



# Meeting Notice

1111 Broadway, Suite 800, Oakland, CA 94607

• 510.208.7400

• [www.AlamedaCTC.org](http://www.AlamedaCTC.org)

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## I-580 Express Lane Policy Committee

**Monday, February 9, 2015, 10:00 a.m.**

**1111 Broadway, Suite 800  
Oakland, CA 94607**

### Mission Statement

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

### Public Comments

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

### Recording of Public Meetings

The executive director or designee may designate one or more locations from which members of the public may broadcast, photograph, video record, or tape record open and public meetings without causing a distraction. If the Commission or any committee reasonably finds that noise, illumination, or obstruction of view related to these activities would persistently disrupt the proceedings, these activities must be discontinued or restricted as determined by the Commission or such committee (CA Government Code Sections 54953.5-54953.6).

### Reminder

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

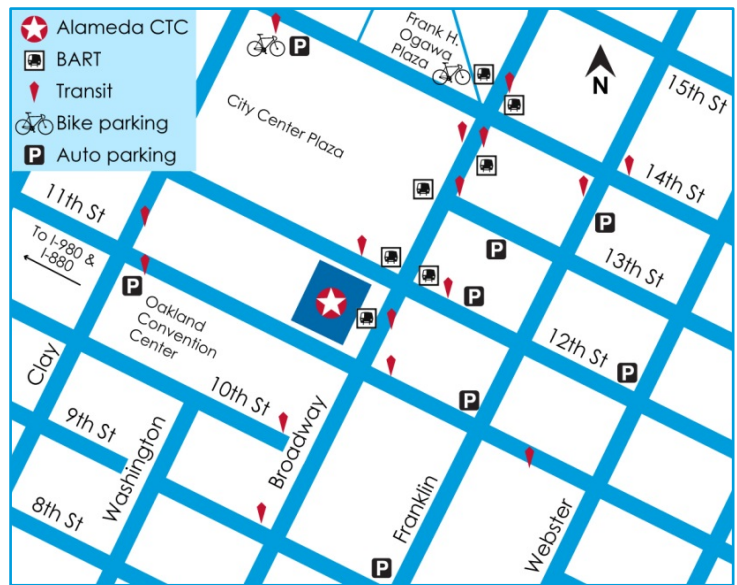
### Glossary of Acronyms

A glossary that includes frequently used acronyms is available on the Alameda CTC website at [www.AlamedaCTC.org/app\\_pages/view/8081](http://www.AlamedaCTC.org/app_pages/view/8081).

## Location Map

★ Alameda CTC  
1111 Broadway, Suite 800  
Oakland, CA 94607

Alameda CTC is accessible by multiple transportation modes. The office is conveniently located near the 12th Street/City Center BART station and many AC Transit bus lines. Bicycle parking is available on the street and in the BART station as well as in electronic lockers at 14th Street and Broadway near Frank Ogawa Plaza (requires purchase of key card from [bikelink.org](http://bikelink.org)).



Garage parking is located beneath City Center, accessible via entrances on 14th Street between 1300 Clay Street and 505 14th Street buildings, or via 11th Street just past Clay Street. To plan your trip to Alameda CTC visit [www.511.org](http://www.511.org).

## Accessibility

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



## Meeting Schedule

The Alameda CTC meeting calendar lists all public meetings and is available at [www.AlamedaCTC.org/events/upcoming/now](http://www.AlamedaCTC.org/events/upcoming/now).

## Paperless Policy

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

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# I-580 Express Lane Policy Committee Meeting Agenda Monday, February 9, 2015, 10:00 a.m.\*

\*Or immediately following the I-680 Sunol SMART Carpool Lane Joint Powers Authority meeting

1111 Broadway, Suite 800, Oakland, CA 94607

• 510.208.7400

• www.AlamedaCTC.org

**\*Chair:** Mayor John Marchand, City of Livermore

**\*Vice Chair:** Supervisor Nate Miley, Alameda County District 4

**\*Commissioners:** Scott Haggerty, Jerry Thorne

**Staff Liaison:** Stewart D. Ng

**Executive Director:** Arthur L. Dao

**Clerk:** Vanessa Lee

**\*These are past committee assignments; new committee membership will be determined by the Commission Chair prior to the March 2015 committee meetings.**

## 1. Roll Call

## 2. Public Comment

## 3. Consent Calendar

### 3.1. [January 12, 2015 I-580 Express Lane PC Meeting Minutes](#)

Page A/I

1 A

Recommendation: Approve the January 12, 2015 meeting minutes.

## 4. Regular Matters

### 4.1. [I-580 Corridor High Occupancy Vehicle/Express Lane Projects \(PN 720.4/720.5/724.1/724.4/724.5\): Monthly Progress Report](#)

3 I

### 4.2. [I-580 Express Lane: Business Rules Update](#)

25 I

## 5. Committee Member Reports (Verbal)

## 6. Staff Reports (Verbal)

## 7. Adjournment

**Next Meeting:** March 9, 2015

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

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# I-580 Express Lane Policy Committee

## Meeting Minutes

Monday, November 10, 2014, 10:00 a.m.

3.1

1111 Broadway, Suite 800, Oakland, CA 94607

PH: (510) 208-7400

www.AlamedaCTC.org

### 1. Roll Call

The Clerk conducted a roll call. All committee members were present.

### 2. Public Comment

There was no public comment.

### 3. Consent Calendar

#### 3.1 November 10, 2014 I-580 Express Lane PC Meeting Minutes

*Commissioner Thorne motioned to approve the consent calendar. Commissioner Haubert seconded the motion. The motion passed unanimously.*

### 4. Regular Matters

#### 4.1. I-580 Corridor High Occupancy Vehicle/Express Lane Projects (PN

##### 720.4/720.5/724.1/724.4/724.5): Monthly Progress Report

Stefan Garcia presented the I-580 Corridor High Occupancy Vehicle (HOV)/Express Lane Projects Monthly Progress Report. He stated that the environmental and civil design work for the express lanes is complete for both eastbound and westbound directions. Kanda Raj provided information on system integration and regional coordination. He concluded by stating that the express lane is scheduled to open in November 2015.

*This item was for information only.*

#### 4.2. I-580 Express Lanes Education, Outreach and Regional Coordination

Kanda started the I-580 express lane Education, Outreach and Regional Coordination presentation. He stated that staff is working closely with BATA to have BATA provide HOV users with the FasTrak flex. BATA promised to make FasTrak flex available by July 2015. The outreach and customer education plan has been modified to reflect BATA's toll tag procurement schedule. Heather Barber covered the outreach schedule plan as well as goals, objectives, and education for the lane. She covered key messages and outreach activities scheduled from January through December 2015.

