



## Board Report

File #: 2017-0566, File Type: Motion / Motion Response

Agenda Number: 6.

### AD HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE SEPTEMBER 20, 2017

**SUBJECT: MANAGING CONGESTION ON THE FREEWAY SYSTEM**

**ACTION: APPROVE RECOMMENDATIONS**

#### **RECOMMENDATION**

CONSIDER:

- A. RECEIVING AND FILING the update on options to improve and/or expand High Occupancy Vehicle (HOV) Lanes and ExpressLanes; and
- B. AUTHORIZE the CEO to develop a process for the use of interfund borrowing of net toll revenues to support creation of the ExpressLanes network.

#### **ISSUE**

At its March 2017 meeting, the Board approved a Motion by Chair Fasana and Directors Dupont-Walker, Hahn and Solis as amended by Director Bowen requesting the CEO to explore options to better manage congestion on the freeway system by improving the HOV Lanes and ExpressLanes (Attachment A). The Board requested a report back during the September 2017 Board cycle.

#### **BACKGROUND**

The March 2017 Motion directed the CEO to explore options to improve existing HOV lanes in Los Angeles County, including conducting a Performance Impact Study (PIS) to determine the potential for raising the minimum occupancy from two to three people and to coordinate with CHP to evaluate any safety and compliance impacts.

For the ExpressLanes, the Motion directed the CEO to explore options to accelerate the Tier 1 and Tier 2 projects in the ExpressLanes Strategic Plan, coordinate with Orange County on a region-wide approach to delivering ExpressLanes, determine a process to charge a toll to Clean Air Vehicles (CAVs), identify a solution to deter those customers traveling as a Single Occupant Vehicle (SOV) who avoid paying the toll by setting the transponder to HOV, recommend options to use toll revenue from existing facilities to advance the development of the Tier 1 and Tier 2 projects in the Strategic Plan, identify congestion management strategies available to reduce congestion on general purpose lanes, and coordinate with Caltrans on operational improvements on the I-105.

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Also, the Motion directed the CEO to explore Transportation Demand Management (TDM) strategies, mode shift incentives, dynamic work hours and additional carpooling benefits and incentives to decrease congestion on LA County freeways. Finally, the motion requested recommending options to use existing toll revenues to advance studies associated with these efforts.

## DISCUSSION

A working group was established between Metro staff and Caltrans staff to respond to the Motion. Our status update is as follows:

### HOV Lane Improvements

- A. HOV Performance Impact Study- Caltrans has begun a Performance Impact Study (PIS) to assess the impacts of increasing the minimum HOV occupancy requirements in Los Angeles County from two-person (2+) to three-person (3+). Completion of the PIS is expected by August 2018. The main elements of the PIS are as follows:
- Manual occupancy traffic counts on HOV and GP Lanes for all HOV corridors in Los Angeles County (Fall 2016 and Spring 2017 counts) - *COMPLETED*.
  - PeMS data collection (Volumes, Speed, and Delay) for 3 of the top degraded HOV corridors I-105, I-210, I-405. *Analysis to be completed September 2017*.
  - Delay and Level of Service (LOS) analysis for HOV and GP lanes for I-105, I-210 and I-405. *GP Lanes COMPLETED; HOV lanes to be completed October 2017*.
  - Throughput analysis for HOV 2+ occupancy on I-105, I-210 and I-405. *To be completed October 2017*.
  - Literature review of HOV facilities that have increased requirements from 2+ to 3+ on existing HOV lanes, and the resulting impact. *To be completed September 2017*.
  - Microsimulation modeling of two of the most degraded corridors, potentially I-105 and I-405 to evaluate factors relevant to increasing the HOV occupancy requirement from 2 to 3+. *Expected completion May 2018*.
- B. CHP Coordination - As part of the PIS process, coordination meetings between Caltrans and CHP will occur starting in September 2017.
- C. Active Traffic Management and ITS - Congestion Management strategies on the GP and HOV lanes focus on managing the recurrent traffic congestion that occurs during the peak periods, including ITS applications such as Dynamic Corridor Ramp Metering (DCRM), Adaptive Traffic Control Systems (ATCS), Adaptive Traffic Management (ATM) and Integrated Corridor Management (ICM) strategies. ATM and ATCS have been identified for study on the I-105 HOV to ExpressLanes conversion project. In addition, ATM solutions are being studied in the South Bay and Arroyo Seco. Caltrans has also reorganized its Division of Traffic Operations to

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better position resources to allow for more effective and responsive regional collaboration leading to implementation of innovative solutions.

