

I-405 Express Toll Lanes Rate Setting

Craig J. Stone, P.E.

Assistant Secretary
Toll Division

Rob Fellows

Policy and Planning Manager
Toll Division

**Washington State Transportation Commission
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Meeting Objectives and Agenda

- **Reconsider rate-setting goals for express toll lanes**
 - How are express toll lanes and bridge tolls different?
 - What does the dynamic rate algorithm do?
 - Is there a financial target?
 - Is it appropriate only to set minimum / maximum rate limits?
- **Key background information**
 - Traffic forecast performance for people and vehicles in both the express and general purpose lanes
- **Rate-setting information to date**
 - Minimum / maximum rates
 - Pay By Mail differential
 - Exemptions, including carpools and motorcycles
- **Discuss next steps**

Rate-setting Goals for Express Toll Lanes

Comparison: Bridge Tolls vs. Express Toll Lanes

Factor	Bridge Tolls	Express Toll Lanes
Tolling Objectives	<ul style="list-style-type: none"> • Repay construction bonds • Secondly, manage congestion 	<ul style="list-style-type: none"> • Maximize flow, efficient operation • Generate revenue
How Rates are Determined	<ul style="list-style-type: none"> • Static rates set by Commission • Based on financial requirements 	<ul style="list-style-type: none"> • Parameters defined by Commission • Dynamic rates generated by computer
What Drives Revenue	<ul style="list-style-type: none"> • Proportionate to traffic volume 	<ul style="list-style-type: none"> • Proportionate to traffic congestion • Both rates and volume are affected
Revenue Characteristics	<ul style="list-style-type: none"> • Moderate growth based on population • Mild variation depending on economy 	<ul style="list-style-type: none"> • Significant growth with congestion • Significant variation with economy
Alternative Routes	<ul style="list-style-type: none"> • Alternative routes may be far apart • May shift time, mode, not make trip 	<ul style="list-style-type: none"> • Alternative is one lane away • Drivers can make choice in real time
Value to Customers	<ul style="list-style-type: none"> • Pays for needed infrastructure • Improved capacity, connectivity 	<ul style="list-style-type: none"> • Faster travel time • Reliable arrival expectation
Impacts to non-customers	<ul style="list-style-type: none"> • Diversion to other routes • Affects non-user travel, communities 	<ul style="list-style-type: none"> • Higher speeds in adjacent lanes • Better with higher express lane use
Financing Implications	<ul style="list-style-type: none"> • Reliable traffic and revenue forecasts • Good bond financing terms possible 	<ul style="list-style-type: none"> • Less national experience, volatility • Higher coverage, lower rates likely
Use of Excess Revenues	<ul style="list-style-type: none"> • Requires legislative appropriation • Can be used within corridor 	<ul style="list-style-type: none"> • Requires legislative appropriation • Can be used within corridor

Dynamic Toll-rate Algorithm

- **WSDOT is developing a new dynamic rate algorithm**
 - SR 167 proprietary model developed by toll vendor
 - New algorithm will aim to replicate SR 167 algorithm behavior
 - Adds ability for multiple zones, customization to other corridors
- **Why dynamic rates?**
 - Customers can choose based on current conditions
 - Better for ensuring reliability day-to-day
- **How does it work?**
 - Receives data from loop detectors on roadway (speed, volume)
 - Reacts to changes in speed and volume in a logical way
 - Reacts differently at depending on volume and rate of change
 - Operators can override in exceptional cases (blockages, etc.)

How Dynamic Tolling Works

- **I-405 System**

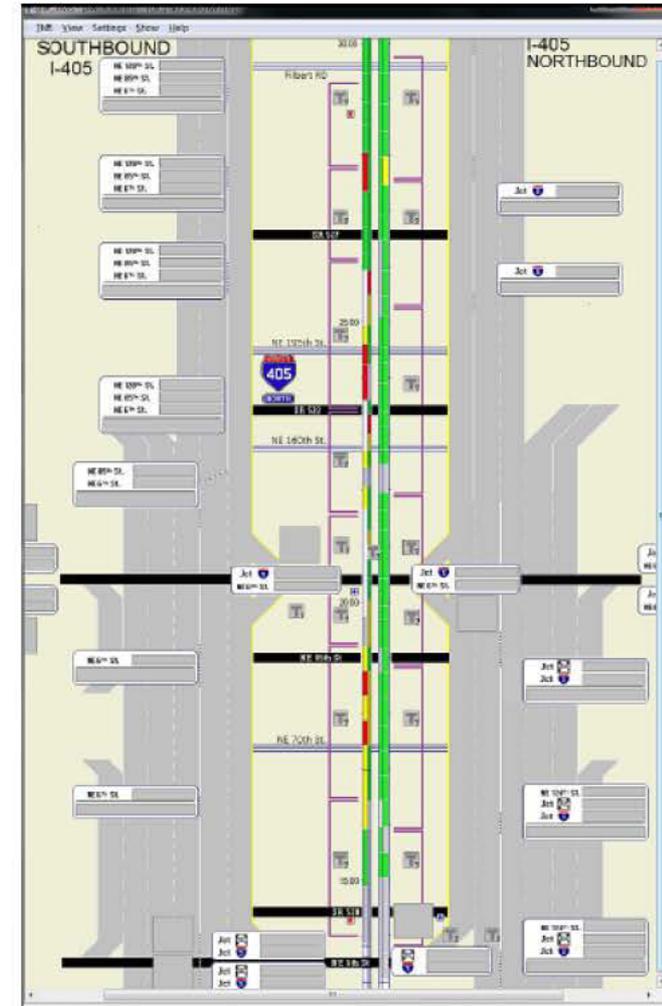
- 800+ roadway sensors measure volume and speed
- Generally spaced at ½ mile intervals including ramps
- Rates calculated every minute and sent to roadside toll systems vendor every 5 minutes (adjustable if needed)
- Historical rate tables allow operation to continue if communications temporarily interrupted

- **Under normal traffic operations**

- Traffic engineers at the operations center monitor system performance

- **In case of major blocking accidents or incidents**

- Traffic center engineers integrate toll operation with message signs and other traffic management tools
- May switch from dynamic rates to implement established incident management protocols



Prototype of traffic management center toll operation monitoring system

Throughput Maximization: The Rice Video

<http://www.wsdot.wa.gov/traffic/congestion/rice>

Managing the Algorithm

Factor	Does this factor affect the balance between revenue vs. traffic optimization?	Does WSDOT need flexibility to manage traffic effectively?
Minimum Toll Rate	<ul style="list-style-type: none"> • Yes, for initial segment most tolls will be at the minimum rate 	<ul style="list-style-type: none"> • No, entirely related to revenue and/or cost recovery
Maximum Toll Rate	<ul style="list-style-type: none"> • Somewhat – if maximum is too low, higher tolls won't be collected that some customers may be willing to pay 	<ul style="list-style-type: none"> • Somewhat – if maximum is too low, either performance is hindered or express lanes are unavailable except to HOV's
Toll Rate increment	<ul style="list-style-type: none"> • No, the increment has no effect on revenue maximization. • Multiples of \$0.05 is assumed 	<ul style="list-style-type: none"> • Yes, different increments may be needed to manage traffic at high and low volumes or changes in volume
Volume/speed Relationship to Price	<ul style="list-style-type: none"> • Somewhat, depending on traffic management objectives engineers pursue through adjustments 	<ul style="list-style-type: none"> • Yes, this must be adjusted to tune the algorithm based on experience to achieve traffic flow objectives
Selection of Roadway Data Inputs	<ul style="list-style-type: none"> • Perhaps, but revenue would not be a driver for making these adjustments 	<ul style="list-style-type: none"> • Yes, experimentation will show what loop data will most effectively manage traffic
Time Change Increment	<ul style="list-style-type: none"> • Somewhat, because it will influence how fast rates can respond to traffic 	<ul style="list-style-type: none"> • Yes, because it will be managed to achieve traffic flow objectives

Policy Factors Affecting Revenue

- **Traffic management objectives can affect the balance between traffic and revenue optimization**
 - Primary tradeoff is the minimum target speed
 - 45 mph results in best throughput, but is close to failure threshold
 - Higher speed goals result in higher revenues
 - In operation, friction between lanes will blur these extremes
- **Minimum and maximum toll rates, exemptions and fees for more costly payment methods are most critical and controllable revenue factors**
- **Other project design and operation elements affecting revenue could include:**
 - Hours of operation
 - Speed limits (would require active traffic management)
 - Allowable vehicles by weight/class or commercial vehicle charge
 - Location of express toll lane access points

Delegation of Rate-setting Authority

- Commission staff has asked to ensure managing the toll algorithm does not improperly delegate authority
- Express toll lane rates are set dynamically by definition to achieve both revenue and traffic objectives
- The algorithm is integrated with traffic management systems and requires traffic engineering expertise to achieve the desired traffic management outcomes
- To affect the balance between traffic and revenue objectives, consider a discussion of speed objectives rather than detailed management of the algorithm

I-405 Revenue Requirements

Policy Guidelines for Eligible Toll Facilities (RCW 47.56.830):

- (4) Setting toll rates. Toll rates, which may include variable pricing, must be set to meet anticipated funding obligations. To the extent possible, the toll rates should be set to optimize system performance, recognizing necessary trade-offs to generate revenue.

Restrictions on Toll Revenue (RCW 47.56.850):

- (3) the tolling authority must ensure that toll rates will generate revenue sufficient to: (a) Meet the operating costs of the eligible toll facilities, including necessary maintenance, preservation, renewal, replacement, administration, and toll enforcement by public law enforcement;

Performance Measures (RCW 47.56.880):

- (4) The department shall monitor the express toll lanes project and shall annually report to the transportation commission and the legislature...
 - (a) Whether the express toll lanes maintain speeds of forty-five miles per hour at least ninety percent of the time during peak periods;
 - (b) Whether the average traffic speed changed in the general purpose lanes;
 - (c) Whether transit ridership changed;
 - (d) Whether the actual use of the express toll lanes is consistent with the projected use;
 - (e) Whether the express toll lanes generated sufficient revenue to pay for all Interstate 405 express toll lane-related operating costs;
 - (f) Whether travel times and volumes have increased or decreased on adjacent local streets and state highways; and
 - (g) Whether the actual gross revenues are consistent with projected gross revenues...

Is there a Revenue Target?

- **Only financial requirement is to cover all operating and maintenance costs by the second year**
- **In 2015, there will be an adopted FY 2015-17 budget and revenue assumptions**
- **Future financial planning will follow a different paradigm than bridge tolls**
 - Operating experience will help indicate revenue potential
 - Financial plan will account for express toll lane revenue volatility
 - Recognizing that traffic congestion levels will determine toll revenue potential, the toll-funded capital investment will be sized to fit within projected funding capacity as demonstrated by the initial project phase

Background Information

- I-405 Corridor Performance

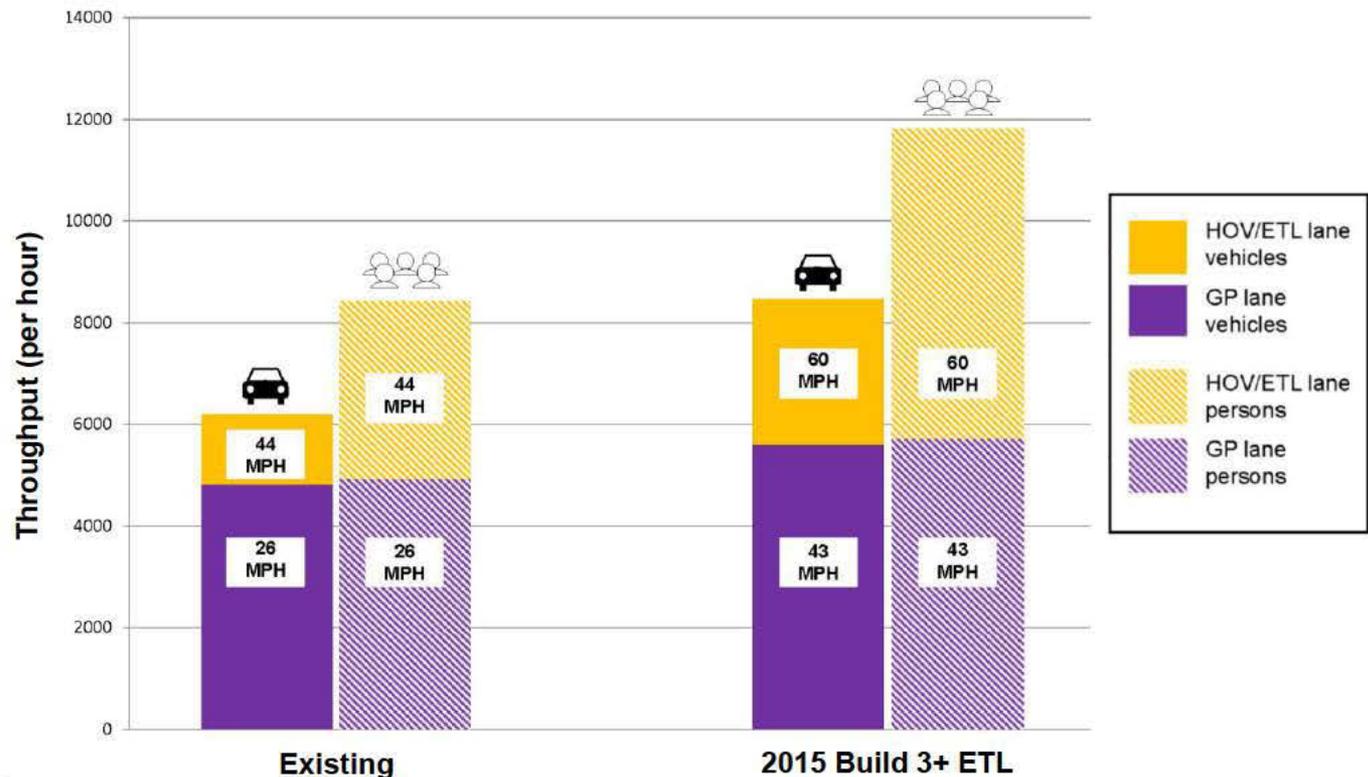
Vehicle and Person Throughput

- The existing facility includes 3 general purpose lanes (purple) and one HOV lane (yellow)
- Adding a second express toll lane (yellow in 2015 graphic) increases speeds and person throughput in both general purpose and express toll lanes

