

SR 520 Traffic and Revenue Study Update

WSTC Meeting

Kamran Khan

Senior Vice President

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CAI Forecasts

December 8, 2015

**CDM
Smith**

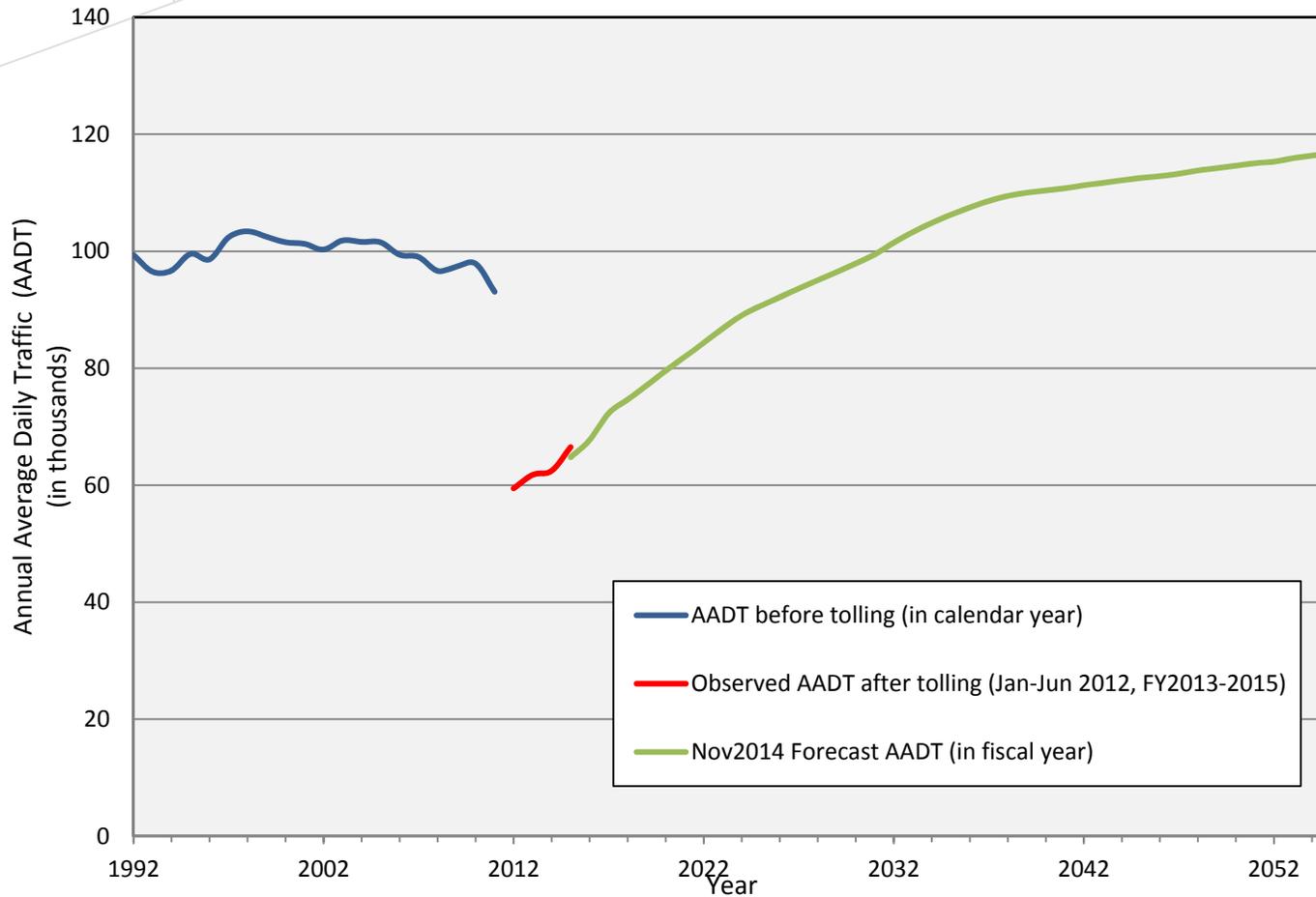
Agenda Items

- Review of Performance Assessment
- Economic Growth Review
- Toll Model Revisions
- Revised Baseline (3+ Carpools Exempted with Flex Pass) Traffic and Revenue Forecast
- Alternatives (3+ Carpools Tolloed) Traffic and Revenue Forecast

T&R Forecast History

- **September 2011 (Sep2011) Forecast:** Investment grade forecast presented in the 2011 report "SR 520 Bridge Investment Grade Traffic and Revenue Study Floating Bridge and Eastside Project". TRFC adoption September 2011.
- **October 2013 (Oct2013) Forecast:** Revised investment grade forecast. TRFC adoption November 2013.
- **November 2014 (Nov2014) Forecast:** Revised investment grade forecast. TRFC adoption December 2014.
- **November 2015 (Nov2015) Forecast:** Revised investment grade forecast. TRFC adoption November 2015.

Average Annual Daily Traffic



Note: Includes all traffic (non-revenue, overnight, and weekends) but adjusted to exclude closed weekends.
Sources: WSDOT traffic recorders for history; CDM Smith Nov2014 Forecast.

FY 2015 Forecast vs. Actuals

Performance Assessment	Nov2014 Forecast	Actuals ^{1,2,3}	Variance
Annual Transactions	21,882,000	22,019,770	0.6%
Average Weekday Transactions	70,455	70,173	-0.4%
Average Weekend Transactions	41,438	40,523	-2.2%
Transaction Payment Share			
<i>Good To Go!</i>	84.6%	83.7%	-0.9%
Pay By Mail	15.4%	16.3%	0.9%
Truck % of Transactions	0.7%	0.7%	0.0%
Gross Toll Revenue Potential	\$68,995,000	\$69,383,209	0.6%

1. For CY 2014, actuals are based on WSDOT toll transaction data provided to CDM Smith on 5/8/15.

2. For CY 2015, transaction results are estimated actuals based on monthly lane equipment and adjustments by CDM Smith. Further transaction processing could change final results.

3. For CY 2015, gross revenue actuals are based on interim accounting reports with adjustments by CDM Smith. Further transaction processing could change final results.

FY 2015 Performance Summary

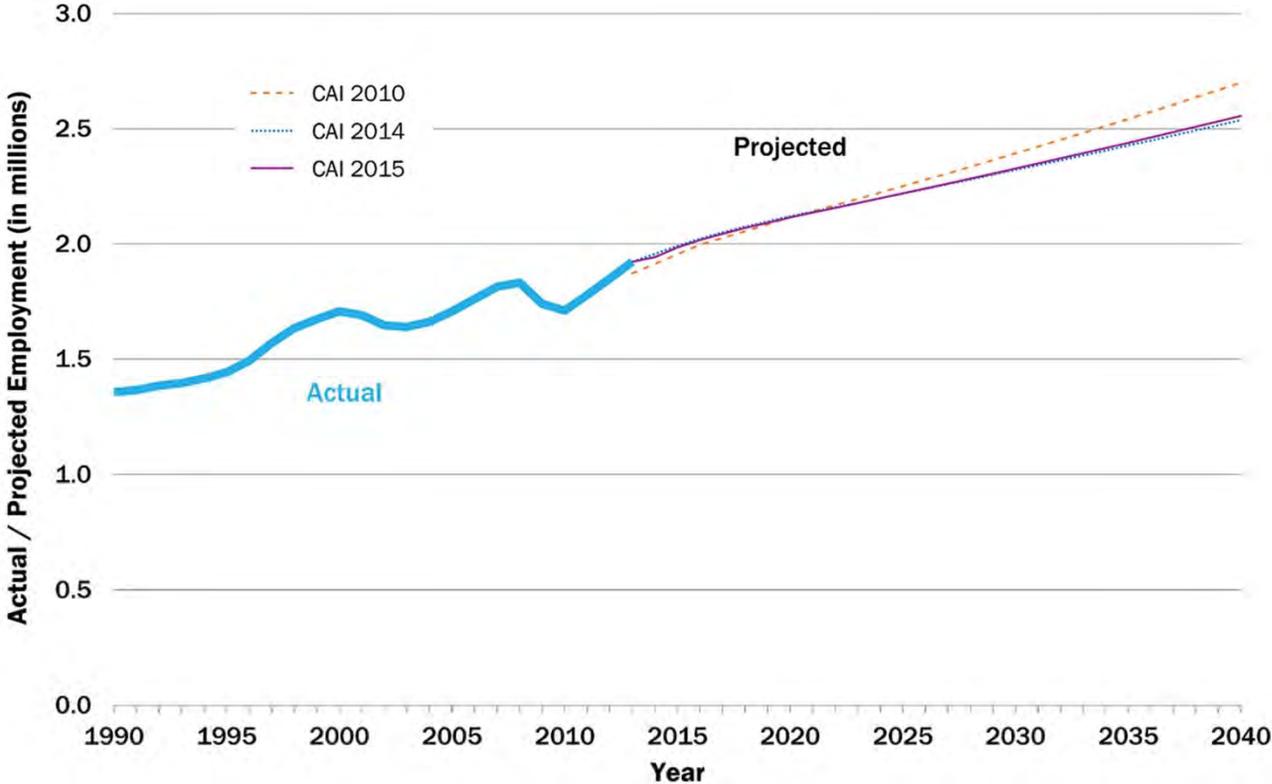
- In FY 2015, transactions and gross toll revenue were about 0.6% above the November 2014 forecast
- Actual *Good to Go!* account share was lower than assumed in the forecast by 0.9%
- Weekend transactions were lower than expected by about 2.2%
- Truck (vehicles with 3 or more axles) share of toll transactions was consistent with forecast (0.7%).

Economic Growth Review - Approach

- Revised regional/county forecast Conway Pederson and extrapolation
- Newly released TAZ and forecast analysis zone (FAZ)-level population and employment data for 2014 provide updated baselines for revised forecasts
- PSRC UrbanSim forecast distributions by TAZ
- Data cleaning of PSRC forecast by TAZ
- Collected data on development pipeline projects
- Collaborated with PSRC to determine what projects were not accounted for in PSRC forecasts. Adjustments by TAZ.
- Controlled TAZ totals to county forecasts.

Total Regional Employment

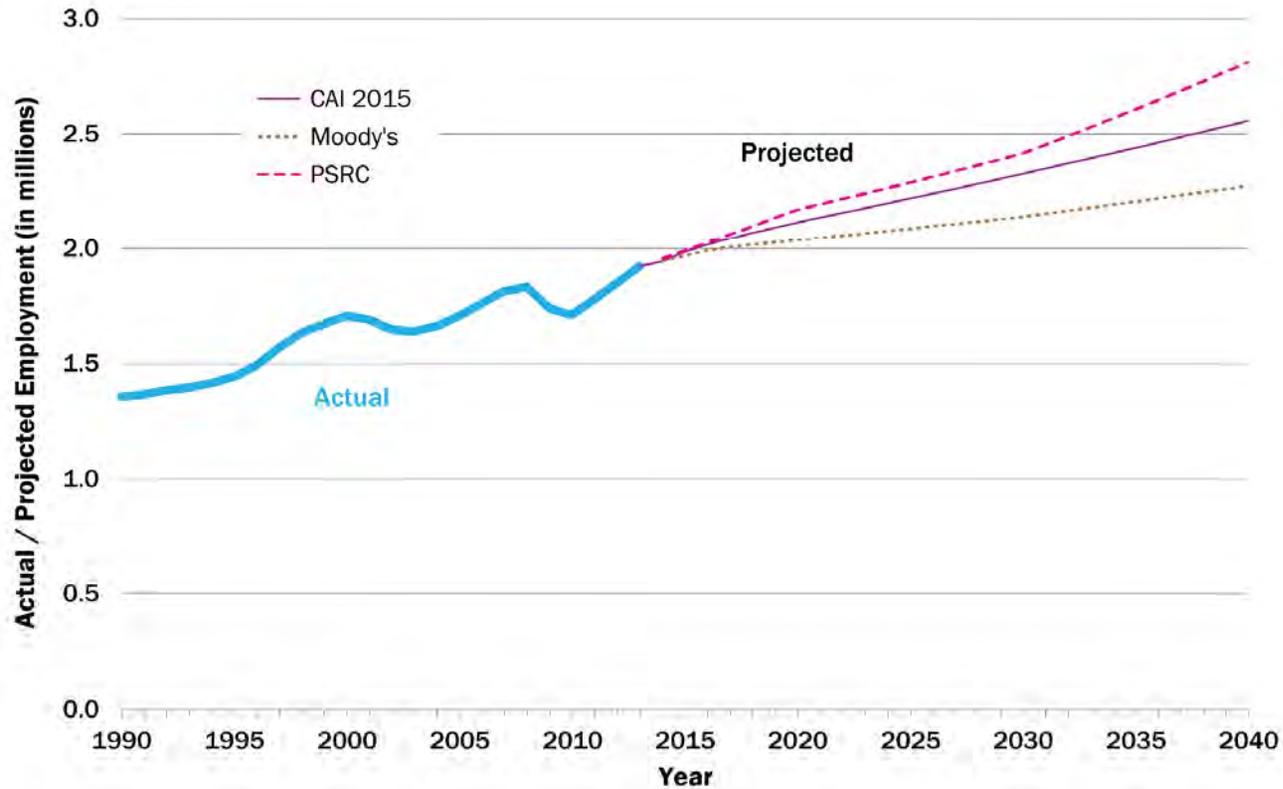
Millions of Jobs, 1990-2040



Source: Community Attributes Inc.

