



I-580 Express Lane Policy Committee Meeting Agenda Monday, April 9, 2018, 10:00 a.m.

Committee Chair:	Nate Miley, Alameda County, District 4	Executive Director:	Arthur L. Dao
Vice Chair:	David Haubert, City of Dublin	Staff Liaison:	Liz Rutman
Members:	Scott Haggerty, John Marchand, Jerry Thorne	Clerk of the Commission:	Vanessa Lee
Ex-Officio:	Richard Valle, Pauline Cutter		

1. Call to Order/Pledge of Allegiance

2. Roll Call

3. Public Comment

4. Consent Calendar Page/Action

4.1. Approve February 12, 2018 I-580 Express Lane PC Meeting Minutes	1	A
--	---	---

5. Regular Matters

5.1. I-580 Express Lanes (PN 1373.002): Approve Amendment No. 2 to Service Agreement 15R390000 with the California Highway Patrol to extend the term of the agreement for two additional years and an additional budget of \$800,000 for a total not-to exceed amount of \$1,806,000	5	A
5.2. Interstate 580 Express Lanes Expenditure Plan for the Fiscal Years 2016-17 through 2035-36	9	A
5.3. I-580 Express Lanes: Monthly Operations Status Update	63	I

6. Committee Member Reports

7. Staff Reports

8. Adjournment

Next Meeting: Monday, May 14, 2018

Notes:

- All items on the agenda are subject to action and/or change by the Commission.
- To comment on an item not on the agenda (3-minute limit), submit a speaker card to the clerk.
- Call 510.208.7450 (Voice) or 1.800.855.7100 (TTY) five days in advance to request a sign-language interpreter.
- If information is needed in another language, contact 510.208.7400. Hard copies available only by request.
- Call 510.208.7400 48 hours in advance to request accommodation or assistance at this meeting.
- Meeting agendas and staff reports are available on the [website calendar](#).
- Alameda CTC is located near 12th St. Oakland City Center BART station and AC Transit bus lines. [Directions and parking information](#) are available online.

This page intentionally left blank



Alameda CTC Schedule of Upcoming Meetings:

Commission Chair

Supervisor Richard Valle, District 2

Commission Vice Chair

Mayor Pauline Cutter,
City of San Leandro

AC Transit

Board President Elsa Ortiz

Alameda County

Supervisor Scott Haggerty, District 1
Supervisor Wilma Chan, District 3
Supervisor Nate Miley, District 4
Supervisor Keith Carson, District 5

BART

Director Rebecca Saltzman

City of Alameda

Mayor Trish Spencer

City of Albany

Councilmember Peter Maass

City of Berkeley

Councilmember Kriss Worthington

City of Dublin

Mayor David Haubert

City of Emeryville

Mayor John Bauters

City of Fremont

Mayor Lily Mei

City of Hayward

Mayor Barbara Halliday

City of Livermore

Mayor John Marchand

City of Newark

Councilmember Luis Freitas

City of Oakland

Councilmember At-Large
Rebecca Kaplan
Councilmember Dan Kalb

City of Piedmont

Vice Mayor Teddy Gray King

City of Pleasanton

Mayor Jerry Thorne

City of Union City

Mayor Carol Dutra-Vernaci

Executive Director

Arthur L. Dao

Description	Date	Time
Alameda County Technical Advisory Committee (ACTAC)	May 10, 2018	1:30 p.m.
Finance and Administration Committee (FAC)	May 14, 2018	8:30 a.m.
I-680 Sunol Smart Carpool Lane Joint Powers Authority (I-680 JPA)		9:30 a.m.
I-580 Express Lane Policy Committee (I-580 PC)		10:00 a.m.
Planning, Policy and Legislation Committee (PPLC)		10:30 a.m.
Programs and Projects Committee (PPC)		12:00 p.m.
Independent Watchdog Committee (IWC)	July 9, 2018	5:30 p.m.
Paratransit Technical Advisory Committee (ParaTAC)	September 11, 2018	9:30 a.m.
Alameda CTC Commission Meeting	April 26, 2018	2:00 p.m.
Paratransit Advisory and Planning Committee (PAPCO)	May 21, 2018	1:30 p.m.
Bicycle and Pedestrian Community Advisory Committee (BPAC)	June 28, 2018	5:30 p.m.

All meetings are held at Alameda CTC offices located at 1111 Broadway, Suite 800, Oakland, CA 94607. Meeting materials, directions and parking information are all available on the [Alameda CTC website](http://www.AlamedaCTC.org).

This page intentionally left blank



I-580 Express Lane Policy Committee Meeting Minutes Monday, March 12, 2018, 10:00 a.m.

4.1

1111 Broadway, Suite 800, Oakland, CA 94607 • PH: (510) 208-7400 • www.AlamedaCTC.org

1. Call to Order/Pledge of Allegiance

2. Roll Call

A roll call was conducted. All members were present with the exception of Commissioner Cutter.

3. Public Comment

There were no public comments.

4. Consent Calendar

4.1. Approve the February 12, 2018 I-580 Express Lane PC meeting minutes.

Commissioner Marchand moved to approve the Consent Calendar. Commissioner Narum seconded the motion. The motion passed with the following votes:

Yes: Miley, Haubert, Marchand, Haggerty, Narum, Valle

No: None

Abstain: None

Absent: Cutter

5. Regular Matters

5.1. Approve Release of Request For Proposal (RFP) for I-580 Toll System

Integrator and RFP for Express Lane System Manager/Program Support and Authorize negotiations with top ranked firms

Liz Rutman recommended that the Commission approve the release of a request for proposals (RFP) for new Electronic Toll System Integrator Services (ETSIS) for I-580 Express Lanes and future express lane corridors and authorize the Executive Director to negotiate an ETSIS Agreement with the top ranked firm and; approve the release of an RFP for Express Lane System Manager/Program Support Services for the I-580 and I-680 Express Lanes programs and authorize the Executive Director to negotiate a Professional Services Agreement with the top ranked firm. Ms. Rutman stated that in May 2017, the Commission authorized a new Operations and Maintenance Agreement with ETCC to retain their services for up to three years for toll system integration services. At the time of that approval, the Commission questioned the estimated cost of \$1 million per year for manual image review. After further analysis, staff determined that the cost of the manual image review exceeded the estimated revenue gain from the service and manual image review was stopped at the end of May 2017. She noted that a new analysis of the transactions shows that the toll system deficiencies result in loss of toll revenues. Ms. Rutman stated that replacing the system now would result in significant additional revenue that would offset the cost of the early replacement. Implementation of any new toll system requires the assistance of System Manager Services. These consultants provide technical expertise relating

to toll system design, testing and deployment; oversee the TSI, including review and approval of all TSI deliverables; and often provide ongoing support during operations for items such as performance audits and evaluation of potential liquidated damage assessments relating to the key performance metrics. She then recommend that the agency procure a System Manager to oversee the new I-580 ETSIS efforts. Upon System Acceptance of the I-680 Express Lanes, the selected System Manager would provide ongoing support for the I-680 Express Lanes as well, consolidating that effort under a single System Manager. Commissioner Valle wanted to get a sense of the amount of firms that would apply. Ms. Rutman noted that at least three toll integrators have expressed interest but the field is very limited, however, for the system manager, it is expected to attract more interested firms.

Commissioner Valle wanted to know when the Commission will see a cost benefit analysis. Mr. Dao noted that the contract award will be brought back to the Commission which will contain a financial analysis.

Commissioner Valle moved to approve this item. Commissioner Narum seconded the motion. The motion passed with the following votes:

Yes: Miley, Haubert, Marchand, Haggerty, Narum, Valle
No: None
Abstain: None
Absent: Cutter

5.2. I-580 Express Lanes: Monthly Operations Status Update

Ashley Tam presented the I-580 Express Lanes monthly operations update. The update covered average trips by month; user trip breakdown; corridor speed and density heat maps for both directions of travel; and historical toll rates. She concluded by reviewing estimated gross toll revenues versus approved fiscal year operating budget.

This item was for information only.

6. Committee Member Reports

There were no committee reports.

6. Staff Reports

There were no staff reports.

7. Adjournment/ Next Meeting

The next meeting is:

Date/Time: Monday, April 9, 2018 at 10:00a.m.

Location: Alameda CTC Offices, 1111 Broadway, Suite 800, Oakland, CA 94607

Attested by:

A handwritten signature in blue ink, appearing to read "Vanessa Lee", written over a horizontal line.

Vanessa Lee, Clerk of the Commission

This page intentionally left blank



Memorandum

5.1

1111 Broadway, Suite 800, Oakland, CA 94607

• 510.208.7400

• www.AlamedaCTC.org

DATE: April 2, 2018

TO: I-580 Express Lane Policy Committee

FROM: Liz Rutman, Director of Express Lanes Implementation and Operations

SUBJECT: I-580 Express Lanes (PN 1373.002): Approve Amendment No. 2 to Service Agreement 15R390000 with the California Highway Patrol to extend the term of the agreement for two additional years and an additional budget of \$800,000 for a total not-to exceed amount of \$1,806,000

Recommendation

It is recommended that the Commission approve and authorize the Executive Director to execute Amendment No. 2 to Service Agreement 15R390000 with the California Highway Patrol to extend the term of the agreement for two additional years and an additional budget of \$800,000 for a total not-to exceed amount of \$1,806,000.

Summary

The Alameda CTC operates and maintains the I-580 Express Lanes to provide travel reliability for the public. Alameda CTC maintains an agreement with the California Highway Patrol (CHP) to provide the necessary patrol and enforcement services that are an essential element of maintaining optimal operations on the Express Lane. The current agreement expires on June 30, 2018 and will expend over 60% of the current total budget. An extension of this service agreement to June 2020, along with the corresponding increase in budget, will ensure continued coverage by the CHP necessary with enhanced staffing for the I-580 Express Lanes operation.

Background

Pursuant the California Streets and Highway Code Section 149.5, the agreement between the Alameda CTC and the CHP identifies procedures for enforcement by the CHP to prohibit unauthorized use of the express lanes and authorizes reimbursement of this state agency for the enforcement activities. On a regular basis, the CHP officers are present in the corridor to pullover suspected toll violators in addition to enforcing overall traffic safety. It is necessary to

continue CHP-provided enforcement services even alternative violation enforcement strategies cannot detect all types of unauthorized use.

Through a cooperative effort with CHP, adjustments to the staffing plan were made beginning in January 2018. These changes have increased staffing and enabled CHP to fill the shifts more consistently, significantly increasing the patrol hours devoted to the express lane corridor. Consequently, as shown in Attachment A, the monthly enforcement contacts and express lane violation citations have more than doubled since this change. In addition, the enhanced visibility of CHP patrols within the corridor is expected to create a deterrent to toll evasion.

Table A below summarizes the contract actions related to Agreement No. 15R390000. The current agreement expires on June 30, 2018, and an extension of this service agreement will ensure continued coverage by the CHP necessary for the I-580 Express Lanes operation.

Table A: Summary of Agreement No. 15R390000

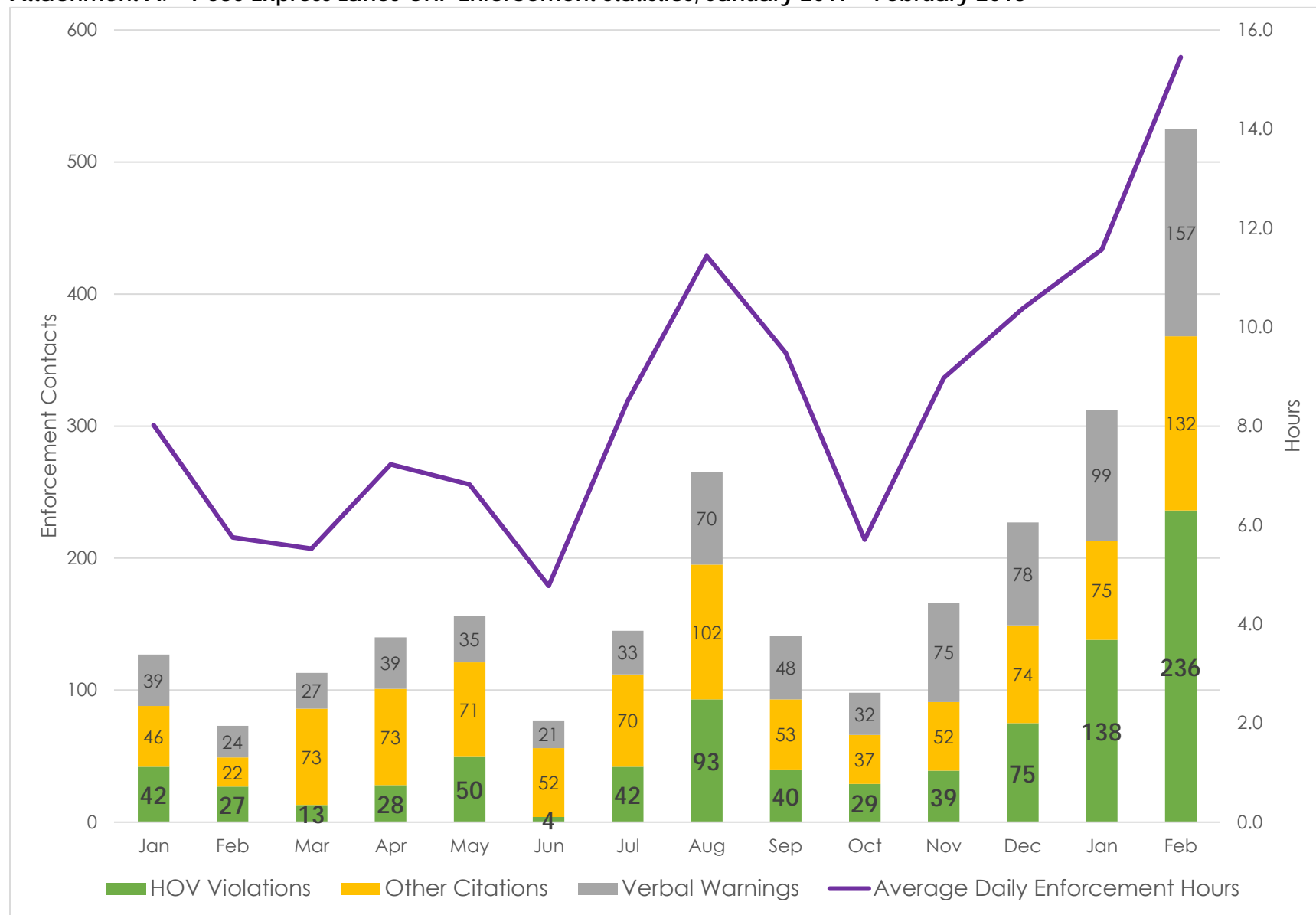
Agreement Status	Work Description	Value	Total Not-to-Exceed Value
Original Agreement April 2015	Enforcement to deter toll evasion and occupancy violations, in both directions of I-580 (through June 2016)	\$370,000	\$370,000
Amendment No. 1 March 2016	Enforcement to deter toll evasion and occupancy violations, in both directions of I-580 (2 year extension)	\$636,000	\$1,006,000
<i>Proposed Amendment No. 2 April 2018</i>	<i>Enforcement to deter toll evasion and occupancy violations, in both directions of I-580 (2 year extension)</i>	<i>\$800,000</i>	<i>\$1,806,000</i>
Total Amended Agreement Not-to-Exceed Amount			\$1,806,000

Fiscal Impact: The fiscal impact for approving this item is \$800,000 of toll-revenue funds, which will be included in the I-580 Express Lanes Operating Budgets adopted for FY2018-19 and FY2019-20.

Attachment:

A. CHP Express Lane Enforcement Statistics, January 2017 – February 2018

Attachment A. – I-580 Express Lanes CHP Enforcement Statistics, January 2017 – February 2018



This page intentionally left blank



Memorandum

5.2

1111 Broadway, Suite 800, Oakland, CA 94607

• 510.208.7400

• www.AlamedaCTC.org

DATE: April 2, 2018

TO: I-580 Express Lane Policy Committee

FROM: Liz Rutman, Director of Express Lanes Implementation and Operations
Patricia Reavey, Deputy Executive Director of Finance and Administration

SUBJECT: Interstate 580 Express Lanes Expenditure Plan for the Fiscal Years 2016-17 through 2035-36

Recommendation

It is recommended that the Commission approve the Interstate 580 Express Lanes Expenditure Plan for the Fiscal Years 2016-17 through 2035-36.

Summary

Authorized under California State Assembly Bill (AB) 2032 in September 2004, the governing body of Alameda CTC (Commission) designated the Interstate 580 (I-580) corridor in the Tri-Valley area a potential express lane facility in November 2005. In order to manage congestion in this corridor, Alameda CTC implemented express lanes in both the eastbound and westbound directions through the cities of Dublin, Pleasanton, and Livermore in the eastern sub-region of the county. These lanes opened to traffic in February 2016.

AB 2032 directs that the revenue generated from the express lanes be available to the administering agency for the direct expenses related to the operation (including collection and enforcement), maintenance, and administration of the program. All remaining net revenues are to be allocated pursuant to an expenditure plan adopted biennially by the administering agency for transportation purposes within the corridor that may include funding for the construction of high-occupancy vehicle facilities and the improvement of transit services that directly service the corridor. This I-580 Express Lanes Expenditure Plan (Expenditure Plan) has been prepared in conformity with and in order to satisfy the requirements in AB 2032.

Background

The Expenditure Plan is a fiscal and planning document for the Alameda County Transportation Commission (Alameda CTC). It is prepared in order to present the history, objectives, benefits, and costs of the program in a single document and develop a strategic expenditure plan for the associated net revenues for the next twenty years.

