

SR 520 Finance and Toll Briefing

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Washington State Transportation Commission
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Washington State
Department of Transportation

Agenda

- Agenda review – *Craig Stone*
- Opening remarks – *Dave Dye*
- Financial analysis results – *Amy Arnis*
 - Financial assumptions
 - Financial results for Scenarios A, A.1, and D
- Toll policy features: a start – *Craig Stone*
- Alternative toll schedules tested – *Brent Baker*
 - Tradeoffs between initial tolls and escalation rates
- Time-of-day variable tolls – *Craig Stone*
- Recap and recommendations for full Commission – *Craig Stone*

Toll Scenarios Recap

Scenarios

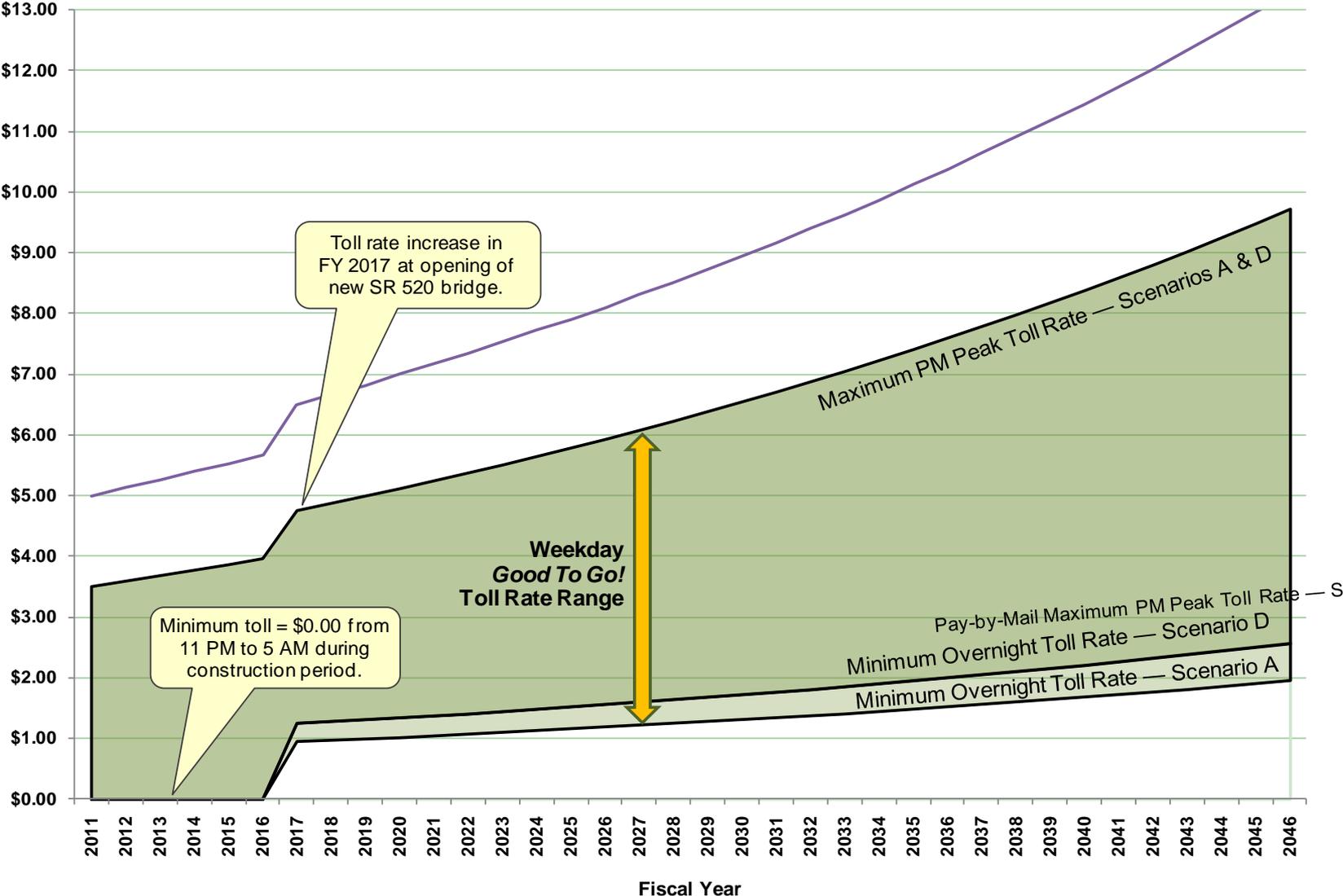
- Scenario A
 - FY 2011: AM peak toll = \$2.80 | PM Peak toll = \$3.50
 - FY 2017: AM peak toll = \$3.85 | PM Peak toll = \$4.75
 - Rates shown are for *Good To Go!* account holders
- Scenario A.1
 - Scenario A with a larger share for *Pay by Mail* customers
- Scenario D
 - Same PM peak tolls as Scenario A
 - Higher weekend tolls; higher off-peak and AM peak tolls after FY 2016

Common Assumptions

- 2.5% annual increases
- 20% step increase in FY 2017 for PM peak period toll
- \$1.50 toll increment for *Pay by Mail* option
- Overnight (11 PM – 5 AM) tolling starts in FY 2017
- 3+ HOVs toll-free starting FY 2017

