Alameda County Transportation Commission
meeting as a committee of the whole as the

I-580 EXPRESS LANE POLICY COMMITTEE

MEETING NOTICE
Monday, April 08, 2013 9:15 am
(Or immediately following I-680 SSCLJPA meeting)
1333 Broadway, Suite 300, Oakland, California 94612
(See map on last page of agenda)

Chair:	John Marchand
Vice Chair:	Nate Miley
Members:	Scott Haggerty Jerry Thorne Tim Sbranti
Staff Liaison:	Stewart D. Ng
Executive Director:	Arthur L. Dao
Clerk of the Commission:	Vanessa Lee

AGENDA
Copies of Individual Agenda Items are Available on the:
Alameda CTC Website -- www.AlamedaCTC.org

1 ROLL CALL

2 PUBLIC COMMENT

Members of the public may address the Committee during "Public Comment" on any item not on the agenda. Public comment on an agenda item will be heard when that item is before the Committee. Only matters within the Committee's jurisdictions may be addressed. Anyone wishing to comment should make their desire known by filling out a speaker card and handling it to the Clerk of the Commission. Please wait until the Chair calls your name. Walk to the microphone when called; give your name, and your comments. Please be brief and limit comments to the specific subject under discussion. Please limit your comment to three minutes.

3 CONSENT CALENDAR

3A. Approval of the Minutes of March 11, 2013 – **Page 1** **A**

4 REGULAR MATTERS

4A. I-580 Corridor High Occupancy Vehicle (HOV) Lane Projects Status Update – **Page 3** **I**

4B. I-580 Express (HOT) Lane Projects Status Update – **Page 15** **I**

4C. I-580 Express (HOT) Lane Work Plan – **Page 29** **I**

5 COMMITTEE MEMBER REPORTS (Verbal)

6 STAFF REPORTS (Verbal)

7 ADJOURNMENT/NEXT MEETING: May 13, 2013

Key: A- Action Item; I – Information Item

(*) Materials will be distributed at the meeting.
(#) All items on the agenda are subject to action and/or change by the Board.

PLEASE DO NOT WEAR SCENTED PRODUCTS SO INDIVIDUALS WITH ENVIRONMENTAL SENSITIVITIES MAY ATTEND

Alameda County Transportation Commission
1333 Broadway, Suites 220 & 300, Oakland, CA 94612
(510) 208-7400 (New Phone Number)
(510) 836-2185 Fax (Suite 220)
(510) 893-6489 Fax (Suite 300)
www.alamedactc.org

I-580 Express Lane Policy Committee Meeting

MINUTES OF MARCH 11, 2013
OAKLAND, CALIFORNIA

The meeting was convened by the Chair, Mayor Marchand, at 9:43am

1 ROLL CALL

A quorum was confirmed; Marchand, Miley, Haggerty, Sbranti, and Cook-Kallio were all present.

2 PUBLIC COMMENT

There were no public comments.

3 CONSENT CALENDAR

3A. Approval of Minutes of February 11, 2013

Supervisor Haggerty motioned to approve this Item. Mayor Miley seconded the motion. The motion passed 5-0.

4 REGULAR MATTERS

4A. I-580 Corridor High Occupancy Vehicle (HOV) Lane Projects Status Update

Stefan Garcia provided an update on the I-580 Corridor High Occupancy Vehicle (HOV) Lane Projects. Mr. Garcia stated that the Alameda CTC has been working in partnership with Caltrans, the Metropolitan Transportation Commission (MTC), as well as local jurisdictions to deliver the projects and concluded by giving a status on all three contracts relating to the contracts.

This item was for information only.

4B. I-580 Express (HOT) Lane Projects Status Update

4C. I-580 Express (HOT) Lane System Integration Status Update

Gary Sidhu presented a combined update on Item 4B and Item 4C. The update covered the delivery strategy for the I-580 corridor including an update on the design & construction phase, east and westbound scheduling and system integration. He concluded by reviewing implementation of near continuous access configuration, manual and automatic violation enforcement mechanisms and detection systems.

Mayor Sbranti requested that the staff performs a cost benefit analysis prior to deciding on implementing an automated violation enforcement system. Mr. Sidhu obliged to the request. He also stated that the Project will like include overhead cameras, license plate detection and CHP monitoring. Art Dao stated that the enforcement will rely both on technology for toll evasions and CHP for carpool occupancy violations.

Supervisor Haggerty wanted to know if algorithms were run for toll fees. Kanda Raj stated

that revenue studies are being done and once completed staff will bring policy decisions regarding toll rates to the I-580 PC and the Commission prior to developing algorithms.

These items were presented for information only.

5 COMMITTEE MEMBER REPORTS

There were no committee member reports.

6 STAFF REPORTS

Art Dao stated that the I-580 Express Lane PC is now a standing committee; decisions will now be vetted through the full Commission.

7 ADJOURNMENT/NEXT MEETING: April 08, 2013

The meeting adjourned at 10:10 am. The next meeting will be April 08, 2013.

Attested by:

Vanessa Lee
Clerk of the Commission

ALAMEDA
County Transportation Commission

Memorandum

DATE: March 27, 2013

TO: I-580 Express Lane Policy Committee

FROM: Stewart D. Ng, Deputy Director of Programming and Projects
Stefan Garcia, Project Controls Team

SUBJECT: I-580 Corridor High Occupancy Vehicle (HOV) Lane Projects Status Update

Recommendation
This is an informational item only. No action is required.

Summary
The Alameda CTC is the sponsor for the I-580 Corridor High Occupancy Vehicle (HOV) Lane Projects, which will construct an HOV lane in both the Eastbound and Westbound directions along I-580 from Pleasanton to Livermore. The projects are designed to provide increased capacity, safety and efficiency for commuters and freight along the primary trade corridor connecting the Bay Area with the Central Valley.

As project sponsor, the Alameda CTC has been working in partnership with Caltrans, the Metropolitan Transportation Commission (MTC), Alameda County, and the cities of Livermore, Dublin, and Pleasanton to deliver the projects. The construction contracts are being administered by Caltrans; the current status of each is as follows:

- I-580 Eastbound HOV Lane Project (Segments 1 and 2) is complete and the HOV lane was opened to traffic in 2010. The construction contract for auxiliary lanes (Segment 3) was awarded on November 16, 2012. Construction activity will begin in April 2013.

- I-580 Westbound HOV Lane Project will be constructed in two separate construction contracts: an eastern segment from Greenville Road to Isabel Avenue and a western segment from Isabel Avenue to Foothill/San Ramon Road. The construction contract for the western segment was awarded on October 29, 2012; the eastern segment was awarded on November 20, 2012. Construction activity began in March 2013. A groundbreaking ceremony is currently being planned in cooperation with Caltrans for late May 2013.

Attached for the Committee's review, are the monthly status reports for both the I-580 Eastbound HOV Lane Project and the I-580 Westbound HOV Lane Project; each report covers activities through March 31, 2013.

Discussion

I-580 Eastbound HOV Lane

The I-580 Eastbound HOV Lane Project is comprised of three segments:

- Segment 1 and 2 provided one HOV lane in the eastbound direction from Greenville Road to Hacienda Drive. Construction was completed in 2010.
- Segment 3 limits span from Hacienda Drive to Greenville Road and will construct eastbound auxiliary (AUX) lanes from Isabel Avenue to First Street in Livermore. In addition, the project will widen the eastbound bridges at Arroyo-Las Positas, pave and stripe all lanes in the eastbound direction from Hacienda Drive to Greenville Road and make other improvements to accommodate conversion of the HOV lane to a double express / high occupancy toll (HOT) lane facility.

Design and right-of-way acquisition work for Segment 3 was completed in May 2012. The bids for this segment were opened on October 5, 2012. The apparent low bidder was OC Jones & Sons with a bid 6.22% below the Engineer's Estimate. The contract was awarded to OC Jones & Sons on November 16, 2012. Construction activity will begin in April 2013.

The total cost of I-580 Eastbound HOV Lane Project is $137.1M. The project is funded from a combination of local, state and federal funds. The California Transportation Commission allocated $21.56M CMIA and $5M SHOPP funds for Segment 3 at their May 2012 meeting. Both CMIA and SHOPP allocations were adjusted to reflect the bid savings at the contract award. See Attachment A for detailed project funding and financial status.

I-580 Westbound HOV Lane

The I-580 Westbound HOV Lane Project will provide a westbound HOV lane from the Greenville Overcrossing in Livermore to the San Ramon / Foothill Road overcrossing in Dublin / Pleasanton. The project will also provide an auxiliary lane from Vasco Road to First Street; First Street to North Livermore Avenue; North Livermore Avenue to Isabel Avenue; and from Airway Boulevard to Fallon Road and will rehabilitate the existing pavement. The widening of the Arroyo Las Positas Creek Bridges has been included in Segment 3 of Eastbound HOV Lane Project in order to avoid conflict during construction between contractors. The westbound project will be constructed in two separate construction contracts:

- An East Segment from Greenville Road to Isabel Avenue, and
- A West Segment from Isabel Avenue to San Ramon/Foothill Road.

The total cost of the I-580 Westbound HOV Project is $145.2M. The project is funded from local, state and federal funds. California Transportation Commission allocated $101.7M CMIA, $29.4M SHOPP and $10.0M TCRP funds at their April, May and September 2012 meetings. Both CMIA and SHOPP allocations were adjusted to reflect bid savings at the contract award. See Attachment B for detailed project funding and financial status.

Design and right-of-way acquisition work for both segments was completed in May 2012. The bids for the western segment were opened on August 29, 2012; the apparent low bidder was DeSilva Gates Construction with a bid 23.32% below Engineer's Estimate. The bids for the eastern segment were opened on September 19, 2012; the apparent low bidder was Ghilotti Construction Company with a bid 16.33% below Engineer's Estimate. The west segment contract was awarded October 29, 2012 and the east segment contract was awarded on November 20, 2012. Construction activity began in March 2013.

Benefits
The I-580 Eastbound HOV Project has reduced peak period congestion and delay by providing a new HOV lane for carpooling motorists and transit riders. The I-580 Westbound HOV Project will complement the newly completed eastbound HOV lane and provide similar benefits. The new lane aims to encourage ridesharing and transit use and to reduce the number of single occupant vehicles on the mainline. AUX lanes are designed to improve highway operations by separating vehicle on and off movements on the mainline from the faster moving through traffic lanes. This project will support regional air quality attainment goals by reducing the numbers of automobiles in use and idling in traffic. It will also improve safety for motorists and maintenance workers by providing adequate inside and outside shoulders where possible, allowing a refuge area for disabled vehicles and improving accessibility for the California Highway Patrol (CHP) and emergency and maintenance vehicles.

Fiscal Impact
This is an informational item and there is no fiscal impact.

