OCTA

COMMITTEE TRANSMITTAL

October 12, 2015

To: Members of the Board of Directors

From: Laurena Weinert, Clerk of the Board

Subject: Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Regional Planning and Highways Committee Meeting of October 5, 2015

Present: Directors Bartlett, Donchak, Lalloway, Miller, Nelson, Spitzer, and Ury
Absent: None

Committee Vote

This item was passed by the Members present.

Director Miller voted in opposition.

Committee Recommendations (reflects change from staff recommendations)

A. Approve assumptions for the 405 Express Lanes toll policy and finance plan as described in the 405 Express Lanes Toll Policy and Finance Plan Decisions document.

B. Approve Options A, B, C and D for analysis in the Traffic and Revenue Study.

C. Direct staff to review future technologies for the 405 Express Lanes and in the interim, adopt the 91 Express Lanes policy for toll collection.

ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Staff Report

October 5, 2015

To: Regional Planning & Highways Committee

From: Darrell Johnson, Chief Executive Officer

Subject: Approval of Assumptions and Options for the 405 Express Lanes Toll Policy and Finance Plan

Overview

The Orange County Transportation Authority is constructing express toll lanes on Interstate 405 between State Route 73 and Interstate 605. A finance plan is required in order to fund the project. The finance plan includes projections of toll and non-toll revenue and estimates of capital, operating, and financing costs. At the core of the finance plan are projections of future traffic and revenue, with some of the key assumptions derived from the toll policy. Approval of toll policy and preliminary finance plan assumptions, along with four options for traffic and revenue analysis, is recommended.

Recommendations

A. Approve assumptions for the 405 Express Lanes toll policy and finance plan as described in the 405 Express Lanes Toll Policy and Finance Plan Decisions document.

B. Approve Options A, B, C and D for analysis in the Traffic and Revenue Study.

Background

The Orange County Transportation Authority (OCTA) is developing the Interstate 405 (I-405) Improvement Project between State Route 73 and Interstate 605 (Project). The scope of the project includes constructing regular general purpose lanes and express toll lanes. The general purpose lane improvements will be primarily funded with Measure M transportation sales tax. Funding for the express toll lanes will come mostly from non-recourse toll financing repaid from tolls paid by those who choose to use the express toll lanes facility. The California Department of Transportation (Caltrans) is also contributing $82 million to build the express toll lanes.

On April 27, 2015, the OCTA Board of Directors (Board) approved preliminary terms and conditions negotiated with Caltrans to establish roles and responsibilities related to project delivery, and funding and financing of the I-405 Project (Attachment A). The Board also directed staff to develop a draft toll policy and financing plan.

On June 25, 2015, OCTA's Board Chairman Jeffrey Lalloway created an I-405 Toll Policy and Finance Plan Ad Hoc Committee (ad hoc) to guide the development of a toll policy and finance plan. Since July, the ad hoc has met three times.

Discussion

In order to secure toll financing to fund construction of the Project's express lanes, an investment grade traffic and revenue Study (T&R) is required. Some of the major data requirements for the T&R include socioeconomic projections, traffic counts, and information about how the facility will be operated and priced (toll policy assumptions). Stantec has been retained to complete the T&R with a scope of work that includes an analysis of four toll policy options. Based on this analysis, an initial toll policy recommendation can be made and a preliminary finance plan created. If the project is deemed to be fundable, the toll policy and finance plan can move forward; if it is not, further consideration would be required.

A 405 Express Lanes: Toll Policy and Finance Plan Decisions document (Decisions Document) has been prepared to assist with understanding the complexities of the express toll lanes portion of the Project (Attachment B). This document describes policy issues, outlines applicable local or national guidelines, and provides options, considerations, and recommendations.

In anticipation of the T&R and finance plan, the ad hoc has reviewed and provided guidance on a wide array of assumptions in the Decisions Document including:

- Toll policy goals
- Pricing systems (time of day versus dynamic pricing)
- Methodology for adjusting peak tolls
- Non-peak toll adjustments
- Hours of operation
- Access points
- Toll policy scenarios
- Prohibited vehicles
- Discounts/exemptions

- Non-toll revenue (account fees and violations)
- Enforcement approach
- Toll collection methods

Discussions with the ad hoc have focused on pursuing policies that are consistent with those of the 91 Express Lanes. The rationale is that the 91 Express Lanes has a long-term, successful track record, and the model is viewed favorably by both customers and the financial markets. Copies of both the OCTA 91 Express Lanes toll policy and the Riverside County Transportation Commission (RCTC) 91 Express Lanes toll policy are included as Attachments C and D. Additional reference materials include two technical memorandums from OCTA's program management consultant team of Parsons and HNTB. The first identifies considerations related to time of day versus dynamic pricing (Attachment E). The second weighs the pros and cons of having continuous access versus intermediate access points (Attachment F). Attachments G and H describe proposed non-toll revenue assumptions related to account and violation fees.

Recommendations – Toll Policy Goals

Toll policy goals have been drafted to provide customers, the public and financial markets a clear understanding of operational and pricing approaches. The goals also can be utilized to evaluate the effectiveness of various pricing methodologies. The proposed goals include:

- Provide express lanes customers with a safe, reliable, predictable commute.
- Optimize throughput at free-flow speeds.
- Increase average vehicle occupancy.
- Balance capacity and demand to serve customers who pay tolls, as well as people who rideshare or use transit.
- Generate sufficient revenue to sustain the financial viability of the 405 Express Lanes.
- Ensure all covenants in the financing documents are met.
- Ensure any potential net excess toll revenues are used for I-405 corridor improvements.

Other recommendations relate to operating characteristics of the express lanes including: a) how and when the express lanes will operate; b) when, how, and how much tolls will be adjusted; c) collection approach; d) prohibited vehicles; e) discounts and exemptions; and, f) access points. These assumptions are required for the T&R.

Assumptions needed for the finance plan include information needed to make projections of non-toll revenue (account and violation fees), enforcement approaches, and operating costs. Operating cost assumptions will be available later this fall.

The table below summarizes staff recommendations based on input from the ad hoc, with the Decisions Document and supporting technical information providing a fuller discussion of each element.

Description	Recommendation
Pricing methodology	Use time of day pricing
Peak toll adjustments	Use OCTA 91 Express Lanes approach*
Non-peak toll adjustments	Use RCTC 91 Express Lanes approach
Hours of operation	Operate 24-hours per day, 7-days per week
Access points	Use intermediate access points but do not preclude continuous access in the future
Non-toll revenue: account fees and violations	Assume OCTA 91 Express Lanes account and violation fee structure
Enforcement approach	Use manual and automated approaches
Prohibited vehicles	Large trucks (over 10,000 pounds) and towed trailers (91 Express Lanes policy)
Discounts / exemptions	- In-service public transit vehicles, emergency vehicles, law enforcement free - High occupancy vehicle and clean air vehicle and other discounts pending T&R results
Toll collection	Title 21 compliant transponder

* Install dynamic pricing infrastructure as a management tool to calibrate toll schedules and to allow flexibility for more frequent adjustments during the initial opening of the express lanes (ramp-up time) and during times of abnormal travel patterns such as construction along I-405, parallel, or feeder routes. Develop set calibration times.

High-Occupancy Vehicles

One of the future Board decisions will be to determine occupancy requirements for high-occupancy vehicles (HOV) and when an HOV is offered discounted pricing or free trips. An occupancy requirement may be two or more persons (HOV2+) or three or more persons (HOV3+).

Based on the preliminary terms and conditions of the future toll operating agreement with Caltrans, the 405 Express Lanes are to open with an HOV2+ free policy for no less than three years subject to the results of the T&R. The

T&R will examine what the traffic conditions will be at various times of the day and whether and/or when it is feasible to offer HOV2+ free access. Four pricing scenarios are proposed for analysis.

Options for Analysis

Attachment I provides additional information about proposed options for analysis, summarized as follows:

Option A HOV2+ free all day

Option B HOV2+ free in non-peak hours

Option C 91 Express Lanes toll policy

Option D Revenue maximization (needed for rating agencies)

Summary

Traffic and revenue forecasts are required to develop a 405 Express Lanes toll policy and finance plan. Toll policy assumptions, along with four options are being recommended for the T&R analysis. Assumptions for the finance plan, including assumptions about non-toll revenue are also recommended. Operating cost assumptions will be proposed in upcoming months. Based on the results of the T&R, staff will return to the Board in early 2016 with a recommendation for an initial toll policy and preliminary finance plan.

Attachments

A. I-405 Project Implementation (Alternative 3) Preliminary OCTA/Caltrans Agreement on Terms as of April 16, 2015
B. 405 Express Lanes: Toll Policy and Finance Plan Decisions
C. OCTA 91 Express Lanes Toll Policy Adopted July 14, 2003
D. RCTC 91 Express Lanes Toll Policy Adopted June 7, 2012
E. Program Management Consultant Technical Memorandum September 23, 2015, I-405 Improvement Project – Time of Day versus Dynamic Pricing
F. Program Management Consultant Technical Memorandum September 23, 2015, I-405 Improvement Project – Continuous versus Intermediate Access
G. Non-Toll Revenue: Account Fees 91 Express Lanes
H. Non-Toll Revenue: Toll Violation Fees 91 Express Lanes
I. Proposed Toll Policy Options

Prepared and Approved by:

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ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Attachment A

ATTACHMENT A

I-405 Project Implementation (Alternative 3)
Preliminary OCTA/Caltrans Agreement on Terms
As of
April 16, 2015

1. Project Delivery

a. OCTA is lead agency for procuring the design-build "db" contractor and/or toll systems integrator, as well as the provider of toll collection services for the project.
b. Project delivery will be based on pending legislation & AB 401.
c. Current implementation Co-Op for the db phase of the project can proceed followed by an agreement consistent with tolling authorization "Operating Toll Agreement".

2. Project Funding & Financing

a. OCTA is responsible for developing the overall funding/financing plan for the project, including use of Measure M2 funds for the GP lanes. OCTA shall be the issuer of any indebtedness and shall be the borrower under any TIFIA loan. While OCTA is responsible for development of the overall funding/financing plan, OCTA will share information concerning the plan with Caltrans during the development process.
b. Parties agree to seek additional State and Federal discretionary grant opportunities for the tolled portion of the project.
c. Caltrans will provide $82 million to be programmed in FY 2015/16 to be used towards constructing the project (Caltrans Preferred Alternative).
d. OCTA will pursue TIFIA funding with due consideration for related requirements and project schedule considerations.
e. Operating Toll Agreement (including tolling authority) with the state will extend a minimum of five years beyond the initial bonding period/term required for financing. If toll revenues are found to be insufficient to cover all costs for operations, maintenance, and financing requirements, and refinancing of the debt is required, the Operating Toll Agreement can be extended additional years (beyond the existing 5 years) to provide an extended financing term.

3. Operations

a. OCTA operates or shall retain a private operator to operate the toll collection facilities.
b. The facility to open with a HOV2+ free policy for no less than 3 years.[1]
c. Caltrans & OCTA recognize performance/operational and financial triggers will be established to switch to HOV3+ or if state implements a 3+ policy on state highways through changes to State law or through the administrative process.
d. Parties agree there will be an exemption for ILEVs (such as customers with "green sticker".) However, customers will be required to pre-register their vehicles as is the policy on the SR 91 Express Lanes. There will be an agreed upon cap on number of such vehicles.
e. The parties agree that 55 - 60 mph[1] is an appropriate target speed.

[1] Subject to results of the I-405 Traffic and Revenue study to be completed at a later date and further additional funding considerations.

f. The parties agree that continuous access may be detrimental to financial and operational requirements of managed lanes based upon current technology, enforcement and safety considerations, however, consideration of continuous access should not be precluded in the future.
g. Tolls shall be collected electronically and use congestion pricing to manage demand.
h. OCTA decides on toll policies and agrees to toll lanes performance measures as will be outlined in the Operating Toll Agreement. The Parties agree that a goal of the Project should be to increase the Average Vehicle Occupancy of the Corridor.

4. <u>Net Excess Revenues (after payment of O&M on the managed lanes including toll collection costs, debt service for obligations payable from tolls, funding of debt and project reserves, and required repayment of TIFIA loan)</u>

<u>The parties agree that development of an Expenditure Plan will be developed in partnership between each agency and consistent with the following terms below:</u>

a. The Parties shall develop a multiyear expenditure plan for use of Net Excess Revenues within the Corridor. This expenditure plan shall cover a period of either ten years or the full term of all financing used to construct or repair any portion of the toll facility project, whichever is longer. The Expenditure Plan shall be updated annually.
    i. OCTA's Board of Directors shall review and adopt the expenditure plan and each update.
b. Net Excess Revenues shall be used for projects that maintain or improve the safety, operation, or travel reliability of any transportation mode in the corridor, or provide or improve travel options in the corridor.
c. General Purpose lanes capital and preventive maintenance and operational improvements are eligible expense and will be included in the annual Expenditure Plan in compliance with Federal law.
d. The use of net excess revenue to pay for projects in the Expenditure Plan will not result in reducing SHOPP funds targets available to the County.
e. Similar to the SR 91 Express Lanes, the Parties agree that OCTA will be responsible for implementing all projects required for the operation and maintenance of the Project tolled express lanes and associated toll collection facilities. Caltrans will be responsible for implementing non-toll related projects on the State Highway System that are funded from Net Excess Toll revenue.

ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Attachment B

ATTACHMENT B

405 Express Lanes Policy Decisions

1 Toll Policy Goals

Priority Level **High**

Description of Policy Issue

Toll policy goals will provide guidance to determine which pricing strategies achieve the desired result. Potential options can be screened against goals to determine how they perform and what key differentiators are.

Local or National Guidelines

The Federal Highway Administration (FHWA) identifies the benefits of priced managed lanes as being trip-time reliability, travel-time savings, and reductions in vehicle-hours traveled, revenue generation, transit improvements, enhanced corridor mobility, environmental advantages, travel options, and efficient use of capacity (page 1-6).[1] These benefits could be reflected in toll policy goals.

Options and Considerations

The 91 Express Lanes facility is viewed throughout the country as a premier priced managed lanes facility. Nine out of ten customers are satisfied, revenues are more than sufficient to cover costs, and net toll revenue is funding improvements in the corridor. The Riverside County Transportation Commission has used a variation of the OCTA adopted goals and toll policy. Using goals similar to those adopted for the 91 Express Lanes provides regional consistency using a proven, time-tested formula.

Recommendation

Use the following goals for the 405 Express Lanes toll policy:

1. Provide express lanes customers with a safe, reliable, predictable commute.
2. Optimize throughput at free-flow speeds.
3. Increase average vehicle occupancy.
4. Balance capacity and demand to serve customers who pay tolls as well as people who rideshare or use transit.
5. Generate sufficient revenue to sustain the financial viability of the 405 Express Lanes.
6. Ensure all covenants in the financing documents are met.
7. Ensure any potential net excess revenues are used for Interstate 405 corridor improvements.

[1] U.S. Department of Transportation, Federal Highway Administration Priced Managed Lane Guide 2012, page 1-6.

2 Pricing System: Time of Day or Dynamic Pricing

Priority Level: High

Description of Policy Issue

The policy issue is whether to use Time-of-Day (TOD) pricing or dynamic pricing. TOD pricing uses fixed, variable tolls which are predetermined on a published schedule. Dynamic pricing uses near real-time volume and speed information to vary the toll in increments.

OCTA's program management consultant (PMC) has prepared a technical memorandum which identifies considerations related to TOD versus Dynamic pricing for the 405 Express Lanes.[2]

Local or National Guidelines

The applicable guidelines note that both TOD and dynamic pricing approaches have advantages and disadvantages and there is no conclusion or guideline suggesting one is better than the other.

Options and Considerations

Optional approaches include TOD pricing or Dynamic pricing.

Currently, TOD pricing is used on OCTA's 91 Express Lanes and on the Transportation Corridor Agencies (TCA) toll facilities. OCTA's 91 Express Lanes facility has a proven 20-year track record of being able to manage congestion and deliver solid financial results using a TOD pricing approach. The approach is simple and easy-to-understand, which helps the customer experience.

Recommendation

Based on the information in PMC's technical memorandum on this subject dated August 14, 2015, it is recommended that OCTA adopt a TOD pricing approach for the 405 Express Lanes.

It is also recommended that OCTA implement a system that has the capability of providing dynamic pricing information on the 405 Express Lanes to assist in calibrating the TOD toll schedules and as a management tool.

Per the OCTA/Caltrans terms and conditions, tolls shall be collected electronically and use congestion pricing to manage demand. Either TOD or dynamic pricing can be used to be consistent with this term/condition.

[2] HNTB/Parsons (PMC) Technical Memorandum: I-405 Improvement Project – Time of Day Versus Dynamic Pricing

3 Methodology for Adjusting Peak Tolls

Priority Level **High**

Description of Policy Issue

Toll adjustments in peak hours are designed to: a) maintain free-flow travel speeds in the express lanes; b) maintain travel-time savings for customers; c) reduce the likelihood of congestion by diverting traffic to other hours with available capacity; d) accommodate projected growth in travel demand and; e) ensure that the express lanes generate sufficient revenue. A methodology needs to be developed to set the basis for adjusting peak hourly toll rates.

Peak (Rush) Hours

Local or National Guidelines

The maximum capacity for I-405 at speeds greater than 55 miles per hour is about 1,650 to 1,850 vehicles per lane per hour (vpl/hr). At speeds greater than 55 miles per hour, maximum throughput is about 1,700 vpl/hr or 3,400 vehicles per hour (vph) for a two-lane facility. This is consistent with the 91 Express Lanes which uses 3,400 vph as its "maximum optimal throughput". [3]

Options and Considerations

If the goal of the toll policy is to offer customers a reliable travel time, pricing should be designed to manage demand such that it reaches no more than 3,400 vph. For the past 12 years, OCTA has operated the 91 Express Lanes using maximum optimal throughput of 3,400 vph. This is a proven threshold facilitating reliable, free-flow travel speeds. As a note, the Caltrans terms and agreements state that the parties shall target a speed of 55-60 mph.

Recommendation

Adopt the 91 Express Lanes methodology for adjusting peak tolls. It uses trigger points to adjust an hourly toll upwards when historical average hourly volumes consistently reach 92 percent of maximum optimal throughput (3,400 vph). It also includes a "follow-on process" that freezes adjusted hourly toll rates for six months. If the adjustment results in an hourly volume that, on average, is less than 80 percent of maximum optimal throughput (2,720 vph), the toll is reduced. If the adjustment results in a volume that is, on average, 80 percent of maximum optimal throughput or more, pricing is held constant and monitored. (Note: Similar to Riverside County Transportation Commission's toll policy, it is recommended that the review period of 12 weeks may be reduced to a shorter period during times of abnormal travel patterns such as the initial opening, "ramp up" period of the 405 Express Lanes and in times of construction along I-405 or adjacent freeways or feeder routes.

[3] OCTA 91 Express Lanes Adopted Toll Policy

4 Non-Peak Toll Adjustments

Priority Level **High**

Description of Policy Issue

By definition, non-peak hours are those where volumes are less than those in the peak. Because there is available capacity, there is more flexibility for pricing of non-peak tolls. The policy decision is how non-peak tolls should be set and adjusted.

Local and National Guidelines

For non-peak hour tolls, OCTA's 91 Express Lanes uses 2001 historical traffic volumes. Tolls have been held constant but are adjusted annually by an inflation factor.[4] This approach does not take into account changing traffic patterns and has led to some inconsistent pricing. The Riverside County Transportation Commission (RCTC) has updated this model for the extension of the 91 Express Lanes into Riverside County. Each hour with a similar volume has a similar toll price. As traffic volumes change, and if volumes move to another predetermined category, the non-peak toll is adjusted.[5]

Considerations

In FY 2015, 40 percent of toll revenues were derived during non-peak hours and non-peak hours on I-405 are anticipated to represent a substantial share of total revenue. Based on the experience of the 91 Express Lanes, customers want the ability to pay a toll for a predictable commute during both peak and non-peak times.

Recommendation

Use the RCTC approach for adjusting non-peak tolls. Non-peak hours generally remain at fixed levels within a broad band category, increasing annually by an inflation factor. Vehicle volumes increasing from one category to the next would be subject to a toll increase. The categories would be roughly defined as follows:

A - 0 to 800 vehicles
B - 800 to 1600 vehicles
C - 1600 to 2400 vehicles
D - 2400 to 2800 vehicles
E - 2800 to 3100 vehicles

Toll rates would be adopted for each category reflecting the time-savings value to the driver as traffic moves into the next level of congestion.

[4] OCTA 91 Express Lanes Adopted Toll Policy
[5] RCTC 91 Express Lanes Adopted Toll Policy

5 Hours of Operation

Priority Level: High

Description of Policy Issue

The 405 Express Lanes will be accessible to traffic 24-hours a day, 7-days a week since there are no planned means to restrict access during non-peak hours. The policy decision relates to whether tolls will be collected during the entire 24-hour period or if toll collection will only occur during certain times of the day.

Local or National Guidelines

There are no local or regional facilities that allow for free travel. In addition, there are no set guidelines regarding this issue.

Options and Considerations

Managed lane and toll facilities in the Southern California region currently charge tolls during all times of the day, including the 91 Express Lanes. For the 91 Express Lanes, approximately 40 percent of revenue is generated in non-peak hours.

Recommendation

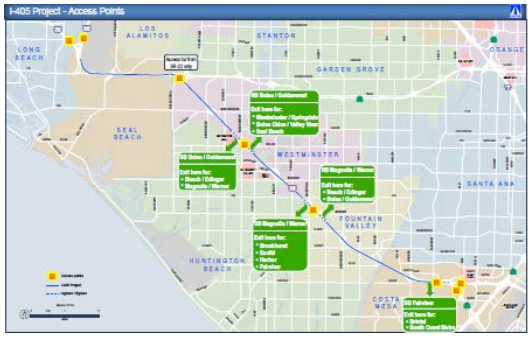
It is recommended that the 405 Express Lanes operate 24-hours per day, 7-days per week and tolls be collected during all times.

6 Access Points

Priority Level: High

Description of Policy Issue

The policy related to access locations where vehicles can enter and exit the lanes. Access can be either "continuous" or it can be limited to the ends of the facility with some intermediate access locations. OCTA's program management consultant (PMC) has prepared a memorandum which identifies considerations related to continuous versus intermediate access for the 405 Express Lanes.[6]



Local or National Guidelines

Although there are no local or national guidelines, there are no express lane facilities in the United States with continuous access that have municipal debt associated with them. This is because lenders view continuous access as riskier because there is more opportunities for violators. The PMC technical memo also states that intermediate access will provide optimum express lanes throughput at free flow speeds and will provide customers with a safer, more reliable and predictable commute. In addition, the Final Environmental Document included access to the express lanes at the ends of the facility with several intermediate access locations.

Options and Considerations

Options include intermediate access points as defined in the Final Environmental Document or continuous access. Intermediate access is the only feasible option from a debt financing perspective and also better meets operational goals for a safe, reliable, predictable commute.

Recommendation

Based on the information in PMC's memorandum on this subject dated August 14, 2015, it is recommended OCTA pursue the intermediate access configuration as defined in the Final Environmental Document. This approach supports goals for a safe, reliable, congestion-free commute. It can help optimize throughput at free-flow speeds, generate sufficient revenues, and reduce violations. It is also the only feasible approach from a debt financing aspect.

Per the OCTA/Caltrans terms and conditions, continuous access should not be precluded in the future.

[6] HNTB/Parsons (PMC) Technical Memorandum - I-405 Improvement Project – Continuous Versus Intermediate Access

7 Non-Toll Revenue: Account Fees

Priority Level **Medium**

Description of Policy Issue

For the 91 Express Lanes, non-toll revenue represents approximately 20 percent of total revenue. In order to pursue toll bond debt, an assumption related to non-toll revenues will have to be made. In the case of the 91 Express Lanes, the greatest shares of non-toll revenue include account fees (50%) and violations fees (40%). Other non-toll revenues include: non-sufficient funds fees, transponder fees, plate read fees and other miscellaneous fees. This policy issue is related to assumptions about account fees.

