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File #: 2016-0641, File Type: Informational Report

Agenda Number: 7

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**AD HOC CONGESTION, HIGHWAY AND ROADS COMMITTEE  
JANUARY 18, 2017**

**SUBJECT: METRO EXPRESSLANES FISCAL YEAR (FY) 2016 PERFORMANCE REPORT**

**ACTION: RECEIVE AND FILE**

**RECOMMENDATION**

RECEIVE AND FILE the **FY2016 Performance Report (Attachment A)** for the Metro ExpressLanes.

**ISSUE**

In order to monitor performance and ensure key performance goals are met, Metro ExpressLanes performance metrics are monitored on a continual basis. This report provides an update on the performance of the Metro ExpressLanes for FY 2016.

**DISCUSSION**

Attachment A provides a detailed summary of the program's performance for Metro's Fiscal Year 2016 (July 1, 2015 to June 30, 2016). The following are highlights of the Metro ExpressLanes performance based upon data through June 30, 2016:

- Monthly average travel speeds for the entire corridor were 11% faster than the general purpose lanes and remain above 45 miles per hour (mph) 100% of the time:
  - I-110 ExpressLanes average AM peak-period travel speeds : 52 mph
  - I-10 ExpressLanes average AM peak-period travel speeds : 55 mph
- Through FY 2016 the total number of vehicle trips approached 100 million and vehicle trips in the ExpressLanes continued to increase by 12% compared to FY 2015.
- A total of 506,031 transponders were issued from program inception through June 30, 2016 (145,459 were issued in FY 2016).
- Low Income Assistance Plan account openings increased by 51.2% from FY 2015.
- HOV only minutes increased markedly for the I-110 NB during the AM peak period.
- HOV only minutes decreased for the I-10 WB during the AM peak where HOV 3 is required for toll free travel.

**110 Northbound AM Peak Period**

With the continued increase in vehicle trips on the I-110 Northbound ExpressLanes, the system is

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going into HOV ONLY more frequently during the northbound morning peak period. As a result, staff is monitoring the impact on travel speeds.

### **HOV Only Status**

The ExpressLanes are operated on dynamic pricing principles designed to maintain travel speeds at or above 45mph. When vehicle travel speeds fall below 45 mph on a segment of the lanes, the lanes go into HOV Only status which means Single Occupant Vehicles are prohibited from entering the lanes at that segment to help alleviate the congestion and raise the speeds.

Due to the toll free status of HOV 2 customers and the higher number of vehicle trips on the northbound I-110 ExpressLanes; these lanes enter HOV Only status more frequently than the I-10 corridor. In FY 2016, the 110 was in HOV Only status a total of 18,370 minutes during the AM peak period. This is a 90% increase compared to FY 2015.

### **Average Travel Speeds**

During FY 2016, a daily average of 28,419 vehicles traveled the I-110NB ExpressLanes, which is a 4% increase from the prior year. Because of this increase in volume, overall, average travel speeds during the AM peak period were 3.9% lower compared to FY 2015. This is directly related to the increase in the number of vehicles using the ExpressLanes. Staff is implementing a number of operational improvements (refining the pricing algorithm, deploying a vehicle passenger detection system, providing incentives to shift customers' travel times, etc.) to reduce the amount of time the lanes enter HOV only status.

### **NEXT STEPS**

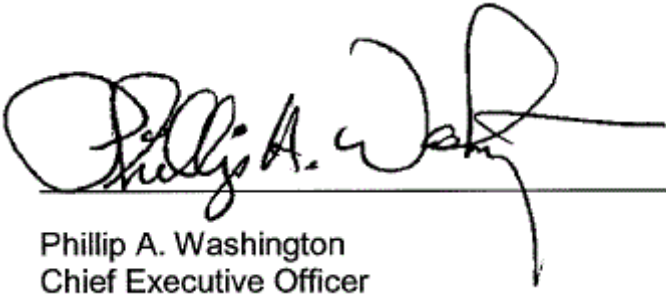
Staff will return to the Board in six months with the next performance report and will continue work on implementing the operational improvements listed in the report.

### **ATTACHMENTS**

Attachment A - Metro ExpressLanes Performance Report: Fiscal Year 2016

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Phillip A. Washington  
Chief Executive Officer

# METRO EXPRESSLANES

## PERFORMANCE REPORT

Fiscal Year 2016 (Ending June, 30 2016)

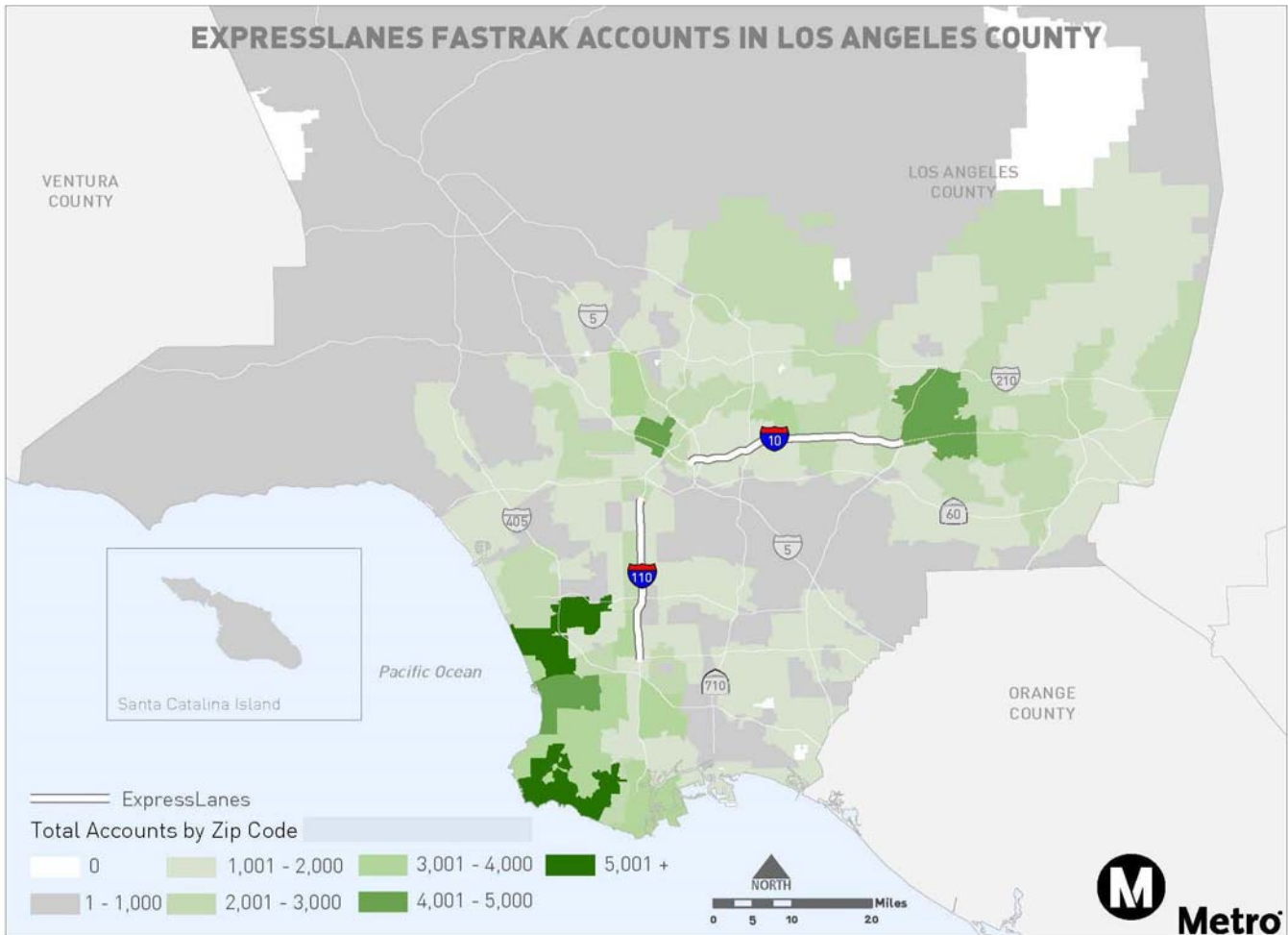
JANUARY 18, 2017



# METRO EXPRESSLANES HIGHLIGHTS PROGRAM TOTALS THRU JUNE 2016



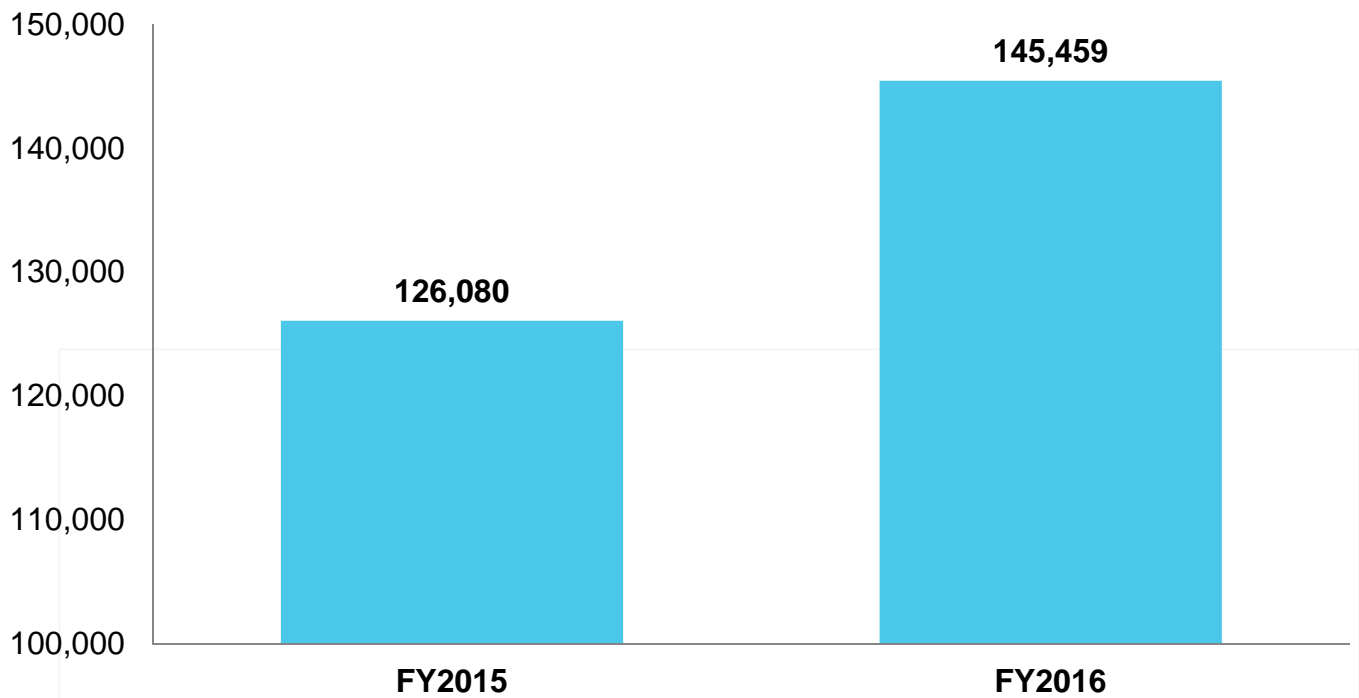
TOTAL VEHICLE TRIPS .....	96,629,790
	I-110 : 62,084,807    I-10 : 31,544,983
TOTAL PRELIMINARY REVENUE .....	\$145,372,298
	I-110 : \$91,432,390    I-10 : \$55,329,960
TOTAL ACCOUNTS OPENED .....	454,603
LOW-INCOME ASSISTANCE PLAN ACCOUNTS .....	8,882
TOTAL TRANSPONDERS ISSUED.....	506,031
SILVER LINE RIDERSHIP.....	1,257,724



