

# WSDOT

# Toll Division Update

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Washington State Transportation Commission  
Olympia, WA  
February 21, 2012

# Tacoma Narrows Bridge Toll Forecasting and Financial Plan Overview

# Afternoon Agenda

- **Tacoma Narrows Bridge Quarterly Traffic and Revenue Update**
- **Tacoma Narrows Bridge Toll Rate Scenario Process**
  - Rate Setting Assumptions
  - Modeling and Elasticity
  - Results Applied to Financial Plan
- ***Tacoma Narrows Bridge Debt Service Management***
- **SR 520 Update**
- **Overview of WSDOT Toll Adjudicative Program**

# How the Financial Plan Comes Together

Historical costs and revenues are actuals taken from annual financial statements produced by WSDOT Accounting and Financial Services

Future toll revenue projections are prepared by CDM Smith under contract to WSDOT

Tacoma Narrows Toll Bridge Account (511)  
 Draft Financial Plan Through 2015 - Updated on January 9, 2012  
 Revenue estimates is based on Draft November 2011 Transportation Revenue Forecast; expenses are based on 2011 and FY12 are based on agency allotment plan  
 (figures in thousands)

Period Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total Through 2015
<b>Toll Rate (Pre-Pay)</b>				\$ 1.30	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75
<b>Toll Rate (Cash)</b>				\$ 3.80	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00
<b>Toll Rate (Pre-Pay-Mail, Customer Initiated)</b>														
<b>Toll Rate (Pre-Pay-Mail)</b>														
<b>Beginning Unreserved Fund Balance</b>	38,824	34,807		17,763	8,818	86,280	18,813			8,724	2,889			100,282
<b>Operations and Maintenance</b>														
<b>Source of Funds</b>														
Interest Earnings from Tacoma Narrows Account (511) *	-	-	-	257	291	341	145			80	119	133	138	1,050
Interest Earnings from Toll Collection Account (446) *	-	-	-	1	183	71	30			20	20	20	20	388
Interest Earnings from Toll Collection Account (446) **	-	-	-	20,967	44,571	45,051	44,343			41,980	44,467	45,410	47,752	346,465
<b>Toll Revenue</b>														15,367
Pay-By-Mail Revenue on Toll Revenue														3,904
Toll Revenue Used for Financing Deferred Sales Tax														2,482
Transportation Sales Revenue				167	638	539	744			102	119	127	131	4,862
Wholesale				467	638	539	688			378	211	211	211	3,287
Retail				-	-	-	-			378	1,223	1,478	1,650	1,575
Small Business/Other Revenue				-	-	-	-			-	-	-	-	922
Transfers from Other Accounts *				1,300	-	(113)	78			100	(302)	(1,478)	(1,618)	3,287
Fee *				-	-	-	30			-	-	-	-	1,984
Manufacturers Revenue **				-	873	219	10			2	2	2	2	1,984
Inventory Revenue **				-	(245)	(226)	880			-	-	-	-	922
Debt Service Payment *				-	-	(14,388)	(28,811)			(41,273)	(45,742)	(54,388)	(52,428)	(315,467)
Debt Service Withholding				-	-	-	-			2,829	2,222	2,889	3,188	13,122
<b>Total Source of Funds for Operations and Maintenance</b>				1,308	8,818	18,717	18,838	18,818	1,836	4,832	282	(14,288)	8,388	18,122
<b>Uses of Funds</b>														
WSDOT Oversight & Admin. of Toll Operations *				110	3,888	3,789	2,278	3,297	3,298	4,718	3,944	4,752	5,011	21,738
WSDOT Oversight & Admin. of Administration Process				40	2,750	2,852	8,201	9,011	9,011	4,888	6,100	6,347	6,814	44,441
Toll Operator Contract				406	2,096	1,739	1,930	1,483	1,630	1,630	1,630	1,630	1,630	13,484
Insurance				-	-	972	818	371	288	-	-	-	-	2,469
Washington State Patrol				-	-	359	288	220	211	410	492	519	640	2,728
Maintenance of New Bridge				-	-	-	-	-	-	162	70	128	2,889	3,447
Preservation of New Bridge, Roadway & Toll Systems				-	-	-	-	-	-	81	30	34	38	247
Pay-By-Mail Admin. **				-	-	-	-	-	-	199	196	199	200	1,021
Capital Improvements ***				-	-	-	-	-	-	-	-	-	-	100
<b>Total Uses of Funds for Operations and Maintenance</b>				592	4,825	18,367	11,516	11,586	9,276	6,889	11,224	11,224	14,589	100,282
<b>Current Year Balance for Ops. and Maint. (Source - Uses)</b>				816	3,993	3,350	8,322	8,242	8,242	1,222	(1,222)	(1,222)	(1,222)	(11,160)
<b>Carryover Balance for Ops. and Maint.</b>				898	3,815	5,367	5,496	6,482	6,570	1,910	(1,910)	(1,910)	(1,910)	(17,222)
<b>Capital Improvements</b>														
<b>Source of Funds</b>														
Interest Earnings **				2,128	1,289	776	1,828	1,828	824	400	-	-	-	6,987
Debt Proceeds **				33,127	187,284	124,834	111,986	10,822	12,716	-	-	-	-	677,795
Capitalized Interest (Debt Service)				-	-	(7,703)	(3,993)	-	-	-	-	-	-	(4,372)
Toll Revenue Used for Financing Deferred Sales Tax				-	-	-	-	-	-	-	-	-	-	5,312
Charges for Services				6	3	140	-	-	-	-	-	-	-	152
Transfers from State Variable Account (M/C)				-	-	-	-	-	-	-	-	-	-	300
<b>Total Source of Funds for Capital</b>				21,812	198,473	126,812	111,722	18,369	10,840	400	-	-	-	734,817
<b>Uses of Funds</b>														
Capital Expenditure **				208,808	208,400	121,740	84,730	43,820	20,519	2,707	707	68	68	717,802
Deferred Sales Tax				-	-	-	-	-	-	-	-	-	-	17,278
Total Project Expenditures				208,808	208,400	121,740	84,730	43,820	20,519	2,707	707	68	68	735,080
<b>Total Uses of Funds for Capital</b>				208,808	208,400	121,740	84,730	43,820	20,519	2,707	707	68	68	735,080
<b>Current Year Balance for Capital (Source - Uses)</b>				20,804	90,073	105,072	27,092	18,549	18,141	17,293	17,293	17,293	17,293	100,000
<b>Carryover Balance for Capital Improvements</b>				28,824	24,887	13,778	49,727	15,462	8,287	6,847	2,889	3,211	3,211	100,000
<b>Ending Unreserved Fund Balance</b>				38,824	34,807	11,716	44,722	11,763	8,818	18,280	18,411	3,724	1,910	100,282
<b>Days of Expenses Covered by Ending Fund Balance</b>														
Sufficient Fund Balance = Ending Fund Balance / (Total Uses of Fund + Debt Service Payment)														
12.5% Sufficient Minimum Balance														
Additional Fund Balance Needed to Reach 12.5% Sufficient Minimum Balance														

WSDOT's General Toll Consultant helps develop cost and forecasting assumptions

Projected costs and non-toll revenues are developed by the Toll Division and Financial Management

# Second Quarter FY 2012 Traffic and Revenue and Financial Statements (Handouts)

# Tacoma Narrows Bridge

Traffic & Revenue Forecasting Approach

Washington State Transportation Commission

February 21, 2012

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# Tacoma Narrows Bridge – T&R Forecasts

## Outline

- Background
- Customer Characteristics
- Comparison of Travel Alternatives
- Traffic & Revenue Forecasting Approach
- Key Assumptions
- Sample Toll Sensitivity Curves

# Background – TNB T&R Forecasts

## CDM Smith studies

- 2000 Traffic & Revenue Study
- 2002 Investment Grade T&R Study
- 2005 T&R Study Update
- Quarterly Updates – Fall 2007 to date
- Alternative Toll Rate Scenarios