AB 2032 directs that the revenue generated from the express lanes be available to the administering agency for the direct expenses related to the operation (including collection and enforcement), maintenance, and administration of the program. All remaining net revenues are to be allocated pursuant to an expenditure plan adopted biennially by the administering agency for transportation purposes within the corridor that may include funding for the construction of high-occupancy vehicle facilities and the improvement of transit services that directly service the corridor.

This Expenditure Plan incorporates Alameda CTC's goals and standards for the Express Lanes program, the project I-580 Express Lanes operating and non-operating expenditures, and the projected revenues, for the next twenty years. It is designed to give direction to future express lane, carpool, and transit projects within the I-580 corridor.

Some key information provided in the Expenditure Plan includes an overview of the I-580 Express Lanes, such as governance and organizational structure, which also encompasses existing toll structure and facilities information. It includes information regarding goals and objectives for the express lanes including plans for how these goals might be met and sets standards for the express lanes. It provides an evaluation of the current express lane system's service and performance and discusses risks and obligations involved in the operations of the I-580 Express Lanes, including how those risk might be mitigated. The twenty-year operations plan and budget provides a projection on how revenues and expenditures might be realized over the twenty-year period and timing of when net revenues might be available for additional investments in the 580 corridor. Also included is a twenty-year capital improvement program which sets priorities for the net revenues when they become available to be spent in the 580 corridor on the capital program. Finally, a review is provided regarding the outreach and education that has been accomplished for the I-580 Express Lanes program and the continuing efforts in this area in conjunction with partnering agencies.

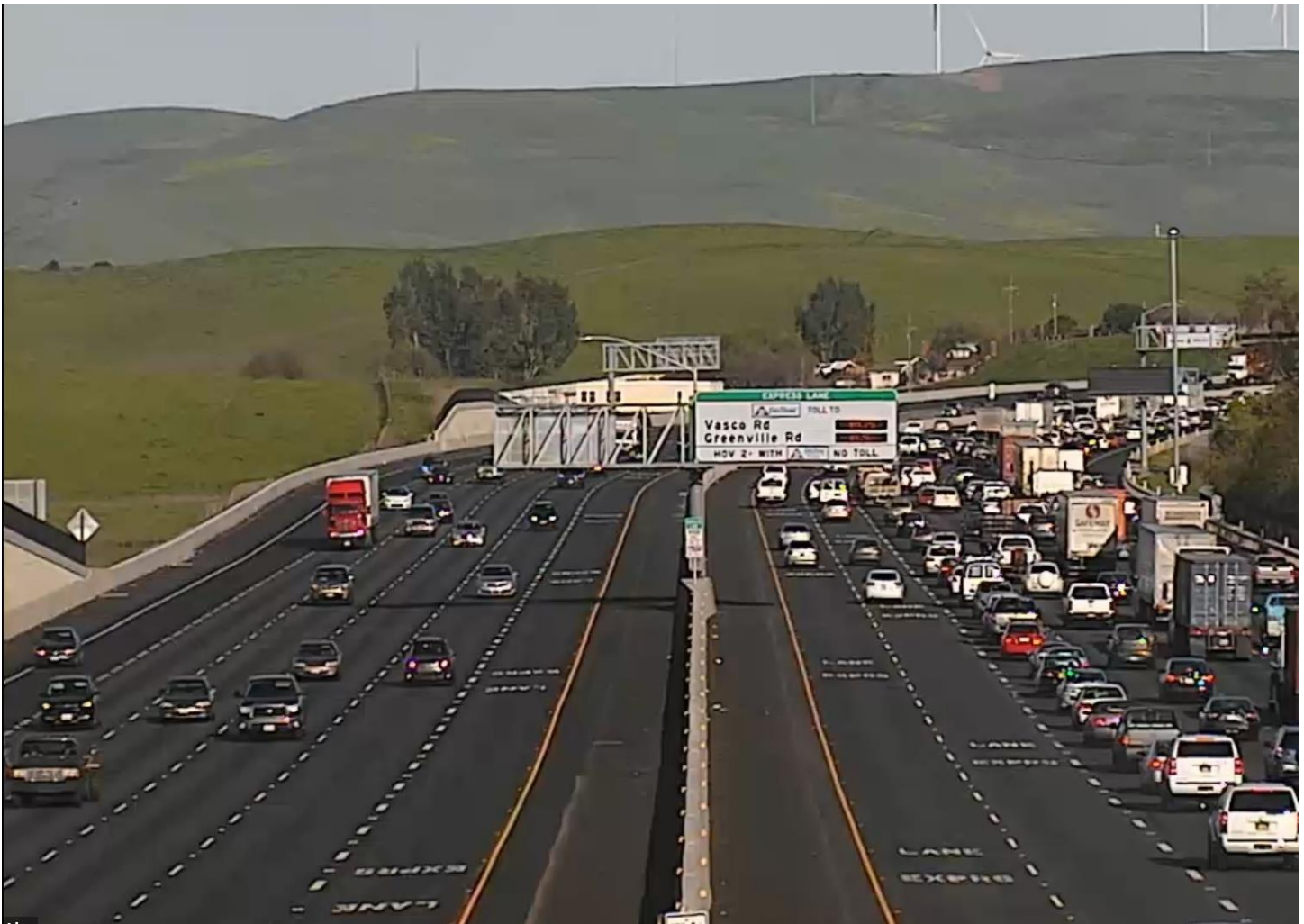
As updates to the Expenditure Plan are expected to be prepared biennially, and as the anticipated year that net revenues will be available for investment in the 580 corridor becomes more clear and draws nearer, funding will then be programmed at the project level in future expenditure plan documents.

Fiscal Impact: There is no fiscal impact associated with the requested action.

Attachment:

- A. Interstate 580 Express Lanes Expenditure Plan, Fiscal Year 2016-17 through 2035-36

INTERSTATE 580 EXPRESS LANES 20 YEAR EXPENDITURE PLAN



DRAFT

Fiscal Year 2016-17 through 2035-36

Approved by Board: _____



Table of Contents

Chapter 1: Introduction to the Expenditure Plan.....	1
1.1 EXPENDITURE PLAN PURPOSE	1
1.2 RELATIONSHIP TO OTHER PLANS, PROJECTS, AND ACTIONS	1
1.3 STRUCTURE	1
Chapter 2: Overview of I-580 Express Lanes	2
2.1 HISTORY	2
2.2 GOVERNANCE	2
2.3 ORGANIZATIONAL STRUCTURE	2
2.4 SERVICES PROVIDED AND AREA SERVED	3
2.5 TOLL STRUCTURE	4
2.6 CAPITAL ASSETS AND FACILITIES	6
Chapter 3: Goals, Objectives and Standards	8
3.1 INTRODUCTION	8
3.2 MISSION OF ALAMEDA CTC	8
3.3 GOAL: FINANCIAL SOLVENCY	8
3.4 GOAL: IMPROVED EXPRESS LANE USAGE COMPLIANCE	8
3.5 GOAL: EMPLOY TECHNOLOGICAL ENHANCEMENTS	9
3.6 GOAL: MAINTAIN THE INTEGRITY OF THE I-580 EXPRESS LANES	9
Chapter 4: Service and System Evaluation	10
4.1 SYSTEM-WIDE PERFORMANCE	10
4.2 RETROSPECTIVE OF REVENUE	11
4.3 EQUIPMENT/FACILITY DEFICIENCIES AND REMEDIES	11
Chapter 5: Risks and Obligations	12
5.1 OPERATIONAL RISKS	12
5.2 STATE HIGHWAY OBLIGATIONS	12
Chapter 6: Operations Plan and Budget	15
6.1 OPERATIONS PLAN	15
6.2 OPERATIONS BUDGET	15
Chapter 7: Capital Improvement Program	21
Chapter 8: Public Outreach.....	26
Appendix A: List of Acronyms.....	27

List of Figures and Tables

Figure A. I-580 Express Lanes Functional Organizational Chart (April 2018).....	3
Figure B. Project Location Map.....	4
Table 1. 2010 Highway Capacity Manual LOS Criteria.....	10
Table 2. Twenty-Year Financial Projections.....	16

Attachments

- A. Assembly Bill 2032 (2004)
- B. *Operations and Maintenance Agreement between State and Alameda County Transportation Commission for the Route 580 Express Lanes*

Chapter 1: Introduction to the Expenditure Plan

1.1 Expenditure Plan Purpose

The Interstate 580 (I-580) Express Lanes Expenditure Plan (Expenditure Plan, or Plan) is a fiscal and planning document for the Alameda County Transportation Commission (Alameda CTC). It is prepared in order to present the history, objectives, benefits, and costs of the program in a single document and develop a strategic expenditure plan for the associated revenues for the next twenty years.

1.2 Relationship to Other Plans, Projects, and Actions

This Expenditure Plan incorporates Alameda CTC's goals and standards for the Express Lanes program, the I-580 Express Lanes operating budget, and the projected revenues, for the next twenty years. It is designed to give direction to future express lane, carpool, and transit projects within the I-580 corridor.

1.3 Structure

The Expenditure Plan structure is primarily based on Metropolitan Transportation Commission's (MTC's) Resolution 2532, which provides guidance for the development of regional transit plans, to the extent the topics are applicable.

Chapter 2 provides an overview of the I-580 Express Lanes, including the existing toll structure and facilities. Chapter 3 presents the agency's goals, objectives, and standards for the Express Lanes. Chapter 4 presents an evaluation of the current express lane system. Chapter 5 presents risks and obligations involved in the operations of the I-580 Express Lanes. Chapter 6 presents the twenty-year operations plan and budget, and Chapter 7 presents the twenty-year capital improvement program. Given the relative newness of express lanes, Chapter 8 has been included to outline the current and projected public outreach program needs.

Chapter 2: Overview of I-580 Express Lanes

2.1 History

I-580 is the main east-west interregional freeway connecting the Bay Area with the Central Valley communities and businesses; it also serves as a major commute corridor between the Central Valley (Tracy, Stockton, and the Interstate 5 corridor) and the Bay Area. Additionally, I-580 is a major route for the movement of goods and freight into and out of the region, as well as recreational travel throughout the year. Over the last two decades, the I-580 corridor has consistently been rated one of the most congested freeway segments within the San Francisco Bay Area region.

Authorized under California State Assembly Bill (AB) 2032 in September 2004, included as Attachment A, the governing body of Alameda CTC (Commission) designated the I-580 corridor in the Tri-Valley area a potential express lane facility in November 2005. In order to manage congestion in this corridor, Alameda CTC implemented express lanes in both the eastbound and westbound directions through the cities of Dublin, Pleasanton, and Livermore in the eastern sub-region of the county.

As the project sponsor of the I-580 Express Lanes projects along the I-580 corridor in the Tri-Valley, Alameda CTC worked closely with the California Department of Transportation (Caltrans), the California Highway Patrol (CHP), MTC, Bay Area Toll Authority (BATA), Alameda County, and the cities of Livermore, Dublin, and Pleasanton to deliver corridor improvements along I-580. The last of such corridor improvements was the I-580 Express Lanes, which opened to traffic, in the eastbound and westbound directions, in 2016 on February 19 and 22, respectively. The express lanes provide a new choice to single occupancy vehicle (SOV) users by enabling them to utilize the high occupancy vehicle (HOV) lane for a fee, while HOV users and HOV-eligible users may use the lanes for a discounted fee (currently free).

2.2 Governance

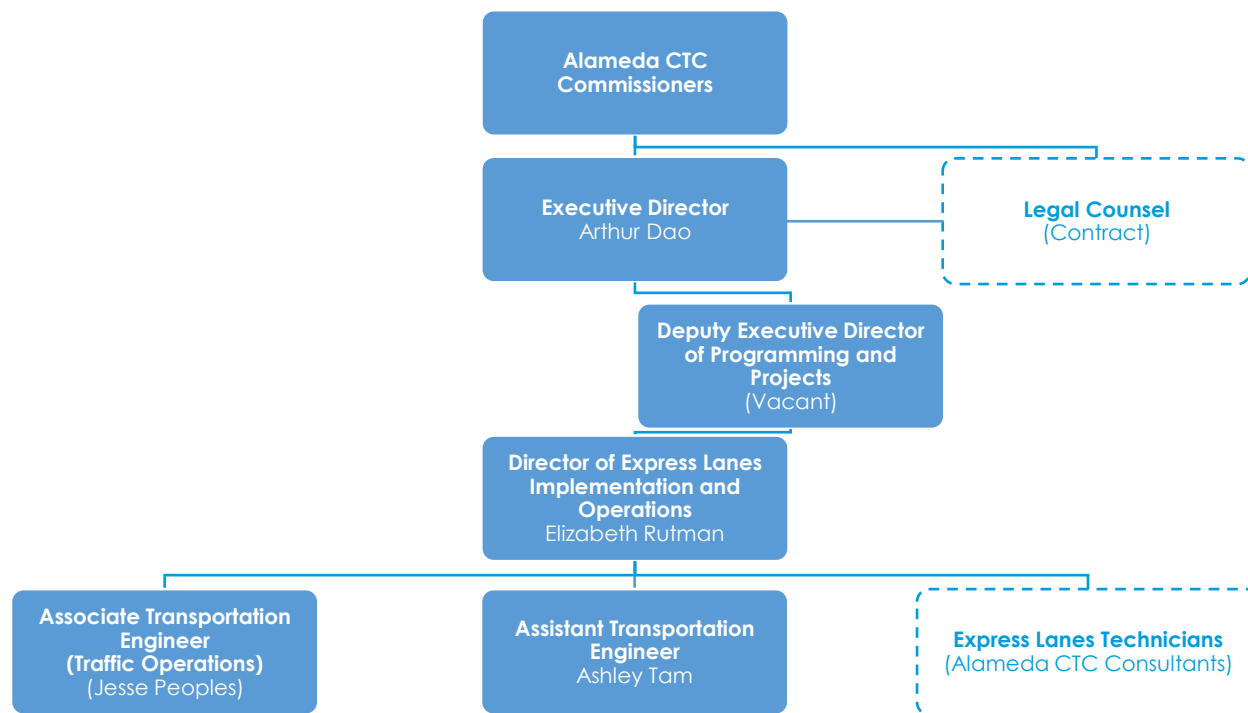
The I-580 Express Lanes are operated by Alameda CTC. Alameda CTC is governed by a 22-member Commission made up of five members of the Alameda County Board of Supervisors, two members representing the City of Oakland, 13 members each representing one of the other 13 incorporated cities in Alameda County, one member representing the Bay Area Rapid Transit District, and one member representing the Alameda-Contra Costa Transit District.

2.3 Organizational Structure

Operations of the I-580 Express Lanes are structured under the direction of the Deputy Executive Director of Programming and Projects, and overseen and managed by the Director of Express Lanes Implementation and Operations with the support of an Associate Transportation Engineer, an Assistant Transportation Engineer, and two Express

Lanes Technicians. The current staffing chart, including the vacant position for the Deputy Executive Director of Programming and Projects, is shown below in Figure A.

Figure A. I-580 Express Lanes Functional Organizational Chart (April 2018)



2.4 Services Provided and Area Served

The recently completed I-580 Corridor projects provide increased capacity and efficiency for commuters and freight through the Livermore Valley. Extending from Hacienda Drive to Greenville Road in the eastbound direction, and from Greenville Road to San Ramon Road/Foothill Road in the westbound direction, the express lanes operate as toll lanes from 5:00 a.m. to 8:00 p.m., Monday through Friday, including holidays; at all other times, the lanes are open to all users free of charge.

The express lanes optimize the corridor capacity by providing a new choice to drivers. Carpools, motorcycles, and transit vehicles with a FasTrak® Flex toll tag may enjoy the benefits of travel-time savings and reliable travel toll-free, and clean air vehicles (CAVs) enjoy reduced toll travel (currently free), while SOVs may choose to pay a toll for these same benefits. The general purpose (GP) lanes remain available to all users free of charge. By shifting some of the SOV traffic from GP lanes to express lane(s), the I-580 Express Lanes also improve the travel conditions in the GP lanes.

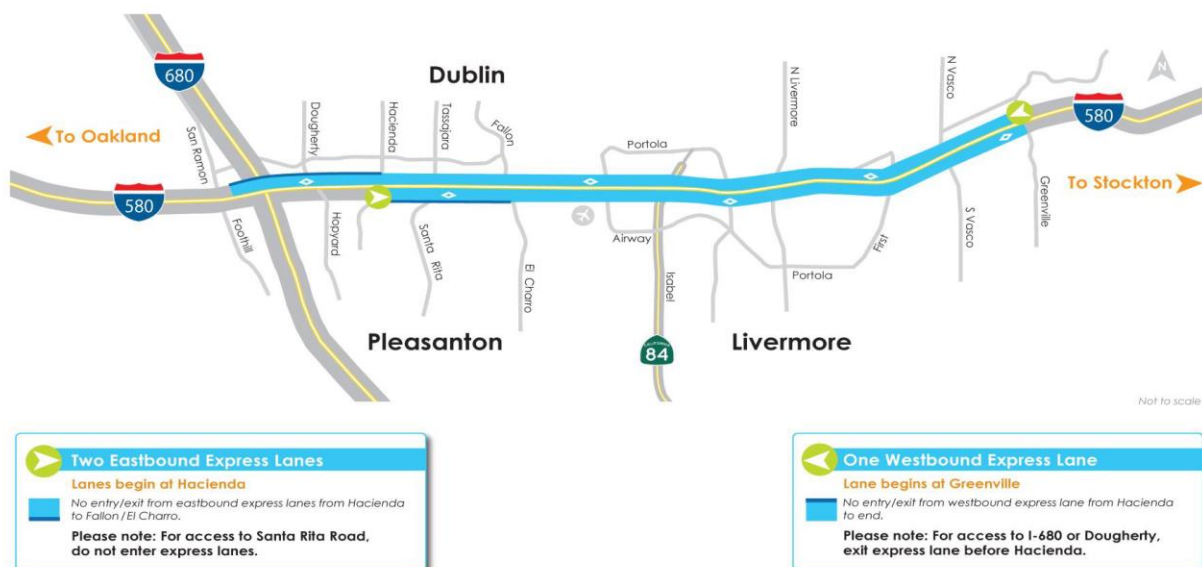
In the westbound direction, a single express lane begins just west of Greenville Road, adjacent to four GP lanes. The express lane is continuously accessible from the GP lanes until Hacienda Road, where it becomes a buffered lane until it ends just east of San

Ramon Road/Foothill Road. The buffer is a double white stripe; no ingress/egress is permitted within the buffered section.