Local or National Guidelines

The 91 Express Lanes has three major account types designed to attract three different types of customers with varying usage. The Convenience Plan is for people who use the express lanes infrequently, the Standard Plan is for those who use it fairly regularly and the Express Club is designed for frequent users. A summary of attributes and pricing for the various accounts has been prepared.[7]

Options and Considerations

While a differing account fee schedule could be possible, maintaining consistency with 91 Express Lanes policies is advisable. This is to minimize confusion and also to preserve the integrity of the existing structure. For example, if account fees for the 405 Express Lanes were different, there might be a migration of account holders to/from the 91 Express Lanes.

Recommendation

Use the 91 Express Lanes account types and fee schedule.

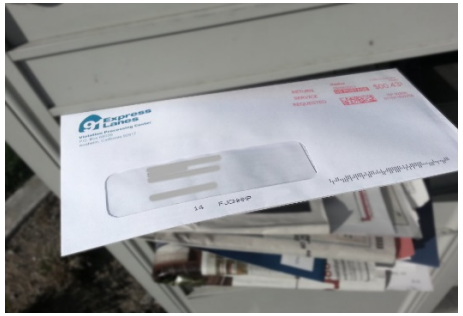
[7] Reference Document Non-Toll Revenue: 91 Express Lanes Account Fees

8 Non-Toll Revenue: Violations

Priority Level **Medium**

Description of Policy Issue

A portion of non-toll revenue is comprised of penalties assessed and collected from express lanes violators attempting to avoid paying a toll. Violation fees are designed to create a financial disincentive to discourage scofflaws. The penalties and fees associated with violations and collections need to be identified.



Local or National Guidelines

Revenues from penalties assessed on violators of the 91 Express Lanes represent about 8 percent of total revenue and 40 percent of non-toll revenue. The 91 Express Lanes has had a comprehensive review of its fee structure for the enforcement of toll violators. These were publicly vetted at a 2010 OCTA Board of Directors following the settlement of a class action lawsuit (Avery). The settlement agreement required that the initial Ordinance No. 2004-01 be amended. The new Ordinance, No. 2010-01 is in effect today and is a fully vetted, time-tested model.

Recommendation

Adopt the approach and fee structure for the enforcement and collection of toll violations. At the appropriate time, before opening, amend Ordinance No. 2004-01 to include the 405 Express Lanes. [8]

[8] Reference Document Non-Toll Revenue: Violations

9 Enforcement Approach

Priority Level: Medium

Description of Policy Issue

Enforcement of the facility will be required to minimize violations. Enforcement methods include the California Highway Patrol (CHP), the potential use of enforcement lights that flash when vehicles do not carry valid transponders, and electronic tolling enforcement. The enforcement officers' primary objectives on managed-lanes facilities are to maximize compliance by users, maintain desired traffic service levels, and minimize leakage in revenue while monitoring regular freeway enforcement activities on the toll facilities. Enforcement officers are usually provided designated areas for enforcement, shoulders, or hand-held devices to monitor toll traffic. Electronic tolling enforcement requires the use of Automated License Plate Recognition (ALPR) to monitor toll violations by checking if a vehicle is registered to a toll account via license plate. If the back office determines the vehicle is not registered to a toll account, the user is classified as a violator.

Local or National Guidelines

FHWA Priced Managed Lanes Guide –Chapter 7.3 discuss the two different types of enforcement:

- Manual Enforcement –requires enforcement officer to be present preferably during peak hours on facility.
- Automated Enforcement –requires ALPR technology along with occasional manual enforcement if facility requires occupancy detection.

Options and Considerations

Managed lane and toll facilities in the Southern California region currently utilize the services of CHP officers and electronic tolling enforcement. The 91 Express Lanes is under contract with CHP for daily services from 5:30 am to 10:00 pm, utilizes enforcement lights, and electronic tolling enforcement.

Recommendation

In order to provide the most effective enforcement, it is recommended that the OCTA use CHP officers, enforcement lights, and electronic tolling enforcement on the 405 Express Lanes. A CHP officer should initially be required to be present from 5:00 a.m. to 8:00 p.m. daily.

10 High-Occupancy Vehicle Definition

Priority Level **High**

Description of Policy Issue

"Managed lanes are designated lanes or roadways within highway rights-of-way where the flow of traffic is managed by restricting vehicle eligibility, limiting facility access, or in some cases collecting variably-priced tolls."[9] The term "managed lanes" refers to a variety of special-use highway lanes including express toll lanes. The goals for most express lanes projects include incentives to rideshare thereby increasing the overall number of people in the lanes. This is accomplished by allowing vehicles with a designated number of occupants – carpools with two or more persons (HOV2+) or those with three or more persons (HOV3+) to use them at a discount or for free. The policy issue will be to determine what the carpool occupancy rate should be during peak and non-peak hours.

Local or National Guidelines

The April 27, 2015 Board approved Preliminary OCTA/Caltrans Agreement on Terms for the Operating Toll Agreement targeted a policy to allow HOV2+ free for at least three years contingent on the results of the traffic and revenue study.[10]

Considerations

Considerations include:

- Balancing express lanes goals for a safe, reliable, predictable commute with the goal to increase average vehicle occupancy.
- Impacts of occupancy rates on volume, congestion and revenue
- Changing existing HOV2+ policy on I-405

Recommendation

PENDING RESULTS OF THE TRAFFIC AND REVENUE STUDY.

Use traffic and revenue results to determine which is the most advantageous and feasible option based on toll policy goals.

[9] FHWA Priced Managed Lane Guide 2012, page 1-1.
[10] I-405 Project Implementation (Alternative 3) Preliminary OCTA/Caltrans Agreement on Terms As of April 16, 2015

11 Prohibited Vehicles

Priority Level: Low

Description of Policy Issue

One of the goals of the 405 Express Lanes includes providing customers with a safe, reliable, and predictable commute. A way to achieve this goal is to define which types of vehicles can utilize the Express Lanes. Current vehicles using the highway system include, but are not limited to, cars, motorcycles, trucks, buses, motor homes, and towed trailers. Travel speeds on the 405 Express Lanes potentially can be reduced by the use of large trucks (greater than 10,000 pounds) and safety issues can arise with the permitted use of towed trailers.

Local or National Guidelines

N/A

Options and Considerations

Under California law, a variety of vehicles, including vehicles towing a trailer, and trucks with more than two axles, may only use the right two lanes of a limited-access highway such as the 405 freeway. The 91 Express Lanes utilizes the same policy and the Metro Express Lanes in Los Angeles also prohibits the use of large trucks with more than two-axles.

Recommendation

The recommendation is to prohibit the use of large trucks (over 10,000 pounds) and the use of towed trailers on the 405 Express Lanes. The only oversized vehicles that are allowed on the 405 Express Lanes are motor homes and buses. This will assist in providing customers with a safe, reliable, and predictable commute.

12 Discounts / Exemptions

Priority Level: Low

Description of Policy Issue

Managed lanes facilities typically offer discounts and exemptions to certain vehicles such as high occupancy vehicles (HOV), law enforcement and emergency vehicles, etc. Decisions are traditionally based on toll policy goals, traffic operations, and state and federal policies. Consideration will need to be given to whether toll discounts or exemptions apply to certain classes of vehicles.

Local or National Guidelines

The 91 Express Lanes allows for vehicles with three or more persons (HOV3+), pure zero emission vehicles, motorcycles, transit vehicles, disabled plates, and disabled veteran license plates to ride free during most hours. The exception is during peak hours, when these users are required to pay 50 percent of the posted toll. Law enforcement and emergency vehicles travel for free.

California law allows single occupant use of HOV or High Occupancy Toll (HOT) lanes by certain qualifying clean alternative fuel vehicles. Use of these lanes with a single occupant requires a Clean Air Vehicle (CAV) decal issued by the California Department of Motor Vehicles (DMV). Currently, there are two types of decals being distributed by the DMV. Green CAV decals are for vehicles meeting California's transitional zero emission vehicle requirement and White CAV decals are available to qualifying Federal Inherently Low Emission Vehicles (ILEVs). Assembly Bill (AB) 1721 grants a toll-free or reduced-rate passage on state HOT lanes. Existing federal law expires on September 30, 2017 and state law expires on January 1, 2019.

Options and Considerations

Considerations include balancing financial requirements with the goal of providing incentives to increase average vehicle occupancy.

Recommendation

The recommendation is to allow:

- Emergency and law enforcement vehicles to be exempt from paying a toll (91 Express Lanes policy), and
- In-service transit vehicles that are pre-registered with OCTA to be exempt from paying a toll.

RECOMMENDATIONS FOR HOV AND CAV DECAL AND OTHER VEHICLE DISCOUNTS ARE PENDING RESULTS OF THE TRAFFIC AND REVENUE STUDY.

13 Toll Collection Method

Priority Level: Low

Description of Policy Issue

Electronic tolling has been in use since the 91 Express Lanes opened in 1995. With electronic tolling, vehicles are not required to stop and pay a toll at a booth. The transaction is registered with a Title 21 transponder or license plate image.

Local or National Guidelines

Under California law, the California Department of Transportation (Caltrans) is mandated to develop and maintain an open, statewide electronic toll collection (ETC) specification. This specification is known as "Title 21" after it was added to Title 21 of the California Code of Regulations. A Title 21-compliant FasTrak device, using radio frequency identification (RFID) technology, reads data from a transponder placed in a vehicle. The RFID transponder is associated with a prepaid debit account; each time the vehicle passes underneath a toll collection site, the account is debited to pay the toll. All transponders in California operate using title 21 specifications so they can be interoperable on toll facilities throughout the state.

Options and Considerations

The 91 Express Lanes and the Metro Express Lanes in Los Angeles require the use of a transponder for all vehicles (Metro does not require a transponder for motorcycles). The Transportation Corridor Agencies (TCA) allow their customers the option of using a transponder, using an account without a transponder, or paying via a one-time toll option. A separate toll rate is used for TCA customers using a transponder. The use of Title 21 transponders is the only interoperable method of using toll facilities in California. The cost of processing Title 21 transponder transactions is less than using license plate images. Title 21 transponders also allow for the use of declaration for carpooling vehicles.

Recommendation

The recommendation is to require that all vehicles using the 405 Express Lanes register for an account and display a valid Title 21 transponder. This will allow customers to declare single occupancy or carpool status. The required use of a Title 21 transponders will also be less confusing to customers by having one less separate schedule of tolls for non-transponder transactions. As technology changes, the device may change as well.

14 Toll Policy Scenarios (4)

Priority Level **High**

Description of Policy Issue

Since toll policy goal recommendations include pricing that increases average vehicle occupancy policies that encourage carpooling are needed. However, before a recommendation can be made, it is important to understand how different HOV policies impact traffic and revenue. There will be different results if carpools are defined as two or more persons per vehicle (HOV2+) or three or more persons per vehicle (HOV3+).

Local or National Guidelines

The 405 Express Lanes OCTA/Caltrans preliminary operating terms as of April 16, 2015 and adopted by the OCTA Board of Directors on April 27, 2015, state that the express toll lanes are to open with an HOV2+ free policy for no less than three years subject to the results of the Traffic and Revenue Study.

Options and Considerations

The Stantec scope of work includes modeling of four toll policy scenarios. Per the preliminary operating terms and conditions, the baseline scenario should reflect HOV2+ free policy for no less than three years. Other scenarios could include an HOV2+ free policy in non-peak hours as well as an HOV3+ free policy similar to the 91 Express Lanes or, if feasible, an HOV3+ free policy all times. In addition, a "revenue maximization" scenario also is required for rating agencies. This scenario will reflect higher toll prices but can still offer a discount to HOV3+ users.

Recommendation

		Options for Traffic & Revenue Analysis			
Carpool Occupancy	Time of Day	A HOV2+ Free All Times	B HOV2+ Free in Non-Peak*	C 91 Express Lanes Toll Policy	D Revenue Maximiza-tion
HOV2+	Peak	Free	Full Toll	Full Toll	Full Toll
	Non-Peak	Free	Free	Full Toll	Full Toll
HOV3+	Peak	Free	50% Discount	50% Discount	50% Discount
	Non-Peak	Free	Free	Free	Free

* A variation of this option would be HOV3+ free all times, if feasible.

ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Attachment C

OCTA

91 Express Lanes Toll Policy

Adopted July 14, 2003

Goals

The goals for the 91 Express Lanes toll policy are to:

- Provide a safe, reliable, predictable commute for 91 Express Lanes customers.
- Optimize vehicle throughput at free flow speeds.
- Pay debt service and maintain debt service coverage.
- Increase average vehicle occupancy.
- Balance capacity and demand to serve customers who pay tolls as well as carpoolers with three or more persons who are offered discounted tolls.
- Generate sufficient revenue to sustain the financial viability of the 91 Express Lanes.
- Ensure all bond covenants are met.
- Repay the Orange County Transportation Authority's (OCTA) internal borrowing and provide net revenues for Riverside Freeway/State Route 91 corridor improvements.[1]

Definitions

Exhibit I, "Definitions", clarifies terms used in this 91 Express Lanes Toll Policy.

Super Peak Hours

The toll adjustment goals are to: a) reduce the likelihood of congestion by diverting traffic to other hours with available capacity; b) maintain free flow travel speed in the 91 Express Lanes; c) maintain travel time savings; d) accommodate projected growth in travel demand and; e) ensure that the toll road generates sufficient revenue to effectively operate the toll lanes and maintain a strong debt service position.

[1] As allowable under Assembly Bill 1010.

The toll for use of the 91 Express Lanes during a Super Peak hour shall be determined as follows:

1. Hourly, day, and directional traffic volumes will be continually monitored on a rolling 12 consecutive week period basis.

2. Hourly, day, and directional traffic volumes of 3,128 or more will be flagged for further review.

3. If the hourly, day, and directional traffic volume is Consistently at a level of Super Peak then the toll rate for that hour, day and direction may be increased.

4. The toll for that hour, day, and direction shall be increased, based on the average vehicle volume of the flagged hour, day, and direction identified per Section 2 above, as follows:

    (a) if the average flagged vehicle volume is 3,300 or more then the toll shall be increased by $1.00.

    (b) if the average flagged vehicle volume is between 3,200 and 3,299 then the toll shall be increased by $0.75.

    (c) if the average flagged vehicle volume is less than 3,200 then the toll shall not be changed.

Six months after a toll increase, the most recent 12 consecutive weeks (excluding weeks with a Holiday or a major traffic anomaly caused by an accident or incident) shall be reviewed for the hour, day and direction that the toll was increased. If the traffic volume is less than 2,720 vehicles per hour, day, and direction in six or more of the weeks then the traffic volumes for that hour, day and direction for the 12 consecutive weeks shall be averaged. If the average traffic volume is less than 2,720 then the toll shall be reduced by $0.50 to stimulate demand and encourage 91 Express Lanes use.

OCTA's Board of Directors and customers will be informed of a toll adjustment 10 or more days prior to that toll adjustment becoming effective.

Non-Super Peak Hours

All Non-Super Peak tolls shall remain fixed at November 2001 levels except for an annual adjustment for inflation (see Exhibit IV). The Inflation Factor shall be identified and applied beginning July 1, 2004 and at the beginning of each fiscal year thereafter to all Non-Super Peak and Super Peak hours that were not adjusted in the previous 12 months. All tolls shall be rounded up or down to the nearest 5-cent increment.

Discounts

Vehicles with three or more persons (HOV3+), zero emission vehicles (ZEVs), motorcycles, disabled plates and disabled veterans are permitted to ride free in the 91 Express Lanes during most hours. The exception is Monday through Friday 4:00 p.m. to 6:00 p.m. in the eastbound direction when these users pay 50 percent of the toll. The exception that these users pay 50 percent remains in effect until such time as the Debt Service Coverage Ratio – inclusive of senior and subordinated debt - is projected to be 1.2 or greater for a six month period. At that time, HOV3+ users will ride free all day, every day.

Financing Requirements

OCTA shall charge and collect tolls that generate enough revenue to maintain the Debt Service Coverage Ratio to be at least 1.30 to 1.00. OCTA recognizes that it must maintain a strong debt service position in order to satisfy the existing taxable bond covenants as well as the bond covenants in the proposed tax-exempt refinancing documents.

Holiday Toll Schedules

All existing holiday toll schedules shall apply. Existing holiday toll schedules are identified on Exhibit V and shall be adjusted by the inflation factor at the beginning of each fiscal year beginning July 1, 2004 in a similar fashion as with Non-Super Peak Hours.

Exhibit I
Definitions

Cash Available for Debt Service – for any Period, the excess, if any, computed on a cash basis, of:

(1) the amount of 91 Express Lanes cash receipts during such Period from whatever source, including, without limitation, toll receipts, transponder revenues, amounts paid to OCTA under the Facility Agreements, and investment earnings, *excluding*:

- proceeds of insurance,
- proceeds of the debt service letter of credit or other amounts held in or disbursed from the payment account, the debt service reserve account, the coverage account and the major maintenance reserve account, and
- the proceeds of any Additional Senior Bonds or Subordinated Bonds, *over*

(2) All Operating and Maintenance Costs incurred during such Period and not deducted in the computation of Cash Available for Debt Service in a prior Period. In computing Operating and Maintenance Costs for any Period, an appropriate prorating will be made for expenditures such as insurance premiums and taxes that would be prorated if the computation were to be made in accordance with GAAP.

Consistently – Any six weeks of twelve consecutive weeks, excluding any week that includes a Holiday or major traffic pattern anomaly caused by an accident or incident.

Debt Service – for any Period, all payments of principal, interest, premiums (if any), fees and other amounts made (including by way of prepayment) or required to be made by OCTA during such Period under the Bond Documents (debt service payments related to OCTA's internal subordinated debt borrowings are to be excluded from these calculations). In computing Debt Service for any Period prior to the issuance of the new bonds, OCTA will give pro forma effect to the transactions contemplated by the Bond Documents and the use of proceeds of the new bonds. In computing Debt Service for any prospective Period, OCTA will estimate in good faith such payments on the basis of reasonable assumptions. Such assumptions will include the absence of any waivers of or amendments to any agreements and the absence of any optional or extraordinary mandatory redemption of the bonds.

Debt Service Coverage Ratio – for any Period, the ratio of Cash Available for Debt Service for such Period to Debt Service for such Period.

Fiscal Year – July 1 to June 30

Holiday – Any of the following holidays that occur or are recognized any day between Monday through Friday: New Year's Day, Memorial Day, 4th of July, Labor Day, Thanksgiving and Christmas.

Inflation Factor[2] (Included in the present 91 Express Lanes Operating Agreement and subject to change with any new contractor agreement):

(1) 0.75 times the product of (A) the hourly toll for the immediately preceding fiscal year, times (B) a fraction, the numerator of which shall be the Labor Index Adjuster for June of the prior fiscal year and the denominator of which shall be the Labor Index Adjuster for June of the year immediately preceding such fiscal year, plus

(2) 0.25 times the product of (A) the hourly toll for the immediately preceding fiscal year, times (B) a fraction, the numerator of which shall be the CPI Index Adjuster for June of the prior fiscal year and the denominator of which shall be the CPI Index Adjuster for June of the year immediately preceding such fiscal year.

Maximum Optimal Capacity – 3,400 vehicles per hour, per day, per direction in the 91 Express Lanes facility

Non-Super Peak – Hourly period that is not Super Peak.

Operating and Maintenance Costs – all reasonable and necessary expenses of administering, managing, maintaining and operating the 91 Express Lanes and in accordance with the Bond Documents and the Facility Agreements.

Period – the most recent twelve complete months.

Super Peak – Hourly period, per day, and per direction with traffic volume use which meets or exceeds the Trigger Point.

Trigger Point – 92 percent or more of Maximum Optimal Capacity (3,128+ vehicles per hour, per day, and per direction).

Week – 12:00 a.m. Sunday to 11:59 p.m. the following Saturday.

Some of the financial definitions will be modified to reflect the bond covenants in the tax-exempt refinancing documents.

[2] The inflation factor shall be the same as in the OCTA – Cofiroute Global Mobility 91 Express Lanes Operating Agreement dated November 15, 2002 and effective January 3, 2003 or as in successor operating agreements.

Exhibit II
Toll Policy Decision Process
Congestion Management Pricing in Super Peak

Definitions / Detail

Monitor hourly, day of week and directional traffic for last 12 consecutive weeks (exclude days/hours with holidays, major incidents, and accidents)

Flag hours when traffic volume is 3,128 or more vehicles per hour, per day, per direction. Determine if this occurs six or more times in the 12-week period.

Average the traffic volume for the flagged hours.

