

**I-580 Express Lanes  
Tolling Policies and Structure**

A Presentation for the  
**I-580 Express Lane Policy Committee**  
July 10, 2017

ALAMEDA  
County Transportation  
Commission

TOLL-PAYING VEHICLES  
FASTRAK

TRANSIT

### I-580 Express Lanes Business Rules (February 2015)

<b>Hours of Operation</b>	Match HOV Hours July 2015 HOV Lane Committee: 5:00 AM – 8:00 PM
<b>Occupancy Requirement</b>	HOV 2+
<b>Dynamic Pricing</b>	Based on real-time traffic; updated every 3 minutes
<b>Zone Tolling</b>	Flat rate travel within a zone
<b>Locked-in Rates</b>	Customer rate locked in when first enter the express lane

I-580 Express Lane Policy Committee Meeting

ALAMEDA  
County Transportation  
Commission

2

## I-580 Express Lanes Business Rules (February 2015)

<b>All electronic tolling (AET)</b>	Toll gantries; no plazas or gates
<b>Toll Trip Building</b>	Trip based on Toll Tag or License Plate
<b>FasTrak Flex Required for Toll Waiver</b>	HOV (2 or 3+) Motorcycle Authorized Clean Air or Electric (with decal) Transit and Vanpools



## I-580 Express Lanes Toll Enforcement Ordinance (July 2015)


TOLL ORDINANCE (Lane Usage)	WHAT DOES IT MEAN
While traveling in the I-580 Express Lanes, Motorists shall have a properly mounted transponder associated with a valid FasTrak® Account to facilitate vehicle occupancy validation and the toll collection process.	<b>FasTrak® Required for all users</b>
Motorists traveling in the I-580 Express Lanes with the minimum number of vehicle occupants to qualify for high occupancy lane use at that time must have a Switchable Transponder set to the required number of occupants or they will be charged the posted single occupancy Toll.	<b>FasTrak Flex Required for Carpool Discount as HOV</b>
Motorists in single occupant vehicles authorized pursuant to California law as eligible users of high occupancy vehicle lanes shall carry a Switchable Transponder and set the self-declaration to three prior to entering the Express Lane.	<b>FasTrak Flex Required for Carpool Discount as Motorcycle or CAV</b>
I-580 Express Lane users without a Switchable Transponder in the Vehicle traveling in the I-580 Express Lanes will be charged the posted single occupancy Toll rate.	<b>No Flex Tag or No Tag = Full Fare (SOV) Toll</b>



## I-580 Express Lanes Tolling Policy (September 2015)

TOPIC	INITIAL SETTING	POLICY
Pricing	Dynamic	Provide real-time value pricing
Minimum toll rate	\$0.30	Implement within the hours of operations
Maximum toll rate	No Maximum	<ol style="list-style-type: none"> <li>1. Optimize corridor capacity without degradation</li> <li>2. Cap maximum initial dynamic pricing at \$15</li> <li>3. Authorize the Executive Director to adjust toll rate, within approved toll parameters, to optimize corridor throughput based on changing traffic conditions</li> <li>4. Incremental toll rate increases within a \$2 -\$5 range</li> <li>5. Report back to Commission when toll rates are revised within the approved Min/Max parameters</li> </ol>

I-580 Express Lane Policy Committee Meeting


5


## I-580 Express Lanes Tolling Policy (September 2015)

TOPIC	INITIAL SETTING	POLICY
Toll rate during "HOV ONLY" Operation	\$30	Authorize the Executive Director to adjust the rate to deter illegal use of HOV lane
Toll Waiver/Reduction		Authorize the Executive Director to plan and execute a toll waiver/reduction plan

**SYSTEM PARAMETER SETTINGS:**

- Current Westbound Maximum = \$13.00
- Current Eastbound Maximum = \$9.00
- Current minimum \$0.50 (effective 1/1/2017)

I-580 Express Lane Policy Committee Meeting

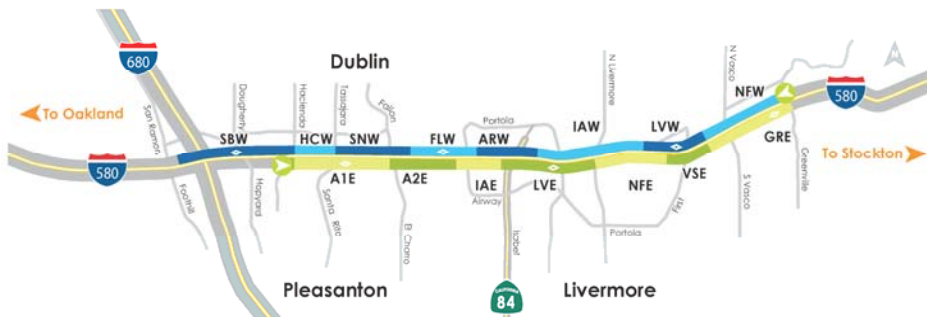

6

## Dynamic Message Signs for Toll Rates



- Pricing to next destination and end of Express Lane
- Each DMS starts a new Toll Zone
- Pricing locked in *when vehicle first detected in lane*