Commissioner Haggerty wanted to know if we can use message boards on the freeway. Heather stated that staff is working with the state to coordinate messaging on state highways.

Commissioner Marchand wanted more information on Fastrak Flex enforcement. Kanda stated that enforcement will be performed by the California Highway Patrol officers by observing beacon lights mounted on toll gantries and accessing web portal to find the status of toll tag read.

Commissioner Haubert wanted to know the date for the outreach event in Dublin. Heather stated that the outreach business event in Dublin was scheduled for February 22, 2015.

**5. Committee Member Reports**

There were no committee member reports.

**6. Staff Reports**

There were no staff reports.

**7. Adjournment/ Next Meeting**

The next meeting is:

Date/Time: Monday, February 9, 2015 @ 10:00 a.m.

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

Attested by:



Vanessa Lee,  
Clerk of the Commission



# Memorandum

4.1

1111 Broadway, Suite 800, Oakland, CA 94607

• PH: (510) 208-7400

• www.AlamedaCTC.org

**DATE:** February 2, 2015

**SUBJECT:** I-580 Corridor High Occupancy Vehicle/Express Lane Projects (PN 720.4/720.5/724.1/724.4/724.5): Monthly Progress Report

**RECOMMENDATION:** Receive a monthly status update on the I-580 Corridor High Occupancy Vehicle/Express Lane Projects.

## Summary

The Alameda CTC is sponsoring the I-580 Corridor High Occupancy Vehicle (HOV)/Express Lane Projects along the I-580 corridor in the Tri-Valley. The Eastbound I-580 Express Lane Project will convert the newly constructed eastbound HOV lane, from Hacienda Drive to Greenville Road, to a double express lane facility. The I-580 Westbound Express Lane Project will convert the westbound HOV lane (currently under construction) to a single express lane facility from Greenville Road to San Ramon Road/Foothill Road.

The environmental and civil design work for the express lanes is complete for both eastbound and westbound. Civil construction is being implemented through multiple contract change orders (CCO's) on the on-going HOV Lane construction contracts. The I-580 Eastbound and Westbound Express Lane civil construction work will construct the necessary infrastructure, such as signing, sign gantries for dynamic messaging and toll reading, electrical conduit for connecting power and communication sources, and striping to accommodate the express lanes. The System Integrator contractor will install the required communication equipment, toll hardware and integrate the toll subsystems, utilizing emerging technologies/software development. Coordination with regional agencies and California Toll Operators Committee is crucial for implementing express lanes on I-580. The express lane facility is scheduled to open for public use in November 2015.

For detailed information on project funding, schedule and status of each corridor project, including the Eastbound HOV Lane Project (Segment 3 Auxiliary Lanes), the Westbound HOV Lane Project (Segments 1 and 2), the Eastbound I-580 Express Lane Project, Westbound I-580 Express Lane Project and Toll System Integration activities, see Attachments A, B, C, D and E of this report. This item is for information only.

## Background

The projects in the I-580 Corridor will provide increased capacity, safety and efficiency for commuters and freight along the primary corridor connecting the Bay Area with the Central Valley. In its role as project sponsor, the Alameda CTC has been working in partnership with Caltrans, California Highway Patrol, the Metropolitan Transportation Commission (MTC), Alameda County, and the cities of Livermore, Dublin, and Pleasanton to deliver the projects.

The I-580 Corridor HOV Lane Projects will be completed with the construction of three final projects in the Livermore Valley (two westbound HOV segments and one eastbound auxiliary (AUX) lanes project). All of these projects are currently in construction and are being administered by Caltrans. Construction activity began in March 2013 and will complete by late 2015 in parallel with completion of express lane infrastructure.

For efficiency purposes, the I-580 Eastbound and Westbound Express Lane Projects have been combined into one construction project. All the contract change orders (CCO's) for express lane-civil infrastructure construction have already been issued to the on-going construction contracts along I-580 (I-580 Westbound HOV, I-580 Eastbound Auxiliary Lane and Freeway Performance Project). The benefit of implementing CCO's is to avoid working in the environmentally sensitive areas, minimize additional traffic disruptions to the traveling public, reduce or eliminate re-work and potentially finish construction sooner. Specific items in CCO's include:

- Electrical Conduit – across and along I-580
- Service and controller cabinets
- Striping – stripe to final express lane configuration
- Install K-rail along median at sign locations
- Median concrete barrier
- Fiber Optics Cable
- Sign structures including tolling gantries, dynamic messaging signs, lighting standards and other sign structures.

The system integration for express lane implementation is currently in the design phase. Coordination with other construction projects within the corridor is on-going. Construction activities of express lane-system integration are expected to commence in March 2015 with electronic toll system, fully operational in November 2015.

**Fiscal Impact:** There is no significant fiscal impact to the Alameda CTC budget due to this item. This is information only.



## Attachments

- A. I-580 Eastbound HOV Lane Project Monthly Progress Report (PN 720.5)
- B. I-580 Westbound HOV Lane Projects Monthly Progress Report (PN 724.4/724.5)
- C. I-580 Eastbound Express Lane Project Monthly Progress Report (PN 720.4)
- D. I-580 Westbound Express Lane Project Monthly Progress Report (PN 724.1)
- E. I-580 Express Lanes System Integration Monthly Progress Report
- F. I-580 Corridor HOV Lane Projects – Location Map
- G. I-580 Corridor Express Lane Projects – Location Map

## Staff Contact

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

[Stefan Garcia](#), Project Controls Team

[Kanda Raj](#), Project Controls Team

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**ATTACHMENT A**  
**I-580 Eastbound HOV Lane Project (PN 720.5)**  
**Monthly Progress Report**  
**January 2015**

**PROJECT DESCRIPTION**

The Eastbound I-580 HOV Lane Project is completing one final construction segment, Segment 3 Auxiliary (AUX) Lanes, between Hacienda Drive and Greenville Road. The Project scope includes:

- Construction of auxiliary lanes from Isabel Avenue to First Street;
- Pavement width necessary for a double express (high occupancy toll lane facility);
- Final lift of asphalt concrete (AC) pavement and striping for entire eastbound project limits from Hacienda Drive to Portola Avenue;
- The soundwall that was deleted from the I-580/Isabel Avenue Interchange Project; and
- The widening of two bridges at Arroyo Las Positas in the eastbound direction.