### ExpressLanes Improvements

- A. Acceleration of Projects - To advance the construction of Tier 1 and Tier 2 projects in the ExpressLanes Strategic Plan, staff is exploring:
- a. Delivery methods that will shorten project schedules such as:
    - i. Procuring contractors to complete all remaining Project Study Reports (PSRs) with Caltrans oversight;
    - ii. Procuring Program Manager contracts to complete the necessary Planning work (Environmental approvals, Traffic and Revenue Studies, Concept of Operations, 30% Design) required before the project can be fully designed and constructed; and,
    - iii. Construct using Design-Build, rather than Design, Bid, Build.
  - b. Focus on a System Network approach such as:
    - i. Submitting a PSR to the California Transportation Commission (CTC) to obtain tolling authority for all Tier 1 projects as a network. The network concept can enable use of net toll revenues from ExpressLanes in one corridor to finance the construction of ExpressLanes in another corridor enhancing the agency's ability to accelerate implementation of ExpressLanes. (There would be a corresponding payback provision as well). This would be predicated upon obtaining tolling authority at the network level from the CTC which staff is pursuing at the present time.
    - ii. Leverage the Unsolicited Proposal Process. An unsolicited proposal was submitted to OEI recommending financing strategies that would enable acceleration of ExpressLanes projects consistent with the network approach. OEI is working with its financial advisors and congestion reduction staff to determine the viability of the proposal.
  - c. Secure Discretionary Grants. Staff will also be actively pursuing other available financial opportunities to build out the ExpressLanes network including TIFIA loans and state and federal grants such as, INFRA and SB 1, respectively.
- B. Use of Net Toll Revenues from I-10 and I-110 - The recent results of an analysis of the net toll revenues revealed that only \$1.4 million (3%) of the more than \$47 million of grants awarded have been spent over the last three years. To address the slow grant expenditures, staff is working with all of the grantees. In the meantime, staff is not proceeding with another grant round this fiscal year. Instead, staff recommends the Board permit interfund borrowing where net toll revenues generated on the I-10 and I-110 ExpressLanes are advanced as a loan to support the financing of the planning and construction of additional ExpressLanes identified in the Strategic Plan. This process is consistent with Metro's policy regarding interfund borrowing and would require terms that outline the payback provisions. Since inception of the ExpressLanes, a Comprehensive Annual Financial Report (CAFR) is prepared for the I-110 and I-10. The CAFRE would track the funds borrowed on an ongoing basis to ensure repayment per the details of the loan. It should also be noted that the desire to expand the

Express Lanes is frequently identified by current ExpressLanes customers as a preferred improvement.

- C. Clean Air Vehicles (CAVs) - AB 1721 and California Vehicle Code sections 5205.5 and 21655.9 allow tolling agencies to charge a discounted toll to CAVs. With assistance from the Department of Motor Vehicles (DMV), ExpressLanes staff is currently developing a process to charge a toll to CAVs. This process is expected to be implemented in the next six months. When all details have been finalized, staff will return to the Board to seek authorization to implement this policy.
- D. Occupancy Detection - To deter customers from using the ExpressLanes without paying the appropriate toll, staff is working with the current ExpressLanes contractor to implement a solution for automated vehicle occupancy detection. This solution is in 30% design. Once staff has negotiated the price, we will seek board approval for implementation. Implementation is expected in June 2018.