In the eastbound direction, the express lane begins at Hacienda Drive as a single, buffered lane adjacent to four GP lanes. Just west of Fallon Road, a second express lane is added and the lanes are opened for continuous ingress/egress, still adjacent to four GP lanes. The second express lane becomes a GP lane just west of Vasco Road; the remaining express lane becomes a GP lane just west of Greenville Road. See Figure B for express lane limits.

Alameda CTC contracts with the CHP and Caltrans for reimbursable enforcement and maintenance services, respectively, and with BATA for FasTrak account management and customer service.

Figure B. Project Location Map



2.5 Toll Structure

California Streets and Highway Code, under Section 149.5 (a)(2), authorized Alameda CTC to adopt a fee structure to manage traffic congestion.

The I-580 Express Lanes employ a dynamic pricing strategy which utilizes technology to assess real-time traffic congestion in the corridor. The software analyzes traffic volume and speed in both GP and express lanes, adjusts the price for toll-paying users to travel within the express lanes, and displays updated pricing to the patrons. Such updates may occur as frequently as every three minutes. HOV and HOV-eligible users may access the lane for a reduced toll, provided they carry FasTrak Flex (switchable) transponders to self-declare vehicle occupancy. Currently, all HOV and HOV-Eligible users enjoy toll-free

travel. The I-580 Express Lanes authorized hours of operation are from 5:00 a.m. to 8:00 p.m., Monday through Friday.

Dynamic message signs (DMS) throughout the corridor provide pricing information to drivers by displaying tolls for travelling to the next nearest destination as well as to the end of the express lane facility. If two destinations are displayed, the one that appears on top (first destination) is closer than the one that appears on the bottom (second destination). A toll-paying driver is guaranteed the price shown on the sign when their vehicle is first detected in the lane, even if the price changes after they entered the lane. Depending on the location of their vehicle in the express lane, a toll-paying driver pays either the first price or the second price (not both), or they may pay a price in between:

- If a toll-paying driver exits before reaching the first destination on the sign, they still pay the full price to travel to the first destination.
- If a toll-paying driver exits between the first and second destination, they pay a toll between the two prices first seen on the DMS.
- If a toll-paying driver stays in the lane until the second destination, they can ignore other pricing signs along the express lane once in the lane and pay the price for the second destination, seen on DMS at the time when they entered the lane.

Vehicles traveling within the express lanes are identified by a series of toll gantries. The toll collections system (TCS) uses the FasTrak transponder data and/or images of license plates captured at each toll gantry to determine vehicle trips within the system; toll rates are assessed based on the portion of the express lanes used, as determined by the number of toll zones included within the trip. The westbound express lane has been divided into eight toll zones; the eastbound express lanes have been divided into seven toll zones. Each toll zone may include multiple toll gantries.

The adopted I-580 Express Lanes business rules pertaining to toll collection are listed below:

- Customers will be locked-in to pay the toll rate displayed on the DMS at the time of their entrance into the express lane.
- As authorized by AB 1811 in July 2014, all lane users, including the HOV users, are required to carry an electronic device for enforcement purposes while traveling in I-580 Express Lanes.
- All customers must enroll with the FasTrak Regional Customer Service Center for an account, and must properly mount a FasTrak/FasTrak Flex transponder prior to traveling in the express lanes in order to avoid receiving a Violation Notice.
- Any vehicle that travels in the express lanes without a transponder will be charged the full fare toll (and violation penalties, if applicable) by means of the license plate image capture review process.

- Current HOV requirements for the express lanes is two or more passengers (HOV 2+) in each permitted vehicle.
- FasTrak Flex (also known as switchable) transponders are required for the HOV or HOV-eligible users to receive HOV discounts by setting the switch at "2" or "3+".
- Vehicles equipped with standard (legacy) transponders will be tolled at the full fare toll rate regardless of occupancy.
- Other HOV-eligible users (e.g., CAVs with eligible CAV decals, motorcycles) must carry a FasTrak Flex transponder with the setting at "2" or "3+" to receive HOV discounts.
- Transit and vanpools (registered through Rideshare) that are not equipped with a non-revenue transponder must carry a FasTrak Flex transponder and meet occupancy requirements to receive HOV discounts.
- Vehicles with metallic windshields must use a bumper-mounted transponder. Vehicles with bumper-mounted transponders cannot receive the HOV discount.
- Rental car customers will be charged the toll via the rental account. It is the responsibility of the customer to check with the rental agency and to ensure they opt in to use the rental toll payment program. Customers in rental cars are not eligible for HOV travel on the express lanes unless occupancy requirements are met and a valid FasTrak Flex transponder is mounted in the vehicle.
- When "HOV-Only" mode is displayed on a DMS, it means that solo drivers shall not enter the express lane unless they are a motorcycle or CAV allowed in the HOV lane, as "HOV-Eligible Vehicles," per current state laws.
 - When the express lane is in HOV-Only mode, SOVs already in the express lanes that do not meet the occupancy requirement will be tolled their locked-in rate for that segment.
 - An SOV that enters the express lane during HOV-Only mode is subject to a \$30 toll and may also be cited by CHP.

The operational minimum toll rate to travel within the express lanes is currently \$0.50.

The operational maximum toll rates to travel the entire length of the westbound or eastbound express lanes are set at \$13.00 and \$9.50, respectively.

2.6 Capital Assets and Facilities

The I-580 Express Lanes implementation included installation of various equipment and roadway infrastructure. These include items such as:

- DMS Structures
- Static Signs (Overhead, Barrier-Mounted, Roadside)
- Antennas, toll readers, flood lights, and enforcement cameras mounted on toll gantries or on overcrossing (bridge) structures
- In-pavement loop detectors at each toll gantry
- Roadside controller cabinets with toll system servers and software
- Service cabinets for power and telecommunications
- Communication and power lines and associated infrastructure
- Median overhead lights
- Concrete barrier
- Metal beam guard railing
- Crash cushions
- Pull boxes
- Closed-circuit television (CCTV) cameras
- Toll host system servers and software

Alameda CTC has an Operations and Maintenance Agreement with Caltrans to maintain certain assets related to the express lanes. See Section 4.3 for the inventory and discussion of maintenance requirements and responsibilities.

Alameda CTC maintains two facilities related to express lane operations:

- The Express Lanes Operations Center within the Alameda CTC office is equipped with one computer, two monitors, and two large television screens that project CCTV images dedicated to the I-580 Express Lanes.
- The Toll Data Center for the I-580 Express Lanes is located at Alameda CTC's colocation site at 200 Paul Avenue in San Francisco.

Chapter 3: Goals, Objectives and Standards

3.1 Introduction

This chapter describes the goals, objectives, and standards of the I-580 Express Lanes as they relate to Alameda CTC's mission and activities. These goals, objectives, and standards help the Commission members, management, staff, and public-at-large evaluate the performance of the I-580 Express Lanes and establish future activities related to the express lanes program.

3.2 Mission of Alameda CTC

The mission of 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.

The I-580 Express Lanes help to accomplish this mission by providing increased capacity and efficiency for commuters and freight through the Livermore Valley, along the primary corridor connecting the Bay Area with the Central Valley.

3.3 Goal: Financial Solvency

The objectives for this goal will establish the benchmarks for assessing the financial independence of the I-580 Express Lanes. The objectives identified in this Plan to support this goal are:

- Generate gross annual operating revenues that exceed annual operating costs.
- Set aside funds for upcoming maintenance needs sufficient to cover one to four years of planned technology replacement, technology upgrades, civil infrastructure replacement, and pavement rehabilitation needs, depending on fund availability.
- In addition to the maintenance funds set aside, establish and maintain an operational risk reserve of at least \$20 million over the life of this Plan.
- Repay the \$38.5 million capital loan from Measure B.
- When revenue exceeds the needs listed above, invest in other improvements that will further enhance mobility within the I-580 corridor.

3.4 Goal: Improved Express Lane Usage Compliance

The I-580 Express Lanes are the first lanes in the Bay Area that require a transponder for all users and a switchable transponder for HOV or HOV-eligible vehicles to receive the HOV discount (currently free). As described in Section 2.5, all vehicles without transponders will be charged the full fare toll rate by means of the license plate image capture review process. These are known as image-based trips. As of June 30, 2017,

approximately 22 percent of all express lane trips were image-based trips, and less than half of those could be linked to FasTrak accounts. A good portion of the Violation Notice recipients that received notices between February and June of 2017 were carpoolers unaware of the requirement to carry a FasTrak Flex transponder for free travel. The objectives identified in this Plan to support this goal are:

- Reduce the percentage of image-based trips from the current 22 percent to less than 20 percent (equivalent to that experienced by BATA on Bay Area toll bridges).
- Reduce the percentage of image-based trips requiring Violation Notices from the current 12 percent to less than 5 percent.
- Increase the public's understanding of FasTrak Flex requirement for HOV/HOV-eligible vehicles.

3.5 Goal: Employ Technological Enhancements

The technology used for express lanes is continuously evolving. Investing in research and development of new technology would enhance usage of the express lane system and thus result in improved corridor mobility and performance and reduced revenue leakage. The objectives identified in this Plan to support this goal are:

- Enhance the current I-580 technology to include vehicle matching capabilities that enhance simple license plate matching, resulting in fewer errors, lower operating costs, and higher revenues.
- Incorporate occupancy detection technology to augment the self-declaration by transponder as a means to establish toll classifications (SOV/HOV 2/HOV 3+).
- Explore alternative toll collection technologies such as smart phone applications for occupancy declaration and toll payment.
- Ensure the I-580 Express Lanes comply with federal or state technological requirements such as interoperability with other tolling systems.

3.6 Goal: Maintain the Integrity of the I-580 Express Lanes

Regular monitoring of the system performance is necessary to ensure the express lanes continue to provide reliable travel for eligible users. The objective identified in this Plan to support this goal is:

- Maintain a minimum Level of Service (LOS) C in each direction for the express lane corridor as a whole; see Table 1 (2010 Highway Capacity Manual LOS Criteria) for LOS information.

Chapter 4: Service and System Evaluation

4.1 System-wide Performance

The Alameda CTC Operations Center staff monitor the express lanes during operating hours (5:00 a.m. to 8:00 p.m., Monday through Friday) and analyze traffic data gathered by the system in order to evaluate system performance. Level of Service (LOS) is a measure of freeway performance based on vehicle maneuverability and driver comfort levels, graded on a scale of A (best) through F (worst). The 2010 Highway Capacity Manual measures freeway LOS based on density (passenger cars per mile per lane, or pc/mi/ln) (Table 1). A performance measure specified in AB 2032 requires that the express lanes maintain LOS C, with LOS D permitted by agreement with Caltrans. The Alameda CTC express lane goals are a minimum 45 miles per hour (mph) and maximum 1,550 vehicles per hour per lane, which provides minimum LOS C.

Table 1. 2010 Highway Capacity Manual LOS Criteria

LOS	Density (pc/mi/ln)	Traffic Flow Characteristics
A	≤ 11	Free Flow Operations
B	> 11 – 18	Reasonably Free Flow
C	> 18 – 26	Freedom to maneuver within the traffic stream is noticeably restricted
D	> 26 – 35	Freedom to maneuver within the traffic stream is more noticeably limited
E	> 35 – 45	Vehicles are closely spaced; little room to maneuver within the traffic stream
F	> 45	Breakdowns in vehicular flow

The United States Code, under 23 USC 166(b)(4), requires states to monitor the impact of SOVs on express lanes such as I-580 to ensure the performance of the lanes is not degraded by the presence of toll-paying users. Under this regulation, the I-580 Express Lanes would be considered degraded if the lanes failed to operate at a speed of more than 45 mph at least 90 percent of the time over a consecutive 180-day period during morning and evening peak periods. A Before/After Study, which began data collection in Spring 2018, will evaluate performance matrix criteria outlined in AB 2032 and 23 USC 166(b)(4).

Periodic analyses of the speeds and densities within the corridor, presented to the Commission, are publicly available. The most recent operations reports indicate that the I-580 Express Lane facility is providing travel time savings and travel reliability throughout

the day. Between February and June 2017, average hourly speeds in the westbound express lanes were estimated at 5 to 15 mph higher than the average hourly speeds in the GP lanes during the morning peak hours in the most congested westbound segment of the corridor, and average hourly speeds in the eastbound express lanes were estimated at 5 to 25 mph higher than the average hourly speeds in the GP lanes during the afternoon peak hours in the most congested eastbound segment of the corridor.

4.2 Retrospective of Revenue

Through June 2017, the I-580 Express Lanes have recorded over 10.4 million total trips and generated over \$13.0 million in gross toll revenues. Average daily usage on the I-580 Express Lanes has increased from 23,900 trips per day in March 2016 to 33,300 trips per day by June 2017, and continues to grow as the public becomes more aware of the benefits the lanes provide and how to use them.

4.3 Equipment/Facility Deficiencies and Remedies

The I-580 Express lanes were under warranty by the Toll System Integrator until mid-February 2017. At that time, Alameda CTC accepted the toll systems and moved into the full operations and maintenance phase of the facility. The Toll System Integrator prepared a Maintenance Plan as part of the integration scope of work. The plan is intended to maintain a state of good repair for the tolling system and addresses:

- Standards, response times
- Organization, staffing, schedules, training, communications
- Maintenance methodology
 - Preventive maintenance
 - Corrective maintenance
 - Software maintenance
 - Force majeure repairs
- Maintenance Online Monitoring System (MOMS)
 - Failure tracking, records, reporting, spares inventory tracking
- Maintenance facilities, tools

Chapter 5: Risks and Obligations

As the operator of express lanes with a tolling system on a state-owned facility, Alameda CTC is vulnerable to various associated liabilities and risks. In addition, Alameda CTC has entered into an Operations and Maintenance Agreement with Caltrans, which outlines additional obligations related to the care and maintenance of the facility and the corridor. Each of these risks and obligations carries potential financial obligations as described below.

5.1 Operational Risks

The following categories have been identified as potential operational risks.

Toll System Equipment Damage

The various types of toll system equipment installed along the I-580 corridor is listed in Section 2.6. Guard rails and barrier rails were installed as safety measures for the traveling public and also provide protection for the more sensitive infrastructure that, if struck by a vehicle, would affect the functionality of the toll system.

Toll System Equipment – Catastrophic Failure

A catastrophic event such as an earthquake, major power surge, or other force of nature, could impact the entire toll system.

Data Breach Liability

The toll system collects express lane user information such as toll tag numbers and images of vehicles and license plates. In addition, while evaluating disputes, Alameda CTC staff has access to information regarding FasTrak customer account numbers. This data is considered to be Personally Identifiable Information (PII), which requires specific protocols and must be protected from outside intrusion. Per the agreements with Caltrans and BATA, Alameda CTC is responsible for the security of all data collected related to the function of collecting tolls and is responsible for indemnifying the State and/or BATA for any liability arising due to a security breach of PII.

Tort Liability

Alameda CTC has the potential for litigation exposure or tort liability relating to the express lane tolling system and incidents associated with the express lane infrastructure installed along the corridor.

5.2 State Highway Obligations

The *Operations and Maintenance Agreement between the State and Alameda County Transportation Commission for the Route 580 Express Lanes*, an excerpt of which is included as Attachment B, requires that Alameda CTC reimburse Caltrans for

maintenance of the express lanes, including those civil infrastructure elements that the Toll System Integrator does not maintain. This includes, but is not limited to, sweeping of the median shoulders, barrier and guard rail repair where those facilities protect toll system equipment, and pavement repair in the express lane.

In addition, Alameda CTC is responsible for all costs associated with future relocation of Alameda CTC's toll facilities if such relocations is required by Caltrans.

Finally, if operations of the express lanes is terminated by Alameda CTC, Alameda CTC is responsible for removal of all, or designated portions of, Alameda CTC improvements within the highway right-of-way and restoration of the facility to a standard acceptable to Caltrans.

The Alameda CTC has acquired liability insurance which is renewed annually to mitigate the risks discussed above; however, it is prudent and best practice to maintain reserves to ensure the financial stability of the agency. Staff has worked with legal counsel to establish a target operational risk reserve level to work towards achieving and maintaining throughout the life of this expenditure plan.

This page intentionally left blank

Chapter 6: Operations Plan and Budget

6.1 Operations Plan

Alameda CTC's operations plan for the I-580 Express Lanes involves staffing and express lane performance and capital investment needs reviews. The current staffing plan is presented in Section 2.3. The Director of Express Lanes Implementation and Operations is charged with the review of staffing needs on an annual basis and recommending changes as necessary.

The express lanes performance evaluation discussed in Chapter 4, along with annual reviews of the projected toll revenues and operating budget, could allow for changes in the dynamic pricing of the I-580 Express Lanes. The primary reason for making such changes would be to improve congestion management within the express lanes.

Capital improvements to the corridor, likely in the form of enhanced technology, could be implemented to improve express lanes operations and further the goals of increasing express lanes use and compliance. There is no specific plan at this time, though such improvements are discussed further in Chapter 7.

6.2 Operations Budget

This section outlines Alameda CTC's projected overall operating budget and assumptions for the next twenty years by fiscal year (FY). The projections, shown in Table 2, include anticipated operational risk reserves, maintenance contributions, and expenditures necessary to maintain financial sustainability as well as incorporate technological advancements into the system as they become available.