I-405 Southbound Vehicle and Person Volume

2012 and 2015,
AM peak

Kirkland Area



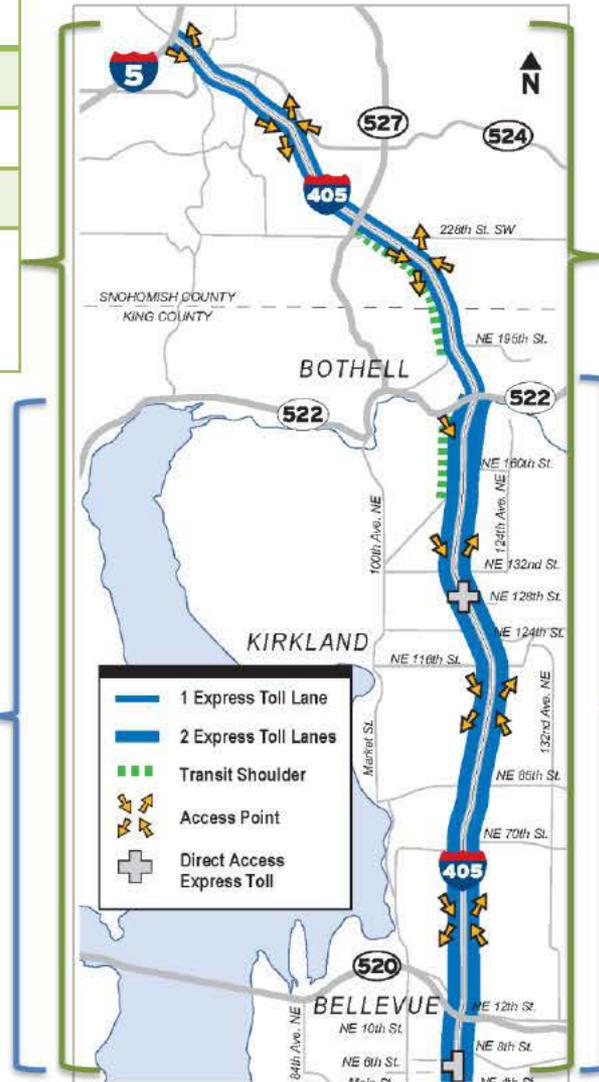
Typical Day Commutes and Toll Rates (Opening Year)

Southbound a.m.

I-5 to NE 6 th Street	
GP lanes	37 m.p.h.
ETL lanes	60 m.p.h.
Rate (2014 dollars)	\$1.60
Minutes saved in ETL	6 (62% faster than GP)

Southbound a.m.

SR 522 to NE 6 th Street	
GP lanes	43 m.p.h.
ETL lanes	60 m.p.h.
Rate (2014 dollars)	\$0.75
Minutes saved in ETL	3 (40% faster than GP)



Northbound p.m.

NE 6 th Street to I-5	
GP lanes	43 m.p.h.
ETL lanes	60 m.p.h.
Rate (2014 dollars)	\$0.80
Minutes saved in ETL	5 (40% faster than GP)

Northbound p.m.

NE 6 th Street to SR 522	
GP lanes	32 m.p.h.
ETL lanes	60 m.p.h.
Rate (2014 dollars)	\$0.75
Minutes saved in ETL	4 (88% faster than GP)

*Data above does not reflect ramp-up adjustment

Summary of Rate-setting Information

- Minimum Rate
- Maximum Rate
- Pay By Mail Differential
- Exemptions

Minimum Toll Rate

- **The Commission may choose to set a minimum toll rate for I-405 express toll lanes**
 - Local precedent: SR 167 minimum is \$0.50
 - Modeling assumed \$0.80 as minimum toll in opening year
 - Assumed in effect between 5AM and 8PM, WSDOT considering whether 24 hour operation makes sense
- **Criteria could include:**
 - Minimum toll rate transactions should cover their toll collection cost
 - Revenues from minimum-rate transactions should be sufficient to cover a defined revenue target
 - The minimum toll rate should remain affordable to attract customers in the early years of operation

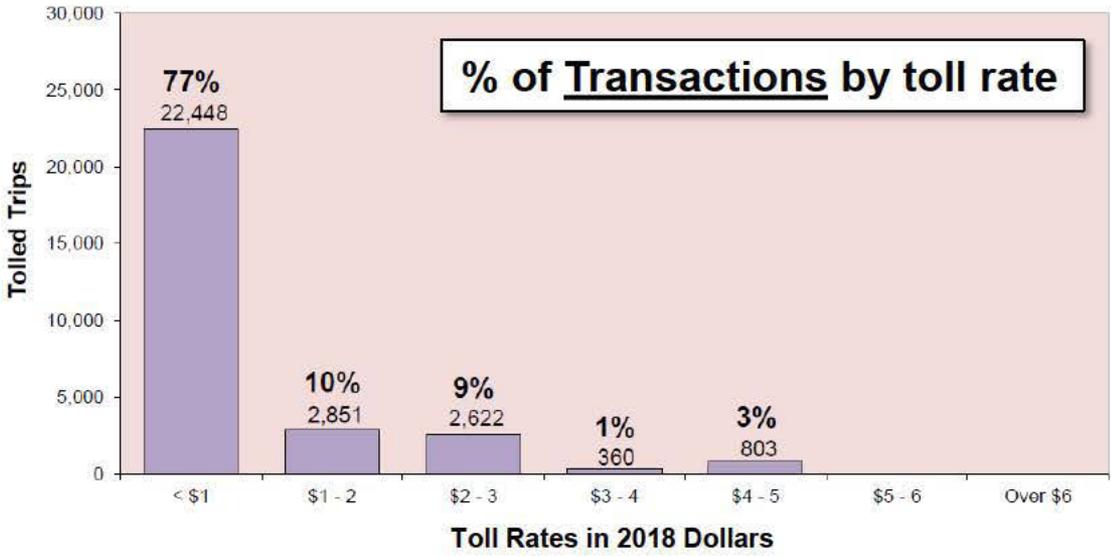
Minimum Toll Rate

Modeled Distribution of Dynamic Toll Rates

**I-405
Bellevue to Lynnwood**

**2018
Projected Distribution
of Weekday Tolls
on an Average Day**

- **77% of transactions and 55% of revenue are projected to be at the minimum toll rate**
- **Selection of a minimum toll rate will be critical to achieving revenue targets in early years**



% of Gross Revenue by toll rate

Daily Gross

Toll Rates in 2018 Dollars
Source: CDM Smith Traffic and Revenue Report

Modeling Uncertainty

- **Modeling is not as precise predicting how people will behave when no congestion is present**
 - Models are the best at calculating behavior effects of travel time and cost differentials
 - Use of express toll lanes when general lanes are not congested is spurred by psychological factors (perception of reliability, price insensitivity) that models don't account for
 - Other express toll lane facilities have seen consistent use at all times of day
- **During early operation, a ramp-up period is assumed as new customers get *Good To Go!* accounts and choose to try out the new facility**

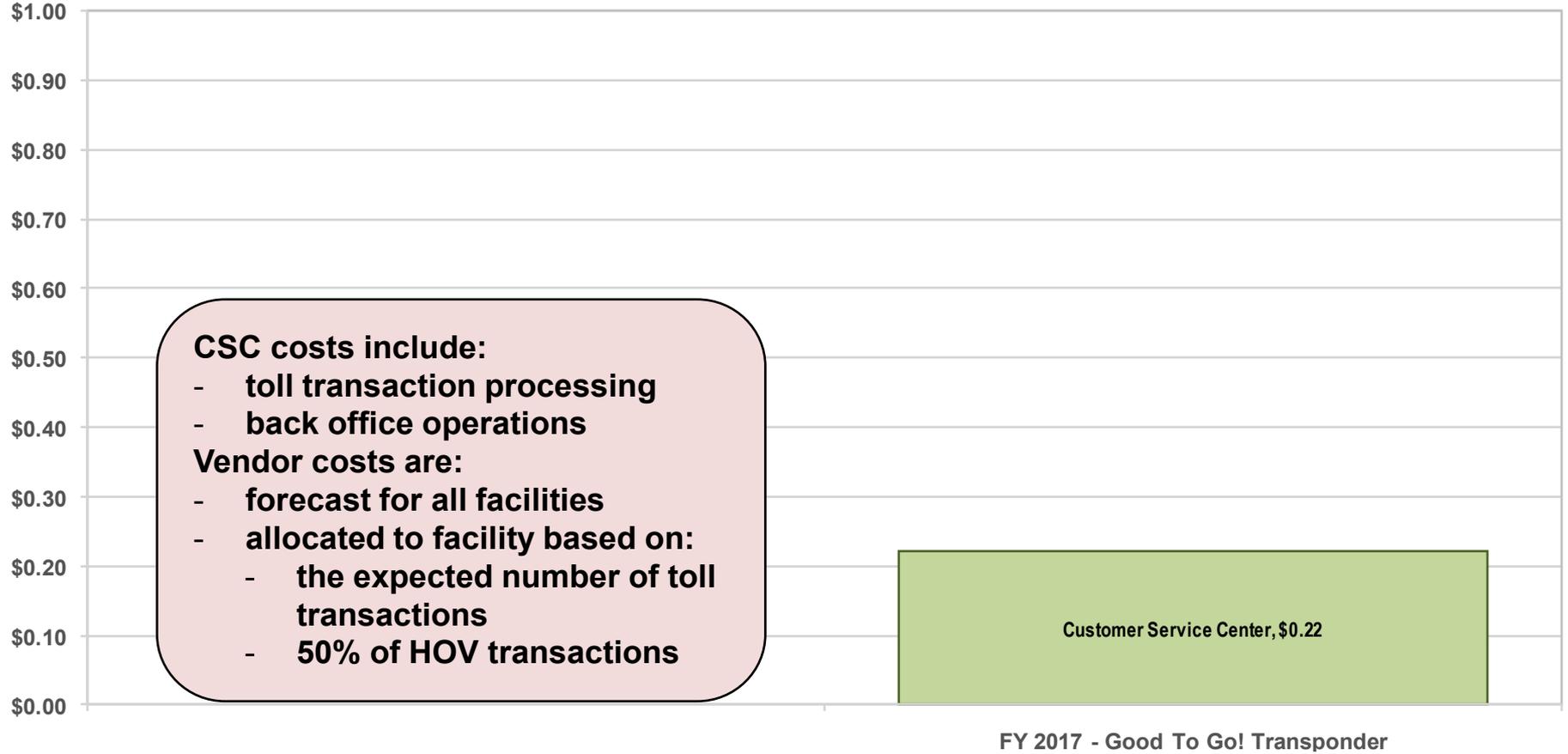
Components of *Good To Go!* Transaction Costs

- **Toll collection cost components include:**
 - Allocated customer service center vendor cost (to manage customer accounts)
 - Lane systems vendor cost (to collect transaction data)
 - Allocated state overhead costs
 - Allocated credit card fees
- **Allocation of shared costs between toll facilities**
 - Credit card fees are proportionate to I-405 share of total revenue
 - Other costs allocated based on I-405 share of all toll transactions
- **Other costs that could be considered:**
 - Lost toll revenues when drivers improperly declare as carpools
 - Enforcement cost for HOV compliance