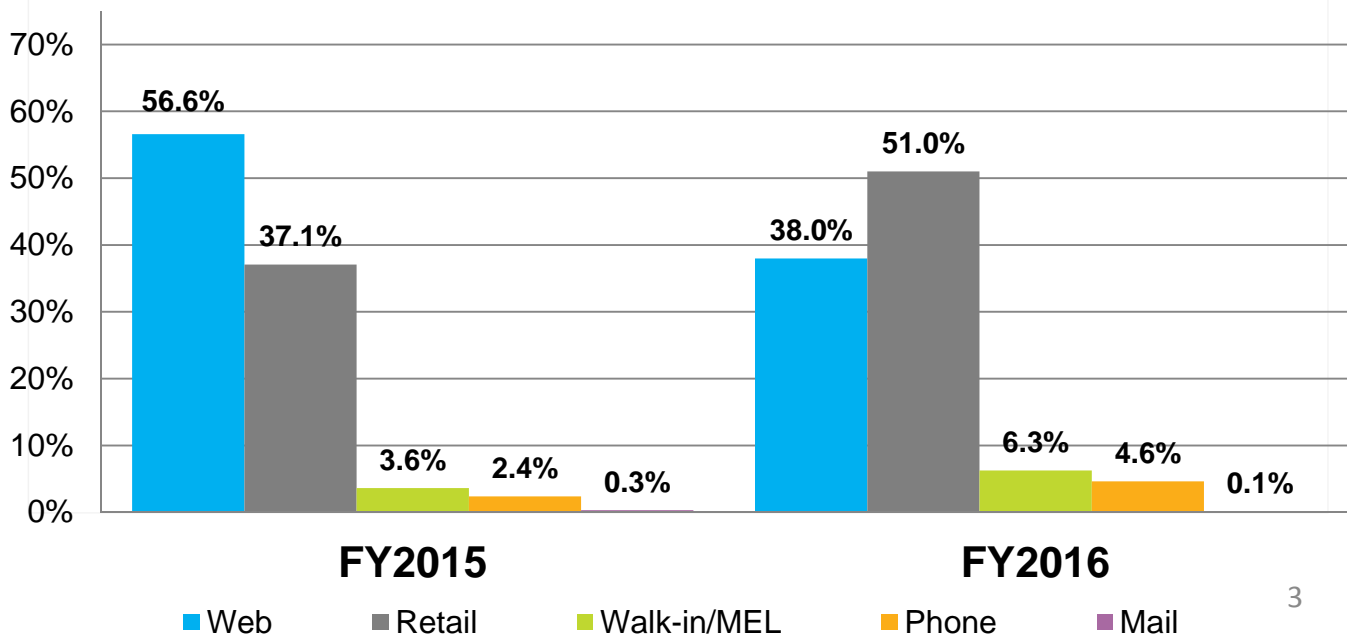
# FASTRAK TRANSPONDER ADOPTION –



## Newly Issued FasTrak® Transponders



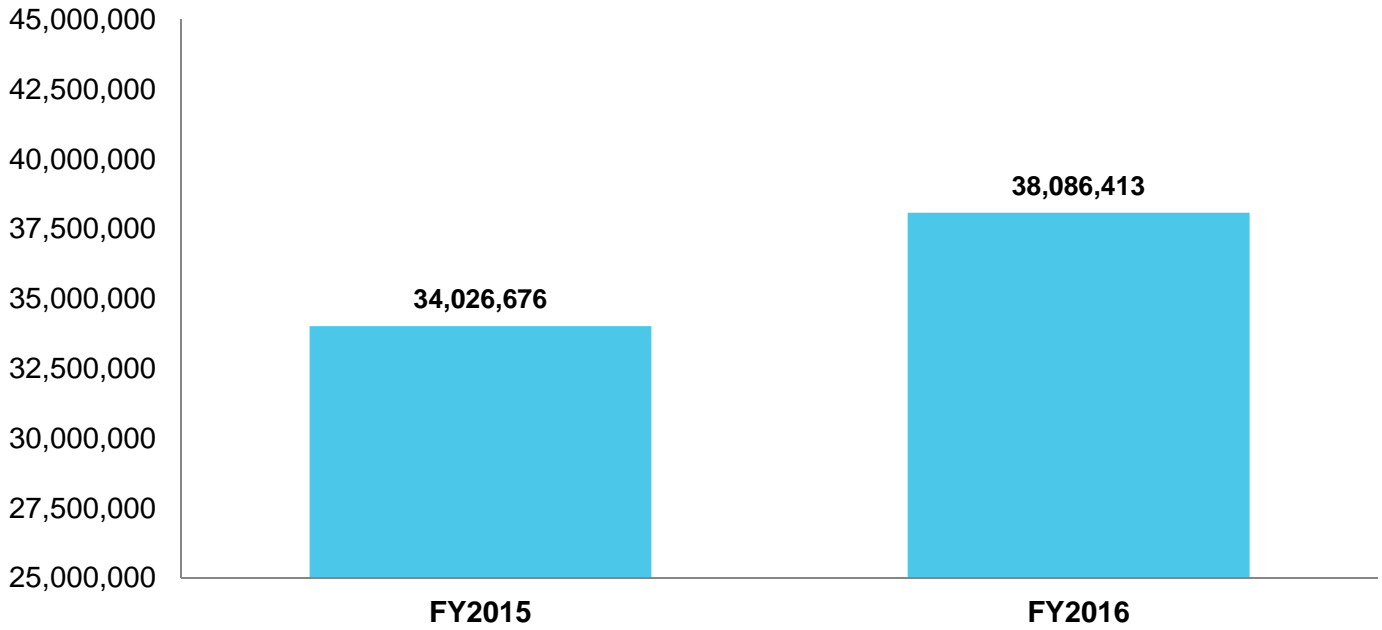
## Percentage of Accounts Opened by Channel



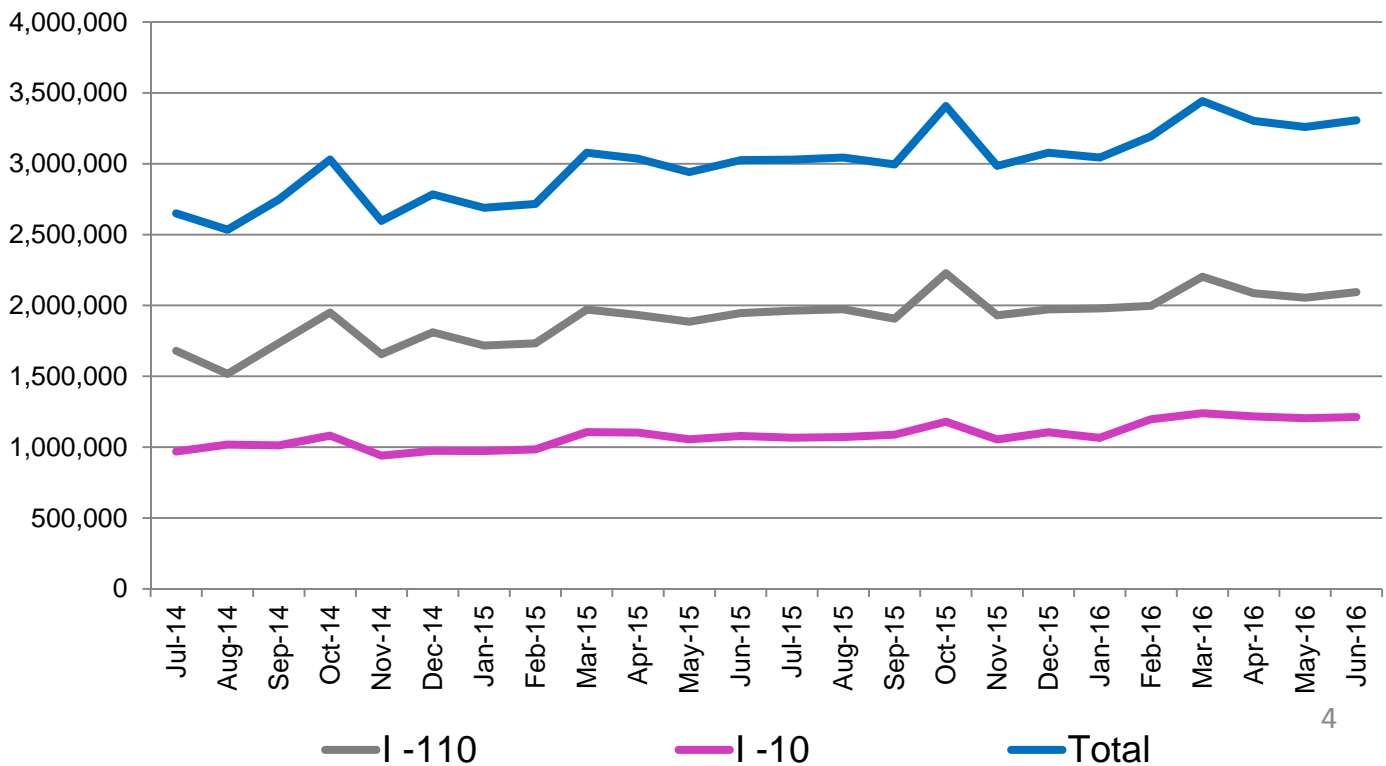
# METRO EXPRESSLANES VEHICLE TRIPS



## TOTAL EXPRESSLANES TRIPS BY YEAR



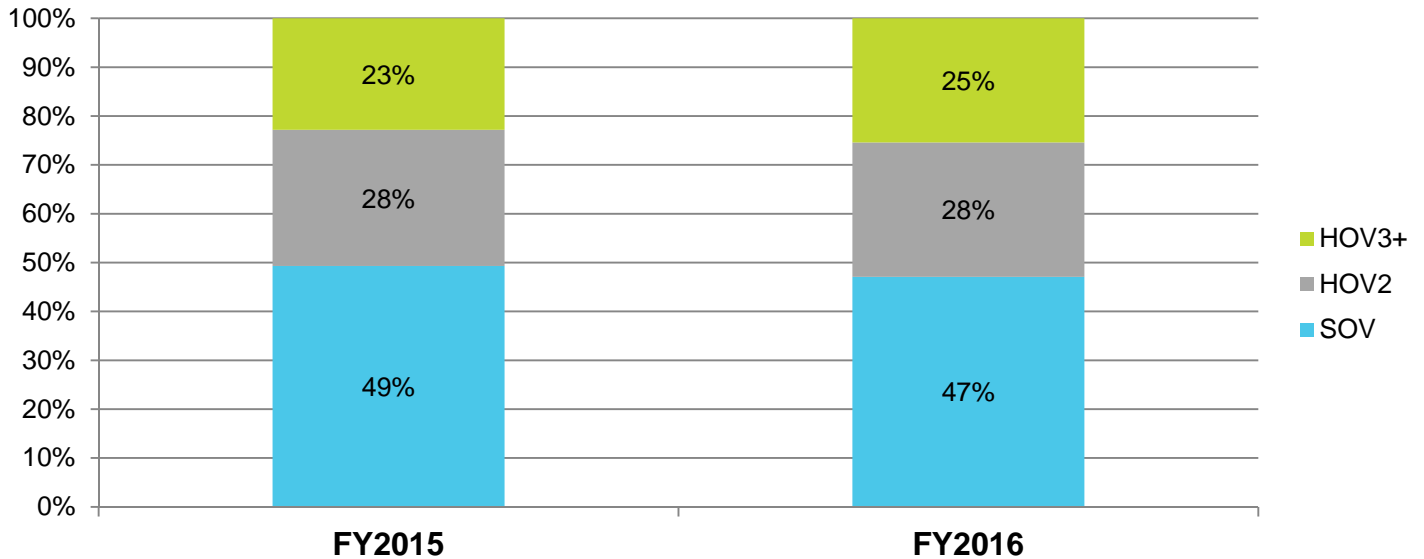
## TOTAL EXPRESSLANES TRIPS BY MONTH



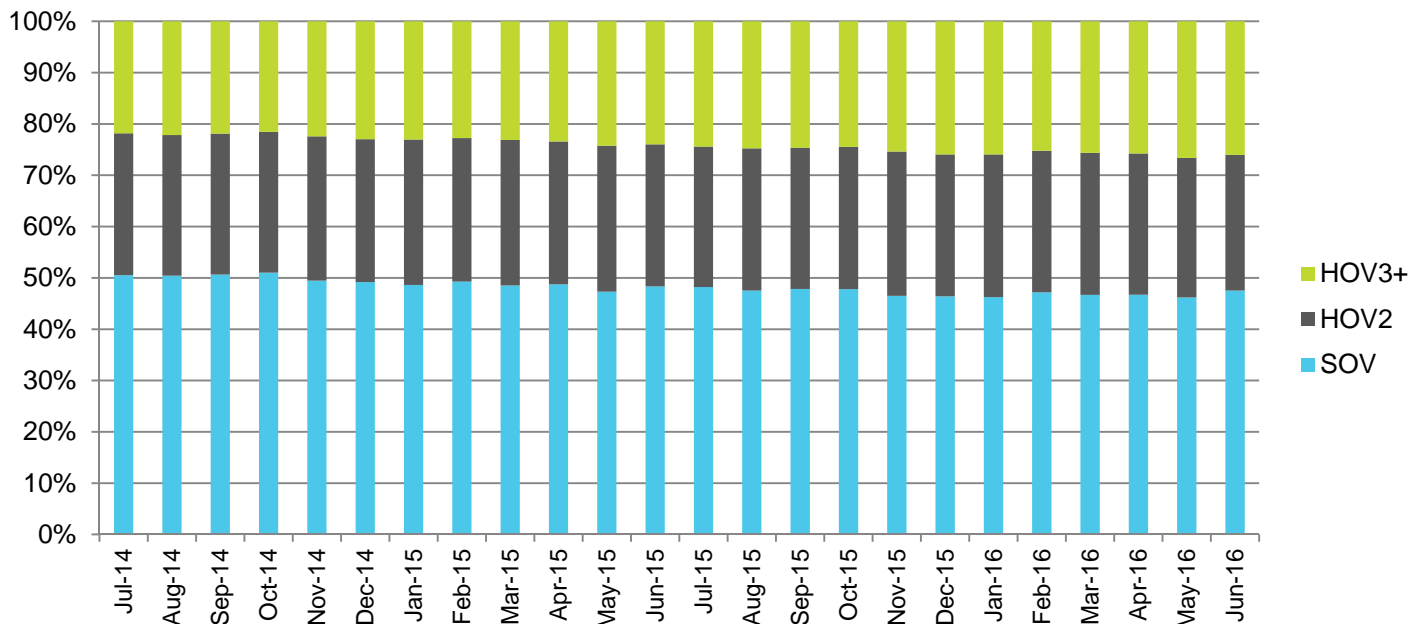
# METRO EXPRESSLANES VEHICLE TRIPS Continued



## TOTAL EXPRESSLANES OCCUPANCY SPLIT BY YEAR\*



## TOTAL EXPRESSLANES OCCUPANCY SPLIT BY MONTH



\*Effective February 2014, vehicles displaying a DMV issued white or green clean air vehicle decal are toll-free. The transponder must be set to switch position 3. This mode split includes white or green decal vehicle trips which may contain single-occupant trips classified as HOV3+. Violators are counted as Single Occupant Vehicles.



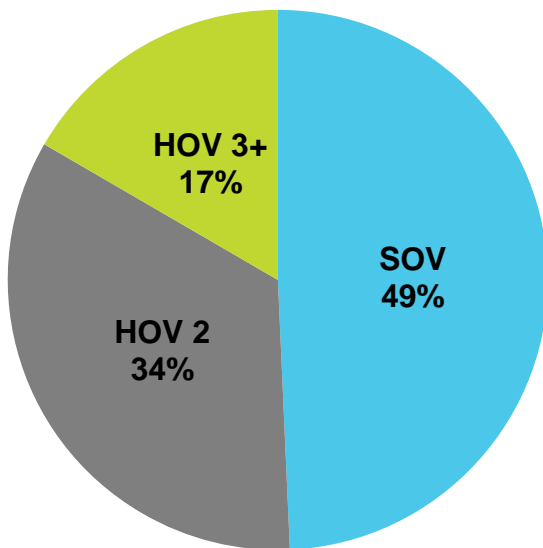
# METRO EXPRESSLANES VEHICLE TRIPS Continued