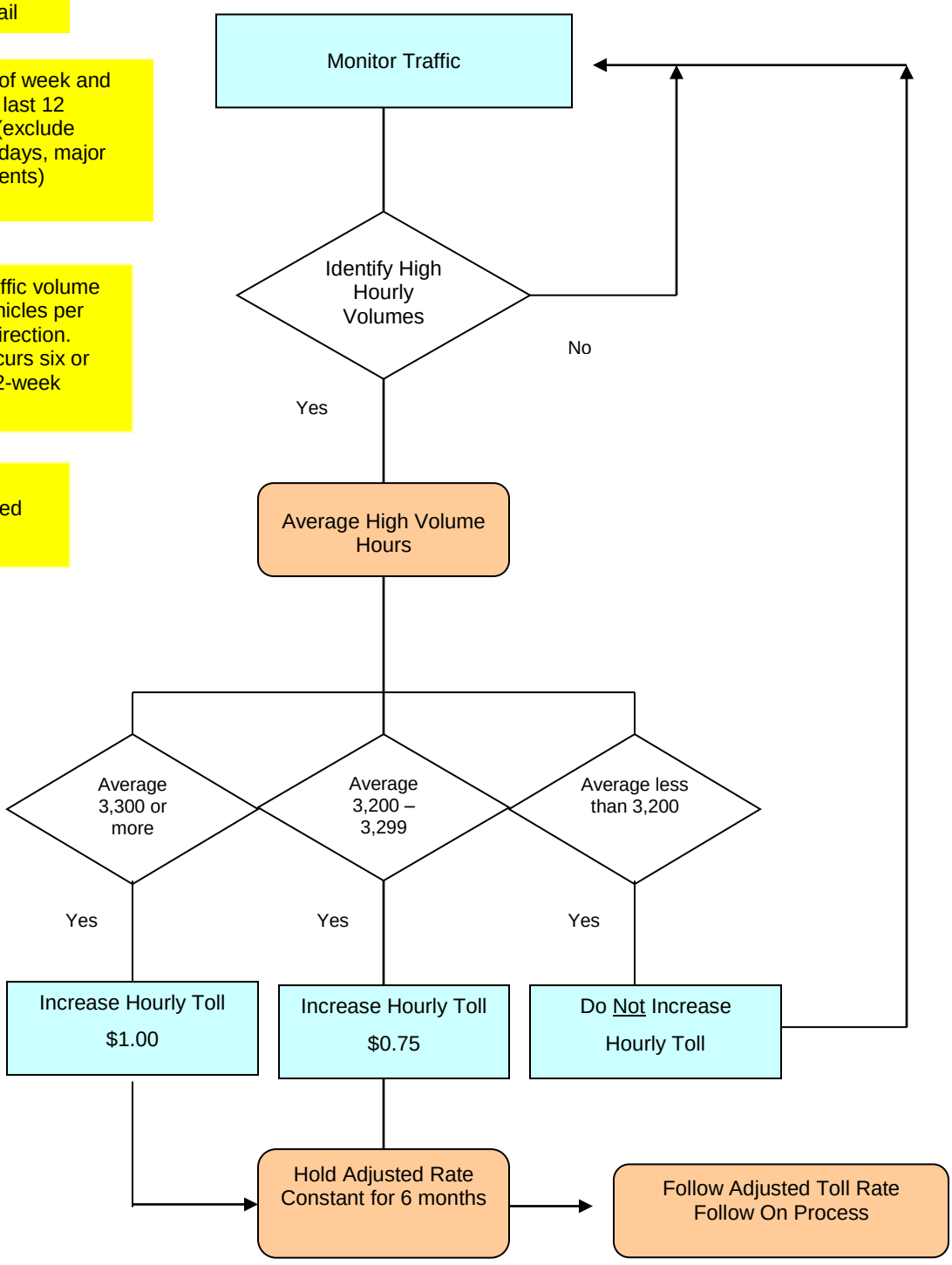


Exhibit III
Adjusted Toll Rate Follow On Process
(Super Peak Adjusted Rates Only)

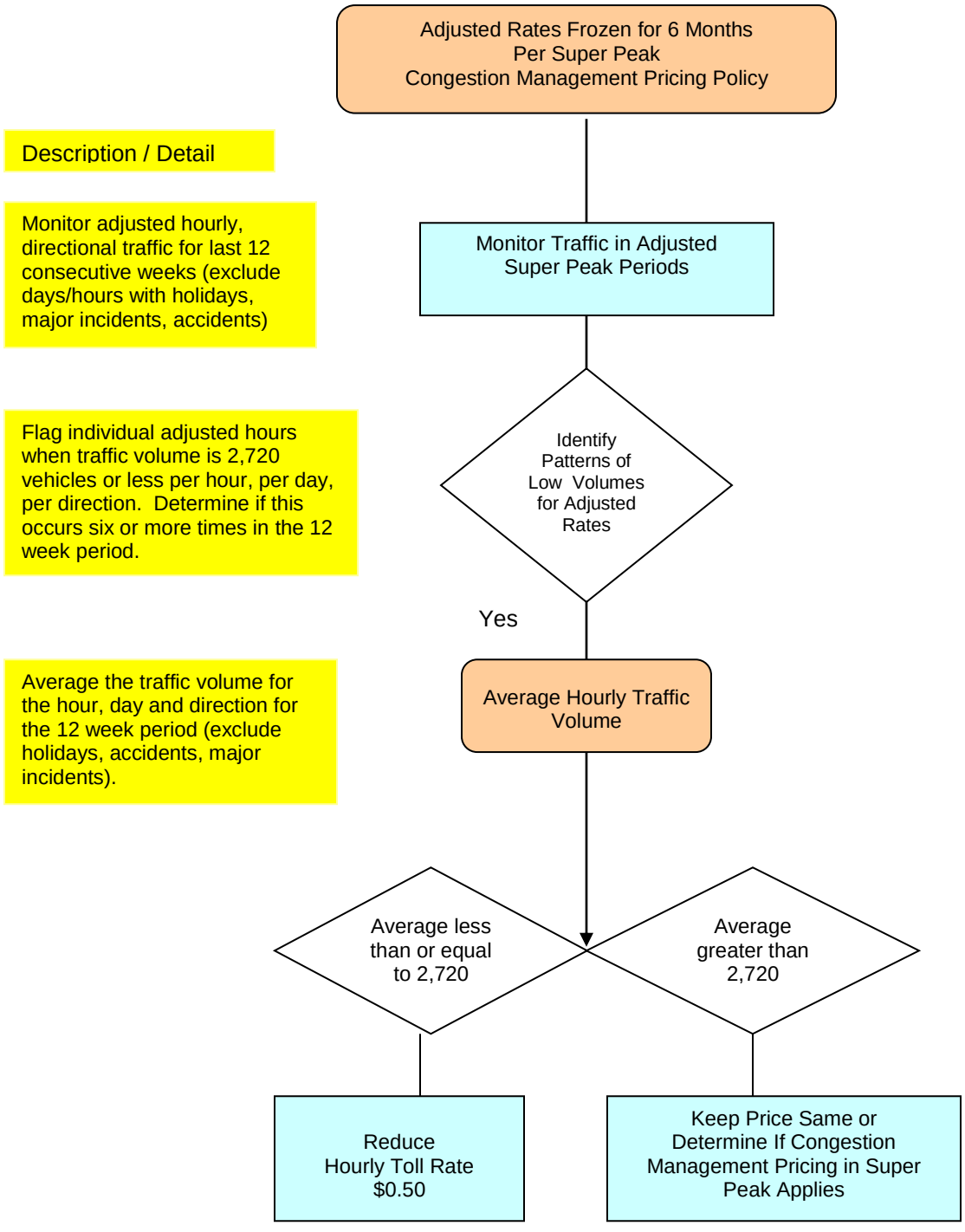
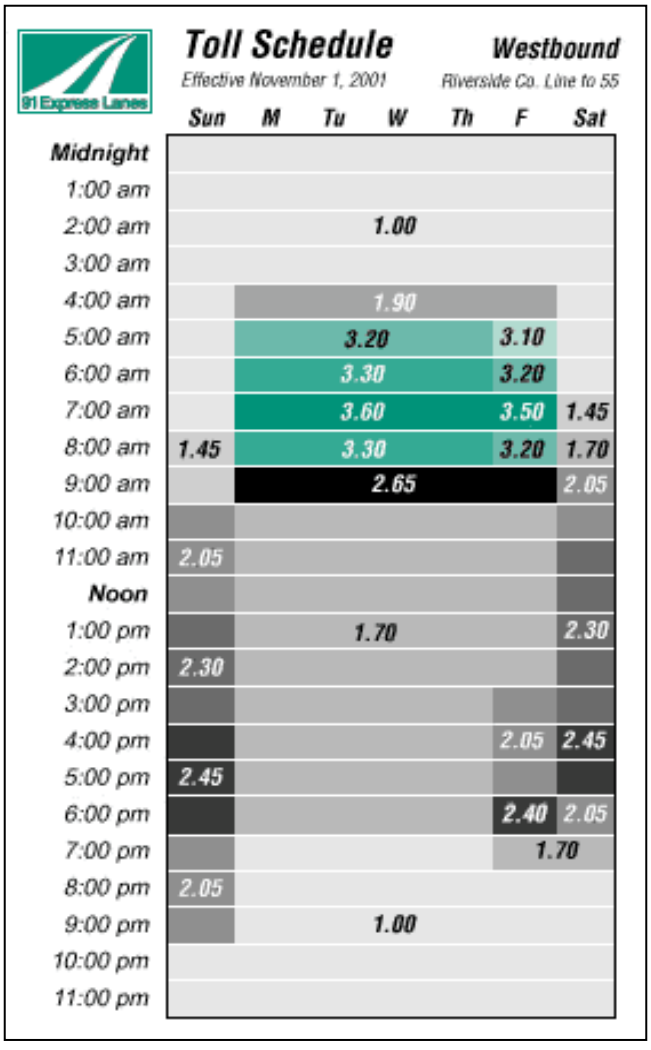


Exhibit IV
91 Express Lanes Toll Schedule
November, 2001 and as Amended May 19, 2003

The charts below identify the base toll structure in effect as of November 2001. In addition to the posted tolls, the 91 Express Lane toll policy was amended May 19, 2003 to allow carpoolers with three or more persons (HOV3+), zero emission vehicles (ZEVs), motorcycles, disabled plates and disabled veterans to ride free during most hours. The exception is Monday through Friday 4:00 p.m. to 6:00 p.m. in the eastbound direction when they pay 50 percent of the posted toll.



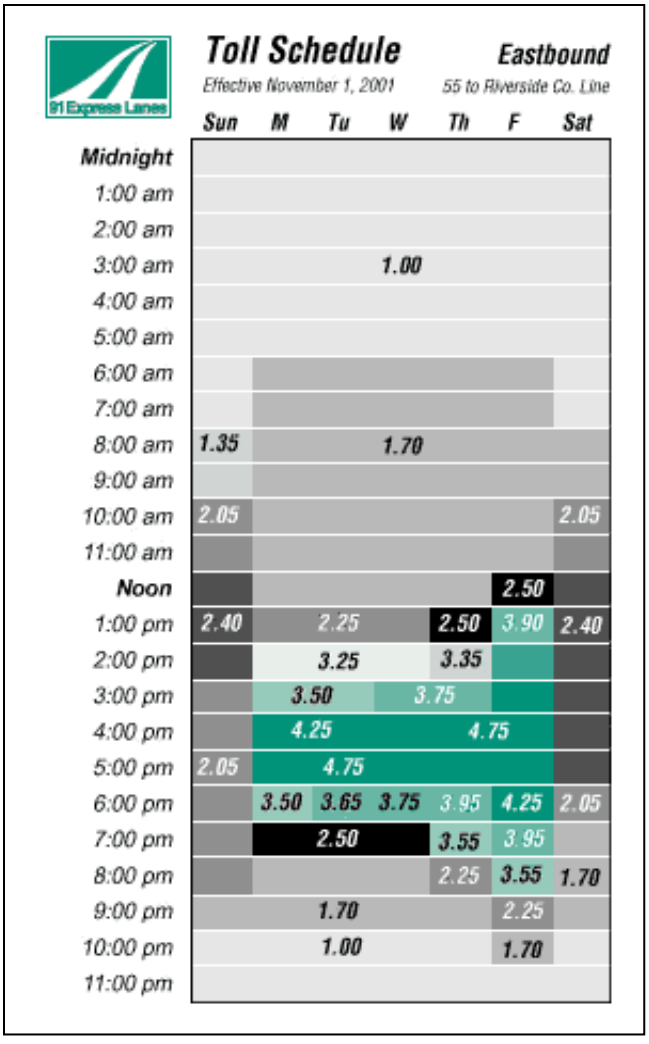


Exhibit V
91 Express Lanes Holiday Schedules

New Years Day*

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	$ 1.25
1:00 AM	$ 1.25	$ 1.25
2:00 AM	$ 1.25	$ 1.25
3:00 AM	$ 1.25	$ 1.25
4:00 AM	$ 1.25	$ 1.25
5:00 AM	$ 1.25	$ 1.25
6:00 AM	$ 1.25	$ 1.25
7:00 AM	$ 1.25	$ 1.25
8:00 AM	$ 1.25	$ 1.95
9:00 AM	$ 2.30	$ 2.30
10:00 AM	$ 2.30	$ 2.30
11:00 AM	$ 3.60	$ 3.60
Noon	$ 3.90	$ 3.60
1:00 PM	$ 3.90	$ 3.60
2:00 PM	$ 3.90	$ 3.90
3:00 PM	$ 3.90	$ 3.90
4:00 PM	$ 3.90	$ 3.90
5:00 PM	$ 3.90	$ 3.90
6:00 PM	$ 3.90	$ 3.90
7:00 PM	$ 3.60	$ 3.60
8:00 PM	$ 3.60	$ 3.60
9:00 PM	$ 2.30	$ 2.30
10:00 PM	$ 2.30	$ 2.30
11:00 PM	$ 1.25	$ 1.25

Easter Sunday

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	$ 1.25
1:00 AM	$ 1.25	$ 1.25
2:00 AM	$ 1.25	$ 1.25
3:00 AM	$ 1.25	$ 1.25
4:00 AM	$ 1.25	$ 1.25
5:00 AM	$ 1.25	$ 1.25
6:00 AM	$ 1.25	$ 1.25
7:00 AM	$ 1.25	$ 1.25
8:00 AM	$ 1.70	$ 1.70
9:00 AM	$ 1.70	$ 1.70
10:00 AM	$ 2.40	$ 2.40
11:00 AM	$ 3.80	$ 3.80
Noon	$ 3.80	$ 3.80
1:00 PM	$ 3.80	$ 3.80
2:00 PM	$ 3.80	$ 3.80
3:00 PM	$ 3.80	$ 3.80
4:00 PM	$ 3.80	$ 3.80
5:00 PM	$ 3.80	$ 3.80
6:00 PM	$ 3.80	$ 3.80
7:00 PM	$ 3.80	$ 3.80
8:00 PM	$ 3.80	$ 3.80
9:00 PM	$ 3.80	$ 1.95
10:00 PM	$ 3.80	$ 1.25
11:00 PM	$ 1.25	$ 1.25

Mother's Day

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	$ 1.25
1:00 AM	$ 1.25	$ 1.25
2:00 AM	$ 1.25	$ 1.25
3:00 AM	$ 1.25	$ 1.25
4:00 AM	$ 1.25	$ 1.25
5:00 AM	$ 1.25	$ 1.25
6:00 AM	$ 1.25	$ 1.25
7:00 AM	$ 1.25	$ 1.25
8:00 AM	$ 1.95	$ 1.95
9:00 AM	$ 3.80	$ 1.95
10:00 AM	$ 4.20	$ 3.25
11:00 AM	$ 4.50	$ 3.80
Noon	$ 4.50	$ 3.80
1:00 PM	$ 4.50	$ 3.80
2:00 PM	$ 4.20	$ 3.80
3:00 PM	$ 4.20	$ 3.80
4:00 PM	$ 4.20	$ 3.80
5:00 PM	$ 4.20	$ 3.80
6:00 PM	$ 4.20	$ 3.80
7:00 PM	$ 4.20	$ 3.80
8:00 PM	$ 3.80	$ 3.80
9:00 PM	$ 3.80	$ 3.25
10:00 PM	$ 3.25	$ 1.25
11:00 PM	$ 1.25	$ 1.25

Memorial Day

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	$ 1.25
1:00 AM	$ 1.25	$ 1.25
2:00 AM	$ 1.25	$ 1.25
3:00 AM	$ 1.25	$ 1.25
4:00 AM	$ 1.25	$ 1.25
5:00 AM	$ 1.25	$ 1.25
6:00 AM	$ 1.25	$ 1.25
7:00 AM	$ 1.25	$ 1.25
8:00 AM	$ 1.95	$ 1.95
9:00 AM	$ 2.80	$ 1.95
10:00 AM	$ 2.80	$ 2.80
11:00 AM	$ 3.80	$ 3.25
Noon	$ 3.80	$ 3.25
1:00 PM	$ 3.80	$ 3.25
2:00 PM	$ 3.80	$ 3.25
3:00 PM	$ 3.80	$ 3.25
4:00 PM	$ 2.80	$ 3.25
5:00 PM	$ 2.80	$ 3.25
6:00 PM	$ 2.80	$ 3.25
7:00 PM	$ 2.80	$ 3.25
8:00 PM	$ 2.80	$ 2.80
9:00 PM	$ 2.80	$ 2.80
10:00 PM	$ 1.25	$ 1.25
11:00 PM	$ 1.25	$ 1.25

4th of July*

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	$ 1.25
1:00 AM	$ 1.25	$ 1.25
2:00 AM	$ 1.25	$ 1.25
3:00 AM	$ 1.25	$ 1.25
4:00 AM	$ 1.25	$ 1.25
5:00 AM	$ 1.25	$ 1.25
6:00 AM	$ 1.25	$ 1.25
7:00 AM	$ 1.25	$ 1.25
8:00 AM	$ 1.95	$ 1.95
9:00 AM	$ 3.25	$ 1.95
10:00 AM	$ 3.80	$ 3.25
11:00 AM	$ 3.80	$ 3.25
Noon	$ 3.80	$ 3.25
1:00 PM	$ 3.80	$ 3.25
2:00 PM	$ 3.80	$ 3.25
3:00 PM	$ 3.80	$ 3.25
4:00 PM	$ 3.25	$ 3.25
5:00 PM	$ 3.25	$ 3.25
6:00 PM	$ 2.80	$ 3.25
7:00 PM	$ 2.80	$ 3.25
8:00 PM	$ 2.80	$ 3.25
9:00 PM	$ 2.80	$ 3.25
10:00 PM	$ 2.80	$ 4.35
11:00 PM	$ 1.25	$ 4.35

Thurs Before Labor Day

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	regular schedule
1:00 AM	$ 1.25	regular schedule
2:00 AM	$ 1.25	regular schedule
3:00 AM	$ 1.25	regular schedule
4:00 AM	$ 2.30	regular schedule
5:00 AM	$ 3.80	regular schedule
6:00 AM	$ 3.90	regular schedule
7:00 AM	$ 4.35	regular schedule
8:00 AM	$ 4.35	regular schedule
9:00 AM	$ 4.35	regular schedule
10:00 AM	$ 4.35	regular schedule
11:00 AM	$ 3.80	regular schedule
Noon	$ 2.40	regular schedule
1:00 PM	$ 2.75	regular schedule
2:00 PM	$ 2.75	regular schedule
3:00 PM	$ 2.75	regular schedule
4:00 PM	$ 2.75	regular schedule
5:00 PM	$ 2.75	regular schedule
6:00 PM	$ 2.40	regular schedule
7:00 PM	$ 1.25	regular schedule
8:00 PM	$ 1.25	regular schedule
9:00 PM	$ 1.25	regular schedule
10:00 PM	$ 1.25	regular schedule
11:00 PM	$ 1.25	regular schedule

[*] The intent of the holiday schedule is to offer tolls that reflect holiday traffic patterns. If Christmas, New Years or Fourth of July falls on a Tuesday, Wednesday, Thursday, or Friday, the regular Friday toll schedule will be used the day before the holiday. If the day after Christmas, New Years or Fourth of July is a Friday or Monday, it is assumed these are traditionally light traffic days, therefore, a reduced rate applies (Friday after Thanksgiving rate will be used).

If Christmas, New Years or Fourth of July fall on Saturday, it is assumed the Friday before is a traditionally light traffic day; therefore the stated Christmas, New Years or Fourth of July holiday toll schedule applies. It is also assumed that the Thursday before is a heavy traffic day, therefore the regular Friday schedule applies. When reduced rates apply, the weekend HOV 3+ policy will be in effect.

Fri Before Labor Day

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	regular schedule
1:00 AM	$ 1.25	regular schedule
2:00 AM	$ 1.25	regular schedule
3:00 AM	$ 1.25	regular schedule
4:00 AM	$ 2.30	regular schedule
5:00 AM	$ 3.80	regular schedule
6:00 AM	$ 3.90	regular schedule
7:00 AM	$ 4.20	regular schedule
8:00 AM	$ 4.00	regular schedule
9:00 AM	$ 3.55	regular schedule
10:00 AM	$ 3.00	regular schedule
11:00 AM	$ 2.75	regular schedule
Noon	$ 2.40	regular schedule
1:00 PM	$ 2.75	regular schedule
2:00 PM	$ 2.75	regular schedule
3:00 PM	$ 3.00	regular schedule
4:00 PM	$ 3.00	regular schedule
5:00 PM	$ 3.00	regular schedule
6:00 PM	$ 2.90	regular schedule
7:00 PM	$ 1.95	regular schedule
8:00 PM	$ 1.25	regular schedule
9:00 PM	$ 1.25	regular schedule
10:00 PM	$ 1.25	regular schedule
11:00 PM	$ 1.25	regular schedule

Labor Day

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	$ 1.25
1:00 AM	$ 1.25	$ 1.25
2:00 AM	$ 1.25	$ 1.25
3:00 AM	$ 1.25	$ 1.25
4:00 AM	$ 1.25	$ 1.25
5:00 AM	$ 1.25	$ 1.25
6:00 AM	$ 1.95	$ 1.95
7:00 AM	$ 1.95	$ 1.95
8:00 AM	$ 1.95	$ 1.95
9:00 AM	$ 2.90	$ 1.95
10:00 AM	$ 3.65	$ 1.95
11:00 AM	$ 3.65	$ 1.95
Noon	$ 4.30	$ 3.20
1:00 PM	$ 4.30	$ 3.45
2:00 PM	$ 4.30	$ 3.45
3:00 PM	$ 3.25	$ 3.45
4:00 PM	$ 2.90	$ 3.45
5:00 PM	$ 1.95	$ 3.45
6:00 PM	$ 1.95	$ 3.45
7:00 PM	$ 1.95	$ 3.45
8:00 PM	$ 1.95	$ 3.20
9:00 PM	$ 1.95	$ 1.95
10:00 PM	$ 1.25	$ 1.25
11:00 PM	$ 1.25	$ 1.25

Wed Before Thanksgiving

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	$ 1.25
1:00 AM	$ 1.25	$ 1.25
2:00 AM	$ 1.25	$ 1.25
3:00 AM	$ 1.25	$ 1.25
4:00 AM	$ 2.30	$ 1.25
5:00 AM	$ 3.90	$ 1.25
6:00 AM	$ 4.00	$ 1.95
7:00 AM	$ 4.45	$ 1.95
8:00 AM	$ 4.45	$ 1.95
9:00 AM	$ 4.00	$ 2.30
10:00 AM	$ 3.80	$ 3.80
11:00 AM	$ 3.80	$ 3.90
Noon	$ 3.80	$ 4.45
1:00 PM	$ 3.80	$ 4.65
2:00 PM	$ 3.80	$ 5.65
3:00 PM	$ 3.80	$ 6.55
4:00 PM	$ 3.80	$ 6.55
5:00 PM	$ 3.80	$ 6.55
6:00 PM	$ 3.80	$ 4.65
7:00 PM	$ 2.30	$ 4.45
8:00 PM	$ 1.25	$ 4.45
9:00 PM	$ 1.25	$ 3.90
10:00 PM	$ 1.25	$ 1.95
11:00 PM	$ 1.25	$ 1.25

Thanksgiving

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	$ 1.25
1:00 AM	$ 1.25	$ 1.25
2:00 AM	$ 1.25	$ 1.25
3:00 AM	$ 1.25	$ 1.25
4:00 AM	$ 1.25	$ 1.25
5:00 AM	$ 1.25	$ 1.25
6:00 AM	$ 1.25	$ 1.25
7:00 AM	$ 1.25	$ 1.95
8:00 AM	$ 1.25	$ 2.30
9:00 AM	$ 1.95	$ 3.80
10:00 AM	$ 3.80	$ 4.00
11:00 AM	$ 4.00	$ 4.45
Noon	$ 4.45	$ 4.45
1:00 PM	$ 4.45	$ 4.45
2:00 PM	$ 4.45	$ 4.00
3:00 PM	$ 3.80	$ 3.80
4:00 PM	$ 3.80	$ 3.80
5:00 PM	$ 3.80	$ 3.80
6:00 PM	$ 3.80	$ 4.00
7:00 PM	$ 3.80	$ 4.00
8:00 PM	$ 3.80	$ 4.00
9:00 PM	$ 3.80	$ 4.00
10:00 PM	$ 3.80	$ 3.80
11:00 PM	$ 1.95	$ 1.95

Friday After Thanksgiving

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	$ 1.25
1:00 AM	$ 1.25	$ 1.25
2:00 AM	$ 1.25	$ 1.25
3:00 AM	$ 1.25	$ 1.25
4:00 AM	$ 1.25	$ 1.25
5:00 AM	$ 1.25	$ 1.25
6:00 AM	$ 1.95	$ 1.25
7:00 AM	$ 2.30	$ 1.25
8:00 AM	$ 2.30	$ 2.30
9:00 AM	$ 3.00	$ 3.80
10:00 AM	$ 3.80	$ 3.80
11:00 AM	$ 3.80	$ 3.80
Noon	$ 3.80	$ 4.00
1:00 PM	$ 3.80	$ 3.80
2:00 PM	$ 3.80	$ 3.80
3:00 PM	$ 3.80	$ 3.80
4:00 PM	$ 3.80	$ 3.80
5:00 PM	$ 3.80	$ 3.80
6:00 PM	$ 3.80	$ 3.80
7:00 PM	$ 2.30	$ 3.80
8:00 PM	$ 1.25	$ 2.30
9:00 PM	$ 1.25	$ 1.95
10:00 PM	$ 1.25	$ 1.95
11:00 PM	$ 1.25	$ 1.25

Christmas Day*

Time	Westbound Price	Eastbound Price
Midnight	$ 1.25	$ 1.25
1:00 AM	$ 1.25	$ 1.25
2:00 AM	$ 1.25	$ 1.25
3:00 AM	$ 1.25	$ 1.25
4:00 AM	$ 1.25	$ 1.25
5:00 AM	$ 1.25	$ 1.25
6:00 AM	$ 1.25	$ 1.25
7:00 AM	$ 1.25	$ 1.25
8:00 AM	$ 2.30	$ 1.95
9:00 AM	$ 2.40	$ 2.30
10:00 AM	$ 3.60	$ 3.80
11:00 AM	$ 3.90	$ 3.90
Noon	$ 3.90	$ 4.65
1:00 PM	$ 3.90	$ 4.65
2:00 PM	$ 3.90	$ 4.65
3:00 PM	$ 3.80	$ 4.65
4:00 PM	$ 3.80	$ 4.65
5:00 PM	$ 3.80	$ 4.65
6:00 PM	$ 3.80	$ 4.65
7:00 PM	$ 3.80	$ 4.65
8:00 PM	$ 3.80	$ 4.65
9:00 PM	$ 3.80	$ 3.90
10:00 PM	$ 3.80	$ 1.95
11:00 PM	$ 3.60	$ 1.25

[*] The intent of the holiday schedule is to offer tolls that reflect holiday traffic patterns. If Christmas, New Years or Fourth of July falls on a Tuesday, Wednesday, Thursday, or Friday, the regular Friday toll schedule will be used the day before the holiday. If the day after Christmas, New Years or Fourth of July is a Friday or Monday, it is assumed these are traditionally light traffic days, therefore, a reduced rate applies (Friday after Thanksgiving rate will be used).