Attachment(s)
Attachment A: I-580 Eastbound HOV Lane Project Monthly Status Report
Attachment B: I-580 Westbound HOV Lane Project Monthly Status Report
Attachment C: I-580 Corridor HOV Lane Projects – Location Map

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ATTACHMENT A
I-580 Eastbound HOV Lane
Monthly Progress Report
Through March 31, 2013

PROJECT DESCRIPTION

The Eastbound I-580 HOV Lane Project includes three segments: Segment 1, Segment 2 and Segment 3:

- **Segment 1 -** HOV lane construction from Greenville Road to Portola Avenue.
- **Segment 2 -** HOV lane construction from Portola Avenue to Hacienda Drive.
- **Segment 3 -** Auxiliary (AUX) Lane from Hacienda Drive to Greenville Road. Project scope includes:
  - Construction of AUX lanes from Isabel Avenue to First Street;
  - Pavement width necessary for a double high occupancy toll (HOT) 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

Segment 1 - The HOV lane from Greenville Road to Portola Avenue was opened to traffic in October 2009. The construction contract of this segment was accepted on February 2, 2010.

Segment 2 - The HOV lane from Hacienda Drive to Portola Avenue was opened to traffic in November 2010. The construction contract was accepted on September 30, 2011.

Segment 3 – The Auxiliary Lane project from Hacienda Drive to Greenville Road was advertised on July 9, 2012 and bids were opened on October 5, 2012. The apparent low bidder was OC Jones & Sons with a bid 6.33% below the Engineer's Estimate. The contract was awarded to OC Jones & Sons by Caltrans on November 16, 2012. Caltrans is reviewing initial submittals and anticipates the contractor starting field work in April 2013.

SEGMENT 3 ANTICIPATED CONSTRUCTION STAGING & TRAFFIC HANDLING

Construction activities are expected to include both day and night work; final construction staging sequence may change based on contractor's proposed plans. Significant work is involved in rehabilitating the existing pavement which requires closing traffic lanes. Due to heavy day time traffic volumes, closing traffic lanes will create considerable traffic delays. For this reason, pavement rehabilitation work can only be done during night time hours. Night work will include setting lane closures and shifting traffic lanes (placement of k-rail and striping

work), existing pavement rehabilitation work (crack and seat, slab replacement and overlay) and electrical work. According to the approved lane closure charts by Caltrans, night work will occur between 9:00 PM and 4:00 AM. Lane closures are expected, but complete freeway closure is not anticipated. Work within the median behind k-rail is expected as the first order of work and will occur during day time hours. In addition, all bridge work is expected to occur during day time hours. In cooperation with Alameda CTC, Caltrans will lead the public outreach effort; which is expected to occur following award of the construction contract.

FUNDING AND FINANCIAL STATUS

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

I-580 Eastbound AUX Lane Project Funding Plan at Award - Segment 3

Project Phase	**Funding Source ($ x million)**						
	CMIA	RM2	TVTC	FED	SHOPP	Meas. B	Total
PA&ED		1.54	0.64				**2.18**
PS&E		1.38	0.92	0.23		0.07	**2.60**
ROW		0.20	0.06			0.33	**0.59**
Construct Cap	17.87	2.20			4.69	6.08	**30.84**
Construct Sup	2.53	1.12				1.09	**4.74**
TOTAL	**20.40**	**6.44**	**1.62**	**0.23**	**4.69**	**7.57**	**40.95**
Total Project Cost: $40.95 M							

SCHEDULE STATUS

I-580 Eastbound AUX Lane Project Schedule - Segment 3

Project Approval	December 2011 (A)
RTL	May 2012 (A)
CTC Vote	May 2012 (A)
Begin Construction (Award)	November 2012 (A)
End Construction	November 2014 (T)

RECENT ACTIVITIES

Project was awarded on November 16, 2012.

UPCOMING ACTIVITIES

Construction activities are expected to begin April 2013.

ATTACHMENT B
I-580 Westbound HOV Lane
Monthly Progress Report
Through March 31, 2013

PROJECT DESCRIPTION

The Westbound I-580 HOV Lane Project includes three segments: Segment 1, Segment 2 and Segment 3:

- **Segment 1** - East HOV Segment; project limits are Greenville Road to Isabel Avenue.
- **Segment 2** - West HOV Segment; project limits are from Isabel Avenue to San Ramon Road in Dublin.
- **Segment 3** - Eastbound bridge widenings at Arroyo Las Positas Creek. The project scope of this segment has been combined with, and will be delivered as part of, the Segment 3 contract for the Eastbound HOV Lane Project.

CONSTRUCTION STATUS

Segment 1(East Segment) – This project was advertised on July 16, 2012 and bids were opened on September 19, 2012. The apparent low bidder was Ghilotti Construction Company, Inc. with a bid 16.33% below Engineer's Estimate. The contract was awarded to Ghilotti Construction Company, Inc. by Caltrans on November 20, 2012. Caltrans is reviewing initial submittals and anticipates the contractor starting field work in April 2013.

Segment 2 (West Segment) – This project was advertised on June 25, 2012 and bids were opened on August 29, 2012. The apparent low bidder was DeSilva Gates Construction with a bid 23.32% below Engineer's Estimate. The contract was awarded to DeSilva Gates Construction by Caltrans on October 29, 2012. Caltrans is reviewing initial submittals and the contractor started construction activity in March 2013.

ANTICIPATED CONSTRUCTION STAGING & TRAFFIC HANDLING

Even though final construction staging sequence could change based on contractor's proposed plans, construction activities are expected to include both day and night work. Significant work is involved in rehabilitating the existing pavement which requires closing traffic lanes. Due to heavy day time traffic, closing traffic lanes will create significant traffic delays. As such pavement rehabilitation work can only be done during night time. Night work will include setting lane closures and shifting traffic lanes (placement of k-rail and striping work), existing pavement rehabilitation work (crack and seat, slab replacement and paving) and electrical work. According to the approved lane closure charts by Caltrans, night work will occur between 9:00 PM and 4:00 AM. Lane closures are expected but complete freeway closure is not anticipated. Work within the median behind k-rail is expected as first order of work and will occur during day time. All bridge work is expected during day time. In cooperation with Alameda CTC, Caltrans will lead the public outreach effort; which is expected to occur following award of the construction contracts.

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 $145.2M. The total programmed (committed) funding from federal, state and local sources is $45.2M.

I-580 Westbound HOV Lane Project Funding Plan At Award
Segment 1 (East Segment)

Project Phase	Funding Source ($ x million)								
	CMIA	RM2	TCRP	FED	SHOPP	Meas. B	TVTC	TCRP LONP	Total
PA&ED		4.44							**4.44**
PS&E		3.23		0.12		0.89	0.54		**4.78**
ROW		1.37							**1.37**
Const Cap	35.34		5.92	6.19	13.54	0.96			**61.95**
Const. Sup	6.52		1.59			2.06		0.24	**10.41**
Total	**41.86**	**9.04**	**7.51**	**6.31**	**13.54**	**3.91**	**0.54**	**0.24**	**82.95**
Total Project Cost: $82.95 M									

Segment 2 (West Segment)

Project Phase	Funding Source ($ x million)							
	CMIA	RM2	TCRP	FED	SHOPP	Meas. B	TVTC	Total
PA&ED		3.71						**3.71**
PS&E		2.71		0.10		0.73	0.46	**4.00**
ROW		1.12						**1.12**
Const Cap	33.73		2.49		9.61			**45.83**
Const. Sup	6.75					0.88		**7.63**
Total	**40.48**	**7.54**	**2.49**	**0.10**	**9.61**	**1.61**	**0.46**	**62.29**
Total Project Cost: $62.29 M								

SCHEDULE STATUS

I-580 Westbound HOV Lane Project Schedule:

Segment 1 (East Segment):

Project Approval	January 2010 (A)
RTL	May 2012 (A)
CTC Vote	May 2012 (A)
Begin Construction (Award)	November 2012 (A)
End Construction	November 2014 (T)

Segment 2 (West Segment):

Project Approval	January 2010 (A)
RTL	April 2012 (A)
CTC Vote	April 2012 (A)
Begin Construction (Award)	October 2012 (A)
End Construction	November 2014 (T)

RECENT ACTIVITIES

- East Segment: Bids opened on September 19, 2012; construction contract awarded November 20, 2012.
- West Segment: Bids opened on August 29, 2012; construction contract awarded October 29, 2012. Construction activity began in March 2013.

UPCOMING ACTIVITIES

- East Segment: Construction activities expected to start April 2013.
- West Segment: Construction activities will include temporary striping, placement of temporary safety barrier and clearing the work area.

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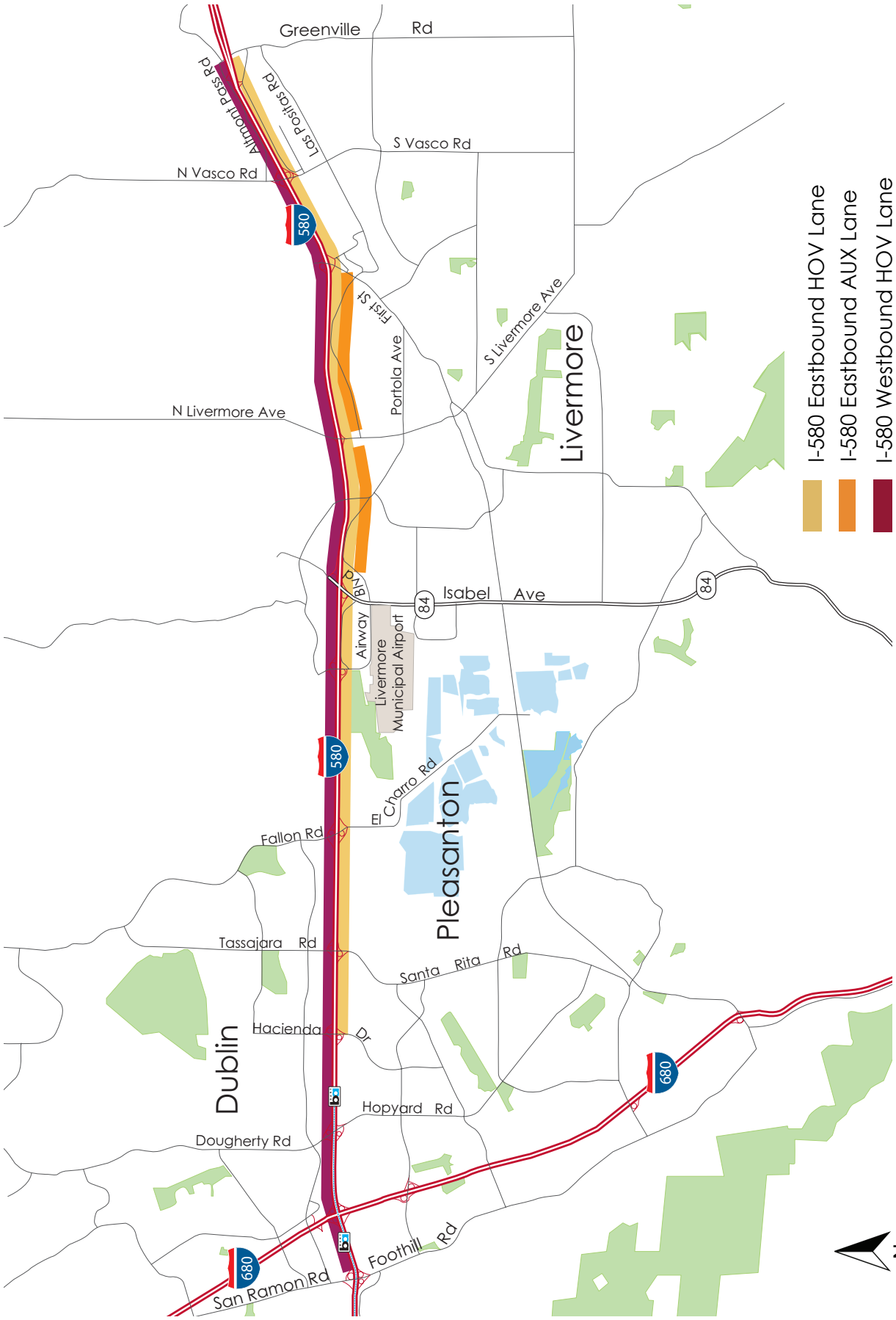
I-580 Corridor HOV Lane Projects - Location Map



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Memorandum

DATE: March 27, 2013

TO: I-580 Express Lane Policy Committee

FROM: Stewart D. Ng, Deputy Director of Programming and Projects
Gary Sidhu, Project Controls Team

SUBJECT: I-580 Express (HOT) Lane Projects Status Update

Recommendation
This is an informational item only. No action is required.

