>	Chg	36,850.0	(350.0)	36,500.0	36,500.0					
Agoura Hills	MR311.14	Kanan Road Corridor from Thousand Oaks Blvd to Cornell Road PSR	Chg	150.0	350.0	500.0	150.0	350.0				
Agoura Hills	MR311.15	Agoura Hills Multi-Modal Center		100.0	0.0	100.0	100.0					
<b>TOTAL AGOURA HILLS</b>				49,100.0	0.0	49,100.0	41,750.0	2,350.0	5,000.0	0.0	0.0	0.0
Calabasas	MR311.06	Lost Hills Overpass and Interchange	Chg	33,000.0	2,500.0	35,500.0	33,000.0	2,500.0				
Calabasas	MR311.07	Mulholland Highway Scenic Corridor Completion <b>(Completed)</b>		4,389.8	0.0	4,389.8	4,389.8					
Calabasas	MR311.08	Las Virgenes Scenic Corridor Widening		5,746.2	0.0	5,746.2	5,746.2					
Calabasas	MR311.09	Parkway Calabasas/US 101 SB Offramp <b>(Completed)</b>		214.0	0.0	214.0	214.0					
Calabasas	MR311.20	Off-Ramp for US 101 at Las Virgenes Road <b>(Cancelled)</b>	Chg	500.0	(500.0)	0.0	0.0					
Calabasas	MR311.33	Park and Ride Lot on or about 23577 Calabasas Road (near Route 101) <b>(Completed)</b>		3,700.0	0.0	3,700.0	3,700.0					
<b>TOTAL CALABASAS</b>				47,550.0	2,000.0	49,550.0	47,050.0	2,500.0	0.0	0.0	0.0	0.0

**ATTACHMENT A**

Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
Malibu	MR311.24	Malibu/Civic Center Way Widening		4,000.0	0.0	4,000.0	3,000.0	1,000.0				
Malibu	MR311.26	PCH-Raised Median and Channelization from Webb Way to Corral Canyon Road		6,950.0	0.0	6,950.0	3,950.0	3,000.0				
Malibu	MR311.27	PCH Intersections Improvements		1,000.0	0.0	1,000.0	1,000.0					
Malibu	MR311.28	Kanan Dume Road Arrestor Bed Improvements and Intersection with PCH Construction <b>(Completed)</b>		900.0	0.0	900.0	900.0					
Malibu	MR311.29	PCH Regional Traffic Message System (CMS)		2,500.0	0.0	2,500.0	1,000.0	1,000.0	500.0			
Malibu	MR311.30	PCH Roadway and Bike Route Improvements fr. Busch Dr. to Western City Limits <b>(Completed)</b>		500.0	0.0	500.0	500.0					
Malibu	MR311.32	PCH and Big Rock Dr. Intersection and at La Costa Area Pedestrian Improvements		950.0	0.0	950.0	950.0					
Malibu	MR311.35	Pacific Coast Highway Shoulder Improvements (Various Locations)		3,500.0	0.0	3,500.0	2,000.0	1,500.0				
Malibu	MR311.11	PCH Signal System Improvements from John Tyler Drive to Topanga Canyon Blvd		13,700.0	0.0	13,700.0	4,300.0	4,900.0	4,500.0			
		<b>TOTAL MALIBU</b>		<b>34,000.0</b>	<b>0.0</b>	<b>34,000.0</b>	<b>17,600.0</b>	<b>11,400.0</b>	<b>5,000.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Hidden Hills	MR311.34	Long Valley Road/Valley Circle/US-101 On-Ramp Improvements		5,700.0	0.0	5,700.0	3,700.0		2,000.0			
		<b>TOTAL HIDDEN HILLS</b>		<b>5,700.0</b>	<b>0.0</b>	<b>5,700.0</b>	<b>3,700.0</b>	<b>0.0</b>	<b>2,000.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
		<b>TOTAL LAS VIRGENES/MALIBU OPS IMPS</b>		<b>154,651.0</b>	<b>2,000.0</b>	<b>156,651.0</b>	<b>128,301.0</b>	<b>16,350.0</b>	<b>12,000.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

**ATTACHMENT A**

Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
<b>South Bay I-405, I-110, I-105, &amp; SR-91 Ramp / Interchange Imps</b>				233,026.9	3,220.3	236,247.3	151,695.5	34,142.7	30,103.0	13,847.0	4,764.0	1,695.0
SBCCOG	MR312.01	South Bay Cities CCS Program Development & Oversight and Program Administration <i>(Project Development Budget Testbed)</i>		13,375.0	0.0	13,375.0	11,664.0	500.0	594.0	617.0		
		<b>TOTAL SBCCOG</b>		13,375.0	0.0	13,375.0	11,664.0	500.0	594.0	617.0	0.0	0.0
Caltrans	MR312.11	ITS: I-405, I-110, I-105, SR-91 at Freeway Ramp/Arterial Signalized Intersections		5,357.0	(0.0)	5,357.0	5,357.0					
Metro/Caltrans	MR312.24	I-110 Aux lane from SR-91 to Torrance Blvd Aux lane & I-405/I-110 Connector		15,100.0	0.0	15,100.0	9,350.0	5,750.0				
Metro/Caltrans	MR312.25	I-405 at 182nd St. / Crenshaw Blvd Improvements		24,400.0	0.0	24,400.0	4,000.0	5,900.0	7,900.0	6,600.0		
Caltrans	MR312.29	ITS: Pacific Coast Highway and Parallel Arterials From I-105 to I-110		9,000.0	0.0	9,000.0	9,000.0					
Caltrans	MR312.45	PAED Integrated Corridor Management System (ICMS) on I-110 from Artesia Blvd and I-405		1,000.0	0.0	1,000.0	0.0		1,000.0			
Caltrans	MR312.77	I-405 IQA Review for PSR (El Segundo to Artesia Blvd)	Add	0.0	150.0	150.0	0.0		150.0			
		<b>TOTAL CALTRANS</b>		54,857.0	150.0	55,007.0	27,707.0	11,650.0	9,050.0	6,600.0	0.0	0.0
Carson	MR312.37	Sepulveda Blvd widening from Alameda Street to ICTF Driveway		0.0	0.0	0.0	0.0					
Carson	MR312.46	Upgrade Traffic Control Signals at the Intersection of Figueroa St and 234th St. and Figueroa and 228th st.		150.0	0.0	150.0	65.0	85.0				
Carson	MR312.41	Traffic Signal Upgrades at 10 Intersections		1,400.0	0.0	1,400.0	500.0	900.0				
		<b>TOTAL CARSON</b>		1,550.0	0.0	1,550.0	565.0	985.0	0.0	0.0	0.0	0.0
El Segundo	MR312.22	Maple Ave Improvements from Sepulveda Blvd to Parkview Ave. <b>(Completed)</b>		2,500.0	0.0	2,500.0	2,500.0					
El Segundo	MR312.27	PCH Improvements from Imperial Highway to El Segundo Boulevard		400.0	0.0	400.0	400.0					
El Segundo	MR312.57	Park Place Roadway Extension and Railroad Grade Separation Project		350.0	0.0	350.0	350.0					
		<b>TOTAL EL SEGUNDO</b>		3,250.0	0.0	3,250.0	3,250.0	0.0	0.0	0.0	0.0	0.0