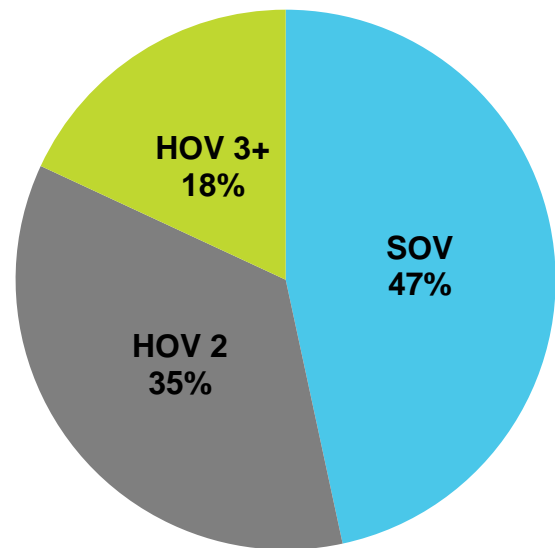
## TOTAL EXPRESSLANES OCCUPANCY SPLIT BY CORRIDOR

### I-110 OCCUPANCY SPLIT

**FY2015**

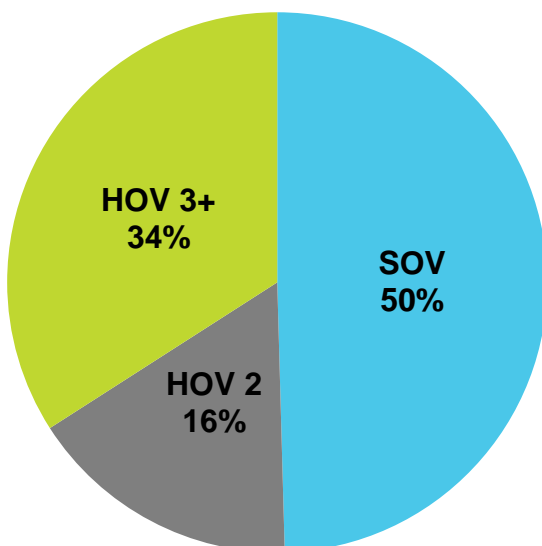


**FY2016**

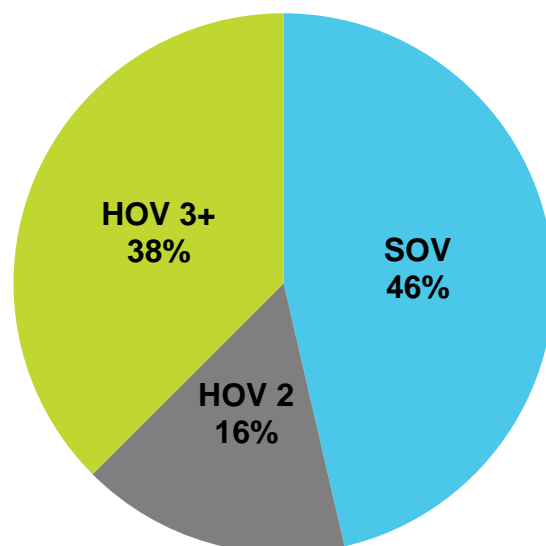


### I-10 OCCUPANCY SPLIT

**FY2015**



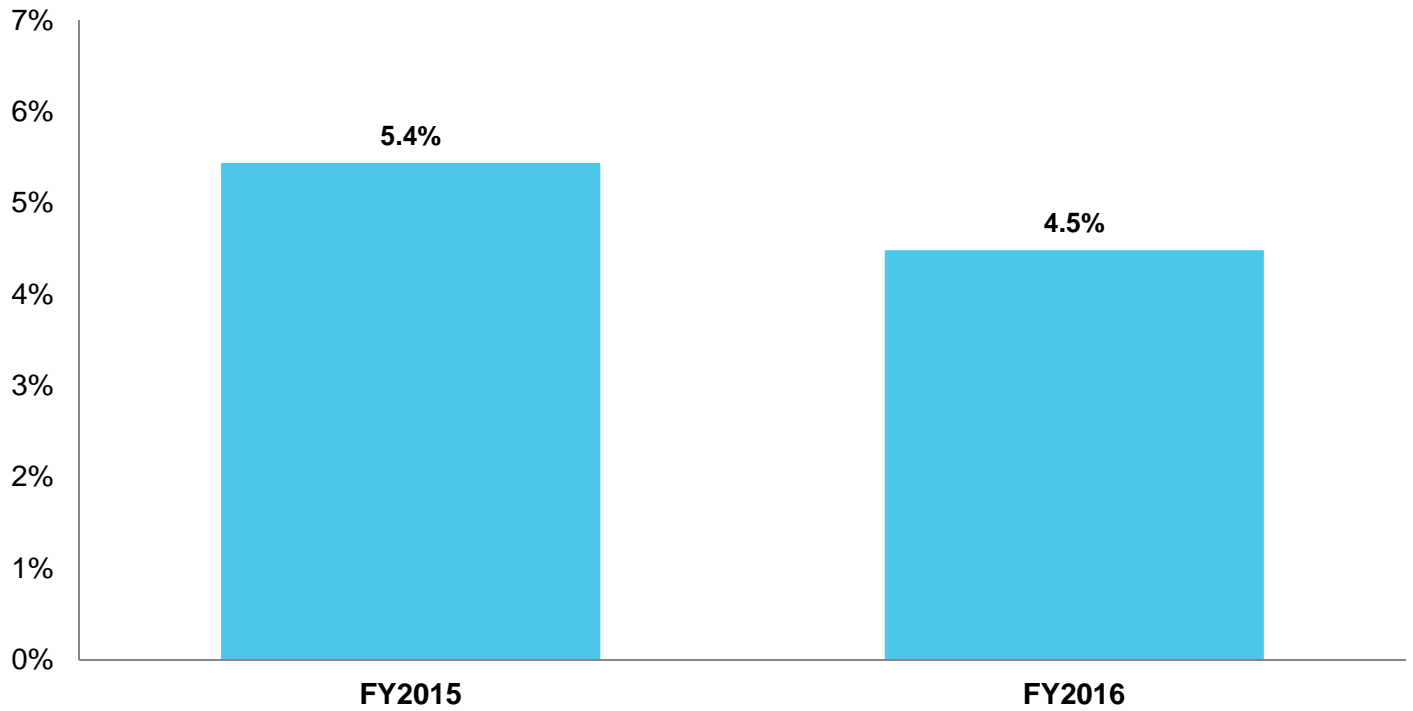
**FY2016**



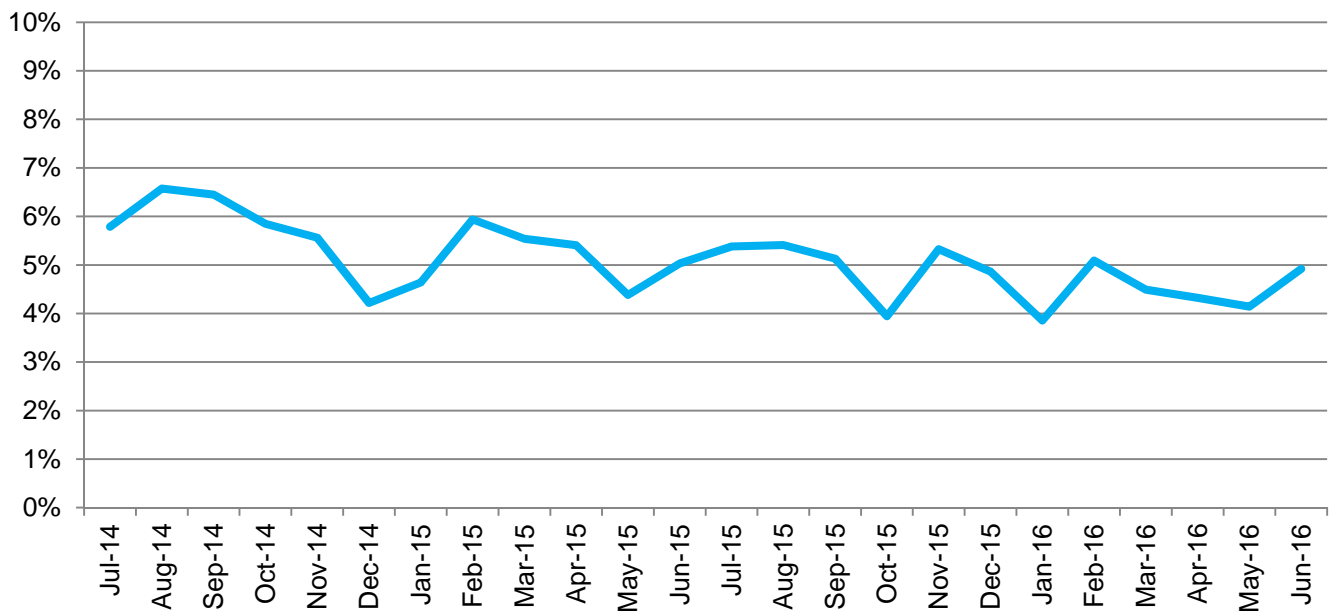
# METRO EXPRESSLANES VIOLATION TRIPS



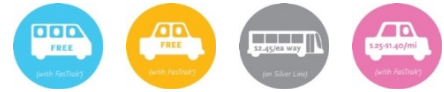
**Violations as a Percentage of Total Trips by Year**



**Violations as a Percentage of Total Trips by Month**



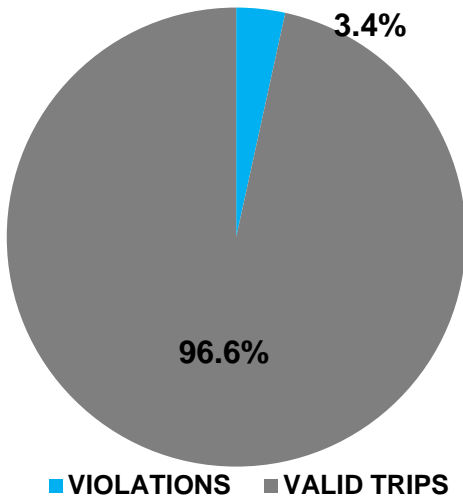
# METRO EXPRESSLANES VIOLATION TRIPS Continued



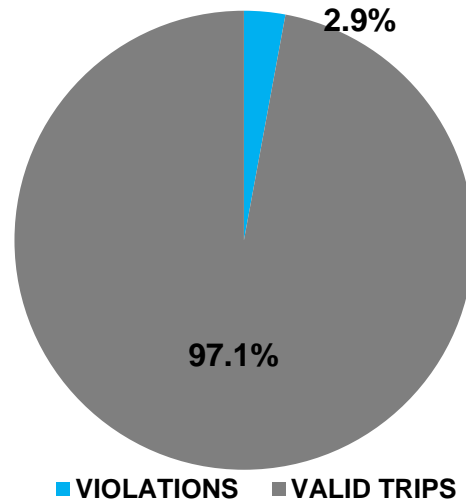
## AM PEAK VIOLATIONS

Violations are least in the AM peak when usage is mostly by regular commuters.

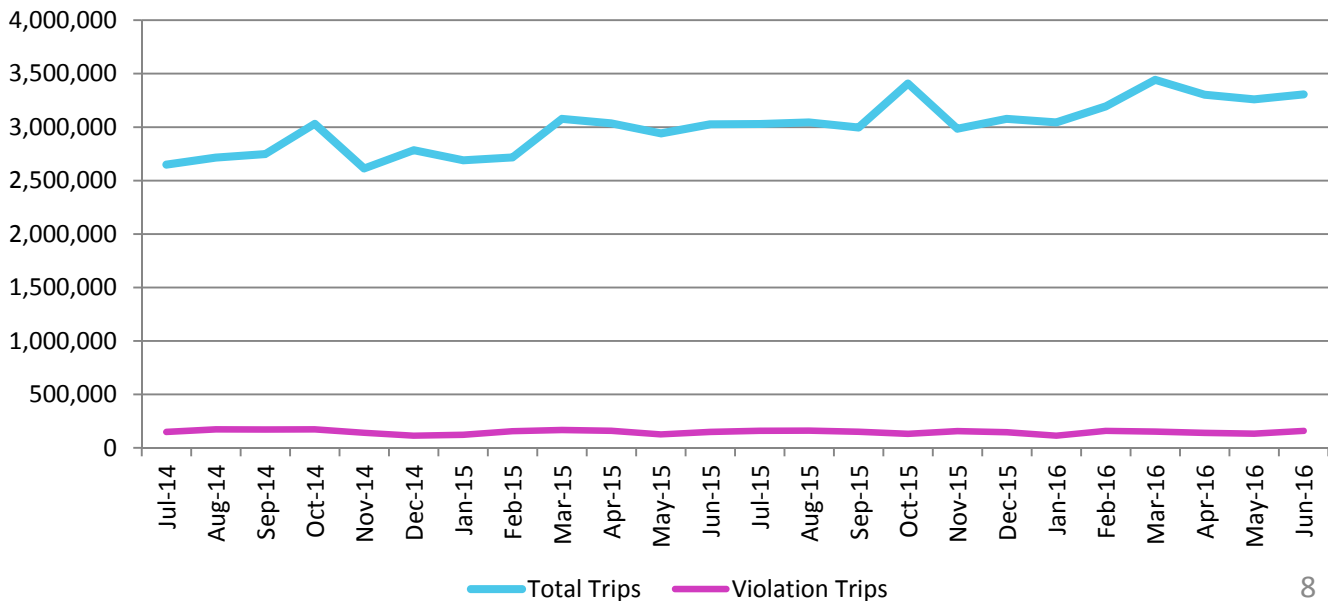
**FY16: I-110 NB AM PEAK VIOLATION RATE**