Summary
The Eastbound I-580 Express High Occupancy Toll (HOT) 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 High Occupancy Toll (HOT) Lane will convert the westbound HOV lane (currently under construction) to a single express lane facility from west of Greenville Road to west of the San Ramon Road/Foothill Road Overcrossing in Dublin/Pleasanton.

Both I-580 express lane projects are currently in the environmental phase which is estimated for completion in August 2013 and are scheduled to start construction immediately after the east and west segments of the I-580 Westbound HOV Lane and I-580 Eastbound Auxiliary Lane Projects are completed in 2014. These HOV lane projects will widen the freeway to provide the width needed for the express lane projects. The I-580 Eastbound and Westbound Express Lane Projects 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 and software. The express lane facility will be open for use in 2015.

For detailed information on project funding, schedule and status of the Eastbound I-580 Express (HOT) Lane, Westbound I-580 Express (HOT) Lane and System Integration, see Attachments A, B and C of this report.

Discussion
Delivery Strategy
I-580 Eastbound Express (HOT) and I-580 Westbound Express (HOT) Projects will be combined into one construction project. This will reduce bid advertising and construction support costs

and minimize potential conflicts with two contractors performing work within the same project limits and median of the highway.

Staff continues to work with Caltrans to add strategic express lane project elements to the existing I-580 Westbound HOV and I-580 Eastbound Auxiliary Lane construction contracts via contract change order, where feasible. The benefit of this approach is to avoid additional traffic disruptions to the traveling public and reduce or eliminate re-work. Items under consideration to be included as contract change order work includes:

- Electrical Conduit – across and along I-580
- Striping – stripe to final HOT configuration
- Install K-rail along median at sign locations

"Near Continuous" Access Configuration Status
Staff is currently moving forward with the concept of a "near continuous" access configuration in lieu of "limited" access for the express lanes on the I-580 corridor. The "near continuous" access configuration would eliminate the two foot buffer between the express lane and the general purpose lanes except at "hot spots" or "safety zones" such as between Hacienda and Fallon Road (eastbound) and Hacienda and I-680 (westbound). The project team is working on refining the traffic operations analysis for a "near continuous" access configuration. This process has required more work and time than originally anticipated; which will result in a delay in completion of the environmental phase of the two projects until approximately August 2013. The construction start date will not be delayed and is scheduled to start in fall 2014.

In addition, other project revisions are underway to implement the "near continuous" access concept including revisions to the toll systems software, changes to the location of the Dynamic Message Signs (DMS) and toll gantries, updating the Concept and Operations Plan and System Engineering and Management Plan, and analyzing zone tolling requirements.

Fiscal Impact
This is an informational item only and there is no additional fiscal impact.

Attachment(s)
Attachment A: I-580 Eastbound Express (HOT) Lane Project Monthly Status Report
Attachment B: I-580 Westbound Express (HOT) Lane Project Monthly Status Report
Attachment C: I-580 Express (HOT) Lanes System Integration Status Report
Attachment D: I-580 Corridor Express Lane Projects – Location Map

ATTACHMENT A
I-580 Eastbound Express (HOT) Lane Project
Monthly Status Report
Through March 31, 2013

PROJECT DESCRIPTION

The Eastbound I-580 Express or High Occupancy Toll (HOT) Lane Project will convert the newly constructed eastbound HOV lane, from Hacienda Drive to Greenville Road, to a double express lane facility which will include standard shoulder and lane widths where feasible.

PROJECT DELIVERY STATUS

The Environmental Phase for this project is underway as follows:

- Environmental studies are complete and the Initial Study and Environmental Assessment (IS/EA) is drafted and ready to circulate pending updating for changes to address "near continuous" access alternative and Caltrans approval of the Traffic Operational Analysis Report and Draft Project Report in June 2013. The estimated date of circulation of the draft IS/EA is June 2013. A 30 day public circulation period is required in addition to a public meeting expected in July 2013.
- Staff is working to coordinate with the three I-580 HOV lane projects currently in construction (I-580 Westbound HOV - West Segment, I-580 Westbound HOV - East Segment, I-580 Eastbound HOV Segment 3 - Auxiliary Lanes) to add some express lane elements to the civil projects via contract change order (CCO). The following is a list of work under consideration to include by CCO:
    - Electrical Conduit – across and along I-580
    - Striping – stripe to final HOT configuration
    - Install K-rail along median at sign locations

POTENTIAL ISSUES/RISKS

- Funding – Current funding shortfall to implement "near continuous" approach. (See "Funding & Financial Status" at the end of Attachment C).
- Schedule impacts –additional project delays to the environmental phase due to refinement of traffic analysis for "near continuous" access configuration and final agreement of the Design Exceptions. Staff anticipates working on design details for "near continuous" access (location and number of toll gantries, zone tolling requirements) concurrently with completing the overall civil design to avoid delays to the start of construction which is scheduled to start in 2014.

SCHEDULE STATUS

I-580 Eastbound Express (HOT) Lane Project Schedule:

Project Approval	August 2013
RTL	June 2014
Begin Construction	September 2014
End Construction	June 2015

RECENT ACTIVITIES

- Refining traffic studies for "near continuous" access alternative
- Updating the civil work cost estimate and System Integration scope & cost
- Discussing dynamic messaging and other sign plans with Caltrans to get their approval

UPCOMING ACTIVITIES

- Finalize Traffic Study refinements – Target date June 2013
- Finalize Draft Project Report – Target June 2013
- Circulate the Draft IS/EA for 30 day public comment – working toward June 2013 circulation of document; dependent on completion of additional work for conversion to "near continuous" access. A public meeting will be held during the 30 day comment period
- Working toward environmental clearance and project approval by Caltrans and the Federal Highway Administration by August 2013
- Determine items to be added to HOV lane projects via CCO – Target date May 2013

ATTACHMENT B
I-580 Westbound Express (HOT) Lane
Monthly Status Report
Through March 31, 2013

PROJECT DESCRIPTION

The I-580 Westbound Express or High Occupancy Toll (HOT) Lane Project will convert the planned westbound HOV lane to a single express lane facility on I-580 in Alameda County from west of the Greenville Road Undercrossing in Livermore to west of the San Ramon Road/ Foothill Road Overcrossing in Dublin/Pleasanton, a distance of approximately 14 miles.

PROJECT DELIVERY STATUS

The environmental phase for this project is underway as follows:

- Traffic studies are being updated to include an evaluation of the "near continuous" access alternative.
- The environmental document, a Categorical Exemption (CE), is being prepared and environmental studies are underway.
- A Supplemental Project Report is being prepared.

POTENTIAL ISSUES/RISKS

- Funding – there is a current funding shortfall. (See Funding & Financial Status at the end of Attachment C)
- Schedule impacts –There are some delays associated with completing the traffic studies for the "near continuous" access approach. The target date for completion of the environmental phase is currently July 2013. At this time, staff anticipates to work on design details for "near continuous" access (location and number of toll gantries) concurrently with completing the overall civil design to avoid delays to the start of construction which is scheduled for fall 2014

SCHEDULE STATUS

I-580 Westbound Express (HOT) Lane Project Schedule:

Project Approval	July 2013
RTL	December 2013
Begin Construction	September 2014
End Construction	June 2015

RECENT ACTIVITIES

- Environmental technical studies and completion of traffic studies (including "near continuous" access configuration) are underway
- Draft geometrics and Supplemental Project Report (including Design Exceptions) are underway
- Discussing dynamic messaging and other sign plans with Caltrans for their approval.

UPCOMING ACTIVITIES

- Complete Traffic Studies – Target date April 2013
- Supplemental Project Report – Target date May 2013
- Draft Environmental Document (CE) – Target date May 2013
- Final environmental clearance – Target date July 2013

ATTACHMENT C
I-580 Express (HOT) Lanes Systems Integration
Monthly Status Report
Through March 31, 2013

SYSTEM INTEGRATION SCOPE DESCRIPTION

The I-580 Express Lane civil work will construct the necessary infrastructure, such as signing, sigh gantries for dynamic messaging and toll reading, electrical conduit for connecting power and communication sources, and pavement striping to accommodate express lanes. The System Integrator will include tolling hardware design and software development, factory testing of design, equipment and system installation, and road geometry and toll system integration. It will also consist of field testing of the toll equipment and all subsystems including the interfaces to the BATA Regional Customer Service Center and Caltrans prior to implementing the new express lanes.

Detailed Discussion

The systems integration focuses on the most recent technologies including software, hardware and traffic detection that will be deployed to optimize the existing corridor capacity in order to effectively manage the current and forecasted traffic in the corridor. The system integrator, however, will continue to own the software while the implementing agency will pay for the use of license to allow for the usage of the toll integrator's software.

In March 2010, the Alameda CTC retained Electronic Transaction Consultants (ETC) Corporation as its Systems Integrator for implementation of the new electronic toll collection system for the I-580 Eastbound Express Lanes facility. ETC's system design progressed based on a limited access configuration; which is comprised of a total of five access locations: three exclusive ingress/egress and two combined ingress/egress locations. As discussed at the I-580 PAC meetings since November 2012, the agency and ETC staff have been working towards revising the contract requirements to revise the express lane access configuration from "limited" to a "near continuous" operating concept and include additional tasks for implementing the electronic toll collection system for the Westbound I-580 Express Lane. The civil/roadway work described above will be removed from the systems integration work. With the revisions to the consultant services agreement, ETC would be responsible for the toll system design, development, factory testing, installation, integration, field testing and operations and maintenance, for the new I-580 express lanes in both directions of travel.