If Christmas, New Years or Fourth of July fall on Saturday, it is assumed the Friday before is a traditionally light traffic day; therefore the stated Christmas, New Years or Fourth of July holiday toll schedule applies. It is also assumed that the Thursday before is a heavy traffic day, therefore the regular Friday schedule applies. When reduced rates apply, the weekend HOV 3+ policy will be in effect.

ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Attachment D

ATTACHMENT D

ORANGE COUNTY TRANSPORTATION AUTHORITY

Adopted Toll Policy for Riverside County Transportation Commission 91 Express Lanes

Attachment A

RCTC 91 Express Lanes Toll Policy
Adopted June 7, 2012

Goals

The goals for the RCTC 91 Express Lanes toll policy are to:

- Provide a safe, reliable, and predictable commute for 91 Express Lanes customers;
- Optimize vehicle throughput at free flow speeds;
- Pay debt service and maintain debt service coverage;
- Increase average vehicle occupancy;
- Balance capacity and demand to serve customers who pay tolls as well as carpoolers with three or more persons who are offered discounted tolls;
- Generate sufficient revenue to sustain the financial viability of the RCTC 91 Express Lanes;
- Ensure all covenants in the Financing Documents are met; and
- Provide net revenues for Riverside Freeway/State Route 91 corridor improvements.[1]

Definitions

Exhibit I, "Definitions", clarifies terms used in this RCTC 91 Express Lanes Toll Policy.

Super Peak Hours

The toll adjustment goals for Super Peak hours are to: a) reduce the likelihood of congestion by diverting traffic to other hours with available capacity; b) maintain free flow travel speed in the RCTC 91 Express Lanes; c) maintain travel time savings; d) accommodate projected growth in travel demand and; e) ensure that the toll road generates sufficient revenue to effectively operate the toll lanes and maintain a strong debt service position.

[1] As allowable under Senate Bill 1316.

The toll for use of the RCTC 91 Express Lanes during a Super Peak hour shall be determined as follows:

1. Hourly, day, and direction traffic volumes will be continually monitored on a rolling 12 consecutive week period basis. The review period of 12 weeks may be reduced to a shorter period during times of abnormal travel patterns in the State Route 91 corridor. Such abnormal travel patterns shall include, but are not limited to, initial opening of the RCTC 91 Express Lanes and times of construction along State Route 91 or adjacent freeways or feeder routes.
2. Hourly, day, and directional traffic volumes of 3,128 or more will be flagged for further review.
3. If the hourly, day, and directional traffic volume is consistently at a level of Super Peak then the toll rate for that hour, day and direction may be increased.
4. The toll for that hour, day, and direction shall be increased, based on the average vehicle volume of the flagged hour, day, and direction identified per Section 2 above, as follows:
   (a) if the average flagged vehicle volume is 3,300 or more then the toll shall be increased by $1.00.
   (b) if the average flagged vehicle volume is between 3,200 and 3,299 then the toll shall be increased by $0.75.
   (c) if the average flagged vehicle volume is less than 3,200 then the toll shall not be changed.

Six months after a toll increase, the most recent 12 consecutive weeks (excluding weeks with a Holiday or a major traffic anomaly caused by an accident or incident) shall be reviewed for the hour, day and direction that the toll was increased. If the traffic volume is less than 2,800 vehicles per hour, day, and direction in six or more of the weeks then the traffic volumes for that hour, day and direction for the 12 consecutive weeks shall be averaged. If the average traffic volume is less than 2,800 then the toll shall be reduced by $0.50 to stimulate demand and encourage RCTC 91 Express Lanes use.

RCTC's Board of Commissioners and customers will be informed of a toll adjustment 10 or more days prior to that toll adjustment becoming effective.

Non-Super Peak Hours

Non-Super Peak hours will generally remain at fixed levels within a broad band of Levels of Service, increasing annually by the Inflation Factor.

Vehicle volumes increasing from one Level of Service (LOS) to the next, would subject the toll rates to increase; the LOS for the Express Lanes are roughly defined as follows:

LOS A	0 to 800 vehicles
LOS B	800 to 1600 vehicles
LOS C	1600 to 2400 vehicles
LOS D	2400 to 2800 vehicles
LOS E	2800 to 3100 vehicles

Toll rates will be adopted for each LOS reflecting the time savings value to the driver as traffic moves into the next level of congestion.

All tolls shall be rounded up or down to the nearest 5-cent increment.

Discount

Vehicles with three or more persons (HOV3+), zero emission vehicles (ZEVs), motorcycles, disabled plates and disabled veterans are permitted to ride free in the RCTC 91 Express Lanes during most hours. The exception is Monday through Friday 4:00 p.m. to 6:00 p.m. in the eastbound direction when these users pay 50 percent of the toll. The exception that these users pay 50 percent remains in effect until such time as the Orange County Transportation Authority's (OCTA) adopted toll policy for the 91 Express Lanes results in HOV3+ users using the OCTA 91 Express Lanes riding free all day, every day. It is the intent of RCTC to adjust its toll policy to match the HOV3+ discounts OCTA provides, subject to covenants in the Financing Documents and other financing requirements.

Financing Requirements

RCTC shall charge and collect tolls that generate enough revenue to maintain the Debt Service Coverage Ratios as required in the Financing Documents and to operate and maintain the RCTC 91 Express Lanes in a safe condition in accordance with all applicable laws and regulations. RCTC recognizes that it must maintain a strong debt service position in order to satisfy the covenants in the Financing Documents. The requirement to maintain Debt Service Coverage Ratios and comply with Financing Document and other financing covenants will supersede the specific policies for setting and modifying tolls and discounts.

Holiday Toll Schedules

Holiday toll schedules are identified on Exhibit V and shall be adjusted by the Inflation Factor at the beginning of each Fiscal Year following the opening of RCTC's 91 Express Lanes.

Interpretation

These policies are intended as guidance and may be amended or superseded at any time.

Exhibit I
Definitions

Cash Available for Debt Service – for any Period, the excess, if any, computed on a cash basis, of:

(1) the amount of RCTC 91 Express Lanes cash receipts during such Period from whatever source, including, without limitation, toll receipts, transponder revenues, and investment earnings, *excluding:*

- proceeds of insurance,
- proceeds of debt service letter of credit or other amounts held in or disbursed from the payment account, the debt service reserve account, the coverage account and the major maintenance reserve account, and
- the proceeds of any bonds or loans issued or executed to provide capital improvements to the RCTC 91 Express Lanes, *over*

(2) All Operating and Maintenance Costs incurred during such Period and not deducted in the computation of Cash Available for Debt Service in a prior Period. In computing Operating and Maintenance Costs for any Period, an appropriate prorating will be made for expenditures such as insurance premiums and taxes that would be prorated if the computation were to be made in accordance with Generally Accepted Accounting Principles.

Consistently – Any six weeks of twelve consecutive weeks, excluding any week that includes a Holiday or major traffic pattern anomaly caused by an accident or incident.

Debt Service – for any Period, all payments of principal, interest, premiums (if any), fees and other amounts made (including by way of prepayment) or required to be made by RCTC during such Period under the Financing Documents (debt service payments related to RCTC's internal subordinated debt borrowings or application of revenues to pay RCTC's sales tax revenue bonds are to be excluded from these calculations). In computing Debt Service for any Period prior to the issuance of any additional financing, subject to the specific terms of the Financing Documents, RCTC will give pro forma effect to the transactions contemplated by the Financing Documents and the use of proceeds of the additional financing. In computing Debt Service for any prospective Period, RCTC will estimate in good faith such payments on the basis of reasonable assumptions. Such assumptions will include the absence of any waivers of or amendments to any agreements and the absence of any optional or extraordinary mandatory redemption of existing financings.

Debt Service Coverage Ratio – defined specifically in the Financing Documents, which specific provisions control the implementation and setting of tolls and discounts, but generally, for any Period, the ratio of Cash Available for Debt Service for such Period to Debt Service for such Period.

Financing Documents – the documents under which RCTC has issued toll revenue bonds or other financings, including financings with TIFIA, payable primarily from toll revenues.

Fiscal Year – July 1 to June 30

Holiday – Any of the following holidays that occur or are recognized any day between Monday through Friday: New Year's Day, Memorial Day, 4th of July, Labor Day, Thanksgiving and Christmas.

Inflation Factor - the product of the hourly toll for the immediately preceding fiscal year, times the CPI Index Adjuster for the prior fiscal year divided by the CPI Index Adjuster for the year immediately preceding such fiscal year, but in no case less than zero.

Maximum Optimal Capacity – 3,400 vehicles per hour, per day, per direction in the RCTC 91 Express Lanes facility.

Non-Super Peak – Hourly period that is not Super Peak.

Operating and Maintenance Costs – defined specifically in the Financing Documents, but generally, all reasonable and necessary expenses of administering, managing, maintaining and operating the RCTC 91 Express Lanes and in accordance with the operation and maintenance agreements.

Period – the most recent twelve complete months.

Super Peak – Hourly period, per day, and per direction with traffic volume use which meets or exceeds the Trigger Point.

Trigger Point – 92 percent or more of Maximum Optimal Capacity (3,128+ vehicles per hour, per day, and per direction).

Week – 12:00 a.m. Sunday to 11:59 p.m. the following Saturday.

Some of the financial definitions will be modified to reflect the bond covenants in the bond financing documents.

Exhibit II
Toll Policy Decision Process
Congestion Management Pricing in Super Peak

Description / Detail

Monitor adjusted hourly, directional traffic for last 12 consecutive weeks (exclude days/hours with holidays, major incidents, accidents)

Flag individual adjusted hours when traffic volume is 3,128 vehicles or less per hour, per day per direction. Determine if this occurs six or more times in the 12 week period

Average the traffic volume for the hour, day and direction for the 12 week period (exclude holidays, accidents, major incidents).

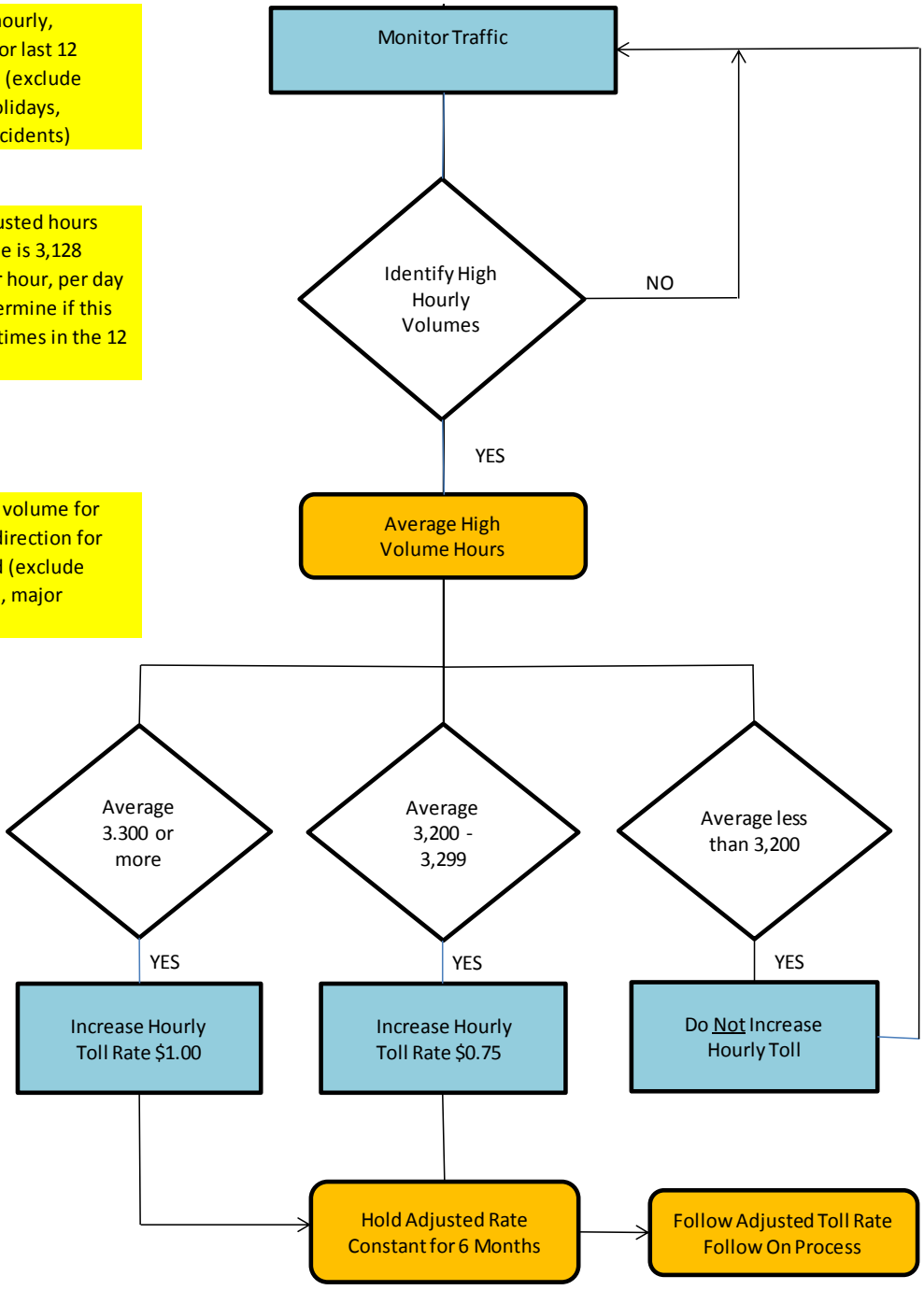


Exhibit III
Adjusted Toll Rate Follow On Process
(Super Peak Adjusted Rates Only)

Description / Detail
Monitor adjusted hourly, directional traffic for last 12 consecutive weeks (exclude days/hours with holidays, major incidents, accidents)
Flag individual adjusted hours when traffic volume is 2,720 vehicles or less per hour, per day per direction. Determine if this occurs six or more times in the 12 week period
Average the traffic volume for the hour, day and direction for the 12 week period (exclude holidays, accidents, major incidents).

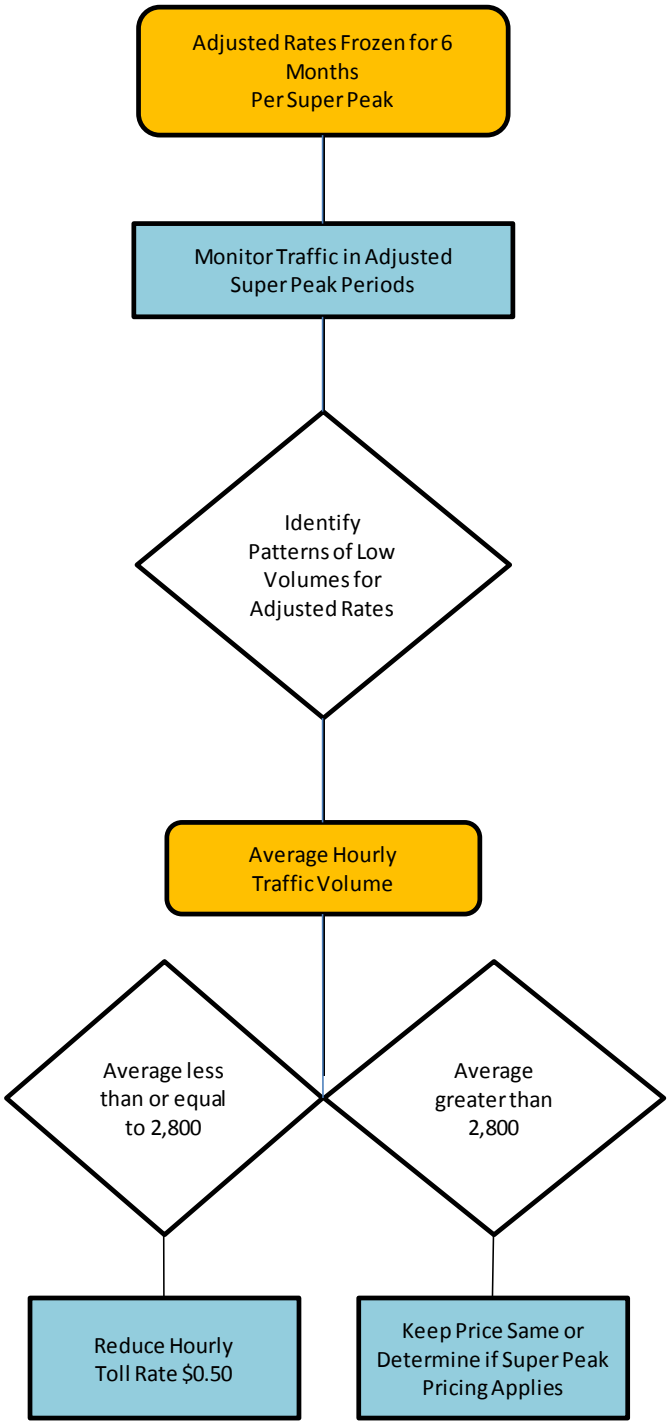
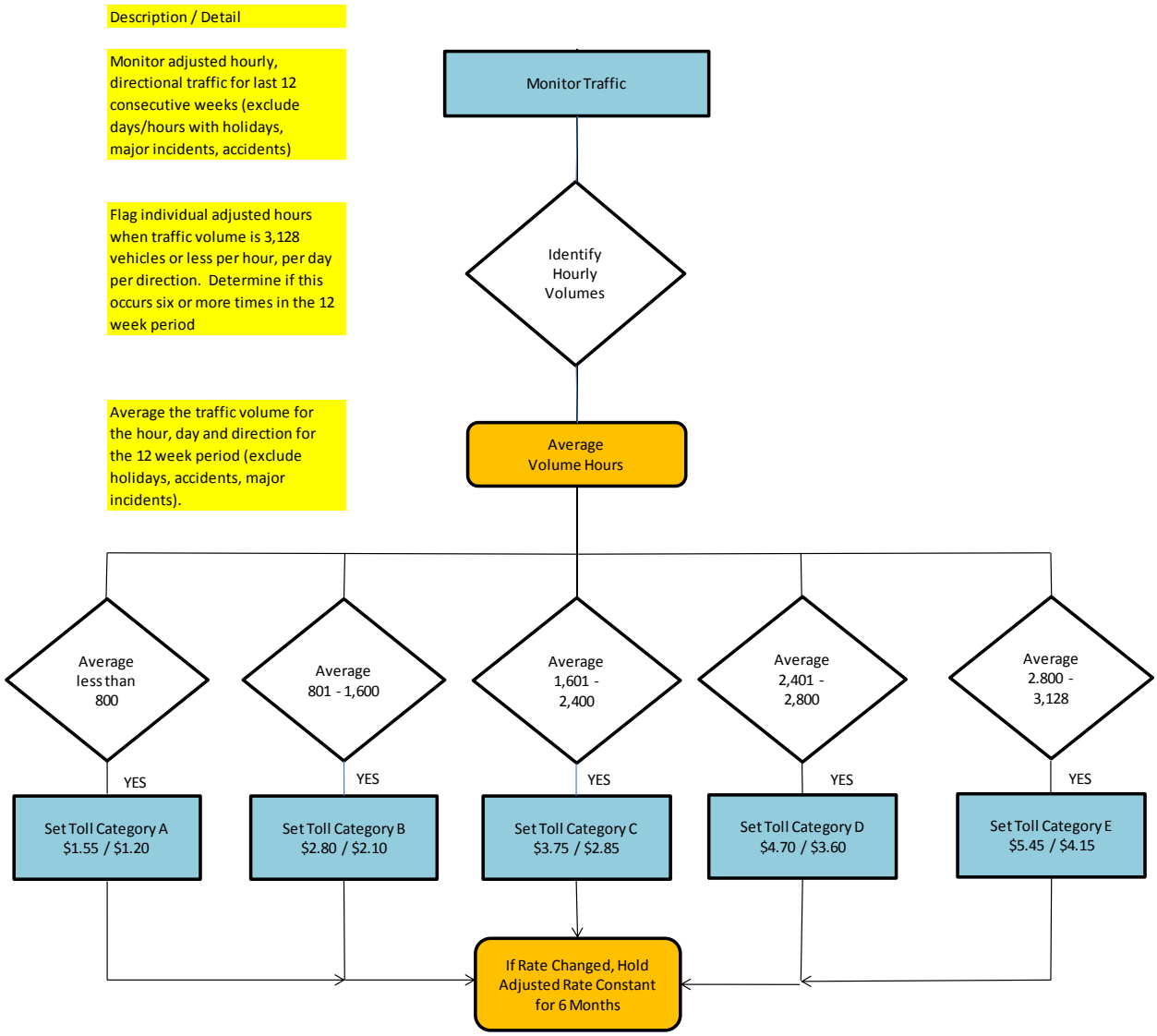


Exhibit IV
Toll Policy Decision Process
Non Super Peak Periods



(*) The actual rates shown are the projected rates from the 91 Express Lanes Extension Investment Grade Study. Once the facility is operational, traffic volumes will be monitored and rates adjusted accordingly. Rates shown represent projected scale of toll rates by volume category (in 2012 $).

Exhibit V
RCTC 91 Express Lanes Toll Schedule
June 13, 2012

The charts below identify the toll schedule in effect as of opening year of RCTC's 91 Express Lanes once a steady state condition emerges after the initial opening ramp-up period. The assumed opening year is 2017 and the toll schedule rates are in current year 2012 dollars. The toll schedule below is provided only to illustrate the projected hourly toll rates that would result from implementing RCTC's toll policy. Prior to the first day of operation of RCTC's 91 Express Lanes, the toll schedule will be re-evaluated to reflect then-current corridor traffic information and presented to RCTC's Board of Commissioners for reference.

In addition to the posted tolls, the RCTC 91 Express Lane toll policy allow carpoolers with three or more persons (HOV3+), zero emission vehicles (ZEVs), motorcycles, disabled plates and disabled veterans to ride free during most hours. The exception is Monday through Friday 4:00 p.m. to 6:00 p.m. in the eastbound direction when they pay 50 percent of the posted toll.