## I-580 EL Toll Zone Map



- 8 westbound toll zones → 36 entry/exit combinations
- 7 eastbound toll zones → 28 entry/exit combinations
- 64 toll rates at any point in time

## I-580 EL Toll Rate Process

Select Min/Max	Select Parameters	Implement and Evaluate
Establish min/max for each of the 64 toll rates <ul style="list-style-type: none"> <li>Zone length, typical congestion, direction of travel</li> <li>Incremental increase for each additional zone of travel</li> </ul>	Select parameters for Dynamic Pricing Algorithm: <ul style="list-style-type: none"> <li>PROPRIETARY and CONFIDENTIAL</li> <li>Example of parameters: weighting of EL and GP traffic data, price fluctuation cap</li> </ul>	Observe pricing and evaluate reactivity to congestion  Manage Congestion: <ul style="list-style-type: none"> <li>Modify parameters</li> <li>Modify min/max</li> </ul>

I-580 Express Lane Policy Committee Meeting
9

## Toll Rates



Enter WB between N. First St and Livermore Ave

DMS #	DMS Line	DMS Destination	Entry Zone	Exit Zone	Min Rate	Max Rate	EXAMPLE 6/30/2017 8:00 AM
4	Line 1	Isabel	IAW	IAW	\$ 0.50	\$ 2.50	\$ 0.75
			IAW	ARW	\$ 0.75	\$ 3.50	\$ 1.00
			IAW	FLW	\$ 1.00	\$ 5.25	\$ 1.50
			IAW	SNW	\$ 1.25	\$ 7.25	\$ 1.75
			IAW	HCW	\$ 1.50	\$ 8.25	\$ 2.25
4	Line 2	San Ramon	IAW	SBW	\$ 1.75	\$ 10.75	\$ 3.00


DMS #	DMS Line	DMS Destination	Entry Zone	Exit Zone	Min Rate	Max Rate
1, 2	Line 1	Springtown	NFW	NFW	\$ 0.50	\$ 2.50
			NFW	LVW	\$ 0.75	\$ 5.00
			NFW	IAW	\$ 1.25	\$ 7.00
			NFW	ARW	\$ 1.50	\$ 8.00
			NFW	FLW	\$ 1.75	\$ 10.25
			NFW	SNW	\$ 2.00	\$ 12.25
			NFW	HCW	\$ 2.25	\$ 13.00
1	Line 2	San Ramon	NFW	SBW	\$ 2.75	\$ 13.00
3	Line 1	N Livermore	LVW	LVW	\$ 0.50	\$ 2.50
			LVW	IAW	\$ 0.75	\$ 4.50
			LVW	ARW	\$ 1.00	\$ 5.50
			LVW	FLW	\$ 1.25	\$ 7.75
			LVW	SNW	\$ 1.75	\$ 9.75
			LVW	HCW	\$ 2.00	\$ 10.75
3	Line 2	San Ramon	LVW	SBW	\$ 2.25	\$ 12.00
4	Line 1	Isabel	IAW	IAW	\$ 0.50	\$ 2.50
			IAW	ARW	\$ 0.75	\$ 3.50
			IAW	FLW	\$ 1.00	\$ 5.25
			IAW	SNW	\$ 1.25	\$ 7.25
			IAW	HCW	\$ 1.50	\$ 8.25
4	Line 2	San Ramon	IAW	SBW	\$ 1.75	\$ 10.75

DMS #	DMS Line	DMS Destination	Entry Zone	Exit Zone	Min Rate	Max Rate
5	Line 1	Airway	ARW	ARW	\$ 0.50	\$ 2.50
			ARW	FLW	\$ 0.75	\$ 3.50
			ARW	SNW	\$ 1.00	\$ 5.25
			ARW	HCW	\$ 1.25	\$ 6.25
5	Line 2	San Ramon	ARW	SBW	\$ 1.50	\$ 8.75
6	Line 1	Fallon	FLW	FLW	\$ 0.50	\$ 2.50
			FLW	SNW	\$ 0.75	\$ 4.25
			FLW	HCW	\$ 1.00	\$ 5.25
6	Line 2	San Ramon	FLW	SBW	\$ 1.25	\$ 7.75
7	Line 1	Tassajara	SNW	SNW	\$ 0.50	\$ 2.50
			SNW	HCW	\$ 0.75	\$ 3.50
7	Line 2	San Ramon	SNW	SBW	\$ 1.00	\$ 6.00
8	Line 1	Hacienda	HCW	HCW	\$ 0.50	\$ 2.50
8	Line 2	San Ramon	HCW	SBW	\$ 0.75	\$ 4.50
9	Line 1	San Ramon	SBW	SBW	\$ 0.50	\$ 3.50