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 almost like an HOV facility and, therefore, would expect to provide driver familiarity.

Project Status

The following is a detailed discussion of the major activities that are either progressing or planned for in 2013:

Project Geometry and Electronic Toll System Design

The civil/roadway designers have developed geometry for the "near continuous" express lanes operating concept. Geometric development is an iterative process as it requires close coordination with the operational analysis and needs to address operational, safety and enforcement issues. The latest version of the express lanes concept proposes 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 dual-lane HOV/Express Lane will be installed from Fallon Road to west of Vasco Road
- Continuous single-lane HOV/Express Lane will be installed from west of Vasco Road to Greenville Road

In the westbound I-580 direction:

- Continuous 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

Additional coordination between the designers and Caltrans is necessary prior to finalizing the project geometry.

On a regular basis, the civil and toll system designers have been coordinating their designs and have determined the preliminary locations of the toll equipment, such as the Dynamic Message Signs (DMS), the toll antennas and readers. Final location of all of the express lanes related equipment will be determined based on Caltrans/Agency approval of project geometry. ETC staff will design the toll system software and hardware based on the identified new toll equipment locations, the power and communication sources, and the revised express lanes access configuration. ETC will also define the power and communication requirements for the electronic toll collection system design and provide this information to the civil/roadway design team for their power/communication design.

Traffic and Revenue Study

The travel demand forecast and toll revenue forecasts in both directions of the I-580 express lanes facility are being updated to reflect post-recession traffic numbers. In addition, the revenue model will incorporate the post-recession socio/economic conditions that have been experienced in the east county communities and the near continuous access concept.

While the "near continuous" access could potentially generate additional revenue, it might lead to an increase in revenue leakage due to challenges associated with enforcing express lane violations in a "continuous" express lane concept. Project staff is exploring an automated violation enforcement system concept to try and deter system violations, as described in subsequent sections of this memorandum.

Concept of Operations/System Engineering Management & Enforcement Plans

CDM Smith (formerly Wilbur Smith Associates) staff will be updating a concept of operations (Con Ops) plan and a system engineering management plan (SEMP) to reflect the changes described above These plans will outline the engineering process, the testing process, QA/QC guidelines, toll maintenance and operations requirements, and communication network requirements, etc. A System Enforcement plan needs to be developed by CDM Smith, utilizing electronic equipment to deter/minimize toll evasion/violation. A final SEMP will include both the Con Ops and the System Enforcement plan as appendices; which will require FHWA review and approval.

Software and hardware design

ETC will revise the Detailed Design Document (DDD) for the software and hardware development based on deploying a "near continuous" access express lane system. The designers will also revise the communication network and electrical power needs. ETC staff will then perform a series of factory and field tests and work with the agency staff to validate its hardware and software design, prior to opening the new express lanes facility.

Toll Pricing and Rate Publishing

As discussed in previous meetings, for practical purposes and to curtail toll violation, a zone-based toll pricing scheme likely will be implemented to effectively support the "near continuous" access configuration. The zone-based toll rates will be displayed to patrons via the DMSs. However, since the "near continuous" access approach is a new concept and first of its kind to be implemented in California, additional details for pricing and messaging will have to be analyzed and determined during the system design process, prior to finalizing the electronic toll collection and price-setting systems.

Toll Antennas, Readers and Violation Enforcement Subsystem

Closely spaced toll antennas and readers will help facilitate a "near continuous" access express lane configuration since it will lead to an effective FasTrak® transponder read. It should also support more effective toll violation enforcement. Various local and regional agencies are currently studying the potential effects of placing toll reader gantries at various intervals through the corridor, for example from ½ mile or 1 mile intervals, which is expected to effectively support a "near continuous" access express lane facility. While evaluating a preliminary project geometry and electronic toll collection system design, staff situated the toll gantries at approximately ¾ mile intervals. Efforts were made by the project design team to combine the tolling gantry and DMS locations at the same locations, for use in both directions of travel.

Since the "near continuous" access will employ an increased number of toll gantries (for readers), it will be difficult to enforce manual toll violation enforcement. Therefore, an automated toll violation enforcement system strategy will have to be designed and deployed to effectively manage the toll violation enforcement. The issues related to customer privacy, toll dispute resolution, customer service and issuance of automated violation tickets will have to be vetted to ensure that it can be implemented within the current California vehicle code and agency requirements. In addition, to enhance system violation detection, additional CCTV cameras and violation enforcement system (VES) cameras (for license plate capture) will need to be designed, developed, integrated into the toll system and installed.

MTC is currently reviewing these options, as documented in its draft Con Ops; which was prepared for its Tier 1 Express Lane projects. The MTC Con Ops discussed increased

implementation of "continuous access" within the Bay Area Express Lane Network, automated toll violation enforcement and a requirement that HOV users need to carry either switchable toll transponders or register (license) as carpool users. LA Metro implemented switchable transponders when it opened its express lanes on I-110 in November 2012, to accommodate the customers from the Greater LA Region. However, the I-680 Express Lane does not employ automated violation enforcement. The I-580 Express Lanes likely will accommodate both of these requirements for electronic toll system implementation with near continuous access.

The switchable transponders are new to Bay Area toll customers. Therefore, the robust public education/outreach program that the agency plans to employ, at least a year prior to opening the facility, will have to include additional information about these toll transponders (i.e. how to obtain it, who needs to use it, how it works, how to reach customer service, etc.).

Furthermore, for consistent customer experience, MTC may follow the Golden Gate Bridge Authority's lead and implement another payment option, payment through pay-by-plate. The Single Occupant Vehicle (SOV) user can use the pay-by-plate option by registering their license plate(s). The user will be required to open up an account to pay via their license plate. Our initial assessment indicates that this payment option is likely to encounter challenges since it will be difficult to distinguish the HOV and SOV users in an open/shared express lane facility, unless every vehicle is required to register as either an HOV or SOV vehicle. Staff will continue to evaluate and collaborate with other toll operators and report back to the committee on whether the I-580 Express Lanes will employ such payment option.

A Work Plan for the I-580 Express Lanes; is included as Item 4C to the I-580 PC Agenda Package and includes a timeline for the approval of all toll policies and business operating rules, financial breakeven analysis, the SEMP; development of project delivery and financing strategies, completion of electronic toll system design, and development of a public education/outreach program. In addition, the policy matters/business rules will be discussed and adopted by the I-580 PC and Commission prior to implementation of the I-580 Express Lanes.

In summary, even though the "near continuous" access concept provides additional opportunities it is a relatively new concept for implementation in the region. Additional research, education and evaluation are necessary for effective implementation of such a concept for all future Alameda County Express Lanes, including the I-580 Express Lanes. Staff is committed to working closely with other likeminded agencies/industry experts to move forward and implement an effective electronic toll collection system strategy to effectively support a "near continuous" access express lane configuration.

SYSTEM INTEGRATION STATUS

- Alameda CTC and ETC staff have been working towards revising ETC contract requirements to revise the express lane access configuration from "limited" to a "near continuous" approach and include additional tasks for implementing the electronic toll collection system for the Westbound I-580 Express Lane.
- Express Lane sign plans have been submitted to Caltrans for their review and approval. Once the sign locations and other infrastructure elements are finalized, system design requirements will be developed.

RECENT ACTIVITIES

- Alameda CTC, URS, CDM Smith and ETC continue to discuss scope of System Integration work and ETC's proposal.
- Continue to work on "zone tolling", pricing and automated violation strategies.

UPCOMING ACTIVITIES

- Finalize contract negotiations with ETC – Target date April 2013
- ETC contract amendment – Target date May 2013 Commission Meeting
- Prepare Draft Concept Operations Plan – Target date June 2013
- Prepare Draft System Engineering Management Plan – Target date July 2013

FUNDING AND FINANCIAL STATUS

Combined Eastbound & Westbound Funding Plan for "near continuous" access

Project Phase	Funding Source ($ x million)							
	ARRA	Federal Earmark	RM2	TVTC	TCRP Deferred	Local (Meas. B)	TBD	Total
PA&ED			1.39	2.17	0.10			3.66
PS&E			0.14	1.53	3.07			4.74
Sys. Int.	7.50				1.00		8.80	17.30
ROW				0.37				0.37
Const. Support			0.60	0.71	0.50	0.78	1.48	4.07
Construct Cap		1.00	1.92		1.33	0.69	16.42	21.36
O&M						0.18	0.30	0.48
TOTAL	**7.50**	**1.00**	**4.05**	**4.78**	**6.0**	**1.65**	**27.00**	**51.98**
Total Project Cost: $51.98 M								

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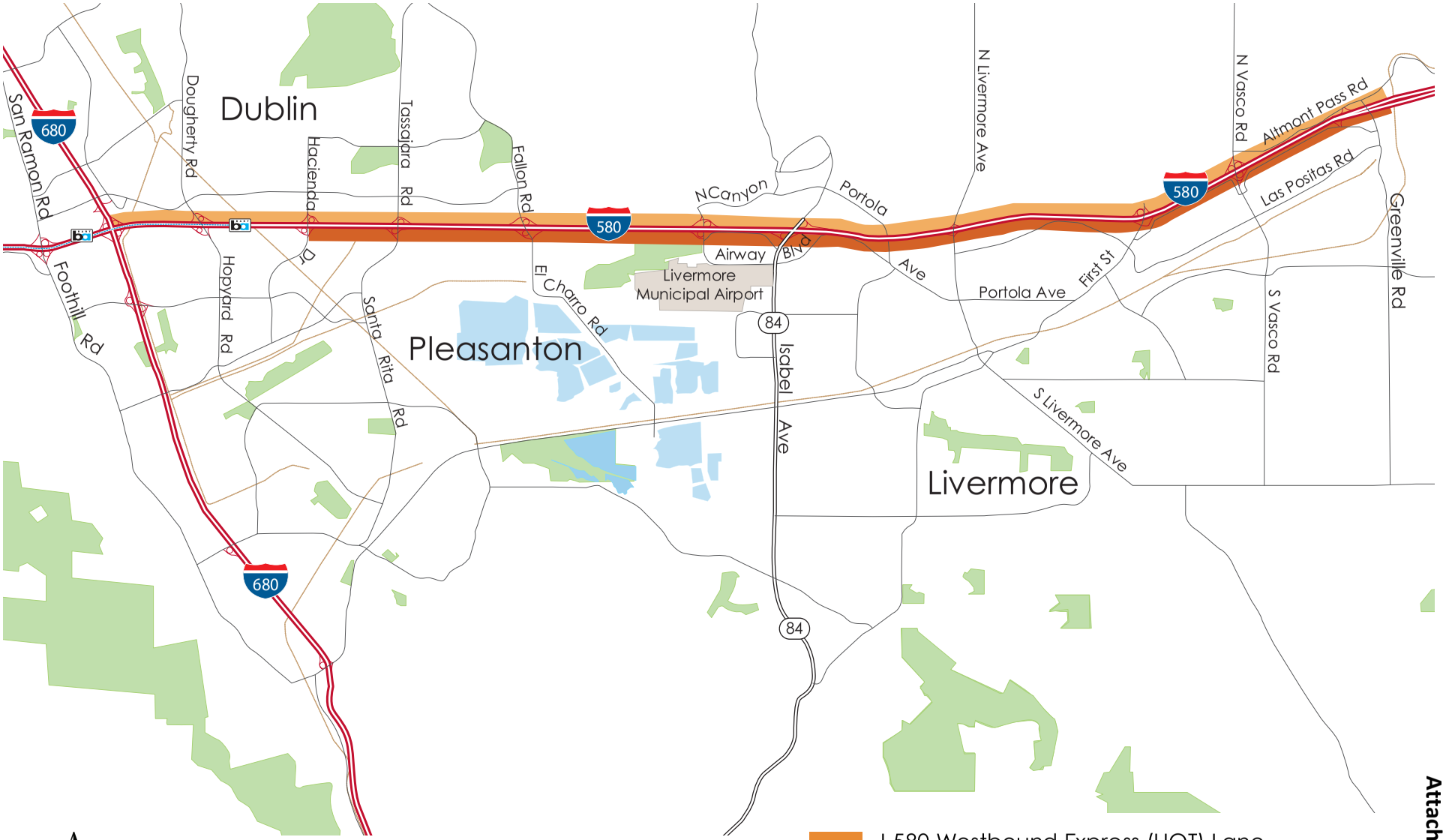
I-580 Corridor Express Lane Projects - Location Map