Total Regional Employment Comparison

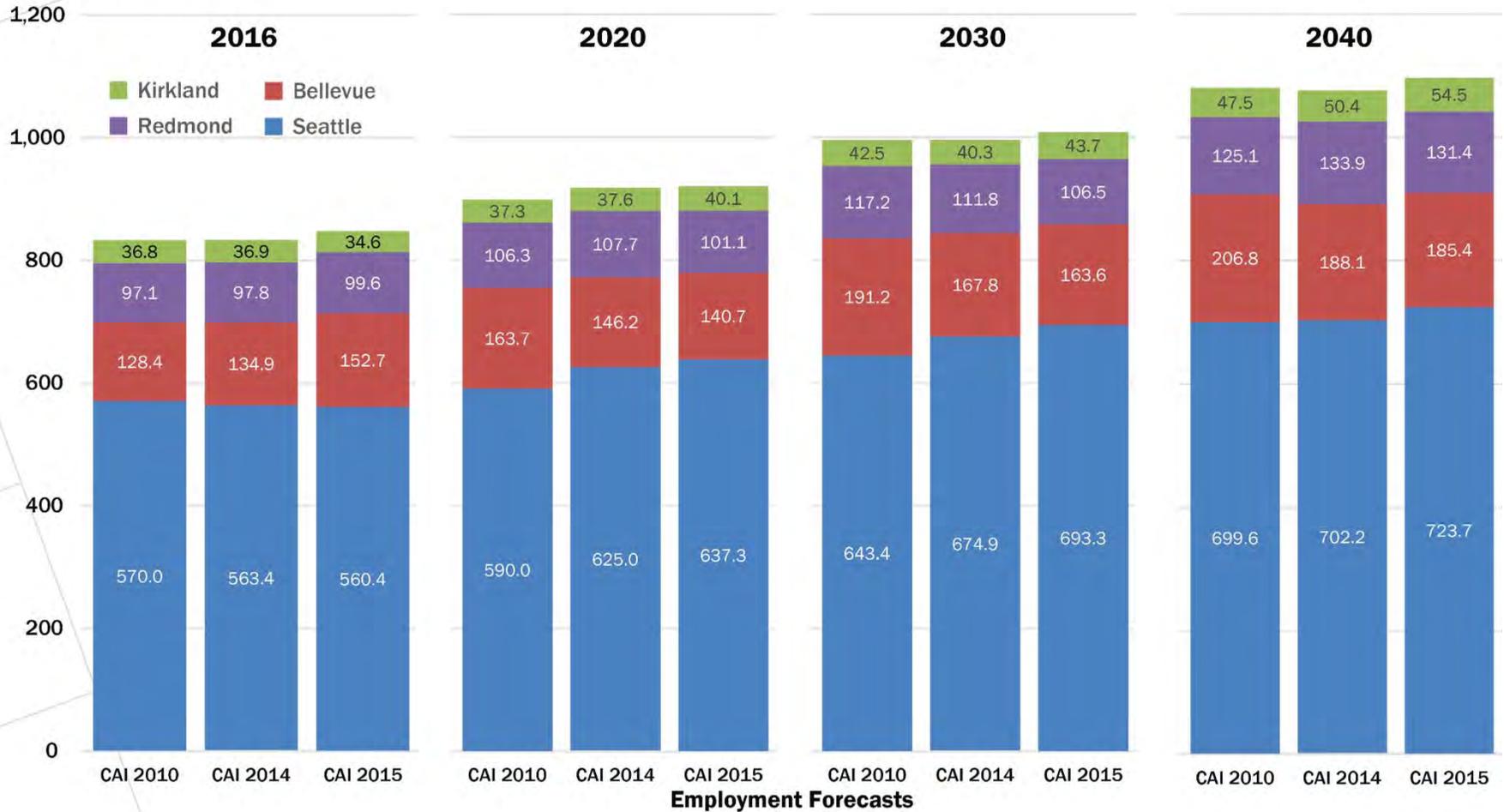
Millions of Jobs, 1990-2040



Source: Community Attributes Inc.

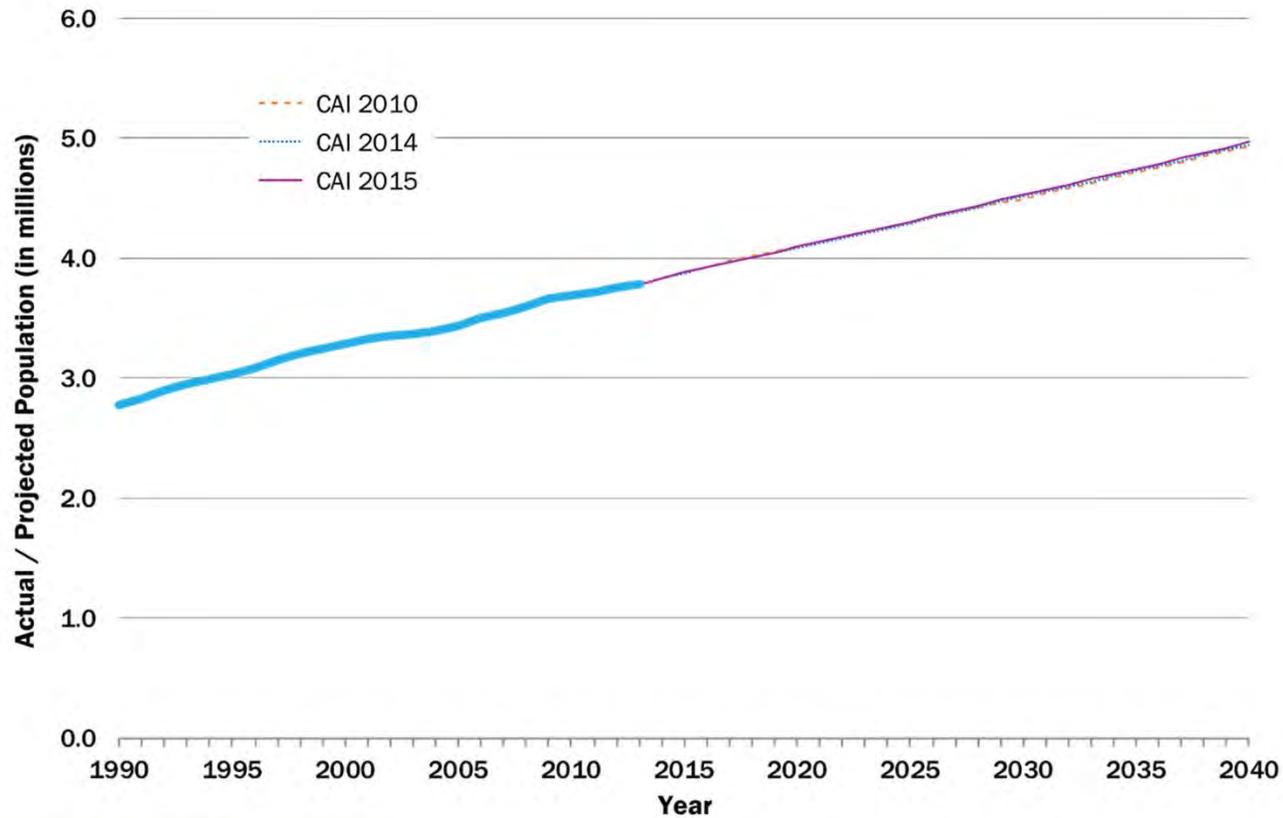
SR 520 Corridor Employment Forecasts

Jobs (in thousands)



Total Regional Population

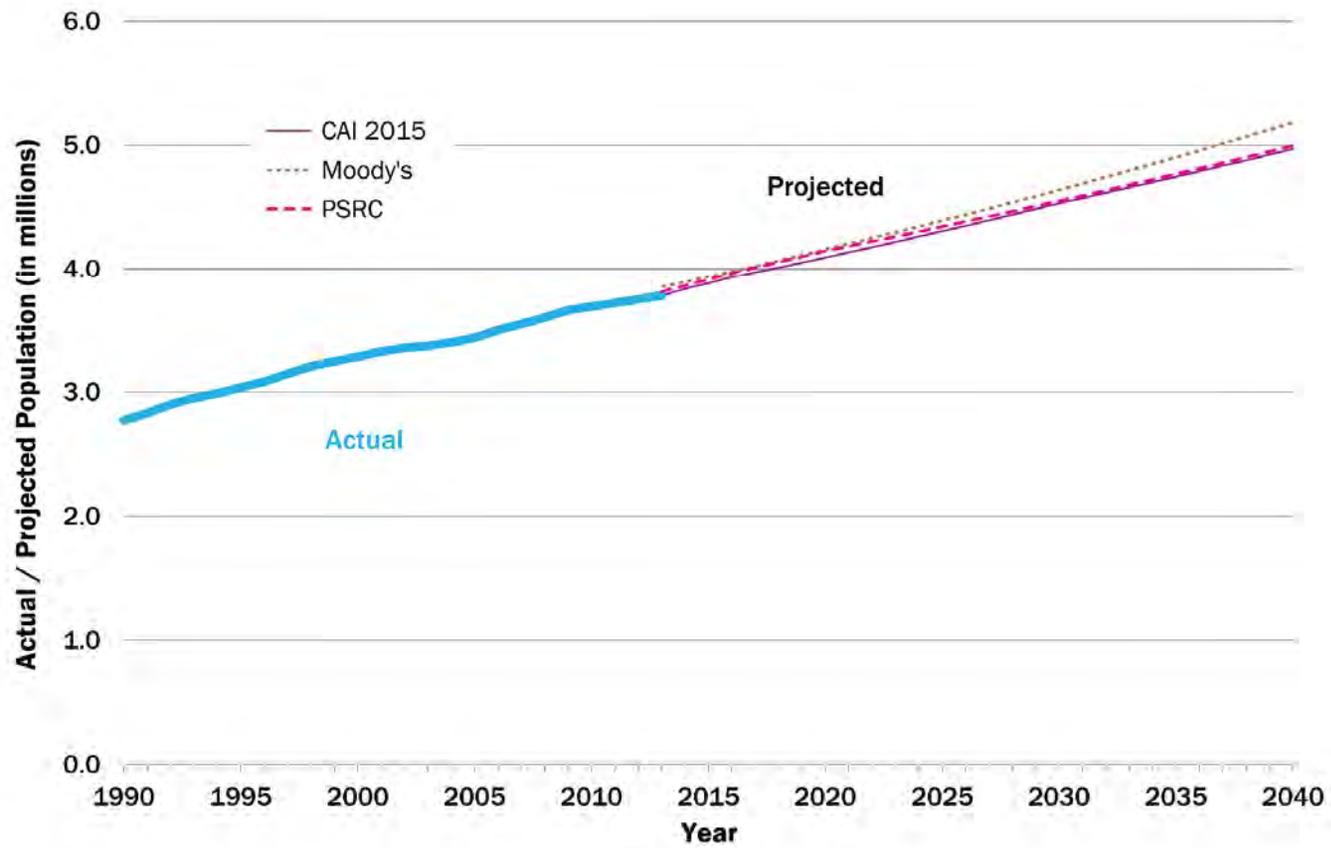
Millions, 1990-2040



Source: Community Attributes Inc.