Riverside 91 Express **Toll Schedule** Effective June 1, 2017 **Eastbound** Riverside Co. Line to I-15 at Ontario

** Year 2012 $'s

	Sun	M	Tu	W	Th	F	Sat
Midnight	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
1:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
2:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
3:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
4:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
5:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
6:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
7:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
8:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
9:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
10:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
11:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
NOON	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
1:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$2.80	$2.80
2:00 PM	$1.55	$2.80	$2.80	$2.80	$2.80	$3.75	$2.80
3:00 PM	$1.55	$3.75	$3.75	$3.75	$3.75	$4.70	$2.80
4:00 PM	$1.55	$4.70	$4.70	$4.70	$4.70	$4.70	$2.80
5:00 PM	$2.80	$4.70	$4.70	$4.70	$4.70	$4.70	$2.80
6:00 PM	$2.80	$4.70	$4.70	$4.70	$4.70	$5.45	$2.80
7:00 PM	$1.55	$3.75	$3.75	$3.75	$3.75	$4.70	$1.55
8:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$3.75	$1.55
9:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$2.80	$1.55
10:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
11:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55

Riverside 91 Express **Toll Schedule** Effective June 1, 2017 **Westbound** I-15 at Ontario to Riverside Co. Line

** Year 2012 $'s

Time	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Midnight	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
1:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
2:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
3:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
4:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
5:00 AM	$1.55	$3.75	$3.75	$3.75	$3.75	$4.70	$1.55
6:00 AM	$1.55	$4.70	$4.70	$4.70	$4.70	$5.45	$1.55
7:00 AM	$1.55	$4.70	$4.70	$4.70	$4.70	$5.45	$1.55
8:00 AM	$1.55	$3.75	$3.75	$3.75	$3.75	$3.75	$1.55
9:00 AM	$1.55	$2.80	$2.80	$2.80	$2.80	$2.80	$1.55
10:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$2.80
11:00 AM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$2.80
NOON	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$2.80
1:00 PM	$2.80	$1.55	$1.55	$1.55	$1.55	$1.55	$2.80
2:00 PM	$2.80	$1.55	$1.55	$1.55	$1.55	$1.55	$2.80
3:00 PM	$2.80	$1.55	$1.55	$1.55	$1.55	$1.55	$2.80
4:00 PM	$2.80	$1.55	$1.55	$1.55	$1.55	$2.80	$2.80
5:00 PM	$2.80	$1.55	$1.55	$1.55	$1.55	$2.80	$2.80
6:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$2.80
7:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
8:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
9:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
10:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55
11:00 PM	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55	$1.55

Riverside 91 Express **Toll Schedule** Effective June 1, 2017 **Eastbound** Riverside Co. Line to McKinley Street

** Year 2012 $'s

	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Midnight	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
1:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
2:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
3:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
4:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
5:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
6:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
7:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
8:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
9:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
10:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
11:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
NOON	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
1:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$2.10	$2.10
2:00 PM	$1.20	$2.10	$2.10	$2.10	$2.10	$2.85	$2.10
3:00 PM	$1.20	$2.85	$2.85	$2.85	$2.85	$3.60	$2.10
4:00 PM	$1.20	$3.60	$3.60	$3.60	$3.60	$3.60	$2.10
5:00 PM	$2.10	$3.60	$3.60	$3.60	$3.60	$3.60	$2.10
6:00 PM	$2.10	$3.60	$3.60	$3.60	$3.60	$4.15	$2.10
7:00 PM	$1.20	$2.85	$2.85	$2.85	$2.85	$3.60	$1.20
8:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$2.85	$1.20
9:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$2.10	$1.20
10:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
11:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20

Riverside 91 Express **Toll Schedule** Effective June 1, 2017 **Westbound** McKinley Street to Riverside Co. Line

** Year 2012 $'s

	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Midnight	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
1:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
2:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
3:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
4:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
5:00 AM	$1.20	$2.85	$2.85	$2.85	$2.85	$3.60	$1.20
6:00 AM	$1.20	$3.60	$3.60	$3.60	$3.60	$4.15	$1.20
7:00 AM	$1.20	$3.60	$3.60	$3.60	$3.60	$4.15	$1.20
8:00 AM	$1.20	$2.85	$2.85	$2.85	$2.85	$2.85	$1.20
9:00 AM	$1.20	$2.10	$2.10	$2.10	$2.10	$2.10	$1.20
10:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$2.10
11:00 AM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$2.10
NOON	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$2.10
1:00 PM	$2.10	$1.20	$1.20	$1.20	$1.20	$1.20	$2.10
2:00 PM	$2.10	$1.20	$1.20	$1.20	$1.20	$1.20	$2.10
3:00 PM	$2.10	$1.20	$1.20	$1.20	$1.20	$1.20	$2.10
4:00 PM	$2.10	$1.20	$1.20	$1.20	$1.20	$2.10	$2.10
5:00 PM	$2.10	$1.20	$1.20	$1.20	$1.20	$2.10	$2.10
6:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$2.10
7:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
8:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
9:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
10:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20
11:00 PM	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20

Exhibit VI
RCTC 91 Express Lanes Holiday Schedule

Riverside 91 Express **Toll Schedule** Effective June 1, 2017 **Eastbound** Riverside Co. Line to I-15 at Ontario

** Year 2012 $'s

	Weekday	Weekend
Midnight	$1.55	$1.55
1:00 AM	$1.55	$1.55
2:00 AM	$1.55	$1.55
3:00 AM	$1.55	$1.55
4:00 AM	$1.55	$1.55
5:00 AM	$1.55	$1.55
6:00 AM	$1.55	$1.55
7:00 AM	$1.55	$1.55
8:00 AM	$1.55	$1.55
9:00 AM	$1.55	$1.55
10:00 AM	$1.55	$1.55
11:00 AM	$1.55	$1.55
NOON	$1.55	$1.55
1:00 PM	$1.55	$2.80
2:00 PM	$1.55	$2.80
3:00 PM	$2.80	$2.80
4:00 PM	$3.75	$2.80
5:00 PM	$3.75	$2.80
6:00 PM	$3.75	$2.80
7:00 PM	$2.80	$1.55
8:00 PM	$1.55	$1.55
9:00 PM	$1.55	$1.55
10:00 PM	$1.55	$1.55
11:00 PM	$1.55	$1.55

Riverside 91 Express **Toll Schedule** Effective June 1, 2017 **Westbound** I-15 at Ontario to Riverside Co. Line

** Year 2012 $'s

Time	Weekday	Weekend
Midnight	$1.55	$1.55
1:00 AM	$1.55	$1.55
2:00 AM	$1.55	$1.55
3:00 AM	$1.55	$1.55
4:00 AM	$1.55	$1.55
5:00 AM	$2.80	$1.55
6:00 AM	$3.75	$1.55
7:00 AM	$3.75	$1.55
8:00 AM	$2.80	$1.55
9:00 AM	$1.55	$1.55
10:00 AM	$1.55	$2.80
11:00 AM	$1.55	$2.80
NOON	$1.55	$2.80
1:00 PM	$1.55	$2.80
2:00 PM	$1.55	$2.80
3:00 PM	$1.55	$2.80
4:00 PM	$1.55	$2.80
5:00 PM	$1.55	$2.80
6:00 PM	$1.55	$2.80
7:00 PM	$1.55	$1.55
8:00 PM	$1.55	$1.55
9:00 PM	$1.55	$1.55
10:00 PM	$1.55	$1.55
11:00 PM	$1.55	$1.55

Riverside Co. Line to McKinley Street

** Year 2012 $'s

	Weekday	Weekend
Midnight	$1.20	$1.20
1:00 AM	$1.20	$1.20
2:00 AM	$1.20	$1.20
3:00 AM	$1.20	$1.20
4:00 AM	$1.20	$1.20
5:00 AM	$1.20	$1.20
6:00 AM	$1.20	$1.20
7:00 AM	$1.20	$1.20
8:00 AM	$1.20	$1.20
9:00 AM	$1.20	$1.20
10:00 AM	$1.20	$1.20
11:00 AM	$1.20	$1.20
NOON	$1.20	$1.20
1:00 PM	$1.20	$2.10
2:00 PM	$1.20	$2.10
3:00 PM	$2.10	$2.10
4:00 PM	$2.85	$2.10
5:00 PM	$2.85	$2.10
6:00 PM	$2.85	$2.10
7:00 PM	$2.10	$1.20
8:00 PM	$1.20	$1.20
9:00 PM	$1.20	$1.20
10:00 PM	$1.20	$1.20
11:00 PM	$1.20	$1.20

McKinley Street to Riverside Co. Line

** Year 2012 $'s

	Weekday	Weekend
Midnight	$1.20	$1.20
1:00 AM	$1.20	$1.20
2:00 AM	$1.20	$1.20
3:00 AM	$1.20	$1.20
4:00 AM	$1.20	$1.20
5:00 AM	$2.10	$1.20
6:00 AM	$2.85	$1.20
7:00 AM	$2.85	$1.20
8:00 AM	$2.10	$1.20
9:00 AM	$1.20	$1.20
10:00 AM	$1.20	$2.10
11:00 AM	$1.20	$2.10
NOON	$1.20	$2.10
1:00 PM	$1.20	$2.10
2:00 PM	$1.20	$2.10
3:00 PM	$1.20	$2.10
4:00 PM	$1.20	$2.10
5:00 PM	$1.20	$2.10
6:00 PM	$1.20	$2.10
7:00 PM	$1.20	$1.20
8:00 PM	$1.20	$1.20
9:00 PM	$1.20	$1.20
10:00 PM	$1.20	$1.20
11:00 PM	$1.20	$1.20

(*) The intent of the holiday schedule is to offer tolls that reflect holiday traffic patterns. If Christmas, New Years or Fourth of July falls on a Tuesday, Wednesday, Thursday, or Friday, the regular Friday toll schedule will be used the day before the holiday. If the day after Christmas, New Years or Fourth of July is a Friday or Monday, it is assumed these are traditionally light traffic days, therefore, a reduced rate applies (Friday after Thanksgiving rate will be used). If Christmas, New Years or Fourth of July fall on Saturday, it is assumed the Friday before is a traditionally light traffic day; therefore the stated Christmas, New Years or Fourth of July holiday toll schedule applies. It is also assumed that the Thursday before is a heavy traffic day, therefore, the regular Friday schedule applies. When reduced rates apply, the weekend HOV3+ policy will be in effect.

ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Attachment E

ATTACHMENT E

PARSONS

HNTB

PROGRAM MANAGEMENT CONSULTANT TECHNICAL MEMORANDUM

DATE: September 23, 2015

SUBJECT: I-405 Improvement Project – Time of Day versus Dynamic Pricing

The Issue

Should the Orange County Transportation Authority (OCTA) use a Time of Day (TOD) pricing or a dynamic pricing approach for charging tolls on the Interstate 405 (I-405) Express Lanes?

Background

OCTA is developing and will ultimately operate the I-405 Express Lanes (Express Lanes) on the I-405 freeway. The Express Lanes will be located in the median of the I-405 Freeway, between State Route 73 and Interstate 605 (I-605) at the Los Angeles County line. The Express Lanes are scheduled to open to traffic in late 2022.

OCTA is considering a number of policy issues relative to the operational aspects of the Express Lanes. Among these policies is whether toll amounts will be governed by a Time of Day (TOD) pricing schedule or using a real-time, algorithm- driven, dynamic pricing approach.

The OCTA Board has not previously addressed the specific issue of TOD pricing versus dynamic pricing for the I-405 Express Lanes. At its April 27, 2015 meeting, the OCTA Board approved the Preliminary OCTA/Caltrans Agreement on Terms and Conditions for the I-405 Express Lanes. Section 3 – Operations, contains the following provision:

> *g. Tolls shall be collected electronically and use congestion pricing to manage demand.*

Both TOD pricing and dynamic pricing can, and are being, used as congestion pricing and demand management mechanisms on Express Lanes facilities in Southern California and other regions in the United States.

This memorandum explores this issue from several perspectives, and makes recommendations for consideration by OCTA.

Definitions

For purposes of this analysis, TOD pricing is defined as an approach where tolls vary during the day based on an established schedule. The schedule may be published on the toll facility website, marketing collateral or other materials. Dynamic pricing (also sometimes referred to as real-time or peak load pricing) is defined as an approach where tolls vary on a near real-time basis, based on changing traffic conditions. Toll ranges for various time periods may be published; however, actual toll rates are unpredictable, since traffic conditions are constantly changing on the express lanes and general purpose lanes.

How TOD Pricing and Dynamic Pricing Work

TOD pricing charges tolls according to an established schedule. As it relates to the operation of the I-405 Express Lanes, under a TOD pricing methodology, tolls would change based on an established schedule. This is consistent with how tolls vary on the 91 Express Lanes, where tolls vary by hour. For the 91 Express Lanes, the toll schedule is evaluated quarterly according to OCTA's 91 Express Lanes adopted toll policy, and hourly tolls are adjusted up or down, based on historical 12-week rolling average traffic volumes.

Under dynamic pricing, tolls increase or decrease in near real-time, based on prevailing traffic volumes and speeds. Should OCTA choose to incorporate a dynamic pricing approach to tolling on the I-405 Express Lanes, tolls would change on a near real-time basis (potentially as often as every few minutes), based on current traffic volumes and speeds in the corridor. This is accomplished using sensors that monitor traffic conditions (primarily volumes and speeds) and subsequently feed the data to a pricing algorithm. The algorithm processes the data and based on programmed business rules, determines the appropriate toll rate, posts it to signage and assigns the toll to customer's accounts that travel during that time period.

The primary differences between TOD pricing (as currently implemented on the 91 Express Lanes) and dynamic pricing can be summarized as follows:

Methodology	TOD Pricing	Dynamic Pricing
How Tolls Are Calculated	Hourly peak tolls are calculated based on historic, rolling, 12-week average traffic counts. Tolls rates are reviewed and adjusted quarterly in accordance with OCTA's adopted toll policy.	Tolls are calculated in real time, based on roadway sensor readings, interpreted by a computerized pricing algorithm designed to keep the express lanes free-flowing.
How Often Tolls Change	According to pre-established schedule (e.g. hourly increments). Toll schedule is revisited and modified as appropriate quarterly.	According to traffic conditions. Could be as often as every few minutes.

Methodology	TOD Pricing	Dynamic Pricing
How Tolls Are Displayed	Tolls are displayed on signs prior to the express lanes entrance. Tolls are also published on the 91 Express Lanes website.	Tolls are displayed on signs prior to the express lanes entrance.
Customer Notice of Tolls	With a fixed schedule, customers know what the toll will be before they leave for their destination.	With dynamic pricing, customers see the current toll as they approach the express lane facility.

TOD Pricing vs. Dynamic Pricing Attributes

The table below compares TOD pricing and dynamic pricing on three criteria – predictability, versatility and flexibility.

Criterion	Time-of-Day Pricing (*TOD*)	Dynamic Pricing (*DP*)
Predictable. *Customers can anticipate prices, and the Authority can anticipate revenue.*	• TOD is inherently predictable. Authority publishes rate schedule, and customers have certainty of their toll rates in advance of their trip. • TOD is well-suited for new facilities. Pricing schedules can be posted in advance in order to enable potential customers to weigh their decisions in advance.	• DP is less predictable, since rates typically change with greater frequency than TOD. • DP can be problematic with new facilities, introducing prices that may not have been anticipated by customers. • Over time, rates will become predictable from the perspective of regular users of the roadway. • Extensive testing is essential to ensure that the pricing responds to various traffic conditions in a reasonable way.
Versatile. *Toll algorithm is able to facilitate smooth operations in the managed lanes at all times.*	• Since TOD rates are published in advance, this strategy has a limited ability to respond to non-recurring traffic conditions. • A dynamic component may need to be incorporated that would allow for rates to be elevated or lowered based on prevailing conditions (e.g. an accident in the managed lanes, a special event (e.g. athletic events) that produce surges in traffic during non-peak travel times).	• DP algorithm can be designed to yield prices that can respond to a variety of non-recurring conditions. • DP algorithm can be designed to respond to conditions in both the managed lanes and the GP lanes. • DP requires extensive coordination with the Authority to ensure that pricing responses are consistent with the Authority's values and priorities.

Flexible. *Toll algorithm can be customized over time to support the Authority's operational and revenue goals.*	• Only 2 variables are at the Authority's disposal to support operational and revenue goals:
	  ○ Price
	  ○ Intervals during with the prices apply
	• Explicit toll increases required over time to keep pace with inflation.
	• Can be calibrated over time to mimic dynamic pricing, though it will still lack the ability to aggressively respond to non-recurring conditions.
		• DP algorithms typically have several variables that can be evaluated to support the Authority's operational and revenue goals. These variables could include: max desired flow rate in managed lanes, value of travel time, length of intervals, maximum and minimum toll rate changes per interval.
		• Variables can be adjusted to pursue alternative goals (e.g. traffic optimization, revenue maximization, etc.)
		• DP generally does not involve explicit toll increases. Tolls increase over time in response to changes in level of usage and in response to changes in underlying variables.

OCTA Express Lanes Goals

Any evaluation of TOD pricing versus dynamic pricing should consider the overall goals that OCTA wants to accomplish with the Express Lanes. Draft goals include:

1. Provide express lanes customers with a safe, reliable, predictable commute.
2. Optimize throughput at free flow speeds.
3. Increase average vehicle occupancy.
4. Balance capacity and demand to serve customers who pay tolls as well as people who rideshare or use transit.
5. Generate sufficient revenue to sustain the financial viability of the 405 Express Lanes.
6. Ensure all covenants in the financing documents are met.
7. Ensure any potential net excess toll revenues are used for Interstate 405 corridor improvements.

The following information discusses TOD pricing versus dynamic pricing relative to OCTA's Express Lanes goals and other considerations.

<u>Goal #1 - Provide Express Lanes customers with a safe, reliable, predictable commute.</u>

Both TOD pricing and dynamic pricing methodologies provide Express Lanes customers with a safe, reliable, predictable commute. Both have been successfully implemented on express lanes facilities across the nation. There is no empirical data that suggests that one pricing method is safer than the other or that facility users feel any more or less safe under either pricing methodology. Regarding toll rate reliability and predictability, the TOD pricing approach provides a more reliable toll rate than dynamic pricing. As far as trip predictability, TOD pricing works just as well as dynamic pricing as long as traffic patterns are predictable and stable, which is the vast majority of the time. It could be argued that TOD pricing lacks the flexibility to respond to unusual or unpredictable traffic increases, such as major incident. However, this can be addressed by establishing a business rule (and customer expectation) that toll rates will be temporarily increased to maintain free-flow conditions during anomalous conditions. In fact, where dynamically priced facilities have a cap or maximum toll amount that can be charged, dynamic pricing suffers the same inflexibility in responding to major incidents as TOD pricing. In practice, during times of significant, lengthy incidents, the California Highway Patrol (CHP) may, in conjunction with the toll agency, determine that the best course of action is to open the express lanes toll-free until the incident is cleared, making this issue moot.

<u>Goal #2 - Optimize vehicle throughput at free flow speeds.</u>

Under routine daily traffic conditions, both TOD pricing and dynamic pricing produce similar express lanes speeds and throughput. Under unpredictable conditions (e.g. major incident), as described above, both TOD and dynamic pricing can be managed to produce similar throughput results; however, TOD pricing approach would require manual intervention to override the scheduled toll.

Goal #3 – Increase average vehicle occupancy.

This goal involves issues outside the question of TOD pricing versus dynamic pricing. To the extent that pricing methodology is considered relevant to meeting this goal, neither TOD pricing or dynamic pricing is a superior pricing approach.

Goal #4 - Balance capacity and demand to serve customers who pay tolls as well as people who rideshare or use transit.

The balance of capacity and demand between toll-payers and carpoolers (who ostensibly ride free or at a discount) is primarily a matter of pricing policy, not of pricing methodology.

Goal #5 - Generate sufficient revenue to sustain the financial viability of the 405 Express Lanes.

Assuming that the I-405 Express Lanes are financially strong enough to achieve financing and meet financial obligations, both TOD pricing and dynamic pricing are capable of generating similar revenue amounts. Actual performance of each approach is dependent on how accurate and finely tuned it is, relative to traffic conditions and customer behavior. To date, there is not enough empirical evidence to support one approach over the other, when it comes to revenue generation.

Goal #6 - Ensure all covenants in the financing documents are met.

The ability to meet bond covenants is dependent on financial viability/performance of the project. As indicated above (Goal #5) both TOD pricing and dynamic pricing approaches are capable of generating similar revenue amounts.

Goal #7 - Ensure any potential net excess toll revenues are used for Interstate 405 corridor improvements.

This goal involves issues outside the question of TOD pricing versus dynamic pricing.

Other Considerations

In addition to OCTA's goals for the Express Lanes, the decision regarding TOD pricing versus dynamic pricing needs to consider operational, stakeholder, customer and financial community needs. The following are observations regarding these criteria.

Express Lanes Operations

From an operational perspective, neither TOD pricing nor dynamic pricing is a superior methodology. Both require similar approaches and resources devoted to daily monitoring of toll rates and traffic patterns. It could be argued that TOD pricing requires less sophisticated roadway, hardware and software components, which may reduce overall Project capital and maintenance costs, but likely not in a significant amount compared to overall project costs.

The above being said, OCTA's 91 Express Lanes has a proven 20-year track record of being able to manage congestion and deliver excellent financial results using a TOD Pricing methodology associated with a well thought-out and executed toll policy. While other dynamically-priced toll facilities continue to refine their pricing algorithms and are subject to technology glitches, OCTA's simple, easy-to-understand and execute TOD pricing approach offers an effective, low risk approach that has withstood the test of time.

Stakeholder Perspective

Key non-financial stakeholders include FHWA, Caltrans, corridor cities, CHP, other safety providers, transit providers, private businesses and others with a stake in the management of this important corridor Caltrans recently published Deputy Directive 43-R1 (DD-43), Managed Lanes Facilities, which indicates that for managed (express) lanes on the State Highway System "Tolls shall be collected electronically and use congestion pricing to manage demand." DD-43 does not indicate a preference for either TOD or dynamic pricing. No other stakeholders have indicated a preferred toll pricing approach.

Customer Perspective

Customer acceptance and feeling of value and goodwill toward OCTA will play a key role in the use of the Express Lanes. In a 2014 customer satisfaction survey, 91 Express Lanes customers were asked their opinion of TOD versus dynamic pricing approaches. Respondents were almost evenly split with 45 percent favoring TOD pricing, 42 percent dynamic pricing and the balance unsure or preferring not to answer. In the case of equal acceptance (and equal financial performance), it is recommended that OCTA consider the tolling approach that best meets overall public policy best practices. Transparency and ease of understanding are two such best practices. In this regard, TOD pricing is superior to dynamic pricing. With TOD pricing, the toll schedule is transparent, as it is published and available on the Authority's website or other location for customers to view and understand before using the Express Lanes. A published toll schedule based on a publicly-adopted toll schedule provides superior transparency compared to what customers might consider a "black box" computer program that calculates tolls based on a difficult to explain algorithmic formula. TOD pricing is also easier for customers to understand, as it is simpler to explain and for the customer to anticipate and monitor tolls paid.

TOD pricing schedules are potentially more familiar to I-405 Express Lanes users, especially those that primarily travel within Orange and Riverside counties. TOD pricing also may, like the 91 Express Lanes, encourage more regular use or a propensity for some users to travel during the "shoulder hours". During shoulder hours - times slightly before or after peak rush hours -

toll prices are lower than during the peak hours. Currently, TOD pricing is used by the 91 Express Lanes and Transportation Corridor Agencies (TCA) toll facilities. In 2017, Riverside County Transportation Commission (RCTC) will open the 91 Express Lanes extension with a TOD pricing policy similar to the 91 Express Lanes approach. A 2013 analysis prepared for the Riverside County Transportation Commission (RCTC) recommends that RCTC open its planned I-15 Express Lanes with TOD pricing. The LA Metro ExpressLanes and SANDAG I-15 Express Lanes are the only southern California toll facilities that use dynamic pricing.

Financial Stakeholder Perspective

Evidence of the financial market's perspective on TOD pricing versus dynamic pricing is contained in the below excerpts from a May 2013 publication by Moody's Investment Services entitled "Managed lanes are HOT! Unique risks and benefits versus traditional tolling" (***emphasis added***).