- 36 Westbound Toll Rates
- Progressive Min/Max
- Nested Tolling

Corridor: Min \$2.75 – Max \$13.00

I-580 Express Lane Policy Committee Meeting  11


DMS #	DMS Line	DMS Destination	Entry Zone	Exit Zone	Min Rate	Max Rate
			A1E	A1E	\$ 0.50	\$ 3.00
10,11	Line 1	Airway	A1E	A2E	\$ 0.75	\$ 4.50
			A1E	IAE	\$ 1.00	\$ 5.50
			A1E	LVE	\$ 1.25	\$ 7.00
			A1E	NFE	\$ 1.50	\$ 8.75
			A1E	VSE	\$ 1.75	\$ 9.00
			10	Line 2	Greenville	A1E
			A2E	A2E	\$ 0.50	\$ 2.50
12	Line 1	Airway/Isabel	A2E	IAE	\$ 0.75	\$ 3.50
			A2E	LVE	\$ 1.00	\$ 4.50
			A2E	NFE	\$ 1.25	\$ 6.25
			A2E	VSE	\$ 1.50	\$ 7.25
12	Line 2	Greenville	A2E	GRE	\$ 1.75	\$ 8.50
13	Line 1	Isabel	IAE	IAE	\$ 0.50	\$ 1.75
			IAE	LVE	\$ 0.75	\$ 3.50
			IAE	NFE	\$ 1.00	\$ 4.50
			IAE	VSE	\$ 1.25	\$ 5.50
13	Line 2	Greenville	IAE	GRE	\$ 1.50	\$ 7.00

DMS #	DMS Line	DMS Destination	Entry Zone	Exit Zone	Min Rate	Max Rate
14	Line 1	N Livermore	LVE	LVE	\$ 0.50	\$ 2.50
			LVE	NFE	\$ 0.75	\$ 3.50
			LVE	VSE	\$ 1.00	\$ 4.50
14	Line 2	Greenville	LVE	GRE	\$ 1.25	\$ 6.00
15	Line 1	First St	NFE	NFE	\$ 0.50	\$ 2.50
			NFE	VSE	\$ 0.75	\$ 3.50
15	Line 2	Greenville	NFE	GRE	\$ 1.00	\$ 4.50
16	Line 1	Vasco	VSE	VSE	\$ 0.50	\$ 2.50
16	Line 2	Greenville	VSE	GRE	\$ 0.75	\$ 3.50
17	Line 1	Greenville	GRE	GRE	\$ 0.50	\$ 2.50

- 28 Eastbound Toll Rates
- Progressive Min/Max
- Nested Tolling

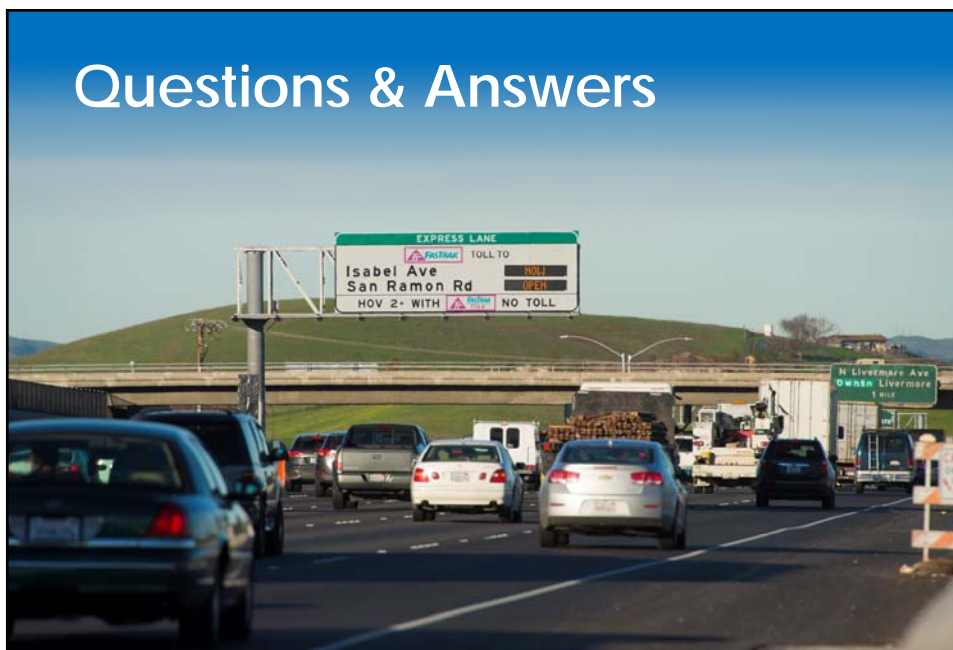
Corridor: Min \$2.00 – Max \$9.00

I-580 Express Lane Policy Committee Meeting  12

## I-580 EL Toll Rate Comments

- Toll rates are nested
- Toll rates are quasi-independent
- Toll rates can be manually overridden at any time
- HOV Only mode not enforceable

## Questions & Answers



*This page intentionally left blank*