



Meeting Notice

1333 Broadway, Suites 220 & 300, Oakland, CA 94612 • PH: (510) 208-7400 • www.AlamedaCTC.org

Commission Chair
Supervisor Scott Haggerty, District 1

Commission Vice Chair
Councilmember Rebecca Kaplan,
City of Oakland

AC Transit
Director Elsa Ortiz

Alameda County
Supervisor Richard Valle, District 2
Supervisor Wilma Chan, District 3
Supervisor Nate Miley, District 4
Supervisor Keith Carson, District 5

BART
Director Thomas Blalock

City of Alameda
Vice Mayor Marilyn Ezzy Ashcraft

City of Albany
Mayor Peggy Thomsen

City of Berkeley
Councilmember Laurie Capitelli

City of Dublin
Mayor Tim Sbranti

City of Emeryville
Councilmember Ruth Atkin

City of Fremont
Councilmember Suzanne Chan

City of Hayward
Councilmember Marvin Peixoto

City of Livermore
Mayor John Marchand

City of Newark
Councilmember Luis Freitas

City of Oakland
Vice Mayor Larry Reid

City of Piedmont
Mayor John Chiang

City of Pleasanton
Mayor Jerry Thome

City of San Leandro
Vice Mayor Michael Gregory

City of Union City
Mayor Carol DuTra-Vernaci

Executive Director
Arthur L. Dao

I-680 Sunol Smart Carpool Lane Joint Powers Authority

Monday, July 8, 2013, 9:30 a.m.

1333 Broadway, Suite 300

Oakland, CA 94612

Mission Statement

The mission of the Alameda County Transportation Commission (Alameda CTC) is to plan, fund and deliver transportation programs and projects that expand access and improve mobility to foster a vibrant and livable Alameda County.

Public Comments

Public comments are limited to 3 minutes. Items not on the agenda are covered during the Public Comment section of the meeting, and items specific to an agenda item are covered during that agenda item discussion. If you wish to make a comment, fill out a speaker card, hand it to the clerk of the Commission, and wait until the chair calls your name. When you are summoned, come to the microphone and give your name and comment.

Reminder


Please turn off your cell phones during the meeting. Please do not wear scented products so individuals with environmental sensitivities may attend the meeting.

Glossary of Terms

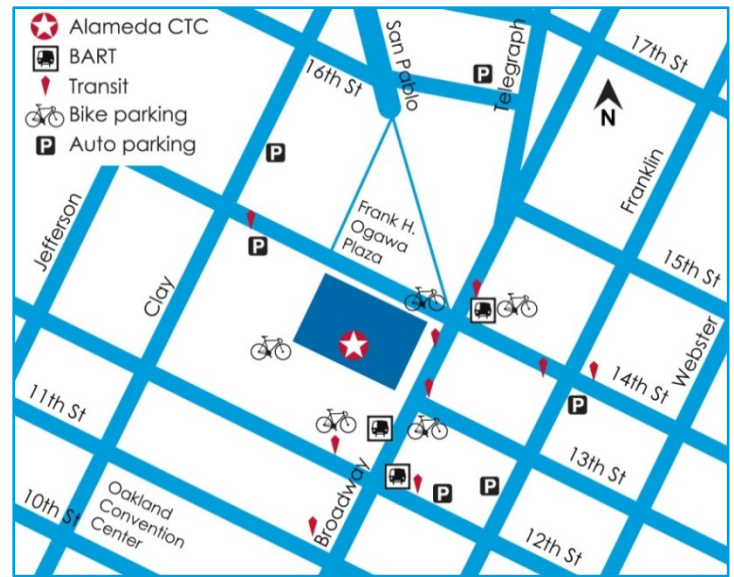
A glossary of terms that includes frequently used industry terms and acronyms is available on the Alameda CTC website at

www.AlamedaCTC.org/app_pages/view/8081.

Location Map

 Alameda CTC
1333 Broadway, Suite 300
Oakland, CA 94612

Alameda CTC is accessible by multiple transportation modes. The office is a few steps away from the City Center/12th Street BART station. There are bus stops for major AC Transit lines in front of the building and across the street. Bicycle parking is available inside the building and in electronic lockers at 14th Street and Broadway near Frank Ogawa Plaza (requires purchase of key card from bikelink.org).



Garage parking is available for autos and bicycles in the City Center Garage (enter on 14th Street between Broadway and Clay). Visit the Alameda CTC website to access tools to plan your trip: <http://www.alamedactc.org/directions.html>.

Accessibility

Public meetings at Alameda CTC are wheelchair accessible under the Americans with Disabilities Act. Guide and assistance dogs are welcome. Call 510-893-3347 (Voice) or 510-834-6754 (TTD) five days in advance to request a sign-language interpreter.



Meeting Schedule

The Alameda CTC meeting calendar lists all public meetings and is available at www.AlamedaCTC.org/events/upcoming/now.

Paperless Policy

On March 28, 2013, the Alameda CTC Commission approved the implementation of paperless meeting packet distribution. Hard copies are available by request only. Agendas and all accompanying staff reports are available electronically on the Alameda CTC website at www.AlamedaCTC.org/events/month/now.

Connect with Alameda CTC

www.AlamedaCTC.org



facebook.com/AlamedaCTC

[@AlamedaCTC](https://twitter.com/AlamedaCTC)

youtube.com/user/AlamedaCTC



I-680 Sunol SMART Carpool Lane Joint Powers Authority Meeting Agenda Monday, July 8, 2013, 9:30 a.m. – 10:30 a.m.

1333 Broadway, Suites 220 & 300, Oakland, CA 94612 • PH: (510) 208-7400 • www.AlamedaCTC.org

1. Pledge of Allegiance

2. Roll Call

3. Public Comment

Chair: Bill Harrison, Alameda CTC

Vice Chair: Mayor Jerry Thorne, City of Pleasanton

Commissioners/Members: Scott Haggerty, Gail Price (Santa Clara Valley Transportation Authority), Tim Sbranti

Staff Liaison: Stewart D. Ng

Executive Director: Arthur L. Dao

Clerk: Vanessa Lee

4. Consent Calendar

Page A/I

- | | | |
|------------------------------------------------------------------------------------------|----|---|
| 4.1. June 10, 2013 I-680 Sunol SMART Carpool Lane JPA Meeting Minutes | 1 | A |
| 4.2. I-680 Southbound Express Lane (PN 710.5): Monthly Operations Update | 3 | I |
| 4.3. I-680 Northbound Express Lane (PN 721.0): Monthly Status Update | 17 | I |

5. Committee Member Reports (Verbal)

6. Staff Reports (Verbal)

A. Joint Meeting with I-580 Express Lane Policy Committee

- | | | |
|----------------------------------------------------------------------------------------|----|---|
| A.1 Convene meeting with I-580 Express Lane Policy Committee | | I |
| A.2 Roll Call to Confirm Quorum | | |
| A.3 I-580 Express Lane Projects Workshop: Concept of Operations Review | 27 | |
| A.5 Recess Joint Meeting | | |

7. Adjournment

Next Meeting: September 9, 2013

All items on the agenda are subject to action and/or change by the Commission.

This page intentionally left blank



I-680 Sunol Smart Carpool Lane Joint Powers Authority Meeting Minutes Monday, June 10, 2013, 9:30 a.m.

4.1

1333 Broadway, Suites 220 & 300, Oakland, CA 94612 • PH: (510) 208-7400 • www.AlamedaCTC.org

1. Pledge of Allegiance

2. Roll Call

A roll call was conducted and a quorum was confirmed.

3. Public Comment

There were no public comments.

4. Consent Calendar

There were no public comments.

3A. Approval of Minutes of May 13, 2013

Commissioner Sbranti motioned to approve the consent calendar. Commissioner Haggerty seconded the motion. The motion passed unanimously.

5. Regular Matters

5A. Approval of the Express Lane Proposed Operating Budget for Fiscal Year 2013-2014

Patricia Reavey recommended that the Authority approve the final FY2013-14 Express Lane operating budget. Ms. Reavey outlined a change to the depreciation expense and reviewed net asset balances, projected toll revenues, operating expenses and projected net asset balances.

Commissioner Sbranti motioned to approve this Item. Commissioner Haggerty seconded the motion. The motion passed unanimously.

5B. Approval of the Southbound I-680 Express Lane Evaluation draft "After" Study Report

Saravana Suthanthira recommended that the JPA approve the draft southbound I-680 Express Lane Evaluation "After" Study report. Ms. Suthanthira stated that there is a three-year requirement for an evaluation of operations of the I-680 Express Lane corridor. She highlighted key components of the after-study and stated that the after study included data collected through traffic counts, travel time surveys using "floating car" runs, manual vehicle classification and occupancy surveys at selected locations, aerial photograph, and video recordings at selected locations.

Commissioner Haggerty motioned to approve this Item. Commissioner Sbranti seconded the motion. The motion passed unanimously.