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Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
Gardena	MR312.17	Rosecrans Ave Improvements from Vermont Ave to Crenshaw Blvd <b>(Completed)</b>		4,967.0	0.0	4,967.0	4,967.0					
Gardena	MR312.19	Artesia Blvd at Western Ave Intersection Improvements (Westbound left turn lanes) <b>(Completed)</b>		393.0	0.0	393.0	393.0					
Gardena	MR312.21	Vermont Ave Improvements from Rosecrans Ave to 182nd Street <b>(Completed)</b>		2,090.3	0.0	2,090.3	2,090.3					
Gardena	MR312.02	Traffic Signal Reconstruction on Vermont at Redondo Beach Blvd and at Rosecrans Ave.		1,500.0	0.0	1,500.0	40.0	1,460.0				
Gardena	MR312.09	Artesia Blvd Arterial Improvements from Western Ave to Vermont Ave		2,523.0	0.0	2,523.0	80.0	180.0	2,263.0			
		<b>TOTAL GARDENA</b>		11,473.3	0.0	11,473.3	7,570.3	1,640.0	2,263.0	0.0	0.0	0.0
Hawthorne	MR312.03	Rosecrans Ave Widening from I-405 SB off ramp to Isis Ave <b>(Completed)</b>		2,100.0	0.0	2,100.0	2,100.0					
Hawthorne	MR312.33	Aviation Blvd at Marine Ave Intersection Improvements (Westbound right turn lane)		3,600.0	0.0	3,600.0	3,600.0					
Hawthorne	MR312.44	Hawthorne Blvd Improvements from El Segundo Blvd to Rosecrans Ave <b>(Completed)</b>		7,551.0	0.0	7,551.0	7,551.0					
Hawthorne	MR312.47	Signal Improvements on Prairie Ave from 118th St. to Marine Ave.		1,237.0	0.0	1,237.0	200.0	418.0	619.0			
Hawthorne	MR312.54	Intersection widening & traffic signal modifications on Inglewood Ave at El Segundo Blvd; on Crenshaw Blvd At Pacific Beach on Grandview at 126th St. and on 120th St.		2,000.0	0.0	2,000.0	1,000.0	1,000.0				
Hawthorne	MR312.61	Hawthorne Blvd Arterial Improvements, from 126th St to 111th St.		4,400.0	0.0	4,400.0	600.0	1,000.0	2,800.0			
Hawthorne	MR312.66	Imperial Ave Signal Improvements and Intersection Capacity Project	Add	0.0	1,995.0	1,995.0	0.0	0.0	200.0	700.0	600.0	495.0
Hawthorne	MR312.67	Rosecrans Ave Signal Improvements and Intersection Capacity Enhancements.	Add	0.0	3,200.0	3,200.0	0.0	0.0	500.0	1,000.0	1,200.0	500.0
Hawthorne	MR312.68	El Segundo Blvd Improvements Project Phase I	Add	0.0	2,000.0	2,000.0	0.0	0.0	400.0	400.0	500.0	700.0
Hawthorne	MR312.69	El Segundo Blvd Improvements Project Phase II	Add	0.0	600.0	600.0	0.0	0.0	100.0	300.0	200.0	
		<b>TOTAL HAWTHORNE</b>		20,888.0	7,795.0	28,683.0	15,051.0	2,418.0	4,619.0	2,400.0	2,500.0	1,695.0
Hermosa Beach	MR312.05	PCH (SR-1/PCH) Improvements between Anita St. and Artesia Boulevard		498.0	0.0	498.0	304.0	194.0				
Hermosa Beach	MR312.38	Pacific Coast Highway at Aviation Blvd Intersection Improvements (Southbound left turn lanes)		872.0	0.0	872.0	872.0					
Hermosa Beach	MR312.63	PAVED on PCH from Aviation Blvd to Prospect Ave		1,800.0	0.0	1,800.0	400.0	1,400.0				
		<b>TOTAL HERMOSA BEACH</b>		3,170.0	0.0	3,170.0	1,576.0	1,594.0	0.0	0.0	0.0	0.0