> Managed lanes projects have higher revenue volatility and execution risk than do traditional tolled facilities. ***The dynamic tolling and violations tracking systems for managed toll lanes are inherently more complex*** as they encompass the possibility of changes to toll rates as frequently as every five minutes in response to increases and declines in traffic volumes.
>
> Because tolls will rise as traffic increases, and fall as it decreases, we expect in general managed lane projects to exhibit a higher degree of revenue volatility compared to traditional toll roads. Since managed lanes serve as congestion relievers, demand is likely to rise and fall disproportionately to increases in traffic on the project corridor as a whole. ***Furthermore, in our view there is greater execution risk involved in managing the dynamic tolling system effectively and efficiently, and in a manner that maximizes revenues while maintaining target speed and delivering reliable trip times and costs to users.***

Research and conversations with rating agency and other financial community representatives indicate that TOD pricing is easier to model and understand by rating agencies. Dynamic pricing is relatively new and unproven in its ability to support significant debt structures. This uncertainty results in an increased risk profile assigned to a project by the rating agencies, which in turn, results in potentially lower bond ratings, more expensive debt and/or more stringent debt covenants.

Previous Analysis

In March, 2015, OCTA Financial Advisor, Sperry Capital, prepared a memorandum on the issue of TOD pricing versus dynamic pricing for the I-405 Express Lanes. Some of the issues raised in the memorandum were as follows:

- The key question for OCTA for the proposed I-405 Express Lanes is, what is the value of the 91 Express Lanes Toll Policy being a highly transparent 12 week monitoring approach with posted toll schedules provided three months in advance, to its prospective I-405 customers?

- Fixed, static pricing in one hour increments provides customers with certainty as to tolls. Anecdotal evidence shows that posted static pricing induces customers to change their commute times to avoid peak hour tolls. It is unclear how prospective I-405 Express Lanes customers who focus on reliability over VOT (value of time) will react to dynamic pricing.

- Quoting from the previously-mentioned 2013 Fitch report, the memorandum states "However, constantly changing toll rates may be confusing for drivers, as they do not know how much they will pay until they arrive at the gantry or possibly until they receive a bill a few days later." Although OCTA anticipates price signage prior to the entry point to the Express Lanes and will not offer post-billing for trips, the concept of uncertainty remains valid.

Hybrid Variable Pricing

Chapter 7 of the Federal Highway Administration (FHWA) Priced Managed Lanes Guide (http://ops.fhwa.dot.gov/publications/fhwahop13007/pmlg7_0.htm#71) discusses hybrid variable pricing. This option may have some interest to OCTA. Under a hybrid variable pricing scenario, OCTA would operate the I-405 Express Lanes using a TOD pricing approach, but have a dynamic pricing algorithm running in the background for purposes of 1) helping to calibrate/fine tune the TOD pricing schedules and 2) to serve as a dynamic pricing mechanism during major traffic incidents and/or other anomalous situations when OCTA would want to adjust tolls higher than the published toll schedule to keep the Express Lanes free flowing. This has the benefits of providing customers with the benefits of a published toll schedule, while preserving the ability of OCTA to manage congestion during major incidents.

Conclusions

Based on the information presented in this analysis, the following conclusions are offered.

- There is no criterion evaluated for this report where dynamic pricing outperforms or is otherwise superior to TOD pricing.

- The TOD pricing approach provides a more reliable toll rate than dynamic pricing.

- Relative to OCTA's goals for the express lanes component of the I-405 Improvement Project and other factors, there is generally no difference in performance between TOD pricing and dynamic pricing with the exception of toll rate reliability, in which as indicated above, TOD pricing is superior.

- OCTA's 91 Express Lanes has a proven 20-year track record of being able to manage congestion and deliver excellent financial results using a TOD pricing methodology. OCTA's simple, easy-to- understand and execute TOD pricing approach offers an effective, low risk approach that has withstood the test of time.
- TOD pricing is consistent with current and planned pricing approaches by neighboring regional agencies.
- With regard to customer and stakeholder transparency and ease of understanding, TOD pricing is superior to dynamic pricing.
- While the financial markets do not indicate a preference, discussions with financial market representatives indicate that they will react more favorably to a TOD pricing scenario; resulting in increased bonding ability.

Recommendations

1. Based on the information contained in this analysis, it is recommended that OCTA adopt a TOD pricing approach for the I-405 Express Lanes.
2. PMC also recommends that OCTA consider including dynamic pricing algorithm capability (e.g. hybrid value pricing) in its toll system procurement for the purpose of assistance in calibrating TOD toll schedules and to provide a tool for managing Express Lanes traffic volumes during anomalous conditions.

ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Attachment F

ATTACHMENT F

PARSONS

HNTB

PROGRAM MANAGEMENT CONSULTANT TECHNICAL MEMORANDUM

DATE: September 23, 2015

SUBJECT: I-405 Improvement Project – Continuous versus Intermediate Access

The Issue

Should the Orange County Transportation Authority (OCTA) provide continuous access to the Interstate 405 (I-405) Express Lanes (Express Lanes) or provide access only at the entrances and at intermediate access locations?

Background

OCTA is developing and will ultimately operate the I-405 Express Lanes on the I-405 freeway. The Express Lanes will be located in the median of the I-405 Freeway, between State Route 73 and Interstate 605 (I-605) at the Los Angeles County line. The Express Lanes are scheduled to open to traffic in late 2022.

OCTA is considering a number of policy issues relative to the operational aspects of the Express Lanes. Among these policies is whether drivers using the Express Lanes will be able to access the express lanes on a continuous basis throughout the project corridor or whether they will be restricted to a limited number of intermediate ingress/egress points at key locations.

The OCTA Board of Directors (Board) has previously addressed the issue of continuous versus intermediate access. At its April 27, 2015 meeting, the Board approved the Preliminary OCTA/Caltrans Agreement on Terms and Conditions for the I-405 Express Lanes. Section 3 – Operations, contains the following provision:

> f. The parties agree that continuous access may be detrimental to financial and operational requirements of managed lanes based upon current technology, enforcement and safety considerations, however, consideration of continuous access should not be precluded in the future.

This memorandum explores this issue from several perspectives, and makes a recommendation for consideration by OCTA.

Definitions

For purposes of this analysis, continuous access for Express Lanes is defined as roadway striping between the Express Lanes and general purpose lanes such that motorists can legally enter or exit the Express Lanes from the general purpose lanes at any point along the route, rather than just in designated areas. Intermediate access refers to Express Lanes that are separated from the general purpose lanes by a painted buffer, flexible channelizers or stationary or moveable concrete barrier, with specific designated areas for entering or exiting the Express Lanes.

OCTA Express Lanes Goals

Any evaluation of continuous versus intermediate access should be made with consideration of the overall goals that OCTA wants to accomplish with the Express Lanes. Draft goals include:

1. Provide Express Lanes customers with a safe, reliable, predictable commute.
2. Optimize throughput at free flow speeds.
3. Increase average vehicle occupancy.
4. Balance capacity and demand to serve customers who pay tolls as well as people who rideshare or use transit.
5. Generate sufficient revenue to sustain the financial viability of the 405 Express Lanes.
6. Ensure all covenants in the financing documents are met.
7. Ensure any potential net excess toll revenues are used for Interstate 405 corridor improvements.

The following information discusses continuous versus intermediate access relative to proposed Express Lanes goals and other considerations.

<u>Goal #1 - Provide Express Lanes customers with a safe, reliable, predictable commute</u>

Intermediate access will provide Express Lanes customers with a safer, more reliable and congestion-free commute than continuous access. Safe, reliable, predictable travel for Express Lanes customers requires that the access configuration limit the frequency and intensity of interaction between vehicles in the Express Lanes and those in adjacent general purpose lanes. This interaction can take the form of accidents or of traffic "friction effect." Friction effect refers to the propensity for traffic in the Express Lane closest to the general purpose lanes to slow due to the uncertainty or "fear factor" of whether traffic will weave into the Express Lanes with little or no warning. A proposed continuous access configuration will lead to a significant friction effect. This could, in some cases, result in customer uncertainty potentially slowing speeds and increasing the potential for traffic accidents. Conversely, the proposed intermediate access configuration incorporates a weaving lane at access points. This will allow adequate merging distance and being well-marked, will alleviate customer apprehension; increasing feelings of safety allowing for increased speeds and throughput.

The above perspective is supported by a 2013 report by Fitch Ratings entitled "U.S. Managed Lanes: Empirical Data Steers Credit Analysis." In the report, Fitch commented that multiple

access points provided more flexibility for motorists to use the Express Lanes, but also noted that multiple access points "may encourage the practice of "weaving" in and out of MLs from GPLs, affecting traffic and road safety." In the same report, Fitch described continuous access as "operationally problematic."

In customer satisfaction surveys, and anecdotally, 91 Express Lanes customers routinely cite a feeling of being safer in the 91 Express Lanes, which are physically separated from the general purpose lanes by flexible channelizers. Since Express Lanes customers tend to make decisions regarding use of the lanes (and paying a toll) based more on "feelings" than statistics, it could be argued that intermediate access for the I-405 Express Lanes could result in greater customer satisfaction. This policy would support goals for a safe, reliable commute which could encourage more usage by customers; particularly if flexible channelizers or other barrier separation were used.

Goal #2 - Optimize vehicle throughput at free flow speeds

Intermediate access will provide optimum Express Lanes throughput at free flow speeds. As indicated above, this type of access will optimize throughput and provide Express Lanes customers with a safer, more reliable and congestion-free commute than continuous access.

Goal #3 – Increase average vehicle occupancy

This goal involves issues outside the question of continuous versus intermediate access. To the extent that access is considered relevant to meeting this goal, neither continuous nor intermediate access is a superior configuration.

Goal #4 - Balance capacity and demand to serve customers who pay tolls as well as people who rideshare or use transit

As with Goal #3, this goal has little, if any relevancy to the issue of continuous versus intermediate access.

Goal #5 - Generate sufficient revenue to sustain the financial viability of the 405 Express Lanes

The financial markets prefer intermediate access over continuous access. A key to the success of the Express Lanes will be the ability to finance the project and meet ongoing financial requirements. Without financing, OCTA cannot build the project. Funding for the I-405 Express Lanes is expected to include a significant amount of debt, for which OCTA will want to obtain an investment-grade rating from the rating agencies. Evidence of the financial market's perspective on continuous access is contained in a 2013 report by Fitch Ratings entitled "U.S. Managed Lanes: Empirical Data Steers Credit Analysis." The report indicated that continuous access "will likely be operationally problematic and potentially financially catastrophic." This is due to the high likelihood of toll violations in the continuous access scenario. At a recent OCTA meeting with a rating agency, OCTA was informed that continuous access would likely preclude the Project from obtaining an investment-grade rating. Regarding the impacts of access

configuration on revenue generation, given the current approach to tolling using intermittent gantry-mounted antennas and the limited effectiveness of on-site CHP visual enforcement, intermediate access would provide superior financial performance compared to continuous access. While the majority of Express Lanes users are likely to be honest and not attempt to avoid tolls, there will be those that, knowing the locations of the tolling gantries, will exit and re-enter the Express Lanes to "skirt around" the tolling points. This will result in revenue leakage. To the extent that there is a measurable negative impact, the result would likely take the form of lower bond rating, which would result in more expensive debt, more stringent debt covenants and other negative Project financing impacts.

Goal #6 - Ensure all covenants in the financing documents are met.

Goal #6 is directly tied to the ability of the Express Lanes project to generate sufficient revenue to cover capital, operating and debt service costs, to establish and maintain cash-flow and capital replacement reserves and meet certain other covenants (e.g. loan life coverage ratio tests) required by lenders. Since meeting this goal is closely related to Goal #5 above, intermediate access is superior to continuous access relative to this goal.

Goal #7 - Ensure any potential net excess toll revenues are used for Interstate 405 corridor improvements.

This goal involves issues outside the question of continuous versus intermediate access.

Other Considerations

In addition to OCTA's goals for the Express Lanes, the decision regarding continuous versus intermediate access needs to consider operational, stakeholder, customer and financial community needs. The following are observations regarding these criteria.

Express Lanes Operations and Enforcement

Regarding public safety access or other emergency access, using flexible channelizers allows for vehicles to enter and exit the Express Lanes in an emergency, if needed.

Intermediate access is superior to continuous access when it comes to collecting tolls and reducing violations. As indicated above, express lanes facilities with intermediate access points are likely to experience significantly fewer violations than those with continuous access; particularly if the express lanes have designated weaving lanes for safe ingress/egress or are separated from the general purpose lanes by flexible channelizers or other type of barriers. Without an effective method of violation enforcement, the word is likely to quickly spread that the chances of getting caught and cited by the CHP are small. Accordingly, if the motorist is adept at avoiding the violation cameras by exiting and entering outside of the tolling zones, they will be able to use the Express Lanes without paying the toll or being cited for toll evasion.

Electronic toll collection and enforcement technology is not advanced enough to provide effective toll evasion or occupancy enforcement using only technology. An August, 2001 Texas Transportation Institute (TTI) study entitled Guidance for Planning, Operating and Signing Managed Lanes Facilities in Texas stated the following (***emphasis added***).

> Busways on separate rights-of-way and ***barrier-separated managed lanes are generally considered to be easier to enforce than other facilities*** because of the limited and controlled access they provide. Contraflow facilities and queue bypasses may be enforced through a single strategically located monitoring area. ***Concurrent flow managed lanes, especially those allowing continuous access, are the most difficult to enforce***.

The same study offers guidance regarding the appropriateness of continuous versus limited access from an operational perspective (***emphasis added***).

> Direct merge or at-grade access represents the most commonly used treatment with concurrent flow managed lanes. Two types of approaches—unrestricted or unlimited (continuous) access, and restricted or limited access—are currently in use with concurrent flow managed lanes in North America. The decision to use unrestricted or restricted access for concurrent flow lanes depends upon the operation of the facility. Metropolitan areas that experience short definable peak commute periods (two to four hours during the mornings and evenings) separated by a long midday off-peak traffic period are conducive to part-time operation with unrestricted access. For peak-only operations with no buffer treatment, continuous access is generally provided. This approach allows the managed lane to easily revert to a general-purpose lane at other times. Conversely, metropolitan areas that experience lengthy commute periods (typically between six to eleven hours of congestion) and short off-peak traffic hours are conducive to full-time operation and restricted access. ***This restricted access configuration with designated ingress and egress provides eligible vehicles consistently greater overall travel speeds which translates to greater time savings per trip as well as making enforcement easier.***

<u>Stakeholder Perspective</u>

Key non-financial stakeholders include FHWA, Caltrans, corridor cities, CHP, other safety providers, transit providers, private businesses and others with a stake in the success of this important corridor. OCTA has spent considerable effort listening to their needs and desires, relative to the issue of access points and separation of express lanes and general purpose lanes. The challenge will be to balance these needs and desires with the need to operate a safe, operationally efficient, customer friendly and financially viable Express Lanes facility. It is our opinion that intermediate access can provide the desired access to localities, operational characteristics, and services to address key non-financial stakeholders while preserving the OCTA goals stated above.

<u>Customer Perspective</u>

In many respects, express lanes are like other retail services or products – customers must perceive that they are receiving value in return for payment of tolls. Experience has shown that customers primarily care about things related to their trip i.e. does the facility go where they need to go? Does it save time? Is it safe? Is it reliable? Are communications easy to understand? Is there a value to using the express lanes? If the express lanes meet potential customer needs, they will pay tolls to use them. If it doesn't meet needs, people will not use them. In the customers' mind, issues like continuous versus intermediate access are evaluated in light of these criteria. Understanding customer motivation is imperative to the success of the Express Lanes. OCTA is conducting research to gain insights into customer perceptions to ensure the facility is designed to meet needs.

Customer service for Express Lanes is normally associated more with the facility's customer contact center and processes than roadway configuration and operations. To the extent that customer service is associated with speeds, reliability and a feeling of safety, for the reasons stated for Goals #1 and #2 above, intermediate access at key locations will not only optimize throughput it will provide customers with a safer, more reliable and congestion-free commute. It could be argued that having the ability to enter and exit the Express Lanes on a continuous access basis provides more options and flexibility for users and therefore is more customer-friendly. However, customers value safety and reliability above ease of access or other aspects of the Express Lanes experience. Accordingly, strategically placed intermediate access points provide superior customer service.

From a customer ease of understanding perspective, intermediate access provides the most consistency with regional tolling networks. All currently operating express lanes in the region, except for the 91 Express Lanes in Orange County, use intermediate access. Although not contiguous with the project, there are existing express lanes facilities in the region. These include the 91 Express Lanes, which have no intermediate access points and are separated from the general purpose lanes by flexible channelizers and the LA Metro I-110 and I-10 ExpressLanes, which have intermediate access locations and are separated from the general purpose lanes by a painted buffer and in some areas, grade separation. RCTC plans to open the RCTC 91 Express Lanes in early 2017, under the same limited access configuration (painted buffer striping and flexible channelizers) as the OCTA 91 Express Lanes. RCTC, SANBAG and LA Metro have additional express lanes planned, but have not yet determined access configuration.

Financial Stakeholder Perspective

Other than the 91 Express Lanes, no other currently-operating California Express Lanes facility is responsible for funding the full cost of development, construction, operations and debt for the facility. The other facilities were all built fully or partially with grant or local tax measure funds. I-405 Express Lanes revenues will need to support a significant amount of Project costs and it is expected that OCTA will receive funding from the Federal TIFIA program and/or bond proceeds to finance capital costs. Whether the Federal government or private lenders, the financial

markets will require major focus on revenue generation and financial management of the Express Lanes. In short, they will expect OCTA to operate the I-405 Express Lanes with the same business acumen and diligence as it currently does for the 91 Express Lanes.

The financial markets will want to see low violation rates. Intermediate access will help contain violation rates much better than continuous access. Relative to the topic of this analysis, conversations with various rating agency, financial advisory and underwriting representatives have indicated a strong preference for intermediate access to the Express Lanes. Those consulted were not aware of any empirical data that would support additional safety, operational or financial value from continuous access. Rather, they stated that this lack of data, along with the potential for violation leakage and traffic and revenue volatility; would normally cause them to assign more risk to a continuous access project, which would likely result in lower ratings, increased borrowing costs and more rigorous covenants.

Previous Analysis

In February, 2015, OCTA Financial Advisor, Sperry Capital, prepared a memorandum on the issue of continuous versus intermediate access for the I-405 Express Lanes. The conclusions in the memorandum were as follows:

- We believe that utilizing a continuous access lane configuration for managed lanes, based on current available technology, would result in unpredictable and degraded total revenue that will significantly reduce a sponsor's ability to sell non-recourse debt.
- Based on our survey, the managed lane sponsors that are utilizing a continuous access lane configuration are using local, state, or federal grants, rather than non-recourse debt, for development and capital costs.
- Based on our survey of the rating agencies underwriters, the managed lanes projects utilizing a continuous access lane configuration have not been financed through the sale of non-recourse debt secured by total revenues.
- Traditional lenders need a high level of confidence that projected total revenue will be sufficient to repay debt.
- A non-traditional lender (e.g. a local, state or federal entity) that would serve as a "patient" lender and accept a delayed payment possibility, may agree to the unpredictable revenues generated by a continuous access option lane configuration based on today's technology.

Sperry Capital concluded the memorandum by saying that "the start up I-405 Improvement Project express lanes project, despite the significant congestion in Orange County, has inherent risks."

Sperry Capital went on to say "If OCTA adopted a continuous access configuration and the proposed I – 405 improvement project express lanes, we are confident that the amount of non-recourse bonds that OCTA could issue would be significantly less than OCTA could issue without a continuous access configuration. This is due to the inherent volatility of managed lanes traffic and revenue as well as the performance and operational challenges of continued access."

Conclusions

Based on the information presented in this analysis, the following conclusions are offered.

- Relative to OCTA's goals for the Express Lanes component of the I-405 Improvement Project and other factors, intermediate access significantly outperforms continuous access. Specifically, intermediate access is a superior alternative for:
    - Goal #1 - Provide express lanes customers with a safe, reliable, predictable commute.
    - Goal #2 - Optimize vehicle throughput at free flow speeds.
    - Goal #5 - Generate sufficient revenue to sustain the financial viability of the 405 Express Lanes.
    - Goal #6 – Ensure all covenants in the financing documents are met.
- Continuous access does not provide an advantage over intermediate access for any of OCTA's stated goals.
- Other considerations explored in this analysis, such the current state of tolling/violation technology, limited enforcement effectiveness and negative impact on financing indicate that continuous access is an inferior configuration, compared to intermediate access.
- There is no proven, long-term term track record of express lane facilities with continuous access successfully supporting significant debt financing.
- The 91 Express Lanes has a 20-year record of success operationally and financially as a limited access facility. Without a compelling reason to change that approach for the I-405 Project, intermediate access offers the least risk and highest potential for success.

Recommendation

Based on the information contained in this analysis, it is recommended that OCTA adopt the intermediate access configuration included in the Final Environmental Impact Report and Final Environmental Impact Statement for the I-405 Express Lanes. This recommendation is also consistent with the current language in the Preliminary OCTA/Caltrans Agreement on Terms and Conditions for the I-405 Express Lanes. Section 3 – Operations, as well as previous analysis completed by Sperry Capital, OCTA's Financial Advisor.

ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Attachment G

ATTACHMENT G

Non-Toll Revenue: Account Fees 91 Express Lanes

Non-toll revenue is part of what makes up total revenue for express lanes. It can include basic administrative fees for things such as returned checks or transponder replacements but is primarily comprised of charges related to account types and revenue from violations. For the 91 Express Lanes, non-toll revenue represents about 20 percent of total revenues. For consistency within express lanes facilities within Orange County and Riverside County (Riverside County Transportation Commission has adopted the 91 Express Lanes fee structure), it is recommended the Orange County Transportation Authority Board of Directors adopt a similar non-toll revenue fee structure.

91 Express Lanes Account Types

Convenience Plan – (Minimal Usage) - $75 one-time fee

- For customers who routinely spend less than $7 in tolls per month per transponder on 91 Express Lanes
- One-time, non-refundable $75 per transponder fee
- No monthly minimum toll requirements

Standard Plan (Medium Usage) - $7 minimum toll

- Designed for customers who take between two and 20 one-way trips on the 91 Express Lanes per month
- Customers are charged a $7 monthly fee for each transponder assigned to their account
- Tolls paid on the 91 Express Lanes count toward the minimum. If a customer pays $7 or more in tolls per month, the fee is waived; if tolls are less than $7 per month, the customer pays the difference.

91 Express Club (Frequent Usage) - $20 monthly fee with a $1 discount per trip

- For customers who take more than 20 one-way trips on the 91 Express Lanes per month
- $20 per-transponder monthly membership fee
- Receive a $1.00 per-trip discount for all tolled trips on the 91 Express Lanes

Special Access Accounts – Free

- Special access accounts are available for customers who always drive with three or more people in their vehicle, drive a motorcycle, a pure zero-emission vehicle, or have a disabled veteran or disabled person license plate issued by the DMV.
- No account fees
- Tolls are free most hours of the day with the exception of Monday through Friday, eastbound, between 4-6 pm when a 50% discount is applied (same as HOV3+ policy)

Note: The I-405 Project Implementation (Alternative 3) Preliminary OCTA/Caltrans Agreement on Terms for the design-build cooperative agreement being negotiated with the state and which was submitted to the OCTA Board of Directors on April 27, 2015 notes that, “Parties agree there will be an exemption for ILEVs (such as customers with “green sticker”.) However, customers will be required to pre-register their vehicles as is the policy on the SR-91 Express Lanes. There will be an agreed upon cap on number of vehicles.”

Special Access Account toll policies for HOVs and vehicles with Clean Air Vehicle decals will be determined following the Stantec Traffic and Revenue Study.

ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Attachment H

ATTACHMENT H

Non-Toll Revenue: Toll Violation Fees 91 Express Lanes

Under the current ordinance, if a vehicle trip is deemed a violation, the first notice, the Notice of Toll Evasion is to be mailed within 10 days of the violation. The penalty structure is as follows:

Violations Stage	Penalty
Notice of Toll Evasion Violation	$25.00
Notice of Delinquent Toll Evasion	$55.00
Collections Stage	
Notice of Toll Evasion Assignment	$80.00
Subsequent Demand Notices:	
First Violation*	$100.00
Second Violation*	$150.00
Third and Subsequent Violation*	$200.00

*Within a rolling 12-month period.

Note: Per Avery settlement agreement, penalty cannot be greater than 20 times the highest toll in effect as of the date of the violation.

The Ordinance which governs the administration of tolls and the enforcement of toll violations for the Orange County Transportation Authority follows.

ORDINANCE NO. 2010-01

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE ORANGE COUNTY TRANSPORTATION AUTHORITY AMENDING ORDINANCE NO. 2004-01 RELATING TO THE ADMINISTRATION OF TOLLS AND THE ENFORCEMENT OF TOLL VIOLATIONS FOR THE ORANGE COUNTY TRANSPORTATION AUTHORITY

WHEREAS, Section 23302.5 of the California Vehicle Code ("Code") provides that it is unlawful for a person to evade or attempt to evade the payment of tolls or other charges on any vehicular crossing or toll highway, and provides that such acts are subject to civil penalties; and

WHEREAS, Sections 40250, et seq. of Chapter 1 of Division 17 of the Code provide for enforcement of civil penalties for violation of Code Section 23302.5 and any ordinance enacted by local authorities pursuant to civil administrative procedures set forth in Article 4 of Chapter 1 of Division 17 of the Code; and

WHEREAS, the Riverside Freeway/State Route 91 toll facility ("91 Express Lanes"), which is owned, maintained and operated by the Orange County Transportation Authority ("Authority") constitutes a "toll highway" for the purpose of section 23302.5 of the Code; and

WHEREAS, on December 13, 2004, the Authority adopted Ordinance no. 200401 establishing penalties for passing through the 91 Express Lanes toll facility without payment of the proper toll, pursuant to sections 23302.5 and 40250, et seq. of the Code and establishing the procedures for issuance of violation notices and enforcement of penalties, consistent with sections 40250, et seq. of the Code; and

WHEREAS, the Authority deems it appropriate to modify the penalties and procedures established by Ordinance No. 2004-01.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE AUTHORITY DOES HEREBY ORDAIN THAT ORDINANCE NO. 2004-01 RELATING TO THE ADMINISTRATION OF TOLLS AND THE ENFORCEMENT OF TOLL POLICIES FOR THE ORANGE COUNTY TRANSPORTATION AUTHORITY IS HEREBY AMENDED TO READ AS FOLLOWS:

Section 1. Definitions. The following terms shall have the meanings as set forth below:

(a) "Authority" shall mean the Orange County Transportation Authority.

(b) "Code" shall mean the California Vehicle Code.

(c) "91 Express Lanes" shall mean the toll facility on the Riverside Freeway / State Route 91, between the Orange/Riverside County line and the State Route 55 freeway.

(d) "Department" shall mean the California Department of Motor Vehicles.

(e) "Motorist" shall mean and include the registered owner, rentee, lessee and driver of a Vehicle.

(f) "Toll Enforcement Officer" shall mean any member of the California Highway Patrol or any employee or contractor of Authority whose duty includes the enforcement of the payment of tolls.

(g) "Vehicle" shall mean any vehicle as defined in California Vehicle Code Section 670.

(h) "Violation" shall mean the commission of an activity proscribed in Section 2(a) hereof.

(i) "Toll Evasion Penalty" or "Penalty" shall have the same meaning as set forth in Vehicle Code Section 40252 subdivision (b).

Section 2. Liability for Failure to Pay Toll.

(a) No person shall cause a Vehicle to pass through or attempt to pass through the 91 Express Lanes without payment of the proper toll for the Vehicle.

(b) Except as provided herein, the registered owners and the driver, rentee or lessee of a Vehicle which is the subject of any Violation shall be jointly and severally liable for the Penalties imposed under this Ordinance, unless the registered owner can demonstrate, as provided in Section 3(d) or 4(d) hereof, that the Vehicle was used without the express or implied consent of the registered owner. A registered owner who pays any Penalty pursuant to this Ordinance shall have the right to recover the same from the driver, rentee or lessee.

(c) The driver, rentee or lessee of a Vehicle who is not the owner thereof may contest the Notice of Violation in accordance with this Ordinance.

(d) Any Motorist assessed a Penalty for a Violation shall be deemed to be charged with a non-criminal, civil violation, pursuant to section 23302.5 subdivision (a) of the Code.

Section 3. Penalties and Enforcement of Violations.

(a) The Penalties for a Violation of this Ordinance shall be the amounts set

forth in the Schedule of Penalties, attached hereto as Schedule A and incorporated by reference herein. The Schedule of Penalties, as proscribed under Schedule A, may be amended from time to time by the Authority's Chief Executive Officer. The Penalties shall be no greater than 20 times the Authority's highest system toll in effect as of the date on which the Violation occurs. The Authority's Chief Executive Officer may establish late payment Penalties and other related charges for Violations, except in the event the driver is arrested pursuant to Article 1 (commencing with Section 40300) of Chapter 2 of the Code, in which case the civil procedure for enforcement of violations that is established by this Ordinance shall not apply. Revenues received from the Penalties assessed pursuant to this Ordinance shall be returned to the Authority.

(b) The Authority may designate certain of its employees or contractors as Toll Enforcement Officers. Training and qualifications of the employees or contractors for such designation shall be determined by the Authority. Designation as a Toll Enforcement Officer does not provide the Toll Enforcement Officer with the power of arrest. Any member of the California Highway Patrol patrolling the 91 Express Lanes shall be deemed to be a Toll Enforcement Officer for purposes of enforcing the payment of tolls.

(c) If a Violation is detected by any means (including automated device, video image, visual observation, or otherwise) and the subject Vehicle is not stopped, a Notice of Toll Evasion Violation shall be forwarded to the registered owner by first-class mail addressed to the registered owner as shown on the records of the Department within 10 days after it is determined, in its normal course of business, to be a Violation. If accurate information concerning the identity and address of the registered owner is not available within 5 days following the Violation, the Authority shall have an additional 45 calendar days to obtain such information and forward the Notice of Violation. In the case of joint ownership, the Notice of Toll Evasion Violation shall be issued to the first name appearing in the registration. If a Notice of Toll Evasion Violation is issued in person to the driver of a Vehicle, the driver of the Vehicle shall be deemed the agent of the registered owner for purposes of delivery of the Notice of Toll Evasion Violation. The Notice of Toll Evasion Violation shall contain (1) sufficient information to enable the recipient thereof to determine the date, time and location of the alleged Violation, (2) the section of the Vehicle Code allegedly violated, (3) the Penalty due for that Violation, (4) the procedure to follow for payment of the Penalty, (5) a clear and concise explanation of the procedures for contesting the alleged Violation and/or the assessed Penalty and appealing an adverse decision, (6) the date and time within which the Penalty must be paid, (7) the Penalties in the event the amount is not timely paid, (8) a statement in bold print that payments of the Penalty may be sent through the mail, (9) the address and to whom payments may be sent through the mail, (10) the Vehicle license plate number, (11) if practicable, the registration expiration date and the make of the vehicle, and (12) such other information determined to be necessary and appropriate by the Authority. The Authority's Chief Executive Officer shall establish the procedure for issuance of Notices of Violation and the form of such Notice.

(d) The Notice of Toll Evasion Violation shall contain, or be accompanied with, an Affidavit of Non-liability and information of what constitutes nonliability, information as to

the effect of executing the affidavit, and instructions for returning the affidavit to the Authority. If the Affidavit of Non-liability is returned to the Authority within 30 days of the mailing of the Notice of Toll Evasion Violation together with proof that either (i) the driver at the time of the Violation did not possess express or implied authority to drive the Vehicle as evidenced by a stolen vehicle police report, or (ii) the registered owner served has made a bona fide sale or transfer of the Vehicle and has delivered possession thereof to the purchaser prior to the date of the alleged Violation in compliance with Section 5602 of the Code, and the Authority is satisfied with such proof and has obtained verification from the Department, then the Authority may terminate proceedings against the originally served Motorist and proceed against the unauthorized driver at the time of the Violation, or the new owner of the Vehicle. If the Affidavit of Non-liability is returned to the Authority within 30 days of the mailing of the Notice of Toll Evasion Violation together with the proof of a written rental agreement or lease between a bona fide renting or leasing company and its customer which identifies the rentee or lessee and provides the driver's license number, name, and address of the rentee or lessee, the Authority shall serve or mail to the rentee or lessee identified in the Affidavit of Non-liability a Notice of Toll Evasion Violation. If payment is not received within 30 days of the mailing of the Notice of Toll Evasion Violation, the Authority shall deliver by personal service or first-class mail a Notice of Delinquent Toll Evasion Violation.

(e) If the description of the Vehicle in the Notice of Violation does not match the corresponding information on the registration card for that Vehicle, the Authority may, on written request of the Motorist, cancel the Notice of Toll Evasion Violation without the necessity of appearance by that person.

(f) If, after a copy of the Notice of Toll Evasion Violation has been sent to the Motorist, the Authority determines that, in the interest of justice, the Notice of Toll Evasion Violation should be dismissed, the Authority shall dismiss the charges and so notify the Motorist.

(g) If the full amount of the Penalty is received by the person authorized to receive the payment of the Penalty within 30 days of the Notice of Toll Evasion Violation date and there is no contest as to that Violation and/or the associated Penalty, proceedings under this Ordinance shall terminate.

(h) The 10-day time period as described under Section 3(c) will not apply in the event of computer/systems failures, either within the Authority's systems or externally. In the event of such failure, the time for mailing the Notice (and any accompanying escalation of Penalties) will be tolled during the failure period. The Authority shall have an additional 3 days to mail the Notice of Toll Evasion Violation for violations occurring within 3 business days of a major holiday that results in office closures of more than 2 days that would otherwise be considered working days.

Section 4. Failure to Pay Toll Evasion Penalties.

(a) If the payment of the Penalty is not received by the person authorized to receive the Penalty amount by the time and date fixed on the Notice of Toll Evasion Violation under Section 3 above, the Authority shall deliver by personal service or firstclass mail to the registered owner of the Vehicle a Notice of Delinquent Toll Evasion Violation.

(b) The Authority shall establish a procedure for providing, upon request, a photostatic copy of the original Notice of Toll Evasion Violation or an electronically produced facsimile of the original Notice of Toll Evasion Violation. The Authority may charge a fee sufficient to recover the actual cost of providing the copy, to be established by the Chief Executive Officer, not to exceed two dollars ($2).

(c) The Notice of Delinquent Toll Evasion Violation shall contain the information required to be contained in the original Notice of Toll Evasion Violation and, additionally, shall contain a notice to the registered owner that, unless the registered owner pays the Penalties or contests the Violation and/or assessed Penalty pursuant to the procedure set forth in the Notice of Toll Evasion Violation within 60 days after mailing of the Notice of Delinquent Toll Evasion Violation, or completes and files an Affidavit of Non-liability which complies with Section 4(d), the Penalties shall be considered to be a debt due and owing the Authority, and the Authority may seek recovery in any lawful manner, including non-renewal action against the Vehicle's registration.

(d) The Notice of Delinquent Toll Evasion Violation shall contain, or be accompanied with, an Affidavit of Non-liability and information of what constitutes nonliability, information as to the effect of executing the affidavit, and instructions for returning the affidavit to the Authority. If the Affidavit of Non-liability is returned to the Authority within 60 days of the mailing of the Notice of Delinquent Toll Evasion Violation together with proof that either (i) the driver at the time of the Violation did not possess express or implied authority to drive the Vehicle as evidenced by a stolen vehicle police report, or (ii) the registered owner served has made a bona fide sale or transfer of the Vehicle and has delivered possession thereof to the purchaser prior to the date of the alleged Violation in compliance with Section 5602 of the Code, and the Authority is satisfied with such proof and has obtained verification from the Department, then the Authority may terminate proceedings against the originally served Motorist and proceed against the unauthorized driver at the time of the Violation, or the new owner of the Vehicle. If the Affidavit of Non-liability is returned to the Authority within 60 days of the mailing of the Notice of Delinquent Toll Evasion Violation together with the proof of a written rental agreement or lease between a bona fide renting or leasing company and its customer which identifies the rentee or lessee and provides the driver’s license number, name, and address of the rentee or lessee, the Authority shall serve or mail to the rentee or lessee identified in the Affidavit of Non-liability a Notice of Delinquent Toll Evasion Violation. If payment is not received within 60 days of the mailing of the Notice of Delinquent Toll Evasion Violation, the Authority may proceed against the rentee or lessee pursuant to Section 40267 of the Code.

Section 5. Payment After Notice of Delinquent Toll Evasion Violation.

(a) If a Motorist or agent of a Motorist who was served with a Notice of Delinquent Toll Evasion Violation pursuant to Section 4, deposits the demanded Penalties with a person authorized to receive it then the Authority shall follow the procedures set forth in Section 40266 of the Code.

Section 6. Contest of Toll Evasion Violation, Delinquent Violation, and/or Penalties.

(a) A person may contest a Notice of Toll Evasion Violation, a Notice of Delinquent Toll Evasion Violation, and/or any Penalties associated with such Notice(s), within 30 days from the issuance of the Notice of Toll Evasion Violation, or within 60 days from the mailing of the Notice of Delinquent Toll Evasion Violation, whichever occurs later.

(b) The Authority shall establish a fair and impartial investigation process to investigate the circumstances of the notice with respect to the contestant's written explanation of reasons for contesting a toll evasion violation. The investigation process shall be implemented by the Authority's Chief Executive Officer who shall have the authority to update and revise such process from time to time, as he deems necessary.

(c) A person who contested a Notice of Toll Evasion Violation, a Notice of Delinquent Toll Evasion Violation, and/or any Penalties associated with such Notice(s), and is not satisfied with the results of the investigation may, until such time the matter is submitted to a collections attorney for enforcement, request an administrative review hearing. Except as otherwise tolled by law, a properly requested administrative review hearing shall be held within 90 calendar days following the receipt of a request for an administrative review hearing, the required deposit amount, and the hearing administrative fee.

(d) The deposit for requesting an administrative review hearing shall be as follows:

(i) Except as provided herein, an individual seeking an administrative review hearing shall deposit the full amount of the toll and Penalty.

(ii) For Violations and/or Penalty arising out of the same set of operative facts, the maximum amount of tolls plus Penalty to be deposited shall be $250 for toll account patrons. For non-patrons, the maximum amount of tolls plus Penalty to be deposited shall be the tolls, plus either (a) $250 or (b) $250 plus 10 percent of Penalty above $1,000, whichever is greater.

(iii) Individuals unable to pay the required deposit may apply for a hardship exception.

Section 7. Collection of Unpaid Penalties.

Except as otherwise provided in Sections 40268 and 40269 of the Code, the Authority shall be authorized to proceed under one or more of the following options for the collection of unpaid Penalties:

(a) The Authority may contract with a collection agency to collect unpaid tolls and Penalties.

(b) The Authority may file an itemization of unpaid Penalties with the Department for collection with the registration of the Vehicle pursuant to Section 4770 of the Code. If a Department hold is placed before a judgment is sought, and the violator seeks an administrative review hearing, that hearing will be expedited to take place within 30 days provided that the violator cooperates in setting the hearing within that time frame.

(c) If more than four hundred dollars ($400) in unpaid Penalties have been accrued by any person or registered owner, the Authority may file proof of that fact with the court with the same effect as a civil judgment. Execution may be levied and other measures may be taken for the collection of the judgment as are authorized for the collection of any unpaid civil judgment entered against a defendant in an action on a debtor. The court may assess costs against a judgment debtor to be paid upon satisfaction of the judgment. The Authority shall send a notice by first-class mail to the person or registered owner indicating that a judgment shall be entered for the unpaid Penalties and that after 30 days from the date of the mailing of the notice, the judgment shall have the same effect as an entry of judgment against a judgment debtor. The notice shall include all information required by Section 40267 of the Code. The filing fee and any costs of collection shall be added to the judgment amount.

(d) If the registration of the Vehicle has not been renewed for 60 days beyond the renewal date, and the notice has not been collected by the Department pursuant to Section 4770 of the Code, the Authority may file proof of unpaid Penalties with the court with the same effect as a civil judgment as provided in subdivision (b), except that if the amount of the unpaid Penalties is not more than four hundred dollars ($400), the filing fee shall be collectible by the court from the debtor.

(e) The Authority may submit a request to the California State Controller for an offset of unpaid Penalties owing by a Motorist against any amount owing the person or entity by a claim for a refund from the Franchise Tax Board under the Personal Income Tax Law or the Bank and Corporation Law or from winnings in the California State Lottery, as authorized by California Government Code Section 12419.10. The Authority will provide a minimum of 45 days prior written notice of intent to file a Franchise Tax Board intercept. The notice will provide a process for seeking an administrative review hearing, including notification that if the violator wishes to ensure that an administrative review hearing can be held before the intercept is filed, the request for an administrative review hearing must be made within 15 days of the date of the notice.

Section 8. Termination of Proceedings.

The Authority shall terminate proceedings on the Notice of Delinquent Violations upon the occurrence of the circumstances specified in Section 40269 of the Code.

Section 9. Other Notices.

Nothing herein shall prohibit the Authority from establishing informal methods of notifying Motorists of Violations and from collecting Penalties for Violations through such means.

Section 10. Implementation.

The Chief Executive Officer of the Authority is hereby authorized and directed to develop such procedures, forms, documents and directives which may be necessary to implement the terms of this Ordinance and may delegate his authority, duties and obligations under this Ordinance to the General Manager of the 91 Express Lanes.

Section 11. Severability.

If any provision of this Ordinance is determined to be void or invalid by any administrative or judicial tribunal, said provision shall be deemed severable and such invalidation shall not invalidate the entirety of this Ordinance or any other provision hereof.

ADOPTED BY THE ORANGE COUNTY TRANSPORTATION AUTHORITY ON

_____, 2010.

SIGNED AND APPROVED ON _____, 2010.

ORANGE COUNTY TRANSPORTATION AUTHORITY

_____
Jerry Amante
Chairman
Orange County Transportation Authority

ATTEST:

_____
Wendy Knowles
Clerk of the Board
Orange County Transportation Authority

VOTE:

AYES:

NOES:

ABSTAIN:

ABSENT:

Schedule "A"

Schedule of Penalties

Violation Stage	Penalty*
Notice of Toll Evasion Violation (NTEV)	$25.00
Notice of Delinquent Toll Evasion (NDTEV) Assessed if the registered owner, by appearance or mail, fails to make payment to the Authority within 15 days of the mailing of the NDTEV	$55.00**

* Paid in addition to the toll amount.
** Includes the $25.00 NTEV penalty.

If the registered owner's address cannot be found, or if there is no response to the Notice of Delinquent Toll Evasion Violation within 60 days of the mailing of the Notice of Delinquent Toll Evasion Violation, the delinquent penalties shall be considered to be a debt due and owing the Authority, and the Authority may seek recovery in any lawful manner, pursuant to Section 40267 of the Code.

Collections Stage	Penalty***
Notice of Toll Evasion Assignment/DMV Hold	$80.00
Subsequent Demand Notices	$100 for the first violation within one year, $150 for the second violation within one year and $200**** for each additional violation within one year.

*** Paid in addition to the toll amount.
**** If the highest system toll in effect is less than $10.00, then the $200 penalty shall be reduced to 20 times the highest system toll in effect, provided that in no event shall this penalty be less than $150.00.

ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

Attachment I

Proposed Toll Policy Options

		Options for Traffic & Revenue Analysis			
Carpool Occupancy	Time of Day	A HOV2+ Free All Times	B HOV2+ Free Non-Peak*	C 91 Express Lanes Toll Policy	D Revenue Maximization**
Two or More (HOV2+)	Peak	Free	Full Toll	Full Toll	Full Toll
	Non-Peak	Free	Free	Full Toll	Full Toll
Three or More (HOV3+)	Peak	Free	50% Discount	50% Discount	50% Discount
	Non-Peak	Free	Free	Free	Free

* A variation of this option would be to offer HOV3+ free during peak and non-peak times if feasible.

** This option, which results in higher toll prices, is required by rating agencies with some allowance for an HOV3+ pricing discount.

ATTACHMENT I

ORANGE COUNTY TRANSPORTATION AUTHORITY

Approval of Assumptions and Options for 405 Express Lanes Toll Policy and Finance Plan

PowerPoint

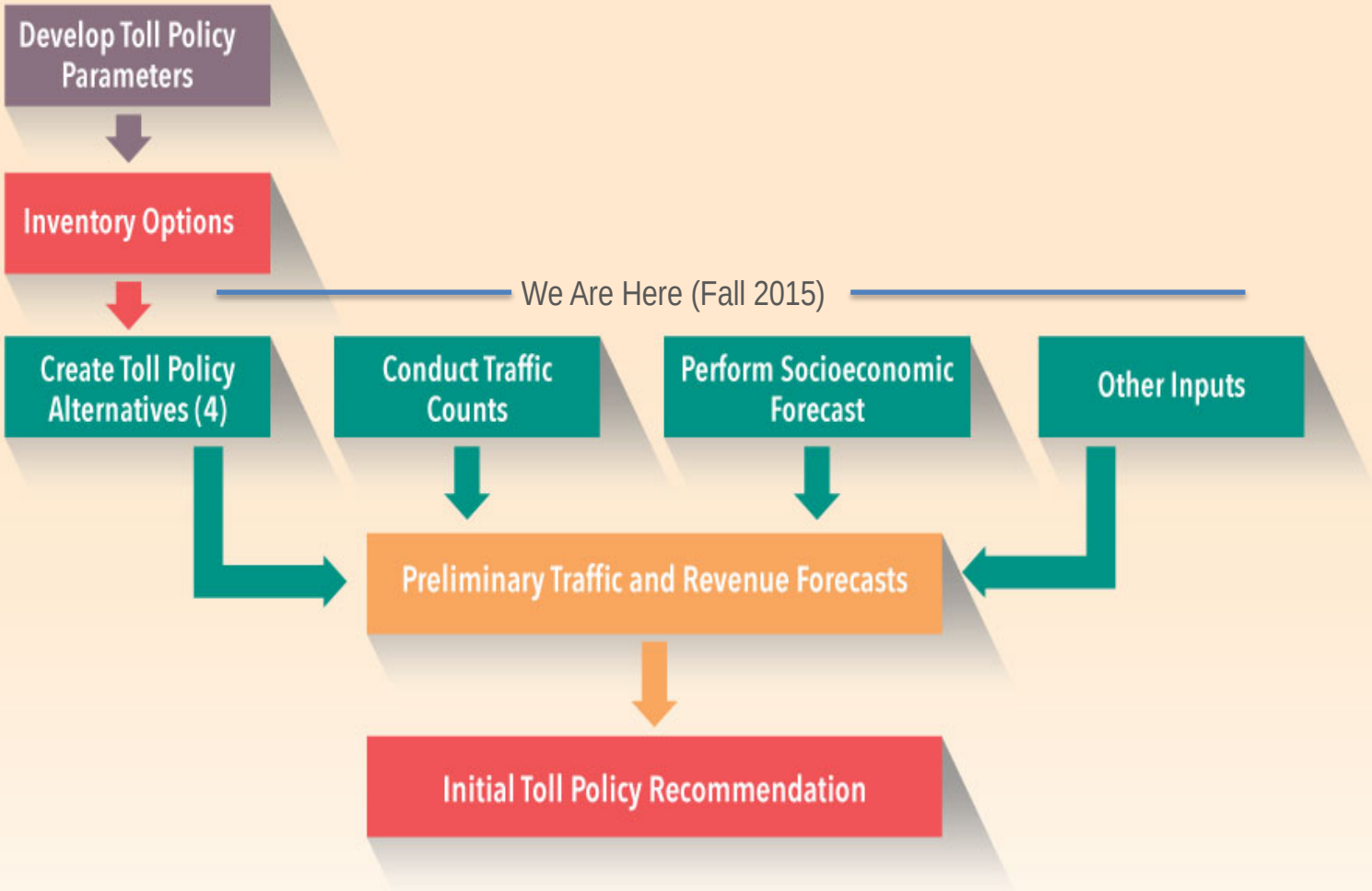
Approval of Assumptions and Options for the 405 Express Lanes Toll Policy and Finance Plan

Background

- April 27, 2015:
  - Board approves terms for operating agreement with Caltrans
  - Board directs staff to develop draft toll policy and finance plan

- June – September 2015:
  - Chairman creates Toll Policy and Finance Plan ad hoc
  - Ad hoc provided with research and technical materials
  - Ad hoc provides guidance in development of “Decisions Document”

Initial Toll Policy Development



Proposed Assumptions

Description	Recommendation	Consistent with 91 Express Lanes?
Toll Policy Goals	As drafted	Yes (modified for 405)
Pricing Methodology	Time of Day	Yes (modified for 405)
Peak Toll Adjustments	OCTA 91 Express Lanes	Yes
Non-Peak Toll Adjustments	RCTC 91 Express Lanes	Yes (RCTC)
Hours of Operation	24 – 7	Yes
Access	Intermediate access	No
Non-Toll Revenue: Account Fees	91 Express Lanes	Yes
Non-Toll Revenue: Violations	91 Express Lanes	Yes
Enforcement Approach	Manual and automated	Yes
Prohibited Vehicles/Discounts/Exemptions	Defer High-Occupancy Vehicle (HOV), Clean air and other vehicles pending Stantec Traffic & Revenue Study (T&R)	Pending
Toll Collection	Title 21 compliant transponder	Yes
Options for traffic and revenue (T&R) analysis	Four with a mix of HOV options	Option C

Toll Policy Goals

- Provide express lanes customers with a safe, reliable, predictable commute.
- Optimize throughput at free-flow speeds.
- Increase average vehicle occupancy.
- Balance capacity and demand to serve customers who pay tolls as well as people who rideshare or use transit.
- Generate sufficient revenue to sustain the financial viability of the 405 Express Lanes.
- Ensure all covenants in the financing documents are met.
- Ensure any potential net excess toll revenues are used for Interstate 405 corridor improvements.