## WSDOT Surveys

- July 2010 SR167 & TNB Customer Survey
- WSDOT 2010 Cashless Study

# Background – TNB T&R Forecasts

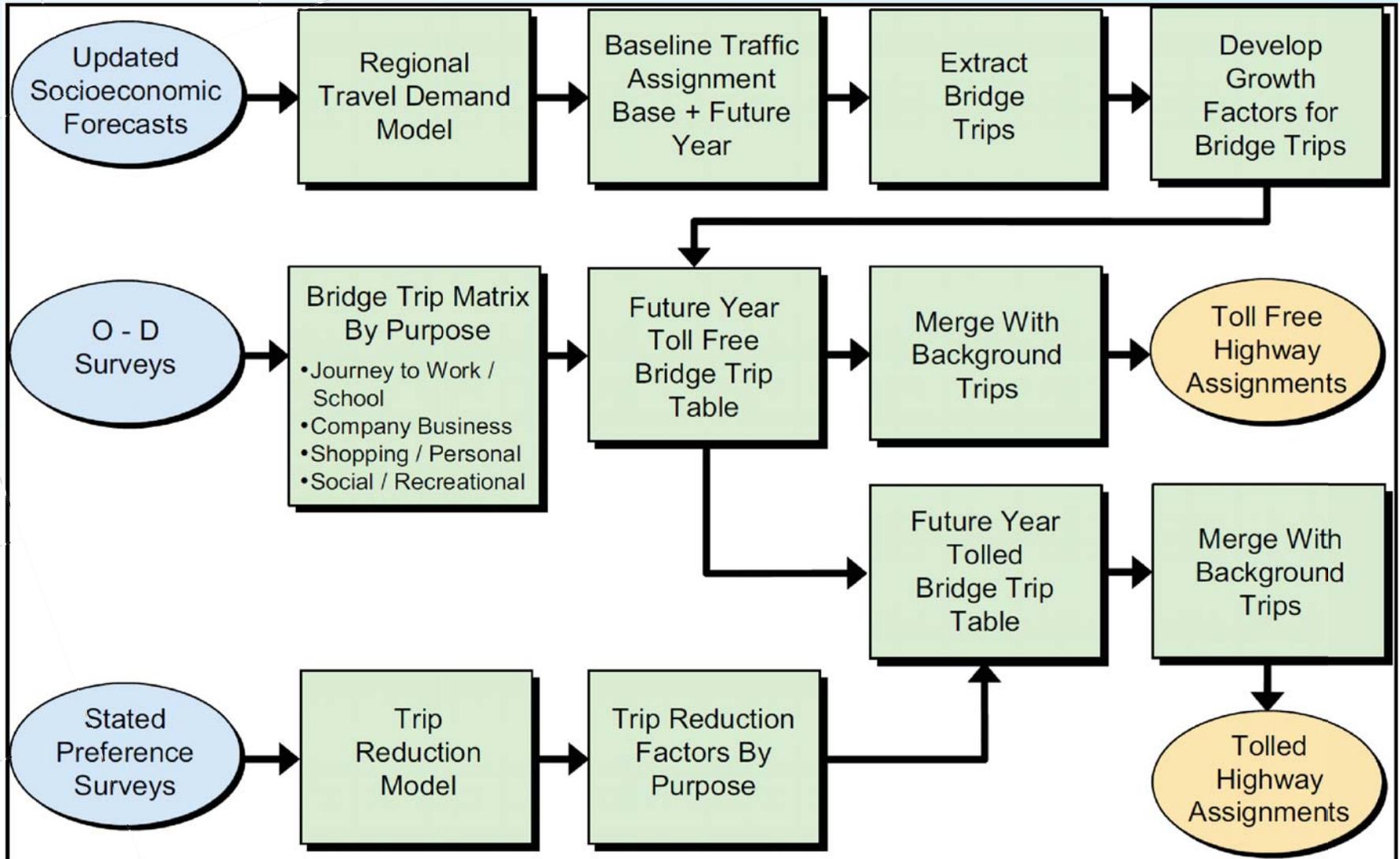
## 2000 & 2002 Studies

- Origin-destination surveys (1996) ~ 45,000 completed
- Stated Preference survey (2000) ~ 1,200 completed
- Travel model development – with Pierce Co.
- Independent economic forecasts
- Programmed highway improvements

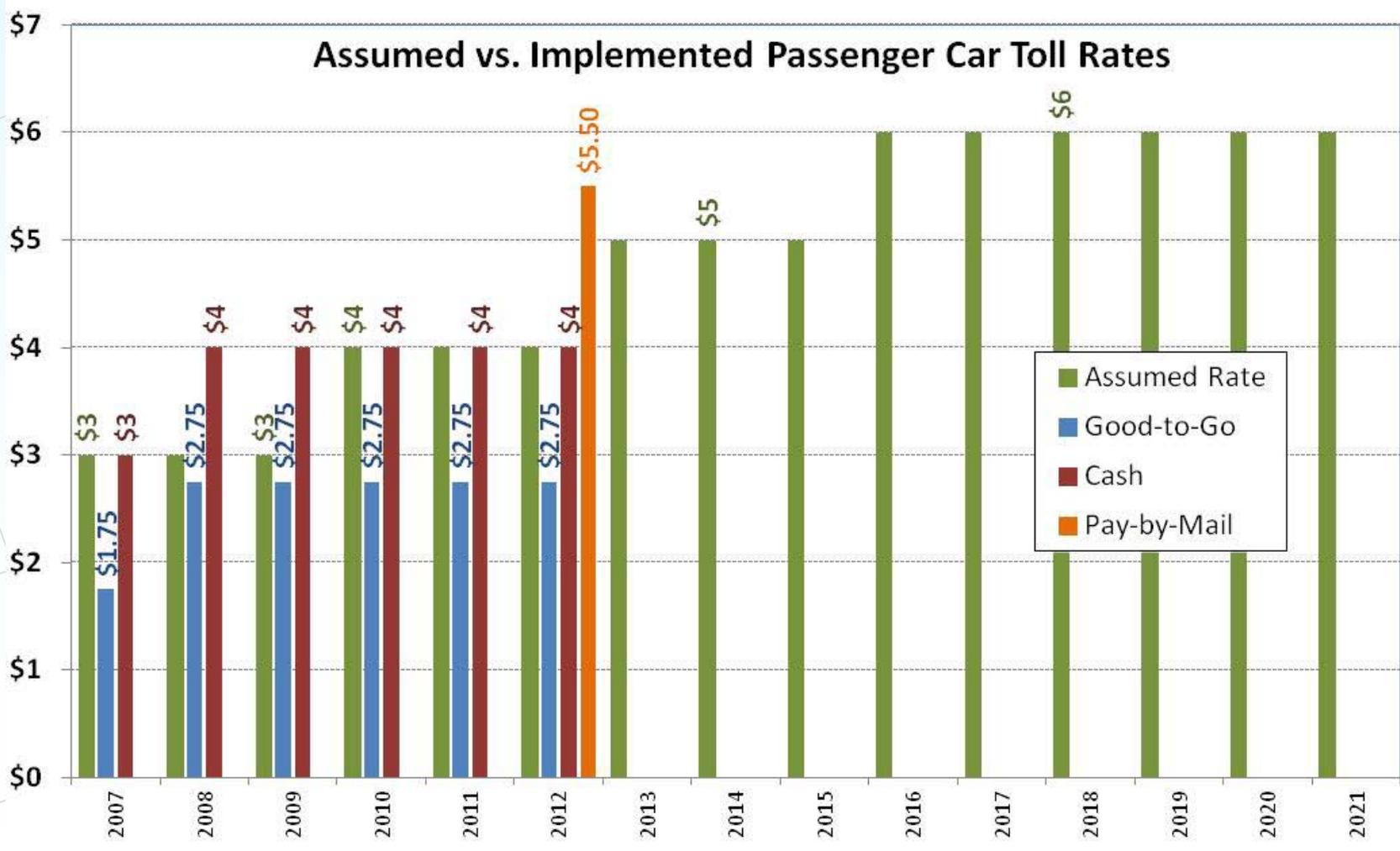
## 2005 Update

- New economic forecasts – 2001 recession
- Updated population-employment forecasts
- Assumed April 2007 tolling start