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Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
Inglewood	MR312.12	Intelligent Transportation System (ITS): City of Inglewood Citywide ITS Master Plan		3,500.0	(1,000.0)	2,500.0	2,500.0					
Inglewood	MR312.50	ITS: Phase V - Communication Gap Closure on Various Locations, ITS Upgrade and Arterial Detection		384.0	0.0	384.0	0.0	192.0	192.0			
Inglewood	MR312.70	Prairie Ave Signal Synchronization Project		205.0	0.0	205.0	0.0	205.0				
Inglewood	MR312.71	La Cienega Blvd Synchronization Project	Add	0.0	80.0	80.0	0.0	0.0	80.0			
Inglewood	MR312.72	Arbor Vitae Synchronization Project	Add	0.0	130.0	130.0	0.0	0.0	130.0			
Inglewood	MR312.73	Florence Ave Synchronization Project	Add	0.0	255.0	255.0	0.0	0.0	255.0			
		<b>TOTAL INGLEWOOD</b>		<b>4,089.0</b>	<b>(535.0)</b>	<b>3,554.0</b>	<b>2,500.0</b>	<b>397.0</b>	<b>657.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
LA City	MR312.56	Del Amo Blvd Improvements from Western Ave to Vermont Ave Project Oversight		100.0	0.0	100.0	100.0					
LA City	MR312.51	Improve Anaheim St. from Farragut Ave. to Dominguez Channel <b>(Call Match) F7207</b>		1,313.0	(0.0)	1,313.0	262.6	1,050.4				
LA City	MR312.48	Alameda St. (South) Widening frm. Anaheim St. to Harry Bridges Blvd		2,875.0	0.0	2,875.0	0.0	2,875.0				
LA City	MR312.74	Alameda St. (East) Widening Project	Add	0.0	3,580.0	3,580.0	0.0	0.0	1,000.0	1,000.0	1,580.0	
		<b>TOTAL LA CITY</b>		<b>4,288.0</b>	<b>3,580.0</b>	<b>7,868.0</b>	<b>362.6</b>	<b>3,925.4</b>	<b>1,000.0</b>	<b>1,000.0</b>	<b>1,580.0</b>	<b>0.0</b>
LA County	MR312.16	Del Amo Blvd improvements from Western Ave to Vermont Ave	Chg	15,063.7	(14,756.7)	307.0	307.0	0.0	0.0			
LA County	MR312.52	ITS: Improvements on South Bay Arterials		1,021.0	0.0	1,021.0	0.0	401.0	620.0			
LA County	MR312.64	South Bay Arterial System Detection Project		2,000.0	0.0	2,000.0	0.0	1,000.0	1,000.0			
		<b>TOTAL LA COUNTY</b>		<b>18,084.7</b>	<b>(14,756.7)</b>	<b>3,328.0</b>	<b>307.0</b>	<b>1,401.0</b>	<b>1,620.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Lawndale	MR312.15	Inglewood Ave Widening from 156th Street to I-405 Southbound on-ramp	Chg	43.0	0.0	43.0	43.0					
Lawndale	MR312.36	ITS: City of Lawndale Citywide Improvements <b>(completed)</b>		878.3	0.0	878.3	878.3					
Lawndale	MR312.49	Redondo Beach Blvd Mobility Improvements from Prairie to Artesia <b>(Call Match) F9101</b>		1,039.3	0.0	1,039.3	273.0	766.3				
Lawndale	MR312.31	Manhattan Bch Blvd at Hawthorne Blvd Left Turn Signal Improvements		508.0	0.0	508.0	0.0	300.0	208.0			
		<b>TOTAL LAWDALE</b>		<b>2,468.6</b>	<b>0.0</b>	<b>2,468.6</b>	<b>1,194.3</b>	<b>1,066.3</b>	<b>208.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

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Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
Lomita	MR312.43	Intersection Improvements at Western/Palos Verdes Dr and PCH/Walnut		1,506.0	0.0	1,506.0	900.0	606.0				
		<b>TOTAL LOMITA</b>		1,506.0	0.0	1,506.0	900.0	606.0	0.0	0.0	0.0	0.0
Manhattan Beach	MR312.04	Sepulveda Blvd at Marine Ave Intersection Improvements (West Bound left turn lanes) <b>(Completed)</b>		346.5	0.0	346.5	346.5					
Manhattan Beach	MR312.28	Seismic retrofit of widened Bridge 53-62 from Sepulveda Blvd from 33rd Street to south of Rosecrans Ave		9,100.0	0.0	9,100.0	9,100.0					
Manhattan Beach	MR312.34	Aviation Blvd at Artesia Blvd Intersection Improvements (Southbound right turn lane)		1,500.0	0.0	1,500.0	1,500.0					
Manhattan Beach	MR312.35	Sepulveda Blvd at Manhattan Beach Blvd Intersection Improvements (NB, WB, EB left turn lanes and SB right turn lane)		980.0	0.0	980.0	980.0					
Manhattan Beach	MR312.62	Sepulveda Blvd Operational Improvements at Rosecrans Ave, 33rd St, Cedar Ave, 14th St and 2nd St.		900.0	0.0	900.0	50.0	850.0				
		<b>TOTAL MANHATTAN BEACH</b>		12,826.5	0.0	12,826.5	11,976.5	850.0	0.0	0.0	0.0	0.0
Metro/Caltrans	MR312.30	Feasibility Study for I-405 from I-110 to I-105 and I-105 from I-405 to I-110		600.0	0.0	600.0	0.0	600.0				
Metro/Caltrans	MR312.55	PSR I-405 from El Segundo Blvd to Artesia Blvd	Chg	600.0	281.0	881.0	0.0	881.0				
Metro/Caltrans	TBD	Western Ave. (SR-213) from Palos Verdes Drive North to Gardena -- PSR		170.0	0.0	170.0	70.0	100.0				
Metro/Caltrans	TBD	SR-1 from Eastern Boundary of Carson to Eastern Boundary of Torrance -- PSR		170.0	0.0	170.0	70.0	100.0				
Metro	0000020331-9 4010-2540-01-40	South Bay Arterial Baseline Conditions Analysis <b>(Completed)</b>		250.0	0.0	250.0	250.0					
Metro	TBD	Inglewood Transit Center at Florence/La Brea		1,500.0	0.0	1,500.0	1,500.0					
		<b>TOTAL METRO</b>		3,290.0	281.0	3,571.0	1,890.0	1,681.0	0.0	0.0	0.0	0.0
Rancho Palos Verdes	MR312.39	Western Ave. (SR-213) from Palos Verdes Drive North to 25th street -- PSR		90.0	0.0	90.0	30.0	60.0				
		<b>TOTAL RANCHO PALOS VERDES</b>		90.0	0.0	90.0	30.0	60.0	0.0	0.0	0.0	0.0
POLA	MR312.32	SR-47/Vincent Thomas Bridge on/off ramp Improvements at Harbor Blvd	Chg	900.0	2,930.0	3,830.0	900.0		700.0	2,230.0		
		<b>PORT OF LOS ANGELES</b>		900.0	2,930.0	3,830.0	900.0	0.0	700.0	2,230.0	0.0	0.0