Attachment D

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ALAMEDA
County Transportation Commission

Memorandum

DATE: March 27, 2013

TO: I-580 Express Lane Policy Committee

FROM: Stewart D. Ng, Deputy Director of Programming and Projects
Kanda Raj, Project Controls Team

SUBJECT: I-580 Express (HOT) Lanes – Work Plan

Recommendation
This is an informational item only. No action is required.

Summary
The purpose of this work plan is to establish a roadmap that will guide the Alameda CTC's project management staff through the process of delivering the I-580 Express Lanes project within scope, schedule and budget, from the early phases of project development activities through the final phases, such as toll lane implementation, operations and maintenance. The work plan also outlines a timeline for seeking from the I-580 Policy Committee (I-580 PC) and the Commission's timely approval of toll policies/ business rules.

To effectively deliver the I-580 Express Lanes to the travelling public/customers, the *draft* project work plan (hereinafter referred to as "the Plan") specifically focuses on five separate implementation areas, listed below:

1. Project Delivery
2. Toll Policy and Business Rules
3. Customer Education and Marketing
4. Stakeholder Agreements and Permits
5. Project Financials

Detailed discussions of the Plan, including a timeline for achieving each work task activity are included in the *draft* Plan, attached as Attachment A to this staff report. Staff will provide a presentation at the April 8, 2013 I-580 PC meeting.

Discussion
The I-580 Express Lane Project involves converting the High Occupancy Vehicle (HOV) Lanes to HOV/Express Lane facility in both directions of I-580. The project limits span from Hacienda

Drive to Greenville Road in the eastbound direction and from Greenville Road to San Ramon Road/ Foothill Road in the westbound direction. Construction of the project will include two distinct components: 1) Civil-infrastructure improvements and 2) system integration. The civil-infrastructure component of construction will install sign gantries for dynamic messaging and overhead toll gantries/readers (toll collection via transponder reads), barriers for protecting the toll equipment, Close Circuit Television (CCTV) cameras, conduit for providing connections to power and communication sources, road lighting and final pavement striping for implementing the express lanes. The system integration work tasks will include tolling hardware design and software development, factory testing of design, equipment procurement, equipment and system installation, road geometry and toll system integration, and field testing of the toll equipment and all subsystems including the interfaces to the Bay Area Toll Authority (BATA) Regional Customer Service Center and Caltrans prior to implementing the new express lanes-toll collection system in the I-580 corridor.

Fiscal Impact
This is an informational item only and there is no fiscal impact.

Attachment(s)
Attachment A: Draft I-580 Express Lane Work Plan

Alameda County Transportation Commission

DRAFT I-580 Express Lane Work Plan

Draft prepared on March 25, 2013

TABLE OF CONTENTS

Project Background

I-580 is a major commute and freight corridor connecting the San Francisco Bay Region with the Central Valley and the Greater Los Angeles Region. During the commute hours, the corridor experiences recurring traffic congestion and associated travel delays and traffic incidents, and for over a decade has been listed as one of the top ten congested corridors in the Bay Area. To address the traffic congestion and provide more reliable travel options to those using the corridor, the Alameda County Transportation Commission (Alameda CTC) is proposing to maximize the corridor capacity by converting High Occupancy Vehicle (HOV) lanes into HOV/Express Lanes to provide an option for the solo drivers to use the available/unused capacity in the HOV lanes for a fee, while not impeding the operations of the HOV facilities. The I-580 Express Lane is one of two Alameda County Express Lanes, authorized under California Assembly Bill (AB) 2032, signed into law in 2004. The I-580 Policy Committee (I-580 PC), an Alameda CTC standing committee, considers policy issues and / or reviews staff recommendations and makes recommendations to the Commission for adoption. I-680 is the other corridor authorized under AB 2032 to implement express lanes in Alameda County. The I-680 Southbound Express Lane is the only operational express lane in Alameda County.

The Alameda CTC formed a partnership with the Federal Highway Administration (FHWA), California Department of Transportation (Caltrans) and the California Highway Patrol (CHP) to develop and implement the I-580 Express Lanes Project. The Alameda CTC also routinely involves the Metropolitan Transportation Commission (MTC) and local cities in close proximity to the project along the I-580 corridor, in the development of the project.

The Express Lane Project's main objectives are to:

- ✓ Expand choices for users within the corridor
- ✓ Increase efficiency of the transportation system by taking advantage of existing capacity without forfeiting the congestion relief and air quality benefits provided by HOV lanes
- ✓ Increase reliability and commuter time savings by reducing congestion in the corridor in both the express lane and general purpose lanes
- ✓ Allocate revenues generated by the express lanes that reinvest in the corridor as defined by an annual expenditure plan, adopted by the Commission, including funding for the design, preconstruction, construction, and operations of HOV facilities and transit improvements within the corridor

Figure 1: Example of an Express Lane Message Sign

The Project spans from Hacienda Drive in the City of Pleasanton to Greenville Road in the City of Livermore in the eastbound direction

(approximately 11 miles) and from Greenville Road to San Ramon Road/ Foothill Road in the City of Dublin in the westbound direction (approximately 14 miles). To reduce congestion and improve the traffic operations of the facility, a second HOV/Express Lane is proposed between Fallon Road and Vasco Road in the eastbound direction. The project is currently in the project approval and environmental document (PA&ED) phase with final design work tasks progressing in tandem. The project will implement dynamic pricing, (i.e. toll rates will change on a real time basis as the level of congestion changes within the corridor). The project is expected to implement "near continuous access," a newer express lane concept that will provide multiple access opportunities for patrons to access and leave the facility. The "near continuous access" will look and feel like any other HOV facility in the Bay Area; however, a striped buffer separation will be provided between the HOV/Express Lane and the general purposes lanes at locations where operational issues are anticipated.

Figure 2: Example of a "Near Continuous Access Express Lane" Facility

For additional information about the Project, please visit the Alameda CTC website at www.alamedactc.org.

A conceptual level lay out of the project is provided in Figure 3 on the following page.

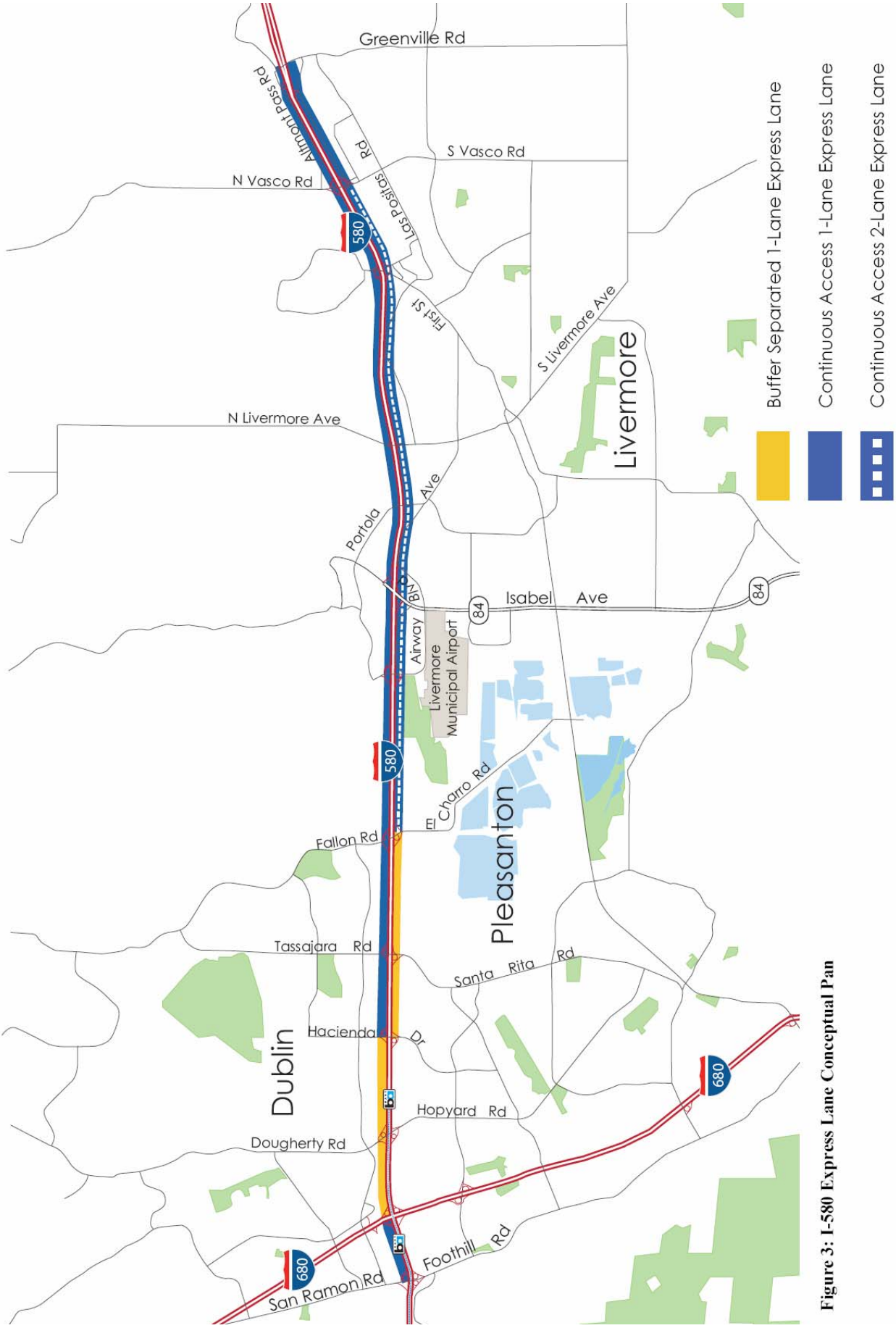

Figure 3: I-580 Express Lane Conceptual Pan

Work Plan

Purpose: The purpose of this work plan is to establish a roadmap that will guide the Alameda CTC's project management staff through the process of delivering the I-580 Express Lanes project within scope, schedule and budget, from the early phases of project development activities through the final phases, such as toll lane implementation, operations and maintenance. In addition, the work plan outlines a timeline for seeking timely approval of the toll policies/ business rules by the I-580 PC and the Commission, and identifies responsible parties for delivering each work task activity.