**CONSTRUCTION STATUS****Traffic Handling & Night Work**

Construction activities include both day and night work. Significant work is involved in rehabilitating the existing pavement which requires closing traffic lanes; however, no complete freeway closures are anticipated. Due to heavy daytime traffic volumes, closing traffic lanes in the daytime is not feasible. For this reason, pavement rehabilitation work can only be done during nighttime hours. Night work will include setting lane closures and shifting traffic lanes (placement of safety barrier (k-rail) and striping work), existing pavement rehabilitation work (crack and seat, slab replacement and overlay) and electrical work. Caltrans lane closure charts permit the contractor to perform this work at night between 9pm and 4am. Work behind k-rail and all bridge work is expected to occur during daytime hours.

**Construction Challenges**

Alameda CTC staff is working in close coordination with Caltrans to implement the project within limited funding. Challenges and managed risks for this project include:

- Bird Nesting on structures and in adjacent field areas
- Installation of future express Lane components to facilitate express lane completion. Project staff is working to combine HOV and express lane construction work in a manner that will keep the single HOV lane open until the double lane HOT/HOV express facility is completed

**Completed Activities – 78% of the contract work was completed as of 12/20/14**

Construction activities began in April 2013. Work completed to date includes:

- Las Positas Creek (EB and WB) bridge widening
- Widening of major box culvert at Arroyo Seco and modification of drainage facilities. Creek diversion is removed and area restored.
- Most retaining walls on the outside of the freeway corridor.

### **Ongoing & Upcoming Activities**

Caltrans maintains a project website

(<http://www.dot.ca.gov/dist4/projects/i580wbhov/>) and conducts public information and outreach efforts in cooperation with Alameda CTC. Ongoing and upcoming work activities include:

- Backfill remaining retaining walls
- Install Lighting and Traffic Operation Systems
- Install infrastructure to support express lane operations
- Paving activities continuing between Hacienda Drive and Greenville Road through October 2015

### **FUNDING AND FINANCIAL STATUS**

The I-580 Eastbound HOV Project is funded through federal, state and local funds.

#### ***Funding Plan – SEGMENT 3***

Project Phase	Funding Source (\$ million)						Total
	CMIA	RM2	TVTC	FED	SHOPP	Meas. B	
PA&ED						0.02	0.02
PS&E		1.72	1.30	0.23			3.25
ROW		0.17	0.08			0.28	0.53
Construct	17.87	2.20	0.14		4.69	6.57	31.47
Cap							
Construct	2.53	1.12	0.10			0.71	4.46
Sup							
Total	20.40	5.21	1.62	0.23	4.69	7.58	39.73
Total Project Cost: \$39.7M							

### **SCHEDULE STATUS**

The Eastbound AUX Lane project between Hacienda Drive and Greenville Road was advertised on July 9, 2012; bids were opened on October 5, 2012. Caltrans awarded the contract to OC Jones & Sons (with a bid 6.33 percent below the Engineer's Estimate) on November 16, 2012. With the inclusion of infrastructure to support express lane operations, construction is now planned to complete in late 2015.

Project Approval	December 2011 (A)
RTL	May 2012 (A)
CTC Vote	May 2012 (A)
Begin Construction (Award)	November 2012 (A)
End Construction	October 2015 (T)

**ATTACHMENT B**  
**I-580 Westbound HOV Lane Projects (PN 724.4/724.5)**  
**Monthly Progress Report**  
**January 2015**

**PROJECT DESCRIPTION**

The Westbound I-580 HOV Lane Project includes three segments:

- **SEGMENT 1** – WB HOV Eastern Segment from Greenville Road to Isabel Avenue
- **SEGMENT 2** – WB HOV Western Segment from Isabel Avenue to San Ramon Road
- **SEGMENT 3** – Bridge widening at Arroyo Las Positas Creek. This work is included in the construction contract for the EB HOV Lane Project (see Attachment A).

**CONSTRUCTION STATUS – SEGMENTS 1 & 2**

**Traffic Handling & Night Work**

Construction activities include both day and night work. Significant work is involved in rehabilitating the existing pavement which requires closing traffic lanes; however, no complete freeway closures are anticipated. Due to heavy daytime traffic volumes, closing traffic lanes in the daytime is not feasible. For this reason, pavement rehabilitation work can only be done during nighttime hours. Night work will include setting lane closures and shifting traffic lanes (placement of safety barrier (k-rail) and striping work), existing pavement rehabilitation work (crack and seat, slab replacement and overlay) and electrical work. Caltrans lane closure charts permit the contractor to perform this work at night between 9pm and 4am. Work behind k-rail and all bridge work is expected to occur during daytime hours.

**Construction Challenges**

Alameda CTC staff is working in close coordination with Caltrans to implement the project within limited funding. Challenges and managed risks for the project include:

**SEGMENT 1 (Eastern Segment)**

- Installation of future express Lane components to facilitate express lane completion. Project staff is working to combine HOV and express lane construction work in a manner that will allow the HOV/express lane facility to be opened concurrently
- Additional widening of the North Livermore Avenue structure to accommodate express lane width requirements
- New retaining wall to account for recent, accelerated erosion within the Arroyo Seco Creek adjacent to the widening necessary for westbound lanes
- Coordination with concurrent Caltrans projects in the area to reduce cost
- Bird Nesting on structures and in adjacent field areas
- Revision of pavement slab replacements to prioritize in areas most in need

**SEGMENT 2 (Western Segment)**

- Installation of future express lane components to facilitate express lane completion. Project staff is working to combine HOV and express lane

construction work in a manner that will allow the HOV/express lane facility to be opened concurrently

- Elimination of a retaining wall to reduce project cost
- Changes to the pavement cross section to reduce project cost
- Bird Nesting on structures and in adjacent field areas
- Revision of pavement slab replacements to prioritize in areas most in need

### **Completed Activities**

Construction activities began in March 2013. Work completed to date includes:

#### **SEGMENT 1 (Eastern Segment) – 63% of the contract work was completed as of 12/20/14**

- North Livermore Ave bridge widening
- Bridge widening at Arroyo Las Positas (2 locations)
- Arroyo Seco RCB culvert extension
- Construct major drainage facilities (e.g. double box culvert)
- Concrete pavement slab replacements
- Excavate and construct retaining walls and soil nail walls
- Paving of ramp and gore areas