# 2002 Investment Grade Study Approach



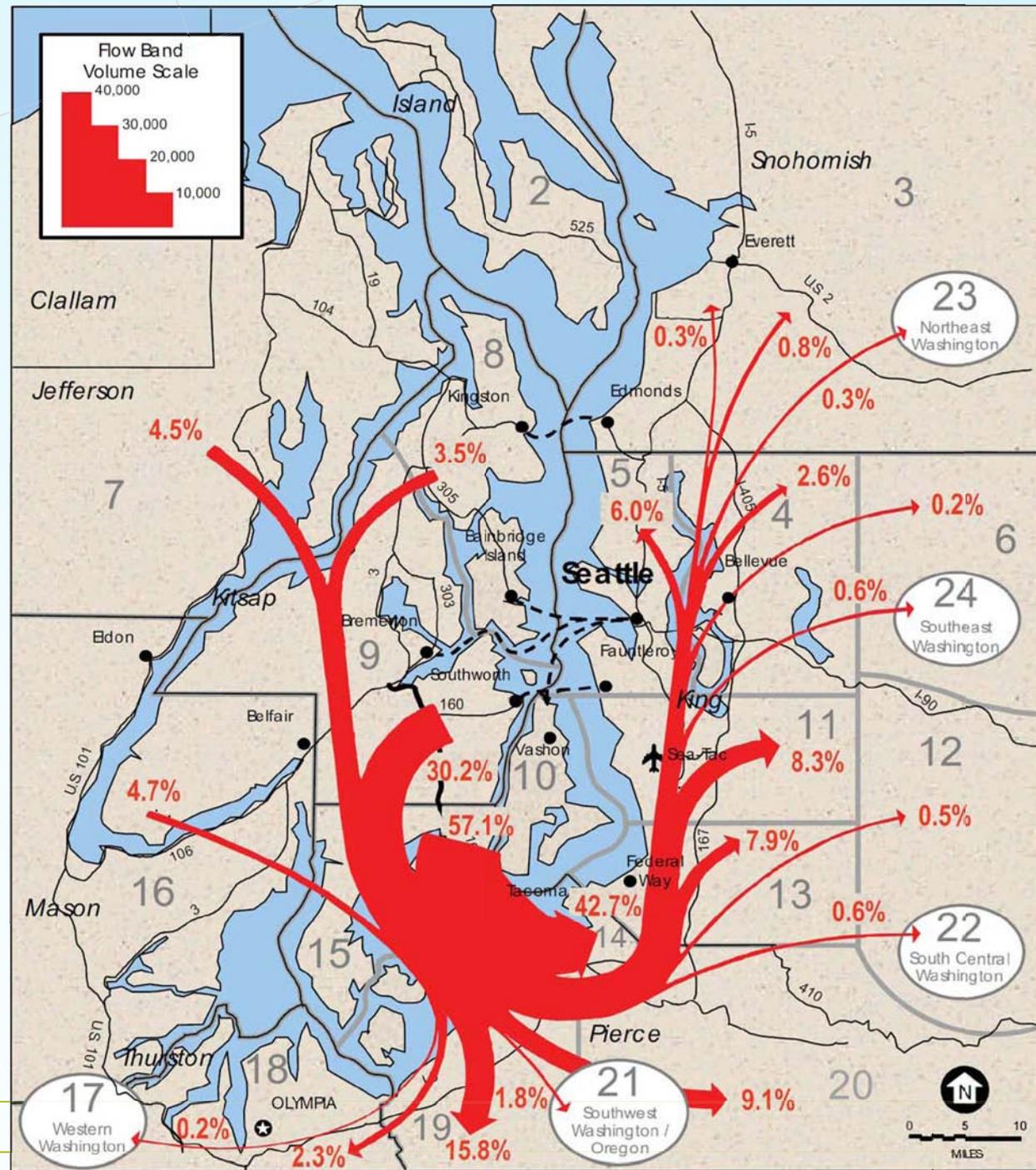
# Toll Rates



# Customer Characteristics (1996 Survey)

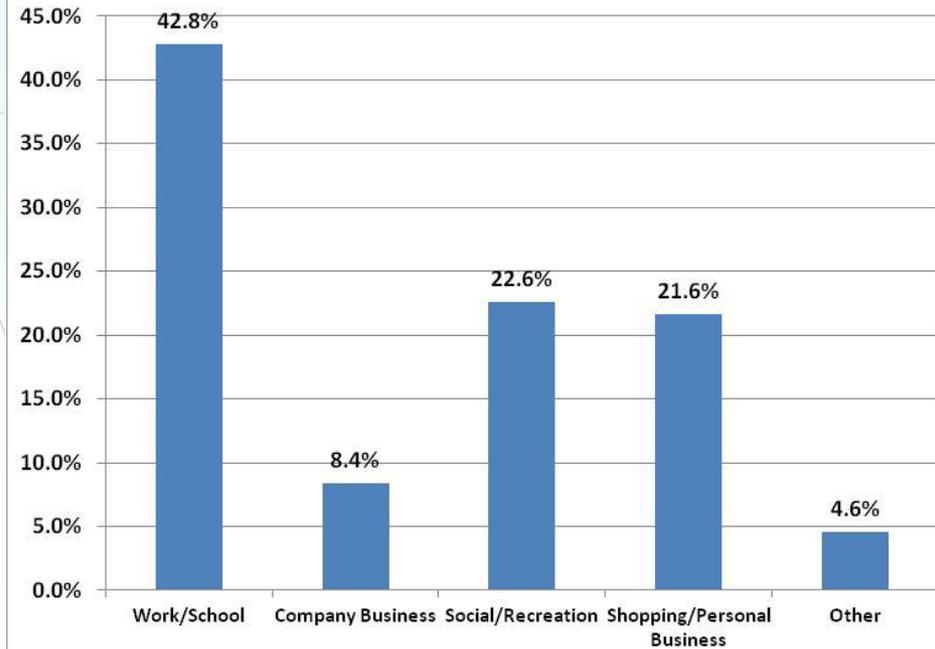
## Wkday EB Trip Distribution

- 57% begin in southern part of Peninsula
- 30% begin in Southworth/Bremerton
- 43% end in Tacoma area
- 25% end in S. Pierce Co.
- 11% of trips end in Seattle or north
- 1/3 rd of trips destined for Seattle area used the bridge