Table 2. Twenty-Year Financial Projections

Twenty-Year Financial Projection		FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23	FY 23-24	FY 24-25
		Actual	Actual	Budgeted	Projected	Projected	Projected	Projected	Projected	Projected	Projected
Notes		In thousands of dollars									
Total Revenues	1	\$3,046	\$13,324	\$13,700	\$14,100	\$14,500	\$14,900	\$15,300	\$15,800	\$16,300	\$16,800
Committed Expenditures											
Operations and Maintenance Expenditures	2, 3	\$958	\$4,085	\$5,439	\$5,500	\$5,700	\$5,800	\$5,900	\$6,000	\$6,100	\$6,200
Express Lane Administration Expenditures	3	\$56	\$220	\$204	\$208	\$212	\$216	\$220	\$224	\$228	\$233
Measure B Loan Repayment (38.5M)		\$0	\$0	\$0	\$0	\$728	\$8,884	\$9,180	\$9,576	\$9,972	\$160
Require Non-Operating Maintenance Expenditures (NOME)											
Technology Replacement/ Upgrade	4	\$0	\$0	\$360	\$5,000	\$5,000	\$0	\$0	\$0	\$0	\$0
Civil Infrastructure Replacement	5	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pavement Resurfacing/ Rehabilitation	6	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Surplus/(Deficit) Before Contribution to NOME & ORR		\$2,032	\$9,019	\$7,697	\$3,392	\$2,860	\$0	\$0	\$0	\$0	\$10,207
Required Maintenance Contribution for NOME	7	\$1,000	\$0	\$4,000	\$0	\$0	\$0	\$0	\$0	\$0	\$10,000
Required Operational Risk Reserve(ORR) Contribution	8	\$1,032	\$9,019	\$3,697	\$3,392	\$2,860	\$0	\$0	\$0	\$0	\$0
Unrestricted Fund Balance		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$207
ASSUMPTIONS											
1. Operating Revenue growth estimated at 3% per year beginning FY 17-18.											
2. Year 1 Operations & Maintenance Expenditures do not include Warranty Period maintenance performed by the Toll System Integrator as part of the capital project through February 2017.											
3. Operations and Maintenance and Administration Expenditures growth estimated at 2% per year starting after FY 17-18.											
4. Technology replacement/Upgrade assumes 12 year useful life beginning in FY 18-19 with costs split over 2 fiscal years; escalated at 5% per year for subsequent replacements to allow for better technology upgrades than standard escalation.											
5. Civil Infrastructure Replacement includes overhead sign structures (static and dynamic), toll gantries, median lighting, concrete barrier, fiber optic lines, toll system cabinets, and other non-technological and non-paving infrastructure.											
6. Infrastructure rehabilitation assumes 30 lane miles: Estimate @ \$350 thousand per lane mile no sooner than year 10; full rehabilitation every ~20 years @ \$1 million per lane mile. Costs escalated at 3% per year starting from 2017.											
7. Contributions for required maintenance are required for anticipated future technology upgrades, civil infrastructure replacement, and/or pavement rehabilitation needs in the following years based on the Cumulative Maintenance Contributions for NOME balance.											
8. Operational Risk Reserves accumulate up to the target of \$20 million, depending on available net operating Surplus before Contribution to NOME & ORR, and could be spent on a catastrophic type failure, e.g. an overall failure of the toll system equipment and/or the relocation of facilities or the removal of facilities and restoration in the event of termination, as required per the Operations and Maintenance Agreement with the State.											

FY 25-26	FY 26-27	FY 27-28	FY 28-29	FY 29-30	FY 30-31	FY 31-32	FY 32-33	FY 33-34	FY 34-35	FY 35-36
Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
\$17,300	\$17,800	\$18,300	\$18,800	\$19,400	\$20,000	\$20,600	\$21,200	\$21,800	\$22,500	\$23,200
\$6,400	\$6,500	\$6,600	\$6,800	\$6,900	\$7,000	\$7,200	\$7,300	\$7,500	\$7,600	\$7,800
\$238	\$243	\$248	\$253	\$258	\$263	\$268	\$273	\$278	\$284	\$290
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$9,000	\$9,000	\$0	\$0	\$0	\$0	\$0
\$0	\$0	\$0	\$0	\$0	\$3,000	\$0	\$0	\$0	\$5,000	\$0
\$15,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$54,000
(\$4,338)	\$11,057	\$11,452	\$11,747	\$3,242	\$737	\$13,132	\$13,627	\$14,022	\$9,616	(\$38,890)
\$0	\$0	\$0	\$0	\$1,338	\$0	\$4,735	\$13,627	\$14,022	\$9,616	\$0
\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
\$0	\$11,057	\$11,452	\$11,747	\$1,904	\$737	\$8,387	\$0	\$0	\$0	\$0

As required by AB 2032, revenues generated from the express lanes are first allocated to expenditures related to the operations (including collection and enforcement), maintenance, and administration of the program, which are considered Committed Expenditures. In addition, the I-580 Express Lanes toll system was funded through capital loans from Measure B sales tax measures, so the payback of these loans is also a Committed Expenditure. Table 2 shows these Committed Expenditures categorized as: Operations and Maintenance Expenditures, Express Lane Administration Expenditures, Measure B Loan Repayment, and Required Non-Operating Expenditures (Technology Replacement/Upgrade, Civil Infrastructure Replacement, and Pavement Resurfacing/Rehabilitation). In addition, provisions are made for Required Maintenance Contributions and Required Operational Risk Reserves. Each of these is described in more detail below.

Operations and Maintenance Expenditures

Operations and maintenance expenditures include preventative maintenance, communications, and other costs associated with keeping the express lanes operational; monitoring of express lanes operations for performance and congestion management; revenue collection; civil infrastructure maintenance, outreach, and enforcement activities. These costs have not yet begun to stabilize on a month to month or year over year basis due to the infancy of the express lanes.

Express Lane Administration Expenditures

Express lane administration expenditures are costs to administer the express lanes which are generally recurring, but are not directly related to the toll collection process or other operations, and include items such as insurance, bank and legal fees, administrative staff time, and other miscellaneous cost to administer the lanes.

Measure B Loan Repayment

Construction of the I-580 Express Lanes were funded, in part, from Measure B capital advance loans from the 1986 Measure B and 2000 Measure B totaling \$8.5 million. Repayment of these loans is included in this Expenditure Plan as the operation needs of the express lanes allow, with the first payment beginning in FY 2019-20. The annual amount to be repaid can be found in the Measure B Loan Repayment row of Table 2.

Other Non-Operating Expenditures

Other non-operating expenditures include those items that are not part of the toll collection process and may or may not be recurring expenses. These items are subcategorized below.

Technology Replacement/Upgrade

The toll system was designed with a service life of ten years as a whole, but not all parts are created equally. In addition to routine maintenance of toll systems, periodic

upgrades to toll equipment and software are necessary for continued functioning of the express lanes facility. For example, after being in use for over five years, the toll host system server, CCTV camera and traffic detection sensors will need to be replaced or upgraded. Also, the antennas, toll tag readers, enforcement cameras, and lane equipment will need to be replaced at the end of their useful life (i.e., within ten years) for the continued operation of the express lanes.

Alameda CTC plans to monitor new research and development to further enhance corridor mobility and employ such technology as it become available and can be incorporated into the toll equipment replacement schedule. The intent will be to improve lane usage by curtailing violations, reduce costs by automation of toll systems including violation enforcement, and incorporate regional and national policy changes regarding toll tag technology and nationwide interoperability.

When upgrades are needed, Alameda CTC intends to solicit the best technology currently available through an open procurement process to maximize value to the agency. Technology Replacement/Upgrade improvements are expected to include the following:

- Replace toll equipment (such as cameras, readers, servers, host system hardware)
- Enhance the ability to differentiate between SOVs, HOVs, CAVs, and transit vehicles
- Upgrade/develop software/congestion-pricing tool
- Employ vehicle occupancy detection
- Enhance lane violation enforcement technology
- Enable toll systems to read national interoperable toll tags

Civil Infrastructure Replacement

The civil infrastructure of the express lanes, such as toll signage and poles, toll gantries, toll cabinetry, and fiber optic cabling will periodically need to be replaced. It is expected that in the shorter term these replacements will be less extensive than in the outer years.

Pavement Resurfacing / Rehabilitation

The Alameda CTC is committed to providing a quality express lane for all users. Newly-constructed pavement has a useful life of 20 years. While annual maintenance includes pothole repair and crack sealing, intermittent resurfacing is required to ensure a smooth ride. This resurfacing should be performed at about 10 – 12 years after construction, and every 5 – 6 years thereafter. Full pavement rehabilitation should be scheduled every 20 –

25 years. The current toll system uses in-pavement loop detectors, which would likely be disrupted by resurfacing activities and necessitate scheduling of resurfacing work to coincide with technological upgrade activities to maximize the return on the investment. However, toll technology is moving toward all-overhead systems, eliminating the need for in-pavement sensors and thus cutting the tie between technology and pavement resurfacing. It is anticipated that the I-580 Toll System will transition to an all-overhead system either prior to or coincident with the next resurfacing action.

Maintenance Requirements

With the FY 2016-17 budget, Alameda CTC established a goal of maintaining a maintenance reserve in the amount of 100 percent of annual operations and maintenance expenditures on the I-580 Express Lanes to ensure that funds will be available to pay for required maintenance of equipment on the lanes as it becomes due. However, that goal has been amended in this expenditure plan to meet the forecasted needs for technology upgrade/replacement costs, civil infrastructure replacement costs, and pavement resurfacing/rehabilitation costs projected over the following one to four fiscal years, as needed based on the balance available in the account. Funds will be contributed for maintenance annually and utilized as needed to cover technology and pavement replacement costs. The annual amount contributed for this reserve can be found in the Required Maintenance Contribution row of Table 2.

Operational Risk Reserve

In addition to the Required Maintenance Contribution, Alameda CTC has set a goal of maintaining an operational risk reserve in the amount of \$20 million to mitigate current and future risk on the I-580 Express Lanes, to ensure sufficient liquidity for operations, and to protect the agency against potential liability as described in Chapter 5. This reserve will help to ensure solvency for the I-580 Express Lanes, ensuring that it can pay its bills as they become due. It was not possible to accomplish this goal in the first year of operations; however, funds will be accumulated in this reserve annually until the goal is reached, and it will be maintained at the \$20 million level to the best of the ability of the agency throughout the life of the lanes. The annual amount set aside for this reserve can be found in the Required Operational Risk Reserve row of Table 2.

Chapter 7: Capital Improvement Program

The I-580 corridor is a critical interregional gateway and a multi-modal corridor. Currently, the corridor includes the I-580 Express Lanes as described in Chapter 2, San Francisco Bay Area Rapid Transit District (BART) rail service in the median, including two BART stations at West Dublin and Dublin/Pleasanton, Altamont Corridor Express (ACE) Rail which parallels and traverses portions of I-580, and WHEELS bus services. I-580 is also designated as part of the National Highway Primary Freight Network under the federal Moving Ahead for Progress in the 21st Century (MAP-21) Act, the federal surface transportation bill approved in 2015. A series of studies are underway to address multimodal investments in the I-580 corridor, including a BART extension, interregional rail connectivity to BART, and I-580 improvements beyond the Tri-Valley, including on other portions within Alameda County and in San Joaquin County as shown in Figure 1.

Figure 1. I-580 Transit and Project Studies



Capital Improvement Prioritization

According to enabling legislation for the express lanes in Alameda County (AB 3032), revenue generated from the project shall be available for administration related to operations, maintenance, construction and administration of the express lane program. The legislation also states that all net revenue remaining after meeting all committed expenditures must be allocated for transportation purposes within the program area through the adoption of an expenditure plan. The legislation further states that the expenditure plan may include funding for development and construction of high occupancy vehicle facilities and transit capital and operations that directly serve the authorized corridors.

Consistent with the governing legislation, prioritization of investments within the corridor are recommended in the following order: 1) HOV/Express Lane Expansion, 2) Transit

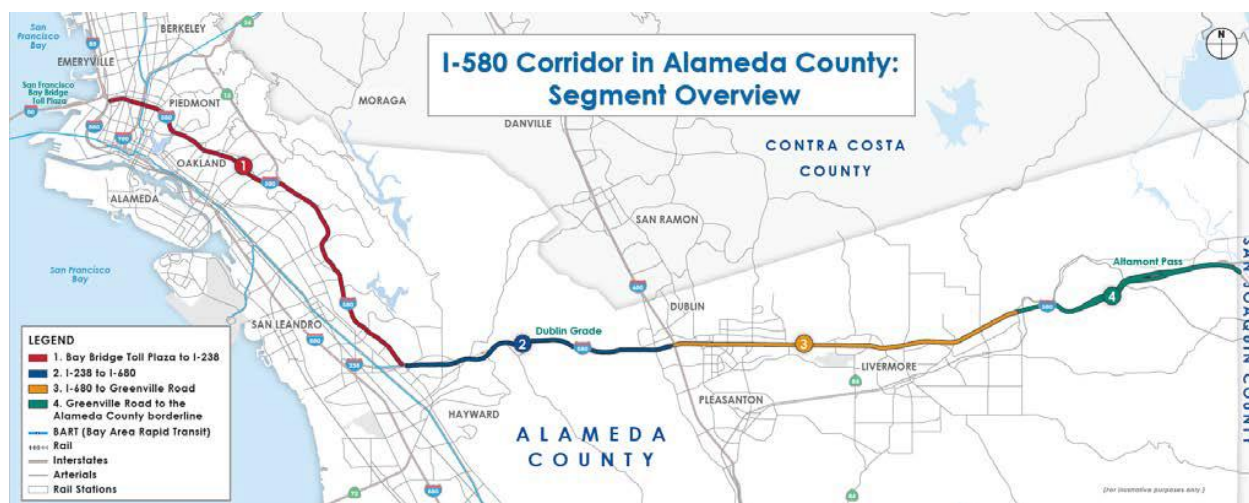
Investments, and 3) Capital Projects within the corridor. Given the number of studies underway along the corridor, actual programming of funds for future investments should occur after a full and complete revenue analysis and more defined project cost estimates that result from the numerous studies underway within the corridor are available. It is expected that programming recommendations will be ready for Alameda CTC's consideration in fall 2019. The following list recommends a programming priority order for the future use of I-580 Express Lane net revenues:

Priority 1: HOV/Express Lane System Expansion

The I-580 Express Lanes have improved corridor mobility in the Tri-Valley area; however, additional capital improvements are necessary for the improvement of driver experience and congestion management within the entire I-580 corridor. HOV/Express Lane gaps exist between various express and HOV lane facilities and further studies are underway that may identify opportunities for HOV/Express Lane expansion in the I-580 Corridor within and beyond the Tri-Valley. The following studies are underway and future investments for HOV and express lane system expansion will be identified which could be funded with I-580 Express Lane net revenues.

Alameda CTC has segmented I-580 within Alameda County into four distinct sections based upon travel patterns, topography, and road geometrics which naturally distinguish separate segments and is conducting analyses on these four separate sections of I-580. Figure 2 presents a map of the segments within the boundaries of Alameda County and a description of each section and evaluation activity is further below.

Figure 2. I-580 Segment Boundaries



I-580 Segment 1: I-80 to I-238: Alameda CTC, in partnership with MTC, is performing a feasibility study on this segment of I-580 to identify a package of short and mid-term solutions to address the severe mobility and congestion issues experienced in this corridor. The study corridor limits are between I-238 and I-80 and extend up to the Bay Bridge Toll Plaza, as shown in Figure 2.

The study is called a Design Alternatives Assessment (DAA). The assessment will evaluate the feasibility of providing a bus lane, HOV lane, or an express lane on all, or a portion, of this segment of I-580, as well as additional operational strategies and traffic demand management strategies. The outcome of the DAA will be a set of near- and mid-term project concepts that could advance into project development and project delivery. The study is scheduled to be completed by the end of 2018.

I-580 Segment 2: I-238 to I-680 (Dublin Grade): Alameda CTC conducts semi-annual LOS monitoring on freeways and major arterials adopted as the county's Congestion Management Program Designated Roadway Network. This biennial analysis evaluates traffic growth trends using vehicular volumes, capacity and measurement of average speed and delay. In spring 2018, Alameda CTC will conduct a countywide LOS analysis, which will include this segment of I-580, to assess changes in roadway performance. Analyses of conditions over the past several years on this segment of the corridor show relatively constant average speeds in the AM peak westbound direction and some year by year slowing in the PM peak period eastbound. The LOS analysis that will be conducted in spring 2018 will provide additional information on the performance of this segment and can inform potential developments if the segment continues to show performance degradation.

I-580 Segment 3: I-680 to Greenville (I-580 Express Lanes are located in this corridor segment): Alameda CTC is performing an after study evaluation on this segment of the I-580 corridor as required by the enabling express lane legislation. The study includes an analysis of the after conditions following implementation of the I-580 Express Lanes, and will address both express lanes and general purpose lanes performance. In addition, once the after study is complete at the end of 2018, the scope of work allows for geometric assessment of the express lanes to evaluate the operational and geometric characteristics of the I-580 Express Lane corridor to assess the effectiveness and/or limitations of the current geometric configuration and identify any potential opportunities for system enhancement. This portion of the analysis is expected to be complete in summer 2019.

I-580 Segment 4: Greenville Road to I-205 (Altamont Pass): Similar to Segment 2, Alameda CTC will conduct the semi-annual LOS monitoring on this section of I-580 and will assess potential improvements as a result of biennial monitoring and through coordination with SJCOG as described under Section 3. Analyses of conditions over the past several years have shown degradation in average speeds in both directions. The LOS analysis that will be conducted in spring 2018 will provide additional information on

the performance of this segment and can inform potential project development if the segment continues to show performance degradation.