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Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
Redondo Beach	MR312.06	Pacific Coast Highway improvements from Anita Street to Palos Verdes Blvd		1,400.0	0.0	1,400.0	1,400.0					
Redondo Beach	MR312.07	Pacific Coast Highway at Torrance Blvd intersection improvements (Northbound right turn lane)		586.0	0.0	586.0	586.0					
Redondo Beach	MR312.08	Pacific Coast Highway at Palos Verdes Blvd intersection improvements (WB right turn lane)		389.0	0.0	389.0	320.0	69.0				
Redondo Beach	MR312.13	Aviation Blvd at Artesia Blvd intersection improvements (Completed) (Eastbound right turn lane)		22.0	0.0	22.0	22.0					
Redondo Beach	MR312.14	Inglewood Ave at Manhattan Beach Blvd intersection improvements (Eastbound right turn lane) (Completed)		30.0	0.0	30.0	30.0					
Redondo Beach	MR312.20	Aviation Blvd at Artesia Blvd intersection improvements (Northbound right turn lane)		847.0	0.0	847.0	847.0					
Redondo Beach	MR312.42	Inglewood Ave at Manhattan Beach Blvd intersection improvements (Southbound right turn lane)		5,175.0	0.0	5,175.0	5,175.0					
Redondo Beach	MR312.75	Kingsdale Ave at Artesia Blvd Intersection Improvements	Add	0.0	992.0	992.0	0.0	0.0	992.0			
		<b>TOTAL REDONDO BEACH</b>		<b>8,449.0</b>	<b>992.0</b>	<b>9,441.0</b>	<b>8,380.0</b>	<b>69.0</b>	<b>992.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Torrance	MR312.10	Pacific Coast Highway at Hawthorne Blvd intersection improvements		19,600.0	0.0	19,600.0	19,600.0					
Torrance	MR312.18	Maple Ave at Sepulveda Blvd Intersection Improvements (Completed) (Southbound right turn lane)		319.9	0.0	319.9	319.9					
Torrance	MR312.23	Torrance Transit Park and Ride Regional Terminal Project 465 Crenshaw Blvd		25,700.0	0.0	25,700.0	18,100.0		7,600.0			
Torrance	MR312.26	I-405 at 182nd St. / Crenshaw Blvd Operational Improvements		15,300.0	0.0	15,300.0	10,300.0	5,000.0				
Torrance	MR312.40	Pacific Coast Highway at Vista Montana/Anza Ave Intersection Improvements		2,900.0	0.0	2,900.0	2,900.0					
Torrance	MR312.58	Pacific Coast Highway from Calle Mayor to Janet Lane Safety Improvements		852.0	0.0	852.0	852.0					
Torrance	MR312.59	Pacific Coast Highway at Madison Ave Signal upgrades to provide left-turn phasing		500.0	0.0	500.0	500.0					
Torrance	MR312.60	Crenshaw from Del Amo to Dominguez - 3 SB turn lanes at Del Amo Blvd, 208th St., Transit Center Entrance, Signal Improvements at 209th signal at Transit Center	Chg	3,300.0	0.0	3,300.0	3,300.0					
Torrance	MR312.76	Plaza Del Amo at Western Ave (SR-213) Improvements	Add	0.0	2,784.0	2,784.0		300.0	800.0	1,000.0	684.0	
		<b>TOTAL TORRANCE</b>		<b>68,471.9</b>	<b>2,784.0</b>	<b>71,255.9</b>	<b>55,871.9</b>	<b>5,300.0</b>	<b>8,400.0</b>	<b>1,000.0</b>	<b>684.0</b>	<b>0.0</b>
		<b>TOTAL SOUTH BAY</b>		<b>233,026.9</b>	<b>3,220.3</b>	<b>236,247.3</b>	<b>151,695.5</b>	<b>34,142.7</b>	<b>30,103.0</b>	<b>13,847.0</b>	<b>4,764.0</b>	<b>1,695.0</b>



**ATTACHMENT A**

Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior	Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
<b>Gateway Cities: I-605/SR-91/I-405 Corridors "Hot Spots"</b>					<b>195,112.6</b>	<b>10,675.8</b>	<b>205,788.4</b>	<b>134,097.8</b>	<b>40,220.1</b>	<b>20,239.6</b>	<b>9,516.8</b>	<b>1,714.1</b>	<b>0.0</b>
GCCOG	MOU.306.03	GCCOG Engineering Support Services	Chg	300.0	800.0		1,100.0	900.0		200.0			
GCCOG	MR315.29	Gateway Cities Third Party Support		100.0	0.0		100.0	100.0					
		<b>TOTAL GCCOG</b>		<b>400.0</b>	<b>800.0</b>		<b>1,200.0</b>	<b>1,000.0</b>	<b>0.0</b>	<b>200.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Metro	PS4720-3334	Program/Project Management Support of Measure R Funds		200.0	0.0		200.0	200.0					
Metro	PS4720-3252	PAED for Santa Fe Springs/ Whittier, Painter/Whittier, & Colima Whittier		680.0	0.0		680.0	680.0					
Metro	PS4720-3250	PAED for Lakewood/Alondra, Lakewood/Spring, and Artesia		572.7	0.0		572.7	572.7					
Metro	PS4720-3251	PAED for Valley View/Rosecrans, Valley View/Alondra, Germantown/South, and Bloomfield/Artesia		560.7	0.0		560.7	560.7					
Metro	AE25081	PS&E for Carmenita/South and Bloomfield/Artesia Intersection		100.0	0.0		100.0	100.0					
Metro	AE25083	PS&E for Valley View/Rosecrans and Valley View/Alondra Intersection Improvements		100.0	0.0		100.0	100.0					
Metro	PS4603-2582	Professional Services for I-605 Feasibility Study <b>(Completed)</b>		6,170.0	0.0		6,170.0	6,170.0					
Metro	PS4603-2582	Professional Services for PSR/PDS: I-5/I-605 and I-605/SR-91 <b>(Completed)</b>		3,121.0	0.0		3,121.0	3,121.0					
Metro	PS4720-3235	Professional Services for 605/60 PSR/PDS		3,040.0	0.0		3,040.0	3,040.0					
Metro	AE5204200	Professional Services for 605/60 PA/ED		34,000.0	0.0		34,000.0	10,000.0	8,000.0	8,000.0	8,000.0		
Metro	PS47203004	Professional Services for the Gateway Cities Strategic Transportation Plan		10,429.5	(0.0)		10,429.5	10,429.5					
Metro	AE333410011375	Professional Services for the I-605/I-5 PA/ED		20,698.0	0.0		20,698.0	8,000.0	5,000.0	7,698.0			
Metro	AE476110012334	Professional Services for the I-605/SR-91 PA/ED		8,026.0	0.0		8,026.0	3,463.0	3,100.0	1,463.0			
Metro	AE322940011372	Professional Services for 710/91 PSR/PDS		2,340.0	0.0		2,340.0	2,340.0					
Metro	MR315.49	Third Party Support for the I-605 Corridor Hot Spots Interchanges Program Development (Gateway Cities, SCE, LA County)		300.0	0.0		300.0	300.0					
Metro	MR315.50	Freeway Early Action Projects (PA/ED & PS&E)		14,500.0	0.0		14,500.0	14,500.0					
Metro	AE39064000	I-605 Beverly Interchange Improvements (PR & PS&E)		3,000.0	0.0		3,000.0	100.0	2,900.0				
Metro	AE38849000	I-605 from SR-91 to South Street Improvements Project (PR & PS&E)		5,500.0	0.0		5,500.0	100.0	5,400.0				
Metro	MR315.35	SR-91 Atlantic Ave to Cherry Ave EB Aux Lane		500.0	0.0		500.0	0.0	250.0	250.0			
Metro	MR315.37	SR-91 Central Ave Interchnage Improvements		500.0	0.0		500.0	0.0	250.0	250.0			
Metro	MR315.63	I-605/7th Street Interchange Improvements		500.0	0.0		500.0	0.0	250.0	250.0			
Metro	MR315.64	I-605 Valley Blvd Interchange Improvements		500.0	0.0		500.0	0.0	250.0	250.0			
		<b>TOTAL METRO</b>		<b>115,337.9</b>	<b>(0.0)</b>		<b>115,337.9</b>	<b>63,776.9</b>	<b>25,400.0</b>	<b>18,161.0</b>	<b>8,000.0</b>	<b>0.0</b>	<b>0.0</b>