**FY16: I-10 WB AM PEAK VIOLATION RATE**



## ExpressLanes Violation Trips by Month

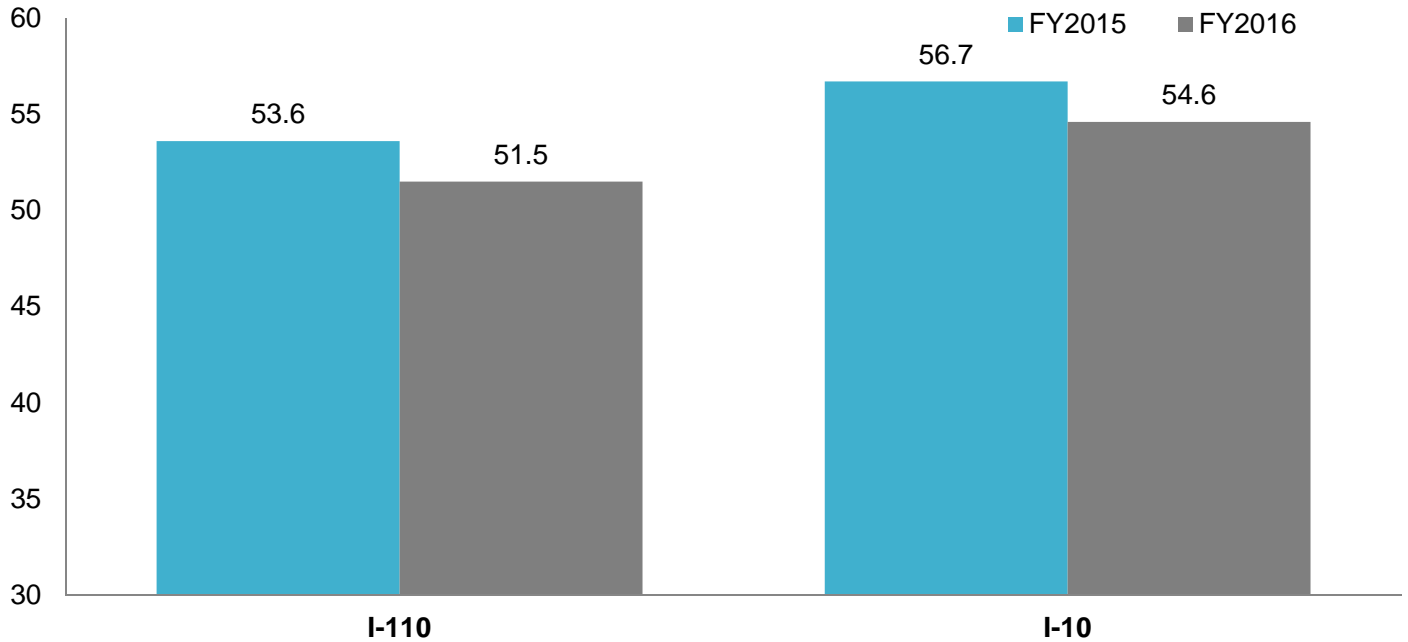


# AM PEAK PERIOD (5-9AM) TRAVEL SPEEDS

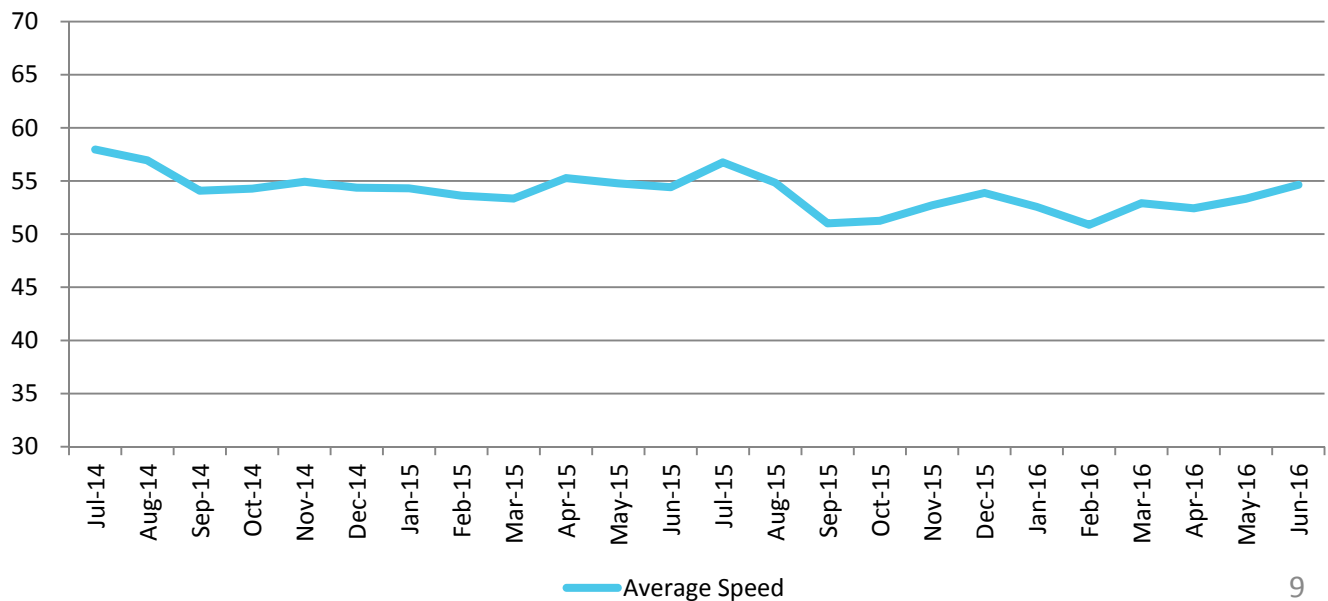


## EXPRESSLANES AVERAGE TRAVEL SPEEDS- PEAK PERIOD (5AM-9AM)

Average travel speeds of a full length trip during the morning peak period (5 am to 9 am) have remained above the 45 mph goal.



## AM Peak ExpressLanes Average Speed (mph) – Both I-10 & I-110 Corridors



# AM PEAK HOURS (5-9AM) TRAVEL SPEEDS Continued

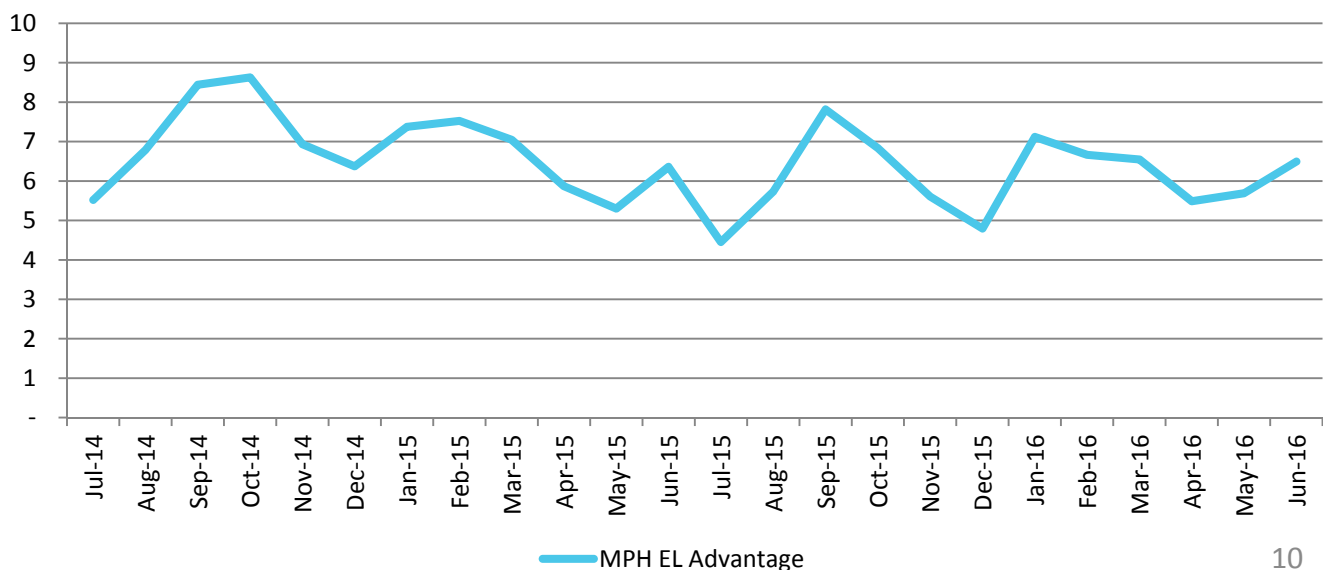


## EXPRESSLANES SPEED ADVANTAGE OVER THE GENERAL PURPOSE LANES AVERAGE TRAVEL SPEEDS- AM PEAK HOURS (5-9 AM)

Average travel speeds of a trip during the morning peak period have remained above the General Lanes.

	I-110 EL Average Speed Advantage over General Purpose Lanes	I-10 EL Average Speed Advantage over General Purpose Lanes
FY15	6.9 MPH Faster	6.8 MPH Faster
FY16	5.9 MPH Faster	6.3 MPH Faster

## AM PEAK EXPRESSLANES SPEED ADVANTAGE (MPH)- BOTH I-10 & I-110 CORRIDORS

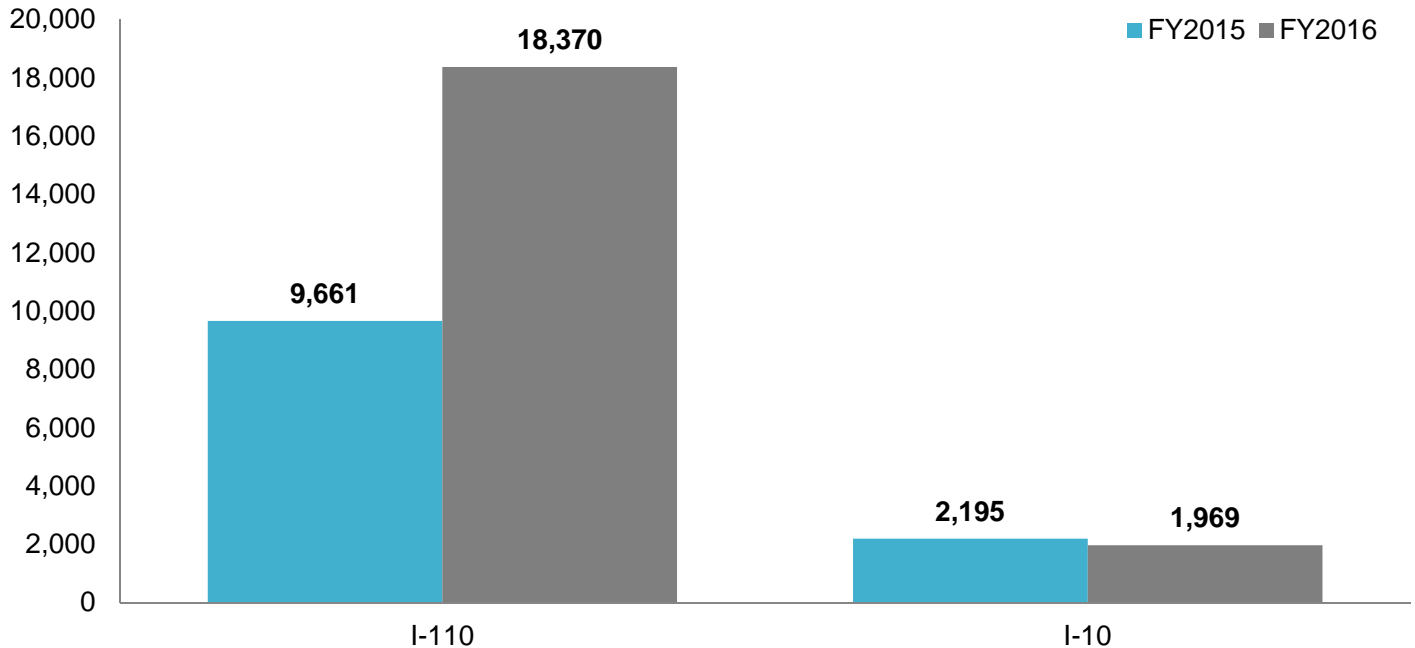


# AM PEAK PERIOD (5-9AM) HOV ONLY STATUS

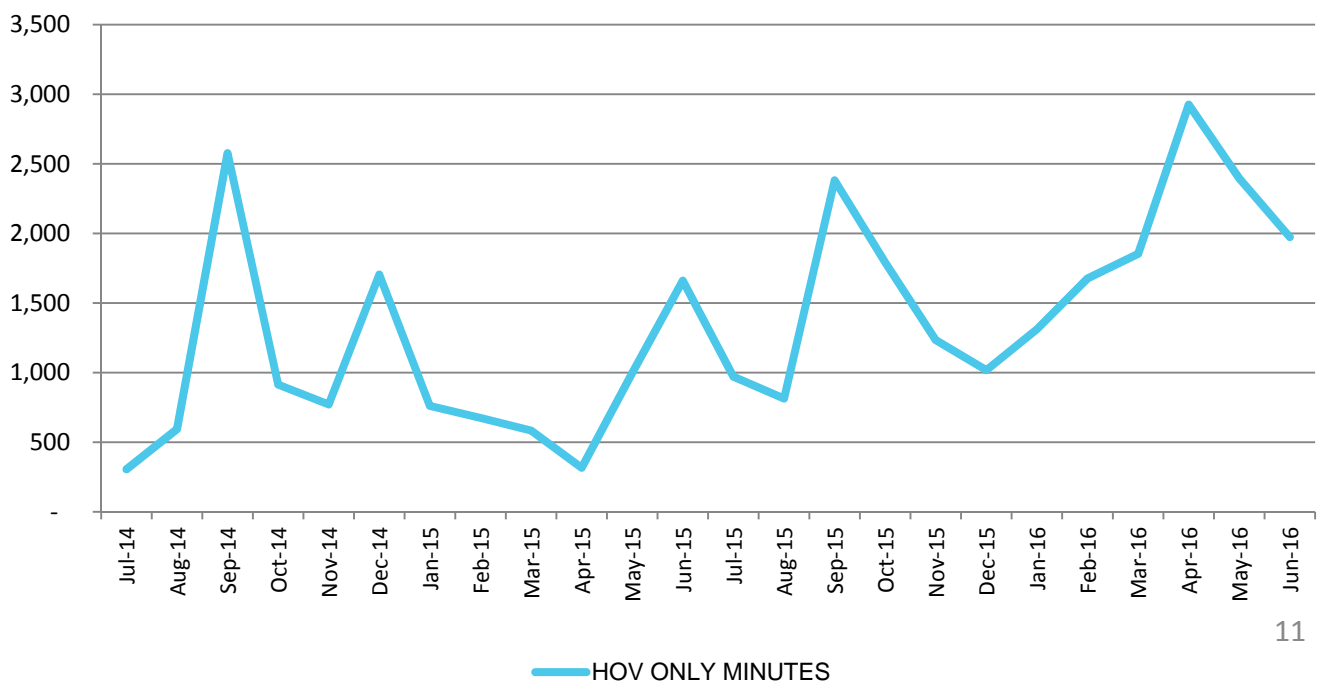


## HOV ONLY STATUS- AM PEAK PERIOD (5AM-9AM)

The ExpressLanes are operated on dynamic pricing principles designed to maintain travel speeds at or above 45 mph. When vehicle travel speeds fall below 45 mph on a segment of the lanes, the lanes go into HOV only status- not allowing SOV drivers into the lanes to help alleviate some congestion. This is an indication of increasing demand, particularly on I-110.