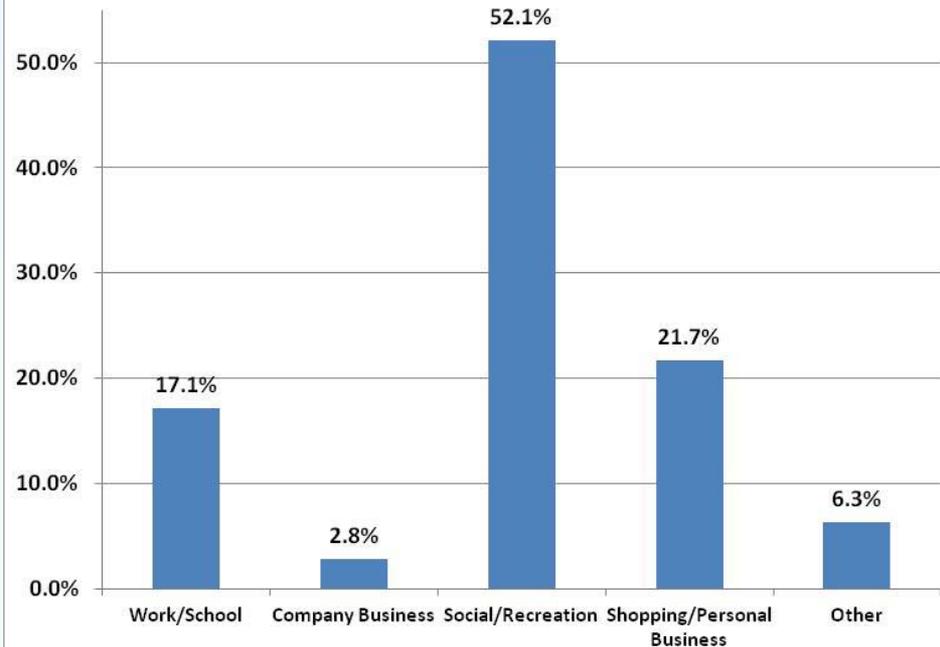


# Customer Characteristics – Trip Purpose

## Weekday Trip Purpose

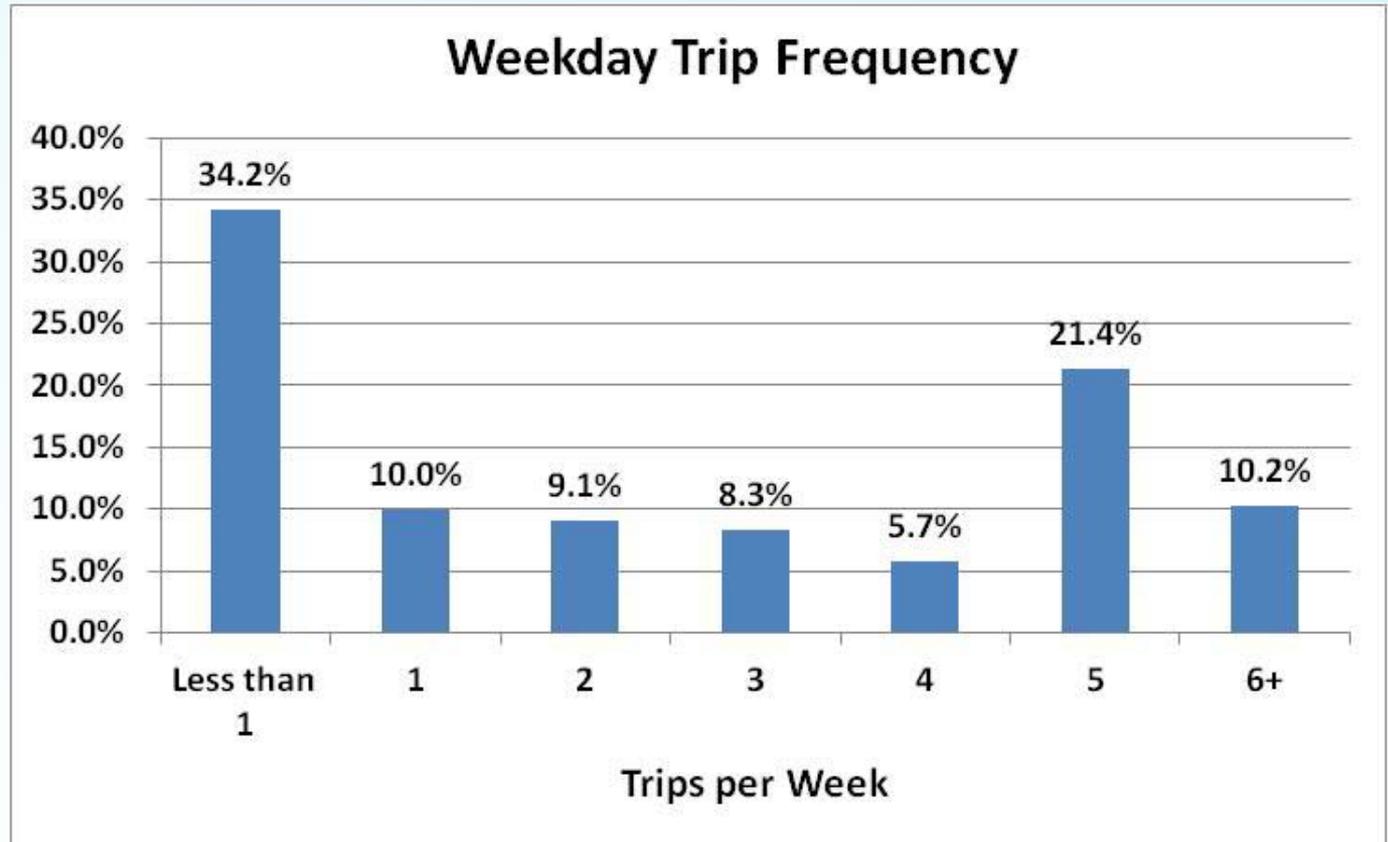


## Weekend Trip Purpose



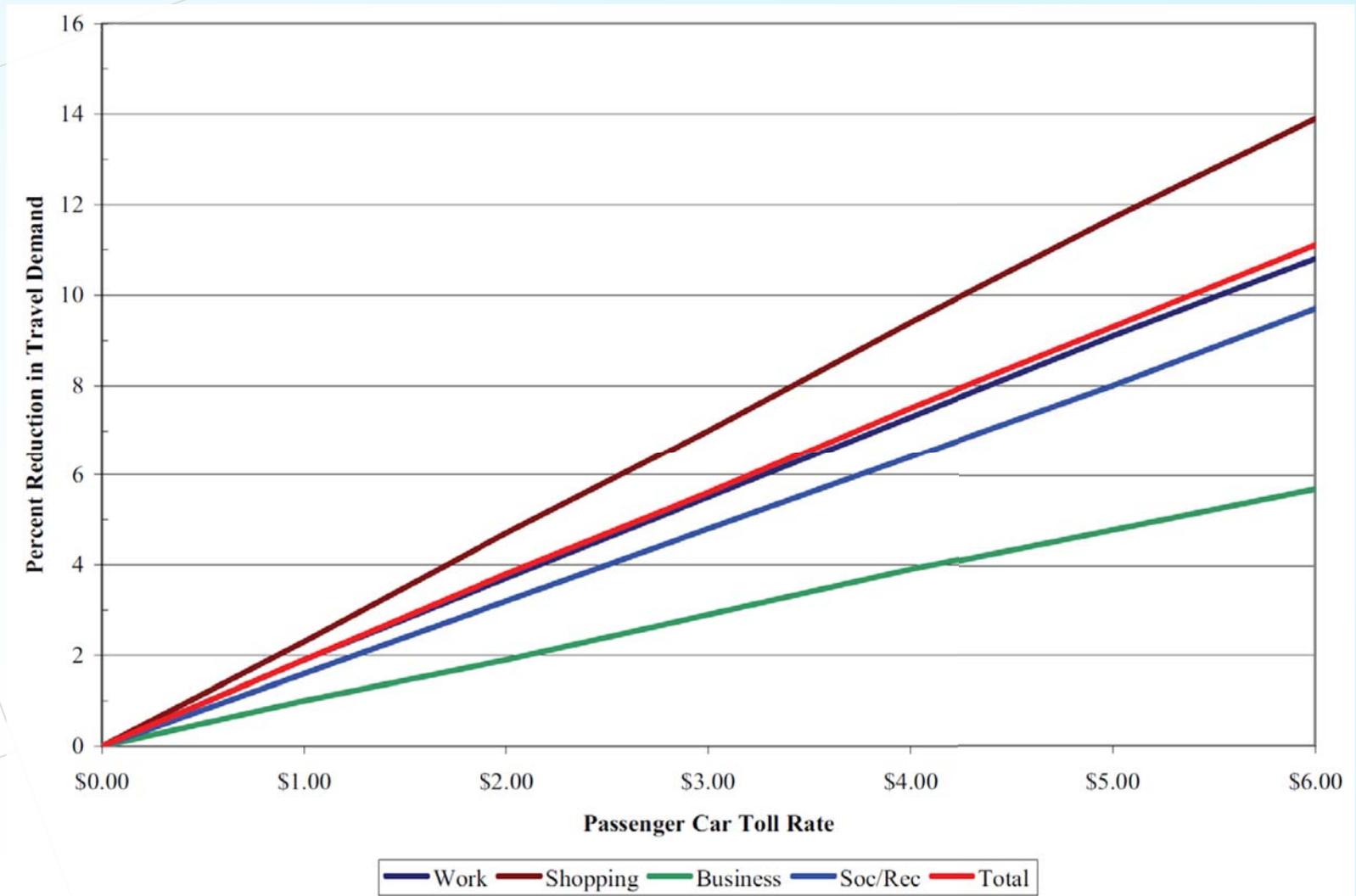
# Customer Characteristics – Trip Frequency

- 65% of customers travel at least once/week
- Over 54% make 2+ trips/week



# Stated Preference Survey (2000)

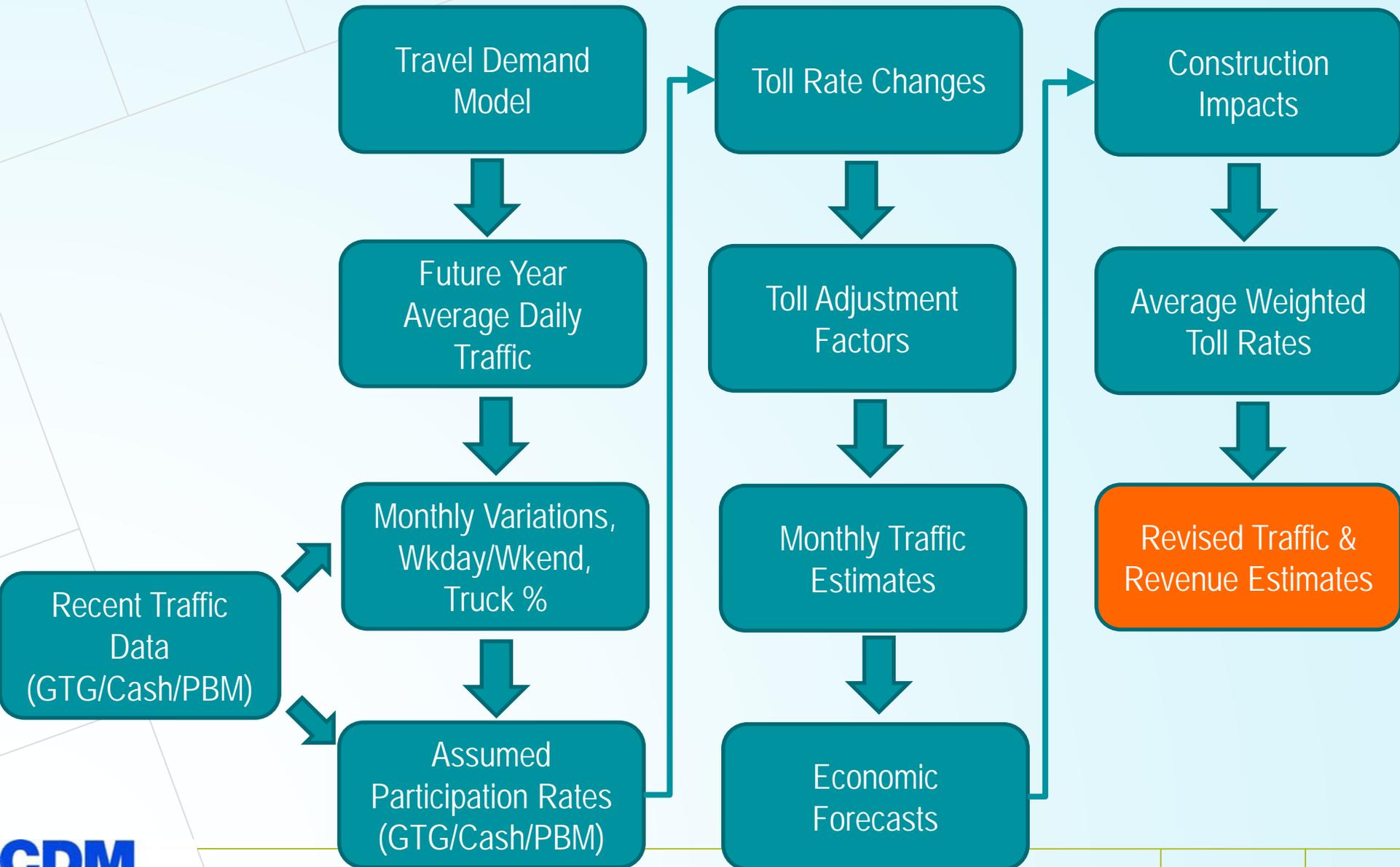
## Estimated Reduction in Travel Demand by Trip Purpose



# Comparison of Alternatives

Measure	TNB	Ferry-Seattle Bremerton	Ferry-Southworth Vashon	SR3/US101 /I-5
Toll/Fare (Car+Driver)	GTG \$2.75 Cash \$4 PBM \$5.50	\$11.50 off-peak \$13.25 peak	\$14.65 off-peak \$16.65 peak	--
Frequency	--	Wkday ~ hourly	Wkday ~ 30 min/hourly	--
Distance/Time Gig Harbor /Tacoma	11 miles 14 min			98 miles 104 min
Distance/Time Gig Harbor /Olympia	38 miles 45 min			55 miles 82 min

# Traffic & Revenue Forecasting Methodology



# Primary Assumptions/Inputs – TNB Forecasts

- Recent traffic & revenue experience
- Toll structure/alternative rates
- Participation rates – GTG/Cash/PBM
- Economic Forecasts
- Major Construction Projects – Nalley Valley Interchange, SR 16/I-5 realignment

# Participation Rates by Payment Type

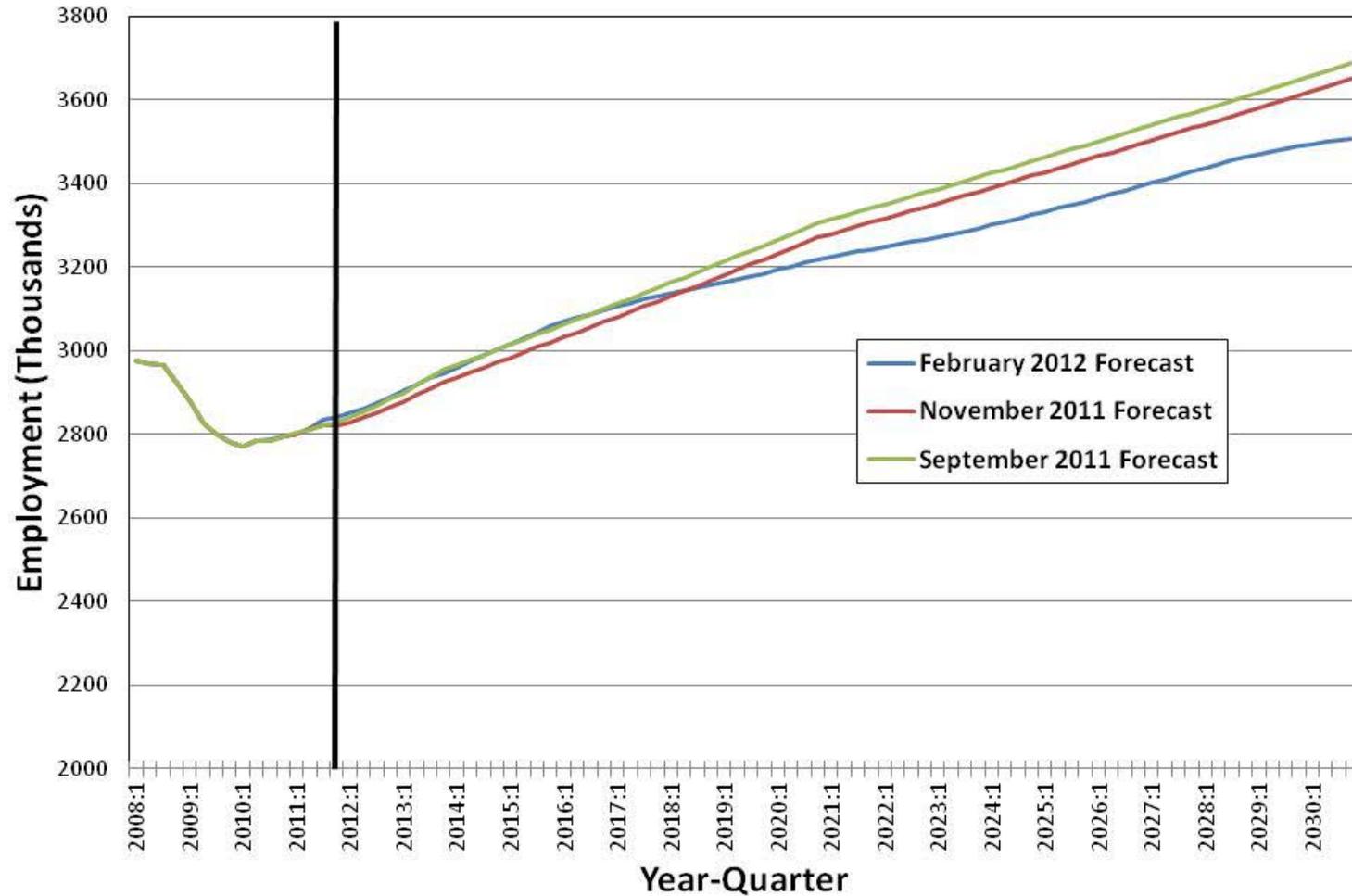
- Good-To-Go – gradual increase in usage assumed
  - Max 80% cars
  - Max 85% trucks
- Cash/Pay-by-Mail market shares provided by WSDOT PBM as % of Historical Cash
  - FY 2013: 20%                      FY 2014: 25%
  - FY 2015: 28%                      FY 2016: 31%
  - FY 2017+: 33%