Total Regional Population Comparison

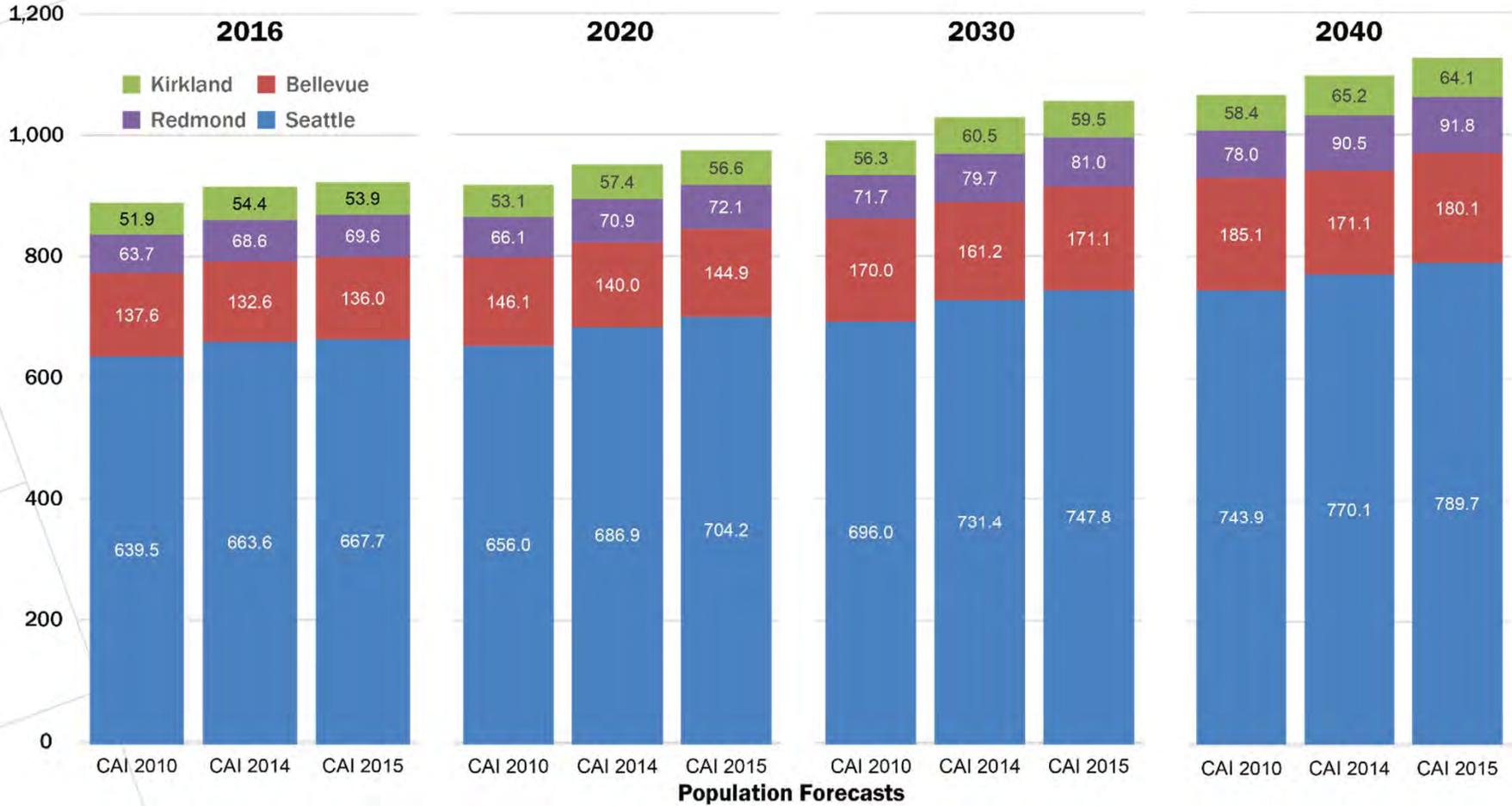
Millions, 1990-2040



Source: Community Attributes Inc.

SR 520 Corridor Population Forecasts

People (in thousands)



Socio Economic Summary

- Overall growth in population and employment generally consistent with past forecasts
- Population forecasts adjusted slightly upwards for King County and for the region
- More population growth in four major cities (Seattle, Kirkland, Bellevue, and Redmond)
- For employment, the regional and King County growth rates were adjusted upwards in the immediate short term
- Employment estimates for combined four cities slightly reduced in the short term and revised upwards starting in 2017.

FY 2015 Base Year and Short Term Forecast

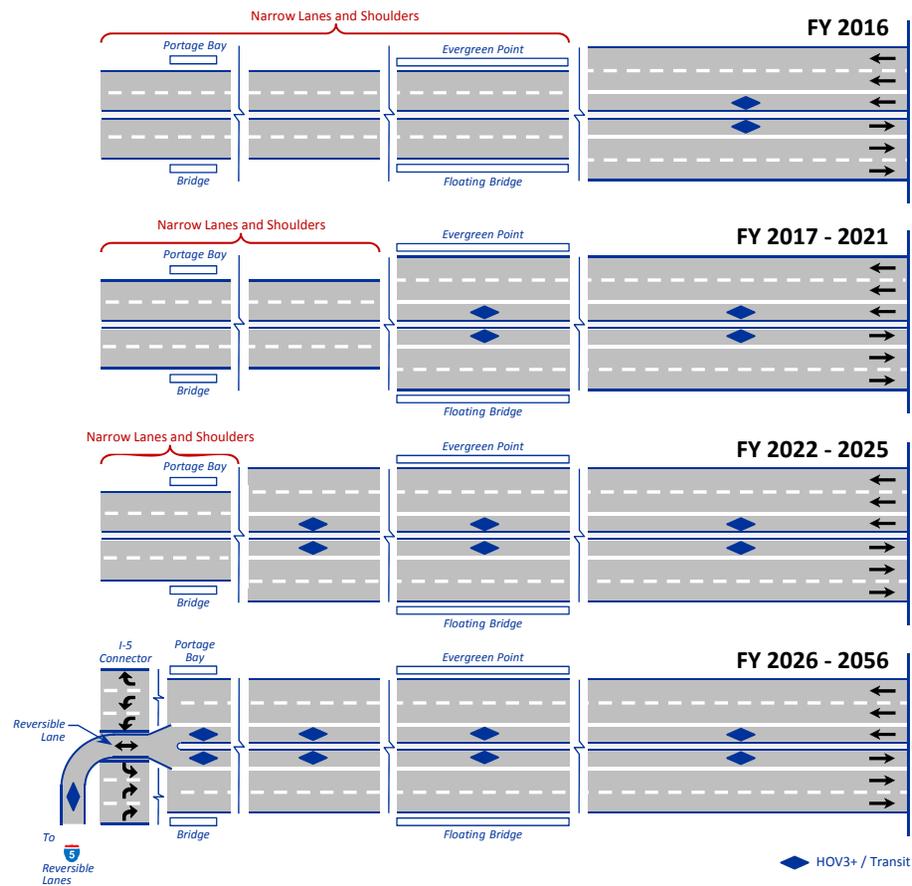
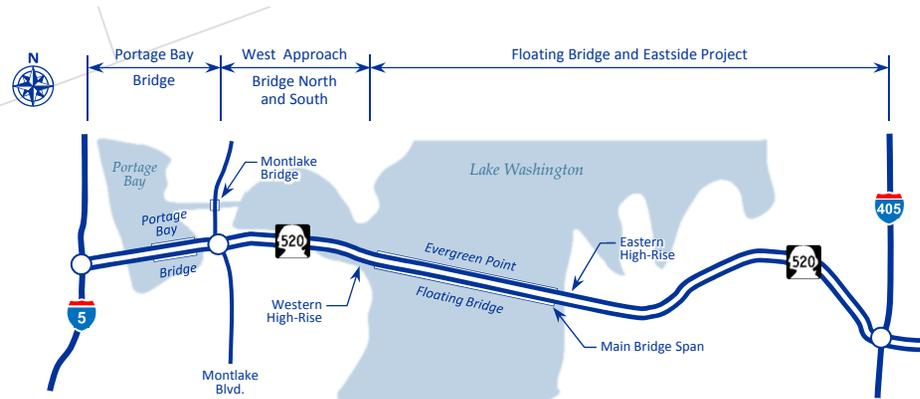
- Base Year Model (FY 2015) recalibrated to match Actuals
 - Traffic counts on I-90, SR 522, I-5, and I-405 in addition to detailed SR 520 results used to calibration FY 2015 model
 - Average weekday adjusted down by 0.4%, average weekend adjusted down by 2.2%
- Short Term T&R revised forecast (FY 2016 and FY 2017) partly informed by recent growth patterns
 - Average weekday transactions grew by 3.4% and 4.1% in FY 14 and FY 15
 - Average weekend transactions grew by 3.0% and 3.1% in FY 14 and FY 15

Toll Model Revisions

Future Toll Rates

- Prior forecasts assumed that Pay By Mail customers would pay \$1.70 above *Good To Go!* toll rates for 2-axle vehicles. In the new forecast, the Pay By Mail toll increment for 2-axle vehicles is assumed to be \$2.00.
- Other toll rate assumptions are unchanged, including FY 2017 variable step increase ranging from 12% to 18% for weekday account-based toll rates, and 0% to 4% for weekend rates.

Toll Model Revisions Assumed Roadway Configuration



Toll Model Revisions

Planned SR 520 Closures

SR 520 Program Construction Closures*

Fiscal Year	November 2014 Forecast		November 2015 Forecast				Actuals	
	SR 520 Main Span		SR 520 Main Span		Portage Bay Bridge		SR 520 Main Span	
	Weekend Day	Weekday Night	Weekend Day	Weekday Night	Weekend Day	Weekday Night	Weekend Day	Weekday Night
2012	--	NA	--	NA	--	NA	10.0	NA
2013	--	NA	--	NA	--	NA	14.2	NA
2014	--	NA	--	NA	--	NA	13.8	NA
2015	15.5	NA	--	NA	--	NA	13.1	NA
2016	10.0	NA	10.4	NA	--	NA	--	NA
2017	1.0	1.0	2.0	2.0	--	--	--	--
2018	2.5	16.0	12.0	22.5	--	--	--	--
2019	--	--	17.0	29.5	--	--	--	--
2020	--	--	16.0	29.0	7.0	12.0	--	--
2021	--	--	17.0	29.5	10.0	17.5	--	--
2022	--	--	13.0	23.0	10.0	17.5	--	--
2023	--	--	--	--	5.0	15.0	--	--
2024	--	--	--	--	3.0	10.0	--	--
2025	--	--	--	--	3.0	10.0	--	--
2026	--	--	--	--	7.0	12.0	--	--

*The closures assumed for this forecast are only a rough draft placeholder and very likely to change. The SR 520 project office will be working on west end completion planning over the next several months and provide updates as appropriate.