In addition, delineation/channelizers (tall pylons) will be installed at select locations between the ExpressLanes and the general purpose (GP) lanes to improve safety by deterring motorists from illegally crossing the double solid white lines. Channelizers will be installed on the I-110 by November 2017 with I-10 to follow in early 2018. In collaboration with CHP, staff is in the process of deploying new enforcement lights that will display a "1", "2" or "3" to indicate the transponder switch setting. The new system will be visible from the front and back of each toll gantry making it easier for CHP to enforce the ExpressLanes. Installation of the enforcement lights is slated for the end of FY 18.

- E. Coordination with Orange County - Staff has held an initial meeting with Caltrans District 12 to ensure there is communication between LA and Orange Counties with respect to the implementation of ExpressLanes, and staff will continue to coordinate with Orange County to ensure there is regional consistency among our programs.
- F. I-105 Operational Issues - During the Environmental phase of the I-105 ExpressLanes Project, Caltrans and Metro will consider solutions on the GP lanes such as ITS and ATM strategies and the potential for use of Auxiliary /Transition lanes that provide viable options with the ExpressLanes to yield the largest benefit for the entire corridor. Pricing of the GP lanes, will require federal, and state approval including potential legislation.

### TDM Strategies

- A. TDM Strategies - Programs currently exist within Metro that provide assistance to employers in promoting, implementing and managing efforts aimed at reducing single occupancy vehicle (SOV) trips to and from worksites. These programs are mandatory for employers of 250 employees or more, but are also available to interested employers of any size as well as to individual commuters. Metro also supports employers under local ordinances, such as the City of Santa Monica, Burbank, Glendale and Pasadena who have a much lower compliance threshold; these thresholds vary, but it can be as low as 25 employees. Some of the

associated benefits/programs that Metro actively promotes and/or offers are as follows: Commuter Benefits, flex/tiered/compressed work schedule, transit and vanpool subsidies, Guaranteed Ride Home, Metro Rewards, Go Metro to Work Free (new hires), marketing workshops, Best in Class recognition awards, California Rideshare/Shared Mobility Week, promotional shared mobility newsletter, rideshare/shared mobility fairs and other meetings and events organized by employers and Transportation Management Associations/Organizations.

- B. Commuter Benefits - Under IRS Section 132(f) employers can provide a voluntary benefit to their employees which reduces their monthly commuting costs for transit, vanpooling, bicycling and work-related parking costs. Staff is currently exploring the potential for implementing an ordinance that would require employers to offer this pre-tax benefit to their employees. To explore this opportunity, a Commuter Benefits Ordinance Working Group (CBOGW) has been established consisting of members from Regional Rideshare, Metro Commute Services, Mayor Garcetti's Office, LADOT, and the City of Los Angeles Planning Department, with the Association for Commuter Transportation (ACT) serving in an advisory role. The CBOGW recommends that Metro implement a Countywide Ordinance requiring employers with 50 or more employees to implement both the Commuter Tax Benefit, which allows employees to set aside up to \$255 per month pretax to spend on transit or vanpool expenses for commuting to work, and Parking Cash Out, a California law which requires employers who pay to lease unbundled parking spaces for employees to provide the equivalent amount to employees who choose to opt out of parking and utilize alternate forms of transportation such as carpool, vanpool, and transit. The South Coast Air Quality Management District (SCAQMD) supports this effort as it will help employers comply with SCAQMD Rule 2202. The 2018 State Legislative Program will include a recommendation for the Board to support legislation that would expand authority for Metro or other entities to establish Commuter Benefit Programs. The 2018 State Legislative Program will also include a recommendation for the Board to explore legislative remedies to establish or expand Los Angeles County's existing Commuter Benefit Programs.

## **FINANCIAL IMPACT**

### Impact to Budget

There will no impact to the FY 18 budget as a result of this report. Implementation of solutions listed for ExpressLanes and other areas will be brought to the Board for approval when needed and will reflect the impact to the budget, if any, at that time.

## **ALTERNATIVES CONSIDERED**

No other alternatives were considered.