# Economic Forecasts

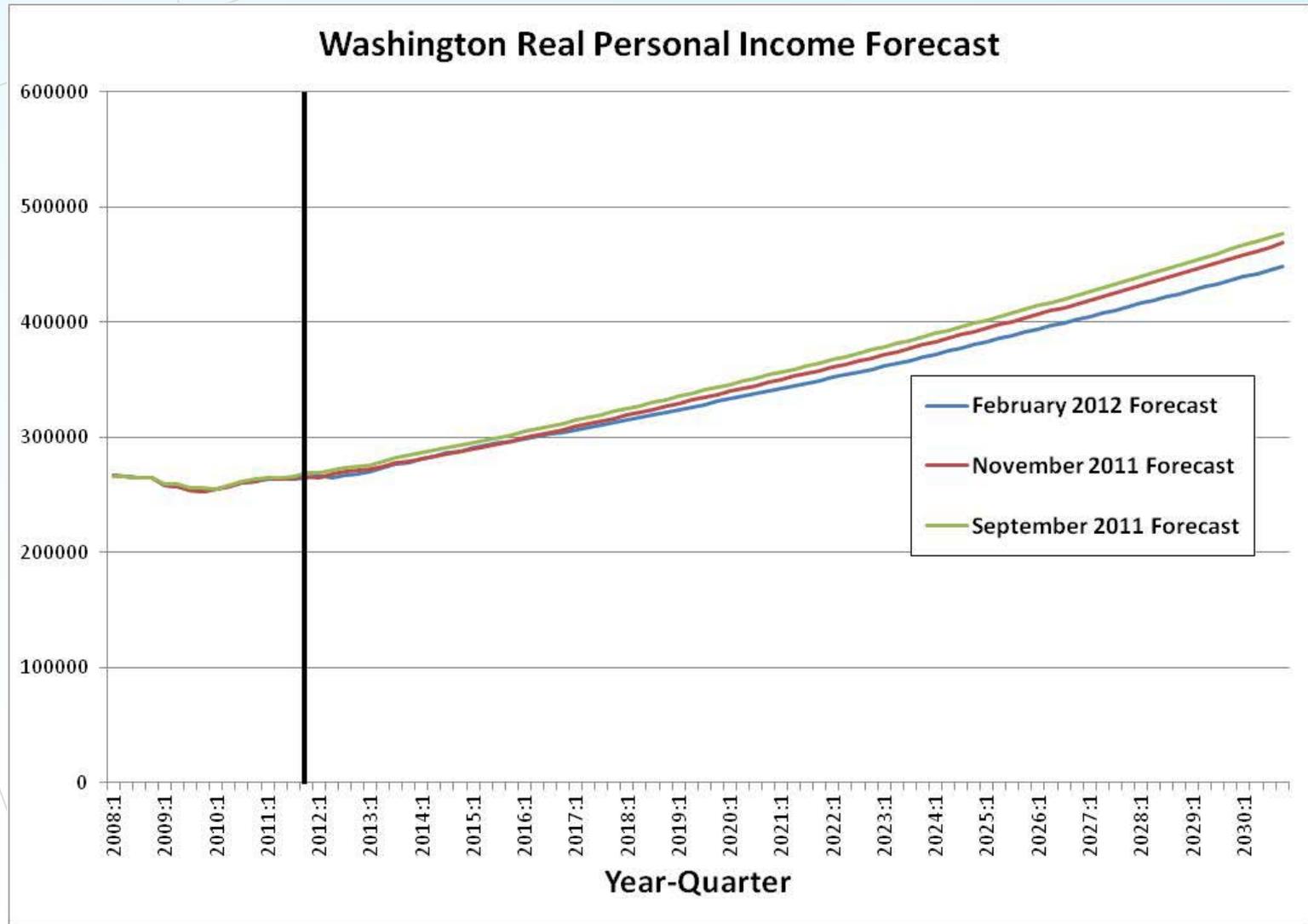
- State forecast provided quarterly by WSDOT
  - WA statewide population (updated annually)
  - WA real personal income
  - WA employment
  - WA employment – transportation, warehousing & utilities
  - WA housing starts
  - US employment
  - US housing starts
  - Inflation