## TOTAL HOV ONLY MINUTES BY MONTH

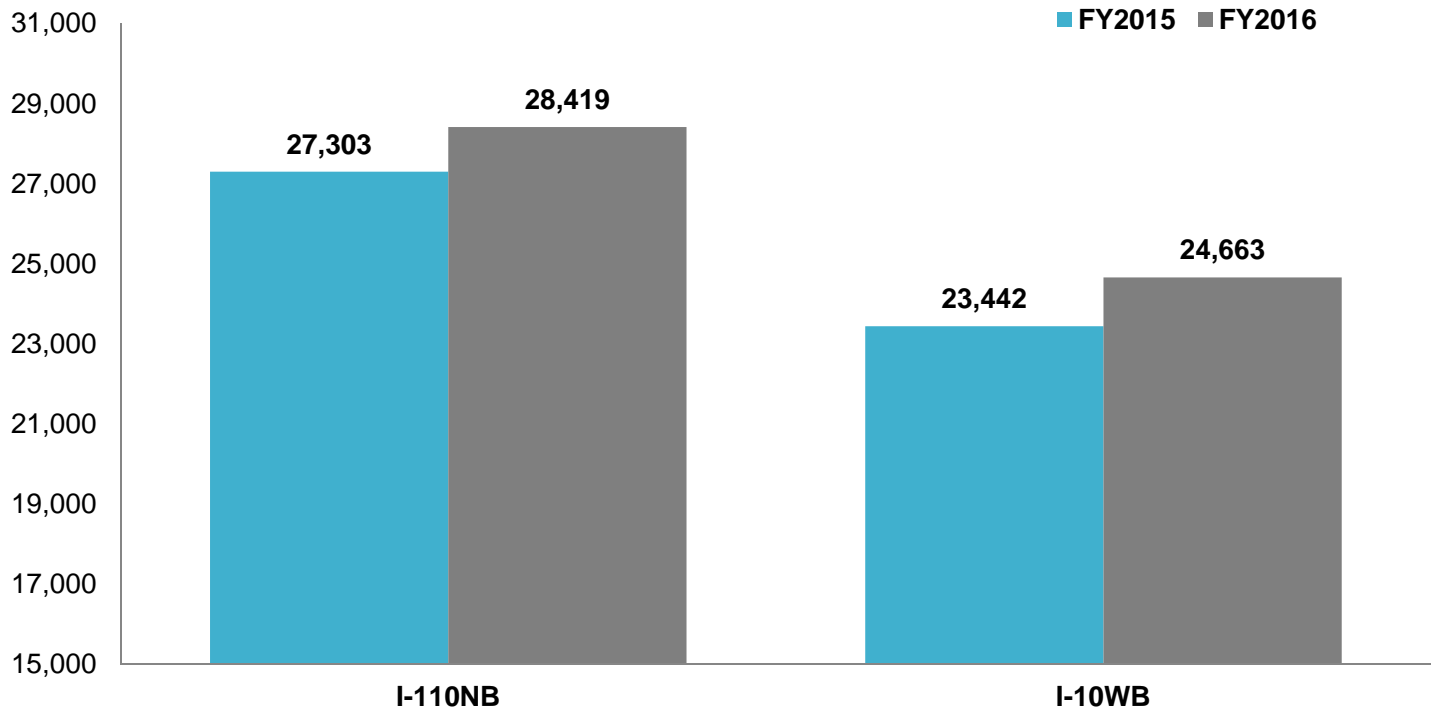


# AM PEAK HOURS (5-9AM) VEHICLE VOLUMES Continued

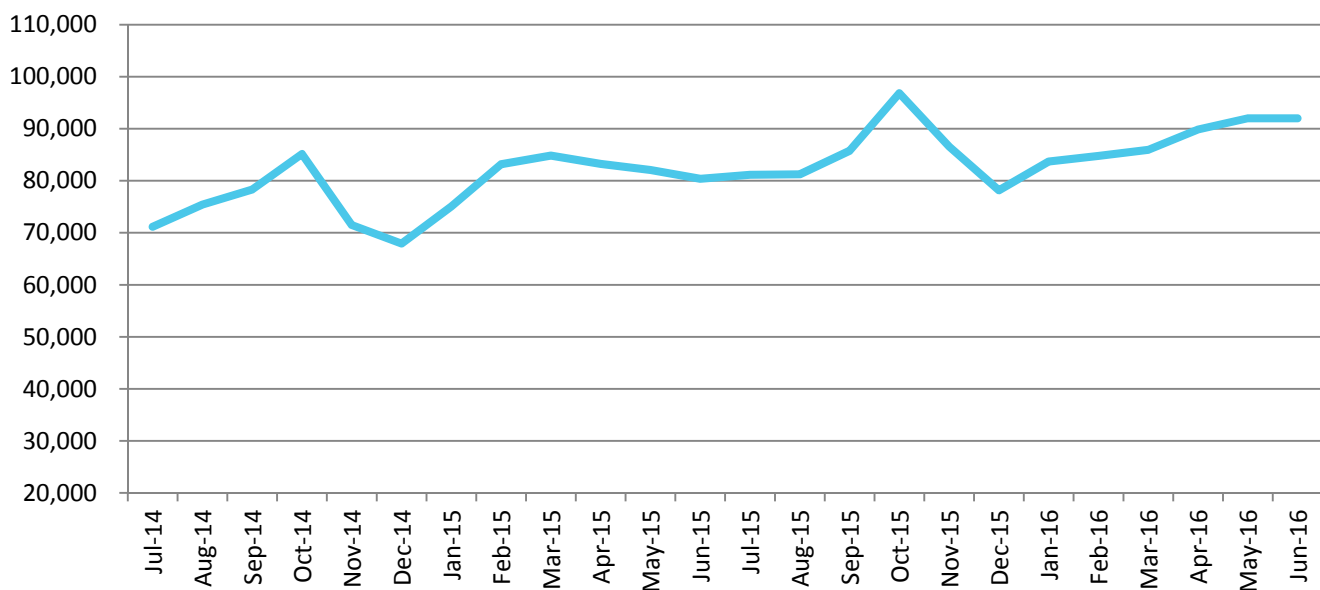


## AVERAGE VEHICLE VOLUME AM PEAK HOURS (5-9 AM)

Expresslanes Average AM Peak Vehicle Volume – Peak Directions



## AM PEAK AVERAGE DAILY VOLUMES- ALL EXPRESSLANES



# CUSTOMER INCENTIVE PLANS

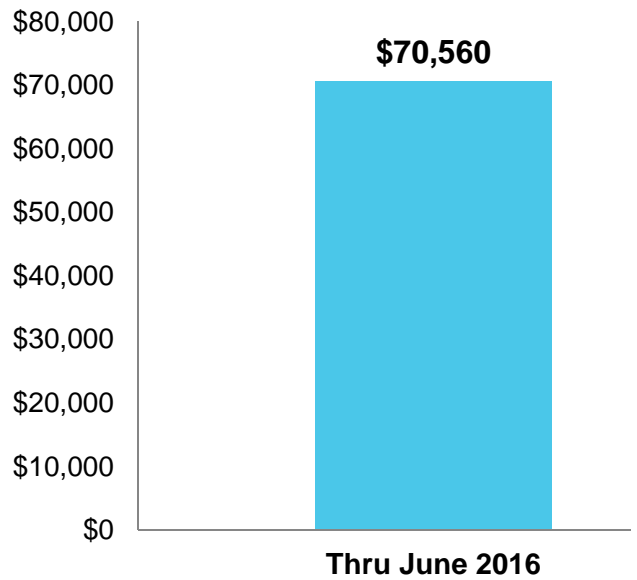


## TRANSIT REWARDS

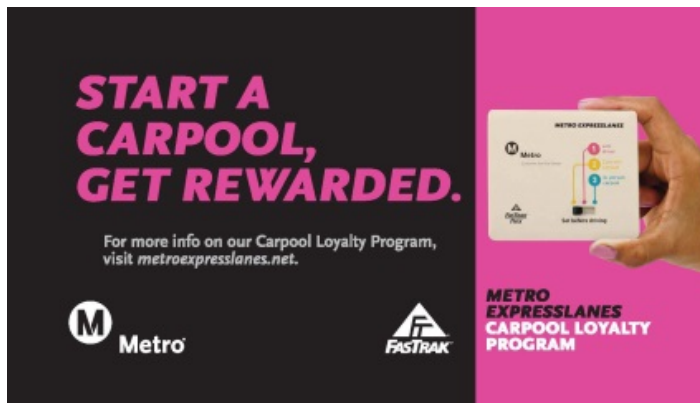
Metro offers transit riders the ability to earn toll credits by linking their TAP card to their Metro Expresslanes FasTrak account. Transit riders can earn a \$5 toll credit each time they make 16 trips.



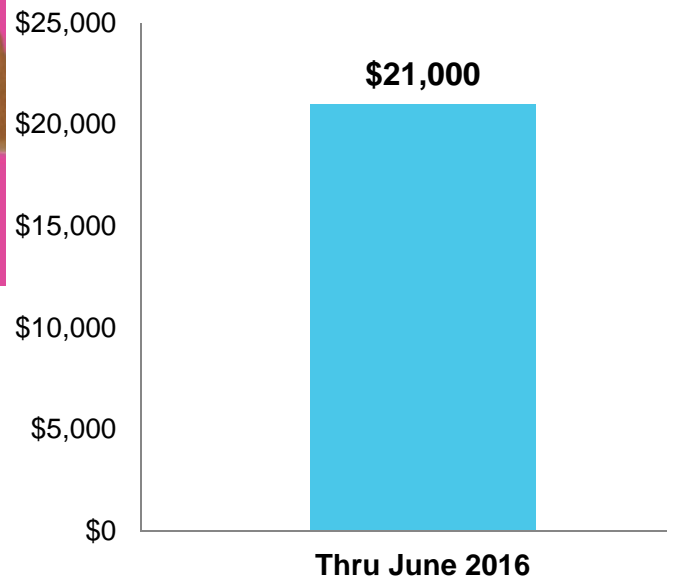
## Toll Credits Issued Since Inception



## CARPOOL LOYALTY



## Gift Card Rewards Issued Since Inception



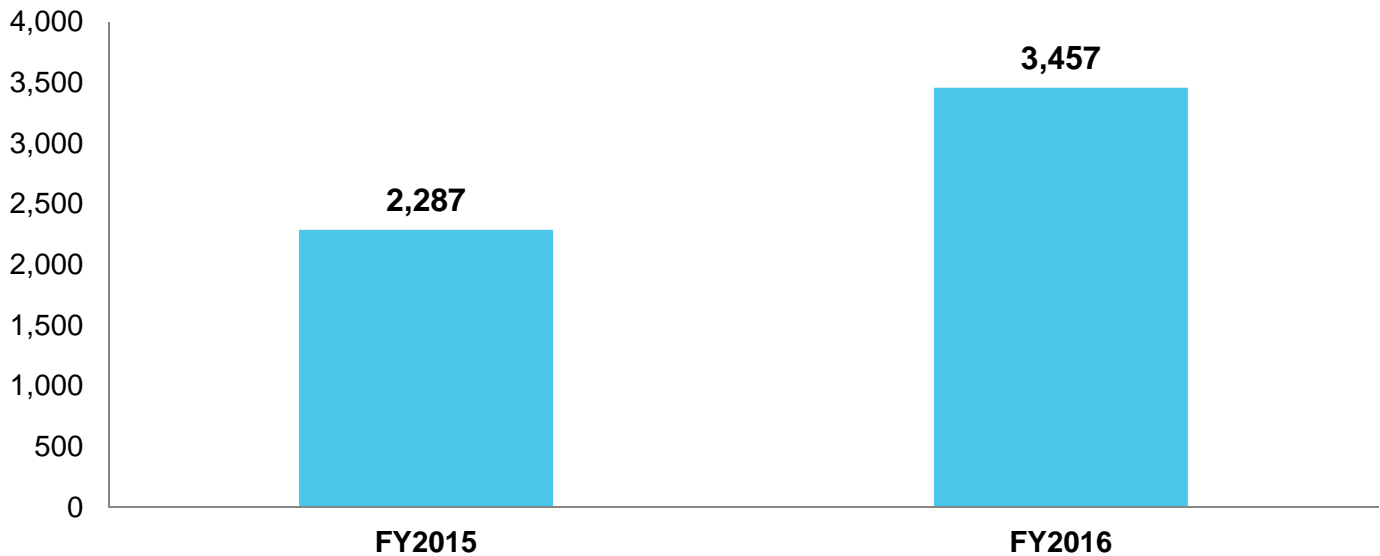
The Carpool Loyalty Program automatically enters the Metro ExpressLanes FasTrak account holder into a monthly drawing for a chance to win gift cards when they use the ExpressLanes as a carpooler.



# LOW-INCOME ASSISTANCE PLAN



## Newly Opened Low Income Assistance Plan Accounts



## Low Income Assistance Plan Awareness & Outreach

- Outreach at different community events such as Chinese New Year Festivals and transportation workshops during January and February 2016.
- A campaign was initiated in June 2016 with radio, McDonalds television, gas station television, outdoor, and mall advertising.
- Information on the Low Income Assistance Plan is being displayed on bus cards, billboards, and online ads running June thru December 2016.
- Account openings have increased by 51% since FY2015.

# LOW-INCOME ASSISTANCE PLAN

You may qualify for a discount.  
Learn more at [metroexpresslanes.net](http://metroexpresslanes.net).

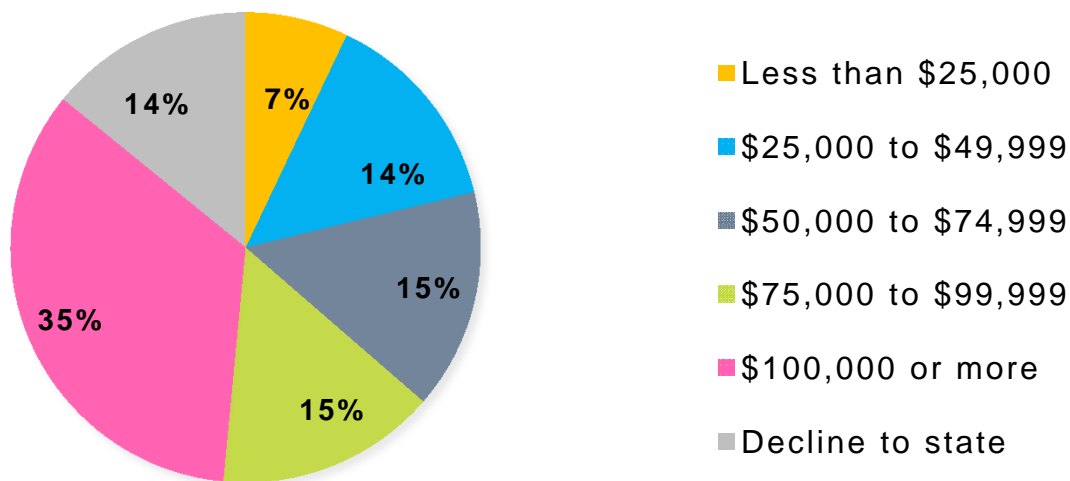
METRO EXPRESSLANES  
LOW-INCOME ASSISTANCE PLAN

# METRO EXPRESSLANES USER PROFILE



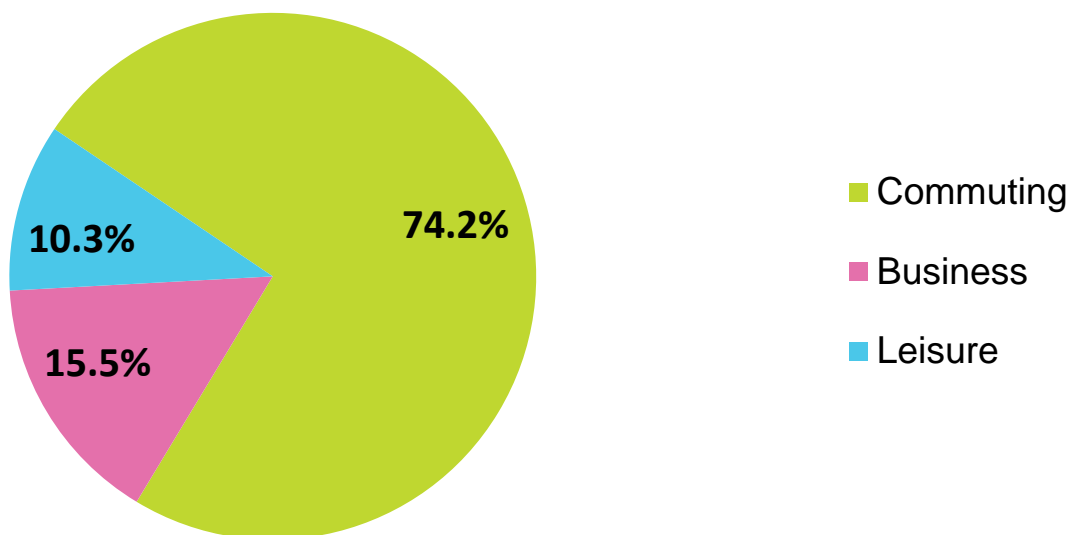
## ACCOUNTS BY HOUSEHOLD INCOME

A Customer Survey conducted in August 2016 shows that the nearly half of account holders (44%) self-reported household incomes from \$35,000 to \$99,999.



## TRIPS BY USAGE

The Customer Survey shows that the majority (74%) of users of the ExpressLanes were for commuting trips, followed by business (16%), and Leisure (10%) trips.