Minimum Toll Rate

Projected Toll Collection Costs *Good To Go!*

3+ carpool free peak/2+ carpool free off-peak – FY 2017



Customer Service Center Costs

\$0.22

Average toll revenue per transaction

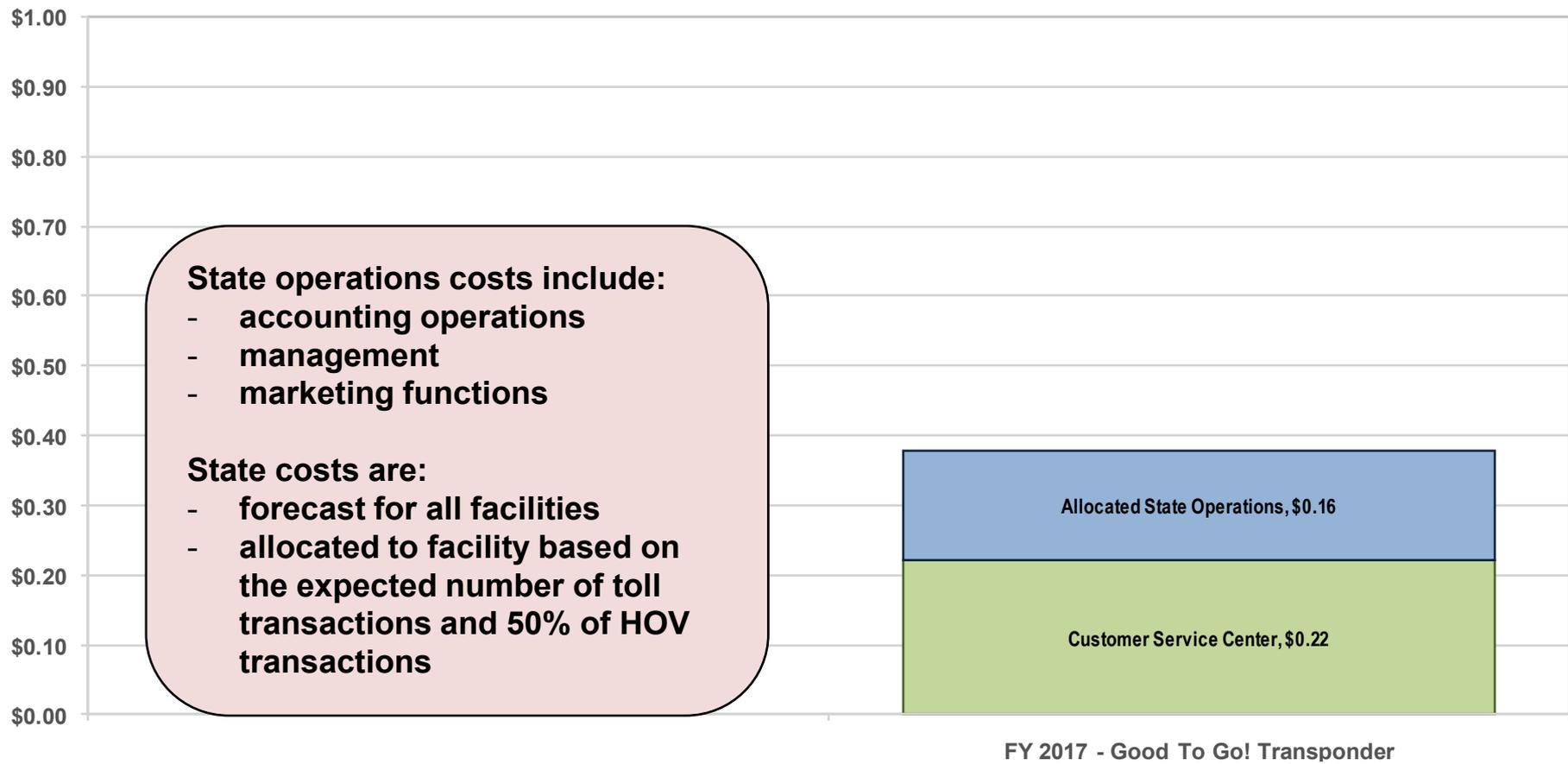
\$0.88

Values in Year of Collection Dollars

Minimum Toll Rate

Projected Toll Collection Costs *Good To Go!*

3+ carpool free peak/2+ carpool free off-peak – FY 2017



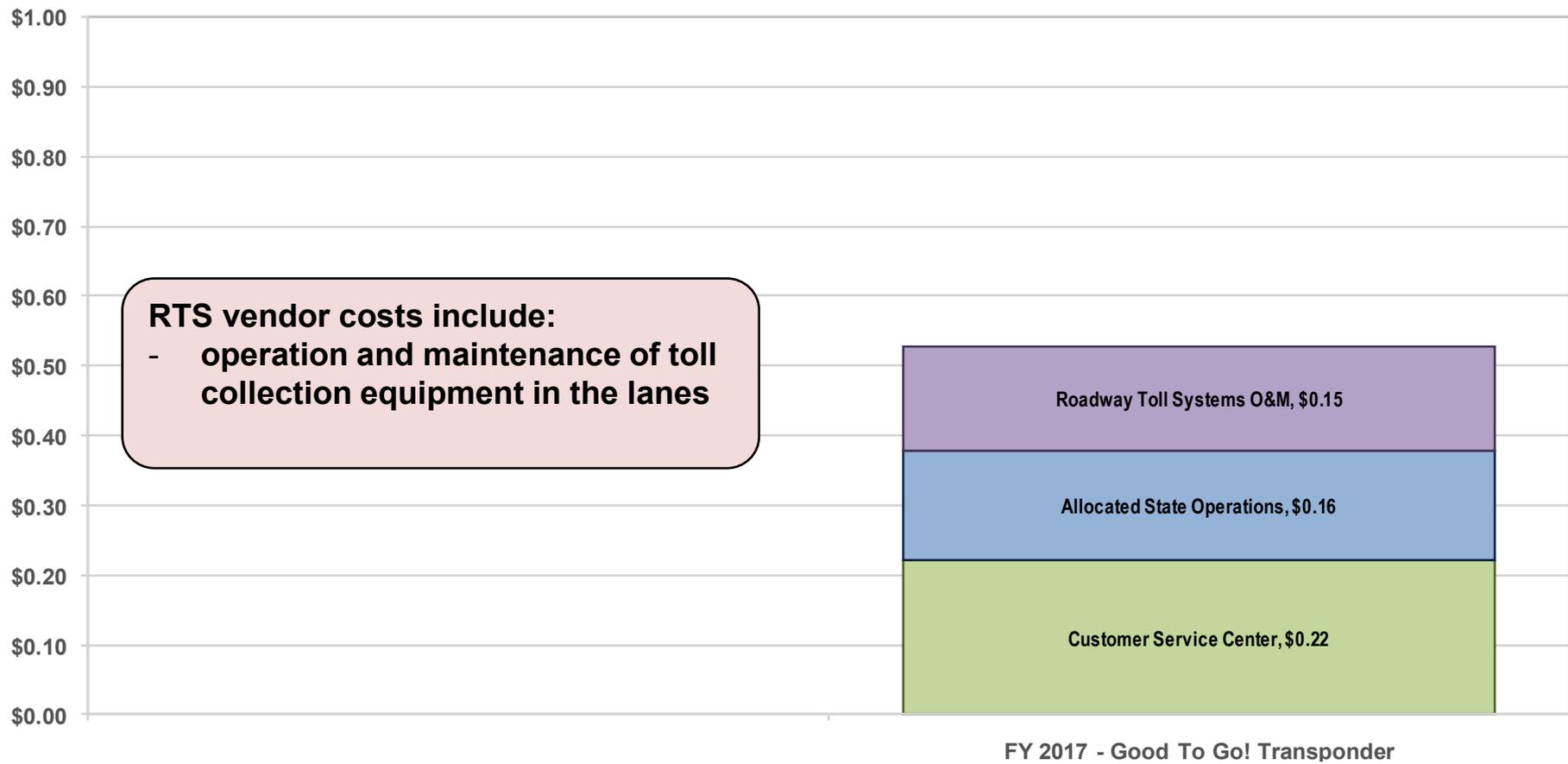
Toll Collection Costs	\$0.22
Above + State Costs	\$0.38
<i>Average toll revenue per transaction</i>	\$0.88

Values in Year of Collection Dollars

Minimum Toll Rate

Projected Toll Collection Costs *Good To Go!*

3+ carpool free peak/2+ carpool free off-peak – FY 2017



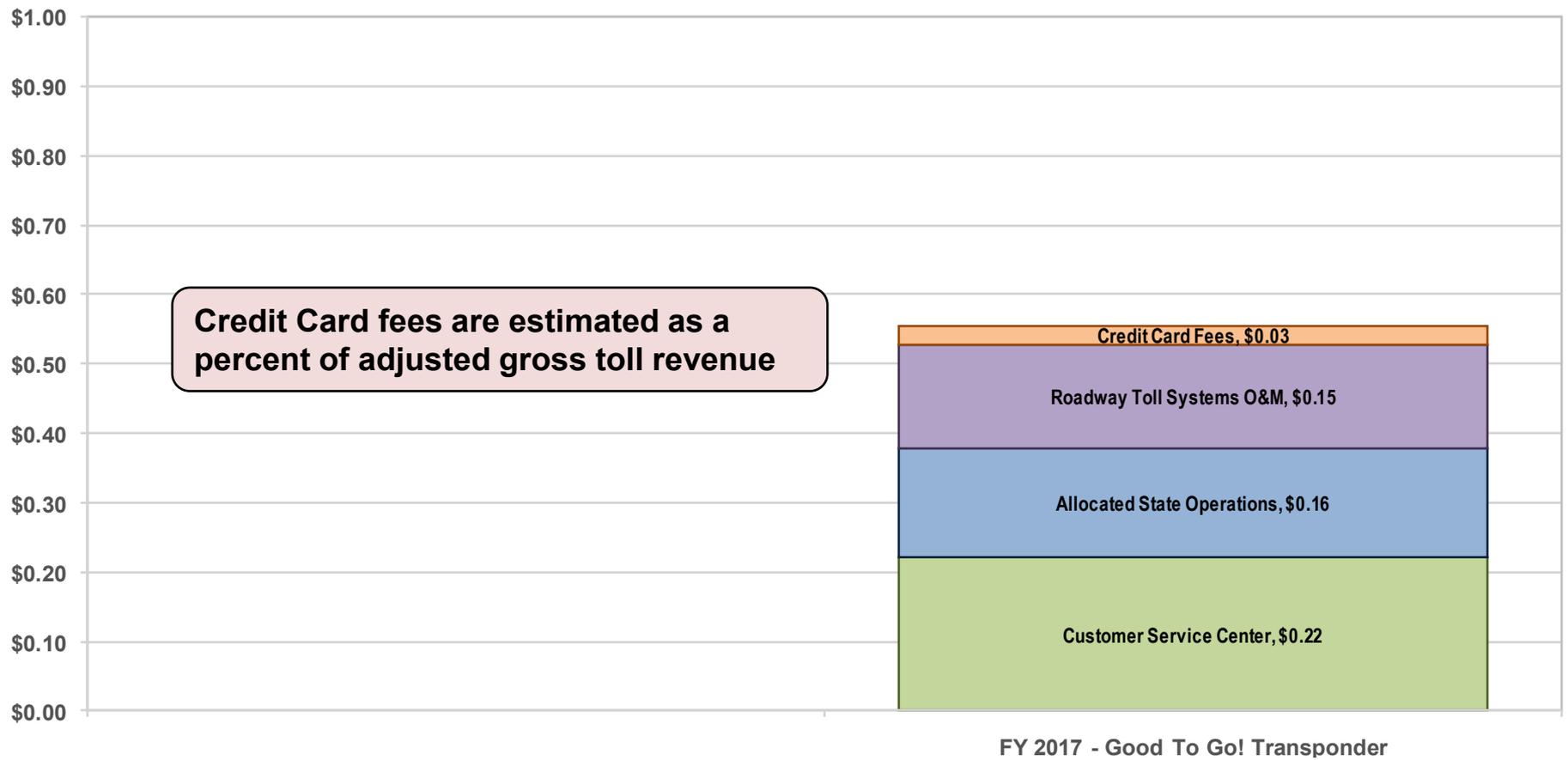
Toll Collection Costs	\$0.38
Above + Toll Systems O&M	\$0.53
<i>Average toll revenue per transaction</i>	\$0.88

Values in Year of Collection Dollars

Minimum Toll Rate

Projected Toll Collection Costs *Good To Go!*

3+ carpool free peak/2+ carpool free off-peak – FY 2017



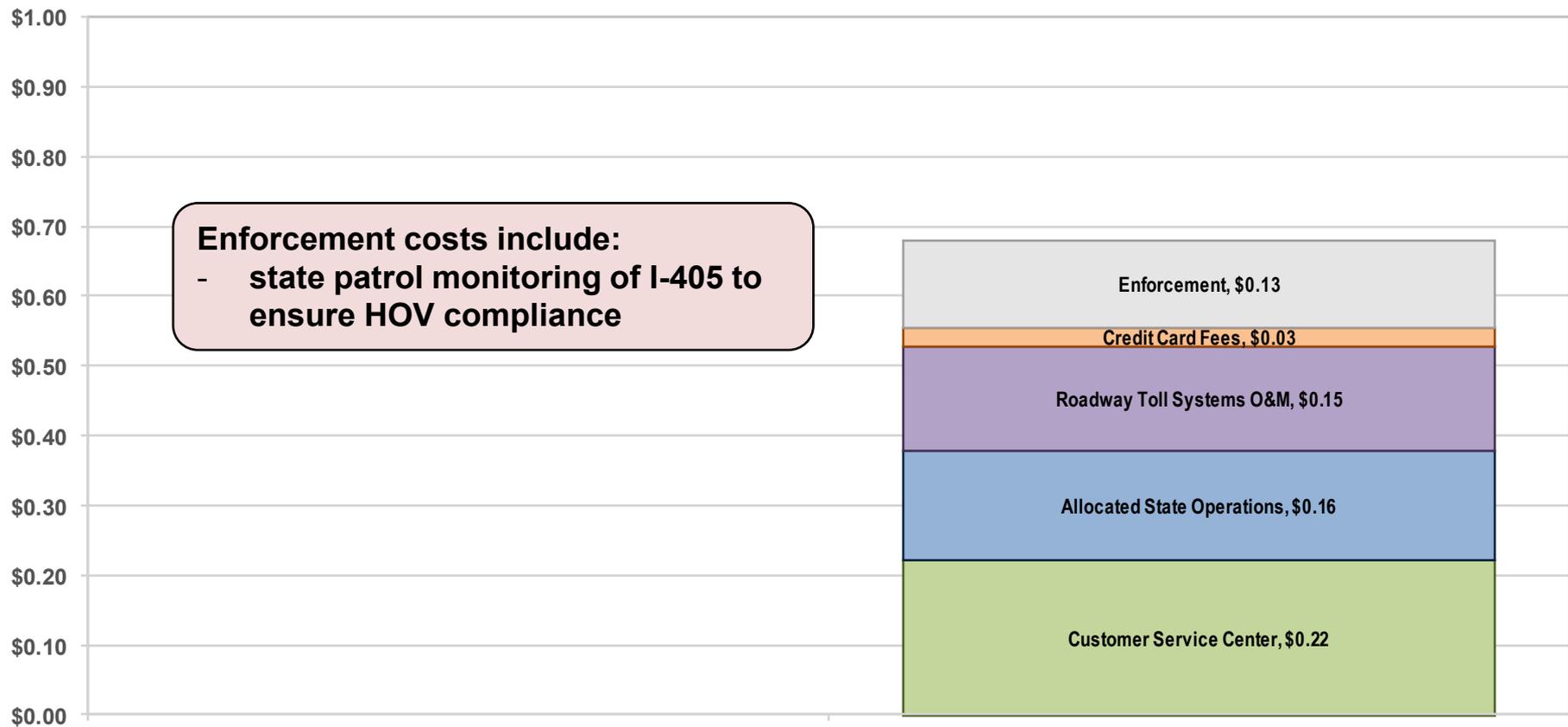
Toll Collection Costs	\$0.53
Above + Credit Card Fees	\$0.56
<i>Average toll revenue per transaction</i>	\$0.88

Values in Year of Collection Dollars

Minimum Toll Rate

Projected Toll Collection Costs *Good To Go!*

3+ carpool free peak/2+ carpool free off-peak – FY 2017



Enforcement costs include:
 - state patrol monitoring of I-405 to ensure HOV compliance