Toll Ranges over Time as Tested

Weekday Toll Rate Ranges for Scenarios A and D — FY 2011 to 2046



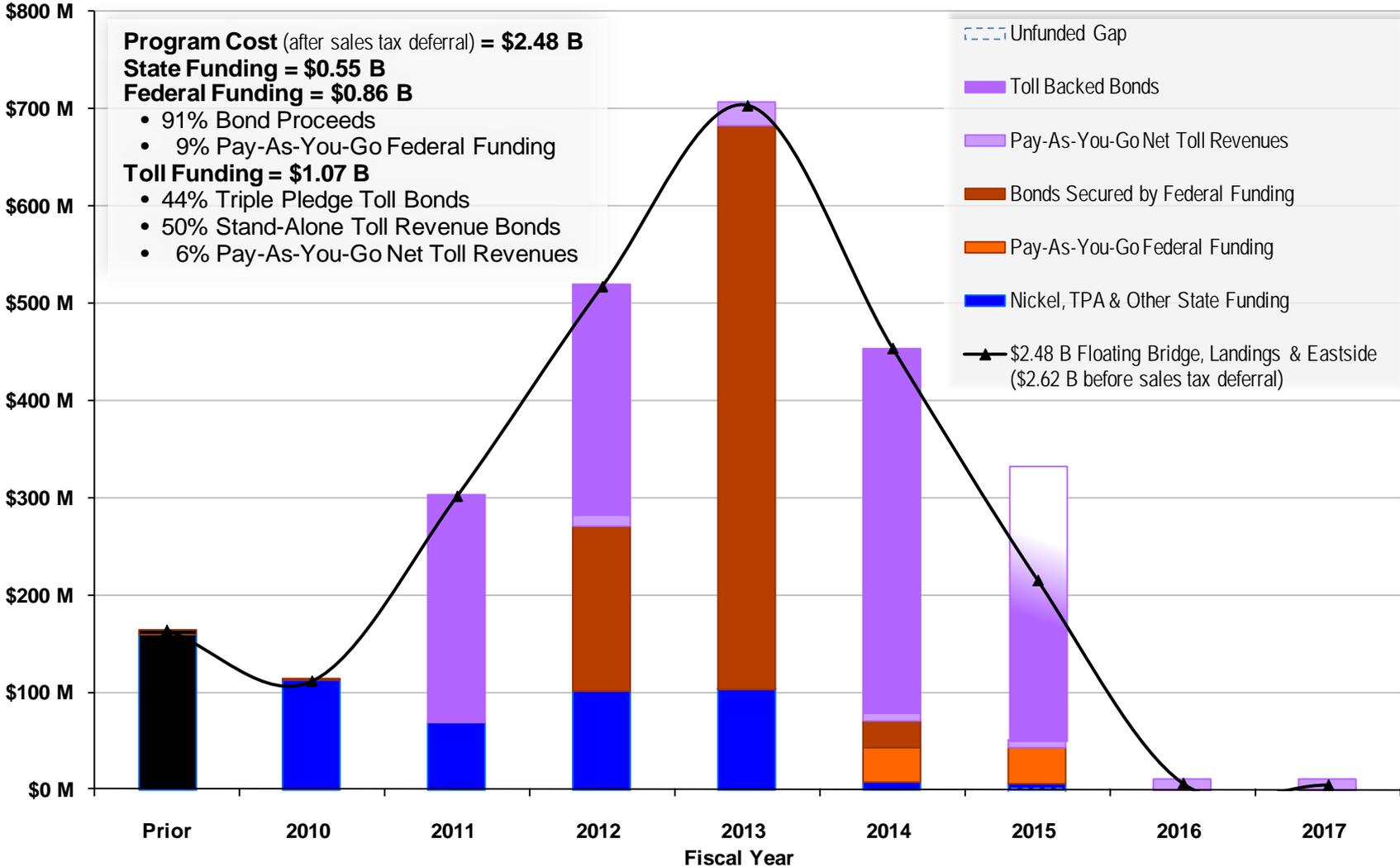
Preliminary Financial Analysis Results

Toll Scenario	Description	Financing Options	Bond Maturity	Debt Service Coverage Ratio	Project Funding Outlook
A	Initial tolls: \$2.80 AM Peak \$3.50 PM Peak —	Triple Pledge (Toll/ MVFT/ State GO)	Up to 30 years	Net Revenue 1.25x Debt Service	√—
	2.5% Annual Toll Escalation —	Mix of Triple Pledge and Stand Alone Toll-Revenue Bonds	Up to 40 years	Net Revenue 1.20x Combined Debt Service	√
A.1	AM & PM Peak Tolls Increase 20% in FY 2017 (Off-Peak Tolls also increase in Scenario D)				√
D					√+

Note: Toll scenarios A and A.1 differ only in their assumed share of *Good To Go!* transactions.

Under Scenario D assumptions, the \$2.62 B Project Financing Looks Promising...

Sources and Uses after Financing – Scenario D Tolls



Toll Policy Features — A Start

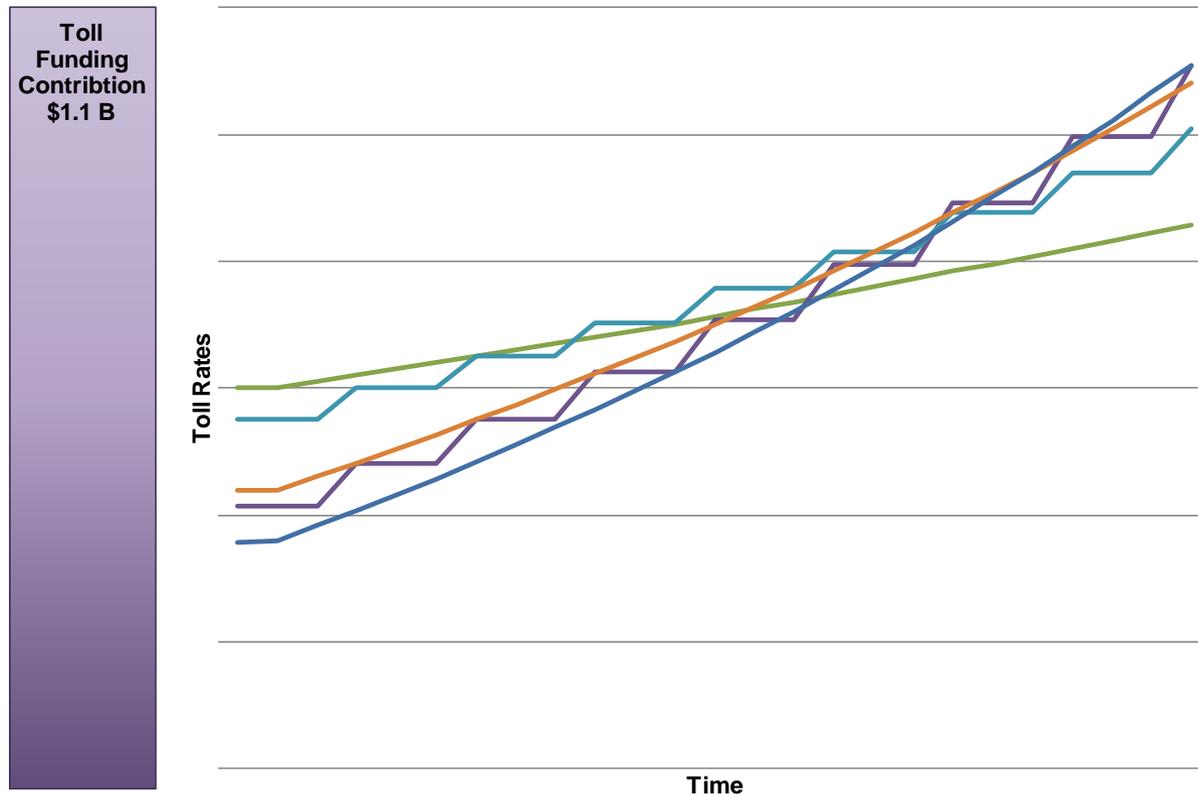
- ❑ Two-tier toll schedule
 - ❑ Base schedule for pre-paid *Good to Go!* accounts
 - ❑ Higher schedule (+ \$1.50) for *Pay by Mail* transactions
- ❑ Variable tolls
 - ❑ *Higher tolls during peak times and lower tolls off-peak*
 - *Manages congestion and generates needed revenue*
 - ❑ Weekend variable tolls on a different, lower schedule
- ❑ *Toll escalation over time*
- ❑ No overnight tolls during construction period
- ❑ Trucks pay a multiple of the auto toll based on axle count
- ❑ Transit, private coaches and agency vanpools exempt per USDOT Urban Partnership Agreement

Initial Toll Rates vs. Escalation: Alternatives to Scenarios A / D

- Objective: Test alternative toll schedules that maintain the financial feasibility of the \$2.62 billion authorized project
- Initial tolls and the rate / frequency of toll escalation can be varied to yield alternative tolling schemes
 - The “upper limit” for tolls are the “revenue maximizing” rates (above that point, revenue and funding decrease).
 - The “lower limit” for tolls is dependent upon how often and how much tolls are raised.

Tool Developed for Testing Alternatives

- Tests different combinations of initial toll rates with levels and frequencies of toll escalation.
- Assesses the financial capacity relative to Scenarios A and D.
- Allows testing of a variety of options.