Impact of Closures

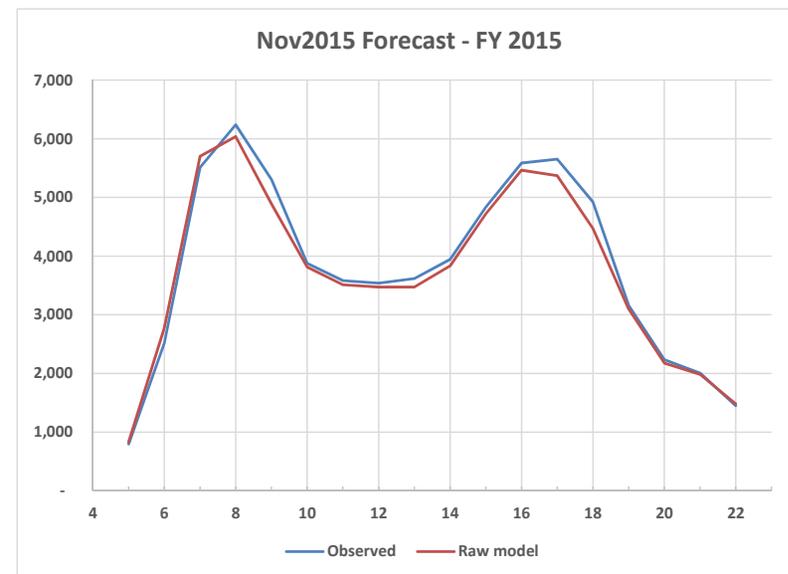
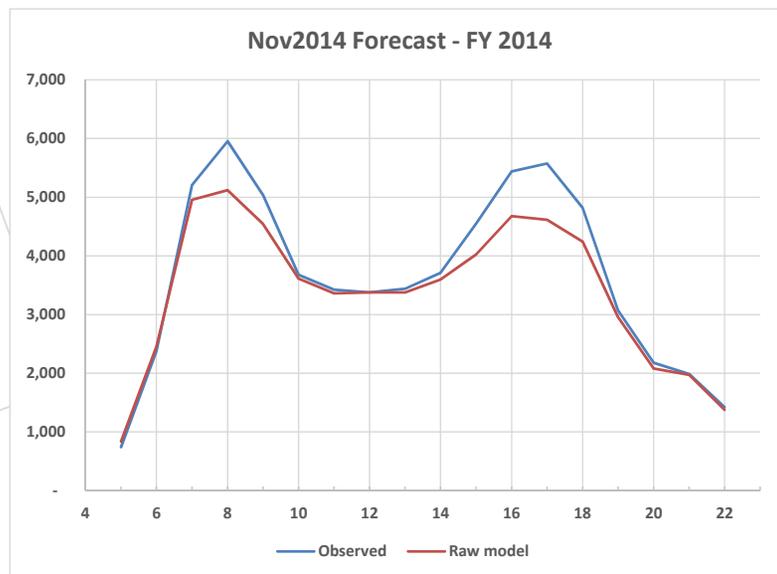
Fiscal Year	Nov2015 Forecast	Nov2015 Forecast Without Closures	<i>Difference</i>
Gross Toll Revenue Potential (millions of year of collection dollars)			
2016	\$74.492	\$75.557	-\$1.065
2017	87.416	87.664	-\$0.248
2018	86.945	88.480	-\$1.535
2019	88.551	90.778	-\$2.227
2020	90.978	93.571	-\$2.593
2021	92.601	95.561	-\$2.960
2022	96.563	99.041	-\$2.478
2023	101.051	101.357	-\$0.306
2024	103.419	103.610	-\$0.191
2025	105.781	105.975	-\$0.194
2026	107.780	108.208	-\$0.428

- In FY 2017, the estimated revenue lost per closed weekend day is approximately \$117,500
- Estimated revenue lost per closed weekday night is approximately \$3,700.

Toll Model Revisions

Time of Day Profile

- FY 2015 and FY 2016 forecast weekday transaction profiles adjusted to better reflect observed hourly distribution of transactions
- Refinement of the time of day profile in the tolling model results in more transactions forecasted during peak hours
- Leads to increased gross toll revenue.



Toll Model Revisions

3+ Carpools

Proportion of 3+ Carpools on Weekdays

Fiscal Year	Nov2014 Forecast	Nov2015 Forecast	Actual
2015	--	--	1.5%
2016	3.8%	1.6%	--
2017	8.8%	4.5%	--
2018	--	4.4%	--
2024	8.2%	4.1%	--
2031	8.0%	4.3%	--

- Similar to prior forecasts, the updated baseline forecast assumes that 3+ carpools are exempt from paying tolls starting in FY 2017
- Current year and future year 3+ carpools levels adjusted down based on detailed counts from May 2015
- 3+ carpool exemption applies only if vehicles are traveling in the HOV lane and if they have a *Good To Go!* Flex Pass transponder
- It was assumed that 90 percent of 3+ carpools will meet the requirement, and therefore will be traveling toll-free.

Toll Model Revisions - Others

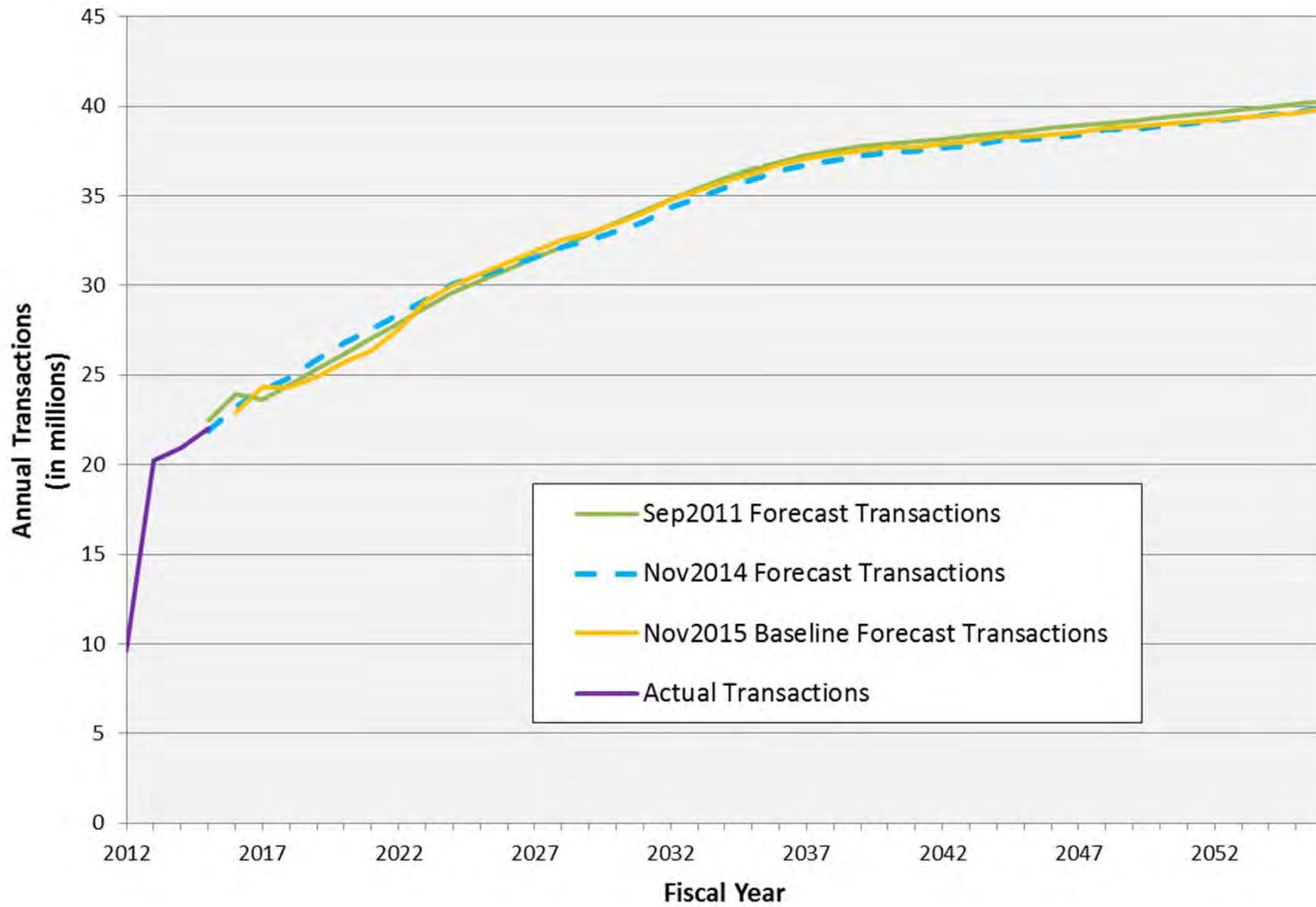
- I-90 Reversible Lane Project
- Changed *Good to Go!* Assumptions
- Gas Price Forecast Change
- Truck Share of Transactions
- Truck Toll Rate Multipliers

Baseline Forecast

Annual Transactions Detail

Fiscal Year	Transactions (Millions)				
	Sep2011 Forecast	Nov2014 Forecast	Nov2015 Baseline Forecast	2015 vs 2011	2015 vs 2014
2016	23.960	23.181	22.886	-4.5%	-1.3%
2017	23.618	24.175	24.320	3.0%	0.6%
2018	24.475	24.850	24.297	-0.7%	-2.2%
2019	25.333	25.863	24.886	-1.8%	-3.8%
2020	26.190	26.802	25.711	-1.8%	-4.1%
2021	27.048	27.552	26.352	-2.6%	-4.4%
2022	27.905	28.383	27.570	-1.2%	-2.9%
2023	28.763	29.215	29.195	1.5%	-0.1%
2024	29.620	30.081	29.975	1.2%	-0.4%
2025	30.263	30.548	30.664	1.3%	0.4%
2026	30.906	31.050	31.248	1.1%	0.6%
2027	31.549	31.553	31.940	1.2%	1.2%
2028	32.192	32.151	32.553	1.1%	1.3%
2029	32.835	32.524	32.925	0.3%	1.2%
2030	33.478	33.025	33.435	-0.1%	1.2%
Totals FY 2016-56	1,418.674	1,408.619	1,411.206	-0.5%	0.2%