#### **SEGMENT 2 (Western Segment – 72% of the contract work was completed as of 12/20/14**

- Median widening from Airway to Hacienda
- BART Barrier modifications
- Temporary striping, shift traffic lanes and placement of safety barrier (k-rail) to allow for Stage 2 outside widening
- Bridge widening at Dougherty Undercrossing near Dublin BART station
- Bridge widening at Tassajara Creek
- Precast slab pavement replacements
- Outside widening from Airway to Hacienda

### **Ongoing & Upcoming Activities**

Caltrans maintains a project website

(<http://www.dot.ca.gov/dist4/projects/i580wbhov/>) and conducts public information and outreach efforts in cooperation with Alameda CTC. Ongoing and upcoming work activities include:

#### **SEGMENT 1 (Eastern Segment)**

- Soundwall construction at Vasco Road
- Install Lighting and Traffic Operation Systems
- Install infrastructure to support express lane operations
- Complete retaining walls
- Median widening and barrier reconfiguration
- Mainline paving will begin in spring 2015

#### **SEGMENT 2 (Western Segment)**

- Installation of drainage systems
- Median barrier reconfiguration
- Complete retaining walls
- Install Lighting and Traffic Operation Systems
- Install infrastructure to support express lane operations

- Final paving and striping between Airway Boulevard and Hacienda Drive will begin in spring 2015

## FUNDING AND FINANCIAL STATUS

The I-580 Westbound HOV Lane Project is funded through federal, state and local funds available for the I-580 Corridor. The total project cost is \$143.9M, comprised of programmed (committed) funding from federal, state and local sources.

### *Funding Plan – SEGMENT 1 (Eastern Segment)*

Project Phase	Funding Source (\$ million)							Total
	CMIA	RM2	TCRP	FED	SHOPP	Meas. B	TVTC	
Scoping		0.53	0.04					<b>0.57</b>
PA&ED		4.38						<b>4.38</b>
PS&E		2.29	0.11	0.15		1.69	0.42	<b>4.66</b>
ROW		1.16				0.04		<b>1.20</b>
Utilities		0.32						<b>0.32</b>
Const Cap	35.34		5.92	6.19	13.54	1.60		<b>62.59</b>
Const. Sup	6.52		1.59			1.08		<b>9.19</b>
<b>Total</b>	<b>41.86</b>	<b>8.68</b>	<b>7.66</b>	<b>6.34</b>	<b>13.54</b>	<b>4.41</b>	<b>0.42</b>	<b>82.91</b>
<b>Total Project Cost: \$82.9M</b>								

### *Funding Plan – SEGMENT 2 (Western Segment)*

Project Phase	Funding Source (\$ million)							Total
	CMIA	RM2	TCRP	FED	SHOPP	Meas. B	TVTC	
Scoping		0.36	0.02					<b>0.38</b>
PA&ED		2.92						<b>2.92</b>
PS&E		1.53	0.07	0.10		1.12	0.28	<b>3.10</b>
ROW		0.77				0.03		<b>0.80</b>
Utilities		0.21						<b>0.21</b>
Const Cap	33.73		2.49		9.61	0.10	0.30	<b>46.23</b>
Const. Sup	6.75					0.58		<b>7.33</b>
<b>Total</b>	<b>40.48</b>	<b>5.79</b>	<b>2.58</b>	<b>0.10</b>	<b>9.61</b>	<b>1.83</b>	<b>0.58</b>	<b>60.97</b>
<b>Total Project Cost: \$61.0M</b>								

## SCHEDULE STATUS

### SEGMENT 1 (Eastern Segment):

The Westbound HOV Eastern Segment from Greenville Road to Isabel Avenue was advertised on July 16, 2012 and bids were opened on September 19, 2012. Caltrans awarded the contract to Ghilotti Construction Company, Inc. (with a bid 16.33 percent below Engineer's Estimate) on November 20, 2012. With the inclusion of infrastructure to support express lane operations, construction is now planned to complete in early 2016.

Project Approval	January 2010 (A)
RTL	May 2012 (A)
CTC Vote	May 2012 (A)
Begin Construction (Award)	November 2012 (A)
End Construction	January 2016 (T)

### SEGMENT 2 (Western Segment):

The Westbound HOV Western Segment from Isabel Avenue to San Ramon Road was advertised on June 25, 2012 and bids were opened on August 29, 2012. Caltrans awarded the contract to DeSilva Gates Construction (with a bid 23.32 percent below Engineer's Estimate) on October 29, 2012. With the inclusion of infrastructure to support express lane operations, construction is now planned to complete in mid 2015.

Project Approval	January 2010 (A)
RTL	April 2012 (A)
CTC Vote	April 2012 (A)
Begin Construction (Award)	October 2012 (A)
End Construction	July 2015 (T)



## ATTACHMENT C

### I-580 Eastbound Express Lane Project

### Monthly Progress Report

### January 2015

#### PROJECT DESCRIPTION

The I-580 Eastbound Express Lane Project will convert the newly constructed eastbound HOV lane, from Hacienda Drive in Dublin/Pleasanton to Greenville Road in Livermore, to a double express lane facility, a distance of approximately 11 miles.

#### PROJECT DELIVERY STATUS

- Civil design is complete and combined with the westbound component as one contract package. The civil construction is being implemented through CCO's under the three I-580 HOV lane projects currently in construction (I-580 Westbound HOV Lane - West Segment, I-580 Westbound HOV Lane - East Segment and I-580 Eastbound HOV Lane - Segment 3 with Auxiliary Lanes). All the CCOs have been issued to the contractors
- Electronic toll system design is in progress

#### RECENT ACTIVITIES

- Construction activities are progressing see Attachment A for civil construction updates
- Construction coordination meetings have been held to ease construction sequence between the civil and systems construction projects
- See Attachment E for additional toll system design updates

#### UPCOMING ACTIVITIES

- Coordinate civil construction activities for completion by March 2015, see Attachment A for civil construction updates
- See Attachment E for toll system design updates

#### POTENTIAL ISSUES/RISKS

The civil construction has to be completed by early March 2015 to allow ETCC to start the electronic toll system equipment so that express lanes can be opened by November 2015. This schedule is very aggressive. Staff will work closely with Caltrans and ETCC to monitor progress and take appropriate actions as necessary.

#### FUNDING AND FINANCIAL STATUS

The total project cost of the combined express lane project is \$55 million and is fully funded with a combination of federal, regional and local fund sources.