**ATTACHMENT A**

Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
Caltrans	MR315.28	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-605/SR-60 PSR-PDS		260.0	0.0	260.0	260.0					
Caltrans	MR315.47	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-605/SR-60 PA/ED		3,650.0	0.0	3,650.0	1,250.0	800.0	800.0	800.0		
Caltrans	MR315.24	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-605/I-5 PA/ED		2,069.8	0.0	2,069.8	800.0	500.0	769.8			
Caltrans	MR315.08	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-605/SR-91 PA/ED		802.6	0.0	802.6	346.3	310.0	146.3			
Caltrans	MR315.48	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-605 Intersection Improvements		60.0	0.0	60.0	60.0					
Caltrans	MR315.13	Third Party Support for the I-605 Corridor "Hot Spots" Interchanges Program Development, I-710/SR-91 PSR-PDS		234.0	0.0	234.0	234.0					
Caltrans	MR315.30	I-605 Beverly Interchange Improvements (Env. Doc.)		500.0	0.0	500.0	100.0	400.0				
Caltrans	MR315.31	I-605 from SR-91 to South Street Improvements Project (Env. Doc.)		500.0	0.0	500.0	100.0	400.0				
		<b>TOTAL CALTRANS</b>		8,076.4	0.0	8,076.4	3,150.3	2,410.0	1,716.1	800.0	0.0	0.0
Bellflower	MR315.16	Bellflower Blvd- Artesia Blvd Intersection Improvement Project	Chg	7,310.0	1,132.8	8,442.8	7,310.0	1,132.8				
Bellflower	MR315.33	Lakewood - Alondra Intersection Improvements: Construction	Chg	644.0	358.0	1,002.0	644.0	358.0				
		<b>TOTAL BELLFLOWER</b>		7,954.0	1,490.8	9,444.8	7,954.0	1,490.8	0.0	0.0	0.0	0.0
Cerritos	MR315.38	Carmenita - South Intersection Improvements, Construction		292.0	0.0	292.0	292.0					
Cerritos	MR315.39	Bloomfield - Artesia Intersection Improvements, ROW & Construction		1,756.0	0.0	1,756.0	1,756.0					
		<b>TOTAL CERRITOS</b>		2,048.0	0.0	2,048.0	2,048.0	0.0	0.0	0.0	0.0	0.0
Downey	MR315.03	Lakewood - Telegraph Intersection Improvements		2,120.0	0.0	2,120.0	2,120.0					
Downey	MR315.14	Lakewood - Imperial Intersection Improvements	Chg	4,060.0	0.0	4,060.0	2,760.0	1,300.0				
Downey	MR315.27	Lakewood - Florence Intersection Improvements	Chg	1,310.0	3,635.0	4,945.0	1,330.0	3,615.0				
Downey	MR315.18	Bellflower - Imperial Highway Intersection Improvements		2,740.4	0.0	2,740.4	2,740.4					
Downey	MR315.66	Lakewood Blvd at Firestone Blvd Intersection Improvm.	Add	0.0	1,300.0	1,300.0	0.0	1,300.0				
		<b>TOTAL DOWNEY</b>		10,230.4	4,935.0	15,165.4	8,950.4	6,215.0	0.0	0.0	0.0	0.0

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Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
LA County	MR315.07	Painter - Mulberry Intersection Improvements		2,410.0	0.0	2,410.0	2,410.0					
LA County	MR315.11	Valley View - Imperial Intersection Improvements		1,640.0	0.0	1,640.0	1,640.0					
LA County	MR315.15	Norwalk-Whittier Intersection Improvements		2,830.0	0.0	2,830.0	2,830.0					
LA County	MR315.23	Carmenita - Telegraph Intersection Improvements		1,400.0	0.0	1,400.0	1,400.0					
LA County	MR315.22	Norwalk-Washington Intersection Improvements		550.0	0.0	550.0	550.0					
LA County	MR315.64	South Whittier Bikeway Access Improvements (Call Match) F9511		800.0	0.0	800.0	0.0	155.0		645.0		
		<b>TOTAL LA COUNTY</b>		<b>9,630.0</b>	<b>0.0</b>	<b>9,630.0</b>	<b>8,830.0</b>	<b>155.0</b>	<b>0.0</b>	<b>645.0</b>	<b>0.0</b>	<b>0.0</b>
Lakewood	MR315.36	Lakewood Blvd Regional Capacity Enhancement		3,600.0	0.0	3,600.0	3,600.0					
Lakewood	MR315.04	Lakewood - Del Amo Intersection Improvements		5,504.3	0.0	5,504.3	5,504.3					
		<b>TOTAL LAKEWOOD</b>		<b>9,104.3</b>	<b>0.0</b>	<b>9,104.3</b>	<b>9,104.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Long Beach	MR315.67	2015 CFP - Artesia Complete Blvd (Call Match) F9130		900.0	0.0	900.0	0.0				900.0	
Long Beach	MR315.68	2015 CFP - Atherton Bridge & Campus Connection (Call Match) F9532		800.0	0.0	800.0	0.0				800.0	
Long Beach	MR315.69	Park or Ride (Call Match) F9808		212.6	0.0	212.6	14.9	49.3	62.5	71.8	14.1	
Long Beach	MR315.60	Soundwall on I-605 near Spring Street, PAED and PSE		350.0	0.0	350.0	50.0	200.0	100.0			
Long Beach	MR315.61	Lakewood - Spring Intersection Improvements, PSE and Construction		454.3	0.0	454.3	454.3					
Long Beach	MR315.62	Bellflower - Spring Intersection Improvements, PSE and Construction		492.8	0.0	492.8	492.8					
Long Beach	MR215.70	Artesia Boulevard Improvements	Add	0.0	1,450.0	1,450.0	0.0	1,450.0				
		<b>TOTAL LONG BEACH</b>		<b>3,209.7</b>	<b>1,450.0</b>	<b>4,659.7</b>	<b>1,012.0</b>	<b>1,699.3</b>	<b>162.5</b>	<b>71.8</b>	<b>1,714.1</b>	<b>0.0</b>