Baseline Forecast Annual Transactions



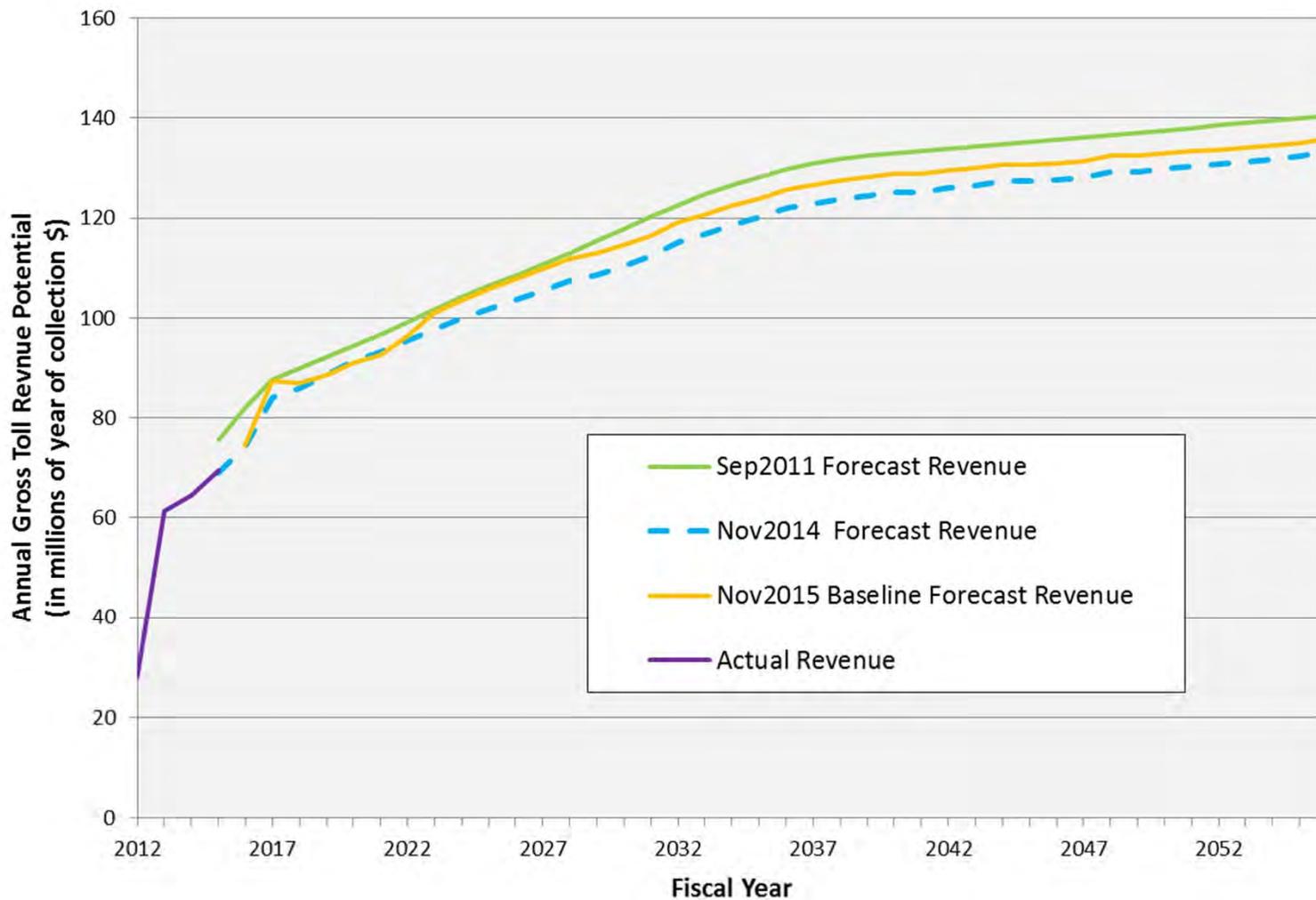
Baseline Forecast

Annual Gross Toll Revenue Potential Detail

Fiscal Year	Gross Toll Revenue Potential (Millions of Year of Collection Dollars)				
	Sep2011 Forecast	Nov2014 Forecast	Nov2015 Baseline Forecast	2015 vs 2011	2015 vs 2014
2016	\$81.920	\$74.383	\$74.492	-9.1%	0.1%
2017	87.640	84.207	87.416	-0.3%	3.8%
2018	89.830	85.960	86.945	-3.2%	1.1%
2019	92.080	88.640	88.551	-3.8%	-0.1%
2020	94.390	91.339	90.978	-3.6%	-0.4%
2021	96.760	93.273	92.601	-4.3%	-0.7%
2022	99.180	95.507	96.563	-2.6%	1.1%
2023	101.670	97.741	101.051	-0.6%	3.4%
2024	104.210	99.951	103.419	-0.8%	3.5%
2025	106.360	101.755	105.781	-0.5%	4.0%
2026	108.550	103.536	107.780	-0.7%	4.1%
2027	110.780	105.316	109.840	-0.8%	4.3%
2028	113.060	107.447	111.843	-1.1%	4.1%
2029	115.380	108.679	112.879	-2.2%	3.9%
2030	117.740	110.455	114.507	-2.7%	3.7%
Totals FY 2016-56	\$4,989.800	\$4,714.822	\$4,840.355	-3.0%	2.7%

Baseline Forecast

Annual Gross Toll Revenue Potential



Gross Revenue Impact Summary

Factor	Changes in Nov2015 Forecast*	Revenue Impact
Closures**	Decreases Revenue	↓ Large (FY 2018 - FY2022)
West Approach Bridge South Construction	Decreases Revenue	↓ Medium (FY 2017- FY2022)
Full Corridor Completion	Increases Revenue	↑ Medium (FY 2027 - FY2056)
Increase in Pay By Mail differential	Increases Revenue	↑ Medium
Refinement of Time of Day Profile	Increases Revenue	↑ Medium
Weekend Growth Reduction	Decreases Revenue	↓ Medium
I-90 Reversible Lanes Project	Increases Revenue	↑ Medium (FY 2017)
Socioeconomic Growth	Increases Revenue	↑ Medium (FY2024-FY2056)
Lower <i>Good To Go!</i> share Higher truck multipliers Lower truck share Lower vehicle operating costs Flex Pass requirement for 3+ carpools	Overall minor changes	↑ Small

*When compared to the Nov2014 IG Forecast.

**The closures assumed for this forecast are only a rough draft placeholder and very likely to change. The SR 520 project office will be working on west end completion planning over the next several months and provide updates as appropriate.

Alternative Forecasts

- In the Baseline, 3+ carpools are exempt from paying tolls from FY 2017 forward if they have a Flex Pass
- In Alternative A, 3+ carpools pay regular tolls for the entire forecast period
- In Alternative B, 3+ carpools pay regular tolls through FY 2025 and are exempt from paying tolls from FY 2026 and beyond if they have a Flex Pass.

Alternative Forecast

Annual Transactions Detail

Fiscal Year	Transactions (Millions)				
	Nov2015 Baseline Forecast	Nov2015 Alt A Forecast	Nov2015 Alt B Forecast	Alt A vs Base	Alt B vs Base
2016	22.886	22.886	22.886	0.0%	0.0%
2017	24.320	25.026	25.026	2.9%	2.9%
2018	24.297	24.962	24.962	2.7%	2.7%
2019	24.886	25.567	25.567	2.7%	2.7%
2020	25.711	26.417	26.417	2.7%	2.7%
2021	26.352	27.076	27.076	2.7%	2.7%
2022	27.570	28.312	28.312	2.7%	2.7%
2023	29.195	29.984	29.984	2.7%	2.7%
2024	29.975	30.792	30.792	2.7%	2.7%
2025	30.664	31.488	31.488	2.7%	2.7%
2026	31.248	32.100	31.248	2.7%	0.0%
2027	31.940	32.811	31.940	2.7%	0.0%
2028	32.553	33.445	32.553	2.7%	0.0%
2029	32.925	33.830	32.925	2.7%	0.0%
2030	33.435	34.359	33.435	2.8%	0.0%
Totals FY 2016-56	1,411.206	1,449.359	1,417.860	2.7%	0.5%

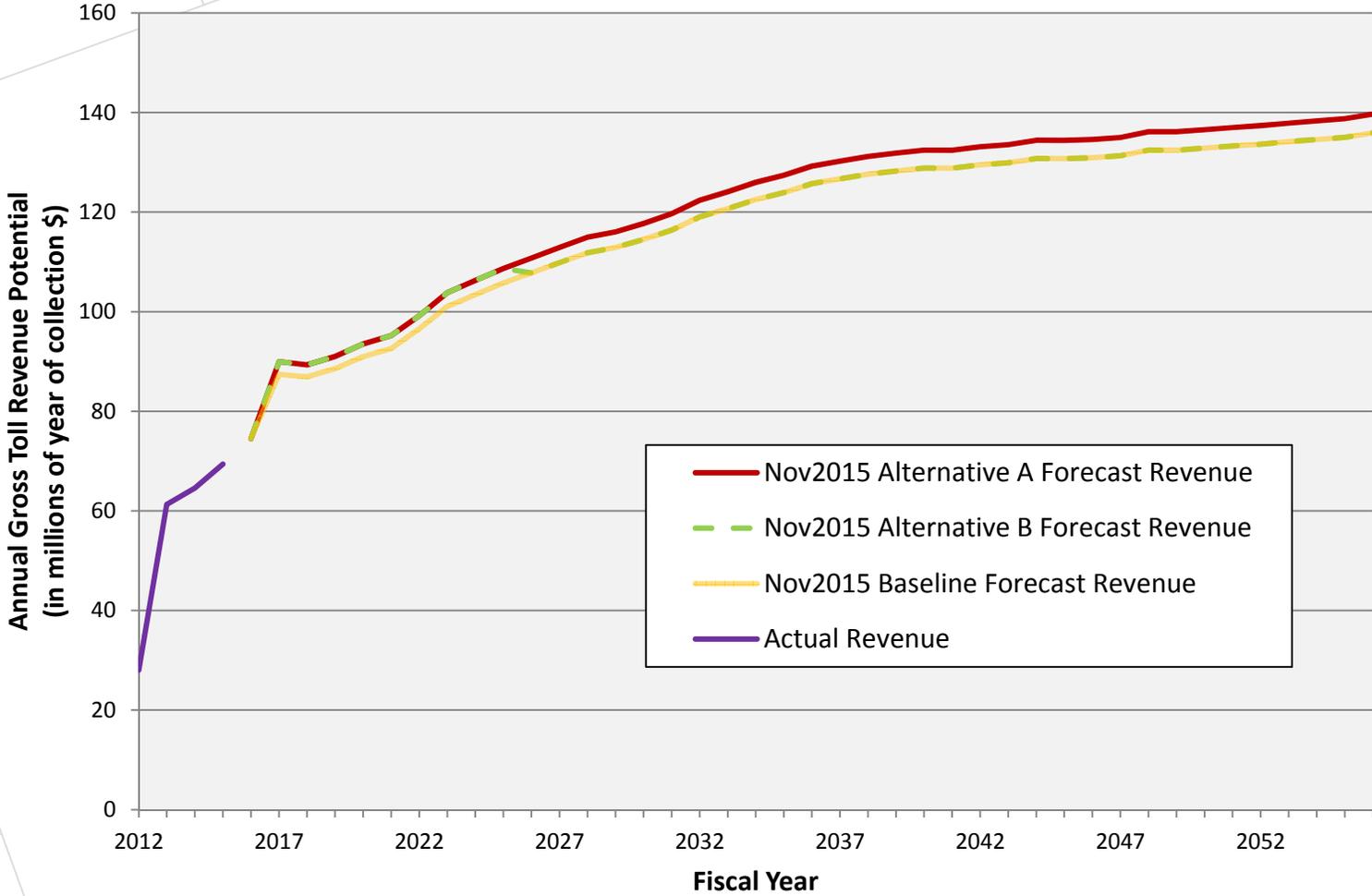
Alternative Forecast

Annual Gross Toll Revenue Potential Detail

Fiscal Year	Gross Toll Revenue Potential (Millions of Year of Collection Dollars)				
	Nov2015 Baseline Forecast	Nov2015 Alt A Forecast	Nov2015 Alt B Forecast	Alt A vs Base	Alt B vs Base
2016	\$74.492	\$74.492	\$74.492	0.0%	0.0%
2017	87.416	89.976	89.976	2.9%	2.9%
2018	86.945	89.326	89.326	2.7%	2.7%
2019	88.551	90.994	90.994	2.8%	2.8%
2020	90.978	93.513	93.513	2.8%	2.8%
2021	92.601	95.200	95.200	2.8%	2.8%
2022	96.563	99.194	99.194	2.7%	2.7%
2023	101.051	103.824	103.824	2.7%	2.7%
2024	103.419	106.280	106.280	2.8%	2.8%
2025	105.781	108.673	108.673	2.7%	2.7%
2026	107.780	110.755	107.780	2.8%	0.0%
2027	109.840	112.880	109.840	2.8%	0.0%
2028	111.843	114.952	111.843	2.8%	0.0%
2029	112.879	116.032	112.879	2.8%	0.0%
2030	114.507	117.719	114.507	2.8%	0.0%
Totals FY 2016-56	\$4,840.355	\$4,973.460	\$4,864.030	2.7%	0.5%

Alternative Forecast

Annual Gross Toll Revenue Potential

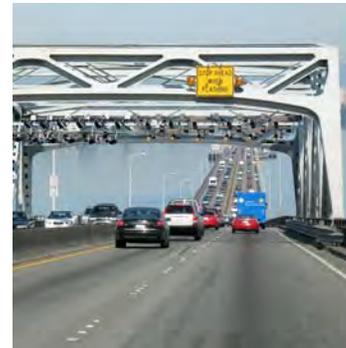


SR 520 Net Toll Revenue Update

November 2015 Forecast
Washington State
Transportation Commission
Briefing Presentation

December 8, 2015

Presented by:
Brent Baker



* All photos courtesy of WSDOT

Contents Overview

- Forecast history, notes, and alternatives
- Net revenue components
- Actual FY 2015 performance relative to November 2014 forecast
- Key changes in inputs and assumptions
- Changes in estimated payment method distribution
- Effects of 3+ carpool exemption
- November 2015 Baseline Forecast change tables and charts
- Baseline and Alternative Forecast summary results

Net Revenue Projection History

The series of net revenue projections have followed the series of traffic and gross toll revenue forecasts prepared by CDM Smith

- **September 2011**
 - *SR 520 Bridge Net Toll Revenue Report*
 - **September 2012***
 - *SR 520 Net Revenue Forecast – September 2012 Update (memorandum)*
 - **October 2013**
 - *SR 520 Bridge Net Toll Revenue Report – 2013 Update*
 - **November 2014**
 - *SR 520 Bridge Net Toll Revenue Report – 2014 Update*
-
- **November 2015**
 - *Forthcoming SR 520 Bridge Net Toll Revenue Report – 2015 Update*

* Modified to incorporate nickel rounding of toll rates in fiscal years 2014-16, as adopted by the Washington State Transportation Commission in May 2013.