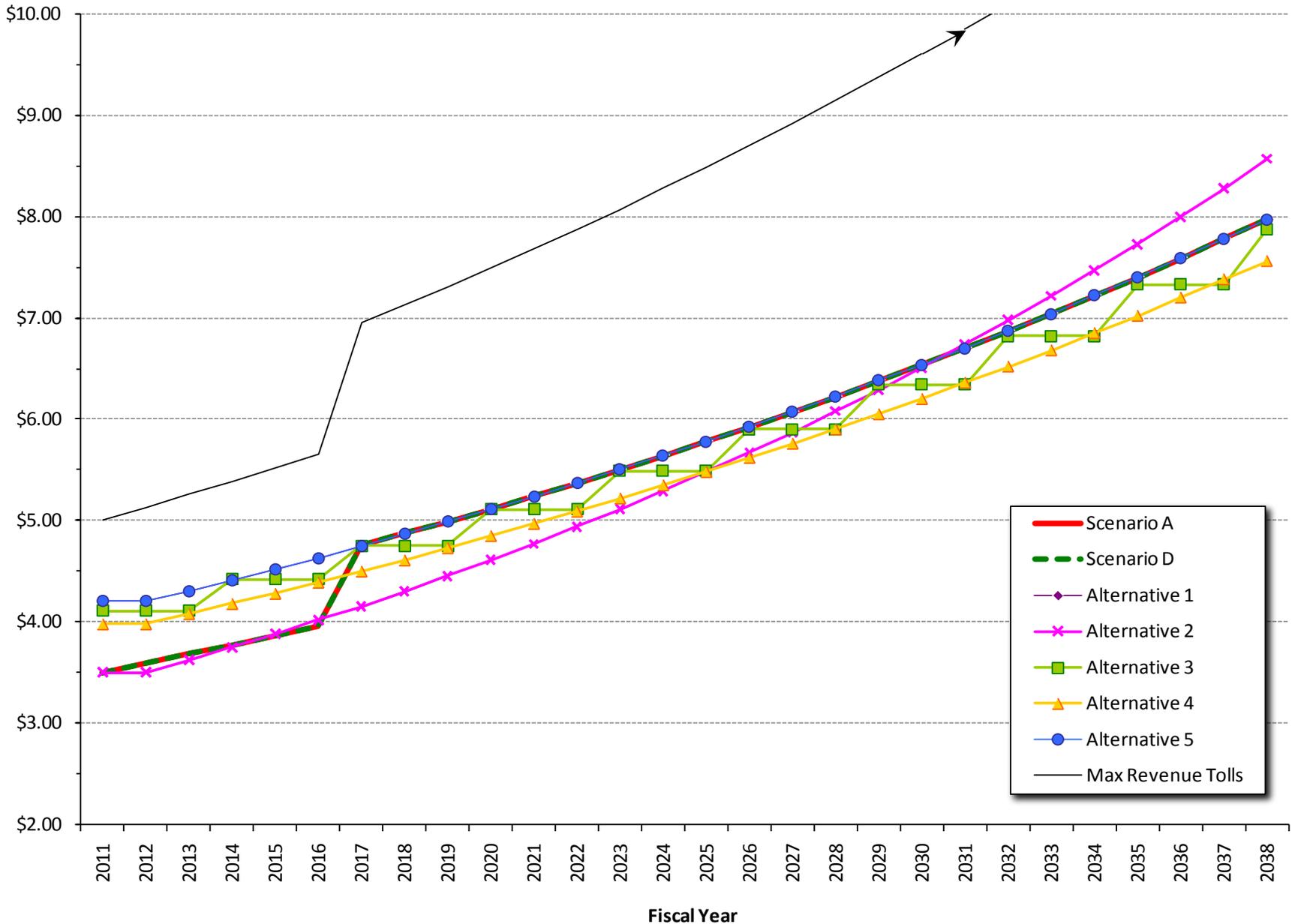
Alternative Toll Schedules Tested

Toll Schedule	Assumed Toll Escalation	Initial AM PM Peak Tolls	FY 2017 AM PM Peak Tolls	Initial Off-Peak Tolls	Initial Weekend Peak Toll
Scenario A	2.5% per year	\$2.80 \$3.50	\$3.85 \$4.75	Base	\$1.70
Scenario D	2.5% per year	\$2.80 \$3.50	\$4.75 \$4.75	Base	\$2.15
Alternative 1	2.5% per year	\$3.40 \$4.20	\$3.85 \$4.75	Base	\$2.20*
Alternative 2	3.5% per year	\$2.80 \$3.50	\$3.35 \$4.15	Base	\$2.10*
Alternative 3	7.5% every 3 years	\$4.10 \$4.10	\$4.75 \$4.75	Higher than Base	\$2.15*
Alternative 4	2.5% per year	\$4.00 \$4.00	\$4.50 \$4.50	Higher than Base	\$2.20*
Alternative 5	2.5% per year	\$4.20 \$4.20	\$4.75 \$4.75	Higher than Base	\$2.20*

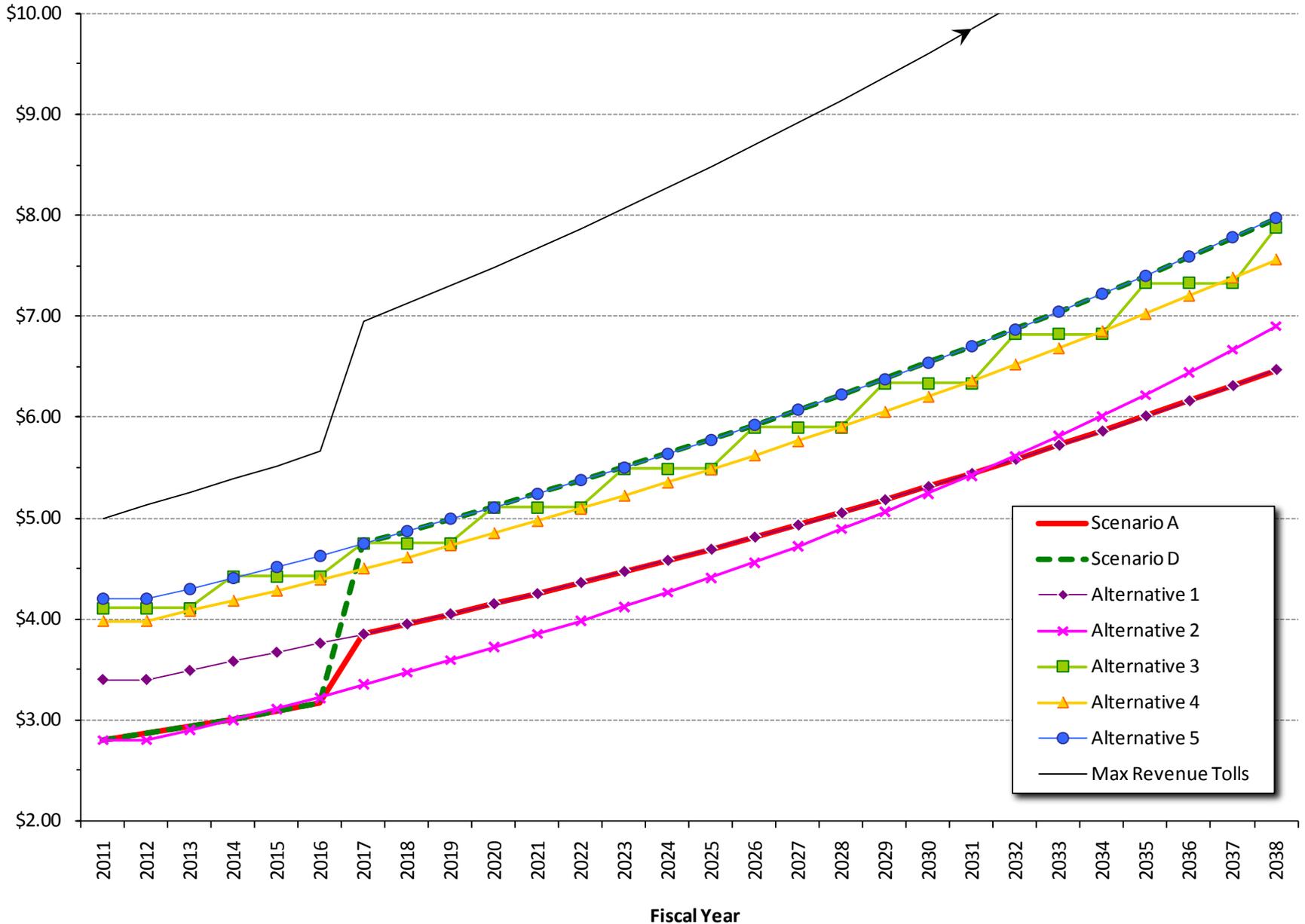
* Weekend tolls under all of the alternatives set to match Scenario D in FY 2017, with a maximum toll of \$2.50

Note: All of the five alternatives tested forgo the 20% peak toll step-up in FY 2017 that was assumed in Scenarios A and D

Comparison of PM Peak Toll Rates



Comparison of AM Peak Toll Rates





Alternative Toll Schedule Financial Results

Financial Capacity Comparison of SR 520 Alternative Toll Proposals with Scenarios A and D



Discussion Recap:

Initial Toll Rates vs. Escalation

Toll Schedule	Assumed Toll Escalation	Initial AM PM Peak Tolls	FY 2017 AM PM Peak Tolls	Initial Off-Peak Tolls	Initial Weekend Peak Toll
Scenario A	2.5% per year	\$2.80 \$3.50	\$3.85 \$4.75	Base	\$1.70
Scenario D	2.5% per year	\$2.80 \$3.50	\$4.75 \$4.75	Base	\$2.15
Alternative 1	2.5% per year	\$3.40 \$4.20	\$3.85 \$4.75	Base	\$2.20*
Alternative 2	3.5% per year	\$2.80 \$3.50	\$3.35 \$4.15	Base	\$2.10*
Alternative 3	7.5% every 3 years	\$4.10 \$4.10	\$4.75 \$4.75	Higher than Base	\$2.15*
Alternative 4	2.5% per year	\$4.00 \$4.00	\$4.50 \$4.50	Higher than Base	\$2.20*
Alternative 5	2.5% per year	\$4.20 \$4.20	\$4.75 \$4.75	Higher than Base	\$2.20*