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Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
Norwalk	MR315.06	Studebaker - Rosecrans Intersection Improvements		1,670.0	0.0	1,670.0	1,670.0					
Norwalk	MR315.10	Bloomfield - Imperial Intersection Improvements		920.0	0.0	920.0	920.0					
Norwalk	MR315.17	Pioneer - Imperial Intersection Improvements		1,509.0	0.0	1,509.0	1,509.0					
Norwalk	MR315.26	Studebaker - Alondra Intersection Improvements		480.0	0.0	480.0	480.0					
Norwalk	MR315.43	Imperial Highway ITS Project, from San Gabriel River to Shoemaker Rd. (PAED, PS&E, CON)		3,380.4	0.0	3,380.4	3,380.4					
Norwalk	MR315.71	Firestone Blvd Widening Project	Add	0.0	2,000.0	2,000.0	0.0	2,000.0				
		<b>TOTAL NORWALK</b>		<b>7,959.4</b>	<b>2,000.0</b>	<b>9,959.4</b>	<b>7,959.4</b>	<b>2,000.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Pico Rivera	MR315.05	Rosemead - Beverly Intersection Improvements		8,474.0	0.0	8,474.0	8,474.0					
Pico Rivera	MR315.09	Rosemead - Whittier Intersection Improvements		1,388.0	0.0	1,388.0	1,388.0					
Pico Rivera	MR315.21	Rosemead - Washington Intersection Improvements		40.0	0.0	40.0	40.0					
Pico Rivera	MR315.19	Rosemead - Slauson Intersection Improvements		2,195.0	0.0	2,195.0	2,195.0					
		<b>TOTAL PICO RIVERA</b>		<b>12,097.0</b>	<b>0.0</b>	<b>12,097.0</b>	<b>12,097.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Santa Fe Springs	MR315.40	Valley View - Rosecrans Intersection Improvements, Construction		824.0	0.0	824.0	524.0	300.0				
Santa Fe Springs	MR315.41	Valley View - Alondra Intersection Improvements, ROW & Construction		2,667.0	0.0	2,667.0	2,667.0					
Santa Fe Springs	MR315.42	Florence Avenue Widening Project, from Orr & Day to Pioneer Blvd (PAED, PSE, ROW)		600.0	0.0	600.0	50.0	550.0				
		<b>TOTAL SANTA FE SPRINGS</b>		<b>4,091.0</b>	<b>0.0</b>	<b>4,091.0</b>	<b>3,241.0</b>	<b>850.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Whittier	MR315.44	Santa Fe Springs Whittier Intersection Improvements: PSE, ROW, Construction		1,567.9	0.0	1,567.9	1,567.9					
Whittier	MR315.45	Painter Ave - Whittier Intersection Improvements: PSE, ROW, Construction		1,760.3	0.0	1,760.3	1,760.3					
Whittier	MR315.46	Colima Ave - Whittier Intersection Improvements: PSE, ROW, Construction		1,646.2	0.0	1,646.2	1,646.2					
		<b>TOTAL WHITTIER</b>		<b>4,974.4</b>	<b>0.0</b>	<b>4,974.4</b>	<b>4,974.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
		<b>TOTAL I-605/SR-91/I-405 "HOT SPOTS"</b>		<b>195,112.6</b>	<b>10,675.8</b>	<b>205,788.4</b>	<b>134,097.8</b>	<b>40,220.1</b>	<b>20,239.6</b>	<b>9,516.8</b>	<b>1,714.1</b>	<b>0.0</b>

**ATTACHMENT A**

Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22	
<b>Gateway Cities: INTERSTATE 710 SOUTH EARLY ACTION PROJECT</b>					<b>164,264.6</b>	<b>4,075.3</b>	<b>168,339.9</b>	<b>137,993.3</b>	<b>5,471.5</b>	<b>8,991.7</b>	<b>0.0</b>	<b>183.0</b>	<b>0.0</b>
GCCOG	MOU.306.03	GCCOG Engineering Support Services	Chg	1,700.0	(600.0)	1,100.0	1,100.0						
		<b>TOTAL GCCOG</b>		<b>1,700.0</b>	<b>(600.0)</b>	<b>1,100.0</b>	<b>1,100.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
Metro	PS4720-3334	Program/Project Management Support of Measure R Funds		200.0	0.0	200.0	200.0						
Metro	PS-4010-2540-02-17	I-710/I-5 Interchange Project Development		600.0	0.0	600.0	600.0						
Metro	various	Professional Services contracts for I-710 Utility Studies (North, Central, South)		25,046.0	0.0	25,046.0	25,046.0						
Metro	PS4340-1939	Professional Services contract for I-710 Corridor Project EIR/EIS		32,520.9	0.0	32,520.9	32,520.9						
Metro	PS-4710-2744	Professional Services contract for I-710 Soundwall Project Development		10,878.4	0.0	10,878.4	10,878.4						
Metro	PS2198100	I-710 Soundwall Package 2		7,000.0	0.0	7,000.0	0.0		1,000.0	6,000.0			
Metro	MOU.Calstart2010	Professional Services contract for development of zero emission technology report		150.0	0.0	150.0	150.0						
Metro	Bucket	I-710 ITS/Air Quality Early Action <b>(Grant Match)</b>		8,760.0	0.0	8,760.0	8,760.0						
Metro	MR306.41	FRATIS Modernization <b>(Grant Match)</b>		3,000.0	0.0	3,000.0	0.0	3,000.0					
Metro	MR306.38	Sustainable Transportation Planning Grant <b>(Grant Match)</b>		64.8	0.0	64.8	64.8						
		<b>TOTAL METRO</b>		<b>88,220.1</b>	<b>0.0</b>	<b>88,220.2</b>	<b>78,220.2</b>	<b>3,000.0</b>	<b>1,000.0</b>	<b>6,000.0</b>	<b>0.0</b>	<b>0.0</b>	
POLA	MR306.40	I-710 Eco-FRATIS Drayage Truck Efficiency Project <b>(Grant Match)</b>		240.0	0.0	240.0	240.0						
		<b>TOTAL POLA</b>		<b>240.0</b>	<b>0.0</b>	<b>240.0</b>	<b>240.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
Metro	13.01/USAGE	Third Party Support Services for I-710 Corridor Project (US Army Corp of Eng)		100.0	0.0	100.0	100.0						
		<b>TOTAL USACE</b>		<b>100.0</b>	<b>0.0</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	
Metro	MR306.5B	Third Party Support Services for I-710 Corridor Project (So Cal Edison)		1,623.0	0.0	1,623.0	1,623.0						
Metro	MR306.39	I-710 Soundwall Project - SCE Utility Relocation Engineering Advance		75.0	0.0	75.0	75.0						
Metro	MR306.48	SCE design support I-710 Soundwall Package 3	Chg	200.0	200.0	400.0	0.0	200.0	200.0				
		<b>TOTAL SCE</b>		<b>1,898.0</b>	<b>200.0</b>	<b>2,098.0</b>	<b>1,698.0</b>	<b>200.0</b>	<b>200.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	