November 2015 Net Revenue Forecast

- Forecast horizon is FY 2016 through FY 2056
- Compared with November 2014 net revenue projections, changes for November 2015 are attributable to:
 - **Updated traffic and revenue forecasts from CDM Smith**
 - Toll transaction forecasts by primary payment method
 - Gross toll revenue potential forecasts
 - **Changes in assumptions and inputs**
 - Revisions to gross revenue adjustment assumptions
 - Revisions to toll collection and facility O&M and R&R cost estimates

November 2015 Forecast Alternatives

- **Baseline Forecast** — 3+ carpool toll exemption
 - Assumes exemption starts in FY 2017 with the new bridge opens
 - To receive exemption, a vehicle must have 3 or more occupants, a Flex Pass transponder set to “carpool”, and travel in the HOV lane
 - HOV violation leakage and carpool enforcement cost projections included in years when the carpool exemption is offered
- **Alternative A** — no carpool exemption
 - 3+ carpools may still travel in the HOV lane and pay the normal toll
 - Transit and registered vanpools still assumed to be toll-free
- **Alternative B** — deferred 3+ carpool exemption
 - Assumes a 3+ carpool toll exemption is deferred until FY 2026 when the 6-lane corridor between I-5 and I-405 is assumed to be complete.

Net Revenue Components

- **Revenue Adjustments**
 - Toll Payment Discounts and Fees
 - 3+ Carpool HOV Violation Leakage
 - Revenue Not Recognized
 - Unpaid Toll Revenue
 - Miscellaneous Pledged Revenue
 - Transponder Sales Revenue
 - Pay By Mail Rebilling Fees
 - Recovered Toll Revenue
- **Operations and Maintenance (O&M) Costs**
 - Credit Card Fees
 - Toll Collection O&M (includes transponder purchase and inventory costs)
 - Routine Facility O&M Costs
 - Bridge Insurance Premiums
- **Repair and Replacement (R&R) Costs**
 - Periodic Facility R&R
 - Periodic Toll Equipment and CSC R&R

Forecast vs. Actual Comparison for FY 2015

Category	Forecast vs. Actual Comparison for Net Revenue Items			
	(\$ millions)			% Variance from Forecast
	Nov 2014 Forecast	Actual Values ¹	Variance from Forecast	
Gross Toll Revenue Potential	69.00	69.38	0.39	+0.6%
Toll Payment Discounts and Fees	0.81	1.02	0.21	+26.2%
Revenue Not Recognized	(1.70)	(3.82)	(2.12)	+124.7%
Unpaid Toll Revenue	(3.68)	(2.64)	1.05	-28.4%
Subtotal: Adjusted Gross Toll Revenue Collected	64.42	63.95	(0.47)	-0.7%
Miscellaneous Pledged Revenues	-	0.51	0.51	-
Transponder Sales Revenue	0.58	0.55	(0.03)	-5.1%
Pay By Mail Rebilling Fees & Miscellaneous Fees ²	1.61	1.60	(0.01)	-0.8%
Recovered Toll Revenue	1.64	0.89	(0.75)	-46.0%
Credit Card Fees	(1.08)	(1.20)	(0.13)	+11.8%
Toll Collection O&M Costs ³	(9.84)	(9.16)	0.68	-6.9%
Bridge Insurance Premiums	(2.22)	(2.22)	(0.00)	-
Net Toll Revenue before R&R	55.12	54.91	(0.21)	-0.4%

¹ Actual values calculated from CSC Data, the Unbilled Transaction Report, and Monthly Toll Business Report.

² Miscellaneous fees include NSF, account statement, and bank transaction fees, and are not forecasted.

³ Toll Collection O&M costs includes CSC and RTS vendor costs, State operations costs (printing/postage, accounting, marketing, vendor oversight, and transponders).

Key Changes in Traffic and Gross Revenue Inputs (CDM Smith)

- Forecasted toll transactions are generally lower through FY 2024 and slightly higher thereafter
 - New “Connecting Washington” funding to complete the “Rest of the West” continues 4-lane operations between the bridge and Montlake interchange through FY 2021 and construction closures through FY 2026
 - Future population and employment forecasts are slightly higher
- Forecasted Gross Toll Revenue Potential is higher in all years except FY 2019-21
 - Reflects a \$0.30 increase in the assumed Pay By Mail toll differential
 - Assumes more of the forecasted traffic during higher toll, peak periods
 - Slightly higher volume of Pay By Mail transactions through FY 2030 from slower growth of *Good To Go!* share of total transactions (88%)

Key Changes in Net Revenue Inputs and Assumptions

- Revenue Adjustments
 - Upward revision to Pay By Plate share of the total trips using the *Good To Go!* payment method
 - Increase in the assumed share of Pay By Mail transactions with unidentified owners/addresses, primarily through FY 2020
 - Addition of HOV violation leakage from 1 or 2 occupant vehicles falsely declaring 3+ carpool exempt status (Flex Pass in carpool position) where assumed
- O&M Costs
 - Changes to system-wide toll collection costs that are shared across facilities by proportional allocation
 - Increase in toll-funded G&A costs and decrease FTEs required for new facilities
 - Lower CSC systems software O&M costs more than offset by higher R&R costs
 - 3+ carpool exemption / HOV violation enforcement cost added where assumed
 - Downward revisions to unit prices lowered facility O&M costs
 - Upward revisions to cost components increased facility R&R costs
- R&R Costs
 - Higher facility R&R costs arising from re-evaluation of unit prices, bridge surface renewal
 - Minor upward revisions to RTS R&R costs related to vendor procurement testing
 - New assumptions regarding CSC systems software and vendor procurement every 10 years

Changes to Payment Method Distribution

Fiscal Year	Good To Go! Account Transactions						Non-Account / Pay By Mail Transactions**	
	Transponder (Pass)		Pay By Plate		Total		Nov 2014 Forecast	Nov 2015 Forecast
	Nov 2014 Forecast	Nov 2015 Forecast	Nov 2014 Forecast	Nov 2015 Forecast	Nov 2014 Forecast	Nov 2015 Forecast		
2012	70.8%*		11.9%*		82.7%*		17.3%*	
2013	68.9%*		14.8%*		83.7%*		16.3%*	
2014	66.9%*		17.6%*		84.5%*		15.5%*	
2015	71.1%	63.6%*	13.5%	20.1%*	84.6%	83.7%*	15.4%	16.3%*
2016	72.1%	64.6%	12.7%	20.0%	84.8%	84.6%	15.2%	15.4%
2017	73.1%	67.6%	11.9%	17.0%	85.1%	84.6%	14.9%	15.4%
2018	74.4%	68.3%	11.1%	16.5%	85.5%	84.8%	14.5%	15.2%
2019	75.5%	70.1%	10.3%	15.0%	85.8%	85.1%	14.2%	14.9%
2020	76.7%	70.3%	9.5%	15.0%	86.2%	85.3%	13.8%	14.7%
2025	78.7%	71.2%	8.7%	15.0%	87.4%	86.2%	12.6%	13.8%
2030	78.9%	72.3%	8.8%	15.0%	87.7%	87.3%	12.3%	12.7%
2035	79.0%	72.6%	8.8%	15.0%	87.7%	87.6%	12.3%	12.4%
2040	79.0%	72.6%	8.8%	15.0%	87.7%	87.6%	12.3%	12.4%
2045	78.9%	72.6%	8.8%	15.0%	87.7%	87.6%	12.3%	12.4%
2050	78.9%	72.6%	8.8%	15.0%	87.7%	87.6%	12.3%	12.4%
2055	78.9%	72.6%	8.8%	15.0%	87.7%	87.6%	12.3%	12.4%

* Actual values for the *Good To Go!* / Non-Account Transaction split are calculated from CSC data analysis for calendar years 2012-14 and Toll Business Report data for the first half of calendar year 2015. Actual values for the *Good To Go!* Transponder and Pay By Plate percentages are calculated using 16J-TRAINS Pay By Plate fee revenue divided by the \$0.25 fee to yield the number of transactions, adjusted for license plate leakage.

** Includes short term account transactions where customers initiate payment before receiving a bill; represents 0.03% of total transactions.

3+ Carpool HOV Violation Leakage with Exemption

Changes due to Updated T&R Forecast

- The forecast for 3+ carpool exemptions is lower in the current forecast, in part due to the assumed Flex Pass requirement to receive an exemption

Changes in Assumptions and Inputs

- With a determination made for administering a 3+ carpool exemption, the forecast adds in 3+ carpool HOV violation leakage for vehicles with 1 or 2 occupants that falsely declare 3+ carpool status with a Flex Pass while traveling in the HOV lane
- There is no comparable industry data for estimating this leakage and actual results cannot be observed or accurately measured
- Leakage estimates assume that half of corridor travelers have a Flex Pass and that violations would be enforced by Washington State Patrol; leakage would be higher without enforcement

Net revenue effect is negative over all periods

- Net revenue decreases by \$38.4 million over the FY 2016-56 forecast horizon

3+ Carpool HOV Enforcement Costs with Exemption

Changes due to Updated T&R Forecast

- No material effects

Changes in Assumptions and Inputs

- With a determination made for administering a 3+ carpool exemption, the forecast adds enforcement costs tailored to minimize 3+ carpool violations
- Enforcement assumes the staffing equivalent of one patrol unit 24/7; this could be distributed as two units for 12 hours per day or randomized to provide periods of heavier enforcement interspersed with lighter periods

Net revenue effect is negative over all periods

- Net revenue decreases by \$42.3 million over the FY 2016-56 forecast horizon

Summary of November 2015 Forecast Compared to Previous November 2014 Forecast

- Gross toll revenue potential is 2.7% higher than the November 2014 Forecast for FY 2016-56
 - Revised revenue adjustments yielded a 19.8% increase due to higher leakage partially offset by higher fees and the addition of forecasted miscellaneous revenues
 - Overall toll and facility O&M costs increased by 2.7%
- Net Revenues before R&R are 2.1% higher
 - Toll and facility R&R costs are 27.5% higher
 - The amount of deferred sales tax is unchanged; however, the start of payments was delayed one year to FY 2023
- Net Revenues after R&R and deferred sales tax are 0.6% lower