Regarding potential I-580 improvements that extend into San Joaquin County, the San Joaquin Council of Governments (SJCOG) has completed a project study report for I-205 HOV 8-Lane Widening and is advancing the project into the environmental and design phases. SJCOG has expressed interest in working with Alameda CTC to consider improvements on I-580 from their I-205 project as it connects to I-580 and into Alameda County. Alameda CTC will continue coordination with SJCOG as they develop their HOV lane expansion project and on the Alameda CTC I-580 Express Lanes after study.

Priority 2: Transit Investments

A key benefit of express lanes is a faster and more reliable trip for transit vehicles. The proposed second priority for net toll revenues is to support or enhance transit services within the I-580 Corridor. Several studies are underway to address transit expansion within the I-580 Corridor. Any final approved projects will need both capital and operating funds to support project delivery and on-going operations and maintenance. Recommendations for programming for this second level priority are anticipated to be available in fall 2019 once the studies are complete.

BART to Livermore EIR: BART is preparing a project-level Environmental Impact Report (EIR) for the BART to Livermore Extension Project. The proposed project consists of a 5.5-mile BART extension along I-580 to a new station in the vicinity of the Isabel Avenue / I-580 interchange. The project also includes new and modified bus services linking BART to Altamont Corridor Express (ACE) stations and activity centers in Livermore. The DEIR evaluates several alternatives, including a No Project alternative, a Diesel Multiple Unit (DMU) alternative, an Express Bus/Bus Rapid Transit alternative, and an Enhanced Bus alternative. Both the proposed project and DMU alternatives include storage and maintenance facilities for project operations. The project evaluation does not include extending beyond the I-580/Isabel Interchange where the City of Livermore is developing an Isabel Neighborhood Plan that is expected to achieve environmental clearance at the same time at the BART to Livermore EIR, both of which are anticipated to be complete prior to the end of June 2018.

AB 758 Megaregion Connection to the Tri-Valley BART. In 2017, AB 758 was signed by the Governor to establish the Tri-Valley-San Joaquin Valley Regional Rail Authority (TVSJVRRA) for the purposes of planning, developing, and delivering cost-effective and responsive transit connectivity between the BART and ACE commuter rail services in the Tri-Valley. The bill requires that TVSJVRRA perform a project feasibility study by July 1, 2019, to assess development and implementation of transit connectivity between the two systems. The feasibility analysis is addressing rail services across the Altamont Pass from West Tracey to a BART terminus in the Tri-Valley. As required by law, the study is expected to be complete by summer 2019.

WHEELS BUS Services. The Livermore Amador Valley Transit Authority operates the WHEELS bus with local and rapid services within the Tri-Valley in the Cities of Dublin, Livermore and Pleasanton and unincorporated Alameda County. As a Tri-Valley operator, WHEELS provides critical connections to BART and ACE Rail services. As additional projects develop per the project analyses noted above, the role of WHEELS bus services may be modified and/or expanded to support new transit developments in the Tri-Valley. Any modifications to WHEELS existing services would be done through an operational analysis where project funding needs could be identified. This type of analysis would likely occur after project decisions are made on other large transit investments in the I-580 Corridor.

Transit Operational Reserve. For any of the above projects, both capital and operational funds would be required to support new and/or expanded services. It is recommended that a transit operating reserve be included for services to support effective transit in the I-580 Corridor. An estimated reserve can be developed for projects once projects are fully defined.

Priority 3: Capital Projects

Since 1986, Alameda CTC has invested over \$1.5 billion in capital investments in the Tri-Valley I-580 Corridor. As shown in Figure 1, Alameda CTC is working on an I-680 Express Lanes gap closure project that would link into the Contra Costa express lanes on I-680 and with the I-580 Express Lanes. A key connectivity gap between the existing express lanes and the two interstates is the I-580/Interstate 680 (I-680). In addition, roadway improvements on I-580 to address the large truck volumes on this critical freight corridor are future capital projects that Alameda CTC recommends as the third priority for future net revenue programming.

I-580/I-680 Interchange: Alameda CTC identified \$20 million in the 2014 Transportation Expenditure Plan to study and initiate improvements to this interchange. Direct express lane connectors for the I-580 Westbound to I-680 Southbound and I-680 Northbound to I-580 Eastbound movements could be two of the phased improvements that could be partially funded by net toll revenues, which could provide incremental improvements to traffic congestion and corridor mobility. Other improvements may include operational and/or safety improvements to connect to I-680.

Goods Movement: In June 2016, Caltrans opened a new truck climbing lane east of Greenville Road to address congestion created by trucks over the Altamont Pass. This project has mitigated some of the recurring congestion in the eastbound direction. However, additional improvements are necessary to improve goods movement and commutes in this regionally significant freeway network that connects the Port of Oakland, Bay Area businesses, and other employment centers with the Central Valley and beyond. Through biennial monitoring, Alameda CTC will assess performance of the I-580 Corridor, including on the Altamont Pass, which can inform potential development opportunities for goods movement-supportive projects.

Chapter 8: Public Outreach

A comprehensive, research-based education and outreach effort began in Fall 2015 to inform motorists about the benefits of the new express lanes, how to use them, and how to obtain the required FasTrak and FasTrak Flex toll tags. I-580 Express Lanes outreach and education was implemented within the project area and the I-580 travel sheds, which included Contra Costa, San Joaquin, and Stanislaus Counties. The initial outreach plan included participation in outreach events, presentations to civic groups, development and distribution of collateral materials, coordination with regional partners and media, and a robust media campaign.

The communications plan was designed to effectively communicate information about the opening of the I-580 Express Lanes to key stakeholders, local, Bay Area and San Joaquin County media outlets, local residents, businesses, transportation providers and commuters throughout the Tri-Valley corridor and larger commute shed – reaching the target audiences in English, Spanish and Chinese. The initial launch of the campaign generated more than 40 million impressions between January 4 and March 31, 2016 with some of the media vehicles extending beyond the scheduled opening date to maintain awareness in the marketplace. Stakeholder outreach included the development and distribution of collateral materials including banners, posters, informational cards and fact sheets, as well as video, website and social media content for localities, transportation partner websites, local radio, television, businesses and civic organizations.

Alameda CTC prepared a post-opening public outreach and education plan for Fiscal Years 2016-17 and 2017-18 that included continued participation in outreach events and work with partner agencies, stakeholders, and media outlets with a focus on increasing FasTrak Flex tag acquisition, encouraging carpooling, and supporting continued safe and appropriate express lane use. Alameda CTC implemented an additional marketing and advertising campaign March-April 2017 throughout the I-580 Express Lanes commute shed to encourage commuters to carpool on I-580 and to reduce the number of violations by communicating that a FasTrak account is required for all users and it must be properly mounted on the windshield.

Alameda CTC staff will continue coordinating education and outreach with partner agencies to promote consistent messaging and accessible information about the Bay Area express lanes. In addition, Alameda CTC staff will continue to respond to public inquiries via the express lane hotline, social media, and direct e-mails as part of normal operating activities.

Appendix A: List of Acronyms

AB	Assembly Bill
Alameda CTC	Alameda County Transportation Commission
BATA	Bay Area Toll Authority
Caltrans	California Department of Transportation
CAV	clean-air vehicle
CCTV	Closed-circuit television
CHP	California Highway Patrol
DMS	dynamic message signs
FY	fiscal year
GP	general purpose
HOV	high occupancy vehicle
HOV 2+	two or more passengers in each high occupancy vehicle
HOV 3+	three or more passengers in each high occupancy vehicle
LOS	Level of Service
MOMS	Maintenance Online Monitoring System
mph	miles per hour
MTC	Metropolitan Transportation Commission
pc/mi/ln	passenger cars per mile per lane
SOV	single occupancy vehicle
TCS	toll collections system

ATTACHMENT A
Assembly Bill 2032 (2004)

Assembly Bill No. 2032**CHAPTER 418**

An act to add Sections 149.4, 149.5, and 149.6 to the Streets and Highways Code, relating to transportation.

[Approved by Governor September 9, 2004. Filed
with Secretary of State September 9, 2004.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2032, Dutra. HOT lanes: demonstration projects.

Existing law authorizes the Department of Transportation or local agencies with respect to highways under their respective jurisdictions to designate certain lanes for exclusive use by high-occupancy vehicles (HOVs). Existing law also authorizes the San Diego Association of Governments (SANDAG) to conduct, administer, and operate a value pricing and transit development program on a portion of Interstate 15 in San Diego County, under which single-occupant vehicles may use designated HOV lanes at certain times of day upon obtaining a permit and paying a fee, otherwise known as a "high-occupancy toll (HOT) lane."

This bill would authorize SANDAG, the Sunol Smart Carpool Lane Joint Powers Authority, the Santa Clara Valley Transportation Authority, and the Alameda County Congestion Management Agency to undertake similar value pricing programs involving various other HOT lanes under the jurisdiction of these sponsoring agencies. The bill would require net toll revenue generated by each program after payment of direct expenses to be allocated to the construction of high-occupancy vehicle facilities and the improvement of transit services pursuant to an expenditure plan adopted by the sponsoring agency. The bill would authorize the operation of the program by each agency for a period not to exceed 4 years after the agency first collects revenues for any of the authorized corridors, and would require a report to the Legislature by each sponsoring agency within 3 years. The bill would enact other related provisions.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) High-occupancy toll (HOT) lanes allow single-occupant vehicles to access a high-occupancy vehicle (HOV) lane during peak congestion periods in exchange for paying an electronically collected fee. HOT lane

facilities have been implemented and proven successful on freeways in California and elsewhere.

(b) HOT lanes provide an additional choice for users on occasions when saving time is of value to them. Research has illustrated that utilizing an HOV lane for a fee with assured reliable time savings is valuable to persons across the income spectrum. The income profile of HOT lane users does not differ greatly from that of adjacent mixed-flow lanes.

(c) HOT lanes create an alternative mechanism for financing transportation projects. Revenue generated from HOT lanes is used for transit services, highway maintenance, and other improvement within the HOT lane corridor.

(d) By providing the consumer a choice of paying a direct user fee for utilizing the unused capacity of the transportation system during peak periods, HOT lanes establish an equitable means of assessing a fee that is directly related to the burden placed on the transportation system.

(e) Toll collection for HOT lanes should be entirely by electronic means, and in accordance with Section 27565 of the Streets and Highways Code, which requires the use of equipment that is interoperable with electronic toll collection systems currently operating in California.

(f) HOT lanes increase the efficiency of the transportation system by taking advantage of existing capacity without forfeiting the congestion mitigation and air quality benefits provided by HOV lanes.

(g) Revenue from HOT lane operations would be reinvested in projects and services that provide traffic congestion relief in the HOT lane corridor.

SEC. 2. Section 149.4 is added to the Streets and Highways Code, to read:

149.4. (a) (1) Notwithstanding Sections 149 and 30800 of this code, and Section 21655.5 of the Vehicle Code, the San Diego Association of Governments (SANDAG) may conduct, administer, and operate a value pricing and transit development demonstration program on a maximum of two transportation corridors in San Diego County.

(2) The program, under the circumstances described in subdivision (b), may direct and authorize the entry and use of high-occupancy vehicle lanes in corridors identified in paragraph (1) by single-occupant vehicles during peak periods, as defined by SANDAG, for a fee. The amount of the fee shall be established from time to time by SANDAG, and collected in a manner determined by SANDAG. A high-occupancy vehicle lane may only be operated as a high-occupancy toll (HOT) lane during the hours that the lane is otherwise restricted to use by high-occupancy vehicles.

(b) Implementation of the program shall ensure that Level of Service C, as measured by the most recent issue of the Highway Capacity Manual, as adopted by the Transportation Research Board, is maintained at all times in the high-occupancy vehicle lanes, except that subject to a written agreement between the department and SANDAG that is based on operating conditions of the high-occupancy vehicle lanes, Level of Service D shall be permitted on the high-occupancy vehicle lanes. If Level of Service D is permitted, the department and SANDAG shall evaluate the impacts of these levels of service of the high-occupancy vehicle lanes, and indicate any effects on the mixed-flow lanes. Continuance of Level of Service D operating conditions shall be subject to the written agreement between the department and SANDAG. Unrestricted access to the lanes by high-occupancy vehicles shall be available at all times. At least annually, the department shall audit the level of service during peak traffic hours and report the results of that audit at meetings of the program management team.

(c) Single-occupant vehicles that are certified or authorized by SANDAG for entry into, and use of, the high-occupancy vehicle lanes identified in paragraph (1) of subdivision (a) are exempt from Section 21655.5 of the Vehicle Code, and the driver shall not be in violation of the Vehicle Code because of that entry and use.

(d) SANDAG shall carry out the program in cooperation with the department pursuant to a cooperative agreement that addresses all matters related to design, construction, maintenance, and operation of state highway system facilities in connection with the value pricing and transit development demonstration program. With the assistance of the department, SANDAG shall establish appropriate traffic flow guidelines for the purpose of ensuring optimal use of the express lanes by high-occupancy vehicles without adversely affecting other traffic on the state highway system.

(e) (1) Agreements between SANDAG, the department, and the Department of the California Highway Patrol shall identify the respective obligations and liabilities of those entities and assign them responsibilities relating to the program. The agreements entered into pursuant to this section shall be consistent with agreements between the department and the United States Department of Transportation relating to this program and shall include clear and concise procedures for enforcement by the Department of the California Highway Patrol of laws prohibiting the unauthorized use of the high-occupancy vehicle lanes. The agreements shall provide for reimbursement of state agencies, from revenues generated by the program, federal funds specifically allocated to SANDAG for the program by the federal government, or other funding sources that are not otherwise available to state agencies for

transportation-related projects, for costs incurred in connection with the implementation or operation of the program.

(2) The revenue generated from the program shall be available to SANDAG for the direct expenses related to the operation (including collection and enforcement), maintenance, and administration of the demonstration program. Administrative expenses shall not exceed 3 percent of the revenues.

(3) All remaining revenue generated by the demonstration program shall be used in the corridor from which the revenue was generated exclusively for preconstruction, construction, and other related costs of high-occupancy vehicle facilities and the improvement of transit service, including, but not limited to, support for transit operations pursuant to an expenditure plan adopted by SANDAG.

(f) Not later than three years after SANDAG first collects revenues from any of the projects described in paragraph (1) of subdivision (a), SANDAG shall submit a report to the Legislature on its findings, conclusions, and recommendations concerning the demonstration program authorized by this section. The report shall include an analysis of the effect of the HOT lanes on the adjacent mixed-flow lanes and any comments submitted by the department and the Department of the California Highway Patrol regarding operation of the lane.

(g) The authority of SANDAG to conduct, administer, and operate a value pricing and transit development program on a transportation corridor pursuant to this section shall terminate on that corridor four years after SANDAG first collects revenues from the HOT lane project on that corridor. SANDAG shall notify the department by letter of the date that revenues are first collected on that corridor.

SEC. 3. Section 149.5 is added to the Streets and Highways Code, to read:

149.5. (a) (1) Notwithstanding Sections 149 and 30800 of this code, and Section 21655.5 of the Vehicle Code, the Sunol Smart Carpool Lane Joint Powers Authority (SSCLJPA), consisting of the Alameda County Congestion Management Agency, Alameda County Transportation Improvement Authority, and the Santa Clara Valley Transportation Authority, may conduct, administer, and operate a value pricing high-occupancy vehicle program on the Sunol Grade segment of State Highway Route 680 (Interstate 680) in Alameda and Santa Clara Counties and the Alameda County Congestion Management Agency may conduct, administer, and operate a program on a corridor within Alameda County for a maximum of two transportation corridors in Alameda County pursuant to this section in coordination with the Metropolitan Transportation Commission and consistent with Section 21655.6 of the Vehicle Code.

(2) The program, under the circumstances described in subdivision (b), may direct and authorize the entry and use of the high-occupancy vehicle lanes in the corridors identified in paragraph (1) by single-occupant vehicles for a fee. The fee structure for each corridor shall be established from time to time by the administering agency. A high-occupancy vehicle lane may only be operated as a high-occupancy toll (HOT) lane during the hours that the lane is otherwise restricted to use by high-occupancy vehicles.

(3) The administering agency for each corridor shall enter into a cooperative agreement with the Bay Area Toll Authority to operate and manage the electronic toll collection system.

(b) Implementation of the program shall ensure that Level of Service C, as measured by the most recent issue of the Highway Capacity Manual, as adopted by the Transportation Research Board, is maintained at all times in the high-occupancy vehicle lanes, except that subject to a written agreement between the department and the administering agency that is based on operating conditions of the high-occupancy vehicle lanes, Level of Service D shall be permitted on the high-occupancy vehicle lanes. If Level of Service D is permitted, the department and the administering agency shall evaluate the impacts of these levels of service of the high-occupancy vehicle lanes, and indicate any effects on the mixed-flow lanes. Continuance of Level of Service D operating conditions shall be subject to the written agreement between the department and the administering agency. Unrestricted access to the lanes by high-occupancy vehicles shall be available at all times. At least annually, the department shall audit the level of service during peak traffic hours and report the results of that audit at meetings of the administering agency.

(c) Single-occupant vehicles that are certified or authorized by the administering agency for entry into, and use of, the high-occupancy vehicle lanes identified in paragraph (1) of subdivision (a) are exempt from Section 21655.5 of the Vehicle Code, and the driver shall not be in violation of the Vehicle Code because of that entry and use.

(d) The administering agency shall carry out the program in cooperation with the department pursuant to a cooperative agreement that addresses all matters related to design, construction, maintenance, and operation of state highway system facilities in connection with the value pricing high-occupancy vehicle program. With the assistance of the department, the administering agency shall establish appropriate traffic flow guidelines for the purpose of ensuring optimal use of the express lanes by high-occupancy vehicles without adversely affecting other traffic on the state highway system.