5C. I-680 Southbound Express Lane (ACTIA No. 8A) Monthly Operations Update

Arun Goel provided a monthly operations update of the express lane facility. He reviewed average travel times during commute hours, speed curves, express lane revenue and toll trip comparison, average daily express lane toll trips and average daily express lane revenue comparison for the past six months.

This Item was for information only.

5D. I-680 Northbound Express Lane (ACTIA No. 8B) Monthly Status Update

Gary Sidhu provided a status update of project development activities that are completed or planned for the I-680 Northbound Express Lane. He reviewed recently completed and ongoing activities including traffic, revenue and environmental technical studies. Mr. Sidhu concluded by reviewing upcoming PA&ED activities, scheduling and key issues relating to the project.

This Item was for information only.

6. Committee Member Reports

There were no Committee Member Reports

7. Staff Reports

There were no staff reports.

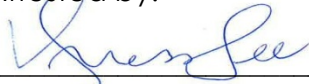
8. Adjournment/ Next Meeting

The next meeting is:

Date/Time: Monday, July 8, 2013 @9:30 a.m.

Location: Alameda CTC Offices, 1333 Broadway, Suite 300, Oakland, CA 94612

Attested by:



Vanessa Lee,
Clerk of the Commission



Memorandum

4.2

1333 Broadway, Suites 220 & 300, Oakland, CA 94612 • PH: (510) 208-7400 • www.AlamedaCTC.org

DATE: July 1, 2013

SUBJECT: I-680 Southbound Express Lane (PN 710.5): Monthly Operations Update

RECOMMENDATION: Receive a monthly operations update on the I-680 Southbound Express Lane.

Summary

The purpose of this item is to provide the JPA Board with the May 2013 Monthly Operations Update of the express lane facility. This item is for information only.

Background

The I-680 Southbound Express Lane opened to traffic in September 2010 and is the first operational express lane facility in Northern California; it is one of a few in the nation to have a shared toll and non-toll facility. The express lane facility spans over 14 miles from State Highway 84, near Pleasanton, to State Highway 237 in the City of Milpitas, and admits toll-paying solo drivers in addition to carpoolers (who use the lane at no cost). The express lane optimizes capacity, reduces congestion and increases travel time reliability within the 14 mile corridor. Since the opening of the express lane facility, over 1,267,725 solo drivers have reached their destinations by traveling at speeds that are typically 7-10 miles per hour faster (several segments within the 14 mile corridor experience speeds over 22 miles per hour faster) than which motorists experience in the general purpose lanes, during peak commute hour.

Tolls are collected via FasTrak® transponders that are read by automated vehicle identification readers mounted on overhead gantries. Currently, the I-680 Express Lane includes five FasTrak® readers: one at each toll zone (at Andrade, Washington and Mission) and two at stand-alone enforcement zones (south of Vargas and south of Scott Creek). Readers at the toll zones are linked to the Toll Data Center (TDC). The accounts of vehicles passing through with valid FasTrak® transponders are charged the appropriate toll, for the length of their trip, based on the toll rates published via dynamic message signs. Toll rates are calculated by a computerized real-time dynamic pricing model. The enforcement zone readers are not linked to the TDC and are used to aid CHP enforcement by determining if a vehicle has a valid FasTrak® transponder.

Constructed within the restricted right-of-way, the facility has no physical barrier between the General Purpose Lanes and the Express Lane, but is separated by a double white stripe. The Alameda CTC, acting as the managing agency for the JPA, accepted the final system from the System Integrator on April 30, 2012. The express lane has since moved into the full operation and maintenance phase.

Our review of daily trip and revenue reports indicates that the express lane facility had a strong performance (data indicates there was an increase in trips, although with a lower average peak toll rate) during the month of May 2013 when compared to similar time period in 2012. While comparing the performance matrices, it is noted that the average daily number of toll paying trips has increased by 22 percent. This indicates that more and more solo drivers have chosen to leave the general purposes lanes and use the express lane to experience the travel reliability and time savings. While it appears that traffic congestion has returned to the corridor with upward economic activities noted in Silicon Valley, the average travel speed in the express lane continues to remain at or above the posted speed limit. Please see Attachment A for more details.

Fiscal Impact: There is no fiscal impact.

Attachments

A. I-680 Southbound Express Lane May 2013 Operations Update

Staff Contact

[Stewart Ng](#), Deputy Director of Programming and Projects

[Arun Goel](#), Express Lane Operations

Year Over Year Comparison by Month

May 2012 May 2013

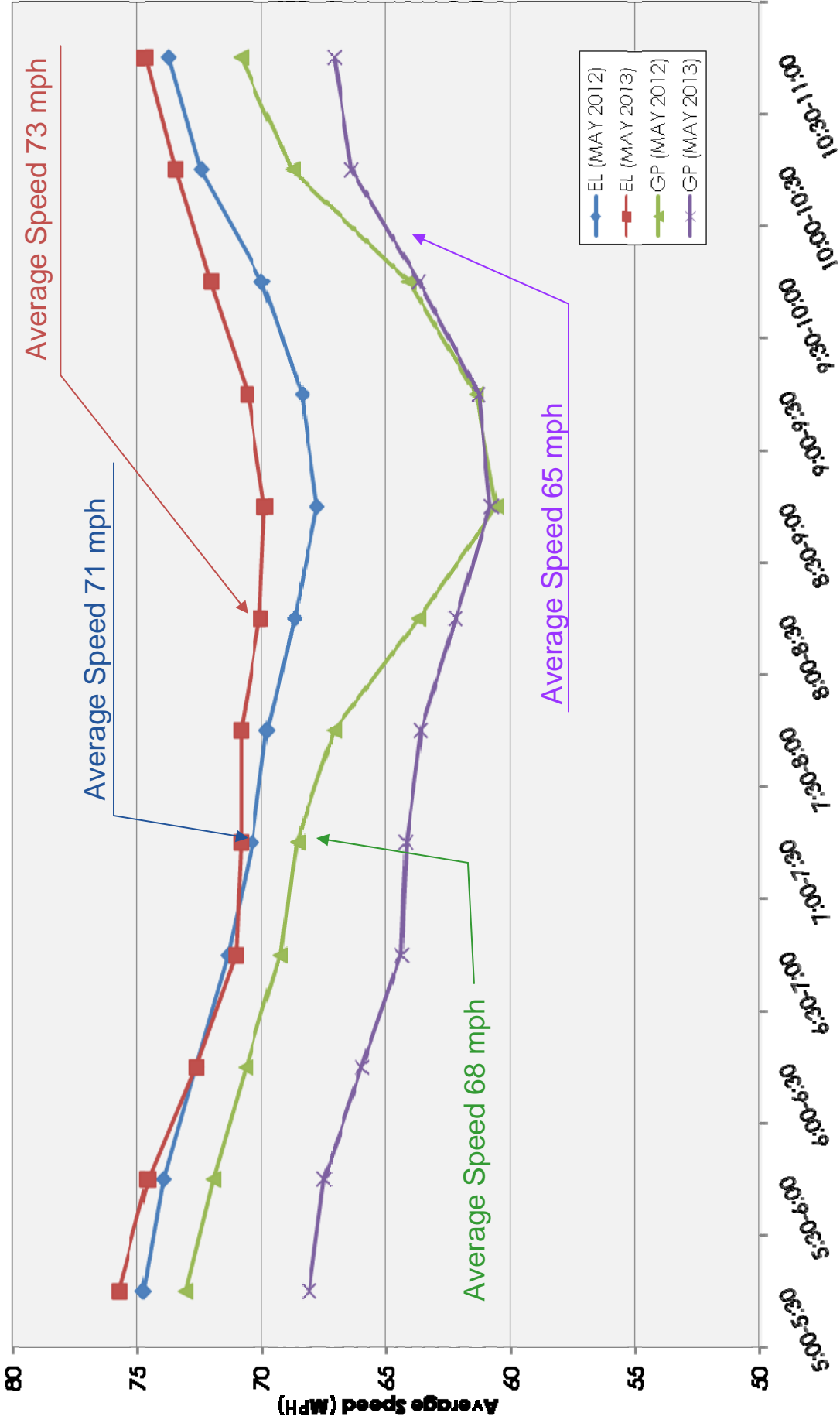
Average Daily Toll Paying Trips 2,030 vehicles **2,479 vehicles**