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Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
Caltrans	MR306.24	Reconfiguration of Firestone Blvd On-Ramp to I-710 S/B Freeway		1,450.0	0.0	1,450.0	1,450.0					
Caltrans	MR306.27	Third Party Support for I-710 Corridor Project EIR/EIS Enhanced IQA		3,500.0	0.0	3,500.0	3,500.0					
Caltrans	MR306.29	I-710 Early Action Project - Soundwall PA/ED Phase - Noise Study Only		100.0	0.0	100.0	100.0					
		<b>TOTAL CALTRANS</b>		5,050.0	0.0	5,050.0	5,050.0	0.0	0.0	0.0	0.0	0.0
LA County	MR306.16	Staff Support for the Review of the Draft I-710 South EIR/EIS		157.0	0.0	157.0	84.5	72.5				
		<b>TOTAL LA COUNTY</b>		157.0	0.0	157.0	84.5	72.5	0.0	0.0	0.0	0.0
Bell	MR306.37	Eastern at Bandini Rickenbacker Project (Call Match) F9200		178.6	(0.0)	178.6	178.6					
Bell	MR306.07	Staff Support for the Review of the Draft I-710 South EIR/EIS		136.0	0.0	136.0	60.9	75.1				
Bell	MR306.44	Gage Ave Bridge Replacement Project	Chg	2,240.0	(2,173.2)	66.8	0.0		66.8			
Bell	MR306.45	Slauson Ave Bridge Replacement Project	Chg	2,040.0	(2,000.1)	39.9	0.0		39.9			
		<b>TOTAL BELL</b>		4,594.6	-4,173.3	421.3	239.5	75.1	106.7	0.0	0.0	0.0
Bell Gardens	MR306.08	Staff Support for the Review of the Draft I-710 South EIR/EIS		152.3	0.0	152.3	68.1	84.2				
Bell Gardens	MR306.35	Florence/Jaboneria Intersection Project (Call Match) F9111		283.4	0.0	283.4	0.0			100.4	183.0	
Bell Gardens	MR306.30	Florence Ave/Eastern Ave Intersection Widening (Call Match) F7120	Chg	1,221.1	(36.4)	1,184.7	623.0	561.7				
		<b>TOTAL BELL GARDENS</b>		1,656.8	(36.4)	1,620.5	691.1	645.9	0.0	100.4	183.0	0.0
Commerce	MR306.23	Washington Blvd Widening and Reconstruction Project		13,500.0	0.0	13,500.0	13,500.0					
Commerce	MR306.09	Staff Support for the Review of the Draft I-710 South EIR/EIS		75.0	0.0	75.0	75.0					
		<b>TOTAL COMMERCE</b>		13,575.0	0.0	13,575.0	13,575.0	0.0	0.0	0.0	0.0	0.0
Compton	MR306.10	Staff Support for the Review of the Draft I-710 South EIR/EIS		35.3	0.0	35.3	35.3					
		<b>TOTAL COMPTON</b>		35.3	0.0	35.3	35.3	0.0	0.0	0.0	0.0	0.0
Downey	MR306.18	Staff Support for the Review of the Draft I-710 South EIR/EIS		120.0	0.0	120.0	10.0	110.0				
Downey	MR306.20	Paramount Blvd/Firestone Intersection Improvements (Complete)		3,069.0	0.0	3,069.0	3,069.0					
Downey	MR306.42	Firestone Blvd Improvement Project (Old River Rd. to West City Limits)		223.0	0.0	223.0	223.0	100.0				
Downey	MR306.31	Lakewood Blvd Improvement Project		5,000.0	0.0	5,000.0	5,000.0					
Downey	MR306.49	Paramount Blvd at Imperial Highway Intersection Improvement Project	Add	0.0	3,185.0	3,185.0	0.0		1,185.0	2,000.0		
		<b>TOTAL DOWNEY</b>		8,412.0	3,185.0	11,597.0	8,302.0	210.0	1,185.0	2,000.0	0.0	0.0