(e) (1) Agreements between the administering agency, the department, and the Department of the California Highway Patrol shall identify the respective obligations and liabilities of those entities and assign them responsibilities relating to the program. The agreements entered into pursuant to this section shall be consistent with agreements between the department and the United States Department of Transportation relating to programs of this nature. The agreements shall include clear and concise procedures for enforcement by the Department of the California Highway Patrol of laws prohibiting the unauthorized use of the high-occupancy vehicle lanes, which may include the use of video enforcement. The agreements shall provide for reimbursement of state agencies, from revenues generated by the program, or other funding sources that are not otherwise available to state agencies for transportation-related projects, for costs incurred in connection with the implementation or operation of the program.

(2) The revenue generated from the program shall be available to the administering agency for the direct expenses related to the operation (including collection and enforcement), maintenance, and administration of the demonstration program. Administrative expenses shall not exceed 3 percent of the revenues.

(3) All net revenue generated by the program that remains after payment of direct expenses pursuant to paragraph (2) shall be allocated pursuant to an expenditure plan adopted biennially by the administering agency for transportation purposes within the program area. The expenditure plan may include funding for the following:

(A) The construction of high-occupancy vehicle facilities, including the design, preconstruction, construction, and other related costs of the northbound Interstate 680 Sunol Smart Carpool Lane project.

(B) Transit capital and operations that directly serve the authorized corridors.

(f) Not later than three years after the administering agency first collects revenues from the program authorized by this section, the administering agency shall submit a report to the Legislature on its findings, conclusions, and recommendations concerning the demonstration program authorized by this section. The report shall include an analysis of the effect of the HOT lanes on the adjacent mixed-flow lanes and any comments submitted by the department and the Department of the California Highway Patrol regarding operation of the lane.

(g) The authority of the administering agency to conduct, administer, and operate a value pricing high-occupancy vehicle program pursuant to this section shall terminate on that corridor four years after the administering agency first collects revenues from the HOT lane project

on that corridor. The administering agency shall notify the department by letter of the date that revenues are first collected on that corridor.

SEC. 4. Section 149.6 is added to the Streets and Highways Code, to read:

149.6. (a) Notwithstanding Sections 149 and 30800, and Section 21655.5 of the Vehicle Code, the Santa Clara Valley Transportation Authority (VTA) created by Part 12 (commencing with Section 100000) of the Public Utilities Code may conduct, administer, and operate a value pricing program on any two of the transportation corridors included in the high-occupancy vehicle lane system in Santa Clara County in coordination with the Metropolitan Transportation Commission and consistent with Section 21655.6 of the Vehicle Code.

(1) VTA, under the circumstances described in subdivision (b), may direct and authorize the entry and use of those high-occupancy vehicle lanes by single-occupant vehicles for a fee. The fee structure shall be established from time to time by the authority. The fee shall be collected in a manner determined by the authority. A high-occupancy vehicle lane may only be operated as a high-occupancy toll (HOT) lane during the hours that the lane is otherwise restricted to use by high-occupancy vehicles.

(2) VTA shall enter into a cooperative agreement with the Bay Area Toll Authority to operate and manage the electronic toll collection system.

(b) Implementation of the program shall ensure that Level of Service C, as measured by the most recent issue of the Highway Capacity Manual, as adopted by the Transportation Research Board, is maintained at all times in the high-occupancy vehicle lanes, except that subject to a written agreement between the department and VTA that is based on operating conditions of the high-occupancy vehicle lanes, Level of Service D shall be permitted on the high-occupancy vehicle lanes. If Level of Service D is permitted, the department and VTA shall evaluate the impacts of these levels of service of the high-occupancy vehicle lanes, and indicate any effects on the mixed-flow lanes. Continuance of Level of Service D operating conditions shall be subject to the written agreement between the department and VTA. Unrestricted access to the lanes by high-occupancy vehicles shall be available at all times. At least annually, the department shall audit the level of service during peak traffic hours and report the results of that audit at meetings of the program management team.

(c) Single-occupant vehicles that are certified or authorized by the authority for entry into, and use of, the high-occupancy vehicle lanes in Santa Clara County are exempt from Section 21655.5 of the Vehicle

Code, and the driver shall not be in violation of the Vehicle Code because of that entry and use.

(d) VTA shall carry out the program in cooperation with the department pursuant to a cooperative agreement that addresses all matters related to design, construction, maintenance, and operation of state highway system facilities in connection with the value pricing program. With the assistance of the department, VTA shall establish appropriate traffic flow guidelines for the purpose of ensuring optimal use of the express lanes by high-occupancy vehicles without adversely affecting other traffic on the state highway system.

(e) (1) Agreements between VTA, the department, and the Department of the California Highway Patrol shall identify the respective obligations and liabilities of those entities and assign them responsibilities relating to the program. The agreements entered into pursuant to this section shall be consistent with agreements between the department and the United States Department of Transportation relating to this program. The agreements shall include clear and concise procedures for enforcement by the Department of the California Highway Patrol of laws prohibiting the unauthorized use of the high-occupancy vehicle lanes, which may include the use of video enforcement. The agreements shall provide for reimbursement of state agencies, from revenues generated by the program, federal funds specifically allocated to the authority for the program by the federal government, or other funding sources that are not otherwise available to state agencies for transportation-related projects, for costs incurred in connection with the implementation or operation of the program.

(2) The revenues generated by the program shall be available to VTA for the direct expenses related to the operation (including collection and enforcement), maintenance, and administration of the program. The VTA's administrative costs in the operation of the program shall not exceed 3 percent of the revenues.

(3) All remaining revenue generated by the demonstration program shall be used in the corridor from which the revenues were generated exclusively for the preconstruction, construction, and other related costs of high-occupancy vehicle facilities and the improvement of transit service, including, but not limited to, support for transit operations pursuant to an expenditure plan adopted by the VTA.

(f) Not later than three years after VTA first collects revenues from any of the projects described in paragraph (1) of subdivision (a), VTA shall submit a report to the Legislature on its findings, conclusions, and recommendations concerning the demonstration program authorized by this section. The report shall include an analysis of the effect of the HOT lanes on adjacent mixed-flow lanes and any comments submitted by the

department and the Department of the California Highway Patrol regarding operation of the lanes.

(g) The authority of VTA to conduct, administer, and operate a value pricing high-occupancy vehicle program on a transportation corridor pursuant to this section shall terminate on that corridor four years after VTA first collects revenues from the HOT lane project on that corridor. VTA shall notify the department by letter of the date that revenues are first collected on that corridor.

O

92



ATTACHMENT B

Operations and Maintenance Agreement between State and Alameda County Transportation Commission for the Route 580 Express Lanes

**OPERATIONS AND MAINTENANCE AGREEMENT BETWEEN STATE AND
ALAMEDA COUNTY TRANSPORTATION COMMISSION FOR THE ROUTE 580
EXPRESS LANES**

THIS AGREEMENT, ENTERED INTO, AND EFFECTIVE ON the 25th day of February, 2016, is between the STATE OF CALIFORNIA, acting by and through its Department of Transportation, referred to herein as "STATE," and the ALAMEDA COUNTY TRANSPORTATION COMMISSION, a California Joint Powers Agency, referred to herein as "ALAMEDA CTC."

RECITALS

1. STATE and ALAMEDA CTC, pursuant to California Streets and Highways Code sections 114, 130, and 149.5, are authorized to enter into this Operations and Maintenance Agreement.
2. STATE and ALAMEDA CTC and its predecessor, Alameda County Congestion Management Agency (ACCMMA), have entered into cooperative agreements stated below for the conversion of high occupancy vehicle ("HOV") lanes to high occupancy toll ("HOT") lanes on westbound Route 580 between west of Route 680/580 interchange and east of Greenville Road and on eastbound Route 580 between Hacienda Drive and east of Greenville Road for Route 580 Express Lanes Project hereafter referred to as "EXPRESSLANES."
3. STATE Cooperative Agreement numbers 04-2243 and 04-2395 were executed by the parties herein to address coordination and Project Approval & Environmental Document, Plans, Specifications & Estimate (PS&E) and Right of Way phases for EXPRESSLANES.
4. Streets and Highways code Section 149.5 authorizes ALAMEDA CTC, to conduct, administer, and operate a value-pricing high-occupancy vehicle program involving high-occupancy toll (HOT) lanes in Alameda County where ALAMEDA CTC can direct and authorize the entry and use of the State Highway Route high-occupancy vehicle lanes by single-occupant vehicles and those vehicles that do not meet minimum occupancy requirements, for a fee (EXPRESSLANES PROGRAM).
5. Under EXPRESSLANES PROGRAM, existing or newly constructed HOV lanes were converted and operated as HOT lanes.
6. EXPRESSLANES will utilize FasTrak® transponders for toll collection.
7. EXPRESSLANES will utilize dynamic VALUE PRICING and a TOLL COLLECTION SYSTEM that will consist of an Automatic Vehicle Identification system, Dynamic Message Sign (DMS), and computer systems that process and post transactions to FasTrak® customer accounts.

8. The Department of California Highway Patrol ("CHP") provides enforcement of the existing and planned HOV lanes and will continue to enforce Sections 21655.5 through 21655.9 of the Vehicle Code. CHP and ALAMEDA CTC will enter into a separate agreement for EXPRESSLANES. To augment CHP enforcement, ALAMEDA CTC is currently evaluating alternative enforcement technologies including a Violation Enforcement System ("VES") to pursue violators in accordance with Sections 4770, *et seq.*, and 40250, *et seq.*, of the Vehicle Code.
- 9 Under this Agreement, ALAMEDA CTC and STATE intend to define the terms and conditions under which EXPRESSLANES and ROADWAY are to be operated, maintained, and implemented by ALAMEDA CTC, and the terms and conditions under which the EXPRESSLANES and ROADWAY are to be operated and maintained by STATE. This Agreement shall also provide for reimbursement to STATE by ALAMEDA CTC for the operation and maintenance expense of EXPRESSLANES and ROADWAY

DEFINITIONS

Unless the context otherwise specifies or requires an alternate meaning, for the purposes of this Operations and Maintenance Agreement, the following terms shall have the meaning as set forth in this Section:

ALAMEDA CTC Facilities- Items listed in EXHIBIT A in which the maintenance agency is ALAMEDA CTC.

EXHIBIT A is the list of all elements, devices, equipment, systems, etc., comprising the EXPRESSLANES and ROADWAY infrastructure that ALAMEDA CTC is responsible for maintenance cost. STATE and ALAMEDA CTC will agree upon and execute a new dated and revised EXHIBIT A which will be made a part hereof and will thereafter supersede the attached original EXHIBIT A to thereafter become a part of this Agreement. The new EXHIBIT A can be executed only upon written consent of the STATE and ALAMEDA CTC hereto acting by and through their authorized representatives.

EXPRESSLANES -See Recital 2 hereinabove.

EXPRESSLANES MAINTENANCE shall mean maintenance of ROADWAY and EXPRESSLANES and infrastructure described in EXHIBIT A.

FasTrak® is the physical tool to facilitate the operation of value pricing, which authorizes the entry and use of EXPRESSLANES by single-occupant vehicles or vehicles that do not meet the minimum HOV occupancy requirements in exchange for payment of a toll.

ROADWAY includes EXPRESSLANES pavement, structures and appurtenant facilities, including, but not limited to, signage, concrete and metal guardrails, lighting, fiber optic network infrastructure, loop detectors, wireless sensors, CHP observations areas including raised vehicle pads, and new and existing treatments applied to the top of the roadway, such as, surface overlay, delineators, lane striping, and markings.

TOLL COLLECTION SYSTEM shall mean the system or systems specifically installed to collect tolls, monitor the flow of traffic and/or communicate with motorists located on **EXPRESSLANES**, such as, loop detectors added specifically for the **TOLL COLLECTION SYSTEM**, cameras, toll-related sign panels/structures, DMS, gantries, readers, but excludes the fixed non-toll related signage, such as, traffic signs, delineators, and road markings.

TRAFFIC INCIDENT MANAGEMENT PLAN (TIMP) shall mean the then current plan prepared by **ALAMEDA CTC**, approved by the **ALAMEDA CTC Executive Director**, the **STATE District Deputy Director of Operations**, and the **CHP Assistant Chief**, to define the coordinated, preplanned use of technology, processes, and procedures to reduce the duration and impact of incidents, and to improve the safety of motorists, crash victims, and incident responders on the **EXPRESSLANES**. Any changes to the document can be done by authorized representatives of both parties mutually executing an amendment to it or replacing the entire plan formally. No amendment to this Agreement will be required.

VALUE PRICING refers to variable road tolls (higher prices under congested conditions and lower prices at less congested times and locations) intended to reduce peak-period traffic volumes to optimal levels. Tolls can vary based on a fixed schedule, or they can be dynamic, meaning that rates change depending on the level of congestion that exists at a particular time.

SECTION I

ALAMEDA CTC AGREES:

1. To implement the dynamic **VALUE PRICING** and a **TOLL COLLECTION SYSTEM** that includes the use of FasTrak® transponders for toll collection.
2. To administer a **VALUE PRICING** program for **EXPRESSLANES** at no cost to the **STATE**, including the operations and maintenance of any devices installed for the purpose of the **TOLL COLLECTION SYSTEM**.
3. To establish **VALUE PRICING** program business rules and account policies, including setting the amount of FasTrak® fees.
4. To collect fees from FasTrak® customers in accordance with the business rules and account policies
5. To operate, maintain, any devices installed for **ALAMEDA CTC**, or its authorized agent(s), exclusively needed for the **TOLL COLLECTION SYSTEM**.
6. To be fully responsible for the security of all **ALAMEDA CTC** data collected for the purpose of operating **ALAMEDA CTC** facilities. To fully defend, indemnify and save harmless **STATE** and all its officers and employees from all claims or suits arising due to a data or security breach.
7. To be responsible for maintenance and operation of **EXPRESSLANES** and **ROADWAY** at **ALAMEDA CTC**'s costs, which it designates **STATE** to perform as provided herein below.

8. To designate STATE to provide EXPRESSLANES MAINTENANCE as specified in EXHIBIT A and operational activities as outlined in the TIMP including TIMP coordination meetings. ALAMEDA CTC shall reimburse STATE for all actual costs related to EXPRESSLANES MAINTENANCE.
9. To be solely responsible, including all costs related thereto for the operation, maintenance, protection, repair of ALAMEDA CTC Facilities, and any STATE required future relocation of ALAMEDA CTC Facilities and highway maintenance and rehabilitation within the limits of and related to the Route 580 EXPRESSLANES.
 - a. Said work at all times shall be conducted to assure safety and convenience of STATE Highway users.
 - b. Said work and ALAMEDA CTC Facilities shall be subject to random inspection by STATE as to safety conditions affecting STATE's highway facilities, and ALAMEDA CTC shall, upon notice from STATE that an unsafe condition exists, take immediate steps to correct such unsafe conditions.
 - c. If ALAMEDA CTC fails to perform repairs to such unsafe condition after thirty (30) or specified number of days of such notice from STATE, STATE may take necessary corrective action, and ALAMEDA CTC shall be billed and shall pay all costs for such corrective work performed by STATE.
 - d. Such inspection by STATE, if performed at all, does not relieve ALAMEDA CTC of its responsibilities under this Agreement.
10. To deposit with STATE within forty-five (45) days of receipt of invoices for the expenses incurred in conformance with Section II.2 herein.
11. To enter into a separate agreement with the CHP regarding reimbursement for officer hours spent enforcing EXPRESSLANES by CHP as requested by ALAMEDA CTC for the purpose of prohibiting unauthorized use of the high occupancy toll lanes, at no cost to STATE.
12. To enter into a separate agreement with the CHP regarding reimbursement for officer hours spent providing Maintenance Zone Enhanced Enforcement Program (MAZEED) for EXPRESSLANES MAINTENANCE, at no cost to STATE.
13. To contract directly with Pacific Gas and Electric Company (PG&E) for electrical power of field elements specifically related to the ALAMEDA CTC facilities including, but not limited to service connections, engineering fees, service, and energy costs, at ALAMEDA CTC's sole expense.
14. To apply for the necessary encroachment permit(s) for required work within the STATE highway rights-of-way through its authorized agent(s), and for operation and maintenance of EXPRESSLANES, TOLL COLLECTION SYSTEM or VES work within STATE highway rights-of-way, in accordance with STATE's standard permit procedures, as more specifically defined in Section II.3 of this Agreement. An Encroachment Permit or Encroachment Permit modification (rider) would be required for any changes to the scope of work allowed by this Agreement prior to the start of any work within STATE's right of way.

15. To remove all of, or designated portions of, ALAMEDA CTC improvements within highway right-of-way at STATE's sole option, should operations of the EXPRESSLANES be terminated by ALAMEDA CTC, and to restore STATE's facility to a standard acceptable to STATE at ALAMEDA CTC's sole expense within six (6) months of such termination.
16. The designated ALAMEDA CTC Point of Contact:

EXPRESS LANE Operations Manager, ALAMEDA CTC
1111 Broadway, Suite 800
Oakland, CA 94607

SECTION II

STATE AGREES:

1. To provide EXPRESSLANES MAINTENANCE for ALAMEDA CTC at ALAMEDA CTC's sole expense, as shown in EXHIBIT A.
2. To submit to ALAMEDA CTC, a signed itemized invoice in arrears with specific details of all costs incurred by STATE for providing EXPRESSLANES MAINTENANCE and operational services in accordance with Section III.6 herein. Each invoice shall be submitted to ALAMEDA CTC for approval and payment mailed to the following address:

ALAMEDA CTC
c/o Accounts Payable
1111 Broadway, Suite 800
Oakland, CA 94607.