Average Daily Toll Revenue \$5,382 **\$5,098**

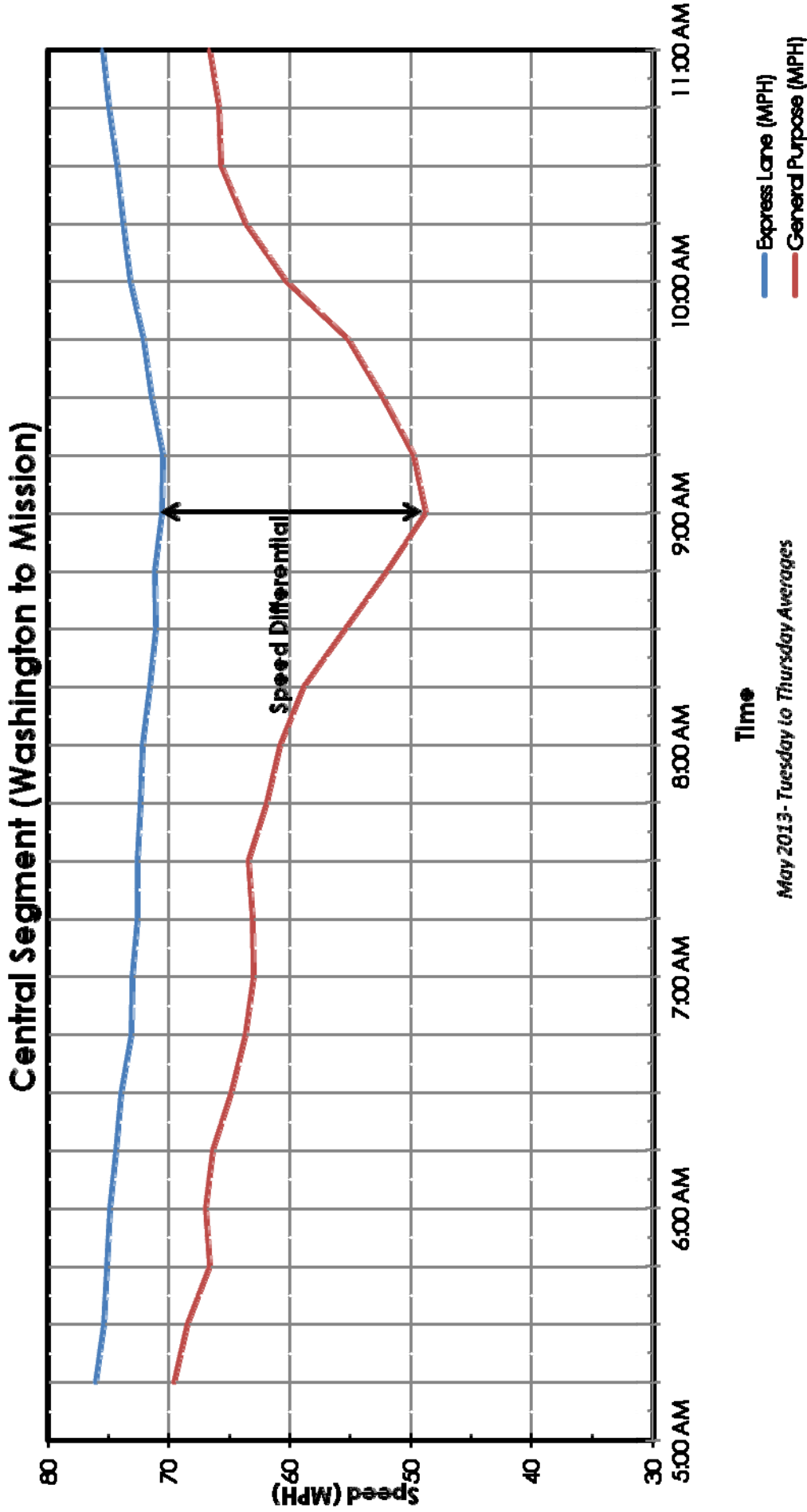
Average Peak Period Toll Rate \$2.65 **\$2.06**



Average Travel Speed During Morning Commute Hours (Within 14-mile Express Lane Facility)



Average Daily Speed Curves During Peak Commute Period (May 2013)