# Employment

## Washington Employment Forecast (Thousands)

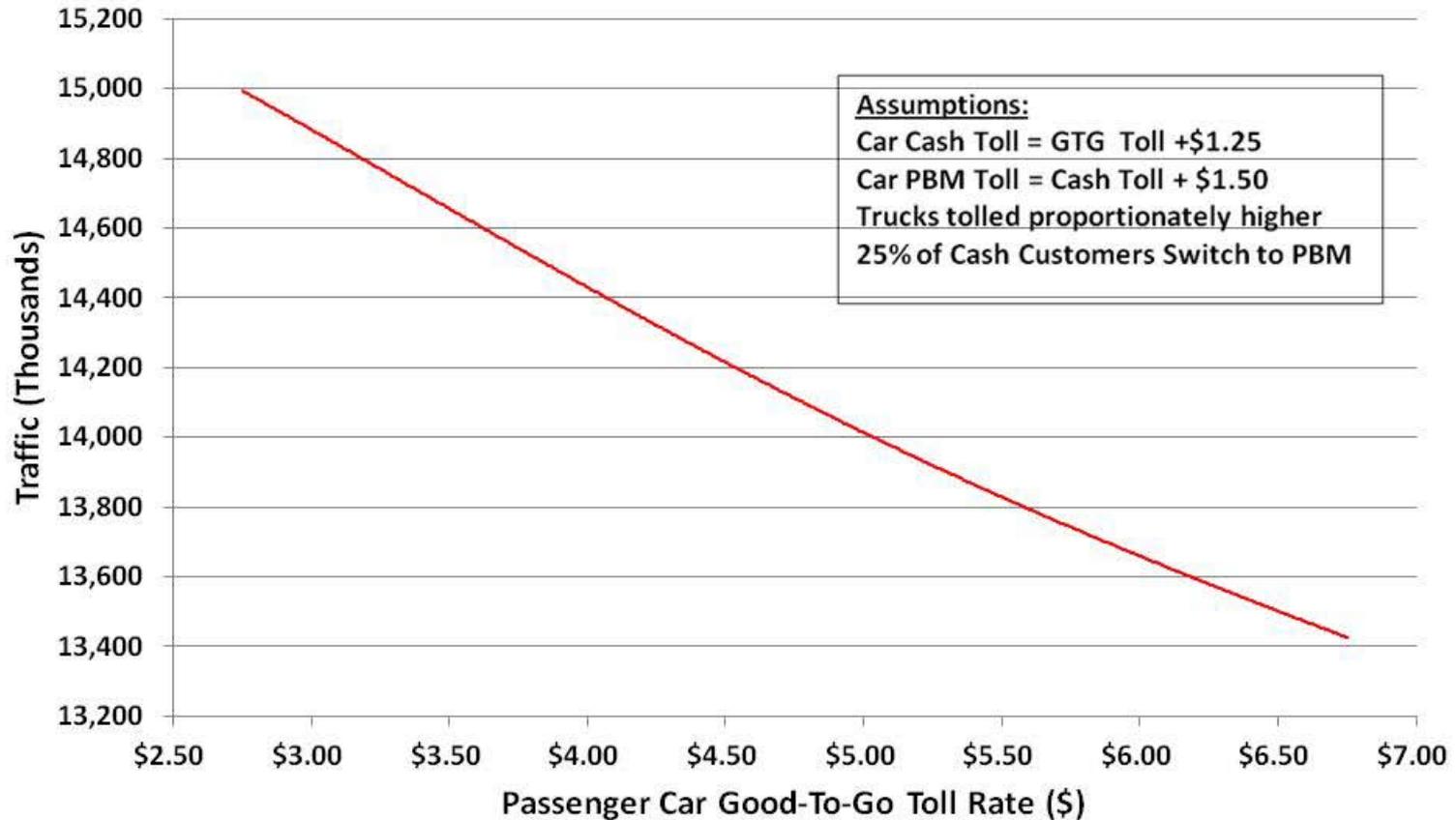


# Income

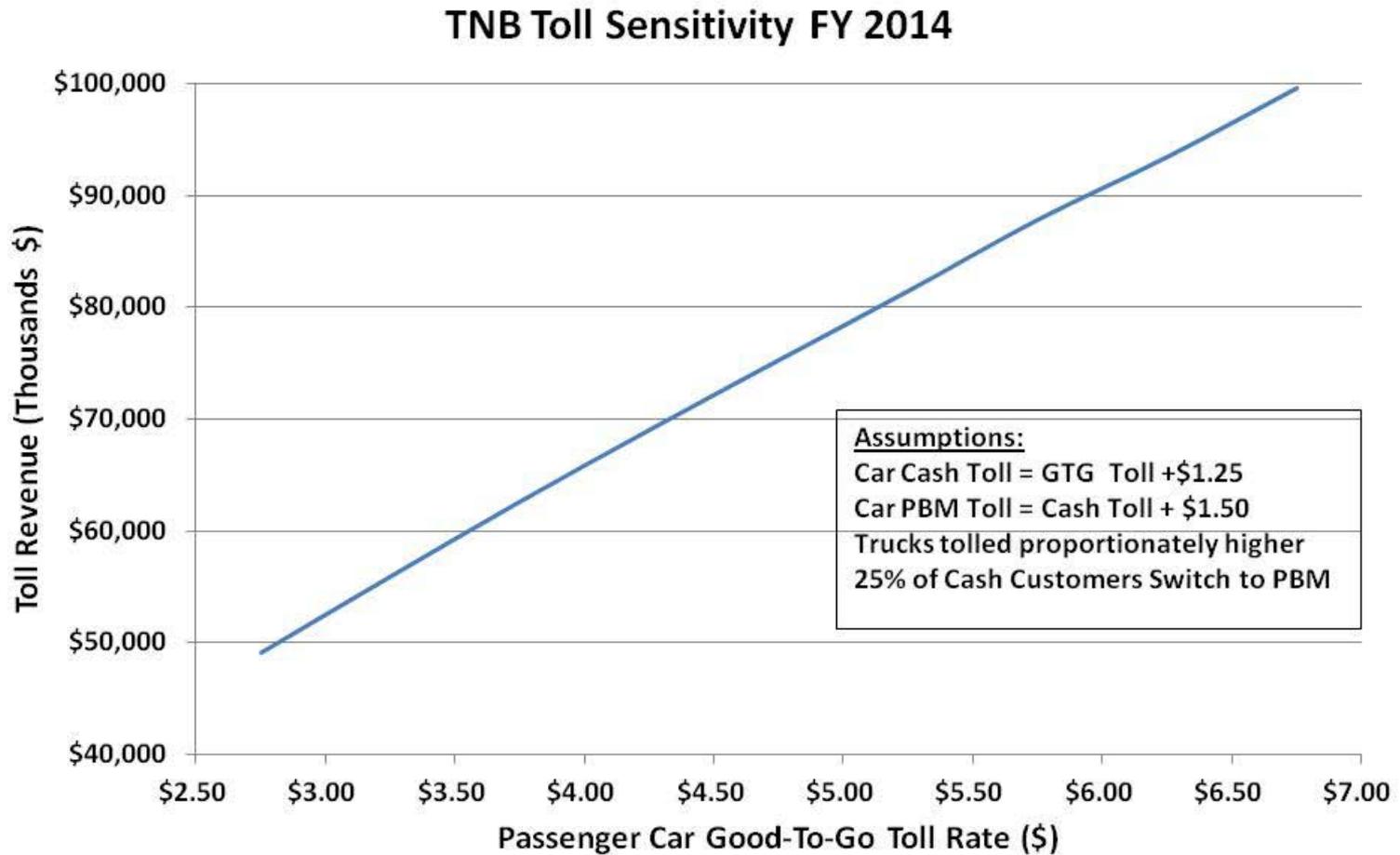


# Sample Toll Sensitivity Curves - Traffic

## TNB Toll Sensitivity FY 2014



# Sample Toll Sensitivity Curves - Revenue



# Development of Forecasting Assumptions

# TNB Customer Survey – November 2010

## One of Several Stated Preference Questions

Payment Types	Stop to Pay?	Identification?	How Toll is Paid	Notes and Extra Costs	Toll Rate	
Cash	Stop	None	Handed to toll collector at a toll booth	None	\$4.00	
Good To Go! Transponder	No Stop	A transponder on your windshield is read by overhead equipment	Money is deducted from your transponder account	The transponder cost \$12 and requires a \$30.00 deposit in pre-paid tolls. Your account is automatically replenished	\$2.75	
License Plate Identification	No Stop	A photo is taken of your license plate by overhead equipment	3 Options	Money is deducted from your license plate account	This account requires a \$30.00 deposit in pre-paid tolls. Your account is automatically replenished when your balance is low.	\$3.00
				Call or go online to pay early, before being billed. You can do this up to 10 days before or within 3 days after travel.	A credit or debit card is required. Customers must pay within 30 days to avoid additional fees or fines.	\$5.00
				You pay after receiving a bill in the mail. The bill covers all tolls charged in one month.	Customers must pay within 30 days to avoid additional fees or fines.	\$5.50

# Survey Results

Surveyed/ Adjusted	Good To Go!	Pre- Paid Plate	Customer Initiated	Pay by Mail	Cash
\$4.25 Pay By Mail Rate					
Surveyed	70%	5%	4%	4%	16%
<b>Adjusted</b>	<b>72%</b>	<b>5%</b>	<b>.5%</b>	<b>5%</b>	<b>17%</b>
\$5.50 Pay By Mail Rate					
Surveyed	69%	7%	.6%	1%	23%
<b>Adjusted</b>	<b>71%</b>	<b>7%</b>	<b>.4%</b>	<b>3%</b>	<b>19%</b>
\$7.00 Pay By Mail Rate*					
Surveyed	69%	7%	.2%	.6%	24%
<b>Adjusted</b>	<b>71%</b>	<b>7%</b>	<b>.2%</b>	<b>2%</b>	<b>21%</b>

\*\$7.00 PBM rate was not surveyed. "Survey" results were extrapolated from the \$4.25 and \$5.50 PBM results.

# Why Survey Results Were Adjusted

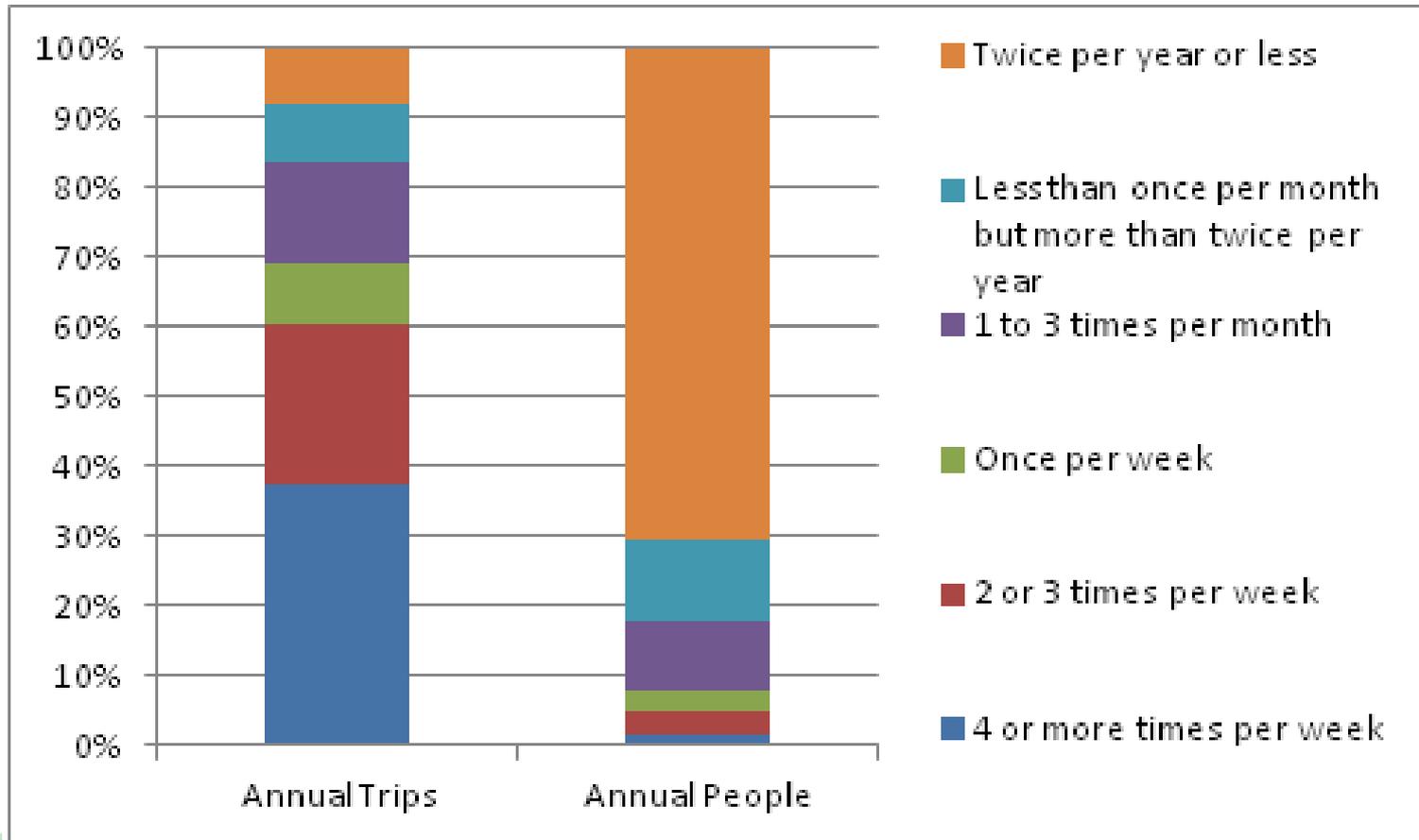
- **Frequent users were more likely to take online survey; less frequent users were underrepresented**

