

Columbia River CROSSING



Tolling Study Committee

WSDOT SW Region, Vancouver, WA
December 7, 2009



Agenda

- Scenarios being studied
- Smarter highways and active traffic management
- What we've been hearing
- Expected next steps after the report
- Public comment

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Tolling scenarios



Tolling scenario evaluation

- Six preliminary tolling scenarios discussed with public (summer, fall 2009)
 - Four scenarios for tolling I-5; two for tolling I-5 and I-205
- Updates and additional analysis (fall 2009)
 - 2 scenarios dropped from consideration
 - Preliminary scenarios updated
 - 6 new scenarios modeled

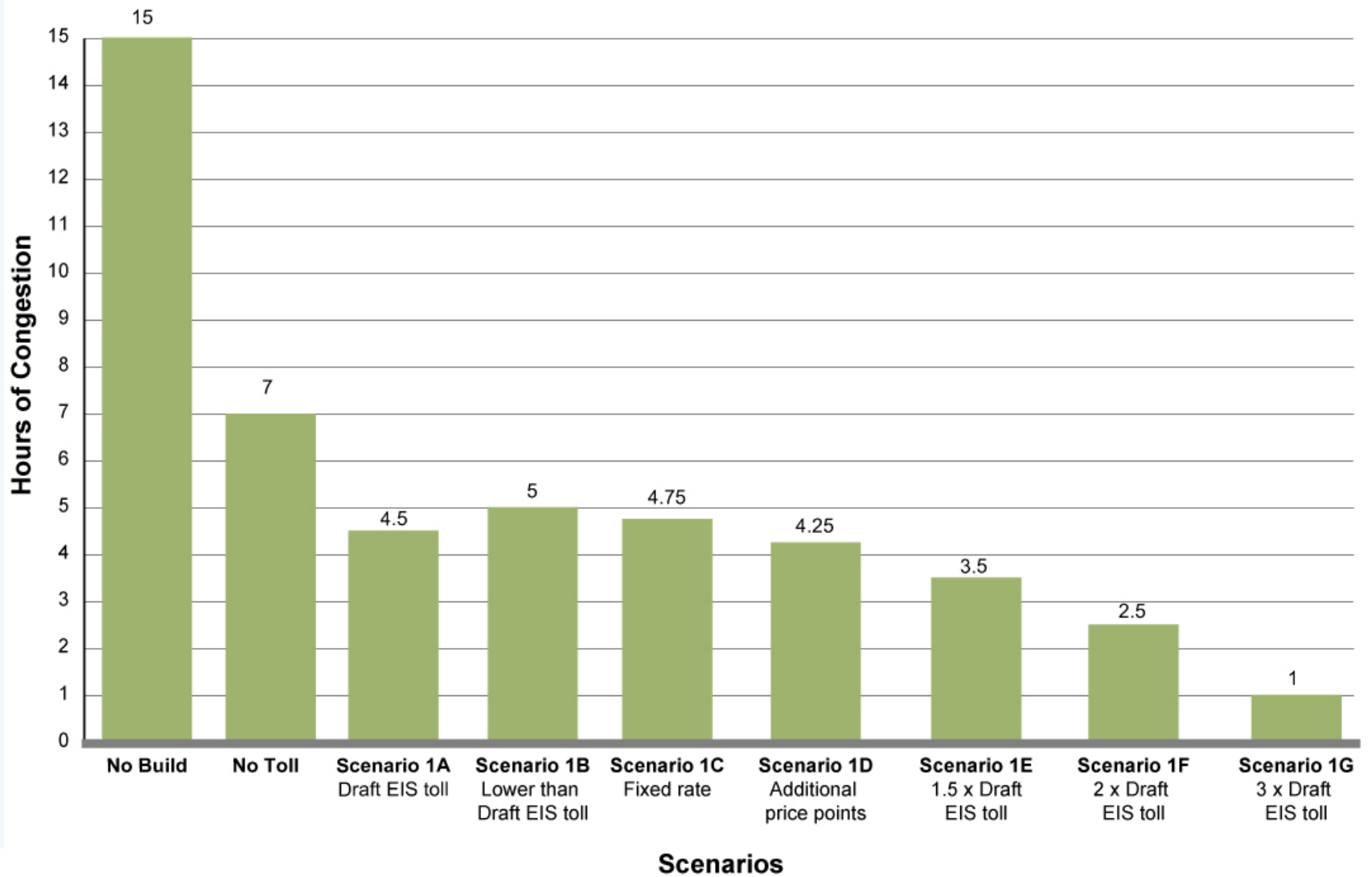
Notes:

- Tolling during construction (beginning 2012): Option could be added to any scenario to raise additional funds and manage congestion
- No toll scenario evaluated for comparison purposes; project could not be funded without tolls

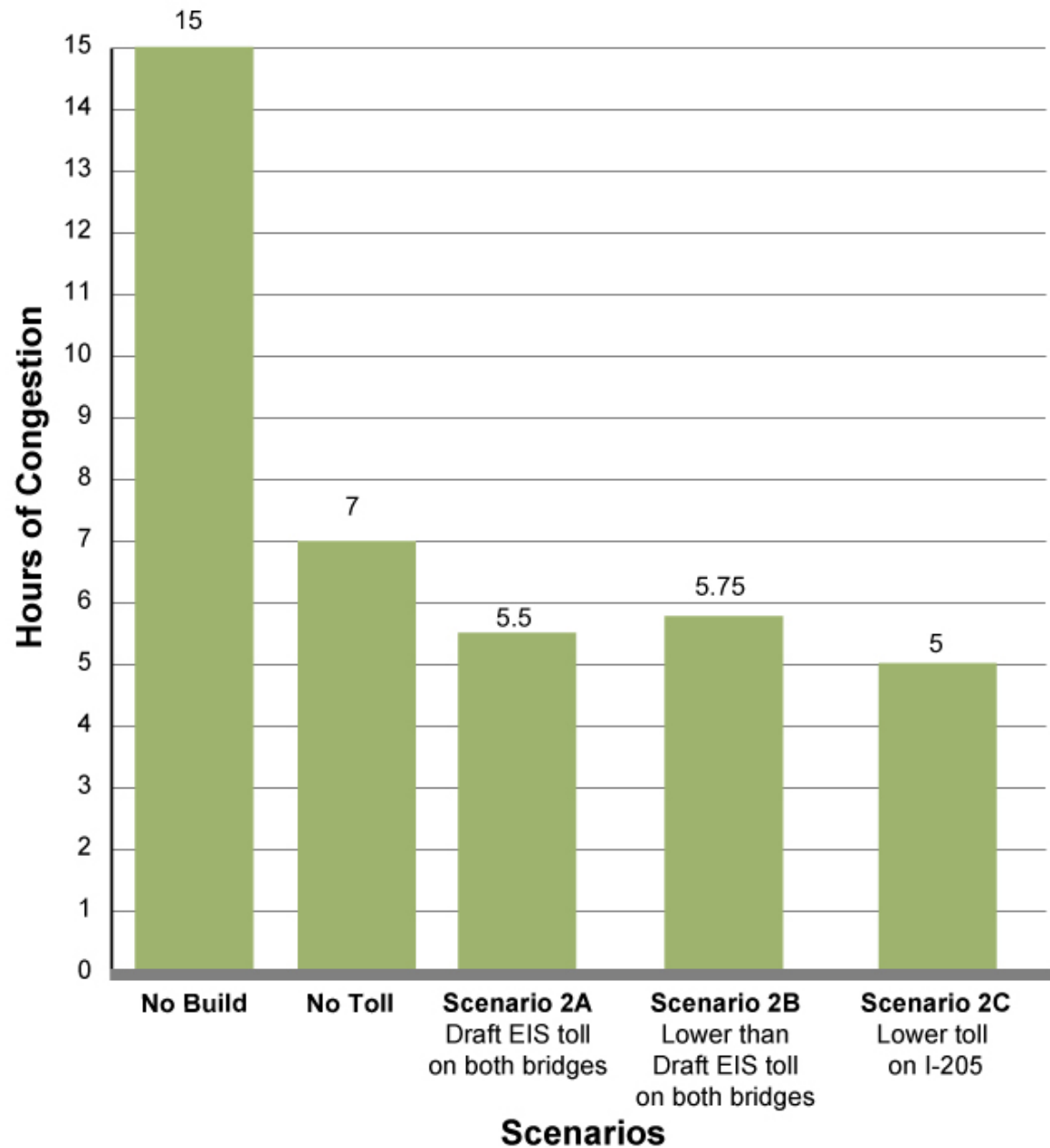
Tolling scenarios

- **Tolling I-5 only**
 - 1A: Draft EIS toll
 - 1B: Lower than Draft EIS