## SCHEDULE STATUS

I-580 Eastbound Express Lane Project Schedule:

Project Approval	March 2014
Civil Design Completion	April 2014
Begin Construction	June 2014
End Construction (Civil and System Integration)	November 2015

**ATTACHMENT D**  
**I-580 Westbound Express Lane Project**  
**Monthly Progress Report**  
**January 2015**

**PROJECT DESCRIPTION**

The I-580 Westbound Lane Project will convert the planned westbound HOV lane to a single express lane facility from Greenville Road in Livermore to San Ramon Road / Foothill Road in Dublin / Pleasanton, a distance of approximately 14 miles.

**PROJECT DELIVERY STATUS**

- The environmental phase is complete
- Civil design is complete and combined with the eastbound component as one contract package. The civil construction is being implemented through CCO's under the three I-580 HOV lane projects currently in construction (I-580 Westbound HOV Lane - West Segment, I-580 Westbound HOV Lane - East Segment and I-580 Eastbound HOV Lane - Segment 3 with Auxiliary Lanes). All the CCOs have been issued to the contractors
- Electronic toll system design is in progress

**RECENT ACTIVITIES**

- Construction activities are progressing, see Attachment B for civil construction updates
- Construction coordination meetings have been held to ease construction sequence between the civil and systems construction projects
- See Attachment E for additional toll system design updates

**UPCOMING ACTIVITIES**

- Construction activities are progressing, see Attachment B for civil construction updates
- See Attachment E for toll system design updates

**POTENTIAL ISSUES/RISKS**

The civil construction has to be completed by early March 2015 to allow ETCC to start installation of the electronic toll system equipment so that express lanes can be opened by November 2015. This schedule is very aggressive. Staff will work closely with Caltrans and ETCC to monitor progress and take appropriate actions as necessary.

**FUNDING AND FINANCIAL STATUS**

The total project cost of the combined express lane project is \$55 million and is fully funded with a combination of federal, regional and local fund sources.

## **SCHEDULE STATUS**

I-580 Westbound Express Lane Project Schedule:

Project Approval	August 2013
Civil Design Completion	April 2014
Begin Construction	June 2014
End Construction (Civil and System Integration)	November 2015

**ATTACHMENT E**  
**I-580 Express Lanes System Integration**  
**Monthly Progress Report**  
**January 2015**

**SYSTEM INTEGRATION SCOPE DESCRIPTION**

The I-580 Express Lane civil contract will construct the necessary infrastructure, such as signing, sign gantries for dynamic messaging and toll reading, electrical conduit for connecting power and communication sources and pavement striping to implement express lanes on I-580. The System Integration will include communication and tolling hardware design, software development, and factory testing of equipment/design, toll system equipment/hardware installation and toll system integration. It will also consist of field testing the toll equipment and all subsystems, including the interfaces to the Bay Area Toll Authority - Regional Customer Service Center and Caltrans, prior to implementing the new express lanes.

**Detailed Discussion**

Electronic Transaction Consultants Corporation (ETCC), the project toll system integrator, has been updating the electronic toll system design to support the "near continuous" access configuration in both directions of I-580. System integration in the I-580 Corridor includes the most recent technologies for software, hardware and traffic detection to efficiently manage current and forecasted traffic congestion by optimizing the existing corridor capacity. The system integrator, however, will continue to own the software while the implementing agency will pay for a license to allow for the use of the toll integrator's software.

As reported in the I-580 Workshops held in 2013, the "near continuous" concept provides additional access opportunities while reducing the foot-print required for implementing a shared express/general purpose lane facility. In addition, it looks and feels similar to a High Occupancy Vehicle (HOV) facility and, therefore, is expected to provide driver familiarity.

To support near continuous access configuration, the electronic toll system has been designed to implement zone tolling and automated toll violation enforcement (involving license plate image capture and review process). Closely spaced toll antennas and readers will be placed approximately at  $\frac{3}{4}$ -mile intervals to effectively read FasTrak® transponders. A transponder will be read once within a (tolling) zone by a toll reader and will be charged a fee for use of the lane. Throughout the facility, real-time traffic/travel conditions will be gathered through traffic monitoring stations/devices and demand-based toll rates will be calculated, utilizing a dynamic pricing model algorithm. Calculated toll rates will be displayed on Dynamic Message Signs (DMSs) ahead of potential express lane entry locations in order to inform travelers. The DMSs are expected to display two rates, the first rate is for travel within the current or

immediately downstream zone and the second rate is for travel to a major destination within the corridor (determined as end of the line in this I-580 Corridor).

The system design also includes automated toll violation enforcement. To enact toll violation enforcement the Commission will have to adopt a "Toll Ordinance" under the purview of Vehicle Code Section 40250 which allows toll operators to enact such ordinances, including the penalties associated with violations. Several administrative steps will have to be finalized prior to the Commission adopting a toll ordinance, and staff will detail the timeline and process associated with development and adoption of a toll ordinance.

Express lane implementation on I-580 will depend on services provided by others, primarily by the Bay Area Toll Authority (BATA). Therefore, staff is closely working with BATA to finalize the switchable (aka FasTrak flex®) transponder rollout plan, a new I-580 customer service agreement for BATA provided services such as toll collection, FasTrak account relations, toll violation/delinquent notices and penalty collection services, etc., and the interface requirements for interacting toll systems with BATA operated regional customer service center. Project toll system design and implementation are contingent on finalizing the above.

### **Project Geometry and Electronic Toll System Design**

The latest version of the express lanes concept includes the following:

In the eastbound I-580 direction:

- Buffer separated single-lane HOV/Express Lane will be installed from Hacienda Drive to Fallon Road
- Continuous access dual-lane HOV/Express Lane will be installed from Fallon Road to west of Vasco Road
- Continuous access single-lane HOV/Express Lane will be installed from west of Vasco Road to Greenville Road

In the westbound I-580 direction:

- Continuous access single-lane HOV/Express Lane will be installed from Greenville Road to Hacienda Drive
- A buffer separated single-lane HOV/Express Lane will be installed from Hacienda Drive to the I-580/I-680 Interchange

## **PROJECT STATUS**

### **Software and hardware design**

The system integration is currently in the design phase. The system integrator consultant, ETCC, has been proceeding with software and hardware development, consistent with project concepts presented in the I-580 Workshops held in 2013. Zone tolling to facilitate efficient toll collection and an automated toll violation system are part of the design. System design also includes tools to support the California Highway Patrol's efforts in curtailing vehicle occupancy violation.

ETCC's system installation plan has been coordinated with on-going Caltrans construction projects. Based on construction coordination efforts, ETCC will finalize its installation schedule. Subsequently, ETCC will perform a series of factory and field tests and work with Alameda CTC staff to validate its hardware and software design prior to opening the new express lanes facility. Construction is expected to commence in late March 2015 with the electronic toll system fully operational in November 2015.