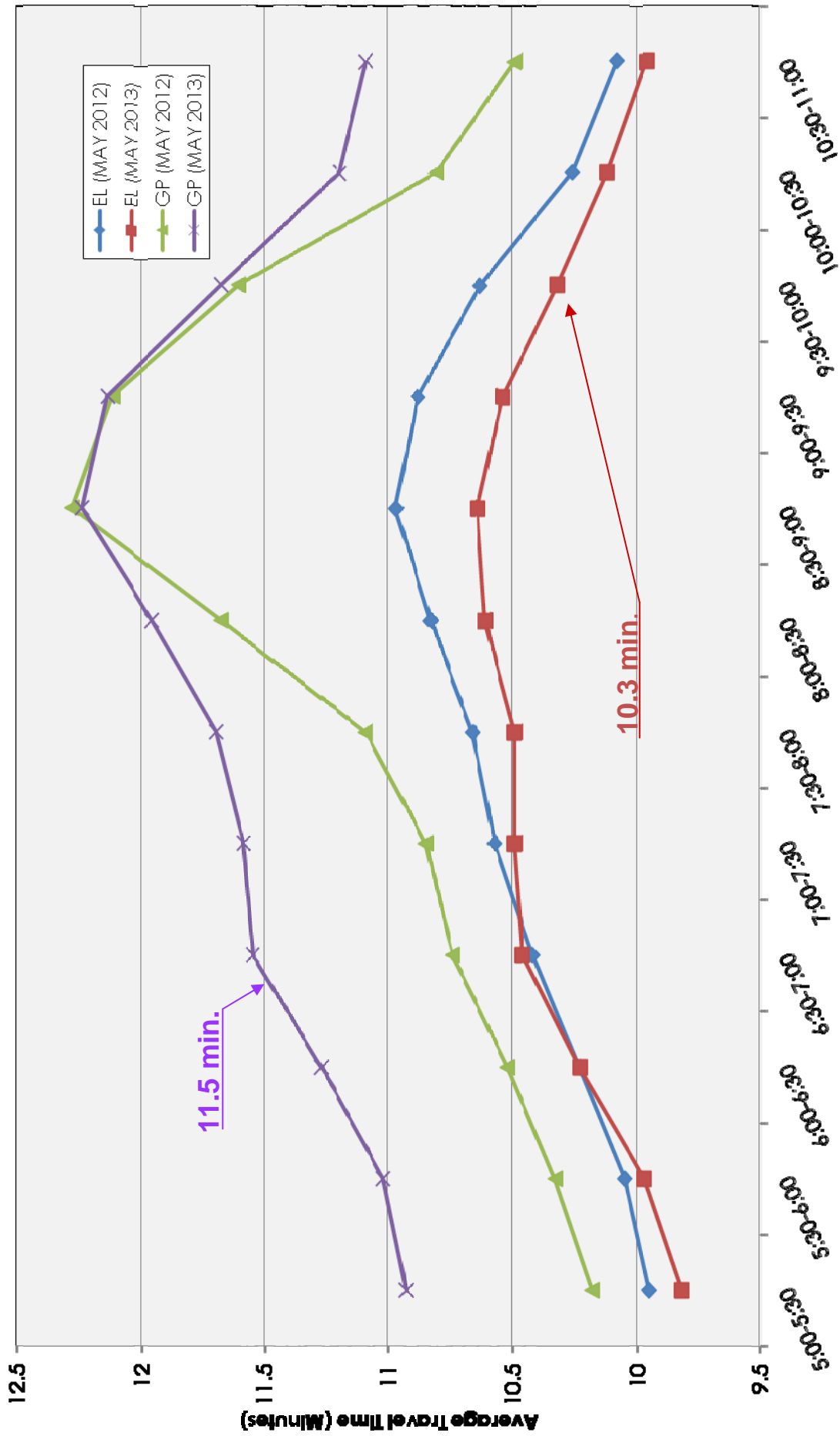


May 2013- Tuesday to Thursday Averages



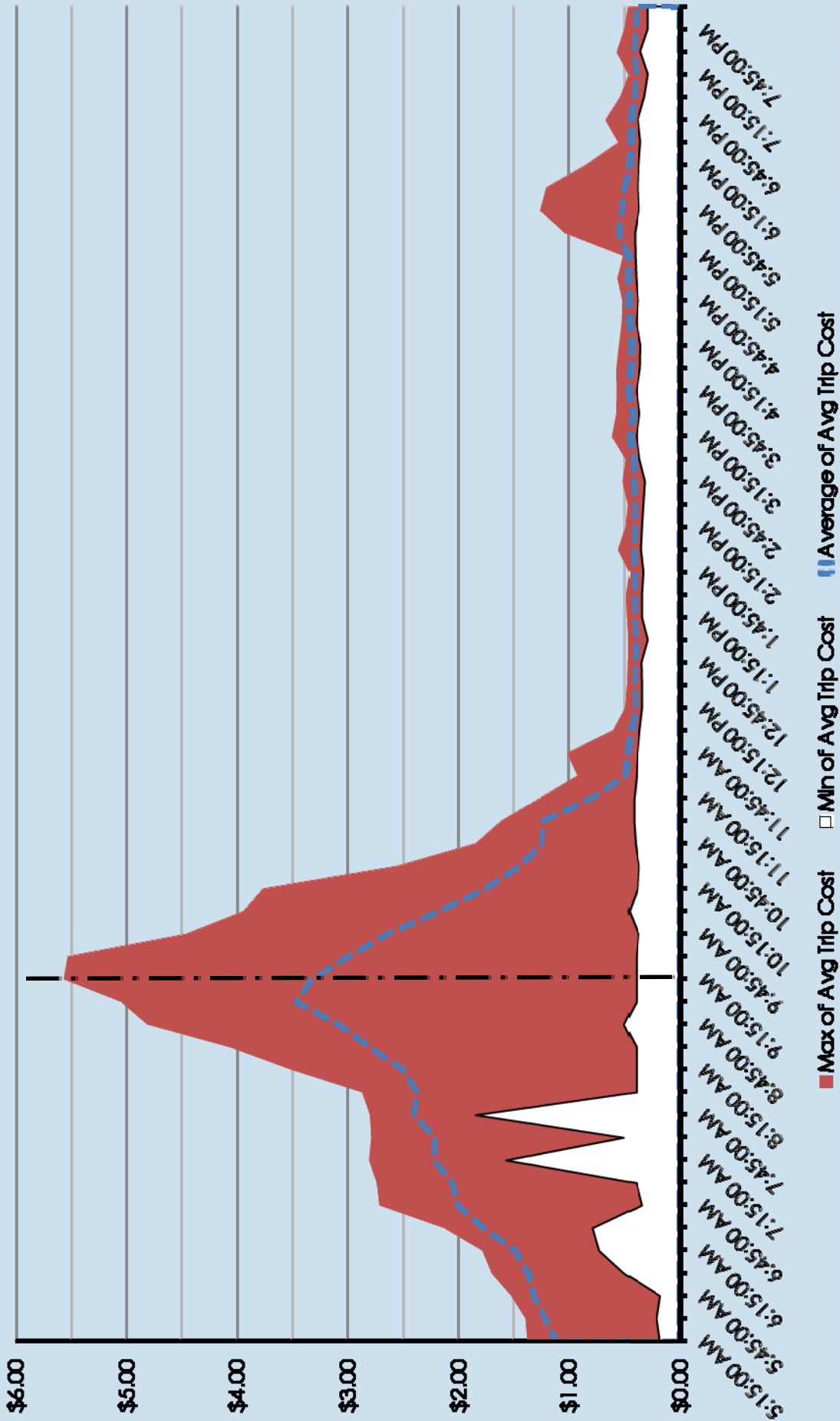
Average Travel Time During Morning Commute Hours

(Within 14-mile Express Lane Facility)



Average Toll Range

May 2013
(5 AM to 8 PM)



Revenue (Actual Gross vs. Forecasted)

Revenue in FY 2012/13 (July 2012 – May 2013)

Actual Gross

\$1,309,330

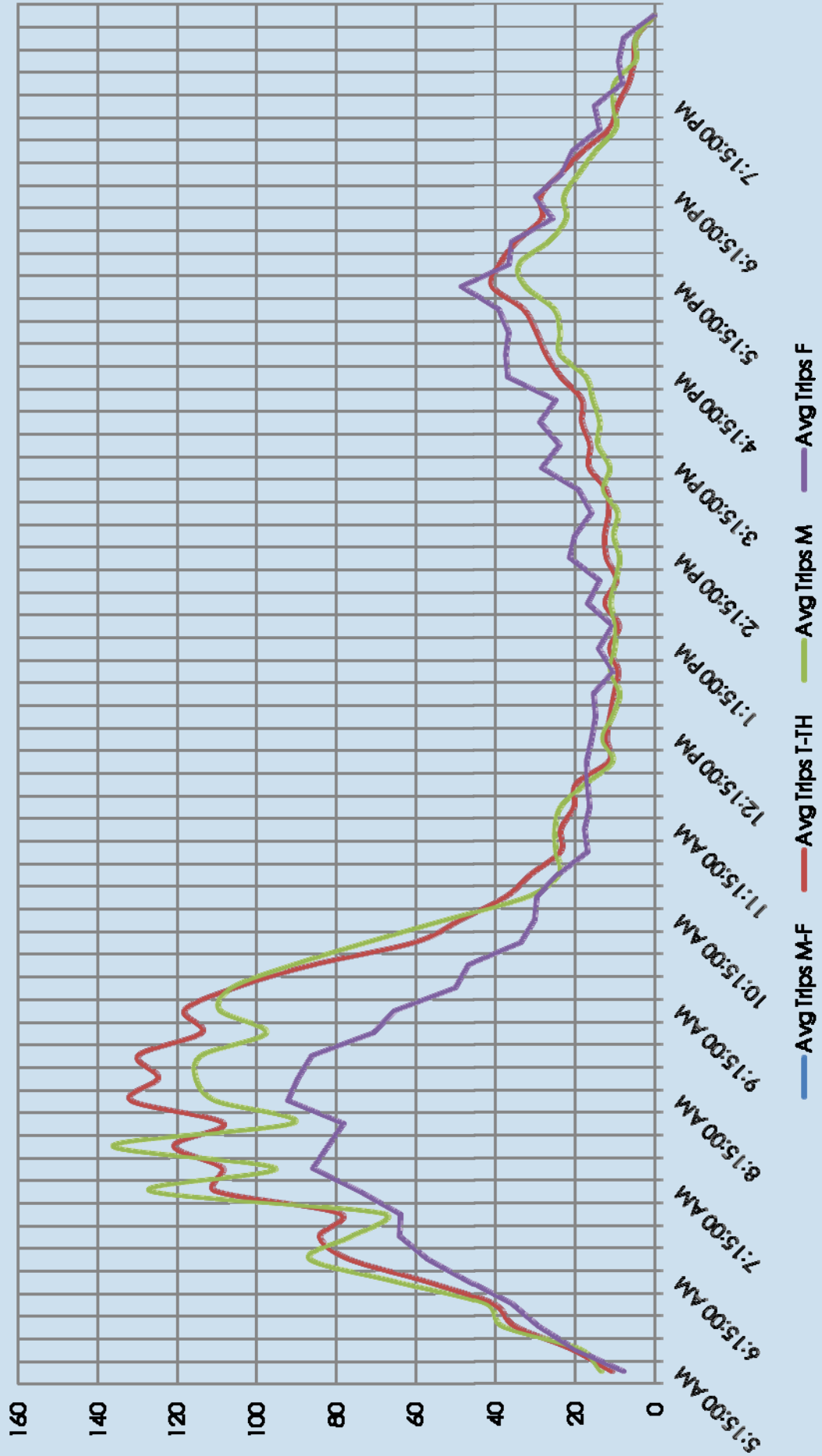
Forecasted*

\$962,500

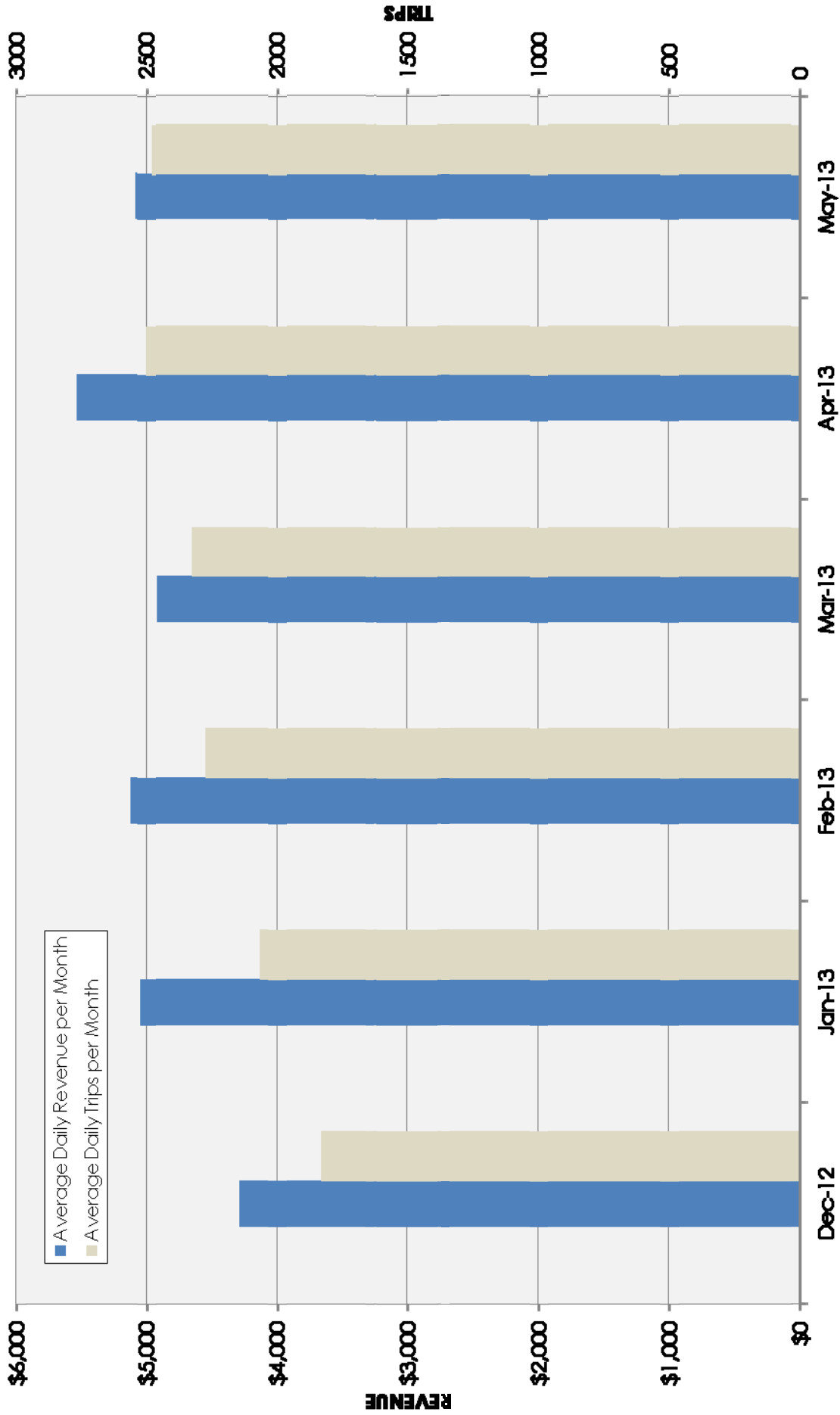
* Forecasted revenue for the full FY 13
is \$1,050,000