 - 1C: Fixed rate toll
 - 1D: Additional price points
 - 1E: 1.5X Draft EIS
 - 1F: 2X Draft EIS
 - 1G: 3X Draft EIS
- **Tolling I-5 and I-205**
 - 2A: Draft EIS toll, both bridges
 - 2B: Lower than Draft EIS toll, both bridges
 - 2C: Lower I-205 toll, Draft EIS toll on I-5

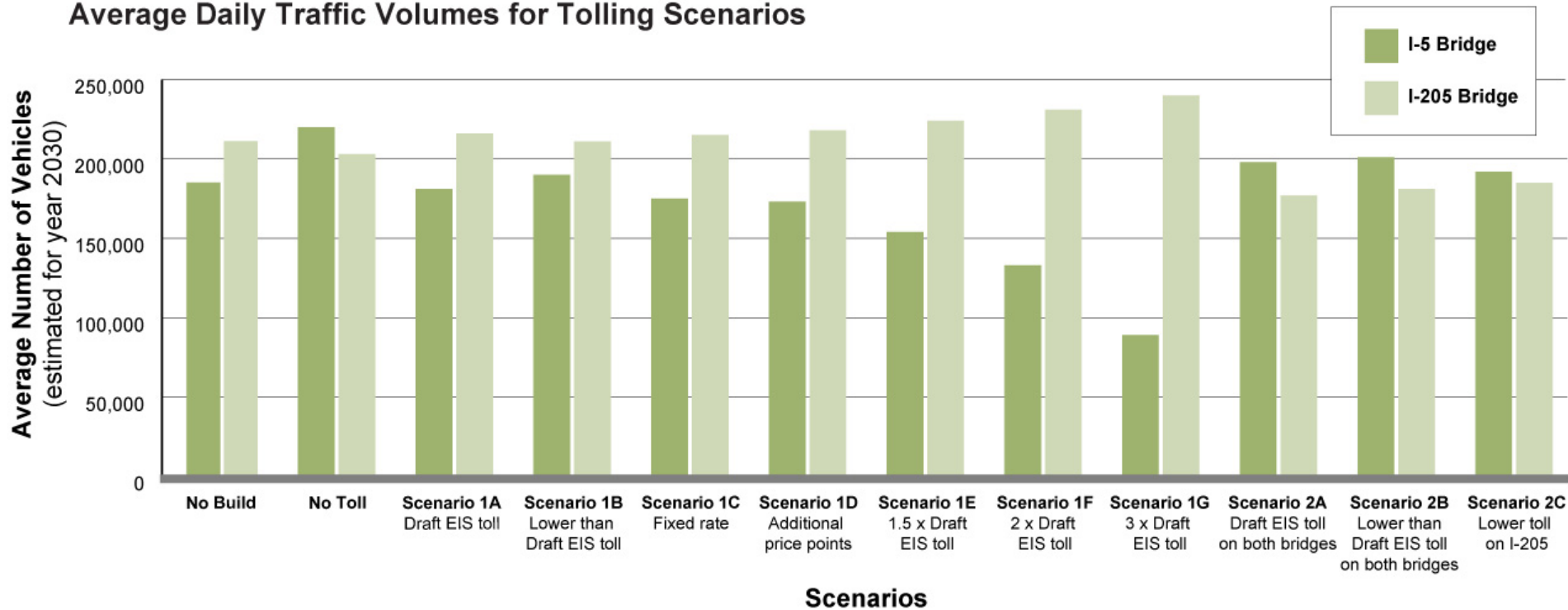
Hours of Congestion for I-5 Only Tolling Scenarios