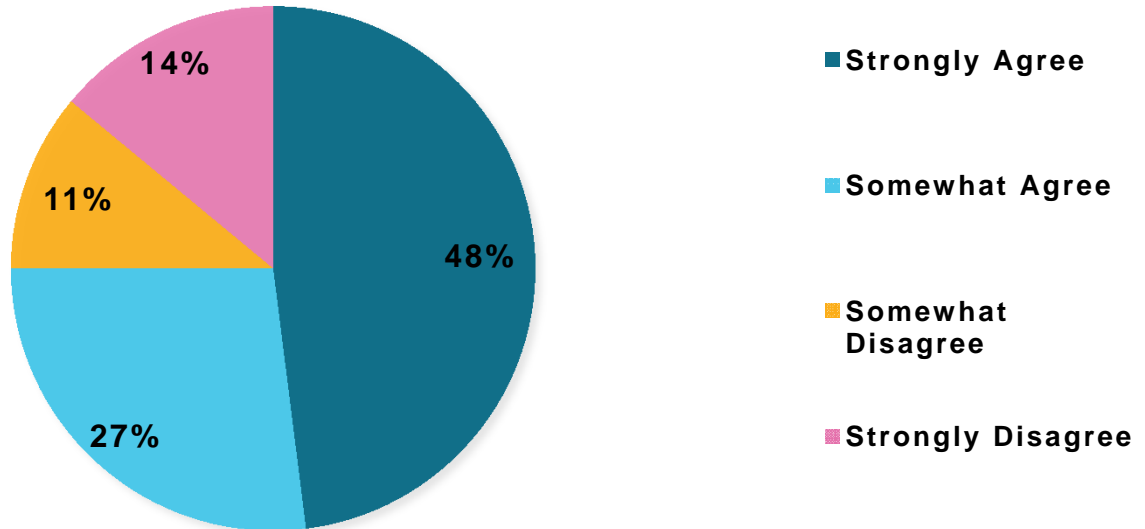


# METRO EXPRESSLANES USER PROFILE Continued



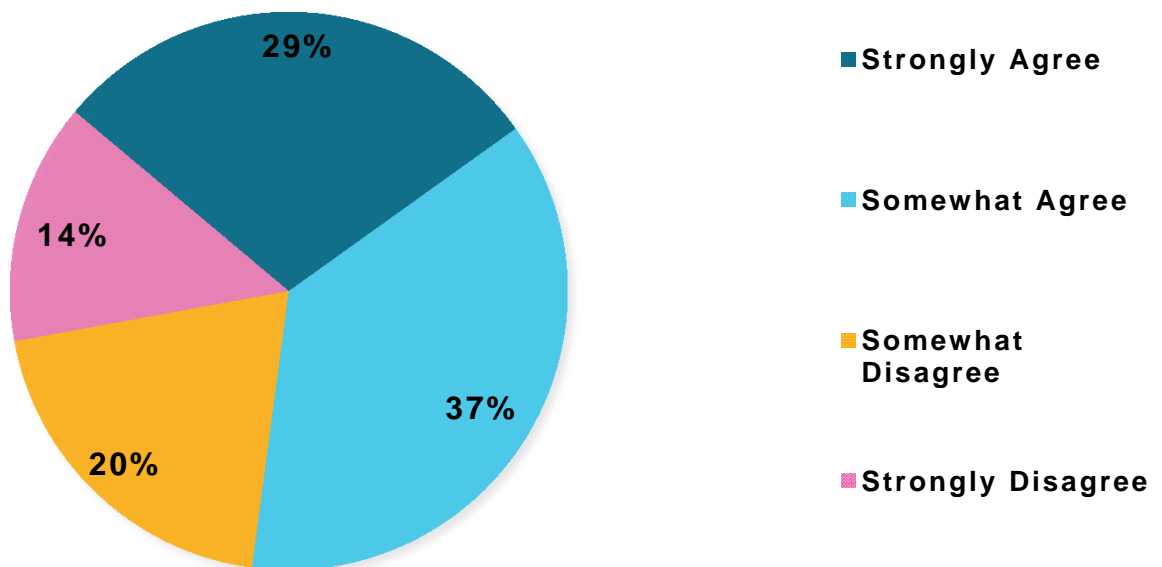
## SUPPORT FOR FUTURE EXPRESSLANES

Current customers were asked how much they agree with the following statement: **I would support adding more ExpressLanes on other roadways.** 75% Agreed or Strongly Agreed.



## VALUE OF MONEY SPENT ON EXPRESSLANES TRIPS

Current customers were asked how much they agree with the following statement: **The money I spend for the ExpressLanes is worth it.** 66% Agreed or Strongly Agreed.



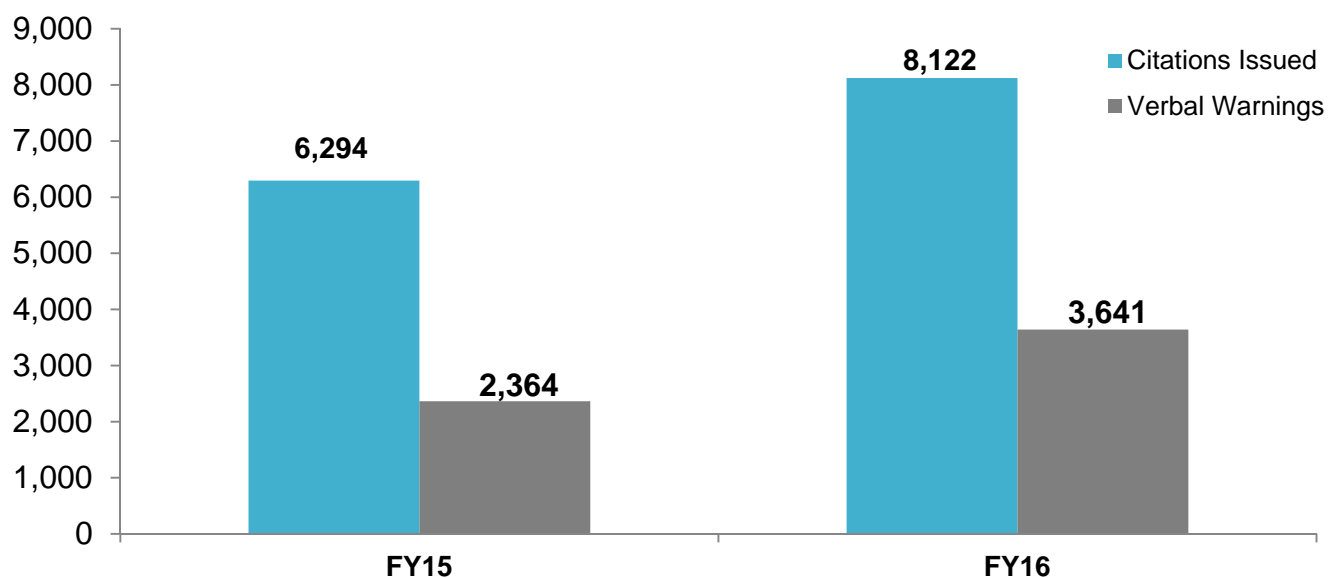
# SAFETY & ENFORCEMENT CHP ACTIVITY



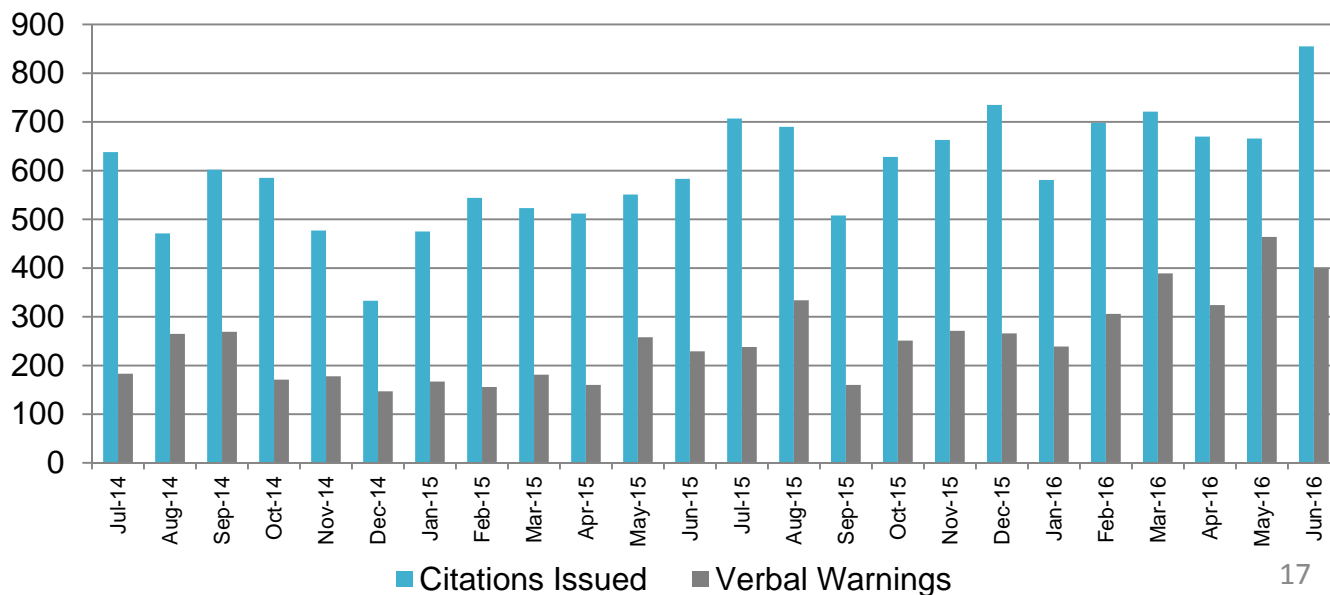
## CHP ACTIVITY

CHP officers are contracted to provide additional visual enforcement. Most citations issued on the I-110 and I-10 ExpressLanes are related to toll/transponder violations. CHP issues a toll/transponder related citation when a non-exempt vehicle is seen using the facility without a transponder or the transponder switch setting does not match the observed vehicle occupancy.

## CHP Citations & Verbal Warnings for Tolls & Transponders



## CHP Citations & Verbal Warnings by Month



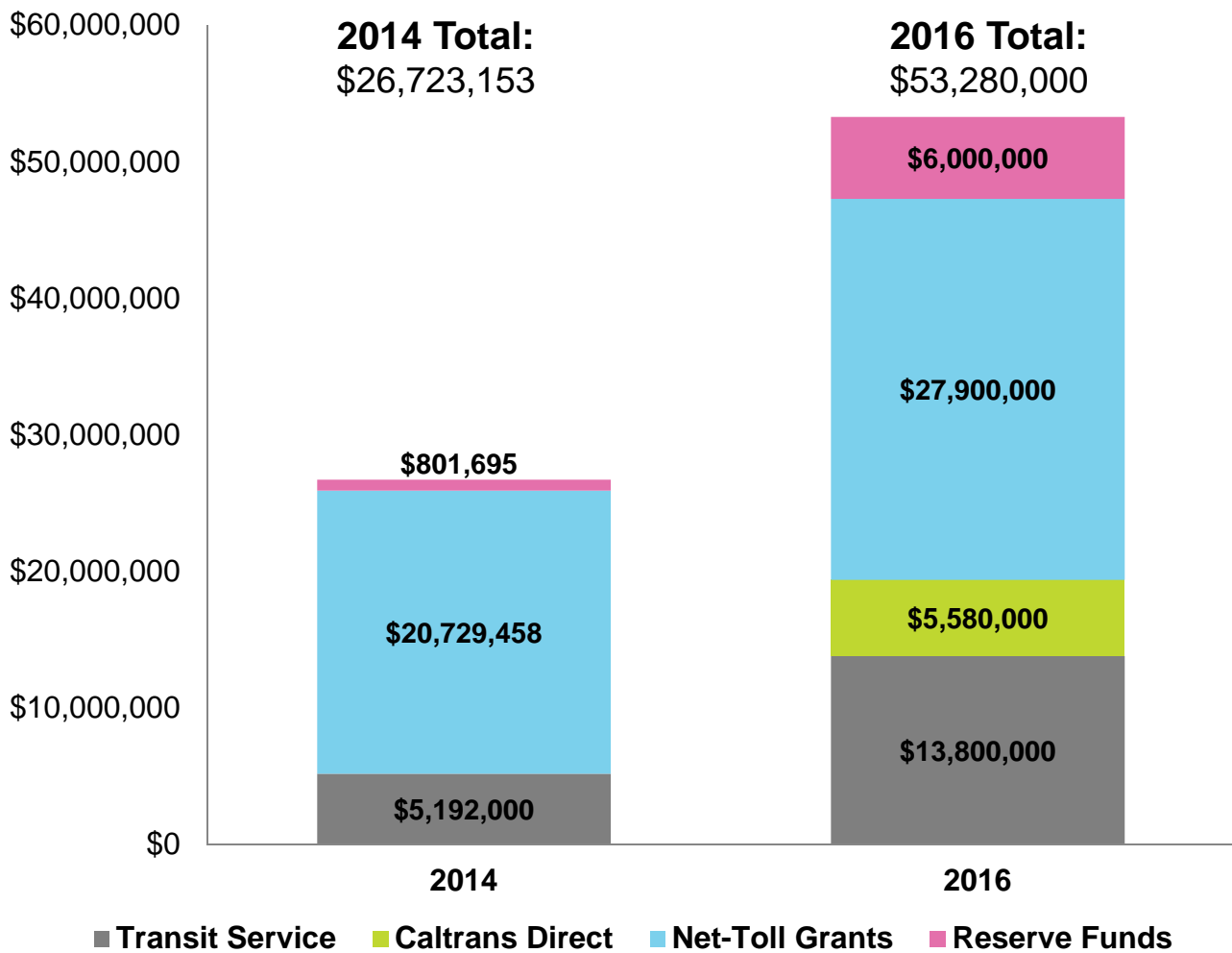
# EXPRESSLANES EXPENDITURE PLAN



## EXPENDITURE PLAN OVERVIEW

State law requires that net toll revenues generated by the Metro ExpressLanes be reinvested in the corridor from which they were derived. The Board approved re-investment framework for the expenditure plan has the following conditions:

1. Provide a direct benefit to reducing congestion.
2. Fund the continuation of incremental Transit Service Improvements
3. Set aside funds for Caltrans corridor improvements.
4. Funds available for Net-Toll Reinvestment Grant for projects/programs that provide direct mobility benefits to the corridor.
5. A set aside of funds to be placed in a reserve account.



# NET TOLL REVENUE REINVESTMENT GRANT



## PROGRAM OVERVIEW

The Metro ExpressLanes Net Toll Revenue Reinvestment Grant Program was designed to re-invest the excess toll revenue generated in the I-110 and I-10 Corridors in transportation improvements, through a series of integrated strategies. Projects were awarded funding in three categories- Highway Improvements, Transit Improvements, and Active Transportation/System Connectivity.