Time of Day versus Dynamic Pricing

Description	Time of Day (TOD)	Dynamic
How tolls are calculated	Historical traffic volume	Near real-time traffic volume
How often tolls change	Revisited quarterly	Could be every few minutes
How tolls displayed	Published schedules Signs prior to entrance	Signs prior to entrance
Customer experience	Know before you go Simple to understand	Know when you get to lanes
OCTA experience	20-year proven track record	None
Regional consistency	Consistent with Orange and Riverside County	Consistent with LA and San Diego County

Recommendation:

Adopt TOD pricing, but install dynamic pricing infrastructure to allow for more frequent adjustments during ramp-up and abnormal traffic times and to calibrate toll schedules.

Price for Throughput, Reliability, Predictability

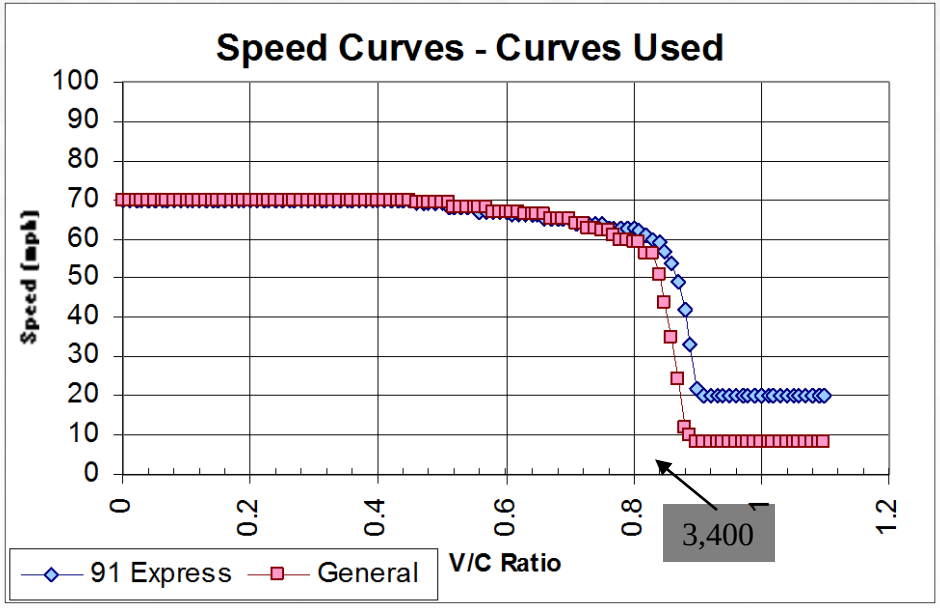
SR-91 Eastbound (Recorded on Friday, May 3, 2013 at 5:15pm)

Each Express Lane carries 1,692 vehicles per hour

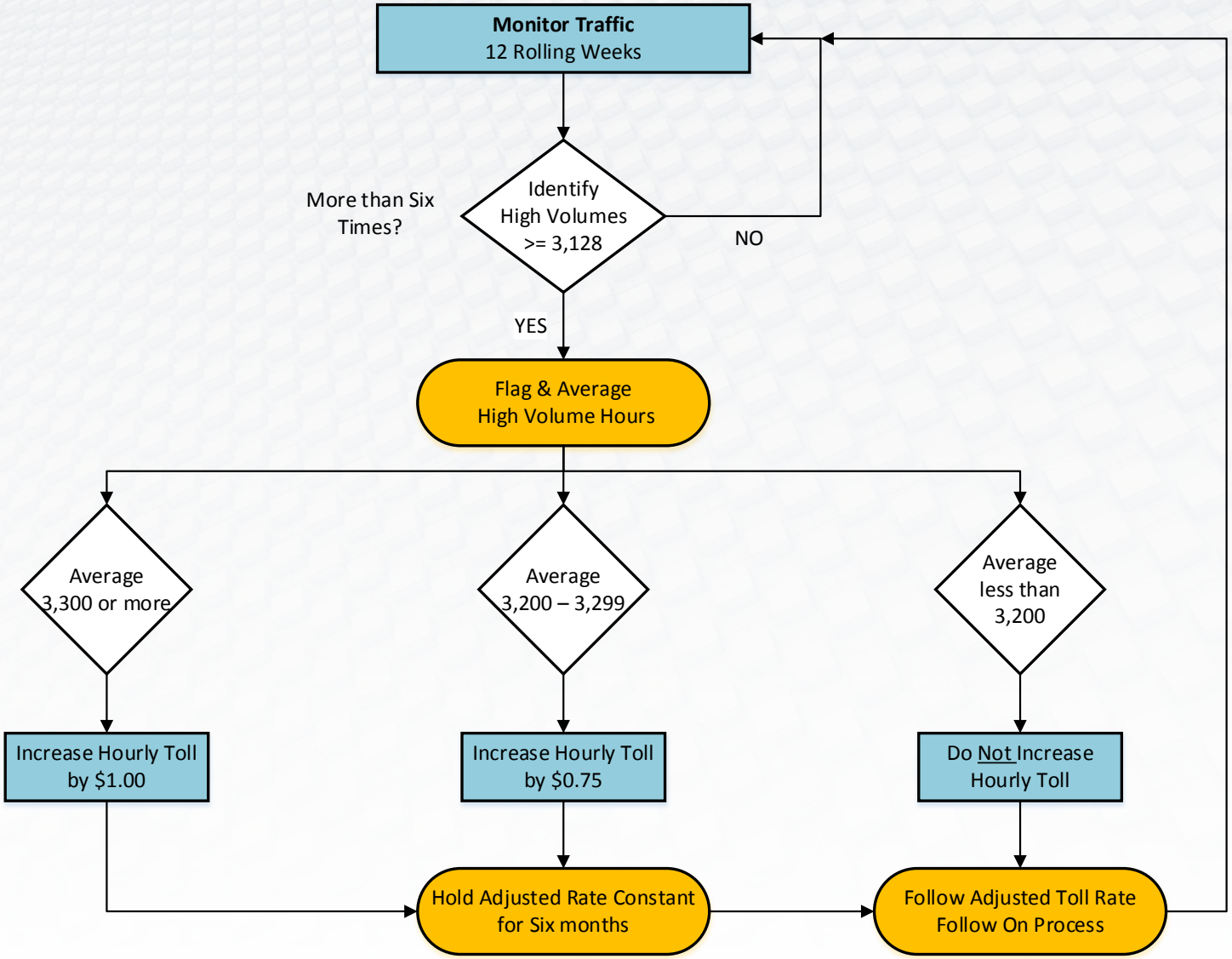
Each congested General Purpose lane carries 842 vehicles per hour

Speed Predictor Limitations

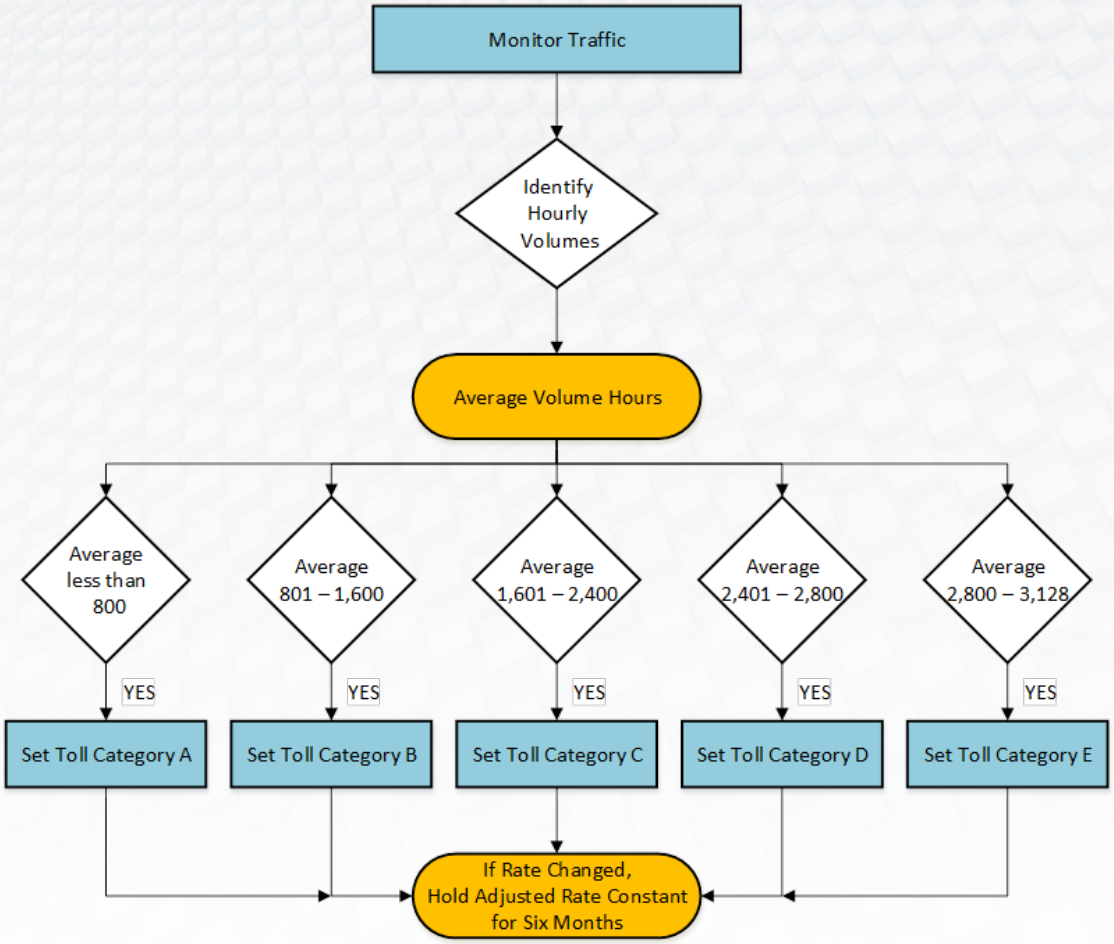
- As volumes approach 3,300 vehicles per hour (vph), speed behavior is unpredictable
- If toll policy is designed for 3,400 vph, daily traffic variations will put conditions in this turbulent region
- Toll policy should be priced for reliable, predictable, free-flow commute



Peak Toll Policy: OCTA 91 Express Lanes



Non-Peak Toll Policy (RCTC)



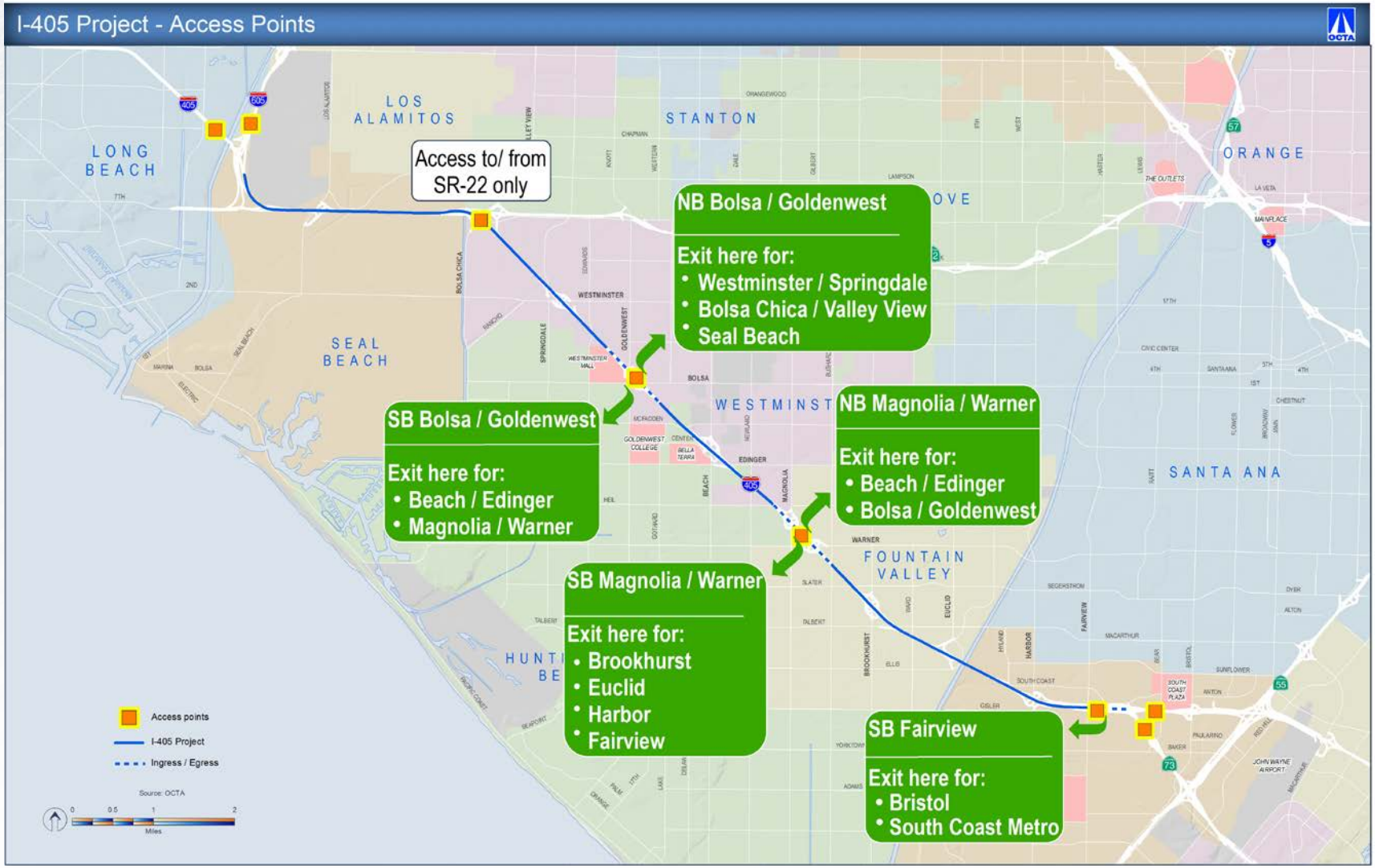
Access Points

Goal(s)	Continuous Access	Intermediate Access
Safety Reliability Predictability Optimal throughput	• Allows for more weaving • Greater friction • Slower express lanes speeds	• Safer, more reliable, predictable commute • Less weaving • Operationally superior
Sufficient revenue Bond covenants met	• Higher violation rates • Financial risk	• Fewer violations • Less financial risk

Recommendation:

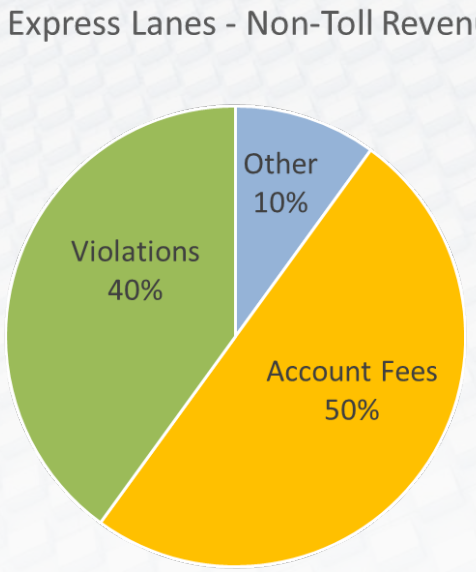
Open with intermediate access but don't preclude consideration of continuous access in the future.

Intermediate Access



Channelizers Separate Traffic

Non-Toll Revenue: 20% of total revenue



Recommendation: Adopt 91 Express Lanes Non-Toll Revenue Policies

* Other = Non-sufficient funds fees, transponder fees, plate read fees, account deactivation fees, etc.

Enforcement Approach

- Enforcement minimizes violations
- Manual enforcement
  - Officers present
  - Preferably during peak hours – more traffic, greater revenue potential/loss
- Automated enforcement
  - Automated License Plate Recognition
  - Determines account status
  - Enforcement Lights

Recommendation: Use both manual and automated enforcement

Prohibited Vehicles

- 91 Express Lanes policy prohibits:
  - Vehicles with more than two axles
  - Vehicles towing trailers

- Recommendation: Adopt 91 Express Lanes policy

Discounts, Exemptions

- Recommended exemptions:
  - Free trips for in-service public transit vehicles (need to register)
  - Free trips for on-duty law enforcement and emergency vehicles
- Defer:
  - HOV occupancy and toll policy pending traffic and revenue study (T&R)
  - Clean Air Vehicle toll policy pending T&R
  - Other vehicle discounts pending T&R

Toll Collection Method

- 91 Express Lanes policy:
  - Vehicles are required to use a transponder
  - License plate reads are utilized for violation purposes

- Recommendation:
  - Adopt the 91 Express Lanes policy
  - Adapt to future technologies

Current Transponder

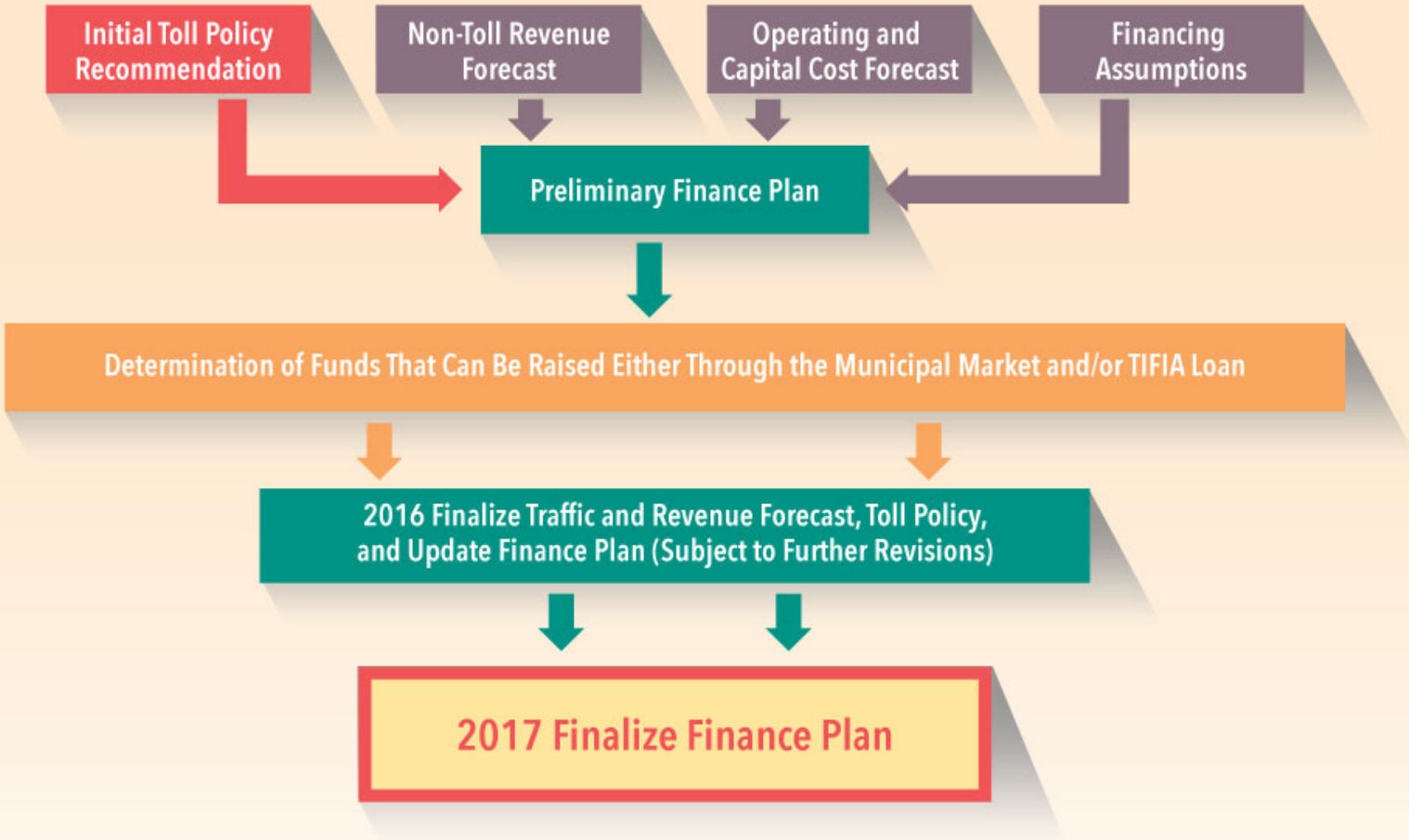
6C Transponder

Proposed Toll Policy Scenarios

Occupancy	Time of Day	A HOV2+ Free All Times*	B HOV2+ Free Non-Peak**	C 91 Express Lanes Toll Policy	D Revenue Maximization***
HOV2+	Peak	Free	Full Toll	Full Toll	Full Toll
	Non-Peak	Free	Free	Full Toll	Full Toll
HOV3+	Peak	Free	50% Discount	50% Discount	50% Discount
	Non-Peak	Free	Free	Free	Free

* Per OCTA/Caltrans Agreement on Terms, facility to open with HOV2+ free policy for no less than 3 years subject to results of the T&R.
** A variation of this option is to offer HOV3+ free during both peak and non-peak times (if feasible).
*** Needed for rating agencies - tolls rates set higher.

Getting to Finance Plan



Next Steps

Description	Timeframe
TIFIA Letter of Interest	Dec 9 Finance & Administration Committee Dec 14 Board of Directors
Traffic & Revenue Study Results	Feb/March 2016
Initial Toll Policy Recommendation	Feb/March 2016
Preliminary Finance Plan	Spring 2016