FY 2017 - Good To Go! Transponder

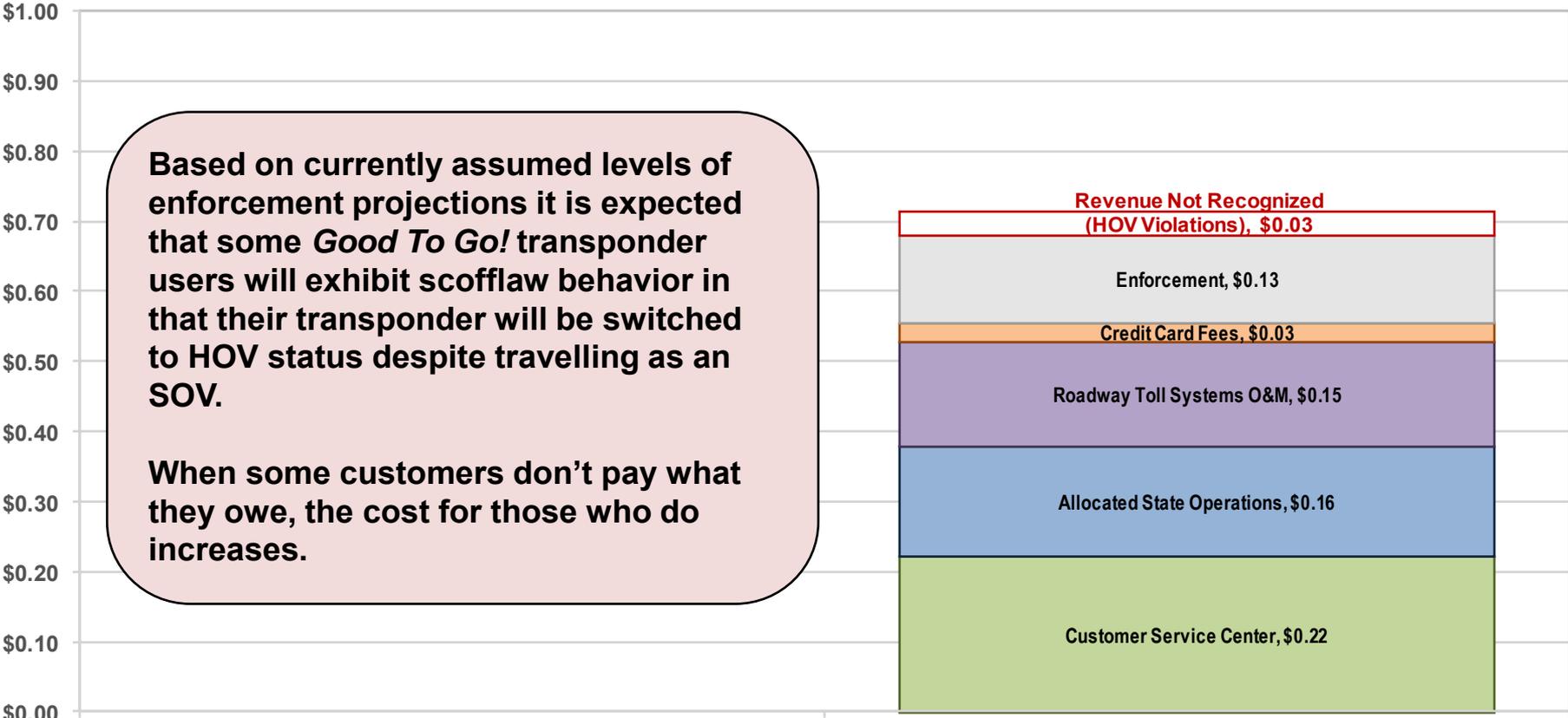
Toll Collection Costs	\$0.56
Above + Enforcement	\$0.69
<i>Average toll revenue per transaction</i>	\$0.88

Values in Year of Collection Dollars

Minimum Toll Rate

Projected Toll Collection Costs *Good To Go!*

3+ carpool free peak/2+ carpool free off-peak – FY 2017



Based on currently assumed levels of enforcement projections it is expected that some *Good To Go!* transponder users will exhibit scofflaw behavior in that their transponder will be switched to HOV status despite travelling as an SOV.

When some customers don't pay what they owe, the cost for those who do increases.

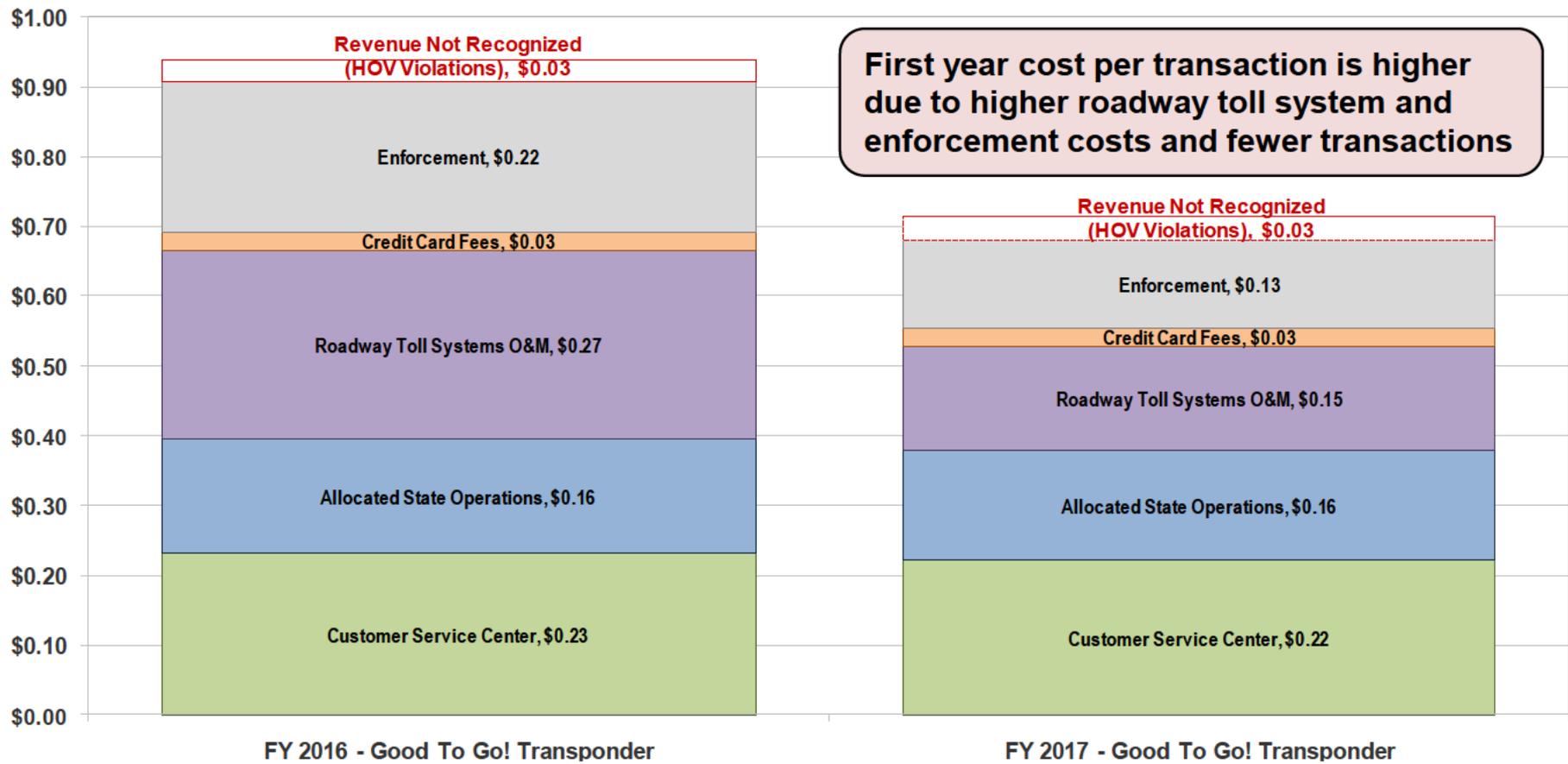
Toll Collection Costs	\$0.69
Above + HOV Violations	\$0.71 (rounded)
<i>Average toll revenue per transaction</i>	\$0.88

Values in Year of Collection Dollars

Minimum Toll Rate

Projected Toll Collection Costs *Good To Go!*

3+ carpool free peak/2+ carpool free off-peak – FY 16 compared to FY 17



Toll Collection Costs	\$0.94	\$0.71
Average toll revenue per transaction	\$0.82	\$0.88

Values in Year of Collection Dollars

Minimum Toll Rate

Finding the Middle Ground

Minimum Toll Rate Too High

- Model predicts large drop off in traffic (empty lanes problem)
- Fewer toll trips to cover fixed I-405-specific toll system and enforcement costs significantly increases average cost per trip
- **Risk:** higher minimum toll doesn't cover even higher average cost of collection per trip that results from predicted drop in trips
- + Partially offsetting factor: fewer overall transactions reduces I-405 share of allocated system costs

Current Minimum Toll Rate Assumption

- ✓ Achieves reasonably high lane usage
- ✓ Covers year two cost of collection (\$0.71 / trip *Good To Go!*)
- ✓ Price is low enough to encourage people to try the system
- ✓ Lower risk / frequency of empty lanes

Minimum Toll Rate Too Low

- **Risk:** toll doesn't cover cost of collection
- Somewhat higher overall toll trips increases I-405 share of allocated system costs
- + Partially offsetting factor: more trips to cover fixed I-405 toll system and enforcement costs reduces average cost per trip



What Method is Best?

- **Several methods have been presented that could be used to arrive at a minimum toll rate**
 - **Choose a rate that exceeds the average cost of collection**
(above 71 cents)
 - **Choose a rate the model shows achieves the current financial plan**
(80 cents)
 - **Choose a rate that is not too high and not too low**
(75 to 80 cents)
- **Another possible approach would be to establish a target that should be cover by those paying the minimum rate**
 - **Requires running rate scenarios using different minimum toll rate**
(preferable if a single carpool option has been selected)
- **Example targets could include:**
 - Minimum tolls should cover X% of O&M costs in 2017 (to meet break-even criterion)
 - Minimum tolls should cover 55% of biennial costs (consistent with financial plan)
 - Minimum tolls cover 100% of costs for 2015-17 (congested tolls are net revenue)

Maximum Toll Rate

Policy Options could include:

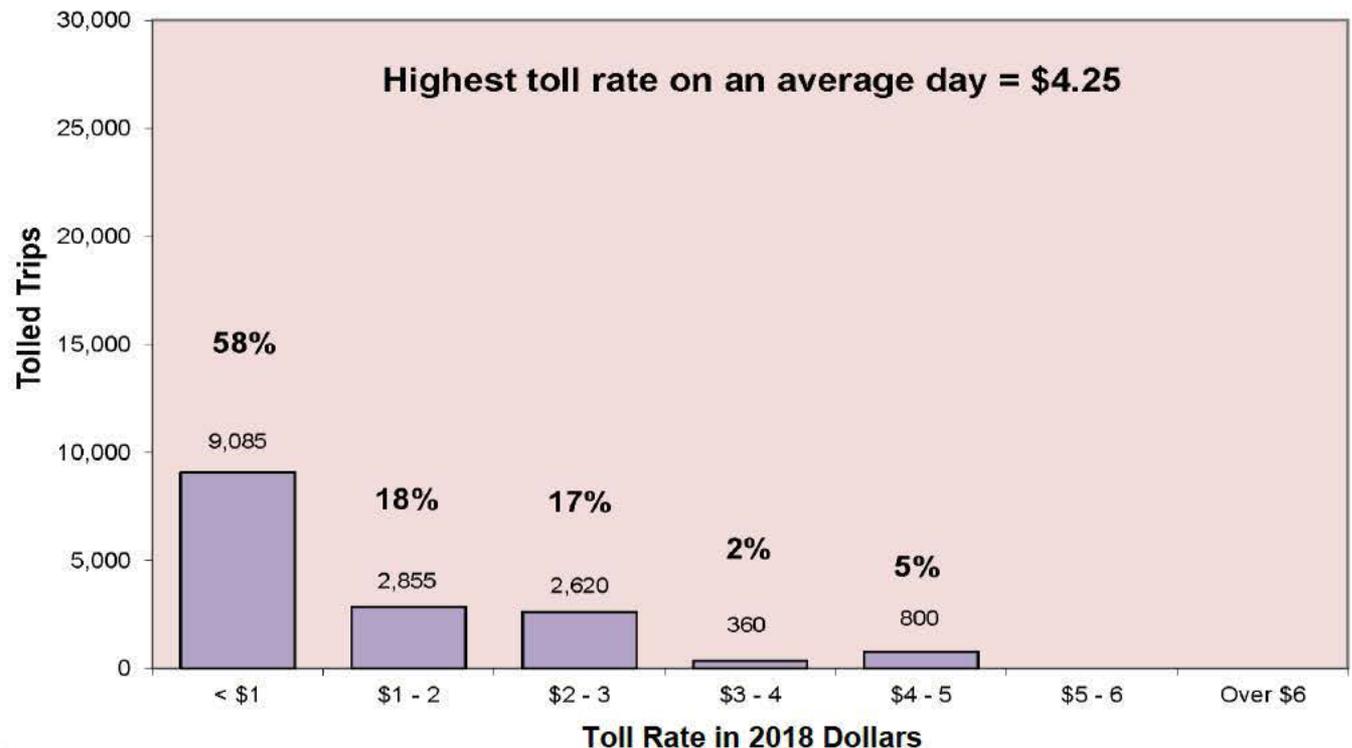
- **No maximum toll rate**
 - Let algorithm set traffic-appropriate rates
 - Avoids performance and availability issues
 - Occasional high rates may raise public concerns
- **\$9.00 maximum toll rate**
 - Consistent with SR 167 maximum toll rate
 - Will result in performance/availability issues sooner than higher rate
- **\$15.00 maximum toll rate**
 - Consistent with SR 167 methodology (\$1.00 per mile maximum)
 - Consistent with national examples
 - Likely to be sufficient for several years
- **Planning assumption: No maximum toll rate**

What Toll Rates does the Model Predict?