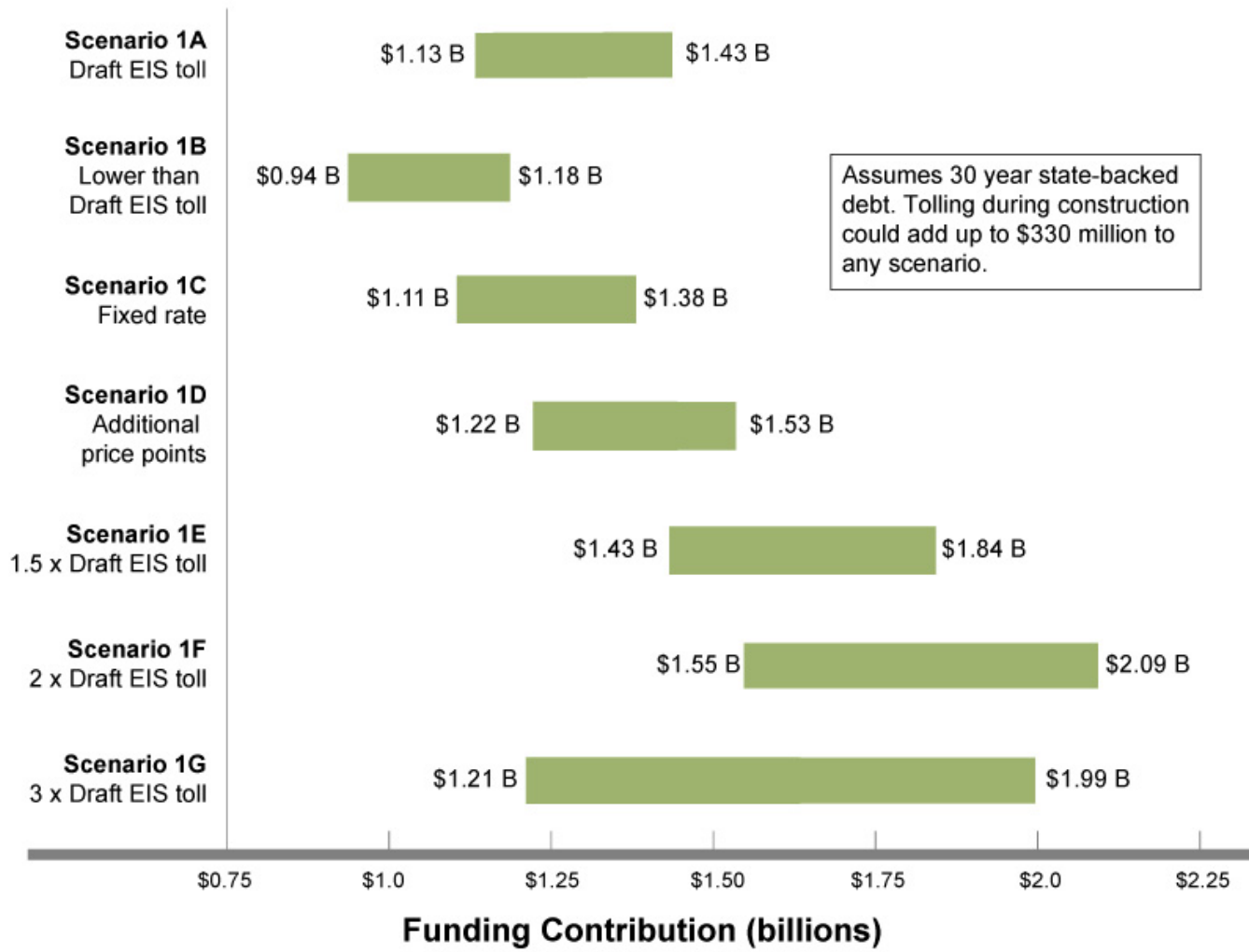
Hours of Congestion for I-5 and I-205 Tolling Scenarios