Agency staff in cooperation with regional partners is working to deploy a comprehensive public education and outreach program to support the implementation of the express lanes. Business rules have been developed for consistent driver experience within the Regional Bay Area Express Lane Network. Staff will highlight some of these rules, as part of Agenda Item 4.2 in the February 2015 Committee meeting.

## **RECENT ACTIVITIES**

- To coordinate or to plan sequence construction activities, staff has been coordinating monthly coordination meetings with ETCC and Caltrans construction.
- ETCC has procured several back office equipment for testing and validation, ahead of the mid-February 2015 Factory Acceptance Test.
- Continue to discuss interface requirements with BATA's vendor Xerox for processing transponder-based and image-based toll trips.
- Based on Commission's approval in September 2014, staff is finalizing contract amendments with ETCC to include license plate image capture and review system (ICRS) in the scope of services

## **UPCOMING ACTIVITIES**

- Roll out the education and outreach campaign to the public in early 2015 to educate about the benefits of express lanes, how to use the lanes, new technologies, including the required use of switchable transponders, and how the public can acquire a new transponder
- Continue to work with Xerox to finalize interfacing requirements with BATA Regional Customer Service Center
- Conduct factory acceptance test in mid-February 2015
- Continue to coordinate with BATA to complete a customer services agreement by February 2015 for collecting tolls and processing toll violation enforcement services
- Continue to work with Caltrans to complete an Operations and Maintenance (O&M) Agreement by spring 2015
- Continue to work with California Highway Patrol to complete a Service Agreement by spring 2015

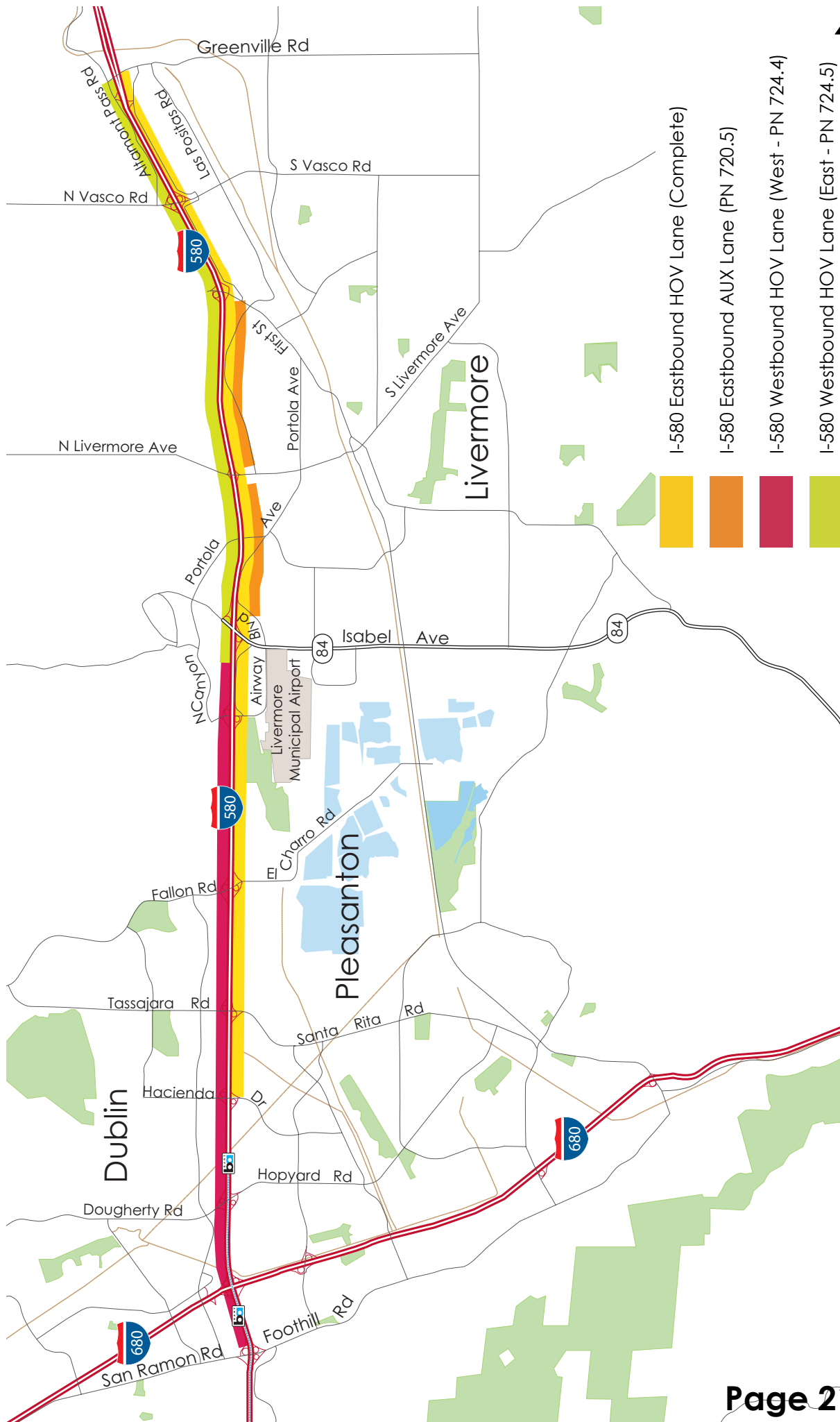
## **FUNDING AND FINANCIAL STATUS**

The total project cost of the combined Eastbound and Westbound I-580 Express lane project is \$55 million, and is fully funded with a combination of federal, regional and local fund sources.

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# I-580 Corridor HOV Lane Projects - Location map



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# I-580 Express Lane Projects Location map



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# Memorandum

4.2

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• PH: (510) 208-7400

• www.AlamedaCTC.org

**DATE:** February 2, 2015

**SUBJECT:** I-580 Express Lane - Business Rules Update

**RECOMMENDATION:** Receive an update on business rules that defined the development of the I-580 Express Lanes.

## Summary

The purpose of this item is to provide an update on high-level business rules that defined the development of the I-580 Express Lane ("Project"). This item is for information only.