- Models predict traffic and revenue on an average day
- For Bellevue to Lynnwood I-405 project, in 2018 most peak period tolls are projected at \$1.00 or less

I-405 Bellevue to Lynnwood

2018
Projected
Distribution
of Weekday
Peak Period
Tolls on an
Average Day



Source: CDM Smith Traffic and Revenue Report

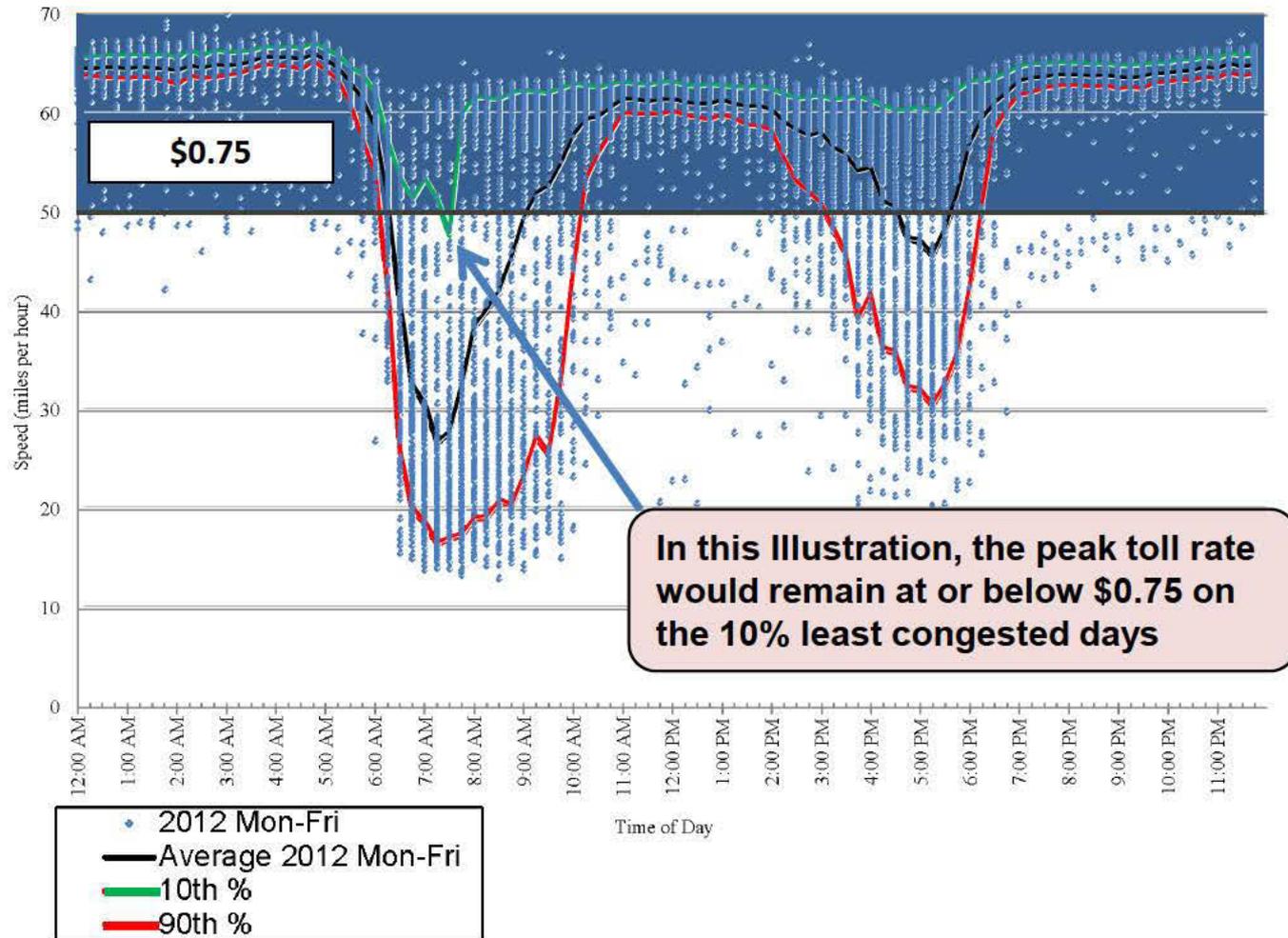
Maximum Toll Rate

Variability is Responsible for Highest Rates

- General purpose lane congestion increases demand for use of the express toll lanes
- A typical day would have rates between \$0.75 and \$4.00
- Toll rates not expected to reach highest levels except for rare, extremely congested days

I-405 Southbound

2012
General Purpose
Speed
Monday - Friday

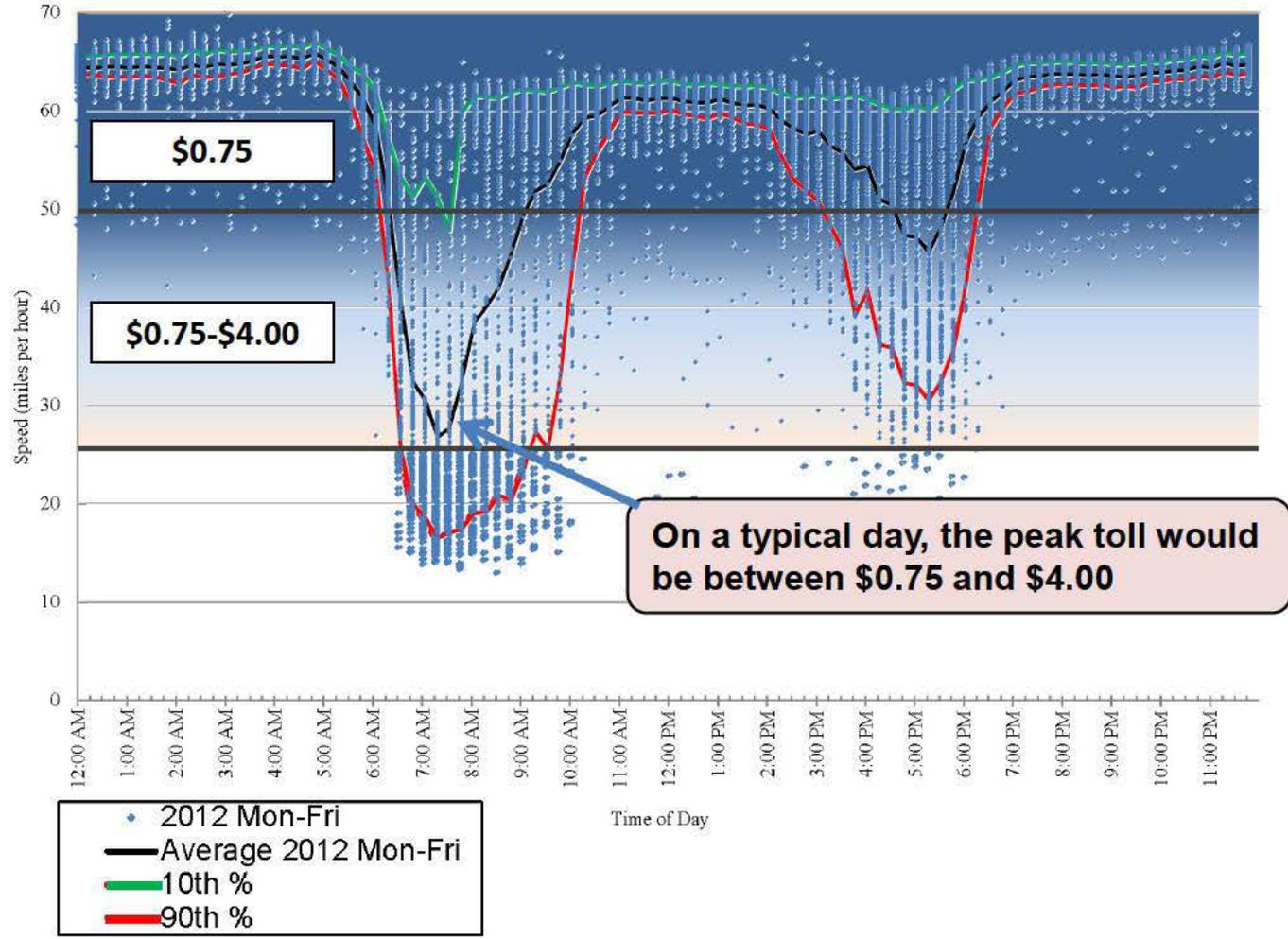


Maximum Toll Rate

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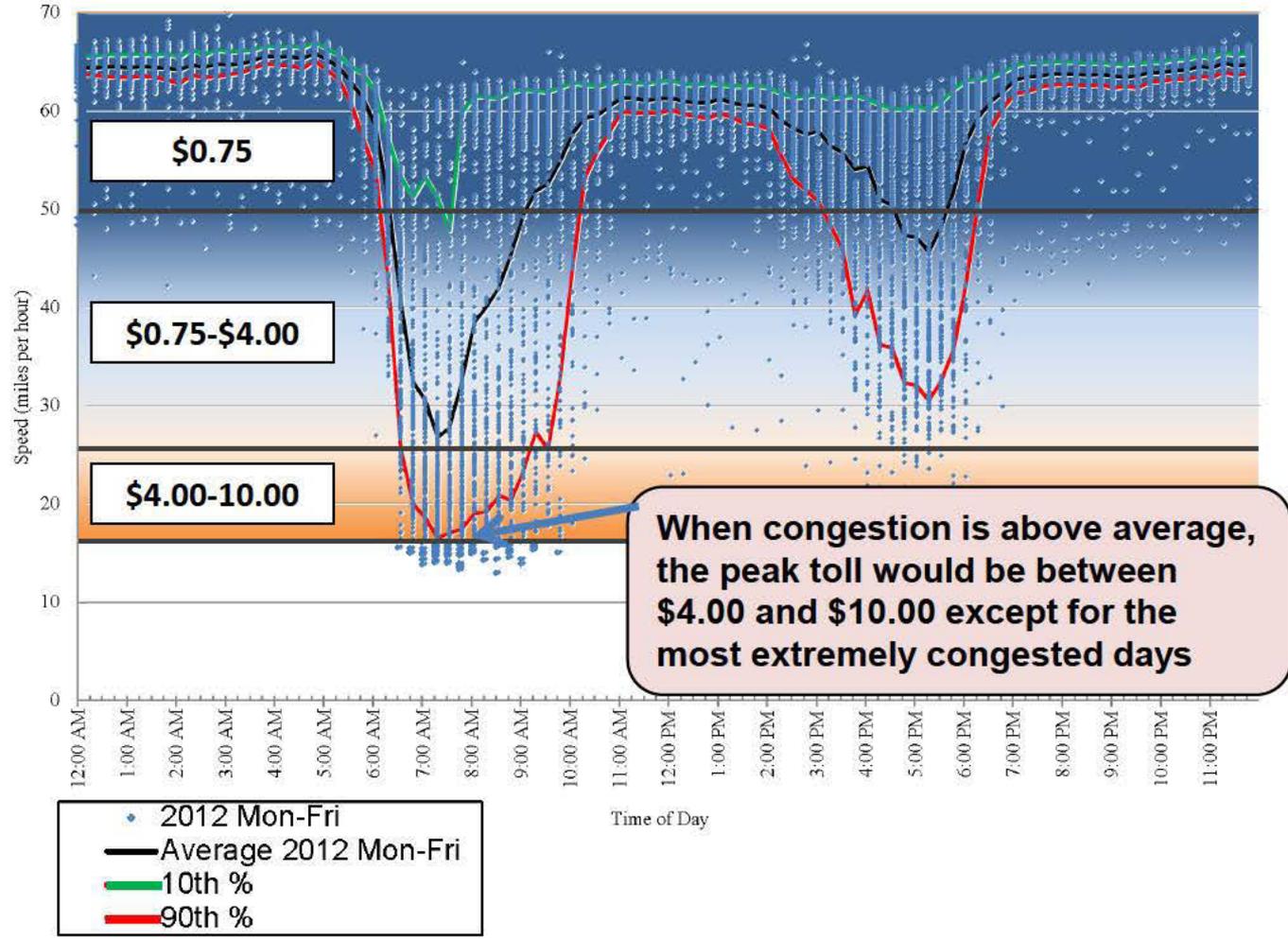
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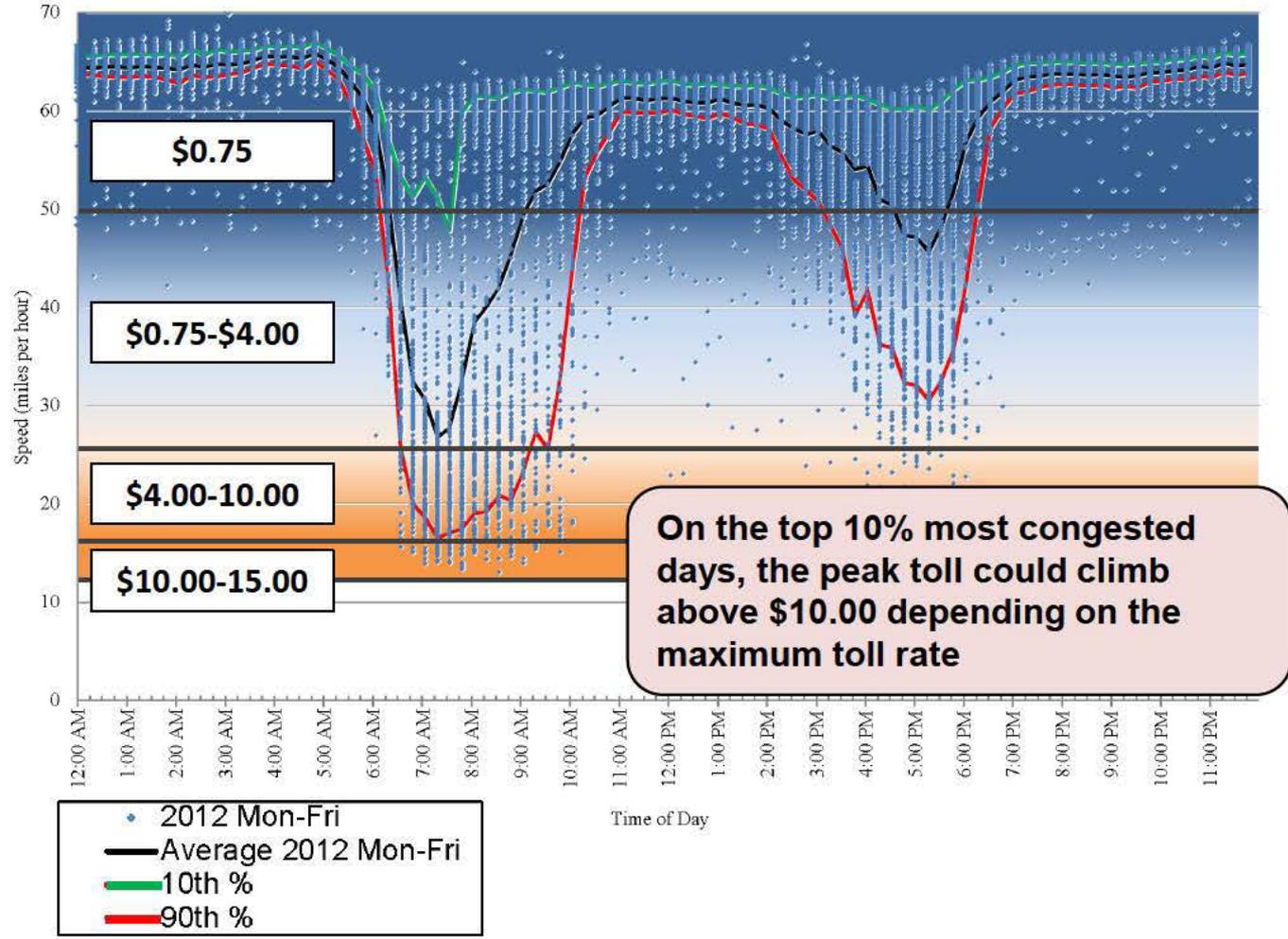