* Weekend tolls under all of the alternatives set to match Scenario D in FY 2017, with a maximum toll of \$2.50

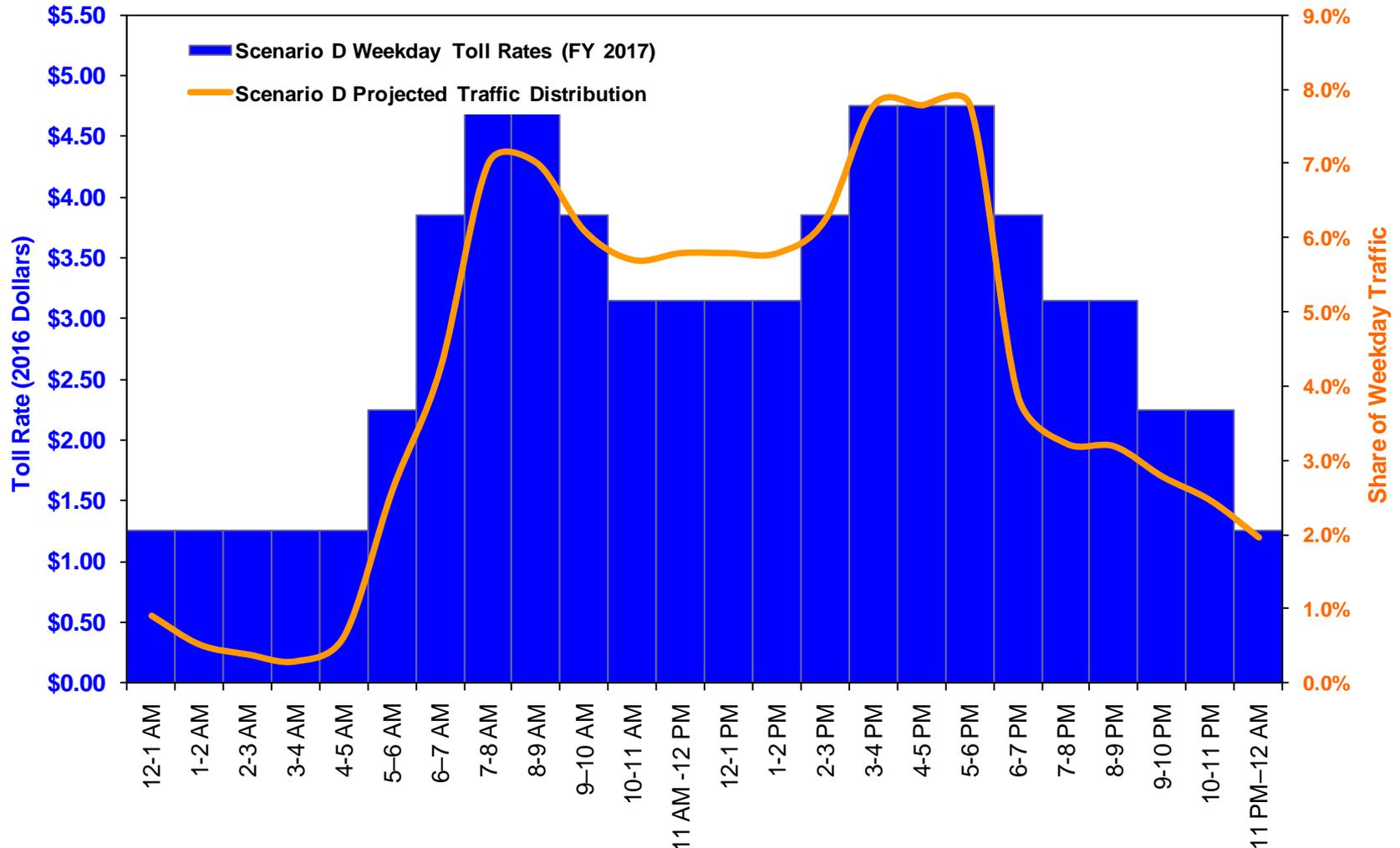
Note: All of the five alternatives tested forgo the 20% peak toll step-up in FY 2017 that was assumed in Scenarios A and D

How Should Tolls Vary By Time of Day?

- A fixed-rate toll sub-optimizes traffic and revenue.
- Peak / off-peak tolls help some...
 - But large swings in the rate at toll change time may incentivize unsafe driver behavior.
 - Traffic and revenue remain sub-optimal.
- Multi-step variable tolls minimize rate change swings
 - Lower tolls reduces diversion when demand is less.
 - Higher tolls increase revenue and maintain flow when demand is greater.

Weekday Variable Tolls Mirror Traffic

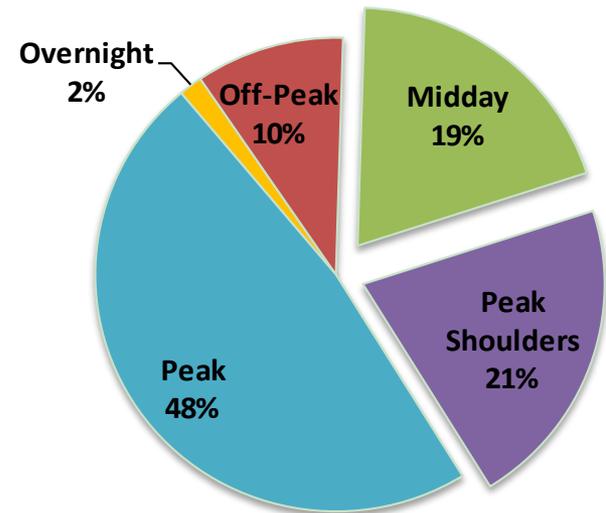
FY 2017 Scenario D Weekday Tolls and Projected Traffic Distribution



Weekday Variable Tolls Optimize Revenue

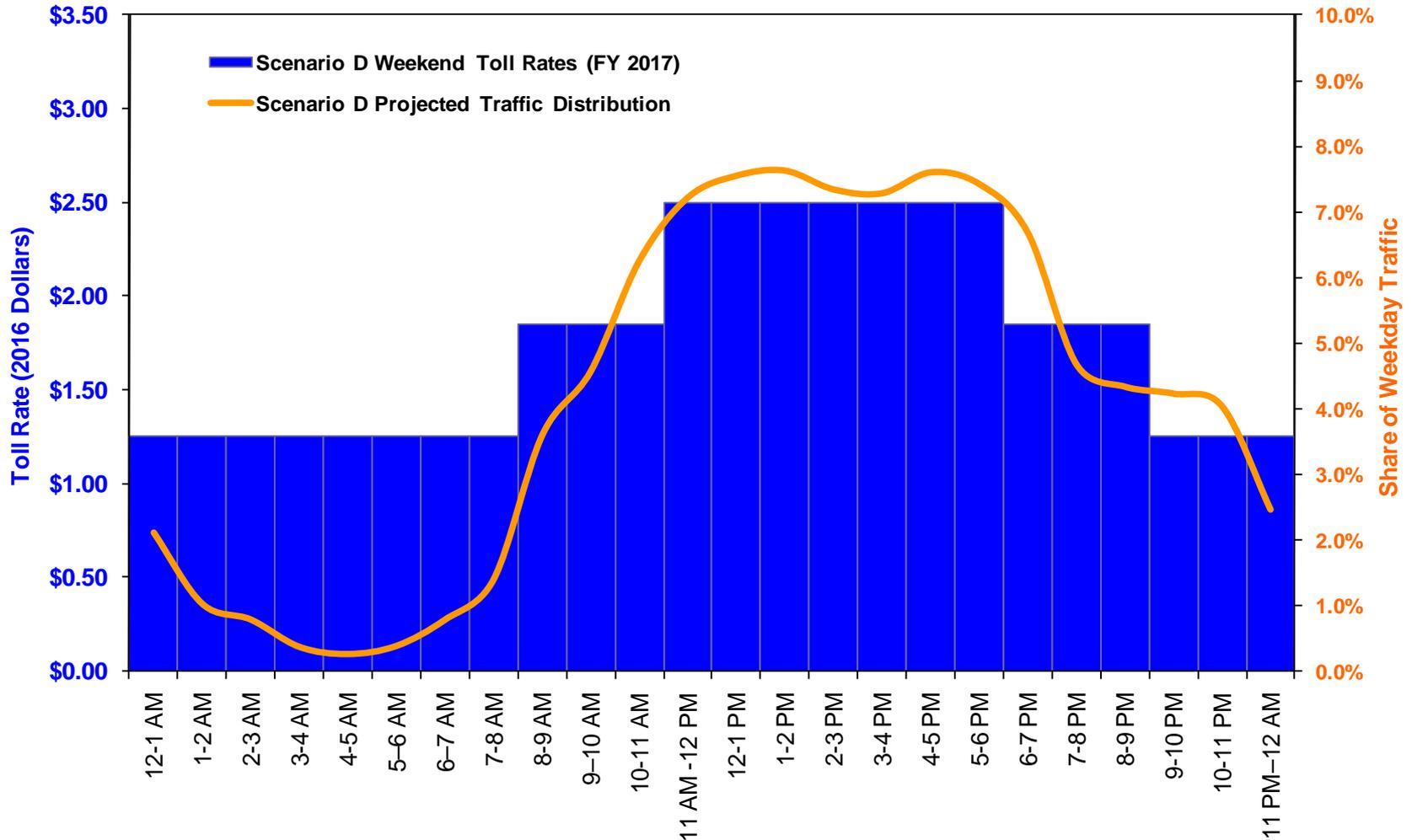
- Weekday traffic patterns are predictable.
- The majority of peak period trips are by regular users.
- A multi-step variable toll schedule yields more revenue with less diversion.
 - The midday and peak shoulder periods collectively contribute 40% of the revenue when priced optimally.
 - People tend to remember the 2-3 toll rates when they travel most.