Timeline: As described above, the project is in concurrent PA&ED and Final Design Phases. In addition, the electronic toll system (ETS) design is also progressing simultaneously. The major milestone project schedule dates are outlined below:

Project Approval	**Aug 2013**
Ready to List (Final Design Approval)	**Jun 2014**
ETS Design	**Jun 2014**
Begin Construction	**Sep 2014**
Open Express Lanes	**Oct 2015**
End Construction	**Jan 2016**

A comprehensive schedule is included as Attachment A to this work plan; it outlines the tasks to be accomplished in calendar years 2013 - 2016.

To effectively deliver the I-580 Express Lanes to the travelling public/customers, the project work plan (hereinafter referred to as "the Plan") specifically focuses on five separate implementation areas:

1. Project Delivery
2. Toll Policies and Business Rules
3. Customer Education and Marketing
4. Stakeholder Agreements and Permits
5. Project Financials

Details of each are expanded on in subsequent sections of the Plan.

Section 1: Project Delivery

Several of the preliminary engineering and technical studies are complete. The remaining project delivery activities will be completed as described below and will culminate in 1) construction of the civil infrastructure improvements and 2) implementation of the electronic toll system (ETS).

1) **The civil infrastructure construction** contractor is expected to install sign gantries for dynamic messaging and overhead toll gantries/readers (toll collection via transponder reads), barriers for protecting the toll equipment, Close Circuit Television (CCTV) camera poles, and conduit for providing connections to power and communication sources. In addition, this construction contract will include road lighting and final striping for implementing the operation of the express lanes. The current phase project development activities for the I-580 Eastbound and Westbound Express Lane improvements are progressing on separate schedules; however, a conservative schedule reflecting the eastbound I-580 improvements is included in this work plan. The Alameda CTC plans to combine the construction of the eastbound and westbound improvements and build them as a single construction project.

The following is a roadmap for completing the civil infrastructure construction elements:

a) *Design Exceptions:* The project design staff has completed documentation of the non-standard design features in draft variance reports for review Caltrans. The Alameda CTC and its design staff are working closely with Caltrans to approve these variances to design standards.

Task Timeline: The work tasks are underway and a final approval is expected in April 2013.

Responsible Party: Alameda CTC design consultant, URS Corporation, is responsible for delivery of this task in collaboration with Caltrans and Alameda CTC staff.

b) *Traffic Operations Analysis Report (TOAR):* The TOAR will analyze the existing, build and no-build travel conditions and/or traffic operations for the construction and design years, and quantify the operational and safety benefits of the project. The TOAR will document the benefits of a near continuous access approach; considering travel speed, travel reliability, travel time savings and level of services for these existing, build and no-build conditions. Project staff has completed the draft TOAR and is working closely with agency and Caltrans staff to gain final approval.

Task Timeline: The work tasks are underway and completion of the TOAR is anticipated in June 2013.

Responsible Party: URS staff is responsible for delivery of this task in concert with Caltrans and Alameda CTC staff.

c) *Draft Project Report (DPR):* The project staff will complete a DPR that will summarize the project background, the project need and purpose, alternatives considered to date, final design variations considered during the environmental review, project cost estimates, required permits and agreements, and other necessary approvals. The DPR approval is essential for Caltrans to release the draft environmental document for public/agency review and comment.

Task Timeline: The work tasks are underway and final approval of the DPR is expected in June 2013.

Responsible Party: URS staff is responsible for delivering this task in concert with Caltrans and Alameda CTC staff.

d) *Draft Environmental Document (DED):* The DED is a companion document to the DPR which will summarize environmental technical studies completed to date, document design alternatives considered in the study and their impacts to the environment and mitigation measures considered to minimize or eliminate the effects of the Project on the environment.

Task Timeline: The work tasks are underway and final approval of the DED is expected in June 2013. Once the DED is complete, it will be

released for a 30-day public review and comment period (from June 2013 - July 2013); at which time a public meeting will be held to share project information with the public and educate them about the comment process.

Responsible Party: URS staff is responsible for delivering this task in concert with Caltrans and Alameda CTC staff.

e) *Final Environmental Document (FED):* Following the DED public review and comment period, the document will be revised to address all public/agency comments that are received and a draft final document will be circulated to Caltrans and Alameda CTC staff for review and approval. Comments received from these agencies will be incorporated into the final document. The mitigation monitoring plan, if any will also be revised, accordingly.

Task Timeline: The FED development will begin in July 2013 and is expected to be completed in August 2013

Responsible Party: URS staff will be responsible for delivering this task in concert with Caltrans and Alameda CTC staff.

f) *Final Project Report (FPR):* As the team prepares the FED, a project development team will convene to select a preferred alternative that meets the project needs and purpose and minimizes and/or avoids negative effects on the environment. The FPR process includes updating the DPR based on comments received and documents the selection of the preferred alternative.

Task Timeline: The FPR development will begin in July 2013 and is expected to be completed in August 2013

Responsible Party: URS staff will be responsible for delivering this task in concert with Caltrans and Alameda CTC staff.

g) *Contract Change Order (CCO) Package:* To maximize the use of public funds and to minimize disruption to the travelling public, Alameda CTC is reviewing an option to build some of the civil elements of the express lane projects during construction of the current HOV and / or auxiliary lane road widening projects. Civil elements currently under consideration for inclusion are: loop detector adjustments, installation of conduits for electrical and communication lines, final pavement striping and markings, and removal of median barriers at locations where toll signs will be installed. In lieu of barriers, temporary railing may be installed. The CCO efforts will also be coordinated with the ETS design team and Caltrans staff.

Task Timeline: The CCO package(s) preparation will begin in May 2013 and is expected to be completed in August 2013. It is expected that the construction activities of these change orders will begin in August 2013 and end in August 2014.

Responsible Party: A team of consultants hired by the Alameda CTC, URS Corporation, ETC Corporation,

and CDM Smith, will be responsible for delivery of this task in cooperation with Caltrans and Alameda CTC staff.

h) *District Submittal (100% Design, Items Not Included in the CCO Package):* The design staff will prepare the final design documents and complete a final district submittal, to Caltrans Headquarters, that will include draft construction plans, specifications and probable costs (draft construction contract documents). In addition the submittal will include any informational handout to facilitate the contract bidding processes.

Task Timeline: The District Submittal process will begin in October 2013 and is expected to be completed in December 2013

Responsible Party: URS staff will be responsible for delivering this task in concert with Caltrans and Alameda CTC staff.

i) *Ready-to-List (RTL):* Caltrans Headquarters will review the district submittal, coordinate the designer responses/revisions and ensure that all required agreements and/or permits are in place; including a right of way certification, prior to listing the Project as ready for advertisement.

Task Timeline: The RTL process will begin in January 2014 and end with a final RTL date which is expected in June 2014.

Responsible Party: URS staff will be responsible for delivering this task in concert with Caltrans and Alameda CTC staff.

j) *Project Construction:* It is expected that civil infrastructure construction activities will begin in September 2014 and end in June 2015.

Responsible Party: Alameda CTC project management staff will be responsible for delivering this task in concert with the Federal Highway Administration (FHWA) and Caltrans staff.

2) **System Integrator ETS implementation** is the last component of express lane implementation; which typically follows the construction of the civil-roadway infrastructure improvements.

The following is a list of activities that need to be completed for integration of the system and implementation of the express lanes toll collection system in the field:

a) *Concept of Operations (Con Ops):* The Con Ops will define the overall express lanes system, tolling requirements, toll pricing policies and strategies, software and hardware needs, operational organizational structure, and enforcement concepts. Draft and final documents will be developed for review by the FHWA, Caltrans and Alameda CTC staff. A final document will be approved by the Alameda CTC.

Task Timeline: The Con Ops development began in February 2013 and is expected to be completed in July 2013.

Responsible Party: CDM Smith staff will be responsible for delivering this task in concert with FHWA, Caltrans and Alameda CTC staff.

b) *System Enforcement Plan*: A system enforcement plan utilizing electronic equipment to deter and/or minimize toll evasion and violation will be developed. Due to the access type chosen, to effectively curtail revenue leakage automated violation enforcement will likely be employed. The automated violation enforcement will require image capture and processing capabilities to issue citation notices.

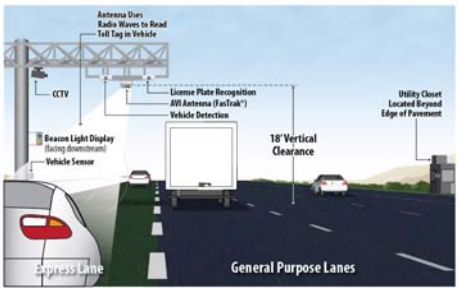

Figure 4: Example of Camera and Flash Light used in Automated Violation Enforcement

Task Timeline: Enforcement plan development will begin in March 2013 and is expected to be completed in August 2013.

Responsible Party: CDM Smith staff will be responsible for delivering this task in coordination with FHWA, Caltrans and Alameda CTC staff.

System Engineering Management Plan (SEMP): A SEMP will outline the engineering and testing processes, Quality Assurance / Control guidelines, requirements for toll maintenance, operations, a communication network, and a functional toll system, and other necessary elements to ensure effective operations. The Con Ops and System Enforcement Plan will be included in the SEMP as appendices. In May 2009, the FHWA staff reviewed and approved a SEMP for the I-580 Eastbound Express Lane Project; it will require revisions based on the changes made to the access configuration. In addition, the revised document will include the westbound I-580 improvements given the new construction implementation approach to build both the eastbound and westbound I-580 express lanes as one construction project. SEMP approval by the FHWA is required prior to the system integrator beginning design of the tolling software and hardware for ETS implementation.

Task Timeline: The SEMP development will begin in March 2013 and is expected to be completed in August 2013.

Responsible Party: CDM Smith staff will be responsible for delivering this task in concert with FHWA, Caltrans and Alameda CTC staff.

c) *Detailed Design Document (DDD):* The DDD, which will be developed by the systems integrator, will follow the SEMP requirements and

present the software and hardware design parameters and requirements prior to developing the tolling software and acquiring the hardware for full system integration and eventual ETS implementation. The process involves developing a draft and final DDD for review and approval by the Alameda CTC staff and its system manager.

Task Timeline: The DDD development is expected to begin in September 2013 and be completed in February 2014.