Average Daily Toll Trips

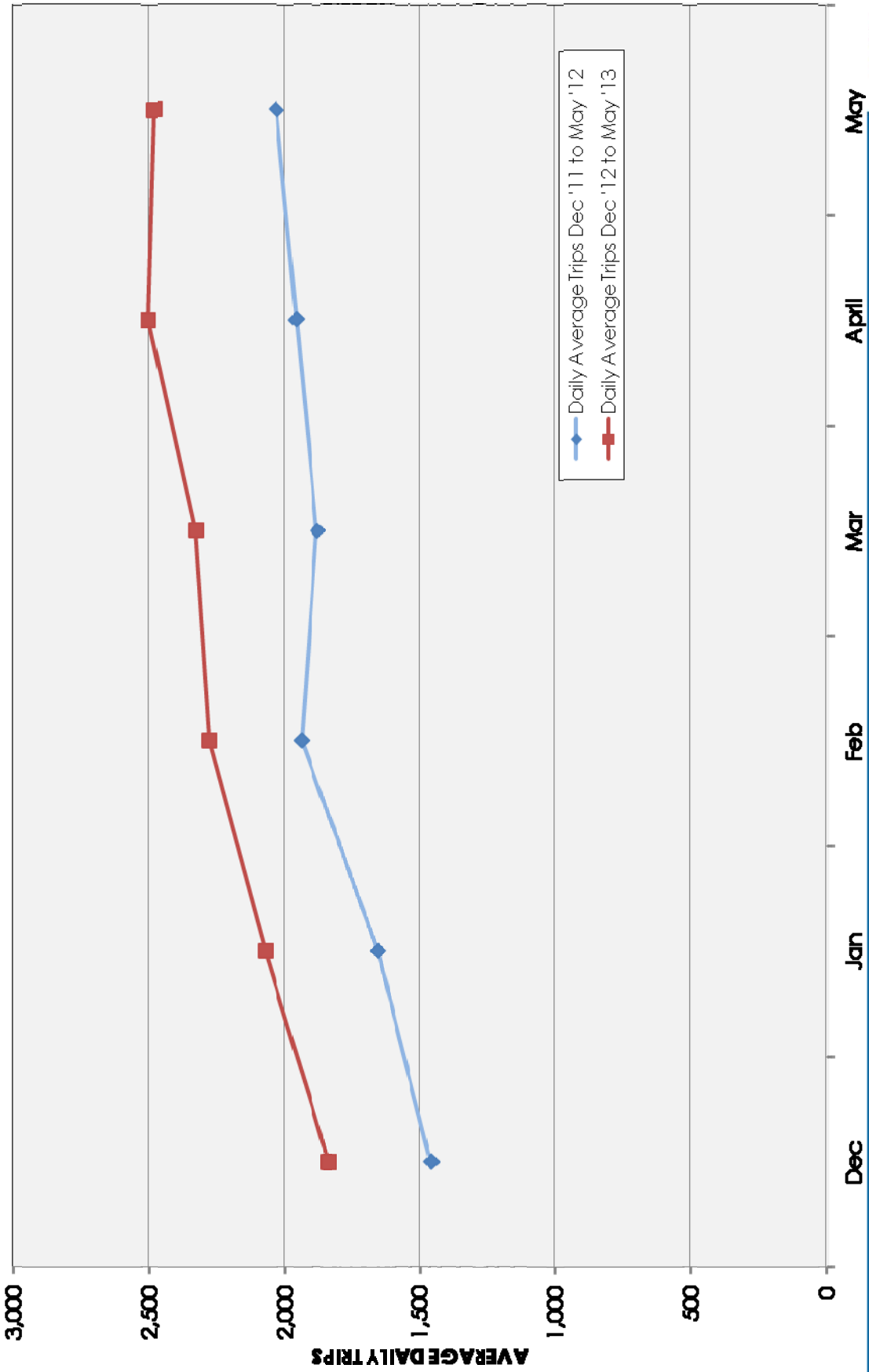
May 2013
(5 AM to 8 PM)



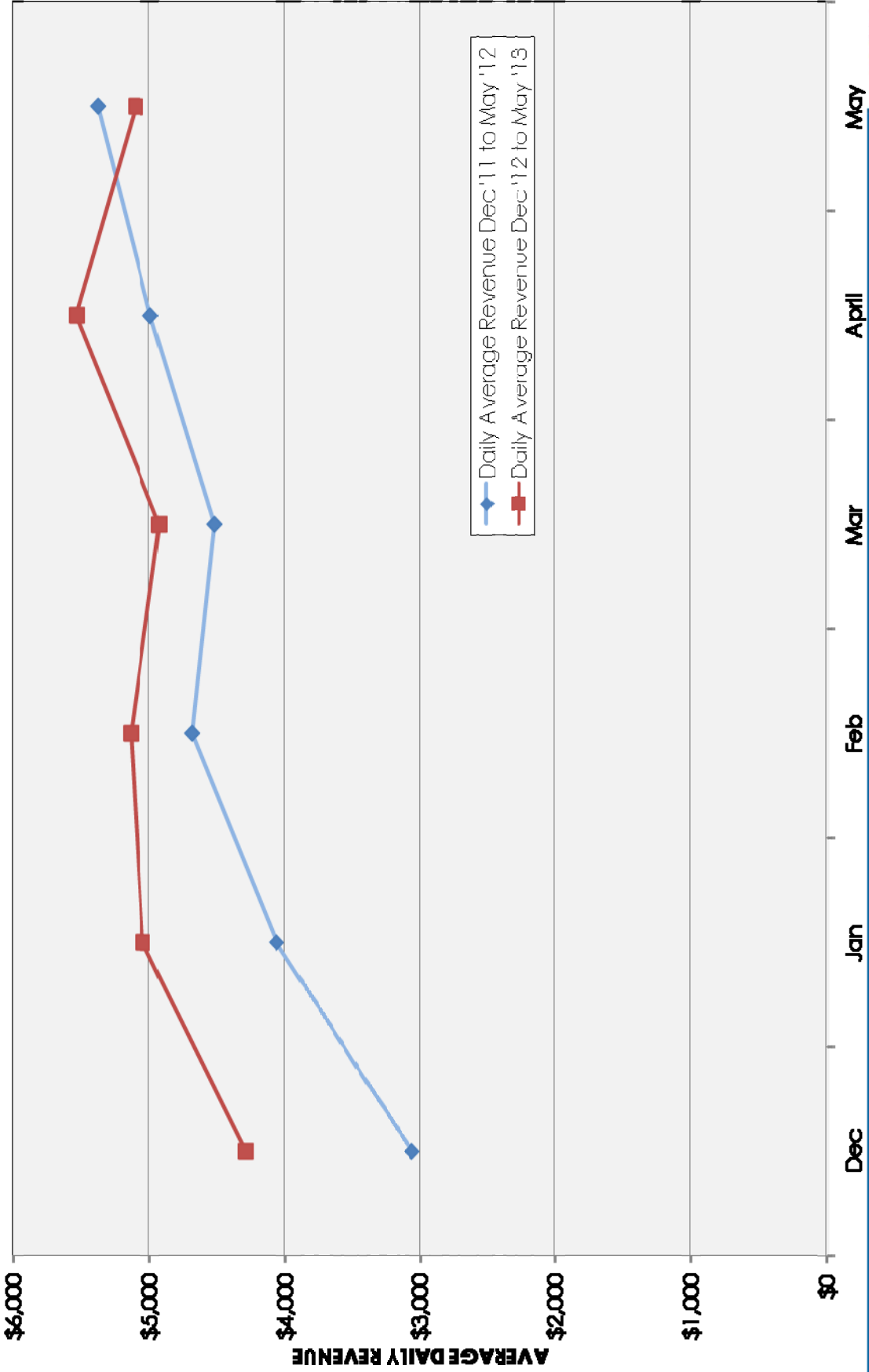
Average Daily Express Lane Revenue & Toll Trip Comparison



Average Daily Express Lane Toll Trips Comparison (Past 6 months)



Average Daily Express Lane Revenue Comparison (Past 6 months)





Questions ?