SR 520 Scenario D Revenue by Period



Weekend Traffic Performs Differently

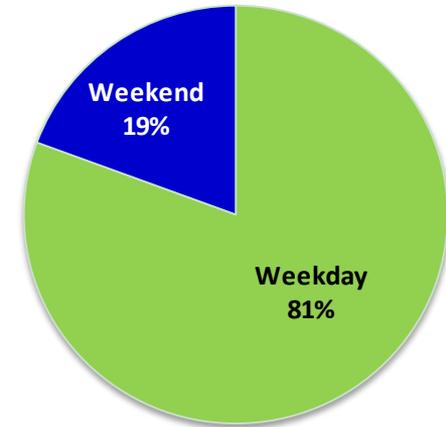
FY 2017 Scenario D Weekend Tolls and Projected Traffic Distribution



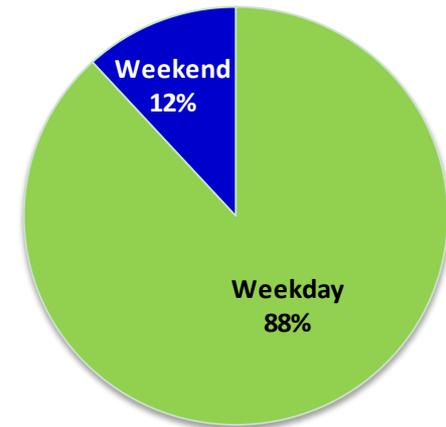
Weekend Variable Tolls Retain Traffic

- Weekend travel covers a wide variety of trip purposes
 - Higher share of infrequent users
 - Broad midday peak
 - More “special case” days
 - More difficult to model
- Weekends call for a lower, simpler variable toll schedule
 - Assumes tolls are set to encourage travelers to stay on SR 520 and generate revenue

SR 520 Scenario D Traffic

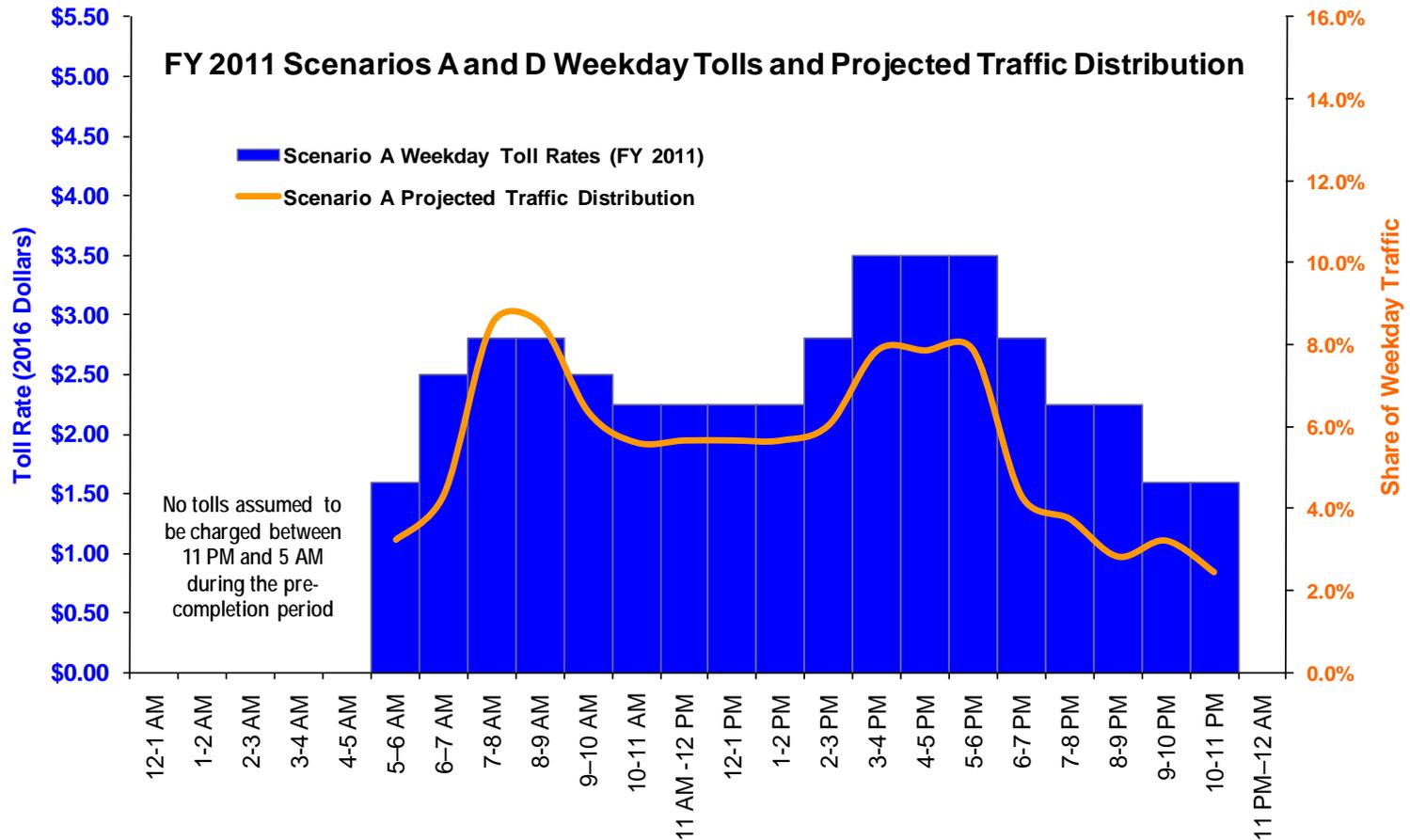


SR 520 Scenario D Revenue



Discussion Recap: *Time of Day Variation Balances Traffic and Revenue*

- Time of day toll rate variation optimizes traffic and revenue
- The initial pattern of variation assumed for Scenarios A and D applies to the five alternatives tested



Questions?