For example, surveyed vs. actual trip frequencies of <i>Good to Go!</i> Customers →	Frequency of Travel	Actual Transponder Usage Data	Survey Estimate of Good To Go! Frequency
	4 or more times per week	45%	50%
	2 or 3 times per week	28%	28%
	once per week	10%	9%
	1 to 3 times per month	13%	12%
	Less than once per month, More than 2 trips per year	3%	2%
	2 times per year or less	1%	0%

- **Results indicate significant bias towards existing and potential *Good To Go!* Customers**

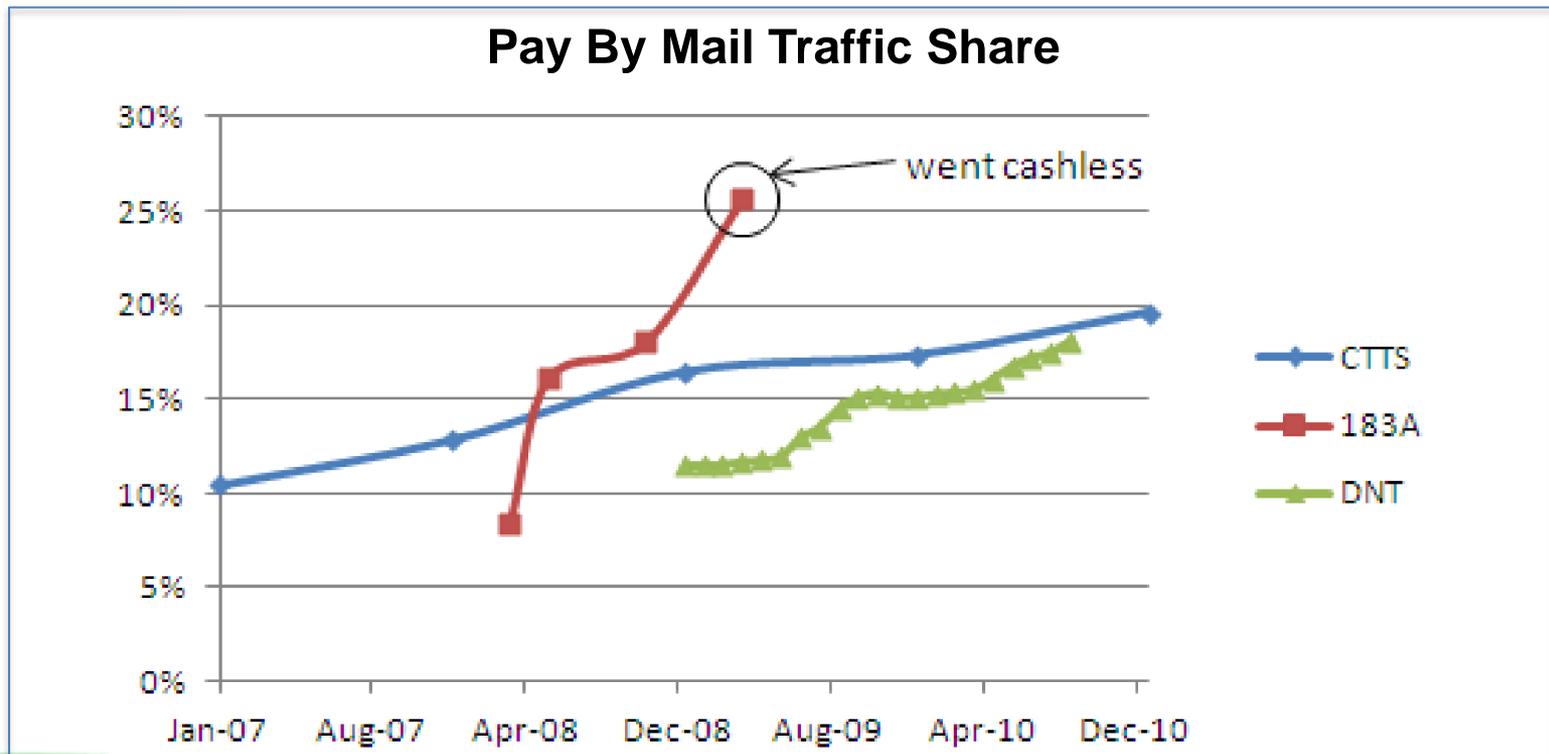
# Why Travel Frequency Matters

- **Most customers only use the bridge twice a year or less**



# Experience with Pay By Mail Elsewhere

- **CTTS: Central Texas Turnpike System, Austin**
- **183A: Austin (cashless as of end of 2008)**
- **DNT: Dallas North Tollway (cashless end of 2010)**



# Pay By Mail Tolls in Other Systems

Facility	Location	Tag	Cash	PBM	Difference Between Cash & PBM
Central Texas Turnpike System	Loop 1/45 Mainlines	\$0.68	\$0.75	\$0.90	\$0.15
	Loop 1/45 Ramps	\$0.45	\$0.50	\$0.60	\$0.10
	SH 130 Mainlines	\$1.35	\$1.50	\$1.80	\$0.30
	SH 130 Ramps	\$0.45	\$0.50	\$0.60	\$0.10
183A, Austin*	Mainline	\$1.35	\$1.50	\$1.80	\$0.30
	Ramps	\$0.45	\$0.50	\$0.60	\$0.10
Dallas North Tollway-Sample Locations**	Wycliff Mainline	\$1.26	\$1.89	\$1.89	\$0.00
	Parker Mainline	\$0.80	\$1.20	\$1.20	\$0.00
	Main St. Ramp	\$0.68	\$1.05	\$1.05	\$0.00
	NW Hwy Ramp	\$0.62	\$0.95	\$0.95	\$0.00
	Belt Line Rd Ramp	\$0.29	\$0.50	\$0.50	\$0.00
	Legacy Dr. Ramp	\$0.22	\$0.45	\$0.45	\$0.00

\*2008 toll rates, before cash was phased out.

\*\*2010 toll rates, before cash was phased out. DNT has 21 toll locations.

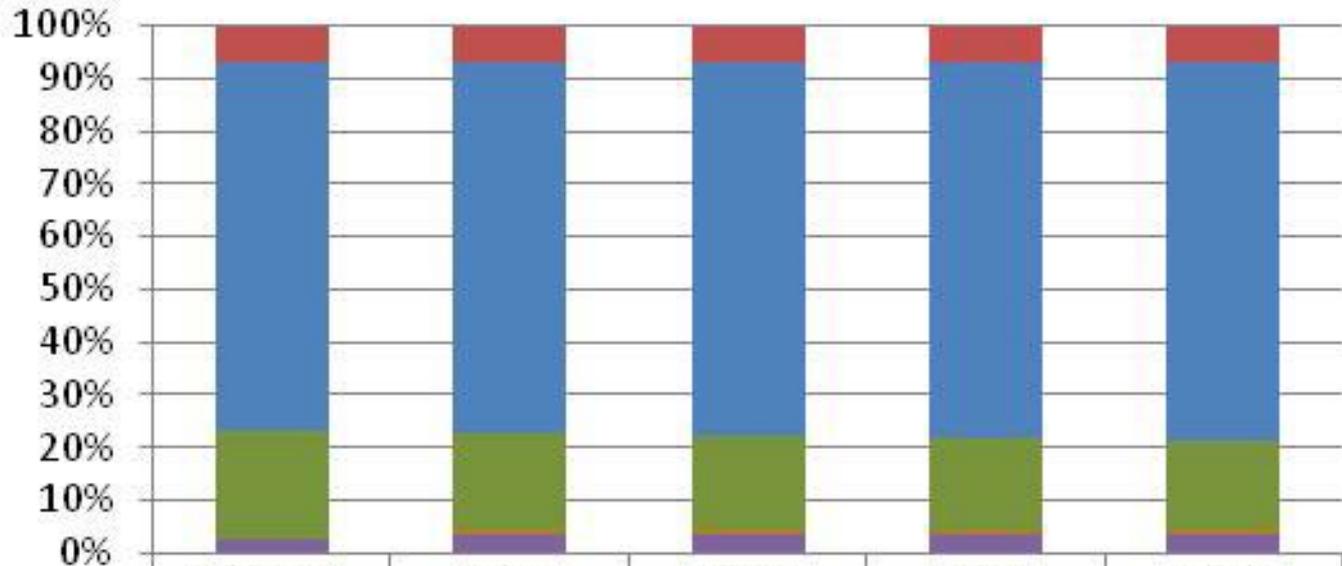
# TNB Compared to Other Roadways

**The Tacoma Narrows Bridge is not expected to have as high a share of Pay By Mail because:**

- There is a large - \$1.50 – differential between what cash and PBM customers are charged, compared to the Texas roads.
- The Texas roads each have multiple toll points.
- TNB has manned booths for cash collection, so no one is forced to pay by PBM if they do not have exact change.
- It has been operating with cash/no PBM for more than four years; people are used to stopping to pay. The Austin roads started PBM soon after they were completed.