This page intentionally left blank.



Memorandum

4.3

1333 Broadway, Suites 220 & 300, Oakland, CA 94612 • PH: (510) 208-7400 • www.AlamedaCTC.org

DATE: July 1, 2013

SUBJECT: I-680 Northbound Express Lane (PN 721.0): Monthly Status Update

RECOMMENDATION: Receive a monthly status update on the project development activities of the I-680 Northbound Express Lane Project.

Summary

The I-680 Northbound Express Lane Project will widen I-680 from SR 237 in Santa Clara County to SR 84 in Alameda County and construct a northbound HOV/Express Lane in the corridor. The purpose of this item is to provide the Board with a monthly status update of project development activities which are either completed or planned for the project. This item is for information only.

Background

The I-680 Northbound Express Lane Project will widen I-680 from SR 237 in Santa Clara County to SR 84 in Alameda County and construct a northbound HOV/Express Lane in the corridor. The project is intended to provide a number of benefits including: 1) enhanced mobility by reducing traffic congestion; 2) reduced travel time and improved travel reliability and 3) reduced congestion related accidents; thereby enhancing safety. The Express Lane facility will utilize unused HOV lane capacity by offering solo drivers the opportunity to pay a toll electronically to access the lane, while regular carpool users will continue to use the lane at no cost.

In mid-2011, the Alameda CTC embarked on the program to convert an already approved I-680 Northbound High Occupancy Vehicle (HOV) Lane project to a combined I-680 Northbound HOV/Express Lane facility. However, in August 2011, in response to a writ filed by a local city, the Alameda County Superior Court directed Caltrans to vacate the environmental document prepared for the I-680 Northbound HOV Lane Project in its entirety. Given the Court's direction, it was determined by Caltrans and Alameda CTC in late 2011, that a Project Initiation Document and a completely new and higher level of environmental document involving expanded preliminary engineering, traffic analysis, and technical studies, was needed to obtain environmental clearance for the project.

The Project Team continues to make progress towards completing a final environmental document by March 2015. A discussion of major tasks planned for the project in Calendar Year 2013 is detailed below.

Traffic Studies

A Draft Traffic Operational Analysis Report (TOAR) documenting existing traffic conditions analysis, traffic forecasts, and the highway operations analysis has been completed. The team will be using traffic operational analysis to determine project implementation phases, access type and perceived effects on local arterials. This report documents the existing, Year 2020 and Year 2040 traffic conditions for both the "Build" and the "No Build" alternatives. Based on Caltrans and local agency reviews, the final approval of the TOAR is anticipated in July 2013.

Environmental Technical Studies

All environmental technical field surveys are complete. A list of required technical studies is included in Attachment A of this report. Draft technical reports for all of the environmental studies are complete. Several reports have already been approved by Caltrans; those remaining are currently under review. Approval of all final reports is expected in July 2013.

Environmental Document

Based on input that the design team received during the environmental scoping process, traffic studies, geometric design and environmental technical studies the project team plans to complete an administrative draft environmental document (Admin DED) for review by Alameda CTC and Caltrans staff in August 2013. Alameda CTC will work with Caltrans to complete this task concurrent to completing the environmental technical studies in order to gain time in completing a final project approval. Various cycles of internal agency reviews are expected prior to publishing the DED for public review and comment. Public circulation of the DED and completion of a final document are expected in April 2014 and March 2015, respectively.

Project Approval

The Project Report (PR) process is underway. The Draft PR will document the need for the project and summarize the studies, cost, scope, and overall impact of project alternatives. Approval of the Draft PR is required prior to releasing a DED for public circulation and agency reviews. A Draft PR is planned for completion in April 2014. After the public and agency review process is complete and a preferred alternative is selected by the project development team, the Draft PR will be updated to become the Final PR. Completion of a Final PR indicates Caltrans, FHWA and Alameda CTC approval of the project. Final PR approval for this project is anticipated in March 2015.

Project Implementation Approach

The Project Report and Environmental Document will include studies and analysis for both the full project limits (SR 237 to SR 84) and an initial phase of construction (Auto Mall Parkway to SR 84). The limits for the initial phase of construction are based on preliminary traffic operational analysis results and projected funding availability.

Fiscal Impact

There is no fiscal impact.

Attachments

- A. List of Planned Project Tasks/Technical Studies

Staff Contact

[Stewart Ng](#), Deputy Director of Programming and Projects

[Gary Sidhu](#), Project Controls Team

This page intentionally left blank

Attachment A

LIST OF PLANNED PROJECT TASKS/TECHNICAL STUDIES

ID	DELIVERABLE	STATUS
PRELIMINARY ENGINEERING		
1	PSR-PDS	Approved
TRAFFIC STUDIES		
2	Traffic Data Collection	Complete
3	Existing Conditions Assessment	Approved
4	Model Validation	Approved
5	Traffic Forecasts	Approved
6	Preliminary Traffic Operations Sensitivity Analysis	Complete
7	Traffic Operations Analysis	Draft Complete
8	Traffic Operations Analysis Report (TOAR)	Draft Complete
9	Traffic & Revenue Study	Draft Complete
ENVIRONMENTAL STUDIES		
10	Public Scoping Report	Approved
11	Biological Field Surveys	Complete
12	Bat Species Study	Approved
13	Jurisdictional Wetlands Report	Approved
14	California Red Legged Frog Study	Approved
15	Special Status Plant Species Study	Approved
16	Natural Environment Study (NES)	Draft Complete
17	Biological Assessment	
18	Biological Opinion	
19	Water Quality Assessment	Approved
20	Location Hydraulic Study	Final Draft Complete
21	Initial Site Assessment	Approved
22	Air Quality PM 2.5 Assessment	Complete
23	Air Quality and Greenhouse Gas Analysis Report	Draft Complete
24	Noise Surveys	Complete
25	Noise Impact Report	Draft Complete
26	Noise Abatement Decision Report (NADR)	Underway
27	Visual Impact Assessment	Draft Complete
28	Community Impact Assessment	Draft Complete
29	APE Mapping	Complete
30	Archaeological Survey Report (ASR)	Draft Complete
31	Historic Architectural History/Built Resources Report (HRER)	Draft Complete
32	Historic Property Survey Report (HPSR)	Underway
33	Paleontological Identification and Evaluation Report	Final Draft Complete
34	Preliminary Geological Assessment	Draft Complete

ID	DELIVERABLE	STATUS
ENVIRONMENTAL DOCUMENT		
35	Project Description	Complete
36	1 st Admin DEIR/EA	Underway
37	2 nd Admin DEIR/EA	
38	3 rd Admin DEIR/EA	
39	DEIR/EA	
40	1 st Draft FEIR/EA	
41	2 nd Draft FEIR/EA	
42	3 rd Draft FEIR/EA	
43	FEIR/EA	
PROJECT APPROVAL		
44	Geometric Design	Draft Complete
45	Roadway Plans	Draft Complete
46	Traffic Safety Assessment	Draft Complete
47	Fact Sheets (Mandatory and Advisory)	Underway
48	Value Analysis Study	Complete
49	Storm Water Data Report	Draft Complete
50	Pavement Life Cycle Cost Analysis	Underway
51	Hydromodification Assessment Report (included in Item 19)	Approved
52	Utility Coordination	Underway
53	R/W Engineering	Underway
54	Advance Planning Study - Bridges	Underway
55	Advance Planning Study - Special Retaining Walls	Underway
56	Preliminary Foundation Report	Underway
57	Preliminary Geotechnical Report	Draft Complete
58	Encroachment Policy Variance Request (Utilities)	Underway
59	Structures Aesthetics Guidelines	Underway
60	Conceptual Landscape Plan	Underway
61	Cost Estimate	Underway
62	Draft Project Report	Underway
63	Project Report	



Memorandum

A.3

1333 Broadway, Suites 220 & 300, Oakland, CA 94612 • PH: (510) 208-7400 • www.AlamedaCTC.org

DATE: July 1, 2013

SUBJECT: I-580 Express Lane Projects Workshop: Concept of Operations Review

RECOMMENDATION: Provide input on key concepts that define the development of the I-580 Express Lanes.

Summary

Development and implementation of the I-580 Express Lanes is underway from Hacienda Drive to Greenville Road in the eastbound direction and from Greenville Road to San Ramon Road/Foothill Road in the westbound direction. This is the second express lane project that will be implemented in Alameda County and is part of a larger Bay Area Express Lane network that is being implemented with partner agencies. New technologies and new methods for using the lanes will be employed in this corridor and will be coordinated with the regional network. The development and implementation schedule for the I-580 Express Lanes is ahead of most other express lanes in the region and several design, operations, enforcement and educational decisions must be made that will ultimately be consistent with other express lanes to ensure that the public understands and can readily use the lanes as a regional network. This memo provides an overview of issues and solutions associated with several different development areas of the express lanes: design and infrastructure, operations and enforcement, policy and legislation, education and outreach, and agency coordination. This item is for information only.