Responsible Party: ETC staff will be responsible for delivering this task in concert with Alameda CTC and CDM Smith staff.

d) *Software and Hardware Design:* The system integrator will begin design of the software and hardware as approved in the DDD and other contract documents, following the guidelines outlined in the SEMP, including a system for enforcing automated violation enforcement. The final design will require review and approval by the agency and system manager staff.

Task Timeline: The design efforts are expected to begin in January 2014 and be completed in June 2014.

Responsible Party: ETC staff will be responsible for delivering this task in concert with Alameda CTC and CDM Smith staff.

e) *Factory Acceptance Test (FAT):* The FAT involves procuring prototype hardware designed for the Project and testing its compatibility with the software developed for toll implementation. The purpose of the FAT is to ensure that the hardware, software and the fully integrated toll system are designed as outlined in the DDD and the other contract documents prior to acquiring the rest of the toll equipment for field installation.

Task Timeline: The FAT is expected to occur between July and September of 2014.

Responsible Party: ETC staff will be responsible for delivering this task in concert with Alameda CTC and CDM Smith staff.

f) *Equipment Procurement & Field Installation:* The system integrator will procure and install hardware in the field for implementing the toll system and set up the project operations.

Task Timeline: The hardware installation is expected to begin in March 2015 and be completed in August 2015.

Responsible Party: ETC staff will be responsible for delivering this task in concert with Caltrans, California Highway Patrol (CHP), Alameda CTC and CDM Smith staff.

g) *Field Testing:* Once the hardware and software installation is complete, the system integrator will perform field tests to ensure that the installed hardware and software is working properly and that the system interfaces properly with the Bay Area Toll Authority's (BATA) back office (the Regional Customer Service Center, RCSC) for

successful collection, posting and reporting of the tolls. This field testing will also verify proper operability of sub-systems such as the BATA's (RCSC) customer service center operations, violation processing systems, toll transponder reads, vehicle detection, system enforcement, etc.

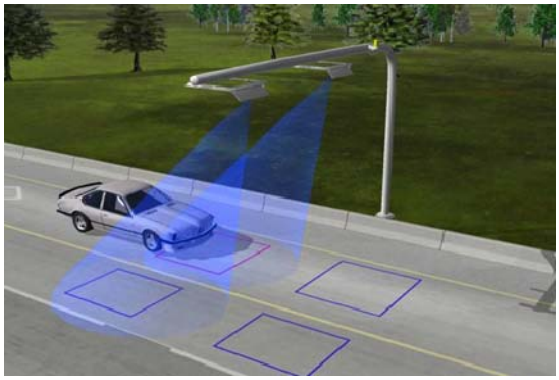

Figure 5: Example of a Toll Gantry for Electronic Toll Collection

Task Timeline: The field testing is expected to begin in August 2015 and be completed in September 2015.

Responsible Party: ETC staff will be responsible for delivering this task in concert with BATA, Alameda CTC and CDM Smith staff.

h) Toll Lane - Open to Traffic: Once all of the required field testing is effectively completed to the satisfaction of the systems integrator contract requirements, as verified by the agency and system manager staff, the express lanes will be opened to traffic.

Task Timeline: It is expected that the new toll facility will be opened to traffic in October 2015.

Responsible Party: ETC staff will be responsible for delivering this task in concert with Caltrans, CHP, BATA, Alameda CTC and CDM Smith.

i) System Testing and Final System Acceptance: The systems integrator will continue to perform system-wide testing and system monitoring to ensure the functionality and performance requirements of the toll system, as outlined in their proposal, the SEMP, the Request for Proposal (RFP) and other contract documents. Once Alameda CTC and its system manager agree that all testing is complete and system glitches have been addressed, the system manager, in consultation with Alameda CTC, will provide a consent letter accepting the ETS as final system acceptance for implementing the toll operations on I-580.

Task Timeline: The field testing is expected to begin in October 2015 and the final system acceptance is expected to occur in January 2016.

Responsible Party: ETC staff will be responsible for delivering this task in concert with BATA, Alameda CTC and CDM Smith staff.

j) Warranty Period: Upon opening the lane to traffic, a 12-month warranty period will begin. Any software or hardware glitches that are encountered during this period will be repaired in a timely manner at the system integrator's cost, as outlined in the RFP and contract. Upon completion of the warranty period, the project will then move into the routine annual operations and maintenance phase. The work

plan does not cover services beyond the warranty period.

Task Timeline: The 12-month warranty period is expected to commence in October 2015 and be completed in September 2016.

Responsible Party: ETC staff will be responsible for delivering this task in concert with Alameda CTC and CDM Smith staff.

Due to the significance of the corridor and the type of project, FHWA considers the I-580 Express Lane project a "High Profile Project." In addition, the Project includes federal funding. As such there will be a specific approval and oversight role of FHWA in project implementation. Alameda CTC staff will coordinate the project development and ETS implementation with FHWA through Caltrans; within the boundaries of the stewardship agreement signed by these two agencies.

Section 2: Toll Policies and Business Rules

Two sets of policy matters, involving toll policy and business rules will require adoption by the I-580 PC and the Commission prior to introducing express lanes in the I-580 corridor.

1)Toll Policies: The toll policy will include guidance on toll collection methods including the type of device to be utilized and who needs to carry them, hours of operation, allowed minimum/maximum toll rates, HOV eligibility and a timeline for revisiting adopted policies, etc.

By law, tolls are required to be collected through an electronic device that meets Title 21 requirements. The Project will most likely utilize the BATA administered FasTrak® system to collect tolls. Policy decisions will be made related to a rule that may require every express lane user to carry a transponder and a potential shift to "switchable" transponders for HOV commuters' use. Hours of operations will address whether tolls will only be assessed during the peak hours or throughout the entire day, and/or including weekend hours. Since the Bay Area currently has limited HOV hours of operation, it would appear that tolling hours will need to match the current HOV hours to avoid confusion, unless revised otherwise by the HOV Lane Committee. The Alameda CTC and the project team will provide a I-580 express lanes facility hours of operation recommendation to an HOV Lane Committee comprised of Caltrans, MTC and CHP representatives. The HOV Lane Committee will discuss the recommendations and make the final decision for the hours of operation and/or HOV hours. Based on the revenue sensitivity analysis, staff will make a recommendation to the governing bodies regarding minimum/maximum toll rates for operating the express lanes. The governing bodies will decide whether HOV eligibility should be a HOV2+ or HOV3+ and may need to adopt that decision.

Task Timeline: The process to develop a toll policy is expected to begin in August 2013 and will culminate in the receipt of final approval from the governing bodies in December 2014. Staff is expected to bring policy issues to the I-580 PC's attention as they close the loop on individual policy issues. Final approval is not warranted until details for the majority of toll policy issues have been worked out. Staff will arrange special work sessions with the I-580 PC to explain policy issues

in detail prior to seeking the approvals from I-580 PC and the Commission.

Responsible Party: Alameda CTC project management staff will be responsible for delivering this task in concert with Caltrans, MTC/BATA, CHP and other regional Congestion Management Agency (CMA) staff.

2) Business Rules: Business rules include but are not limited to how zone tolling will be implemented, toll waivers and reductions will be applied, revenue reconciliation will be performed, toll violation and associated penalties will be enforced/assessed, and customer services will be provided and by whom, etc.

Task Timeline: The process to develop business rules is expected to begin in August 2013 with approval is anticipated from the governing bodies in December 2014.

Responsible Party: Alameda CTC project management staff will be responsible for delivering this task in concert with Caltrans, MTC/BATA, CHP and other regional Congestion Management Agency (CMA) staff.

Section 3: Customer Education and Marketing

Express lanes are still a new concept in the Bay Area. Currently, only two express lanes are operating in the region: along I-680 in Alameda and Santa Clara Counties and Route 237 in Santa Clara County. The success and performance of the I-580 facilities will likely be watched closely and is dependent, at a minimum, on the following:

- ✓ Rapid acceptance and proper usage of the I-580 express lane by the target market
- ✓ Smooth, safe operations during opening day and in the weeks and months that follow
- ✓ Positive media coverage and word of mouth support

Customer education and marketing strategies will be implemented prior to the opening of the I-580 Express Lanes. These efforts will build upon the successful pre-opening public outreach and marketing campaign that was implemented for the I-680 Southbound Express Lane Project.

The goals of the education and marketing campaign are to inform commuters of the changes that are coming to the corridor, what to expect (potentially to include the use of a new switchable transponder), the benefits of the Project, and how it will operate. Clearly explaining how it will operate will be of particular important since the Project will introduce a new operational element, near continuous access, which will include an increased number of tolling gantries which is something that has not been introduced in the Bay Area to date and would therefore be new to Bay Area express lane users.

Figure 6: Switchable FasTrak® Transponder

Success can be achieved through the early identification of the I-580 target market users, extensive marketing and educational efforts of FasTrak® transponders in the target market, proper education of express lanes users, thoughtful pricing of the facility, a solid operations plan, and highly visible enforcement in the lanes starting on day one.

Reaching prospective express lanes users can take two paths:

- ✓ Current FasTrak® customers can be informed of the express lanes and be encouraged to try them. This can be done by developing an information campaign directed towards these selected FasTrak® customers through an arrangement with BATA. Current FasTrak® customers are also an important source of new express lane customers, and there are proven models available to facilitate acquiring these customers.

- ✓ Identification and education of prospective solo driver customers to ensure awareness of the express lanes and how to access a FasTrak® account, obtain a transponder, and make the choice to use the lanes. In addition, the HOV users may have to carry a switchable FasTrak® transponder. All customers will be made aware of any transponder use requirements, including correct usage while travelling solo, or with a 2+ or 3+ carpool in the vehicle.

Coordinated public education/marketing campaign/outreach efforts may include, but are not limited to the following:

- ✓ Interactive project website
- ✓ Social media outreach tools that link back to the project website
- ✓ Pre-, during- and post-opening promotional campaign to encourage opening new FasTrak® accounts
- ✓ Direct mail, radio ads, print ads, and internet training videos on how to use the lanes
- ✓ Extensive media work including advance opening education efforts through press-briefings, press releases, and facility tours; a press conference on opening day, and post-opening on-going feeds to the media regarding usage

Development of a marketing and educational campaign will be done in coordination with partner agencies and will include the development of a strategic marketing and educational plan which will describe marketing and outreach goals, target audiences, key messages, information distribution methodologies and materials, and a specific timeline for pre-project implementation educational efforts, specific marketing for FasTrak® accounts, project opening activities and the post-opening on-going educational and informational efforts. A draft marketing and educational strategy will be developed for review and concurrence with partner agencies and a final plan will be developed and implemented.

Task Timeline: A final draft of the public education/marketing campaign strategy is expected to be completed in December 2013 and be implemented from July 2014 through opening of the toll lanes, as well as six months after the facility is opened to traffic. Additional on-going education and marketing efforts will be conducted for the project thereafter, but on a much smaller scale.

Responsible Party: Alameda CTC public affairs and project management staff will be responsible for delivering this task in concert with Caltrans, BATA and other

regional Congestion Management Agency (CMA) staff.