Maximum Toll Rate

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I-405 Southbound
2012
General Purpose
Speed
Monday - Friday



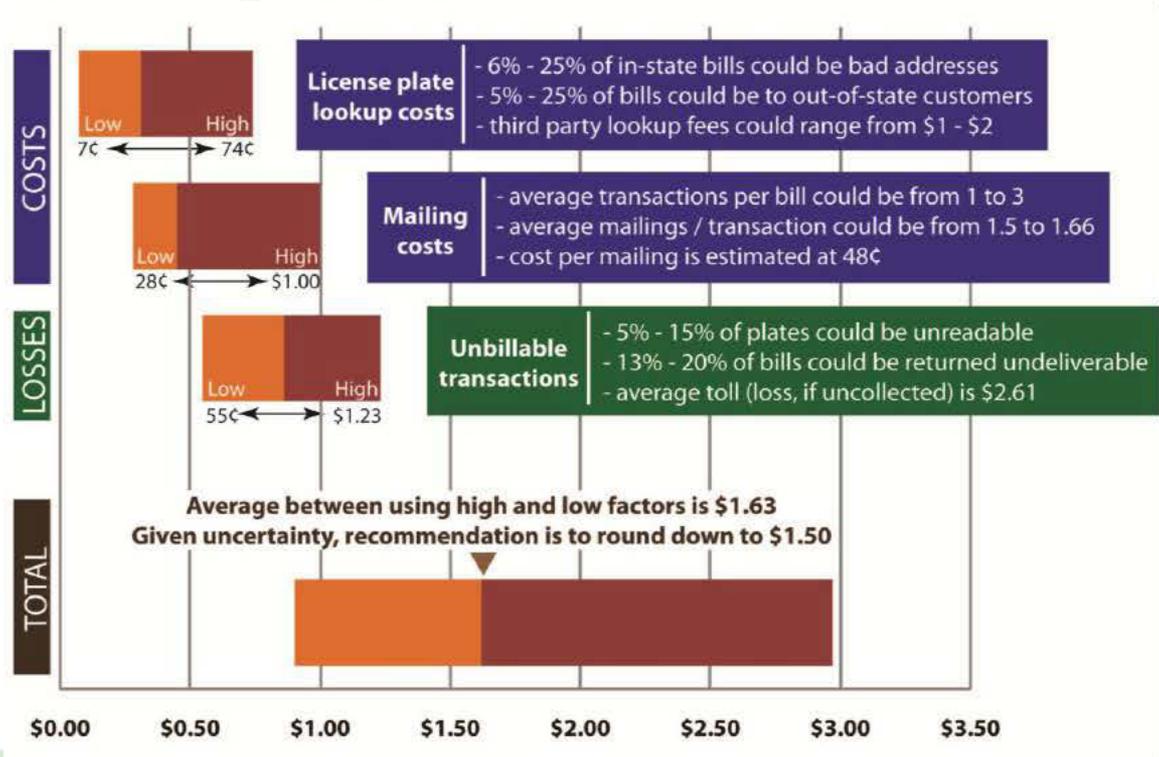
Pay By Mail Differential

- **The Commission may set a toll differential for Pay By Mail transactions**
 - Higher cost due to mailing and address look-ups
 - Not all post-paid tolls will be collected
 - Modeling assumed a \$1.70 Pay By Mail toll differential in FY 2017
 - Increment would be added to dynamic toll cost
 - Signs would tell customers an additional charge applies
- **Local Precedent:**
 - Planned toll schedule has SR 520 Pay By Mail differential at \$1.70 in FY 2017 and financial plan does not rely on additional increases after that time
 - Tacoma Narrows Bridge is \$2.00 higher than *Good To Go!*
 - Intent to cover incremental costs and losses of payment method
- **Other options to consider in future rate setting cycle**
 - Make consistent: standardize the differential for all facilities

Pay By Mail Differential

How Original \$1.50 Differential Was Derived

- \$1.50 was estimated for initial SR 520 and TNB Pay By Mail toll rate increment
- Included additional processing costs and losses from unbillable toll charges – but not from unpaid toll bills
- Without historical data, broad ranges were used for each factor
- These costs are now known and can be used to update the Pay By Mail increment

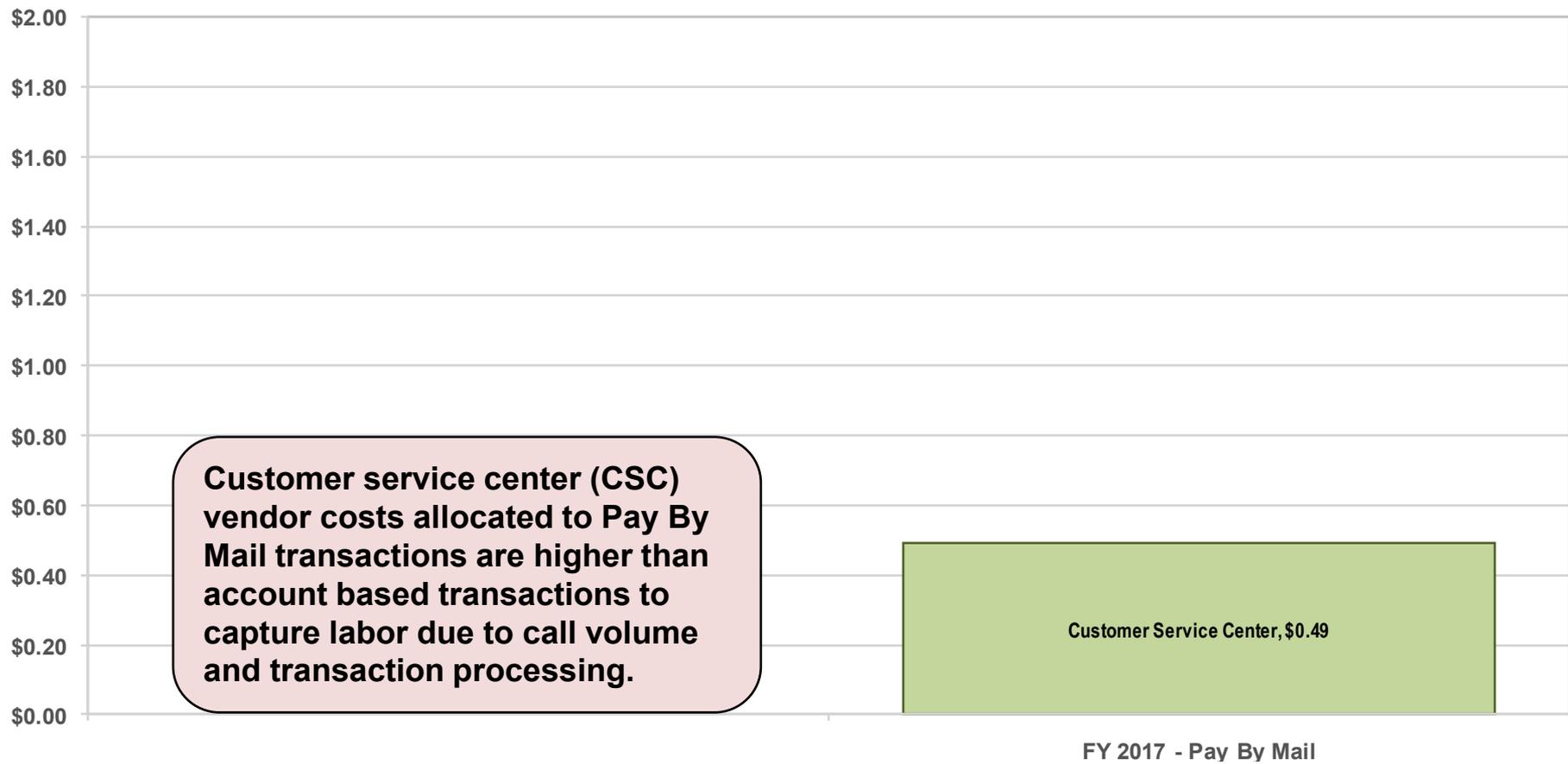


Components of Pay By Mail Costs and Losses

- **Additional costs compared to *Good To Go!***
 - Printing and postage associated with toll bills
 - Out-of-state license plate lookup
 - Additional time on phone with Customer Service Center
- **Uncollected tolls raise the transaction cost for paying customers**
 - Unbillable transactions: Some transactions can't be billed due to unreadable license plates or unavailable addresses
 - Unpaid transactions: Some tolls won't be paid within 80 days and may be captured instead as part of civil penalty revenue
- **Additional tolls may be received during the civil penalty process but are not included in net revenues**

Projected Toll Collection Costs Pay By Mail

3+ carpool free peak/2+ carpool free off-peak – FY 2017

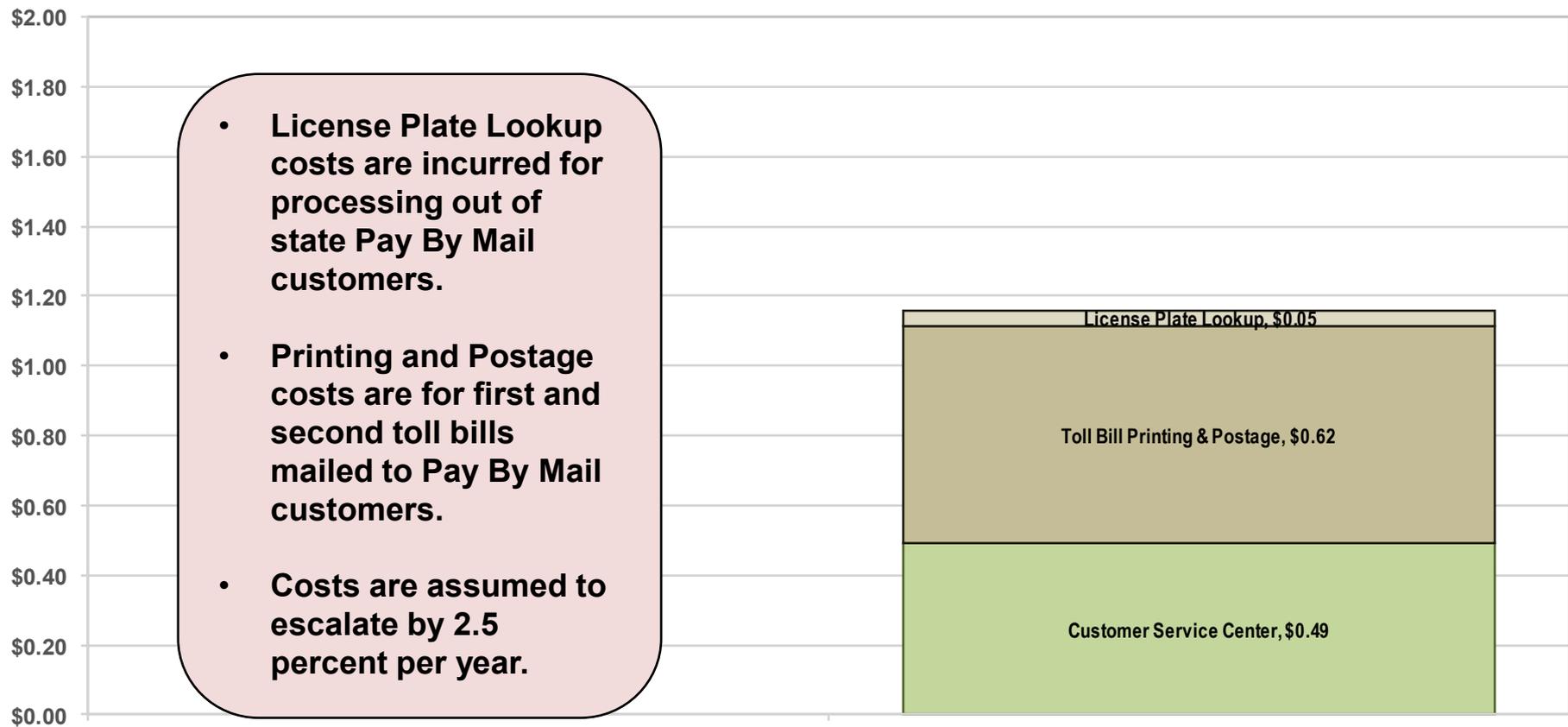


Customer Service Center Costs	\$0.49
Average toll revenue per transaction	\$2.10

Values in Year of Collection Dollars

Projected Toll Collection Costs Pay By Mail

3+ carpool free peak/2+ carpool free off-peak – FY 2017



- License Plate Lookup costs are incurred for processing out of state Pay By Mail customers.
- Printing and Postage costs are for first and second toll bills mailed to Pay By Mail customers.
- Costs are assumed to escalate by 2.5 percent per year.