The Project will expand commuter choices and maximize efficiency of the highly congested I-580 corridor by employing emerging technologies, such as real-time congestion value pricing and automated violation enforcement. The project will implement HOV/express lanes from Hacienda Drive to Greenville Road in the eastbound direction, and from Greenville Road to San Ramon Road/Foothill Road in the westbound direction (Attachment A), it is part of an overall plan to build a 550-mile Bay Area express lane network. Staff coordinated with existing/aspiring regional and state toll operators to agree on consistent facility design, operations, enforcement, and public outreach/educational strategies.

Various components of the Project are already in construction. Toll system design, installation and integration are the last components of express lane implementation. Electronic toll system (ETS) design already accommodated various business rules developed for the Project. Attachment B – Business Rules, includes major rules associated with the Project. Staff will provide additional discussion in the February 2015 meeting.

## Background

The I-580 corridor has consistently been rated as one of the top three congested freeway segments within the San Francisco Bay Area region. As the next step in strategic investments in this corridor, the Alameda CTC is implementing express lanes in both the east- and west-bound directions. The express lanes will include the implementation of an ETS to collect revenue generated by single-occupant users of the express lanes.

The express lane concept is an innovative transportation solution that utilizes technology to optimize the existing corridor capacity to provide traffic congestion relief. Express Lanes are expected to provide the following benefits:

- Expand travel choices by allowing solo drivers to use the underutilized capacity in the High Occupancy Vehicle (HOV) lane for a fee when time saving is of value,
- Optimize the existing corridor capacity and improve efficiency of the corridor,
- Provide travel reliability, and
- Create a revenue source to pay for future corridor improvements, including closing gaps in the HOV network, transit investments and other improvements that directly help reduce corridor congestion

During the I-580 Workshops held in 2013, staff presented various business rules that defined the development of the project and its toll system design. Since then, additional rules have been developed or refined, and incorporated in to the toll system design. The business rules dictated the facility and toll system design and encompassed the following major design concepts:

- Near continuous access
- Zone tolling
- Automated toll violation
- Enforcement, etc.

In addition, staff has included upcoming meeting activities outlined in Attachment C. The future meeting items will further elaborate the toll violation process and lay the groundwork for the adoption of the required Toll Ordinance by the Commission. Staff will provide detailed discussion at the Committee meeting.

**Fiscal Impact:** There is no fiscal impact.

## Attachments

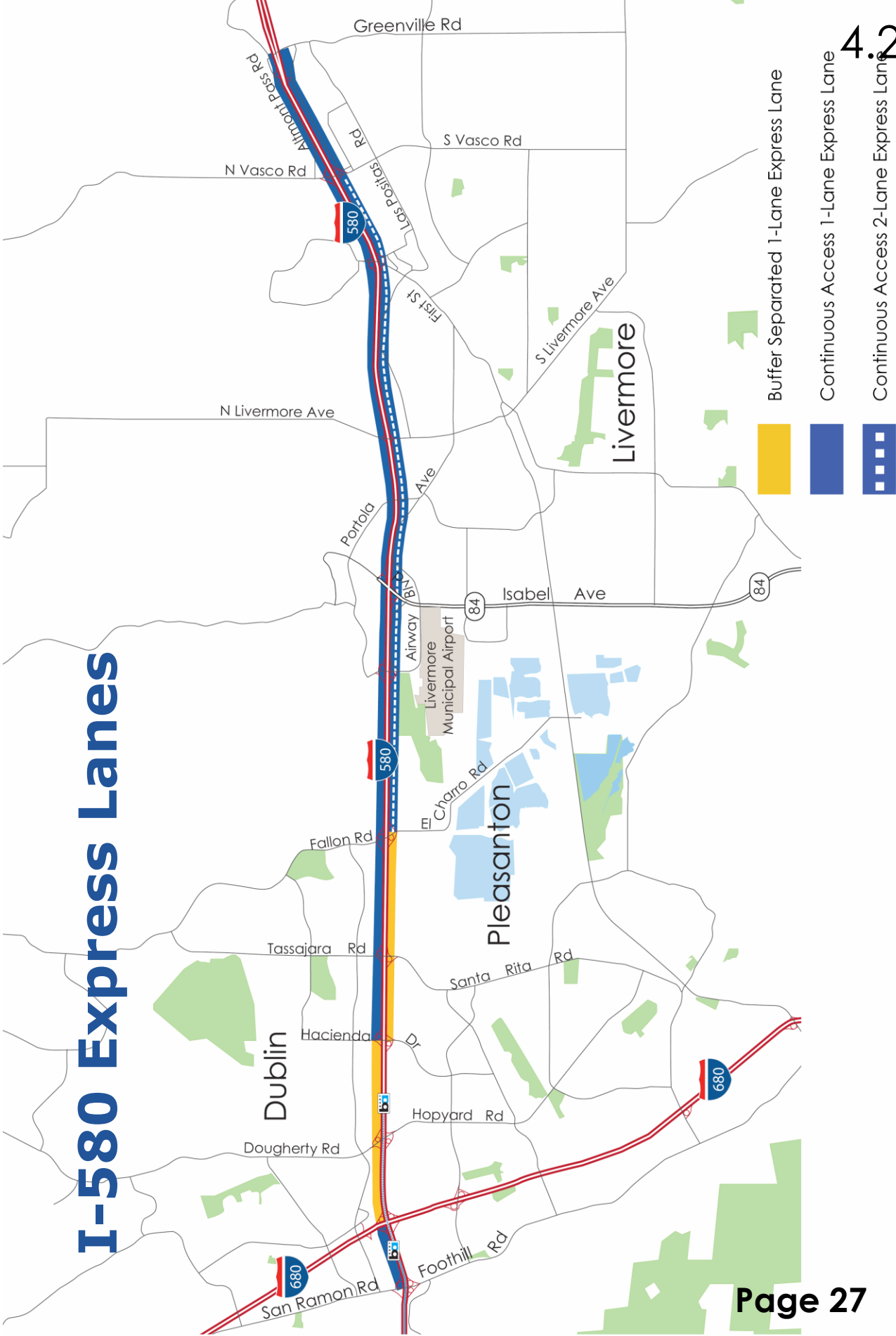
- A: Project Location Map
- B: Business Rules
- C: Upcoming Discussion Topics

## Staff Contact

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

[Kanda Raj](#), Project Controls Team

# I-580 Express Lanes



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## 1 Permitted Vehicles

- |   |  |
|---|--|
| <p>1.1 <b>Only vehicles with two axles, including motorcycles, are permitted to use the express lanes. [Federal Surface Transportation Assistance Act of 1982 §§167, CVC §§21654]</b></p> | <p>HOV/Express Lane: HOV and solo toll paying users will be allowed to use the lane.</p> |
| <p>1.2 <b>Any vehicle carrying a trailer or towing another vehicle, and vehicles with more than two axles, are not permitted to use the express lanes. [CVC §§21654]</b></p>              | <p>Violators may be cited by CHP for violating vehicle code.</p>                         |