## **NEXT STEPS**

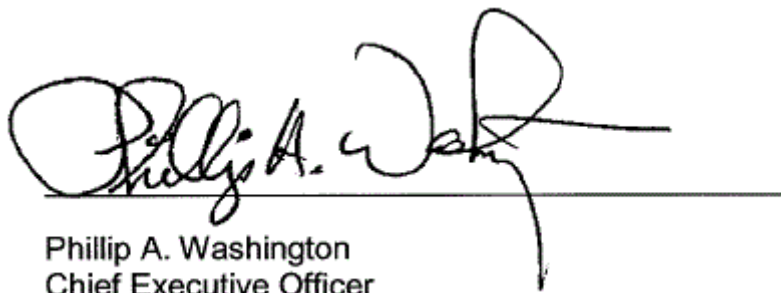
As solutions and programs are finalized staff will be presenting them to the Board for approval, as appropriate.

**ATTACHMENTS**

Attachment A - March 2017 Motion by: Chair Fasana, Directors Dupont-Walker, Hahn and Solis as amended by Bowen.

Prepared by: Kathy McCune, DEO, (213) 418-3138  
Shahzad Amiri, Executive Officer, (213) 922-3061  
Martin Buford, Manager, Transp. Planning, (213) 922-2601  
Dolores Roybal-Saltarelli, Senior Director, (213) 922-3024  
Devon Deming, Director, (213) 922-7957

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



Phillip A. Washington  
Chief Executive Officer

## Metro

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



Metro

## Board Report

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File #: 2017-0211, Version: 1

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**REGULAR BOARD MEETING  
MARCH 23, 2017**

**Motion by:**

**Chair Fasana, Directors Dupont-Walker, Hahn and Solis  
As Amended by Bowen**

March 23, 2017

**Relating to Item 5, File ID 2017-0047; Annual Program Evaluation**

To maintain quality of life throughout Los Angeles County, MTA should aggressively manage congestion and incentivize carpooling on the LA County freeway system.

On an average day, highways in the Los Angeles Caltrans district carry 100 million vehicle miles traveled.

With recent population growth and economic recovery, freeways have become more congested. Efforts to increase freeway capacity, such as freeway widenings, can only be so effective in light of these recent trends. Every time new capacity is opened up, it is rapidly consumed by individuals who previously traveled by other routes, at other times, or by other transportation modes.

Caltrans District 7 is responsible for 1,113 miles of highway. To manage congestion and reduce single-occupant trips on these highways, District 7 operates 442 miles of High-Occupancy Vehicle (HOV) lanes on the 5, 10, 14, 57, 60, 91, 105, 110, 118, 134, 170, 210, 405, and 605 freeways.

Of the total 442 miles of High-Occupancy Vehicle (HOV) lanes in District 7, 316 miles were defined in 2015 by federal criteria as *degraded*.

By federal definition, an HOV lane is degraded if the average traffic speed during the morning or evening weekday peak commute hour is less than 45 miles per hour more than 10 percent of the time in any 180-day period, or for more than two weekdays per month.

To reverse this degradation, MTA needs to look at all available options for managing congestion on the freeway system.

The I-10 and I-110 express lanes program was a great example on how we can manage congestion and improve reliability, but we need to do more to expand and improve upon the Express Lanes program.