Section 4: Stakeholder Agreements and Permits

This section describes the stakeholder agreements and permits required to implement the express lanes in the I-580 corridor. The Alameda CTC will have to execute agreements with Caltrans, CHP, and BATA for assistance with the construction, operations and maintenance, enforcement, toll collection and customer service elements of the project.

1) **Agreement with FHWA and State of California – Oversight Agreement.** A 3-way, project level oversight agreement will have to be reached between FHWA, Caltrans and Alameda CTC to define roles and responsibilities of each agency for designing and implementing the ETS in the I-580 corridor.

Task Timeline: The work task to complete an oversight agreement will begin in April 2013 and is expected to be completed in August 2013.

Responsible Party: Alameda CTC project management staff will be responsible for delivering this task in concert with FHWA and Caltrans staff.

2) **Agreements with the State of California - Caltrans**

a) *Tolling Agreement:* The Project involves converting HOV lanes into a shared HOV/Express lane facility. Per discussions with FHWA representatives, they confirmed that the new Federal Transportation Bill, Moving Ahead of Progress in 21st Century (MAP-21), signed in July 2012 no longer requires FHWA's approval for a tolling agreement when the value pricing (express lane) project involves direct conversion of HOV lane(s) into a shared HOV/Express Lane(s). Even though FHWA's approval is not required for an HOV lane conversion project, FHWA expects that the toll collected within the corridor pays for the project operations first and then funds any eligible project in the corridor. Regardless, Caltrans expressed that a tolling agreement will have to be reached between itself and Alameda CTC prior to implementing (express lane) toll collection.

Task Timeline: Tolling agreement discussions will begin in January 2014 that will culminate in the execution of a tolling agreement between Caltrans and Alameda CTC in January 2015. It is likely that the tolling agreement be combined with the operations and maintenance agreement, described below.

Responsible Party: Alameda CTC project management staff will be responsible for delivering this task in concert with Caltrans and CDM Smith staff.

b) *Operations and Maintenance Agreement (OMA):* An OMA will have to be signed between Alameda CTC and Caltrans for operating an express lane within Caltrans' right of way prior to implementation of the express lanes operations. The OMA will address the roles and responsibilities of each agency including ownership of equipment, maintenance and operations protocols, emergency operation and coordination protocols, etc.

Task Timeline: The work task to complete an OMA will begin in July 2014 and will culminate in execution of an agreement in July 2015.

Responsible Party: Alameda CTC project management staff will be responsible for delivering this task in concert with Caltrans and CDM Smith staff.

c) *Encroachment Permit:* In addition to executing a standard cooperative agreement for construction phase, the Alameda CTC and the roadway and system integrator contractors will have to obtain encroachment permits from Caltrans for constructing express lanes–toll systems and operating them within the State right of way.

Task Timeline: The roadway construction contractor will obtain the encroachment permit prior to the start of construction of the civil infrastructure improvements in September 2014. The Alameda CTC and the system integrator will obtain separate encroachment permits for constructing ETS and operating express lanes prior to construction of the ETS in March 2015 and again prior to moving into the operations and maintenance phase in October 2016.

Responsible Party: Alameda CTC project management staff will be responsible for delivering this task in concert their Civil Infrastructure & ETS construction contractors and Caltrans staff.

3) Agreements with the State of California – CHP

a) Construction Zone Enforcement Enhancement Program (COZEEP): The Alameda CTC and CHP will have to execute a COZEEP agreement to facilitate lane closures and enforcement services during the ETS construction.

b) Reimbursable Letter of Agreement: Following the construction phase, Alameda CTC and CHP will be required to execute a letter agreement for reimbursable CHP toll violation enforcement services.

Figure 7: Example of Vehicle Violation & CHP Enforcement

Task Timeline: The work task will begin in November 2014 with agreements reached for construction enforcement in January 2015 and for violation enforcement in June 2015.

Responsible Party: The Alameda CTC project management staff will be responsible for delivering this task in concert with their Civil Infrastructure & ETS construction contractors and CHP staff.

4) **Agreement with the BATA**
   The Alameda CTC plans to utilize the FasTrak® transponder to collect tolls through an agreement with BATA. The agreement is to integrate the express lane toll collection system with the FasTrak® Regional Customer Service Center (RCSC). Under the agreement, the RCSC will be responsible for transmitting the toll collection through the FasTrak® transponder and provide toll dispute related and/or customer service for lane users. The business rules involving customer service will be developed, adopted and conveyed to BATA. Some of the rules will be incorporated into the software-algorithm developed by the system integrator in accordance with specifications administrated by the California Toll Operators Committee (CTOC).

Task Timeline: The work task will begin in November 2013 with a goal to reach an agreement in June 2014.

Responsible Party: Alameda CTC project management staff will be responsible for delivering this task in cooperation with BATA and CDM Smith staff.

Section 5: Project Financials

The Project Financial Plan has estimated the overall project cost to be $50.5 million of which funding sources for approximately $27 million have not yet been identified. The following are steps that the agency plans to take towards securing the needed project funds:

Complete Traffic and Revenue Forecasts: The I-580 corridor continues to experience high travel demand as it provides an essential travel route for significant economic activity throughout Alameda County and the region by connecting commuters and freight traffic to economic centers. Based on the current and projected corridor travel demand, the Alameda CTC expects the toll facility to generate revenue net of routine operating and maintenance expenses. This expectation will be validated methodically through traffic and revenue forecasts.

The traffic and revenue study will take the current post-recession traffic conditions and forecasted traffic numbers into consideration while forecasting toll revenue. In forecasting future revenue, the revenue model will also consider the post-recession socio/economic conditions and anticipated growth in east Alameda County, express lane access type, anticipated minimum/maximum toll rates, and a violation enforcement plan. In the long run, the revenue generated through operations are expected to help pay for the Project's initial project development and construction costs and its routine operating and maintenance expenses. Therefore, it is imperative to develop a reliable estimate of the revenue stream by conducting a realistic traffic and revenue forecasting study.

The Alameda CTC placed a measure on the November 2012 general election ballot to extend the current 2000 Measure B Sales Tax Program. The new Measure was known as B1; which failed to garner the required two thirds voter approval. Had the measure been successful, the sales tax extension would have helped resolve the

project funding shortfall. Therefore, Alameda CTC is now exploring various other funding mechanisms, including bonding against future toll revenue to close the shortfall. As discussed in Section 1: Project Delivery, the Alameda CTC is reviewing automated toll violation enforcement to potentially reduce revenue leakage.

Task Timeline: The revised revenue study work tasks for the near continuous access express lane began in February 2013 and are expected to be completed in May 2013.

Responsible Party: URS staff will be responsible for delivering this task in concert with Caltrans, Alameda CTC and CDM Smith staff.

Complete Project Financial Analysis: Staff will prepare a project financial plan which will identify cumulative available resources for the Project derived from grant funds and projected revenue collections based on forecasted growth; net of engineering support and capital construction costs, routine/periodic operations and maintenance costs, and other costs associated with toll collection, including enforcement, customer service and public education programs. Based on this plan, staff will complete a financial breakeven analysis to identify short-medium- and long-term funding needs for the Project's sustainability. This analysis is needed prior to seeking project funding from other sources.

Task Timeline: The project financial breakeven analysis will begin in June 2013 and is expected to be completed in July 2013.

Responsible Party: Alameda CTC project management staff will be responsible for delivering this task in collaboration with ETC and CDM Smith staff.

Secure Project Funding: The Alameda CTC finance staff is looking at various funding mechanisms to close the funding shortfall. Funding mechanisms may include additional grant funding, a loan or bond to be funded through future toll revenues and/or savings from other programs may be redirected to the Project. More details of potential funding mechanisms should be available in the fall of 2013.

Upon completion of the financial breakeven analysis and once the specific funding need and timing of the need have been quantified, staff will take the steps necessary to determine the best funding solution for this project and begin the process of soliciting that funding source.

Task Timeline: It is expected that this task will begin in July 2013 and is expected to be completed in December 2013.

Responsible Party: The Alameda CTC finance and project management staff will be responsible for delivering this task in concert with Caltrans and BATA staff.

Attachment A: I-580 Express Lane Schedule Activities

ACTIVITY	BEGIN	END
SECTION 1: PROJECT DELIVERY		
1)Civil Infrastructure Construction	**ongoing**	**Jun-15**
a) Design Exceptions	ongoing	Apr-13
b) Traffic Operations Analysis Report (TOAR)	ongoing	Jun-13
c) Draft Project Report (DPR)	ongoing	Jun-13
d) Draft Environmental Document (DED)	ongoing	Jun-13
e) Final Environmental Document (FED)	Jul-13	Aug-13
f) Final Project Report (FPR)	Jul-13	Aug-13
g) CCO Package (including construction)	May-13	Aug-14
h) District Submittal	Oct-13	Dec-13
i) Ready To List	Jan-14	Jun-14
j) Project Construction	Sep-14	Jun-15
2)System Integrator ETS Implementation	**Feb-13**	**Dec-16**
a) Concept of Operations (Con Ops)	Feb-13	Jul-13
b) System Enforcement Plan	Mar-13	Aug-13
c) System Engineering Management Plan (SEMP)	Mar-13	Aug-13
d) Detailed Design Document (DDD)	Sep-13	Feb-14
e) Software and Hardware Design	Jan-14	Jun-14
f) Factory Acceptance Testing (FAT)	Jul-14	Sep-14
g) Equipment Procurement & Installation	Mar-15	Aug-15
h) Field Testing	Aug-15	Sep-15
i) Toll Lane - Open to Traffic	-	Oct-15
j) Testing and Final System Acceptance	Oct-15	Jan-16
k) Warranty Period	Oct-15	Sep-16
SECTION 2: TOLL POLICY & BUSINESS RULES		
1)Toll Policy	**Aug-13**	**Dec-14**
2)Business Rules	**Aug-13**	**Dec-14**
SECTION 3: CUSTOMER EDUCATION & MARKETING		
1)Public Education / Marketing Campaign Plan	**-**	**Dec-13**
2)Education / Marketing Plan Implementation	**Jul-14**	**Apr-16**
SECTION 4: STAKEHOLDER AGREEMENTS & PERMITS		
1)Agreement with FHWA and CT- Oversight	**Apr-13**	**Aug-13**
2)Agreements with the State - Caltrans	**Jan-14**	**Nov-16**
a) Tolling Agreement	Jan-14	Jan-15
b) Operations and Maintenance Agreement	Jul-14	Jul-15
c) Encroachment Permits (1, 2 &3)	-	various
3)Agreements with the State - CHP	**Nov-14**	**Jun-15**
a) COZEEP	Nov-14	Jan-15
b) Reimbursable Letter of Agreement	Nov-14	Jun-15
4)Agreements with BATA	**Nov-13**	**Jun-14**
SECTION 5: PROJECT FINANCIALS		
1)Traffic and Revenue Forecasting	**Feb-13**	**May-13**
2)Project Financial Analysis	**Jun-13**	**Jul-13**
3)Project Funding	**Jul-13**	**Dec-13**