If Electronic Fund Transfer (EFT) is available, STATE shall submit by electronic facsimile, a summary listing of EXPRESSLANES MAINTENANCE expenditures for reimbursement to STATE by means of EFT and within ten (10) days after submittal of that EFT, to submit an invoice with specific details and supporting information of all costs incurred during the period of the invoice. If invoice is not paid on time, as specified hereinabove, STATE will offset any future payments due to ALAMEDA CTC for the invoice amount. Upon notice of invoice discrepancy from ALAMEDA CTC, if STATE disputes such claim, STATE shall notify ALAMEDA CTC, within forty-five (45) days after receiving said notice from ALAMEDA CTC. STATE shall credit undisputed claims to ALAMEDA CTC in its current funding request. Upon final resolution of a disputed claim, ALAMEDA CTC shall make the appropriate credit or debit to the EXPRESSLANES MAINTENANCE funding account.

3. To issue, upon proper application by ALAMEDA CTC and/or its authorized agent(s), the necessary Encroachment Permit(s) for required work within the State highway rights-of-way, and for operation and maintenance of EXPRESSLANES. Permits will be issued at no charge to ALAMEDA CTC, or its authorized agent(s), unless an inspection is required, in which case, a fee at standard STATE rates will be charged based on job type, length of work, traffic closure, and so forth.

4. To provide a qualified STATE representative who shall have the authority to accept or reject work and materials, or to order any actions needed for public safety or the preservation of property, and to assure compliance with all the Encroachment Permit(s) issued to ALAMEDA CTC and/or to ALAMEDA CTC's authorized agent(s).
5. The designated STATE Point of Contact:

STATE Maintenance Manager – East Bay Region
600 Lewelling Blvd.
San Leandro, CA 94579
(510) 614-2665

SECTION III

IT IS MUTUALLY AGREED:

1. All obligations of STATE under the terms of this Agreement are subject to the appropriation of resources by the Legislature, State Budget Act authority, and the collection of resources by the California Transportation Commission.
2. All obligations of ALAMEDA CTC under the terms of this Agreement are subject to the approval of the allocations of resources to the EXPRESSLANES in the Annual Budget by the ALAMEDA CTC Commission.
3. ALAMEDA CTC, and/or its designee, shall have the right to conduct interim and final audits, at ALAMEDA CTC expense, including financial and compliance audits, and other audits as ALAMEDA CTC deems appropriate in accordance with Generally Accepted Governmental Audit Standards ("GAGAS"). ALAMEDA CTC shall use reasonable efforts to commence the final audit within ninety (90) days of ALAMEDA CTC's receipt of the annual invoice and will make every reasonable attempt to conduct such audits in a timely manner. STATE agrees to establish and maintain proper accounting procedures, cash management records and related documents in accordance with State law, STATE's Budgetary Basis of Accounting, and Generally Accepted Accounting Principles ("GAAP"). STATE shall reimburse ALAMEDA CTC for any reimbursement received by STATE that is not in compliance with the terms and conditions of this Agreement. ALAMEDA CTC shall use applicable Federal Acquisition Regulations (FAR) in determining the reasonableness of costs incurred.
4. All collected data and published reports related to EXPRESSLANES generated by STATE and ALAMEDA CTC, or its authorized agent(s), shall be made available upon request by either party to this Agreement within thirty (30) days. ALAMEDA CTC, or its authorized agent(s), will abide by the EXPRESSLANES Privacy Policy to ensure that account holder personal information will not be disclosed.

- a. STATE and ALAMEDA CTC receive no warranty regarding provided data, whether express or implied, and all warranties of merchantability and fitness of provided data for any particular purpose are expressly disclaimed.
 - b. STATE and ALAMEDA CTC make no warranty that the data provided will be free of errors, and that the provided data is on an “as is” and “with all faults” basis.
 - c. STATE and ALAMEDA CTC will not license or distribute any shared data to any parties not included in this Agreement, without the written consent of the other party, except for purposes of 511, PeMs and the National Evaluation required by USDOT.
5. Cost of EXPRESSLANES MAINTENANCE will be reimbursed at 100% of actual costs. Actual cost includes the cost of labor plus its associated STATE approved overhead, equipment and material. Periodically, the approved overhead rate will be adjusted.
 6. On a fiscal year annual basis, ALAMEDA CTC will provide STATE with EXPRESSLANES revenue and expenditures reports. Standard reports will be developed by ALAMEDA CTC or its authorized agent(s) to measure FasTrak® revenues and expenditures. The reports shall be in a format approved by STATE in conformance with USDOT Reporting Requirements and herein referred to as “EXPRESSLANES Revenue and Expenditure Report.”
 7. ALAMEDA CTC will provide STATE a facility performance report on a semi-annual basis. This report should contain performance measures and trend data and analysis to demonstrate that the pricing strategy has been effective in reducing or managing congestion on the entire facility and that the EXPRESSLANES operate at the performance requirements of California (SHC 143, 149) and federal (23 USC166) laws. If the performance is not meeting these goals, ALAMEDA CTC shall include a plan to improve performance in the report.
 8. STATE in cooperation with CHP may close EXPRESSLANES and/or open EXPRESSLANES to general-purpose traffic for incident management, or emergency response in accordance with established rules, guidelines and criteria, at STATE’s discretion. In such event, STATE shall notify ALAMEDA CTC promptly, or as soon as practicable, of such occurrences in accordance with the approved TIMP. In such event, ALAMEDA CTC shall adjust its DMS signs upon receipt of the proper notification from STATE to reflect the special operating configuration of the lanes.
 9. STATE may close EXPRESSLANES and/or open EXPRESSLANES to general-purpose traffic for construction purposes and maintenance purposes in accordance with required STATE rules, guidelines, and criteria. In such event (*e.g.*, roadway sweeping or routine roadway maintenance) not of an incident management or emergency response nature, STATE shall notify ALAMEDA CTC one week in advance of such occurrences and ALAMEDA CTC shall adjust its DMS signs to reflect the special operating configuration of EXPRESSLANES. This work should be performed outside the revenue generating hours when possible unless there is an emergency.

10. In the event that there is a dispute between ALAMEDA CTC and STATE regarding STATE's monthly cost data, the disputing party shall endeavor to notify the other party in writing, and both parties agree to seek to resolve disputes in the following manner:
- a. The Point of Contact for the disputing party (defined in Sections I and II of this Agreement) shall notify the other party Point of Contact in writing, including a statement of the grounds for the dispute, pertinent dates, and supporting documentation.
 - b. Upon receipt of a written dispute, the receiving party Point of Contact, and other appropriate agency staff, shall review the documentation in a timely manner and reply to the disputing party within thirty (30) days.
 - c. Appeals shall be referred to ALAMEDA CTC's Executive Director and STATE's District Director for District 4. ALAMEDA CTC's Executive Director and the STATE's District Director for District 4 shall make every attempt to respond to the request for reconsideration and reach a resolution within thirty (30) days.
 - d. If an agreement cannot be reached between ALAMEDA CTC's Executive Director and STATE's District Director for District 4, the dispute shall be referred by either party to the STATE's Department of Transportation Director for final resolution after receiving written request to resolve the dispute.
 - e. ALAMEDA CTC and STATE may pursue all available remedies under law or equity including non-binding mediation or non-binding alternative dispute resolution if the above process does not achieve resolution.
11. Nothing in the provisions of this Agreement is intended to create duties or obligations to or rights in third parties not parties to this Agreement, or effect the legal liability of any party to the Agreement by imposing any standard of care with respect to the maintenance of State highways different from the standard of care imposed by law.
12. Neither STATE nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by ALAMEDA CTC under or in connection with any work, authority or jurisdiction allocated to ALAMEDA CTC under this Agreement. It is understood and agreed that, ALAMEDA CTC will fully defend, indemnify, and save harmless STATE and all of its officers and employees from all claims, suits or actions of every name, kind and description brought forth under, including, but not limited to, tort, contractual, inverse condemnation or other theories or assertions of liability occurring by reason of anything done or omitted to be done by ALAMEDA CTC under this Agreement.
13. Neither ALAMEDA CTC nor its member agencies, nor any officer, nor employee or agent thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by STATE under or in connection with any work, authority or jurisdiction allocated to STATE under this Agreement. It is understood and agreed that, STATE will fully defend, indemnify, and save harmless ALAMEDA CTC and each of its member agencies, and respective officers and employees thereof, from all claims, suits or

actions of every name, kind and description brought forth under, including, but not limited to, tort, contractual, inverse condemnation or other theories or assertions of liability occurring by reason of anything done or omitted to be done by STATE under this Agreement. In the event of damage to or destruction of dynamic VALUE PRICING and a TOLL COLLECTION SYSTEM, ALAMEDA CTC shall have responsibility for repair and replacement, of the same and shall have responsibility for repair and replacement of ROADWAY.

14. **TERMINATION**- This Agreement may be terminated by mutual written consent of the PARTIES, or ALAMEDA CTC's failure to comply with the provisions of this Agreement may be grounds for a Notice of Termination by STATE

In the event EXPRESSLANES is terminated for any reason, with prior written approval from Federal Highway Administration (FHWA) and STATE, ALAMEDA CTC shall restore ROADWAY to the operating condition that existed prior to the implementation of EXPRESSLANES. The STATE and ALAMEDA CTC agree that any costs incurred to restore the ROADWAY to its original operating condition shall be funded primarily from the revenues generated from EXPRESSLANES, or from the operating budget of EXPRESSLANES. In the event there are insufficient revenues to cover the costs of the restoration of the ROADWAY, the STATE and ALAMEDA CTC agree to work cooperatively to secure funding from other sources.

Upon termination of EXPRESSLANES, dynamic VALUE PRICING and a TOLL COLLECTION SYSTEM, which is the property of the ALAMEDA CTC, shall be removed from the STATE right of way in a six (6)-month timeframe agreed to by both STATE and ALAMEDA CTC, unless otherwise modified by mutual agreement of both STATE and ALAMEDA CTC.

15. **Term of Agreement**

This Agreement shall become effective on the date first shown on its face sheet and shall remain in full force and effect until amended or terminated at any time upon mutual consent of the parties or until terminated by STATE for cause.



Memorandum

5.3

1111 Broadway, Suite 800, Oakland, CA 94607

• 510.208.7400

• www.AlamedaCTC.org

DATE: April 2, 2018

TO: I-580 Express Lane Policy Committee

FROM: Liz Rutman, Director of Express Lanes Implementation and Operations

SUBJECT: I-580 Express Lanes (PN 1373.002): Monthly Operation Update

Recommendation

This item is to provide the Commission with an update on the operation of the I-580 Express Lanes. This item is for information only.

Summary

The Alameda CTC is the project sponsor of the I-580 Express Lanes, located in the Tri-Valley corridor through the cities of Dublin, Pleasanton, and Livermore, which opened to traffic on February 19th and 22nd of 2016. See Attachment A for express lane operation limits.

The February 2018 operations report indicates that the express lane facility continues to provide travel time savings and travel reliability throughout the day. Express lane users typically experienced higher speeds and lesser average lane densities than the general purpose lanes, resulting in a more comfortable drive and travel time savings for express lane users.

Background

The I-580 Express Lanes, extending from Hacienda Drive to Greenville Road in the eastbound direction and from Greenville Road to San Ramon Road/Foothill Road in the westbound direction, were opened to traffic on February 19th and 22nd of 2016 in the eastbound and westbound directions, respectively. Motorists using the I-580 Express Lanes facility benefit from travel time savings and travel reliability as the express lanes optimize the corridor capacity by providing a new choice to drivers. Single occupancy vehicles (SOVs) may choose to pay a toll and travel within the express lanes, while carpools, clean-air vehicles, motorcycles, and transit vehicles enjoy the benefits of toll-free travel in the express lanes.

An All Electronic Toll (AET) collection method has been employed to collect tolls. Toll rates are calculated based on real-time traffic conditions (speed and volume) in express and general purposes lanes and can change as frequently as every three minutes. California Highway Patrol (CHP) officers provide enforcement services and the California Department of Transportation (Caltrans) provides roadway maintenance services through reimbursable service agreements.

February 2018 Operations Update:

Nearly 634,000 express lane trips were recorded during operational hours in February, an average of approximately 31,700 daily trips. Table 1 presents the breakdown of trips based on toll classification and direction of travel. Pursuant to the Commission-adopted "Ordinance for Administration of Tolls and Enforcement of Toll Violations for the I-580 Express Lanes," if a vehicle uses the express lanes without a valid FasTrak® toll tag then the license plate read by the Electronic Tolling System is used to either assess a toll either by means of an existing FasTrak account to which the license plate is registered or by issuing a notice of toll evasion violation to the registered vehicle owner. Approximately half of all trips by users without a toll tag are assessed tolls via FasTrak account.

Table 1. Express Lane Trips by Type and Direction

Trip Classification		Percent of Trips ¹
		February
By Type	HOV-eligible with FasTrak flex tag	45%
	SOV with FasTrak standard or flex tag	37%
	No valid toll tag in vehicle	18%
By Direction	Westbound	45%
	Eastbound	55%

1. Excludes "trips" by users that had no toll tag and either no license plate or one that could not be read by the Electronic Tolling System with sufficient accuracy that a toll could be assessed.

Express lane users typically experience higher speeds and lesser lane densities than the general purpose lanes. Lane density is measured by the number of vehicles per mile per lane and reported as Level of Service (LOS). LOS is a measure of freeway performance based on vehicle maneuverability and driver comfort levels, graded on a scale of A (best) through F (worst). Table 2 summarizes the average speed differentials and LOS comparison between the express and general purpose lanes at four locations in each of the westbound and eastbound directions during respective commute hours for February. This table provides an overall snapshot of the express lane benefits for the month during commute hours.

Attachment B presents the speed and density heat maps for the I-580 corridor during revenue hours for the six-month period from July 2017 – December 2017. These heat maps

are a graphical representation of the overall condition of the corridor, showing the average speeds and densities along the express lane corridor and throughout the day for both the express and general purpose lanes, and are used to evaluate whether the express lane is meeting both federal and state performance standards. During these six months, the average speeds at each traffic sensor location in the westbound express lane ranged from 55 to 70 mph during the morning commute hours (5 am to 11 am) with the lower speeds occurring between Isabel Avenue and Hacienda Road. The express lane operated at LOS C or better at most times, with a short one-hour period of LOS D experienced near Fallon Road and Isabel Ave in the morning commutes. By comparison, the general purpose lanes experienced average speeds as low as 40 mph and LOS D throughout longer sections of the corridor. During the evening commute, the data reflects a small period of westbound reverse-commute congestion between Hacienda Road and San Ramon Road from 4 pm to 6 pm, though the express lane continued to operate at LOS B or better during this time. Outside of the commute hours, westbound express lane users experience average speeds of 70 mph or higher and average LOS A.

Table 2. Speed Differentials and Level of Service

	Direction	I-580 in the Vicinity of	Speed Differential Range (mph)	Average Speed Differential (mph)	Average Express Lane LOS	Average General Purpose Lane LOS
February	Westbound Morning Commute: 5 am – 11 am	North First Street	5 - 8	6	B	C
		North Livermore Ave	3 - 6	5	B	C
		Fallon Road	3 - 11	7	C	D
		Santa Rita Road	11 - 18	14	B	D
	Eastbound Evening Commute: 2 pm – 7 pm	Hacienda Drive	17 - 29	22	D	F
		Airway Blvd	7 – 11	9	B	D
		North Livermore Ave	5 – 12	9	B	D
		North First Street	8 - 22	14	B	E

In the eastbound direction, average express lane speeds from July 2017 through December 2017 ranged from 25 to 70 mph during the evening commute hours (2 pm – 7 pm) with the lowest speeds occurring at the eastern terminus of the express lanes, between Vasco Road and Greenville Road. Average express lane speeds throughout the rest of the day exceeded 70 mph. Most of the express lane corridor operates at LOS C or better during the evening commute hours, with limited sections of degraded LOS at the western end of the express lanes between 3 pm and 6 pm and at the eastern terminus between 4 pm and 7 pm. The express lanes averaged LOS B or better throughout the rest of the day in all locations. By comparison, the general purpose lanes experienced lower speeds and degraded levels of services for longer periods of time than the express lane during the evening commute hours.

Table 3 presents the maximum posted toll rates to travel the entire corridor in each direction, along with the average toll assessed to non-HOV users.

Table 3. Toll Rate Data

Month	Direction	Maximum Posted Toll (Travel Entire Corridor)	Average Assessed ¹ Toll (All Toll Trips)
February	Westbound	\$11.50 (1 of 20 days)	\$2.47
	Eastbound	\$9.50 (19 of 20 days)	\$3.36

¹ Assessed toll is the toll rate applied to non-toll-free trips and reflects potential revenue generated by the trip. Not all potential revenue results in actual revenue received.

During Fiscal Year 2017-18, the I-580 Express Lanes have recorded nearly 5.35 million total trips. Total gross revenues received include \$7.83 million in toll revenues and \$2.36 million in violation fees and penalties.

Staff is coordinating education and outreach with partner agencies including CCTA, MTC, 511 Contra Costa as well as local CMAs to promote consistent messaging and accessible information about the I-580, I-680 Sunol, and the I-680 Contra Costa County express lanes, which opened on October 9, 2017.

Fiscal Impact: There is no fiscal impact associated with the requested action.