For more information, please contact:

Craig Stone, Director
WSDOT Toll Division

at

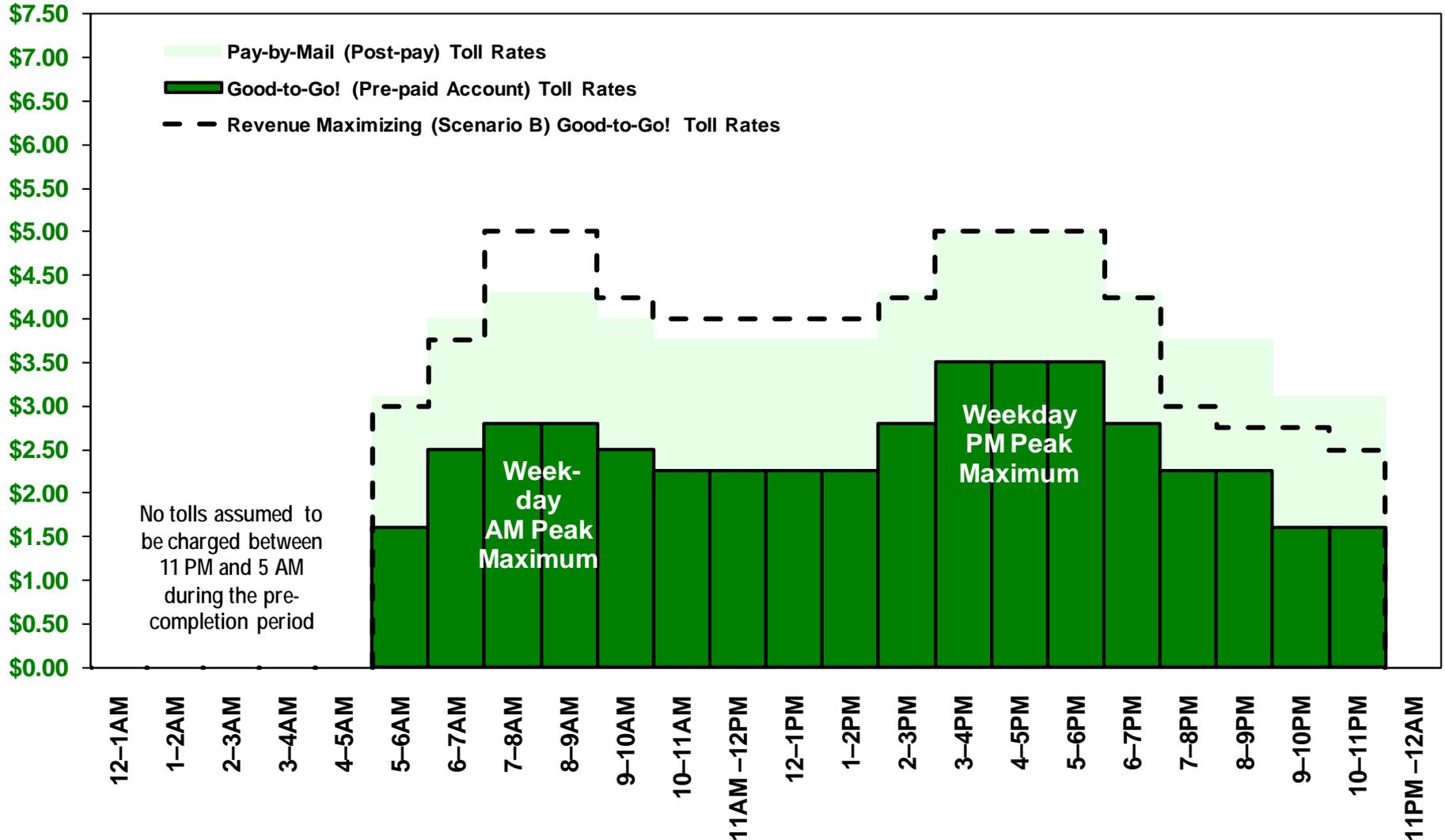
206-464-1222, or StoneC@wsdot.wa.gov.



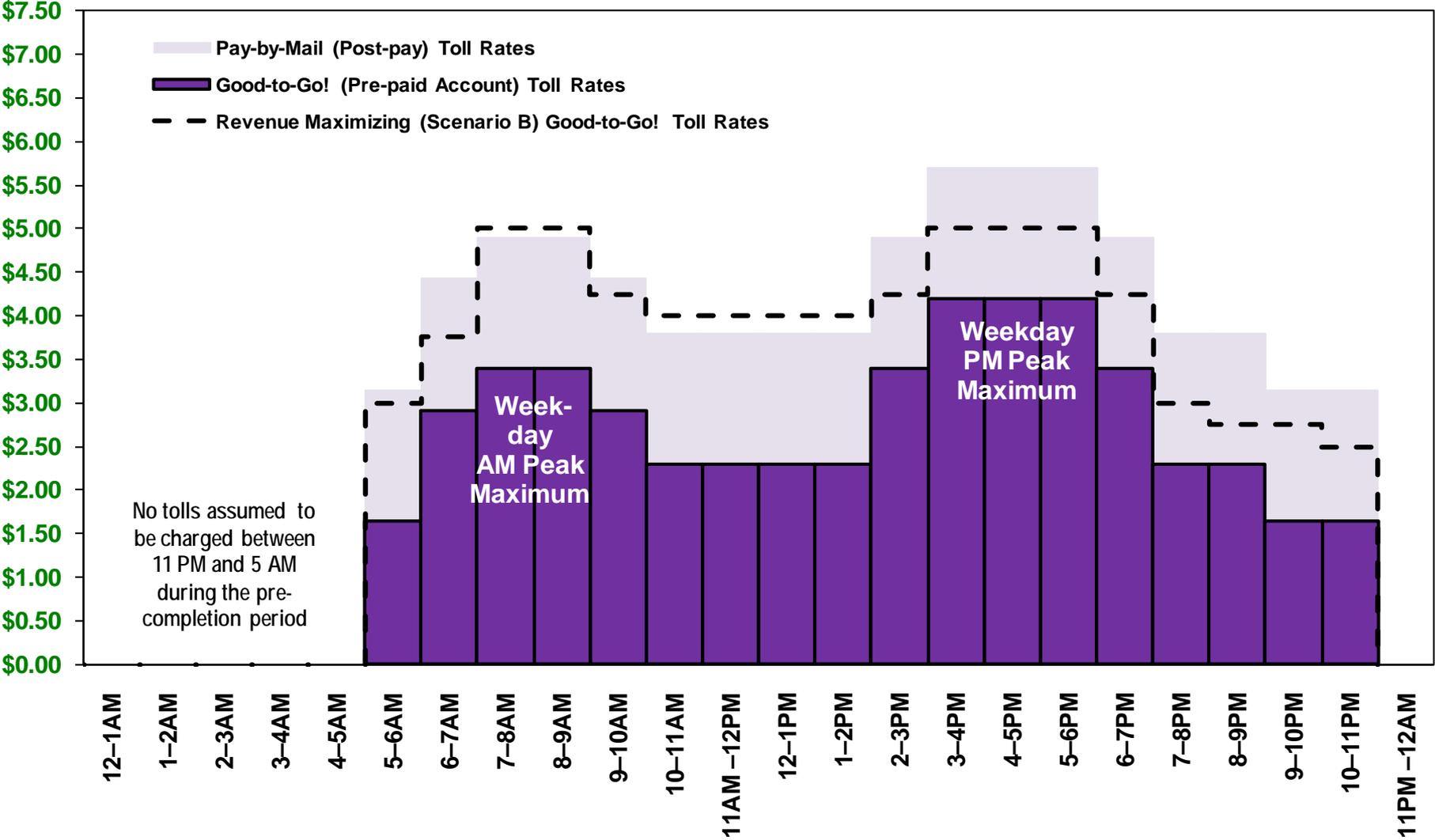
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EXTRA SLIDES