*Metro ExpressLanes Net Toll Revenue Reinvestment Grant Funding Awarded:* .....

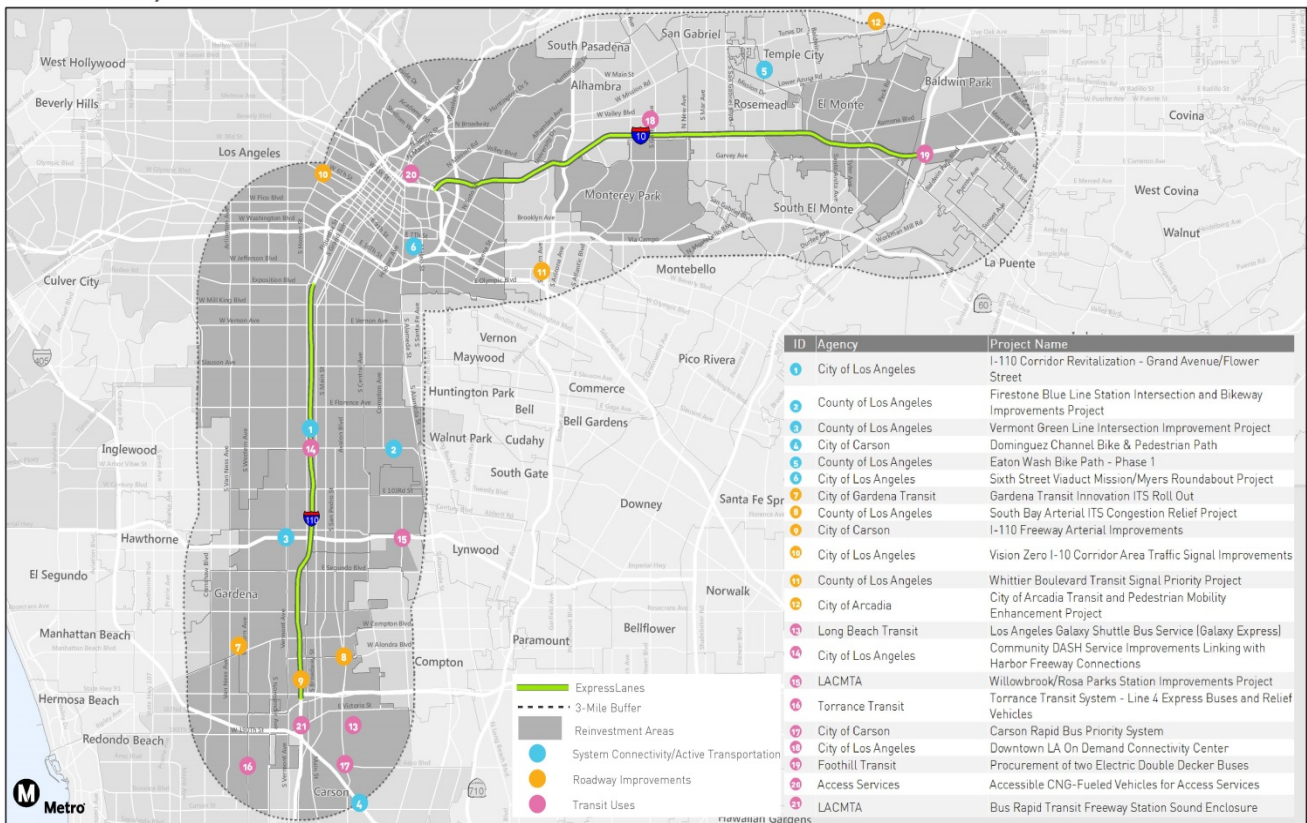
**\$48,629,458**

Round 1 (2014): 20,729,458  
Round 2 (2016): 27,900,000

## ROUND 2 PROJECTS

### Metro I-110 and I-10 ExpressLanes Net Toll Revenue Reinvestment Program

Recommended Project Locations



# 2016 NET TOLL REVENUE REINVESTMENT GRANT I-10 PROJECTS



Transit Use Projects	Roadway Improvements Projects	System Connectivity Projects
<b>Foothill Transit: Procurement of two Electric Double Decker Buses</b>		
Replace 2 CNG Commuter Express buses with 2 all-electric double decker buses. One plug in charger will be included at Foothill Transit's Pomona Operations & Maintenance facility.		
<b>Access Services: Accessible CNG-Fueled Vehicles for Access Services</b>		
Purchase 20 alternative fueled Compressed Natural Gas (CNG) minivans to provide ADA complementary paratransit service.		
<b>City of Los Angeles: Downtown LA On Demand Mobility Connectivity Center</b>		
Shared mobility service that will provide intermodal connectivity to the destinations and surrounding areas around Downtown Los Angeles. Will fund a mobility connectivity center, pop-up outreach & marketing events throughout DTLA to the South Park & Exposition Park communities of Los Angeles, along the Metro Expo Line, Chinatown, Union Station, & portions of Boyle Heights.		
<b>County of Los Angeles: Whittier Blvd Transit Signal Priority Project</b>		
Deployment of intelligent transportation systems (ITS) infrastructure to enhance arterial operations and monitoring on Whittier Blvd between Indiana Ave. and Saybrook Ave. in East Los Angeles.		
<b>City of Arcadia: City of Arcadia Transit and Pedestrian Mobility Enhancement Project</b>		
Deploy innovative Connected Vehicle technology that will support next generation transit signal priority; improve intersection crossing; and communications to serve intersection operability and monitoring. The project limit consists of the shuttle route that runs along Baldwin Ave., Huntington Drive, Santa Clara St. & First Ave.		
<b>City of Los Angeles: Vision Zero I-10 Corridor Area Traffic Signal Improvements</b>		
Install a new traffic signal at the intersection of Mohawk St. & Sunset Blvd. Upgrade the existing signalized intersection of 8th St. & Soto St. to include left turn phasing. Upgrade 3 existing signalized intersections to include pedestrian scramble phase at 6th St. & Alvarado St., 7th St. & Alvarado St., & Wilshire Blvd & Alvarado St.		
<b>County of Los Angeles: Eaton Wash Bike Path - Phase 1</b>		
Design & install a 1.1 mile long Class I bike path along Eaton Wash between Longden Avenue & Rosemead Blvd in the city of Temple City; Class III bike route along Muscatel Avenue; Grade separated crossing; 6 inverted bike racks and automated counters.		
<b>City of Los Angeles: Sixth Street Viaduct Mission/Myers Roundabout Project</b>		
Construction of a roundabout near Mission Street and Myers Street between the 6th Street Bridge viaduct & the 7th Street Bridge viaduct.		



# 2016 NET TOLL REVENUE REINVESTMENT GRANT I-110 PROJECTS



■ Transit Use Projects	■ Roadway Improvements Projects	■ System Connectivity Projects
<b>City of Los Angeles : Community DASH Service Improvements Linking with Harbor Freeway Connections</b>		
Purchase 2 CNG fueled 35 foot buses. Re-route Dash Vermont/Main to serve the Slauson station on the Harbor Transit Way. Increase in service frequency on the Dash Vermont/Main.		
<b>Long Beach Transit : Los Angeles Galaxy Shuttle Bus Service (Galaxy Express)</b>		
Partner with StubHub Center to provide L.A. Galaxy “game-day” shuttle service from the Metro Del Amo Blue Line Station and adjacent off-site park and ride lots.		
<b>City of Carson: Carson Rapid Bus Priority System</b>		
2 Bus shelter improvements will be made at each stop along the Carson Circuit, which will include covered bus shelters, bike racks, improved lighting, wayfinding, and bike sharrows. Project will also improve transit service on game days .		
<b>Torrance Transit:Torrance Transit System - Line 4 Express Buses and Relief Vehicles</b>		
Increase service to expand the Line 4 Express by changing it to a bi-directional weekday service, increasing the number of revenue vehicles in use and adding Saturday service.		
<b>LACMTA: Bus Rapid Transit Freeway Station Sound Enclosure</b>		
Design & construct sound enclosure systems along the perimeter of the Bus Rapid Transit stations along the I-110 freeway at the Slauson Ave. and Manchester Avenue Harbor Transitway Stations.		
<b>LACMTA: Willowbrook/Rosa Parks Station Improvements Project</b>		
Improvements to the Southern pedestrian crossing & entrance to the Blue Line platform including ramps, stairs, canopies, and lighting.		
<b>City of Carson: I-110 Freeway Arterial Improvements</b>		
Implementation of intersection improvements at 10 intersections which are lacking bicycle & pedestrian amenities.		
<b>City of Gardena Transit: Gardena Transits Innovative ITS Rollout</b>		
Implement transit signal priority for 8.4 miles from the Harbor Gateway Transit Station to 120th Street in the city of Gardena.		
<b>County of Los Angeles: South Bay Arterial ITS Congestion Relief Project</b>		
Installation of wireless communications at 20 intersections along Broadway and Main Street. 9 traffic signal controllers will be upgraded along Crenshaw Blvd. In addition a CV enabled, mobile accessible pedestrian signal system, for 3 intersections along Crenshaw Blvd.		
<b>County of Los Angeles: Vermont Green Line Intersection Improvement Project</b>		
Pedestrian oriented safety improvements at 6 intersections along Vermont Avenue between 110th St. & 120th St.		
<b>City of Los Angeles: I-110 Corridor Revitalization - Grand Avenue/Flower Avenue</b>		
Planning, outreach, capital improvements for bicycle & pedestrian connectivity at various intersections between Gage Avenue & Manchester Avenue.		
<b>County of Los Angeles: Firestone Blue Line Station Intersection and Bikeway Improvements Project</b>		
Pedestrian improvements to 4 intersections; Firestone Blvd & Graham Ave., Florence Blvd & Holmes Ave., 87th Pl. at Compton Ave., 89th St. at Compton Ave.		
<b>City of Carson: Dominguez Channel Bike Path Improvements</b>		
Design & construct a 1 mile bicycle & pedestrian path from Avalon Blvd to Carson Street on the Dominguez Channel levee. A Class I bike path with signage & striping.		



# OPERATIONAL IMPROVEMENTS



During the remainder of FY17 and into FY18, Metro will implement the following operational improvements to reduce congestion on the ExpressLanes.

## Incentive Program:

Various incentive programs will be piloted to target heavy peak users to shift their travel to the shoulders of the peak and/or shift their travel to Metrolink.

## Occupancy Detection:

ExpressLanes is determining the feasibility of installing vehicle passenger detection systems to reduce the number of customers incorrectly setting the transponder switch.

## Mobile app:

ExpressLanes is in the process of developing a mobile app to address an issue with vehicles with Metal Oxide windshields. Drivers of these vehicles cannot declare their transponder switch setting via the standard transponder. The mobile app will be used by these select customers to allow them to declare their switch position.

## Beacon lights:

The beacon lights will be upgraded to allow CHP to better enforce the lanes. The current beacons flash different color combinations to indicate the transponder switch setting. The upgraded beacons will be double sided and display numbers for the transponder switch setting.

## Earth cam:

Three new CCTV cameras will be installed to improve real time traffic and incident monitoring.

## New toll gantries:

ExpressLanes is determining the feasibility of installing four additional toll gantries to improve toll collection and violation enforcement. The toll gantries were originally included in the ExpressLanes design but were removed as part of a value engineering effort during system design review.

## Minimum Occupancy:

Metro will work with Caltrans to perform a feasibility study to determine if it is necessary to increase the minimum occupancy to HOV3+ on the I-110 during peak hours.

# **Metro ExpressLanes FY16 Performance Report (July 1, 2015 to June 30, 2016)**

**January 18, 2017**



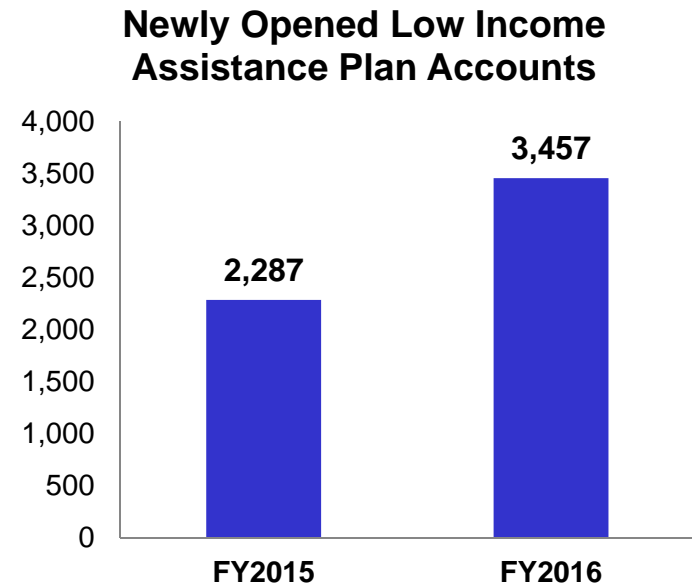
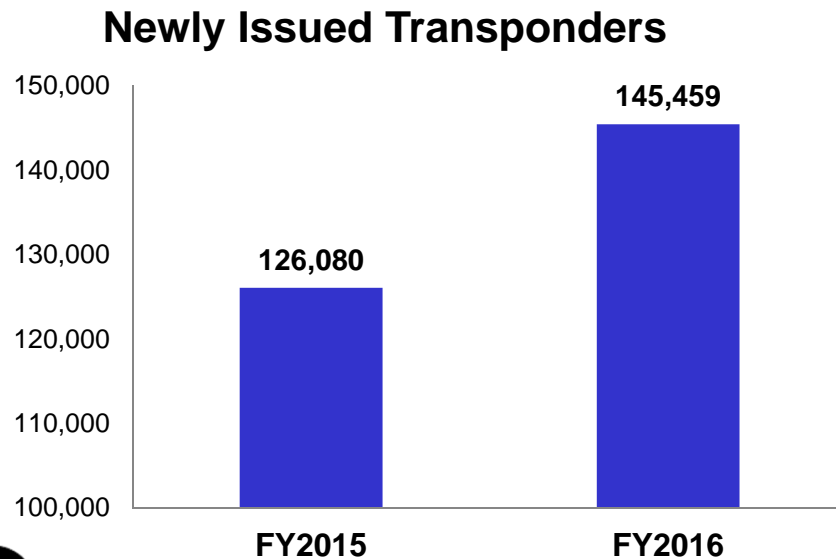
**Metro**

# Performance Report Summary

- The report summarizes ExpressLanes performance for Fiscal Year 2016 (FY16)
- Key Findings:
  - ExpressLanes trips are steadily increasing
  - Increased congestion on the 110 Northbound during the AM Peak
  - Average corridor travel speeds in the ExpressLanes remain above 45 mph 100% of the time and are higher than the general purpose lane speeds