Forecast Category	Nov 2014 Forecast (\$ millions)	Nov 2015 Baseline Forecast (\$ millions)	Variance (\$ millions)	Variance (%)
Gross Toll Revenue Potential	4,714.8	4,840.4	125.5	+2.7%
Subtotal: Revenue Adjustments	(112.0)	(134.2)	(22.2)	+19.8%
Subtotal: O&M Costs	(1,236.8)	(1,270.5)	(33.7)	+2.7%
Net Toll Revenue before R&R	3,366.0	3,435.7	69.7	+2.1%
Subtotal: R&R Costs + Deferred Sales Tax	(472.1)	(558.3)	(86.1)	+18.2%
Net Toll Revenue after R&R	2,893.9	2,877.4	(16.5)	-0.6%

Key Change Factors and Impacts on Net Revenue:

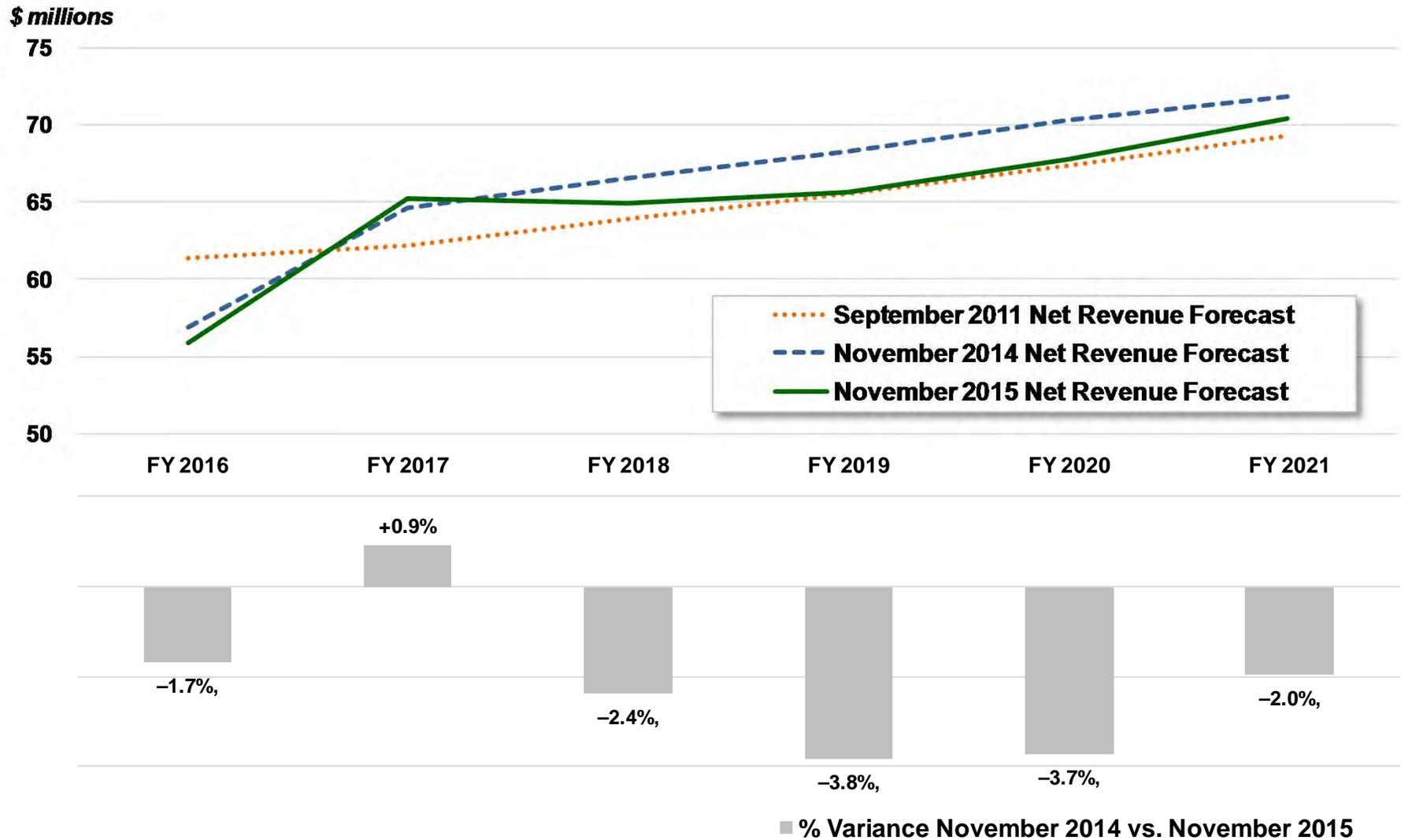
Short-Term FY 2016-21 | November 2015 Baseline vs. November 2014 Forecast

	Key Forecast Driver	Description of Change	Impact FY 2016-21	Variance (\$ M)	Net Revenue
Revenue Adjustments	3+ Carpool HOV Violation Leakage (13)	Addition of leakage from false declaration of 3+ carpool exemption status using a FlexPass and traveling in the HOV lane	Moderate increase in leakage cost	(3.1)	- ↓
	Revenue Not Recognized (14)	Higher estimate for unidentified Pay By Mail owner/address resulting from improved transaction data and identified issue with current transaction processing system	Larger increase in leakage cost	(6.8)	- ↓
	Miscellaneous Pledged Revenues (17)	Addition of new forecast item; forecast limited to interest earnings and negotiated contractual damages	Moderate increase in revenues	2.8	+ ↑
	Pay By Mail Rebilling Fees (19)	Improvement in rate of payment of first toll bill invoice results in a net forecast reduction in rebilling fees	Moderate decrease in fee revenue	(2.0)	- ↓
O&M Costs	Toll Collection O&M (23)	Addition of 3+ carpool enforcement costs plus increases in toll-funded G&A costs more than offset reduced system FTE requirement and other decreasing factors	Larger increase in costs	(9.2)	- ↓
	Routine Facility O&M (24)	Revised unit cost prices lowers facility O&M cost estimates	Moderate decrease in costs	2.5	+ ↑

Updated Baseline Net Revenue Projections — FY 2016-21

Forecast Category (#) = T&R table column reference	Nov 2014 Forecast (\$ millions)	Nov 2015 Baseline Forecast (\$ millions)	Variance (\$ millions)	Variance (%)
Gross Toll Revenue Potential (11)	517.8	521.0	3.2	+0.6%
Toll Payment Discounts and Fees (12)	4.6	6.5	1.9	+40.4%
3+ Carpool HOV Violation Leakage (13)	-	(3.1)	(3.1)	-
Revenue Not Recognized (14)	(11.5)	(18.3)	(6.8)	+59.2%
Unpaid Toll Revenue (15)	(26.1)	(25.4)	0.7	-2.8%
Miscellaneous Pledged Revenues (17)	-	2.8	2.8	-
Transponder Sales Revenue (18)	2.3	3.3	1.0	+44.1%
Pay By Mail Rebilling Fees (19)	10.6	8.6	(2.0)	-19.0%
Recovered Toll Revenue (20)	5.4	6.0	0.6	+11.8%
Subtotal: Revenue Adjustments	(14.7)	(19.6)	(4.8)	+32.8%
Credit Card Fees (22)	(8.1)	(8.4)	(0.4)	+4.5%
Toll Collection O&M (23)	(63.6)	(72.8)	(9.2)	+14.5%
<i>Transponder Purchase and Inventory Costs</i>	(2.3)	(3.3)	(1.0)	+44.1%
<i>State Costs for Toll Bill Printing, Postage, and LES</i>	(10.0)	(9.0)	1.0	-10.4%
<i>State Operations</i>	(16.9)	(21.4)	(4.5)	+26.8%
<i>3+ Carpool HOV Enforcement</i>	-	(3.3)	(3.3)	-
<i>Customer Service Center (CSC)</i>	(30.4)	(31.5)	(1.1)	+3.7%
<i>Roadway Toll Systems (RTS)</i>	(4.1)	(4.4)	(0.3)	+7.9%
Routine Facility O&M Costs (24)	(16.9)	(14.4)	2.5	-15.0%
Bridge Insurance Premiums (25)	(16.2)	(16.0)	0.2	-0.9%
Subtotal: O&M Costs	(104.8)	(111.7)	(6.9)	+6.6%
Net Toll Revenue before R&R (26)	398.3	389.7	(8.6)	-2.2%
Deferred Sales Tax (27)	-	-	-	-
Periodic Facility R&R (28)	(0.7)	(0.7)	(0.0)	+6.0%
Periodic Toll Equipment and CSC R&R (29)	(3.0)	(8.7)	(5.7)	+194.7%
Net Revenue after Deferred Sales Tax and R&R (30)	394.7	380.3	(14.4)	-3.6%

Net Revenue Before R&R Forecast Comparison FY 2016-21: Initial, Previous, and Current Baseline Forecasts



Key Change Factors and Impacts on Net Revenue:

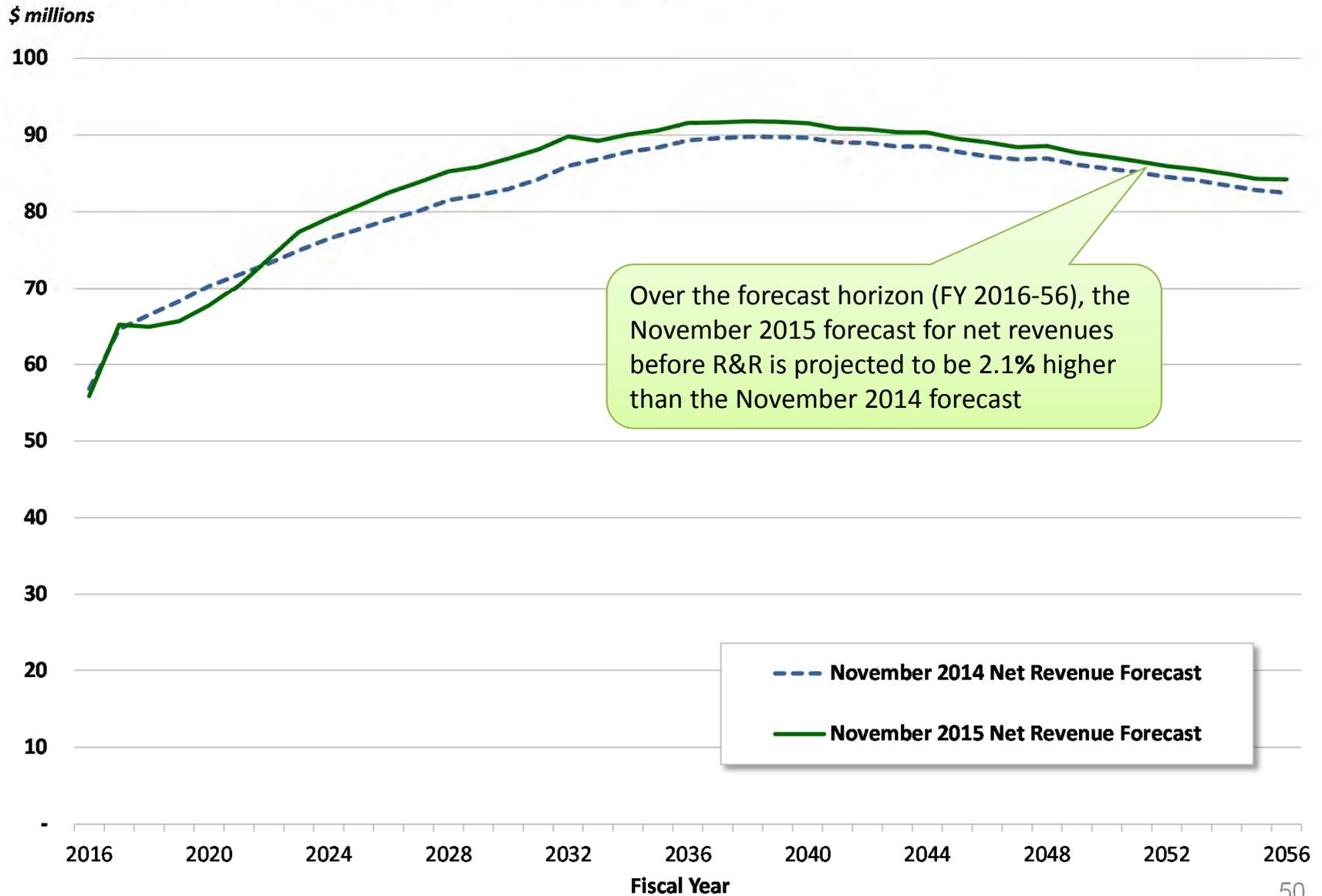
Forecast Horizon FY 2016-56 | November 2015 Baseline vs. November 2014 Forecast