Background

The I-580 corridor has consistently been rated as one of the top three congested freeway segments within the San Francisco Bay Area region. As the next step in strategic investments in this corridor, the Alameda CTC is implementing express lanes in both the east and westbound directions. The express lanes will include the implementation of an Electronic Toll System (ETS) to collect revenue generated by single-occupant users of the express lanes. ETS implementation is considered a high-profile Intelligent Transportation System activity by the Federal Highway Administration (FHWA) and requires the completion of a Concept of Operations report as a prerequisite for the system hardware and software design. This memorandum outlines key concepts developed for ETS implementation.

The express lane concept is an innovative transportation solution that utilizes technology to optimize the existing corridor capacity to provide traffic congestion relief.

Express lanes provide the following benefits:

- Expands travel choices by allowing solo drivers to use the underutilized capacity in the High Occupancy Vehicle (HOV) lane for a fee when time saving is of value,
- Optimizes the existing corridor capacity and improves efficiency of the corridor,
- Provides travel reliability, and
- Creates a revenue source to pay for future corridor improvements, including closing gaps in the HOV network, transit investments and other improvements to increase connectivity.

By researching industry trends, evaluating lessons learned from the only operating express lane in Alameda County, the I-680 Southbound Express Lane, sharing information with the local, regional, state and national toll operators and employing industry experts as project staff, Alameda CTC has developed concepts for the ETS implementation. The draft Concept of Operations plan has documented these concepts, which include: express lane access design, toll pricing strategies, software and hardware needs, the operating organizational structure, enforcement concepts, and system maintenance requirements. Because the express lane implementation is still a relatively new concept, staff began providing periodic updates to the I-580 Policy Committee about the key concepts, beginning in November 2012. There are additional policy and design related issues that require detailed discussions at the Committee meetings. Over the next several months, staff will provide detailed information on a series of topics and will request feedback from the Commissioners on policy issues to keep project development moving forward. Attachment A provides the list of topics planned for discussion that will be presented at the July, September and October 2013 meetings.

Staff will provide a presentation in July that will include an overview of all design and policy aspects of the project, and will address any specific questions or comments that the Commissioners may have on the following topics:

- Design and Infrastructure: express lane access design
- Operations and Enforcement: pricing strategies, messaging and enforcement
- Policy and Legislation
- Public Education and Outreach
- Agency Coordination

1. Design and Infrastructure

Design of express lanes: In general, a continuous access express lane facility looks and feels like an HOV lane facility. It provides easy access to the lane and is suitable for facilities where the interchange densities are high, entrance ramps are closely spaced and the majority of those ramps are carrying large volumes of express lane-bound vehicles. The I-580 Corridor possesses these characteristics. The project will include a combination of limited and continuous access configurations, collectively known as “near continuous” (aka “more open”) access. The project will install limited access in the areas where potential traffic conflicts are anticipated.

A near continuous access express lane on I-580 will provide the following benefits:

- Increased access opportunities to HOV, transit & toll paying users
- Improved corridor throughput by providing increased access opportunities
- Reduced customer complaints related to access challenges
- Increased driver familiarity of the express lane since it will look and feel like an HOV lane facility
- Reduced foot print required to install express lanes in a shared facility

The following describes the planned access configuration:

In the eastbound I-580 direction:

- Limited access (buffer separated) single-lane HOV/Express Lane will be installed from Hacienda Drive to Fallon Road,
- Continuous access dual-lane HOV/Express Lane will be installed from Fallon Road to west of Vasco Road, and
- Continuous access single-lane HOV/Express Lane will be installed from west of Vasco Road to Greenville Road.

In the westbound I-580 direction:

- Continuous access single-lane HOV/Express Lane will be installed from Greenville Road to Hacienda Drive,
- Limited access single-lane HOV/Express Lane will be installed from Hacienda Drive to the I 580/I-680 Interchange, and
- Continuous access single-lane HOV/Express Lane will extend from the I-580/I-680 interchange and terminate at San Ramon Boulevard.

The planned near continuous access implementation on I-580 is consistent with other regional agencies plans for the implementation of their upcoming express lane facilities. In the United States, the I-35W Express Lane in the Minneapolis metropolitan area is the only existing operational near continuous express lane. In Seattle, Washington, efforts are underway to convert the existing SR-167 limited access express lane to a continuous access-type facility as a demonstration project. The near continuous access express lane on I-35W is depicted in Attachment B.

Design of tolling equipment: Since the access configuration is near continuous, which will increase the ingress and egress opportunities, it will be difficult to implement tolls based on lane miles traveled. A "zone tolling" concept will have to be implemented that will employ a flat fee for travel within a zone, based on real-time travel demand in the corridor.

Since the near continuous express lane provides increased access opportunities, closely spaced toll antennas and readers (placed on overhead toll gantries spaced approximately at $\frac{3}{4}$ mile intervals) are essential for effective read of FasTrak® transponders. Within a tolling zone, a transponder will have to be read just once, at one of the closely spaced toll readers for fee collection and travel within that zone. It is less likely that the toll evaders will try to bypass each of these closely spaced toll gantries during the congested commute hours, thus minimizing revenue leakage. Therefore, zone tolling will not only support near continuous access configuration but also help reduce toll evasion.

Real-time traffic/travel conditions will be gathered by traffic monitoring stations/devices, in the express and general purposes lanes and demand-based toll rates will be calculated utilizing a dynamic pricing model algorithm. Calculated toll rates will be displayed on Dynamic Message Signs (DMSs) ahead of express lane entry locations in order to inform travelers. The DMSs are expected to display two rates, the first rate is for travel within the current or immediately downstream zone and the second rate is for travel to a major destination within the corridor (determined as end of the line in this I-580 Corridor). See Attachment C illustrating and example of the I-580 Express Lane zones and a price message sign.

2. Operations and Enforcement

While the near continuous access could potentially generate additional revenue, it might lead to an increase in revenue leakage due to challenges associated with enforcing express lane violations in a shared facility, which for the most part has no physical barrier or striped buffer separation between the express and general purposes lanes. In addition, the project will employ an increased number of toll gantries and it will not be cost effective to install enforcement areas at each of the toll gantry locations to support manual enforcement. Staff communicated with other toll operators in the country where their systems have relied on limited manual enforcement estimates, and found that the violation rate is estimated at 15%. The "After Study" completed on the I-680 Southbound

Express Lane assessed the violation rate at 20%. Therefore, staff has actively sought cost effective solutions, consulted industry experts and proposes an automated violation enforcement system for implementation on this project. This system will include a violation enforcement system (VES) that employs license plate recognition (LPR) capabilities, (i.e. cameras which are capable of capturing the license plate images when vehicles fail to carry valid transponders or are not registered as HOV users).

The LPR cameras will be installed at every toll gantry spaced at approximately $\frac{3}{4}$ mile intervals to minimize toll violation. The primary components of the LPR subsystem are a camera, a light source, and an image processor. Cameras and lights will be mounted on the toll gantry directly above the express lanes to capture the rear license plate for each vehicle. When a toll transponder is not read and recorded, a vehicle detector installed at the toll gantry will trigger the mechanism to capture the vehicle license plate. All images, including those that cannot successfully be processed by optical character recognition (OCR) software, will be compiled in corresponding transaction records, which ultimately will be sent to the customer service center for processing.

3. Policy and Legislation

In order to assess toll violation penalties, the Commission will likely have to adopt a "Toll Ordinance" under the purview of Vehicle Code Section 40250 that allows toll operators to enact such ordinances. The toll ordinance will include several administrative steps, including appeal and hearing processes. In April 2012, Los Angeles County Metropolitan Transportation Authority (LA Metro) adopted a toll ordinance for similar purposes; additional information about this ordinance effort will be provided in coming months.

To facilitate the automated violation enforcement system and to distinguish between the HOV, toll paying and toll evading vehicles, each traveler in the express lanes will either be required to carry a transponder or have their vehicle (license plate) registered as a HOV/Single Occupancy Vehicle (SOV). Per these requirements, the VES/lane controller can easily single out the toll violators. In addition, the requirements will reduce the volume of license plate imaging that would otherwise have to be processed through the OCR process. On the I-85 Express Lane in Atlanta, all vehicles are required to carry transponders. Currently, neither the Department of Motor Vehicles (DMV) nor Metropolitan Transportation Commission (MTC) require vehicles to register as HOV or SOV. Based on this situation, each vehicle will have to carry either a legacy or switchable transponder, to effectively implement automated toll violation enforcement.