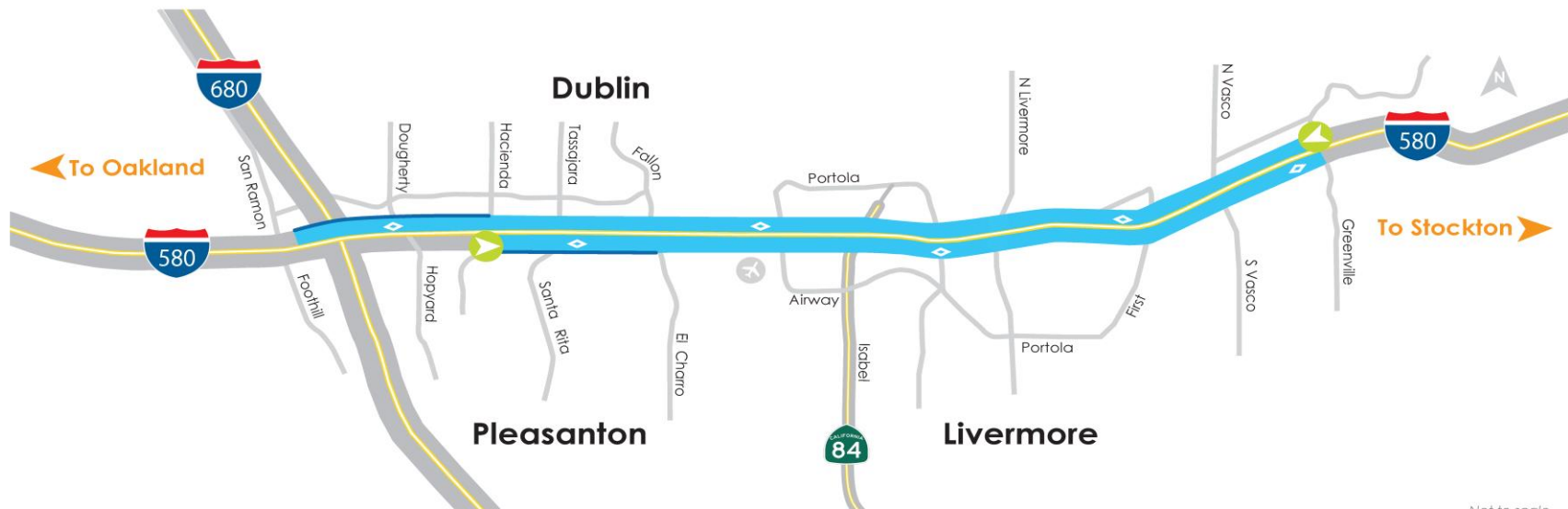
Attachments:

- A. I-580 Express Lanes Location Map
- B. I-580 Corridor Express Lanes Heat Maps July 2017 – December 2017



I-580 Express Lanes Project Location Map

5.3A



Not to scale



Two Eastbound Express Lanes

Lanes begin at Hacienda



No entry/exit from eastbound express lanes from Hacienda to Fallon / El Charro.

Please note: For access to Santa Rita Road, do not enter express lanes.



One Westbound Express Lane

Lane begins at Greenville



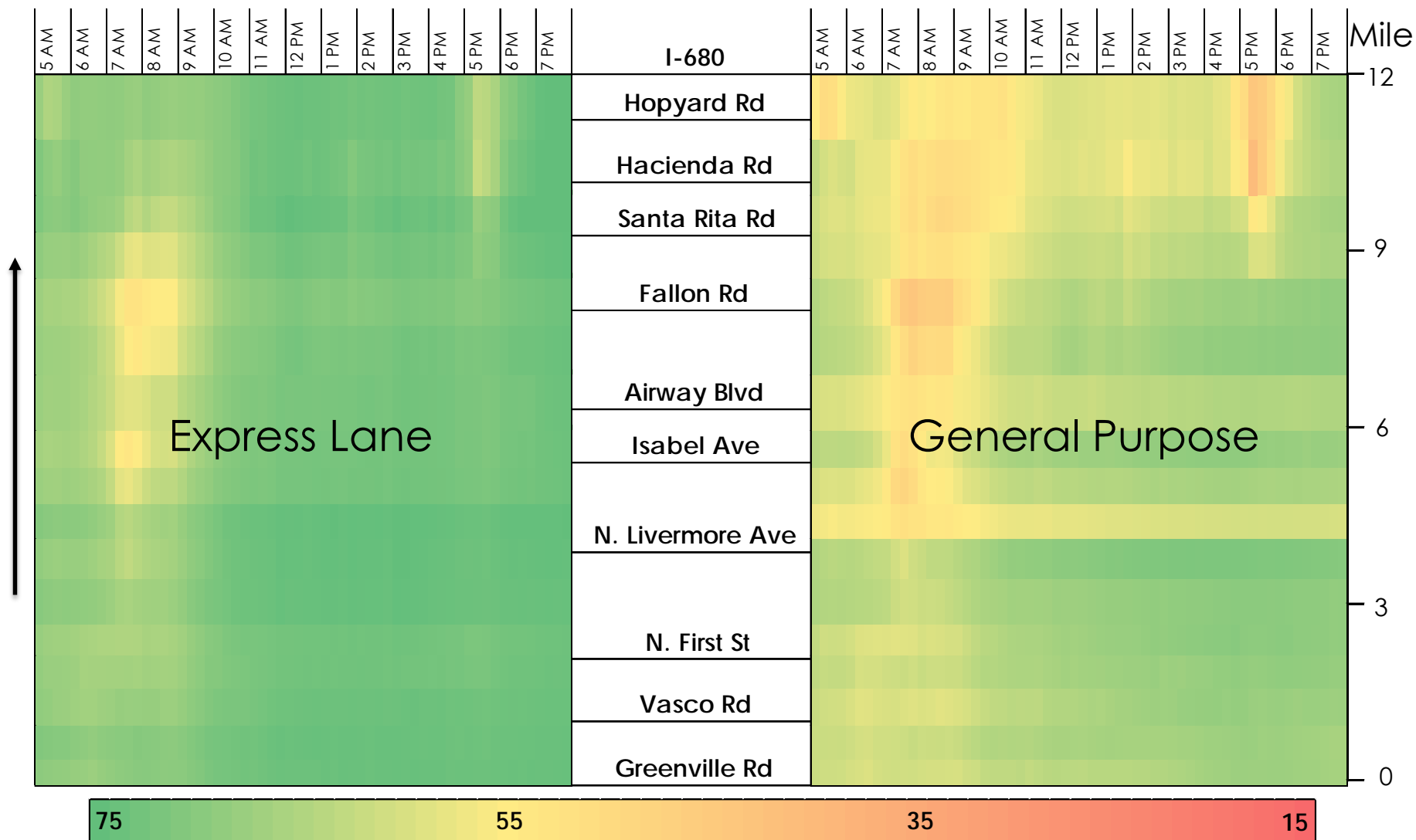
No entry/exit from westbound express lane from Hacienda to end.

Please note: For access to I-680 or Dougherty, exit express lane before Hacienda.

This page intentionally left blank

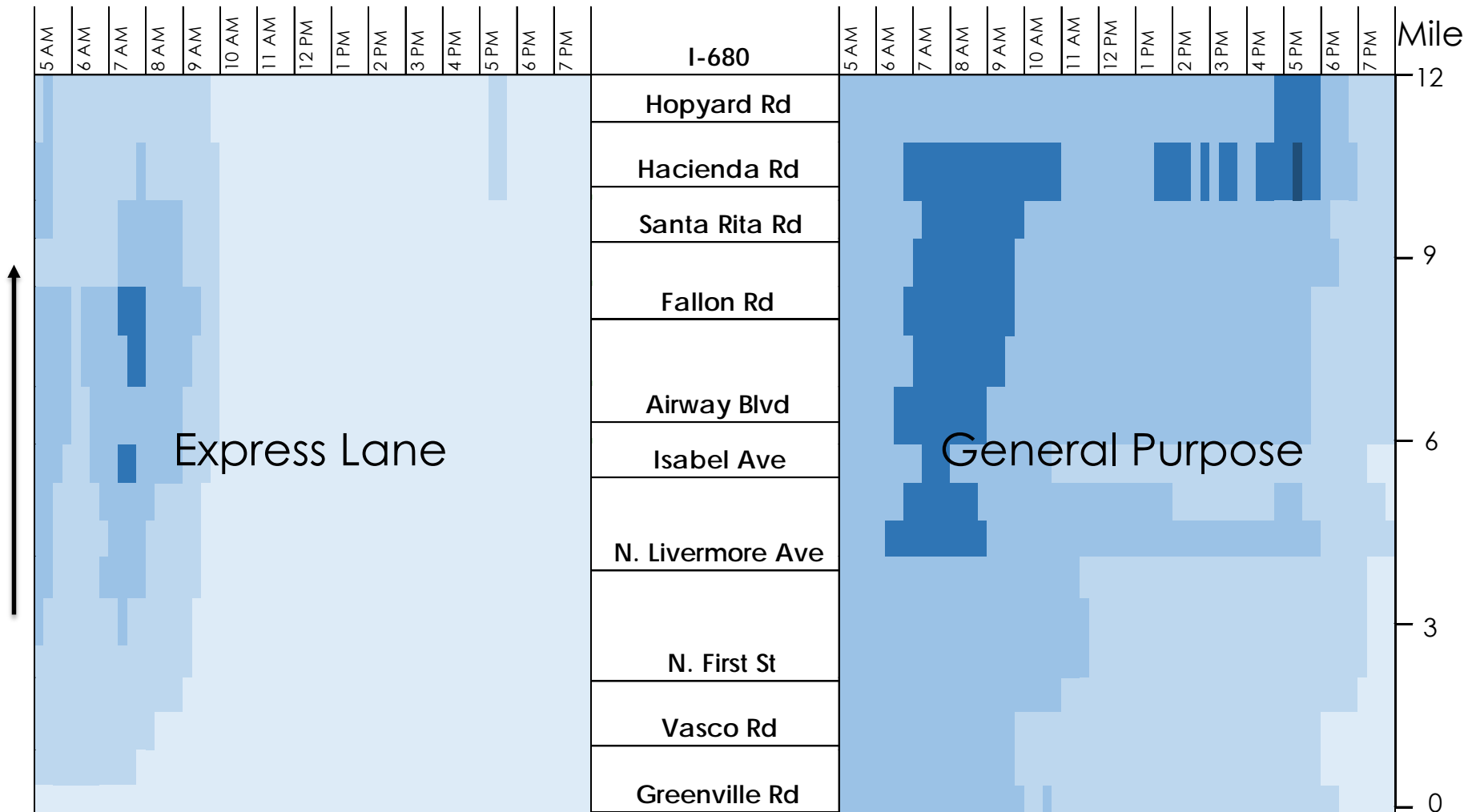
Westbound I-580 Corridor Speed Heat Maps 5.3B

Monday-Friday, July 2017 – December 2017



Westbound I-580 Corridor Density Heat Maps

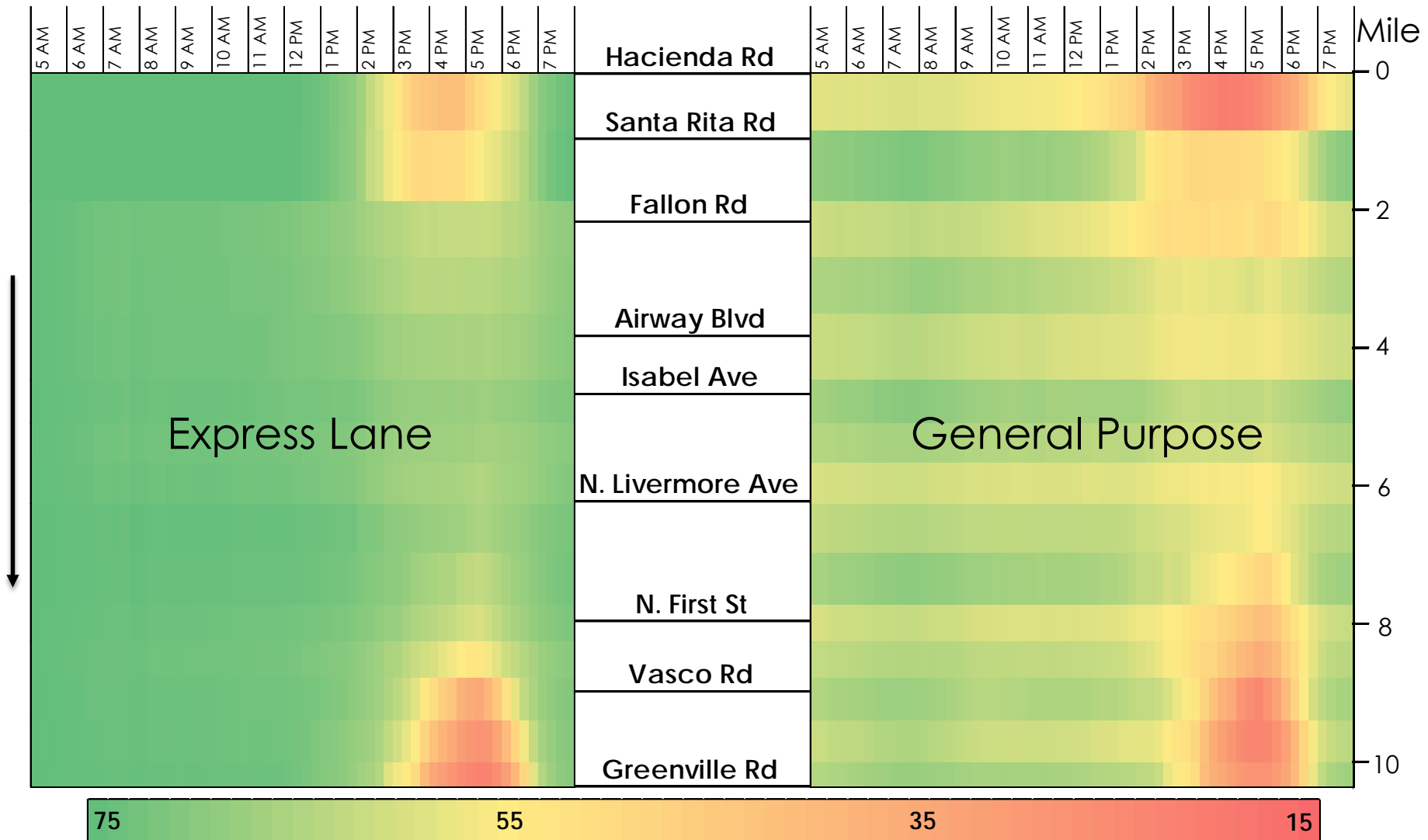
Monday-Friday, July 2017 – December 2017



LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
-------	-------	-------	-------	-------	-------

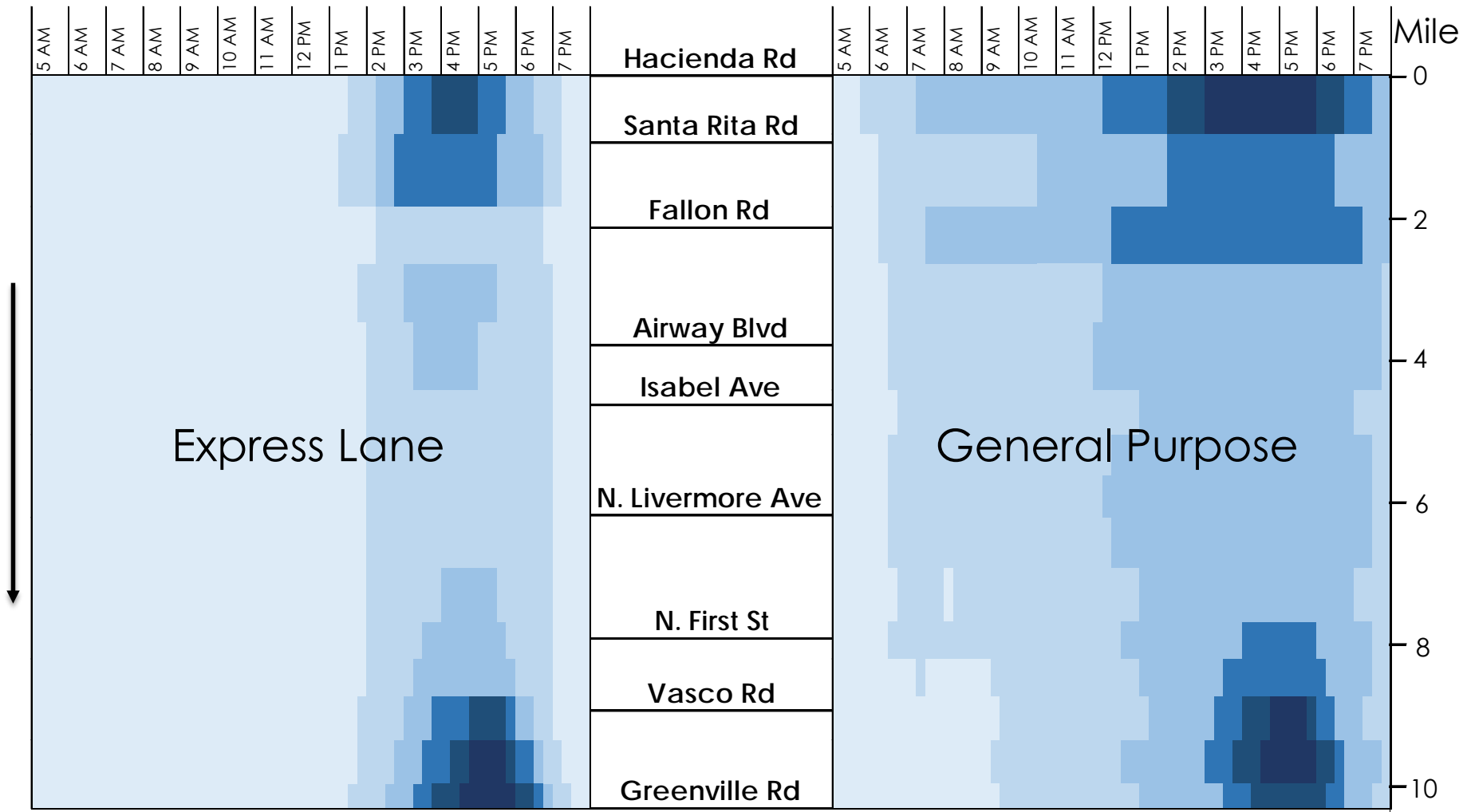
Eastbound I-580 Corridor Speed Heat Maps

Monday-Friday, July 2017 – December 2017



Eastbound I-580 Corridor Density Heat Maps

Monday-Friday, July 2017 – December 2017



LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
-------	-------	-------	-------	-------	-------