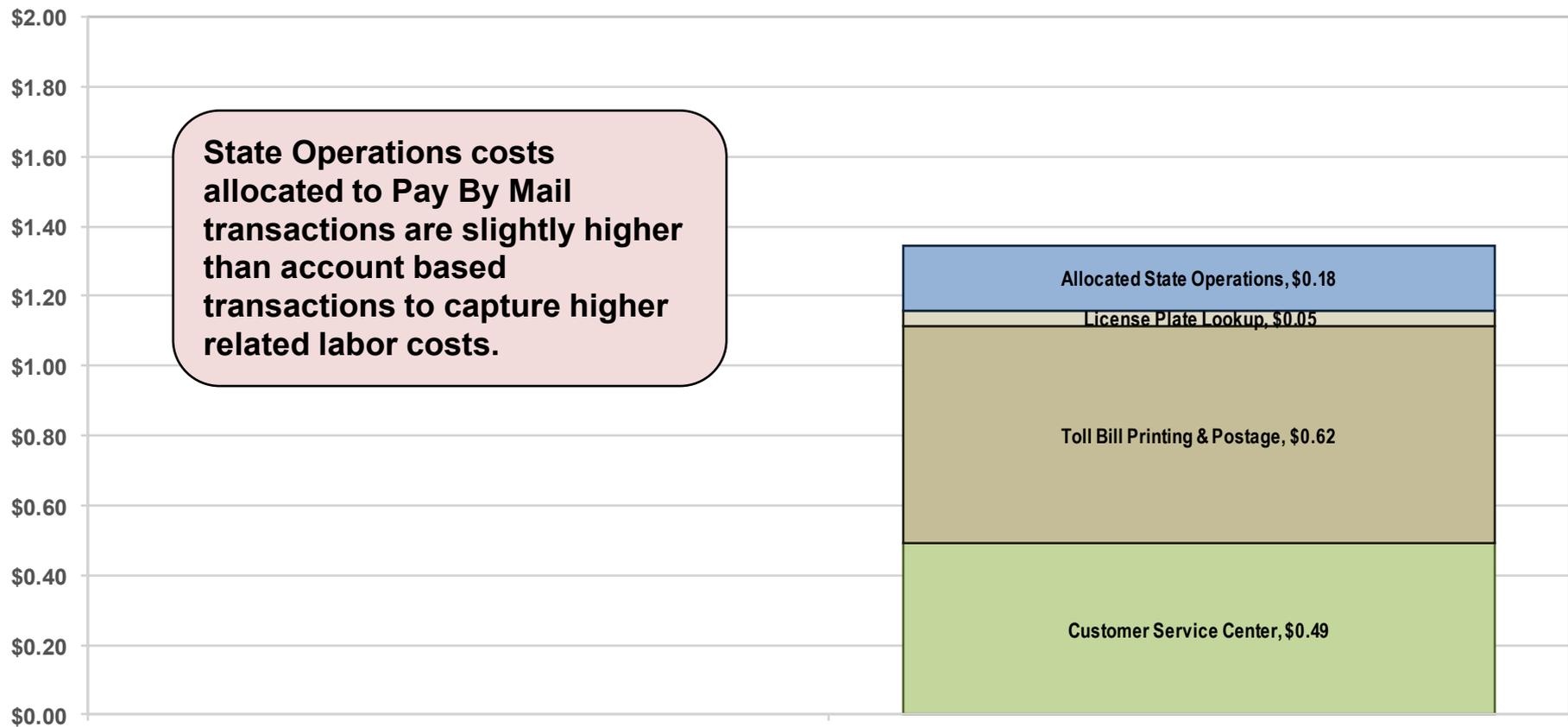
FY 2017 - Pay By Mail

Toll Collection Costs	\$0.49
Above + Printing & Postage	\$1.16
<i>Average toll revenue per transaction</i>	<i>\$2.10</i>

Values in Year of Collection Dollars

Projected Toll Collection Costs Pay By Mail

3+ carpool free peak/2+ carpool free off-peak - FY 2017



State Operations costs allocated to Pay By Mail transactions are slightly higher than account based transactions to capture higher related labor costs.

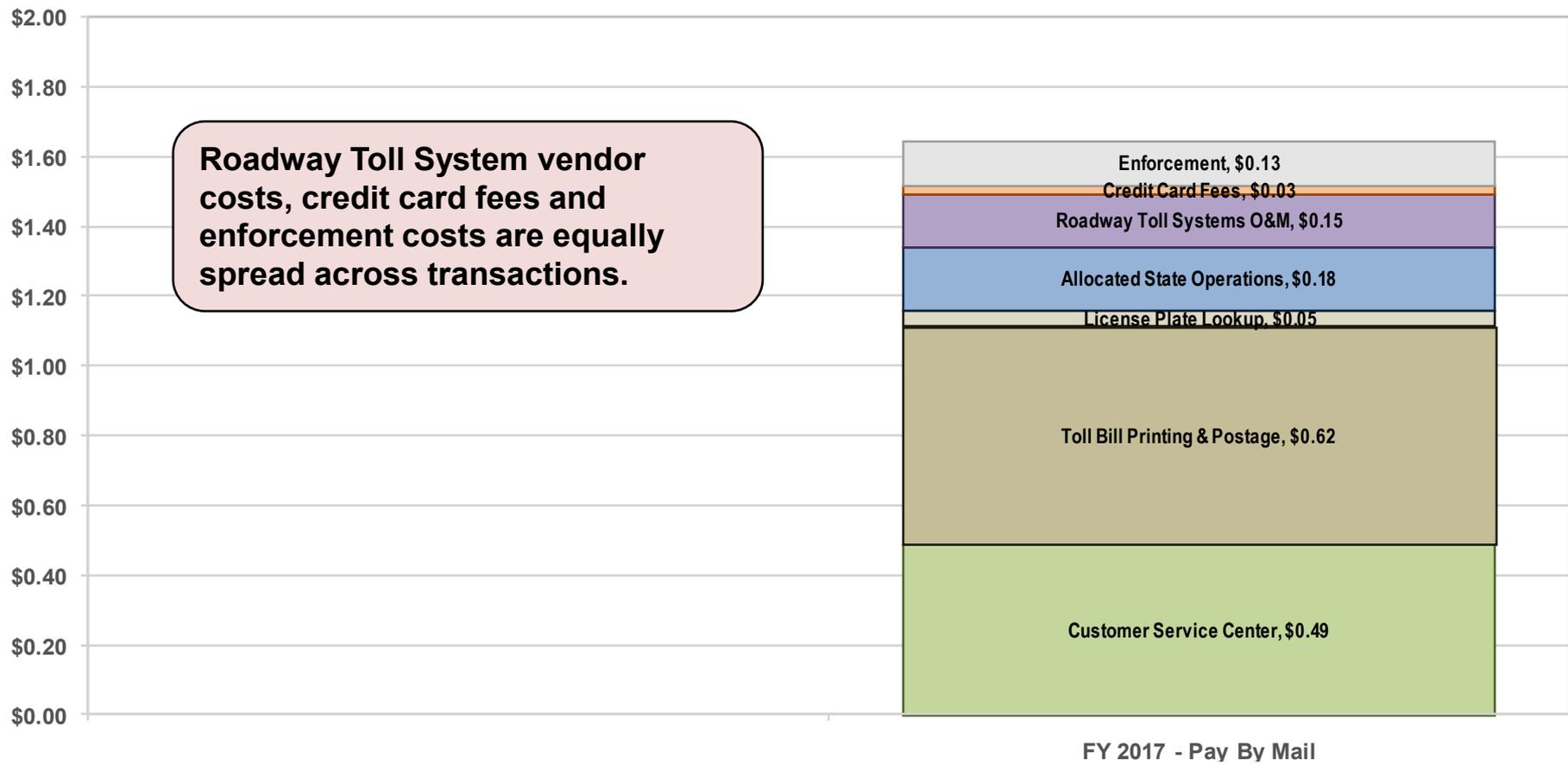
FY 2017 - Pay By Mail

Toll Collection Costs	\$1.16
Above + State Costs	\$1.34
<i>Average toll revenue per transaction</i>	\$2.10

Values in Year of Collection Dollars

Projected Toll Collection Costs Pay By Mail

3+ carpool free peak/2+ carpool free off-peak – FY 2017



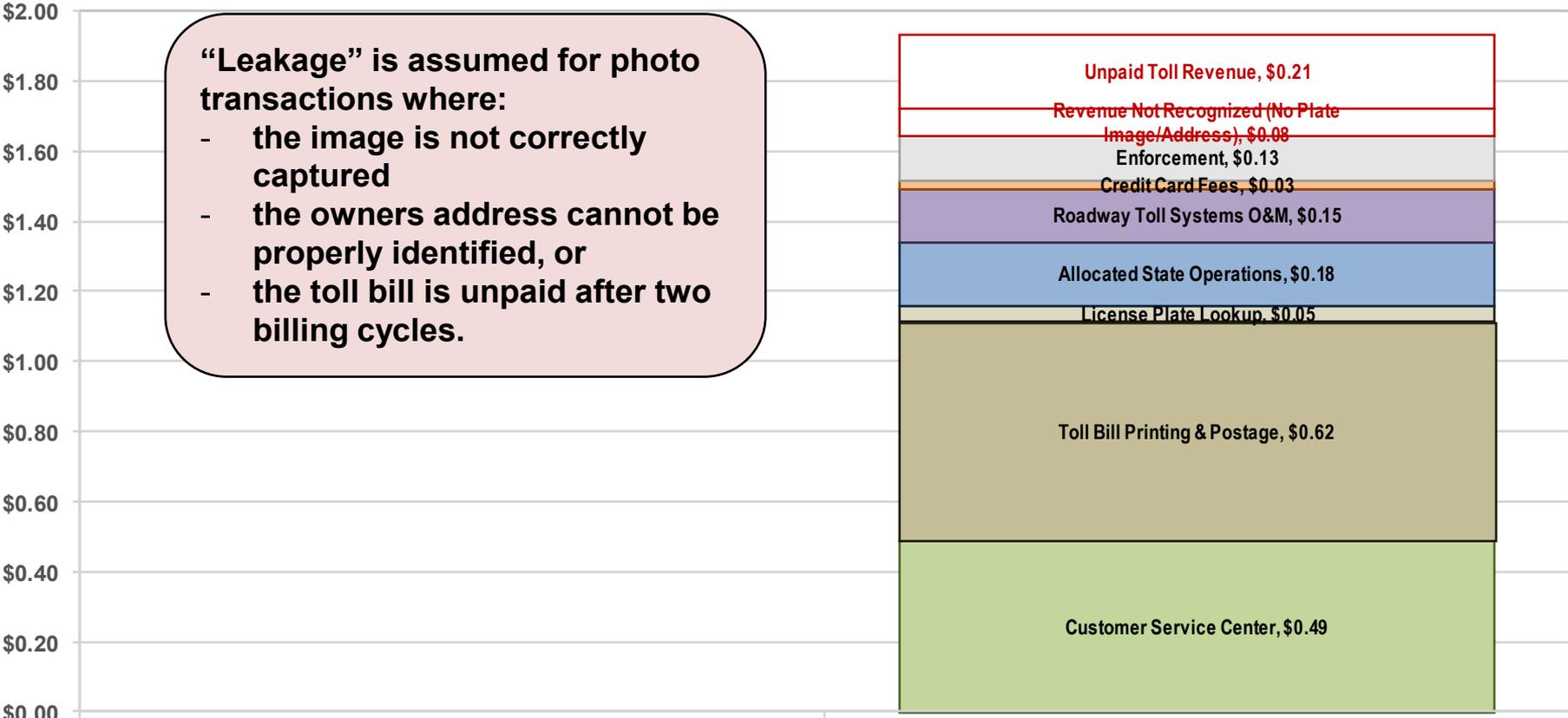
Roadway Toll System vendor costs, credit card fees and enforcement costs are equally spread across transactions.