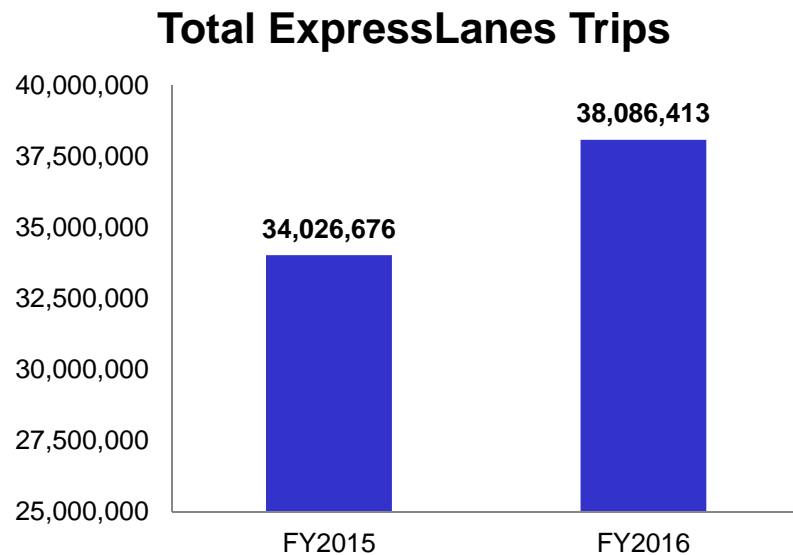
# Transponders and New Accounts

- 506,031 transponders issued from inception through June 30, 2016
- 145,459 were issued in FY16, a 15% increase over FY15
- 454,603 total accounts opened since inception of the program
- Includes 8,882 Low-Income Assistance Plan accounts - 51% increase over FY15

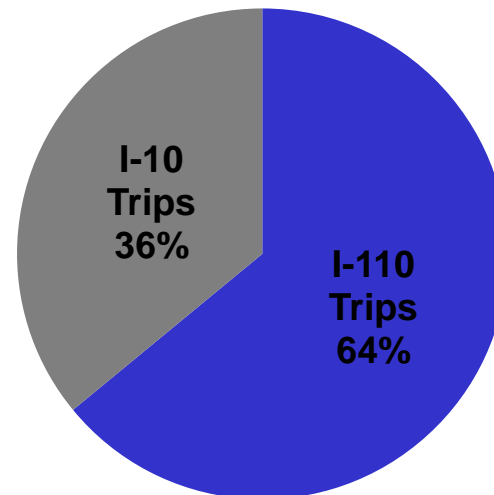


# ExpressLanes Trips

- Vehicle trips are steadily increasing
- FY 16 exceeded 38 million trips
- 12% increase over FY15



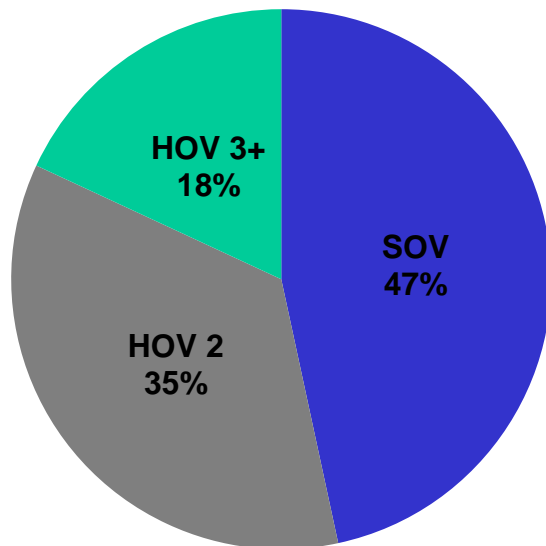
**FY16 ExpressLanes Trips by Corridor**



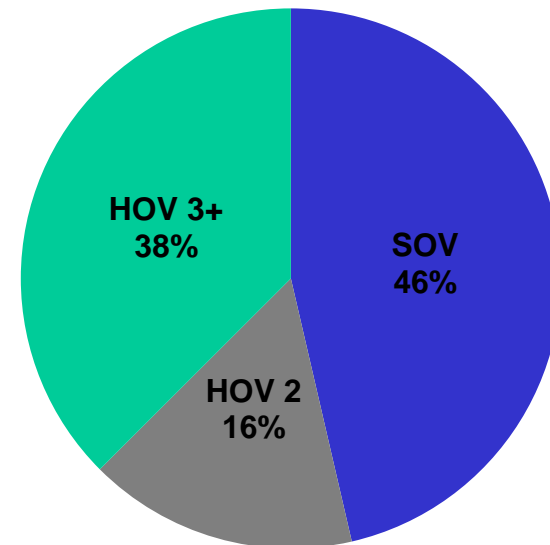
# Mode Split

- Most trips in FY16 were carpool trips
- I-10 had a higher percentage of HOV3+ trips

I-110 ExpressLanes



I-10 ExpressLanes



# 2016 Net Toll Revenue Expenditure Plan

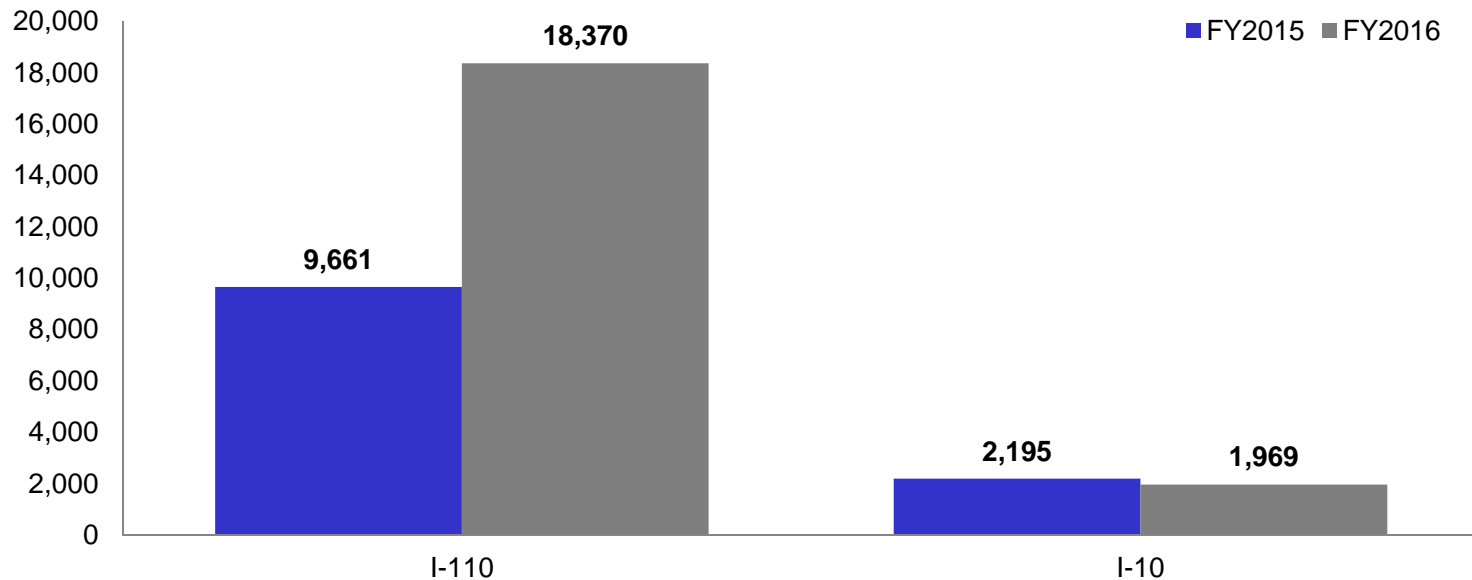
**Total Programmed - \$53,280,000**

- **Reserve Funds - \$6,000,000**
- **Transit Service - \$13,800,000**
- **Caltrans Direct Allocation - \$5,580,000**
- **Grant Program - \$27,900,000**

# HOV Only Status

AM Peak Period (5AM – 9AM)

- To alleviate congestion, the lanes go into 'HOV Only' status when vehicle volumes increase to the point where travel speeds fall below 45 mph
- In FY16, the I-110 went into HOV Only status a total of 18,370 minutes, which is a 90% increase over FY15
- In FY 16, the HOV Only occurrences on I-10 decreased by 10.3%



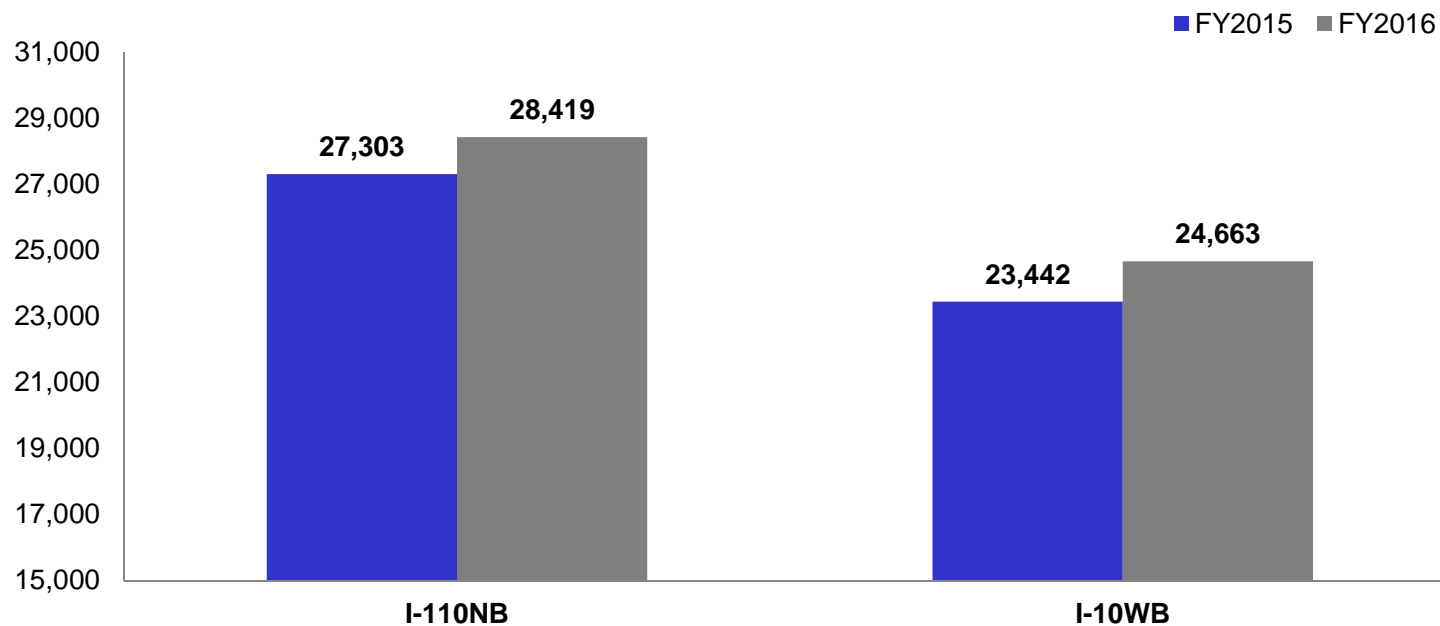


# Average Daily Volumes

AM Peak Period (5AM – 9AM)

- Average daily vehicle volumes increased by 4% during the AM Peak Period in the Peak Directions (I10NB & I0WB)

ExpressLanes Average AM Peak Vehicle Volume - Peak Directions

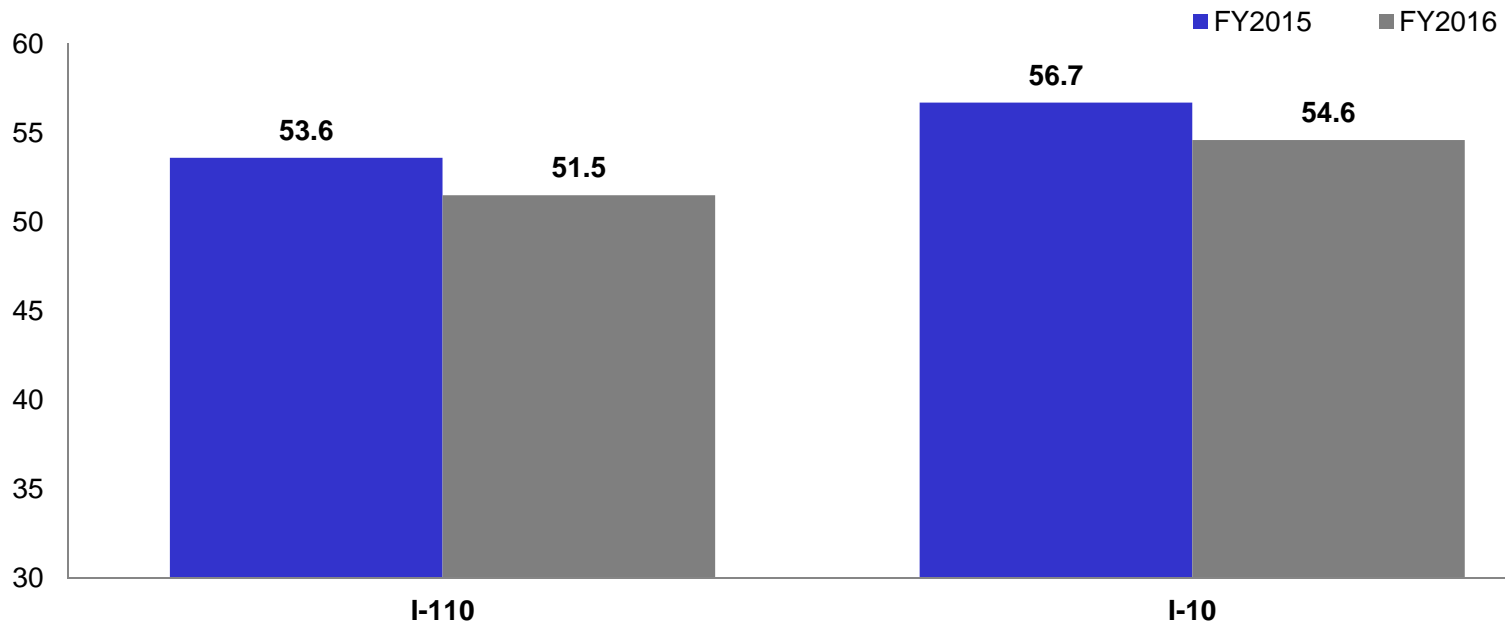


# ExpressLanes Travel Speeds

AM Peak Period (5AM – 9AM)

- Average weekday AM Peak Period travel speeds decreased by 3.9% due to increased vehicle volumes (4%)

Average ExpressLanes Speeds (mph) – AM Peak Period



# Next Steps

- **ExpressLanes will implement operational improvements to reduce congestion:**
  - Incentive programs will be piloted to target heavy users to shift their usage to less congested hours
  - Mobile App development to allow customers with Metal Oxide windshields to declare occupancy
  - Beacon Lights will be upgraded to aid CHP in enforcement
  - New CCTV Cameras will be installed to improve real-time traffic monitoring
  - Occupancy Detection System to reduce customers incorrectly declaring occupancy
  - New toll gantries to improve toll collection and violation enforcement
  - Work with Caltrans to determine the necessity of increasing the minimum occupancy on I-110 during peak hours