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Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior	Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
Huntington Park	MR306.36	Staff Support for the Review of the Draft I-710 South EIR/EIS		15.0	0.0		15.0	15.0					
		<b>TOTAL HUNTINGTON PARK</b>		15.0	0.0		15.0	15.0	0.0	0.0	0.0	0.0	0.0
Long Beach	MR306.19	Shoemaker Bridge Replacement Project	Chg	5,500.0	5,500.0		11,000.0	5,500.0		2,000.0	3,500.0		
Long Beach	MR306.11	Staff Support for the Review of the Draft I-710 South EIR/EIS		146.0	0.0		146.0	46.0	100.0				
Long Beach	MR306.22	Atlantic Ave/Willow St Intersection Improvements		300.0	0.0		300.0	300.0					
		<b>TOTAL LONG BEACH</b>		5,946.0	5,500.0		11,446.0	5,846.0	100.0	2,000.0	3,500.0	0.0	0.0
Lynwood	MR306.51	Staff Support for the Review of the Draft I-710 South EIR/EIS		20.0	0.0		20.0	0.0	20.0				
		<b>TOTAL LYNWOOD</b>		20.0	0.0		20.0	0.0	20.0	0.0	0.0	0.0	0.0
Maywood	MR306.12	Staff Support for the Review of the Draft I-710 South EIR/EIS		65.0	0.0		65.0	65.0					
		<b>TOTAL MAYWOOD</b>		65.0	0.0		65.0	65.0	0.0	0.0	0.0	0.0	0.0
Paramount	MR306.13	Staff Support for the Review of the Draft I-710 South EIR/EIS		130.0	0.0		130.0	50.0	80.0				
Paramount	MR306.32	Garfield Ave Improvements		2,825.0	0.0		2,825.0	2,075.0	750.0				
		<b>TOTAL PARAMOUNT</b>		2,955.0	0.0		2,955.0	2,125.0	830.0	0.0	0.0	0.0	0.0
South Gate	MR306.14	Staff Support for the Review of the Draft I-710 South EIR/EIS		184.5	0.0		184.5	84.5	100.0				
South Gate	MR306.17	Atlantic Ave/Firestone Blvd Intersection Improvements (Complete)		12,400.0	0.0		12,400.0	12,400.0					
South Gate	MR306.33	Firestone Blvd Regional Corridor Capacity Enhancement Project		6,000.0	0.0		6,000.0	6,000.0					
South Gate	MR30650	I-710 Soundwall Project - Package 1 Construction Phase		8,900.0	0.0		8,900.0	0.0	200.0	4,500.0	4,200.0		
		<b>TOTAL SOUTH GATE</b>		27,484.5	0.0		27,484.5	18,484.5	300.0	4,500.0	4,200.0	0.0	0.0
Vernon	MR306.15	Staff Support for the Review of the Draft I-710 South EIR/EIS		70.2	0.0		70.2	52.2	18.0				
Vernon	MR306.25	Atlantic Blvd Bridge Widening and Rehabilitation		2,070.0	0.0		2,070.0	2,070.0					
		<b>TOTAL VERNON</b>		2,140.2	0.0		2,140.2	2,122.2	18.0	0.0	0.0	0.0	0.0
		<b>TOTAL I-710 SOUTH &amp; EARLY ACTION PROJ</b>		164,264.6	4,075.3		168,339.9	137,993.3	5,471.5	8,991.7	15,800.4	183.0	0.0

**ATTACHMENT A**

Lead Agency	Fund Agr (FA) No.	PROJECT/LOCATION	Notes	Prior Alloc	Alloc Change	Current Alloc	Prior Yr Program	FY18	FY19	FY20	FY21	FY22
<b>North County: SR-138 Capacity Enhancements</b>				<b>200,000.0</b>		<b>200,000.0</b>	<b>140,500.0</b>	<b>20,100.0</b>	<b>28,000.0</b>	<b>45,200.0</b>		<b>0.0</b>
Metro	MR330.01	SR-138 (AvenueD) PA/ED (I-5 to SR-14)		19,400.0	0.0	19,400.0	19,400.0					
Metro/Caltrans	MR330.12	SR 138 Segment 6 Construction		5,600.0	0.0	5,600.0	0.0		5,600.0			
		<b>TOTAL METRO</b>		<b>25,000.0</b>	<b>0.0</b>	<b>25,000.0</b>	<b>19,400.0</b>	<b>0.0</b>	<b>5,600.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Lancaster	MR330.02	SR-138 (SR-14) Avenue K Interchange		15,000.0	0.0	15,000.0	15,000.0					
Lancaster	MR330.03	SR-138 (SR-14) Avenue G Interchange		15,000.0	0.0	15,000.0	3,100.0			11,900.0		
Lancaster	MR330.04	SR-138 (SR-14) Avenue J Interchange		10,000.0	0.0	10,000.0	3,300.0			6,700.0		
Lancaster	MR330.05	SR-138 (SR-14) Avenue L Interchange		5,000.0	0.0	5,000.0	300.0	900.0		3,800.0		
Lancaster	MR330.06	SR-138 (SR-14) Avenue M Interchange		20,000.0	0.0	20,000.0	4,400.0		15,600.0			
		<b>TOTAL LANCASTER</b>		<b>65,000.0</b>	<b>0.0</b>	<b>65,000.0</b>	<b>26,100.0</b>	<b>900.0</b>	<b>15,600.0</b>	<b>22,400.0</b>	<b>0.0</b>	<b>0.0</b>
Palmdale	MR330.07	SR-138 Palmdale Blvd. (SR-138) 5th to 10th St. East		25,000.0	0.0	25,000.0	25,000.0					
Palmdale	MR330.08	SR-138 Palmdale Blvd. SB 14 Ramps		25,000.0	0.0	25,000.0	6,600.0		6,800.0	11,600.0		
Palmdale	MR330.09	SR-138 10th St. West Interchange		15,000.0	0.0	15,000.0	10,900.0	4,100.0				
Palmdale	MR330.10	SR-138 (SR-14) Widening Rancho Vista Blvd. to Palmdale Blvd		25,000.0	0.0	25,000.0	15,400.0	9,600.0				
Palmdale	MR330.11	SR-138 Avenue N Overcrossing		20,000.0	0.0	20,000.0	3,300.0	5,500.0		11,200.0		
		<b>TOTAL PALMDALE</b>		<b>110,000.0</b>	<b>0.0</b>	<b>110,000.0</b>	<b>61,200.0</b>	<b>19,200.0</b>	<b>6,800.0</b>	<b>22,800.0</b>	<b>0.0</b>	<b>0.0</b>
		<b>TOTAL SR-138 CAPACITY ENH</b>		<b>200,000.0</b>		<b>200,000.0</b>	<b>106,700.0</b>	<b>20,100.0</b>	<b>28,000.0</b>	<b>45,200.0</b>	<b>0.0</b>	<b>0.0</b>
		<b>Total Measure R Spent Inception to Date</b>		<b>1,014,561</b>	<b>20,841</b>	<b>1,035,403</b>	<b>696,140</b>	<b>130,460</b>	<b>106,684</b>	<b>86,499</b>	<b>14,025</b>	<b>1,695</b>

**Definitions:**

Lead Agency is the primary project manager for the administration of scope and use of funds

Funding Agreement (FA): references the agreement number on file with Metro

Project Location: Describes the general scope and parameters of the project

Project Phase identifies which lifecycle phase the project is in at the time of reporting noted as follows:

*PI - Project Initiation / PE - Preliminary Engineering / EA - Environmental Analysis / FD - Final Design / ROW - Right of Way Acq / CON - Construction*

Notes: Provide a quick reference to reported change for the period such as:

*Add - Addition of a new project / REP - Reprogram of funds / SCAD - Scope Addition / BAD - Budget Adjustment / DEL - Deletion*

Prior Allocation identifies the reported project allocation reported in the previous report

Alloc Change denotes the amount of change occurring in the current reporting period.

Current Allocation identifies the total current allocation planned for a project. This includes the prior year Programming and the sum of the future fiscal years