	Key Forecast Driver	Description of Change	Impact FY 2016-56	Variance (\$ M)	Net Revenue
Revenue Adjustments	Toll Payment Discounts & Fees (12)	Fee revenue increased due to higher share of <i>Good To Go!</i> Pay By Plate transactions paying the 25¢ fee plus the elimination of the 50¢ discount for payment via Short Term Account prior to receiving a toll bill in the mail	Large increase in fee revenue	20.4	+ ↑
	3+ Carpool HOV Violation Leakage (13)	Addition of leakage from false declaration of 3+ carpool exemption status using a FlexPass and traveling in the HOV lane	Moderate increase in leakage cost	(38.4)	- ↓
	Revenue Not Recognized (14)	Higher short term estimate for unidentified Pay By Mail owner/address resulting from improved transaction data and identified issue with transaction processing system; issue assumed to be resolved with new vendor contract by FY 2021	Moderate increase in leakage cost	(28.5)	- ↓
	Miscellaneous Pledged Revenues (17)	Addition of new forecast item; forecast limited to interest earnings and negotiated contractual damages	Moderate increase in revenues	30.5	+ ↑
O&M Costs	Toll Collection O&M (23)	Addition of 3+ carpool enforcement costs plus increases in toll-funded G&A costs and higher system costs from removing tolls on TNB in FY 2033 more than offset reduced system FTE requirements and other decreasing factors	Larger increase in costs	(61.5)	- ↓
	Routine Facility O&M (24)	Revised unit cost prices lowers facility O&M cost estimates	Moderate decrease in costs	33.0	+ ↑

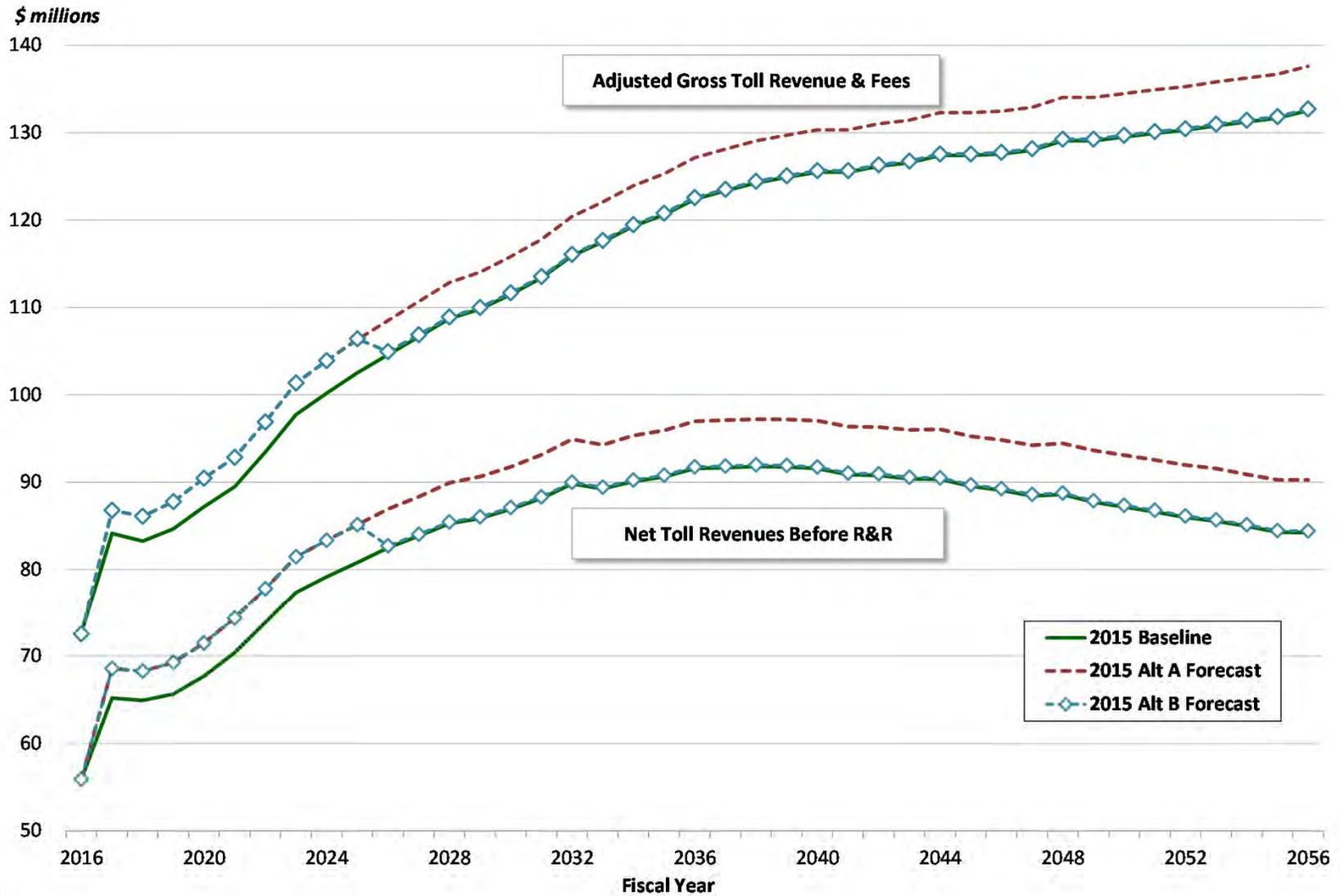
Updated Baseline Net Revenue Projections — FY 2016-56

Forecast Category (#) = T&R table column reference	Nov 2014 Forecast (\$ millions)	Nov 2015 Baseline Forecast (\$ millions)	Variance (\$ millions)	Variance (%)
Gross Toll Revenue Potential (11)	4,714.8	4,840.4	125.5	+2.7%
Toll Payment Discounts and Fees (12)	37.5	57.9	20.4	+54.4%
3+ Carpool HOV Violation Leakage (13)	-	(38.4)	(38.4)	-
Revenue Not Recognized (14)	(92.8)	(121.2)	(28.5)	+30.7%
Unpaid Toll Revenue (15)	(213.3)	(219.6)	(6.3)	+2.9%
Miscellaneous Pledged Revenues (17)	-	30.5	30.5	-
Transponder Sales Revenue (18)	24.8	24.0	(0.8)	-3.1%
Pay By Mail Rebilling Fees (19)	87.3	74.3	(13.0)	-14.9%
Recovered Toll Revenue (20)	44.4	58.3	13.8	+31.1%
Subtotal: Revenue Adjustments	(112.0)	(134.2)	(22.2)	+19.8%
Credit Card Fees (22)	(74.0)	(79.3)	(5.3)	+7.2%
Toll Collection O&M (23)	(822.8)	(884.3)	(61.5)	+7.5%
<i>Transponder Purchase and Inventory Costs</i>	<i>(24.8)</i>	<i>(24.0)</i>	<i>0.8</i>	<i>-3.1%</i>
<i>State Costs for Toll Bill Printing, Postage, and LES</i>	<i>(132.6)</i>	<i>(126.9)</i>	<i>5.6</i>	<i>-4.3%</i>
<i>State Operations</i>	<i>(202.5)</i>	<i>(241.8)</i>	<i>(39.3)</i>	<i>+19.4%</i>
<i>3+ Carpool HOV Enforcement</i>	<i>-</i>	<i>(42.3)</i>	<i>(42.3)</i>	<i>-</i>
<i>Customer Service Center (CSC)</i>	<i>(421.2)</i>	<i>(405.9)</i>	<i>15.3</i>	<i>-3.6%</i>
<i>Roadway Toll Systems (RTS)</i>	<i>(41.7)</i>	<i>(43.4)</i>	<i>(1.7)</i>	<i>+4.0%</i>
Routine Facility O&M Costs (24)	(202.1)	(169.1)	33.0	-16.3%
Bridge Insurance Premiums (25)	(137.9)	(137.8)	0.2	-0.1%
Subtotal: O&M Costs	(1,236.8)	(1,270.5)	(33.7)	+2.7%
Net Toll Revenue before R&R (26)	3,366.0	3,435.7	69.7	+2.1%
Deferred Sales Tax (27)	(159.4)	(159.4)	-	-
Periodic Facility R&R (28)	(261.8)	(311.6)	(49.8)	+19.0%
Periodic Toll Equipment and CSC R&R (29)	(51.0)	(87.3)	(36.3)	+71.3%
Net Revenue after Deferred Sales Tax and R&R (30)	2,893.9	2,877.4	(16.5)	-0.6%

Net Revenue Before R&R Forecast Comparison FY 2016-56: Initial, Previous, and Current Baseline Forecasts



Adjusted Gross and Net Toll Revenues by Forecast Alternative



Summary Gross-to-Net Revenue Results by Alternative

Comparison of November 2015 Forecast Alternatives Summed over the FY 2016-56 Forecast Horizon						
Forecast Alternative	Toll Transactions (8) <i>millions</i>	Gross Toll Revenue Potential (11) <i>\$ millions</i>	Adjusted Gross Toll Revenue (16) <i>\$ millions</i>	Adjusted Gross Toll Revenue and Fees (21) <i>\$ millions</i>	Net Revenue Before R&R (26) <i>\$ millions</i>	Net Revenue After R&R and Deferred Sales Tax (30) <i>\$ millions</i>
2014 Baseline (Carpool Exemptions FY 2017+)	1,408.6	4,714.8	4,446.3	4,602.8	3,366.0	2,893.9
2015 Baseline (Carpool Exemptions FY 2017+)	1,411.2	4,840.4	4,519.0	4,706.2	3,435.7	2,877.4
2015 Alternative A (No Carpool Exemptions)	1,449.4	4,973.5	4,683.1	4,882.3	3,639.6	3,080.7
2015 Alternative B (Carpool Exemptions FY 2026+)	1,417.9	4,864.0	4,547.8	4,741.4	3,475.7	2,917.4
2015 Baseline vs 2014 Baseline						
Variance	2.6	125.5	72.8	103.4	69.7	(16.5)
% Variance	+0.2%	+2.7%	+1.6%	+2.2%	+2.1%	-0.6%
2015 Alternative A vs 2015 Baseline						
Variance	38.2	133.1	164.1	176.2	203.9	203.3
% Variance	+2.7%	+2.7%	+3.6%	+3.7%	+5.9%	+7.1%
2015 Alternative B vs 2015 Baseline						
Variance	6.7	23.7	28.7	35.2	40.0	40.0
% Variance	+0.5%	+0.5%	+0.6%	+0.7%	+1.2%	+1.4%
2015 Alternative A vs 2014 Baseline						
Variance	40.7	258.6	236.9	279.5	273.6	186.8
% Variance	+2.9%	+5.5%	+5.3%	+6.1%	+8.1%	+6.5%
2015 Alternative B vs 2014 Baseline						
Variance	9.2	149.2	101.5	138.6	109.7	23.6
% Variance	+0.7%	+3.2%	+2.3%	+3.0%	+3.3%	+0.8%

Preliminary SR 520 Plan of Finance Sufficiency **Determination by the Office of the State Treasurer**

- Preliminary financial analyses of the Baseline, Alternative A, and Alternative B Forecasts were conducted
- Maintaining the existing policy on exemptions (Alternative A and B Forecasts) meets all of the sufficiency tests
 - The lack of carpool exemptions reduces costs and leakage, providing additional net revenue that helps meet sufficiency requirements
- The Baseline Forecast falls short of the 1.15x policy target for the TIFIA loan debt service coverage factor in FY 2018

For questions or further information...

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