With switchable transponders, the HOV users will have the ability to self-declare the number of occupants in the vehicle by setting the occupant count as "1," "2," or "3." The toll readers will be equipped to recognize this feature and assess the fees, based on the adopted toll policy/business rules. Currently, the HOV users are allowed to travel for free in the express lane facilities. The current HOV eligibility on I-580 is 2 or more (2+). LA Metro implemented automated violation enforcement and the use of switchable transponders when it opened its express lanes on I-110 and I-10 in November 2012 and

February 2013, respectively. MTC is contemplating employing similar techniques when it opens its Tier 1 Bay Area Express Lane network projects in Solano, Contra Costa and Alameda counties. Since a reliable technology has yet to be developed for an automated vehicle occupancy count, manual enforcement will initially be employed on I-580 to deter occupancy violations.

The Vehicle Code section 149.5 (b) stipulates that unrestricted access to the Alameda County express lanes by HOV vehicles shall be available at all times. Therefore, legislative efforts are necessary to clarify the Vehicle Code and require HOV users to carry transponders while accessing the express lane facility. LA Metro and other toll operators in the region will have to pursue similar legislation in order to enforce the toll transponder requirement for all users. Staff has begun to coordinate with other entities to collectively pursue legislation. Additional information will be provided in coming months. A VES system and switchable transponder are illustrated in Attachment D.

4. Public Education and Outreach

As outlined in the I-580 Work Plan which was presented to the Committee in April 2013, staff is working towards completing a public education and marketing plan by the end of this calendar year. Goals of the plan are to: advance education of the Project benefits, provide information on how to use or access the new facility and on-going public education to support the use and understanding of this new commute choice. Targeted audiences will include: HOV users, current FasTrak® users and other potential express lane users.

The I-580 Express Lanes and associated physical and technological features such as the continuous access, zone-based dynamic toll pricing, toll messaging, FasTrak® requirements and customer service center operations are relatively new to commuters, and, therefore, will require early customer education and marketing strategies. The public education and marketing strategies are expected to commence in July 2014, well in advance of the planned opening of the facility in October 2015, and extend at minimum six months beyond the opening date. Staff is working with other regional entities to effectively manage both the traveling public and the elected officials' expectations.

5. Agency Coordination

Staff has been coordinating the project development efforts with other congestion management agencies such as the Santa Clara Valley Transportation Authority (VTA), Contra Costa Transportation Authority (CCTA) and the Solano Transportation Authority (STA); the MTC/Bay Area Toll Authority (BATA) and collaborating with the California Toll Operators Committee (CTOC), California Department of Transportation (Caltrans), and FHWA. In addition, staff routinely communicates with other toll operators such as the LA Metro, Orange County Transportation Authority (OCTA) and the Minnesota Department of Transportation to share information and validate concepts developed for the project.

Fiscal Impact: There is no fiscal impact.

Attachments

- A: List of Express Lane items for discussion in upcoming meetings
- B: Picture of a near continuous access express lane
- C: Sample I-580 zone and pricing message sign diagrams
- D: Automated violation enforcement: Pictures of VES system and switchable transponder

Staff Contact

[Stewart Ng](#), Deputy Director of Programming and Projects

[Kanda Raj](#), Project Controls Team

This page intentionally left blank

A: List of Express Lane items for discussion in upcoming meetings

I580 PC/I680 Sunol JPA Meeting Date	List of Items
July 8, 2013	<ol style="list-style-type: none"> 1. Design and Infrastructure <ol style="list-style-type: none"> a. Lane Design for Access b. Equipment and lane design to support pricing strategies and messaging 2. Operations and Enforcement: Concept of Operations, including Enforcement 3. Policy Overview: Legislation and Ordinance 4. Public Education and Marketing Strategies 5. Agency Coordination
September 9, 2013	<ol style="list-style-type: none"> 1. Enforcement 2. Policy and Legislation <ol style="list-style-type: none"> a. Toll Ordinance b. Legislation {clean up Vehicle Code 149.5(b)} c. HOV Degradation d. FHWA MAP-21 Interoperability e. Caltrans Deputy Directive-43 3. Public Education and Marketing Strategies
October 14, 2013	<ol style="list-style-type: none"> 1. Operations <ol style="list-style-type: none"> a. Revenue Study Results b. HOV Eligibility (2+, 3+, etc.) c. Hours of Operation 2. Policy: Tolling Policies and Business Rules 3. Environmental Justice 4. Public Education and Marketing Strategies

This page intentionally left blank

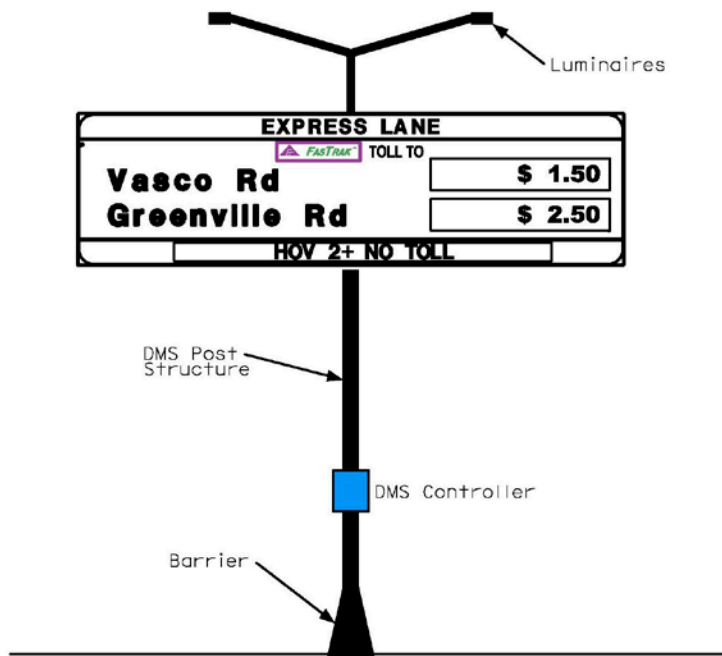
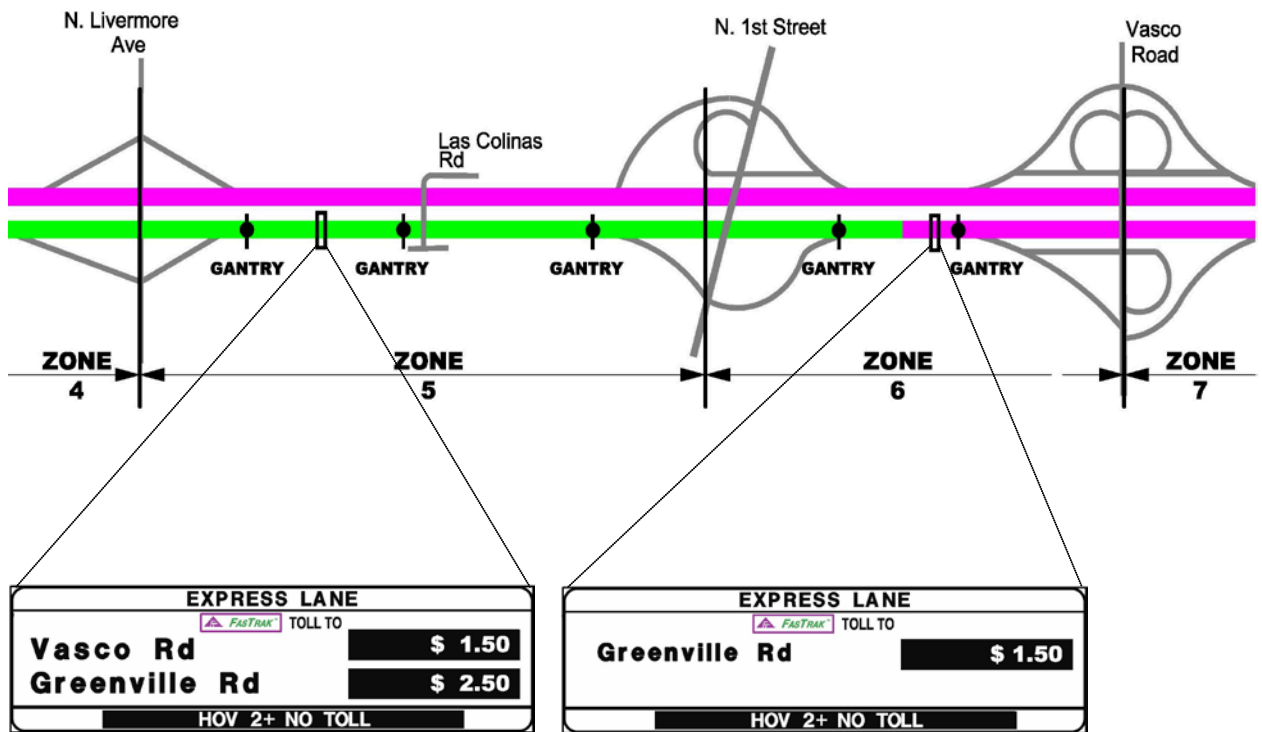
B: Picture of a near continuous access express lane



I-35W Express Lane in Minneapolis, Minnesota

This page intentionally left blank

C: Sample I-580 zone and pricing message sign diagrams



This page intentionally left blank

- D: Automated violation enforcement: Pictures of VES system and switchable transponder



This page intentionally left blank