**Motion by Fasana and Dupont-Walker** that the Board direct the CEO:

- A. Explore options to improve existing High-Occupancy Vehicle lanes in Los Angeles County, including:
1. Conduct a Performance Impact Study to explore raising the minimum occupancy requirement, where justified, from two-person to three-person for HOV lanes in LA County, in particular on the HOV corridors that are considered degraded;
  2. Coordinate with Caltrans and the California Highway Patrol (CHP) to evaluate any safety and compliance impacts from raising the minimum occupancy requirement;
  3. TDM strategies; mode shift incentives; dynamic work hours; Active Traffic Management and ITS
- B. Explore options to expand and improve ExpressLanes, including but not limited to the following:
1. Develop an acceleration strategy for constructing first- and second-tier projects outlined in the MTA Countywide ExpressLanes Strategic Plan;
  2. Collaborate between Los Angeles and Orange Counties on a region-wide approach to delivering ExpressLanes projects;
  3. Coordinate with Caltrans on an I-105 ExpressLanes advance improvement project to update and improve lane configuration to discourage car weaving on I-105 between I-405 and I-605;
  4. Report back on congestion demand management strategies on degraded general purpose lanes in Los Angeles County, including but not limited to pricing;
  5. Report back on a process and implementation plan to ensure exempt vehicles pay their fair share of ExpressLanes costs;
  6. Report back on status of program that will identify and deter scofflaws in the ExpressLanes, including individuals who set the transponder to HOV while driving alone;
  7. Recommend options to use toll revenue on existing facilities to advance the above studies;
- C. Explore additional carpooling benefits and incentives for Los Angeles County, including but not limited to a program similar to the Bay Area Commuter Benefits Program administered by the Metropolitan Transportation Commission and the Bay Area Air Quality Management District; and
- D. Report back on all the above during the September 2017 Board cycle.

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Item #6

# Managing Congestion on the Freeway System

Ad Hoc Congestion, Highway and Roads Committee  
September 20, 2017



Metro

# Motion



At their March meeting, the Board requested that:

- Staff explore options to better manage congestion on the freeway system by improving the HOV Lanes and ExpressLanes, and;
- Provide a status update of efforts at the September 2017 meeting



# HOV Lane Improvements



- A working group comprised of Metro and Caltrans staff was established to address this issue
- HOV Performance Impact Study (PIS)
  - Traffic counts: completed in Spring 2017
  - Additional data collection and analysis: Fall 2017
  - Micro-simulation modeling: May 2018
  - Final Report: Summer 2018
  - Safety and compliance impacts are being assessed in PIS process
- Caltrans and CHP coordination meetings to start September 2017
- Active Traffic Management (ATM) and Intelligent Transportation System (ITS)
  - e.g. Adaptive Traffic Control Systems, Integrated Corridor Management