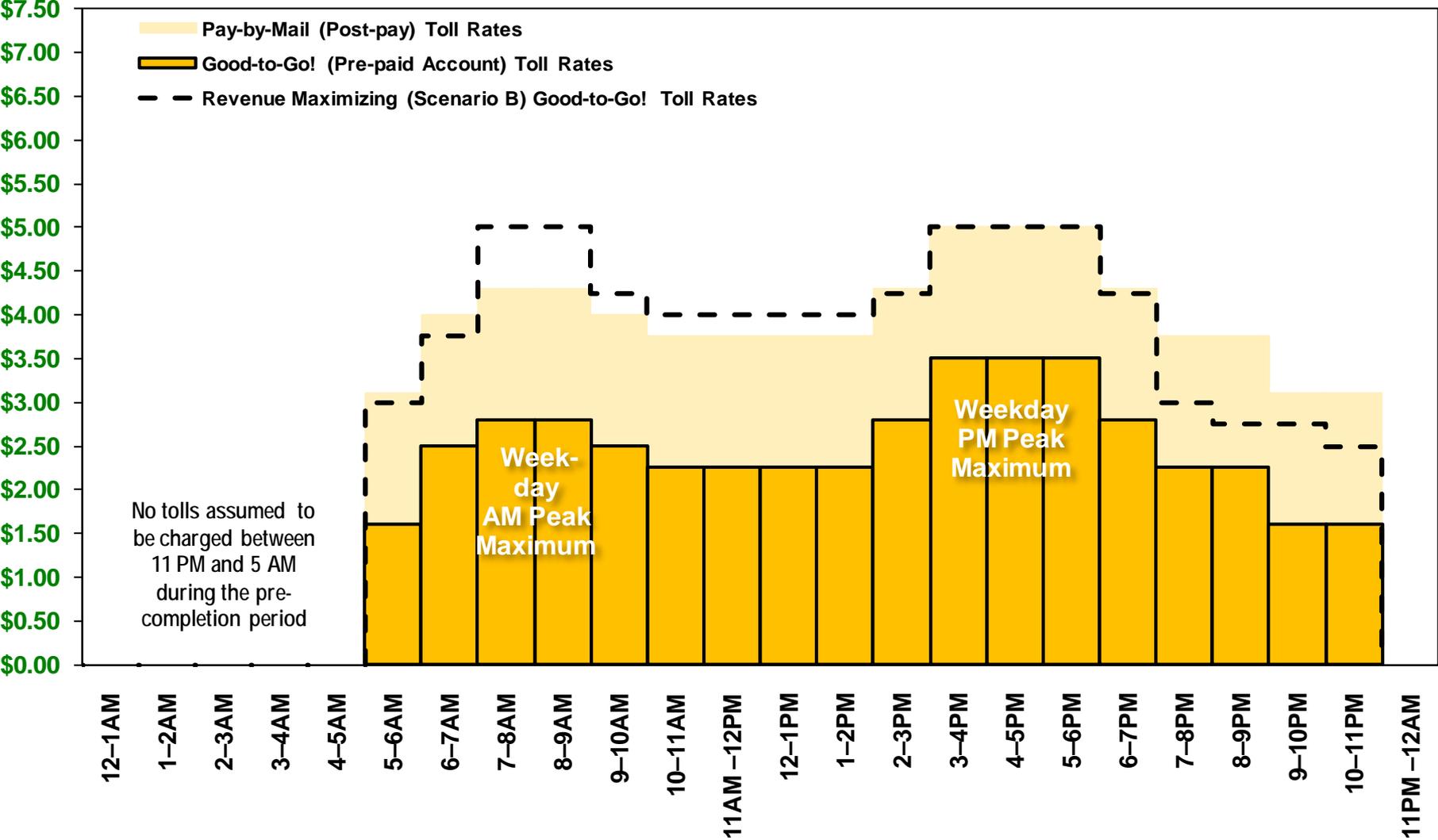
FY 2011 Weekday Toll Rates – Scenarios A/D



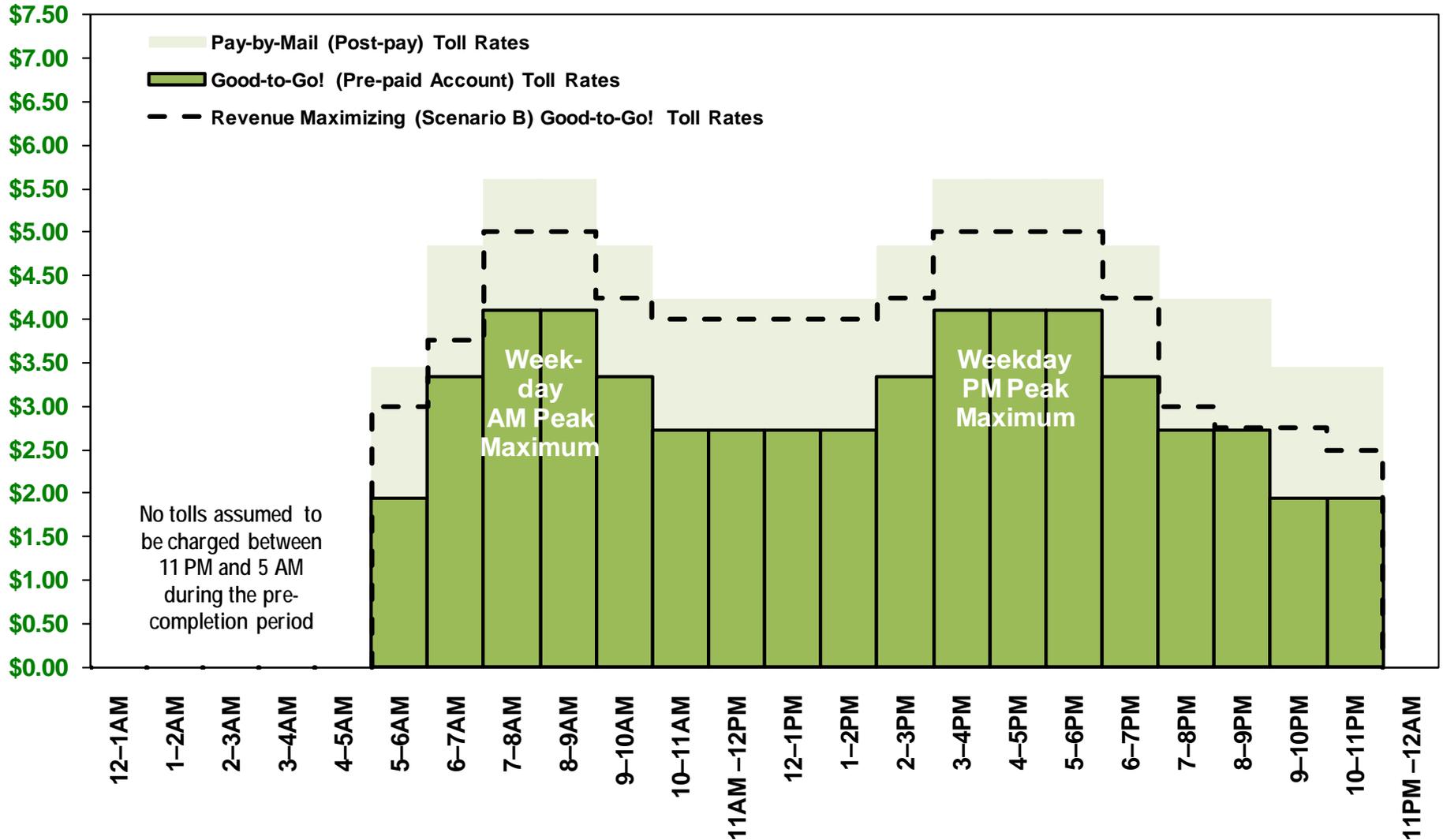
FY 2011 Weekday Toll Rates – Alternative 1