# TNB Estimated Shares by Payment Type

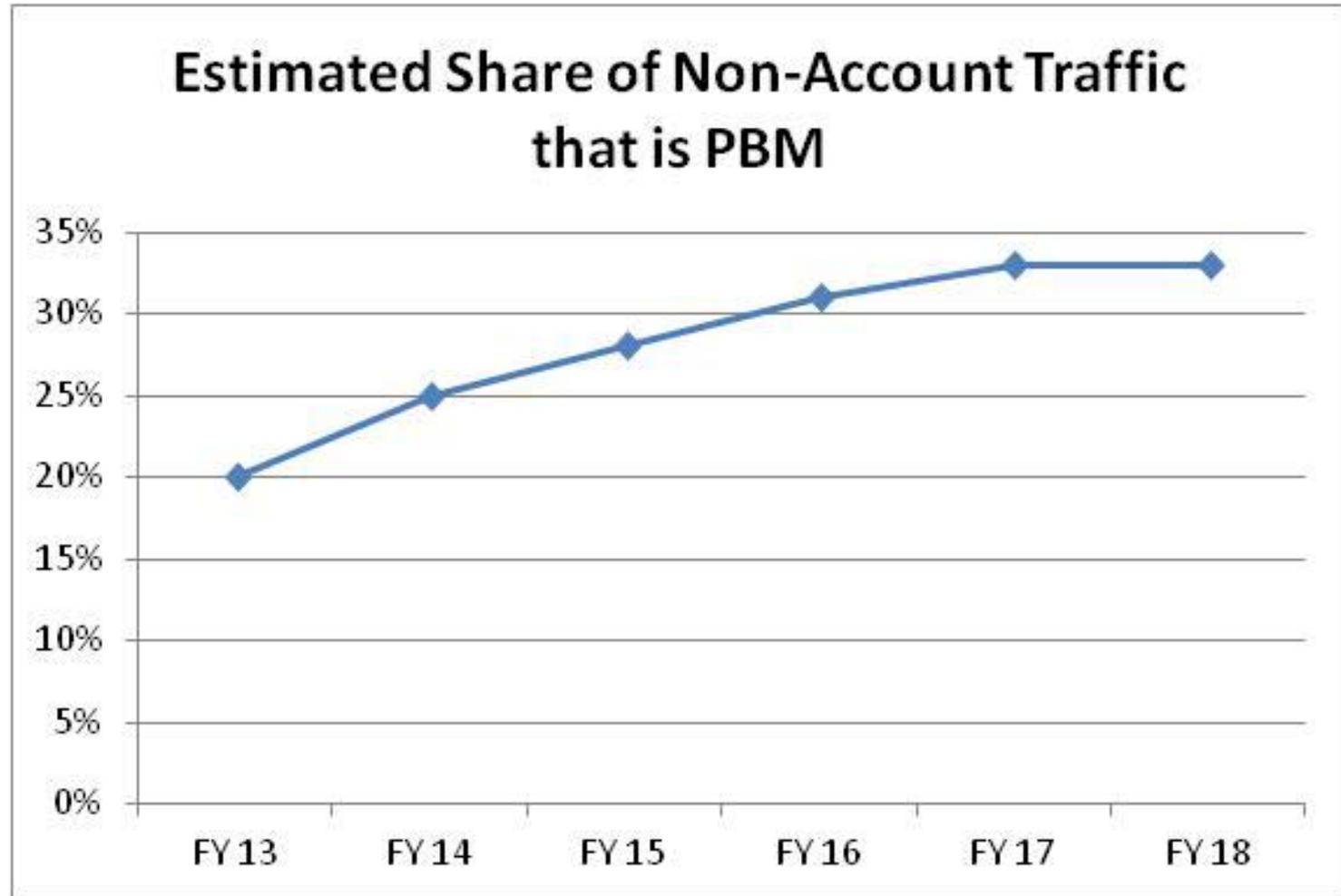
## Based on Survey Data only



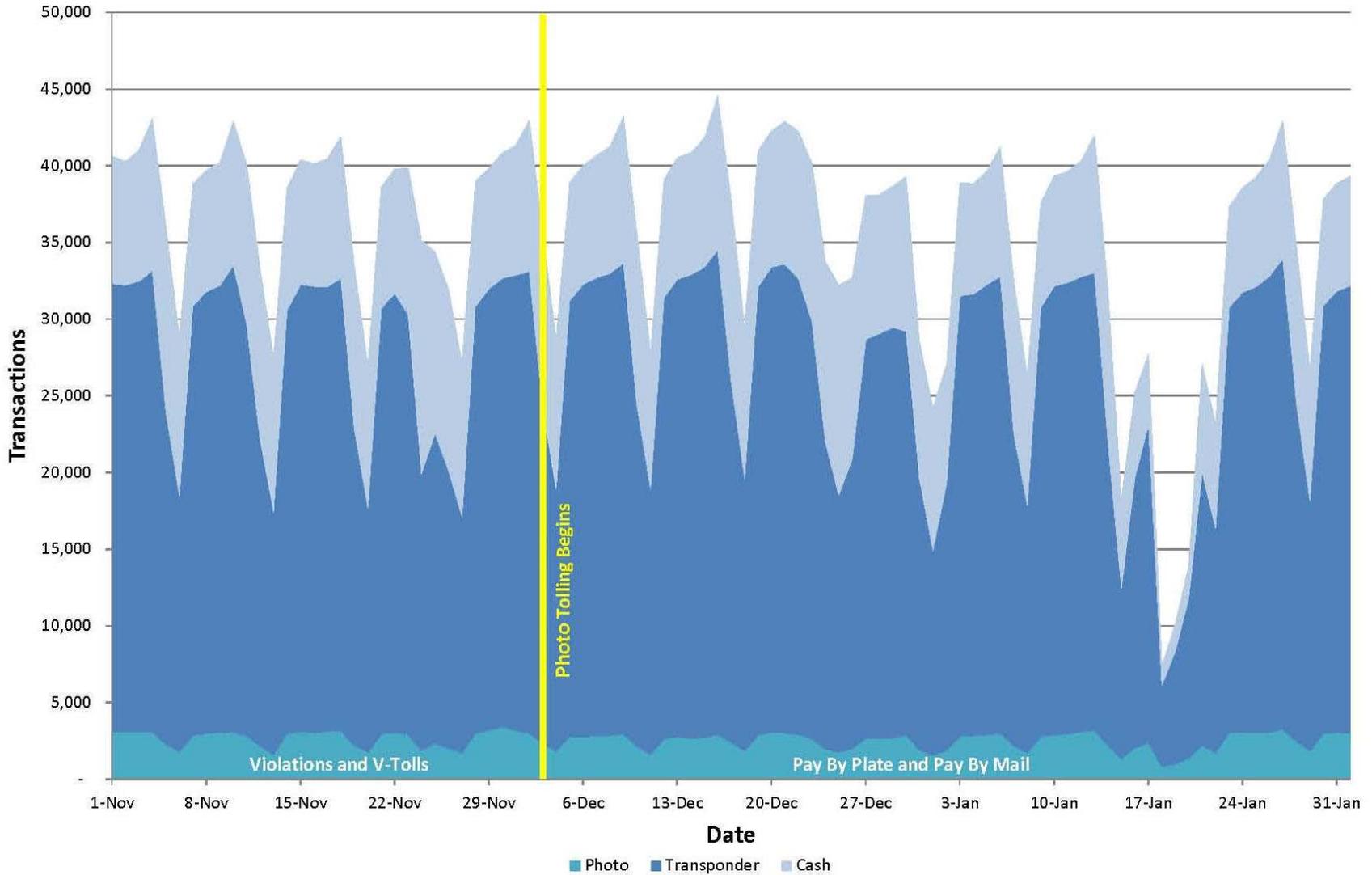
	FY 12 PF	FY 13	FY 14	FY 15	FY 16
PrePaid Plates	6.9%	7.0%	7.0%	7.1%	7.1%
Good to Go! Tag	69.7%	70.3%	70.9%	71.3%	71.8%
Cash	20.8%	18.7%	18.2%	17.8%	17.3%
Customer-Initiated	0.3%	0.4%	0.4%	0.4%	0.4%
Pay By Mail	2.3%	3.6%	3.5%	3.4%	3.4%

# Revised Pay By Mail Participation Estimates

Based on Survey Data and other agency experience



## Tacoma Narrows Bridge Daily Transactions by Type November 2011 - February 2012



# **Assembling the Tacoma Narrows Bridge Financial Plan, and Updates due to February Forecasts and Allotments**

# TNB Financial Plan Overview

- **Historical data is updated as quarterly financial statements come available**
- **Forecasts are updated quarterly by CDM Smith**
- **Costs are tied to enacted budgets and adjusted for updates based on budget allotments.**
- **Inflation is added for some costs beyond the current biennium at half the rate of the projected Implicit Price Deflator (IPD)**

# Changes from December Financial Plan

## 2013 Revenues

- **February revenue forecast is almost unchanged (down \$45K)**
  - Reporting has changed – in December “Pay By Mail Impacts” showed the difference between a forecast including Pay By Mail and a forecast without. In February total Pay By Mail revenues are broken out.
- **Fee revenues are higher than shown in December by \$661K**
  - Previous financial plan did not include all fees, such as Pay By Plate
- **Transponder sales up \$22K**
- **Violation revenues are shown**
  - Some violations will be booked in 2013
- **Civil penalty revenues down \$241K**
  - Previous estimate was based on an older Pay By Mail forecast

# Changes from December Financial Plan

## 2013 Costs

- **WSDOT oversight cost slightly reduced (\$39K)**
  - Includes staff and consultants, credit card fees, transponder purchases
- **Vendor costs slightly increased (\$116K)**
  - This is contingency in case SR 520 volumes are lower than expected and TNB bears a higher portion of vendor cost than anticipated
- **Future years include some contingencies, compared to actual costs shown for prior years**
  - Assumes most vacant staff positions will be filled
  - Share of vendor cost assumes lower SR 520 share than expected
  - Bridge insurance cost higher reflecting recent cost experience
- **Overall costs down \$404K for 2012, up \$78K for 2013**
  - Slight increase in 2014 and 2015

# Changes from December Financial Plan

## Minimum Sufficient Balance

- **On June 30, 2012 the new forecast projects the fund balance will be 8.5% over the total of revenues – costs, still short of the 12.5% minimum sufficient balance.**
  - The December financial plan forecast that ratio at 7.3%.
- **The new forecast shows a fund balance that is –16.2% of the minimum sufficient balance at the end of 2013, compared to the December forecast of –17.3%**
- **In 2013, a toll increase needs to raise an additional \$18M, down from the December forecast which needed to raise \$18.7M**

# Questions?

For more information please contact:

**Craig Stone**

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# Overview of TNB Toll Collection Costs