# ExpressLanes Improvements



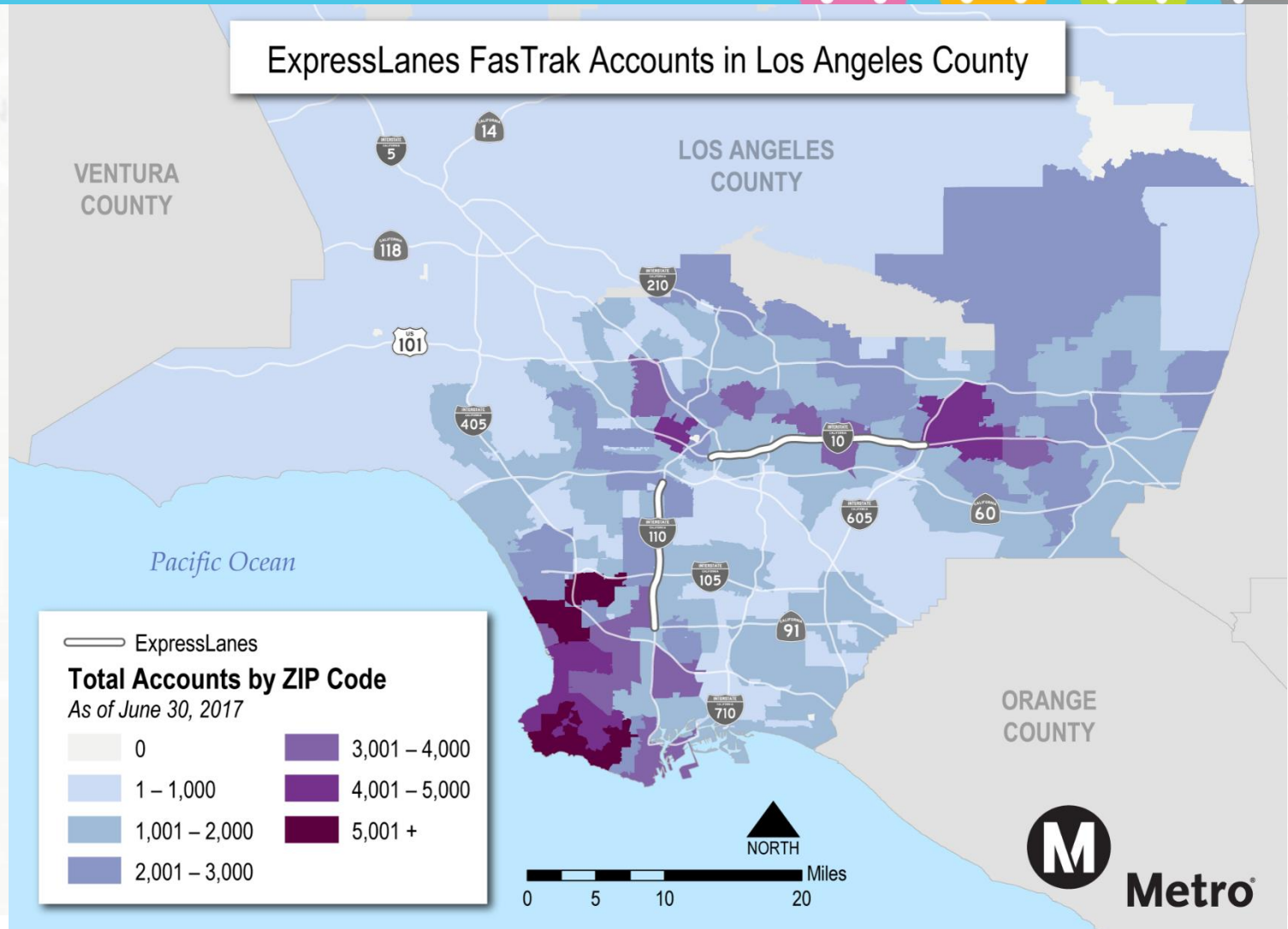
- Acceleration of Projects
  - Streamlining project delivery
  - System network approach in seeking CTC tolling authority
  - Secure discretionary grants
  - Inter-fund borrowing
  - Leveraging the unsolicited proposal (UP) process
- Ongoing coordination with Orange County
- I-105 operational improvements
- Charging Clean Air Vehicles (CAVs): Early 2018
- Occupancy detection: Summer 2018



# ExpressLanes Market Penetration



ExpressLanes FasTrak Accounts in Los Angeles County



# ExpressLanes Financing



- A prior survey indicates a vast majority (75%) of ExpressLanes customers would like to see expansion to other freeways in LA County
- Would provide mobility benefits through improvement of freeway operations and enhanced transit service in these corridors
- Analysis of Net Toll Revenue Grant Expenditures:
  - \$47 million in grants (Rounds 1 and 2)
  - 3% expended (\$1.4 million) in the past 3 years
- Since ExpressLanes have few outside funding sources, net revenues from existing and future ExpressLanes could be utilized to develop the network
  - Net revenues could be borrowed through a process of inter-fund borrowing
  - Since each ExpressLanes project has its own enterprise account, the amount of net revenue that is borrowed can be tracked



# Transportation Demand Management



- TDM Strategies
  - Metro provides employers assistance with programs aimed at reducing single occupancy vehicle (SOV) trips to and from worksites (commuter benefits, transit and vanpool subsidies, Metro Rewards, etc.)
- Commuter Benefits
  - IRS Section 132(f) employers can provide a voluntary benefit to their employees which reduces their monthly commuting costs
  - Commuter Benefits Ordinance Working Group (CBOWG) has been established
  - The 2018 State Legislative Program will include a recommendation for the Board to support legislation that would expand authority for Metro or other entities to establish Commuter Benefit Programs