## 2 Access

- |  |   |
|--|---|
| <p>2.1 <b>Near continuous access</b></p> | <p>Continuous access for most part. Buffer separation will be provided where safety and/or traffic conflicts are anticipated.</p> |
|--|---|

## 3 Hours of Operation/Occupancy Requirement/HOV Degradation

- |   |   |
|---|---|
| <p>3.1 <b>Hours of Operation</b></p>    | <p>The I-580 express lane tolling hours of operation shall be concurrent with the HOV hours of operation. [Ref. California Streets &amp; Highway code §§ 149.]. Current HOV hours could be extended by HOV Lane Committee</p>   |
| <p>3.2 <b>Occupancy Requirement</b></p> | <p>Current high occupancy requirement for the I-580 EL is two or more passengers (HOV 2+) in each permitted vehicle.</p>  |
| <p>3.3 <b>HOV Degradation</b></p>       | <p>During morning and evening commute hours, or both, maintain 45 MPH or higher in HOV lane for 90% of the time.</p> <p>When HOV/Express Lane is degraded, the mode of operation will automatically switch to HOV Only.</p> <p>When "HOV Only" mode is displayed on a dynamic message sign it means that solo drivers shall not enter the HOV/express lane unless they are a motorcycle or clean air vehicles allowed in the HOV lane, as "HOV Eligible Vehicles" per current State laws. CHP may issue violation notices to the violators.</p> |

When the express lane is in HOV Only mode vehicles already in the express lanes that do not meet the occupancy requirement will be charged the locked-in rate for that segment.

## 4 Pricing/Tolling

- |                            |  |
|----------------------------|--|
| 4.1 <b>Dynamic Pricing</b> | Congestion pricing, based on real-time congestion in the corridor (i.e. in GP & Express Lanes), be automatically updated every 3 minutes |
| 4.2 <b>Zone tolling</b>    | Flat rate for travel within a zone.  |
| 4.3 <b>Min/Max</b>         | Subsequent to rate sensitivity analysis, in summer 2015, Commission will adopt Min./Max toll rates for toll operation                    |
| 4.4 <b>Locked in rates</b> | Customers will be locked-in to pay the toll rate displayed on the DMS at the time of their entrance into the express lane.               |

## 5 Trip Building/Toll Collection

- |   |  |
|---|--|
| 5.1 <b>All electronic tolling (AET)</b> | Automatic toll collection through electronic device. No toll plaza/toll gate OR reason to slow down. Toll gantries will be placed approximately at 3/4 mile intervals. |
| 5.2 <b>Toll Trip Building</b>           | Based on transponder reads or license plate image capture at toll gantries   |

For enforcement purposes, all vehicles using the facility will be required to carry electronic toll devices (FasTrak or FasTrak flex). HOV users will not be charged tolls, if occupancy requirement is met.

Vehicles equipped with standard (legacy) transponders will be tolled at the SOV toll rate regardless of occupancy. As authorized by AB 1811, any HOV traveler will require to carry a device, switchable transponder (aka FasTrak flex) with the setting at "2" or "3" to receive toll waiver. HOV eligible travelers (decal vehicles, motorcycles, allowed in HOV lane for free) must carry a FasTrak flex transponder with the setting at "3."

FasTrak flex Transponder Trips with different switch settings within a single Trip will be assigned the lowest occupancy setting that is detected during that Trip.

Transit & vanpools (registered through Rideshare) that are not equipped with a non-revenue transponder must carry FasTrak flex Transponders and meet occupancy requirements to receive HOV discounts.

Vehicles with metallic windshields must use a bumper mounted transponder. Vehicles with metallic windshields cannot receive the HOV discount.

Rental cars: Tolls will be charged to the rental account. It is the responsibility of the customer to check with the rental agency and to make sure they are opted 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.

By license plate image capture review process, all vehicles without transponders will be charged the SOV toll (and violation penalties if applicable).

**5.3 Authorized emergency vehicles (that properly displaying an exempt California license plate) are exempt from the requirement to pay a toll**

The driver of the vehicle will decide whether the use of the toll facility will likely to improve the availability or response and arrival time of the authorized emergency vehicle and its delivery of essential public safety services. [Ref. CVC §23301.]

## **6 Enforcement**

**6.1 Toll Violation Enforcement (automated)**

Commission will consider adopting Toll Ordinance to enact toll violation processing/penalties in its June and July 2015 meetings

A maximum toll penalty will be established by the Commission. Staff will seek approval in March 2015.

Drivers who incur a toll and do not have a registered account eligible for posting the Trip Transaction at the time of travel will be issued a Violation Notice.

All images captured in support of a Trip Transaction will be available at the TDC for trip building, to be used in support of violation notices and to resolve customer disputes received by customer service center

**6.2 Occupancy Violation Enforcement (by CHP)**

Occupancy requirement will be field verified by CHP officers

System enforcement tools, including beacon lights and access to web portal will be provided to the CHP to assist them in the enforcement effort.

After pulling a vehicle over, CHP will use a web portal to query the transponder ID and most recent occupancy switch positions to confirm whether customer declaration at the previous Toll Read Point is consistent with observed vehicle occupancy.

After issuing a citation, a CHP officer may use the web portal to e-mail [encrypted] transponder and other motorist engagement information for time-stamped court documentation with historical data.

CHP will also enforce lane crossing restrictions and other associated laws/rules regarding express lane operations.

## **7 Miscellaneous**

**7.1 Performance Monitoring**

Alameda CTC express lane operators are responsible for monitoring and reporting the freeway performance, as required by State and Federal laws. The operators may also provide assistance to incident management when contacted by CHP or the Traffic Management Center.

**7.2 Traffic control**

All maintenance and traffic control activities will follow Caltrans lane closure guidelines, procedures, and permitting.

Meeting Date	Discussion Topic(s)
March 2015	Seek approval on toll violation penalties (rates) (A) a. Violation Penalty b. Delinquent Fee
April/May 2015	Regional Customer Service Agreement (with BATA) a. List of administrative tasks, delegated to BATA b. Seek approval on draft co-op for customer services (A)
June 2015	Draft Toll ordinance (I)
July 2015	Seek approval on Toll ordinance (A)

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