Toll Collection Costs	\$1.52
Above + Enforcement	\$1.65
<i>Average toll revenue per transaction</i>	\$2.10

Values in Year of Collection Dollars

Projected Toll Collection Costs Pay By Mail

3+ carpool free peak/2+ carpool free off-peak – FY 2017



“Leakage” is assumed for photo transactions where:

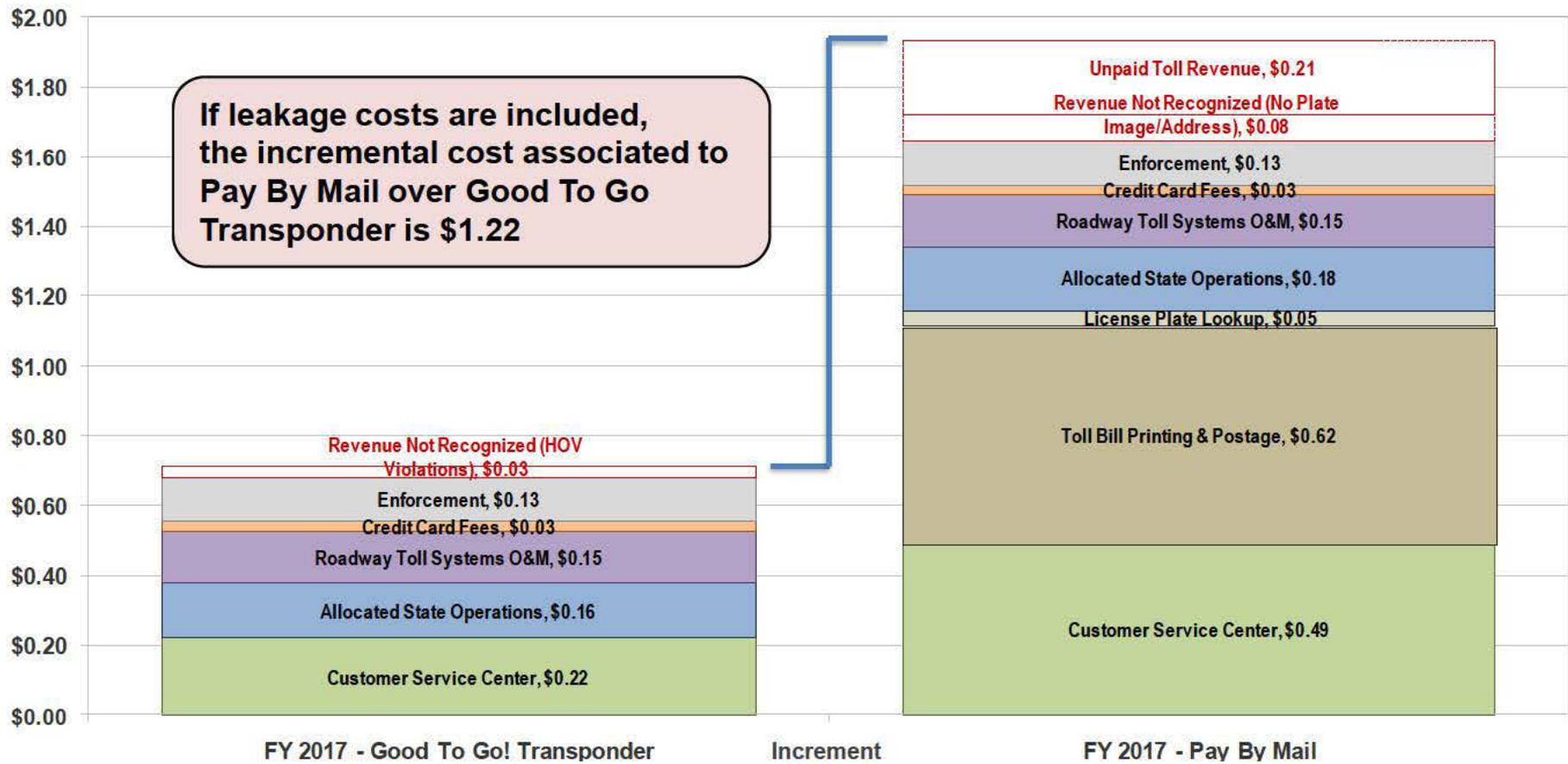
- the image is not correctly captured
- the owners address cannot be properly identified, or
- the toll bill is unpaid after two billing cycles.

Toll Collection Costs	\$1.65
Above + Leakage	\$1.93
<i>Average toll revenue per transaction</i>	\$2.10

Values in Year of Collection Dollars

Projected Toll Collection Costs Comparison

3+ carpool free peak/2+ carpool free off-peak – FY 2017



If leakage costs are included, the incremental cost associated to Pay By Mail over Good To Go Transponder is \$1.22

Toll Collection Costs	\$0.71	+ \$1.22	\$1.93
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Values in Year of Collection Dollars

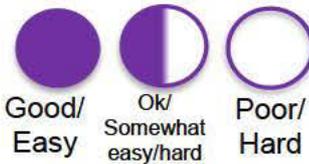
Pay By Mail Differential Policy Options

- **Options could include:**
 - \$1.00 (covers cost increment only)
 - \$1.25 (covers incremental cost and losses)
 - \$1.70 (consistent with modeling and SR 520 in FY 2017 and beyond)
 - \$2.00 (consistent with Tacoma Narrows Bridge)
 - Others?
- **Considerations:**
 - Higher options will cover incremental costs for longer period
 - Higher options create greater incentive for users to get a pass
- **Planning assumption: \$1.70 Pay By Mail differential**

Exemptions – Carpools

- **Executive Advisory Group Recommendations**
 - Exempt 3+ carpools at peak times, 2+ carpools at off-peak times
 - Some EAG members stressed this should be an interim measure, assuming an eventual 3+ definition at some point in the future
- **Policy Choices**
 - 3+, 3+ peak / 2+ off-peak, 2+ toll exemptions
 - 2+ fixed-rate discount
 - No carpool exemption (everybody pays)
 - Financial Analysis Assumption: Several options considered
- **Considerations**
 - Carpools will need account, pass to get an exemption
 - Consistency with current and future express toll facilities
 - Ability to transition to 3+ in future when/if needed
 - Complexity of messaging/education and public acceptance

EAG Comparison of Carpool Scenarios

		A.  Carpool Free	B.   Carpool Discount	C.   Peak Free Off-Peak Free	D.  Carpool Free
System reliability/ Operations			\$1.00  \$0.50 		
Toll Rates/Pricing			 		
Initial Net Revenue			 		
Public acceptance			 		
Usability			 		
Enforcement			 		
Regional operations/ Future decision			 		

Scenario Results — Net Revenues and Vehicle Trips

Fiscal Year	Toll and Toll-Free/Discounted Vehicle Trips in the Express Toll Lanes															
	Scenario A ¹		Scenario B ¹		Scenario B-2 ¹		Scenario C ¹		Scenario D ¹		Scenario E ¹		Scenario F ²		Scenario G ³	
	2+ Carpool Free Photo Tolling ¹		\$1.00 Carpool Discount ¹		\$0.50 Carpool Discount Photo Tolling ¹		2+ Carpool Free Off-Peak 3+ Carpool Peak Photo Tolling ¹		3+ Carpool Free Photo Tolling ¹		3+ Carpool Free ¹		3+ Carpool Free (WSTC Indep. Forecast) ²		No Exemptions Photo Tolling ³	
	Toll Trips	Toll-Free Trips	Full Toll Trips	Discount Toll Trips	Full Toll Trips	Discount Toll Trips	Toll Trips	Toll-Free Trips	Toll Trips	Toll-Free Trips	Toll Trips	Toll-Free Trips	Toll Trips	Toll-Free Trips	Toll Trips	Toll-Free Trips
2016	2.4 M	7.8 M	3.1 M	10.2 M	4.1 M	4.7 M	4.4 M	3.5 M	5.0 M	1.3 M	4.9 M	1.3 M	5.4 M	0.8 M	5.4 M	0.0 M
2017	3.9	12.2	3.9	12.7	5.2	6.0	7.1	5.5	7.9	2.1	7.8	2.1	6.1	0.8	8.6	0.0
2018	4.5	13.7	4.3	14.1	6.0	6.9	8.0	6.1	9.0	2.3	8.8	2.3	7.0	0.8	9.8	0.0
2019	4.7	14.0	4.5	15.4	7.0	8.4	8.3	6.2	9.2	2.3	9.0	2.3	7.8	0.9	10.1	0.0
2020	4.9	14.1	4.6	16.8	8.0	10.1	8.5	6.3	9.5	2.4	9.1	2.3	8.7	0.9	10.3	0.0
2021	5.2	14.3	4.8	18.4	9.3	12.2	8.7	6.3	9.7	2.4	9.2	2.4	9.5	0.9	10.5	0.0
2022	10.4	28.3	10.5	28.5	16.0	18.4	18.2	14.5	21.2	7.3	21.0	7.0	45.4	4.6	N/A	N/A
2023	18.3	50.9	19.1	45.7	26.4	29.1	32.8	27.7	39.1	15.3	39.1	14.2	47.4	4.6	N/A	N/A

Fiscal Year	Net Toll Revenue (before R&R Expenditures)*															
	Scenario A ¹		Scenario B ¹		Scenario B-2 ¹		Scenario C ¹		Scenario D ¹		Scenario E ¹		Scenario F ²		Scenario G ³	
	2+ Carpool Free Photo Tolling ¹		\$1.00 Carpool Discount ¹		\$0.50 Carpool Discount Photo Tolling ¹		2+ Carpool Free Off-Peak 3+ Carpool Peak Photo Tolling ¹		3+ Carpool Free Photo Tolling ¹		3+ Carpool Free ¹		3+ Carpool Free (WSTC Indep. Forecast) ²		No Exemptions Photo Tolling ³	
2016	(\$2.4 M)		(\$2.8 M)		\$0.4 M		(\$0.5 M)		\$0.3 M		\$0.3 M		\$1.4 M		\$0.9 M	
2017	(2.1)		(2.4)		1.8		1.2		2.5		2.3		3.3		3.4	
2018	(2.0)		(2.1)		2.7		2.1		3.5		3.3		5.7		4.6	
2019	(1.7)		(1.8)		4.0		2.8		4.3		4.0		7.0		5.5	
2020	(1.5)		(1.6)		5.4		3.4		4.9		4.6		8.3		6.1	
2021	(1.4)		(1.5)		7.0		3.9		5.5		5.1		9.5		6.8	
2022	0.9		11.3		20.2		17.7		21.2		19.2		25.8		N/A	
2023	13.0		40.1		50.8		48.2		55.4		49.2		63.5		N/A	

NOTES:

* Year of collection dollars after uncollectible revenue, credit card fees, toll collection O&M, and starting in FY 2022, facility O&M expenditures. Excludes rebilling fees.

¹ Based on WSDOT / CDM Smith traffic and gross revenue projections.

² Based on WSTC / Cambridge Systematics "50th Percentile" traffic and gross toll revenue projections.  Meets legislative net revenue requirement (RCW 47.56.880)

³ Based on WSDOT preliminary, sketch-level traffic and gross revenue projections.  Does not meet legislative net revenue requirement

Carpool Policy – National Experience

	HOV Policy	Transit/Vanpools Emergency Vehicles	Other Policies
SR 91 Orange County, CA	HOV 3+ exempt, except EB 4-6 p.m. (50% discount)	Unavailable	Motorcycle, pure zero-emission vehicles included in 3+ policy as “special access accounts”
I-495 Capital Beltway Virginia	3+ exempt	Buses, emergency vehicles exempt – pass required	Motorcycles exempt with no pass required.
I-95 Miami, FL	Pre- registered 3+ carpools exempt	Vanpools exempt	Registered hybrids, and all motorcycles exempt
I-85 Atlanta, GA	HOV 3+ exempt	Registered transit exempt	Alternate Fuel Vehicles, and motorcycles exempt
I-394 Minneapolis, MN	HOV 2+ exempt	Transit exempt	Motorcycles exempt
I-10/I-110 Los Angeles, CA	I-10*: HOV 3+ peak, 2+ off peak exempt I-110: HOV 2+ all day exempt Peak Hours: 5am-9am; 4pm-7pm Operating Hours: 24/7	Buses, vanpools exempt	Motorcycles exempt Low-income drivers eligible for a one-time \$25 credit toward initial account funds or tolls

Federal Considerations with Carpool Policy Changes

- **Schedule**

- NEPA re-evaluation: The Carpool Discount and All Pay scenarios would require a 6-9 month delay and added cost.
- Interchange Justification Report (IJR) re-evaluation: The Carpool Discount scenario would require a 6-9 month delay and added cost. The All Pay scenario would require a 12-14 month delay and added cost.
- The 3+ free peak/2+ free off-peak option would have no schedule impacts.

- **Federal funding**

- The All Pay and Carpool Discount scenarios would need to maintain preference for HOVs or repay the federal funds used to build the HOV lanes.
- The 3+ free peak/2+ free off-peak option would meet federal requirements for HOV conversion to express toll lanes and would not require repayment of funds.

Non-carpool Exemptions

- **Vehicles working on the facility are currently exempt on all toll facilities**
 - In-service maintenance and incident management vehicles
 - In-service emergency vehicles
 - On SR 520, tow trucks contracted for incident management
 - On I-405, would include WSP conducting HOV enforcement
- **Transit and Vanpools**
 - Exempt by statute
- **Private Buses**
 - Exempt on SR 520 by Urban Partnership agreement
 - RCW 46.61.165 allows private buses on “transit priority lanes”
 - Additional interpretation underway
- **Motorcycles**
 - Motorcycle exemptions may be required under federal statute, additional interpretation underway

I-405 Express Toll Lanes Rate Setting Milestones

	Milestone
November 2013	Executive Advisory Group report out Kickoff rate setting Present funding and phasing draft findings Discuss carpool and motorcycle policies Clarify rate setting information needs
December 2014	Discuss carpool policy Provide information on “everyone pays” scenario File CR 101 (Statement of Inquiry)
January 2014	Discuss minimum and maximum rates Discuss Pay By Mail differential More discussion on exemptions Identify missing information
February 2014	More discussion on minimum and maximum rates More discussion on Pay By Mail differential More discussion on exemptions
March 2014	WSTC proposed rates/exemptions
April 2014	Public Input meetings File CR 102 (Proposed Rule)
May 2014	Public Hearing Adopt toll rates/exemptions File CR 103 (Final Rule)

Next Steps

- **Remaining issues to resolve:**
 - **Maximum toll rate**
 - **Minimum toll rate**
 - **Pay By Mail differential**
 - **Exemptions**
 - (Note – by statute, transit and vanpools must be exempt on I-405)*
 - Emergency vehicles / incident response / maintenance vehicles
 - Private buses
 - Motorcycles
 - Carpools (defined as 2+ or 3+ occupancy)
- **Key concern to project timeline is carpool definition**
 - Needed to develop public outreach messages, toll systems
 - Will require the longest lead time for customers to adjust
 - Commission can decide without further legislative delegation
 - Is a March decision possible, and what information is needed?

For questions or further information...

Craig J. Stone, P.E.
Assistant Secretary, Toll Division
206-464-1222 or StoneC@wsdot.wa.gov