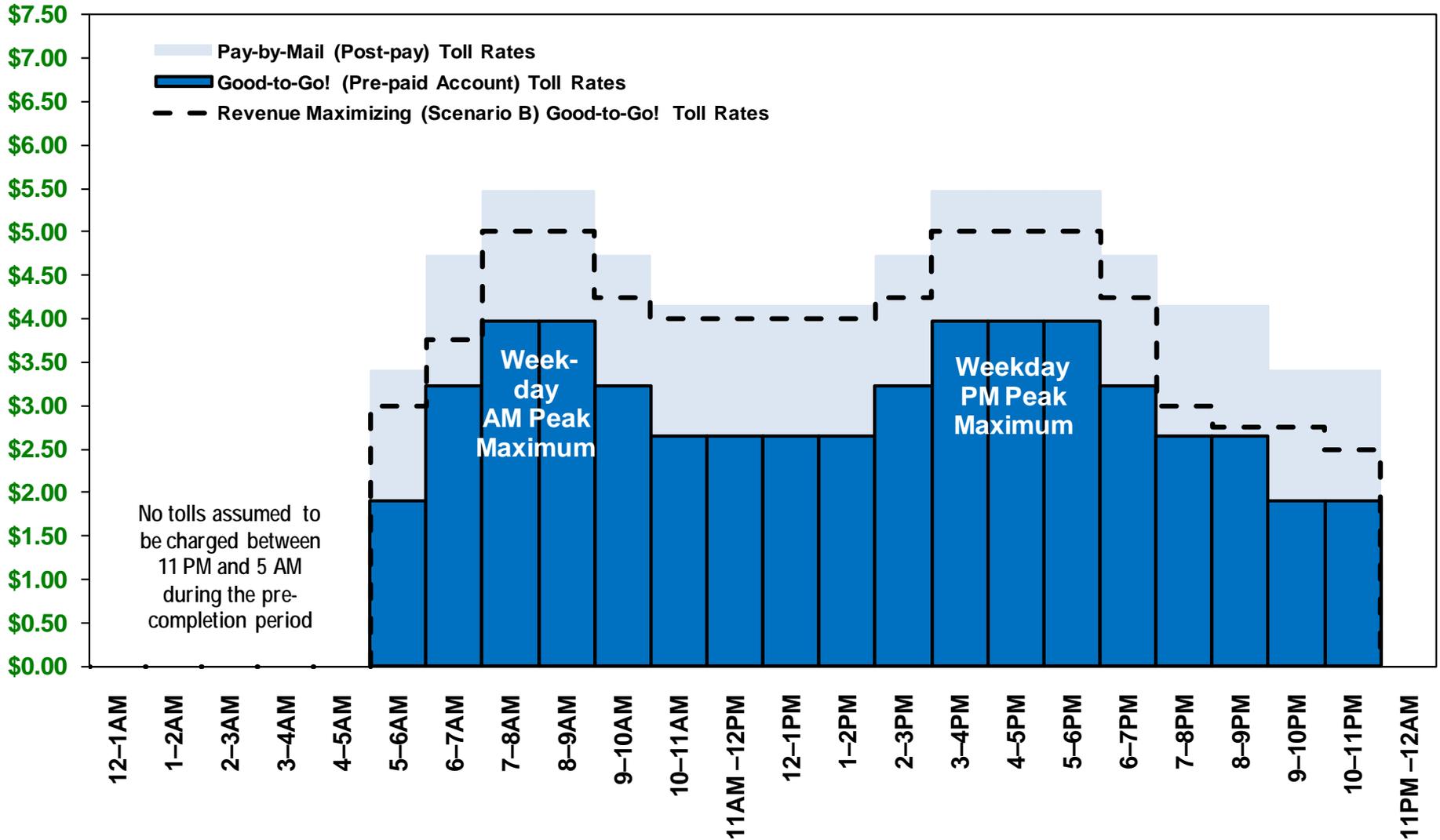
FY 2011 Weekday Toll Rates – Alternative 2



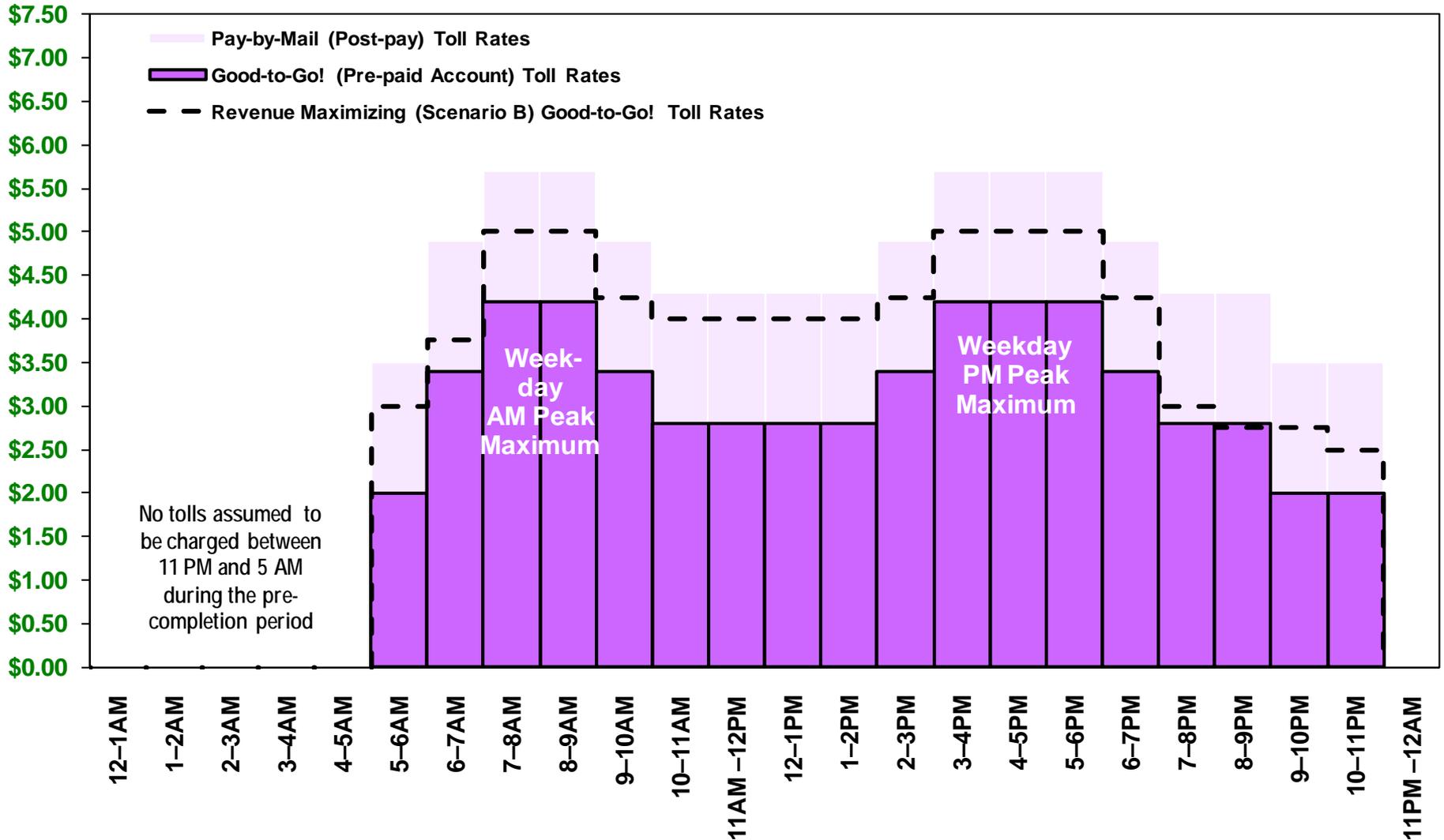
FY 2011 Weekday Toll Rates – Alternative 3



FY 2011 Weekday Toll Rates – Alternative 4



FY 2011 Weekday Toll Rates – Alternative 5



Note: Alternative 5 initial toll rates are the same as Scenarios A and D

Review of Toll-Backed Bond Options

Tolls/MVFT/GO (Triple Pledge)

- First payable from toll revenues
 - Contractually pledged to investors
- Second, backed by MVFT
- Third backed by the full faith and credit pledge of the State
- Lower cost
- Pressure on State's credit rating
 - Potential for raising costs of financing on all of State's borrowing

Stand-alone Toll Revenue Bonds

- Only payable from toll revenues
 - Contractually pledged to investors
- Supported by credible revenue forecasts
 - Investment-grade T&R study
- Supported by commitments to set tolls to maintain:
 - Coverage (net revenues / debt service)
 - Reserve accounts (debt service, O&M, R&R)
- Higher cost
- Requires amending bond authorization legislation

Net Revenues = Funds Available for Debt Service

- Deductions from gross revenues to yield net revenues include:
 - Operations and maintenance
 - Uncollectible accounts
 - Bridge insurance premiums
 - Deferred sales tax payments over 10 years starting in FY 2022
- Other uses of toll revenues after debt service
 - Deferred sales tax payments if not paid prior to debt service
 - Facility R&R costs
 - Revenue stabilization account and other reserves

Scenario A Gross and Net Revenues