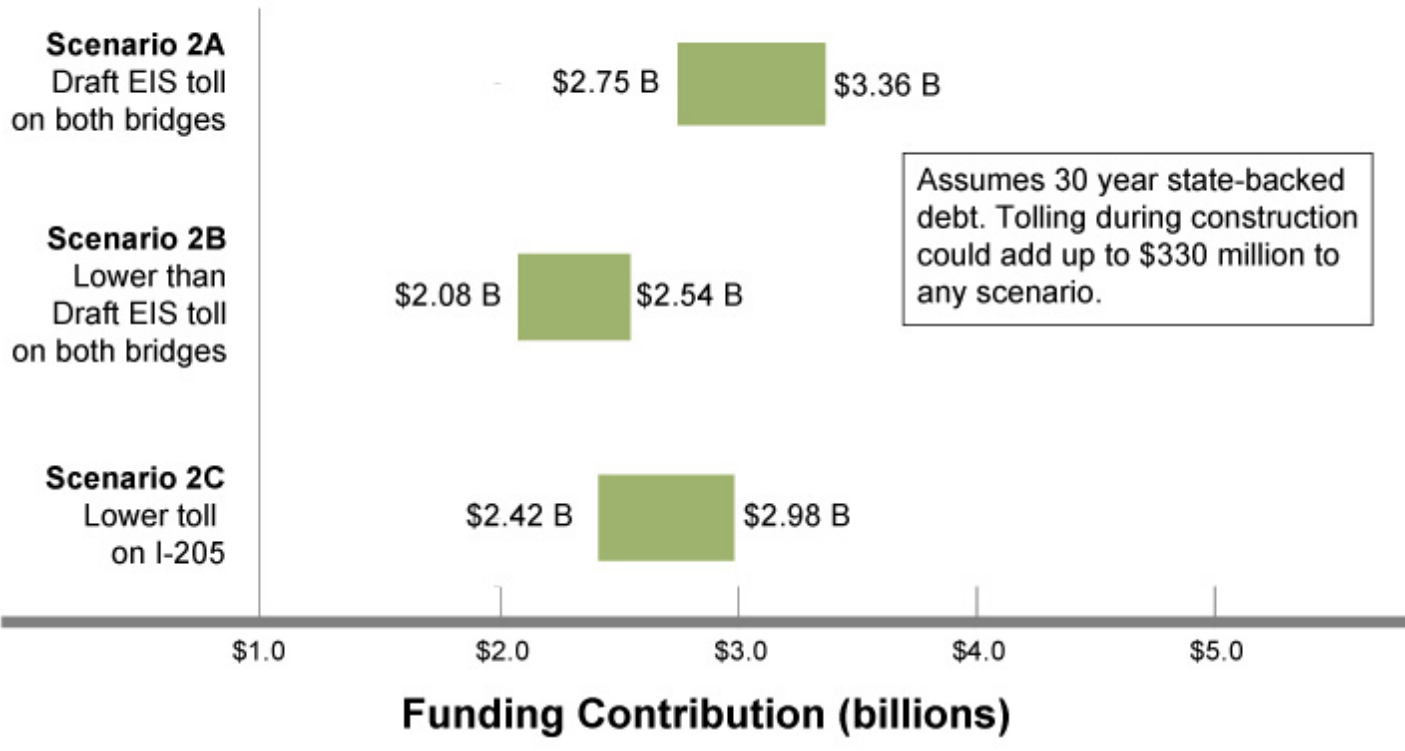
Average Daily Traffic Volumes for Tolling Scenarios



Funding Contribution from Tolls – I-5 Toll Scenarios



Funding Contribution from Tolls – I-5 & I-205 Toll Scenarios

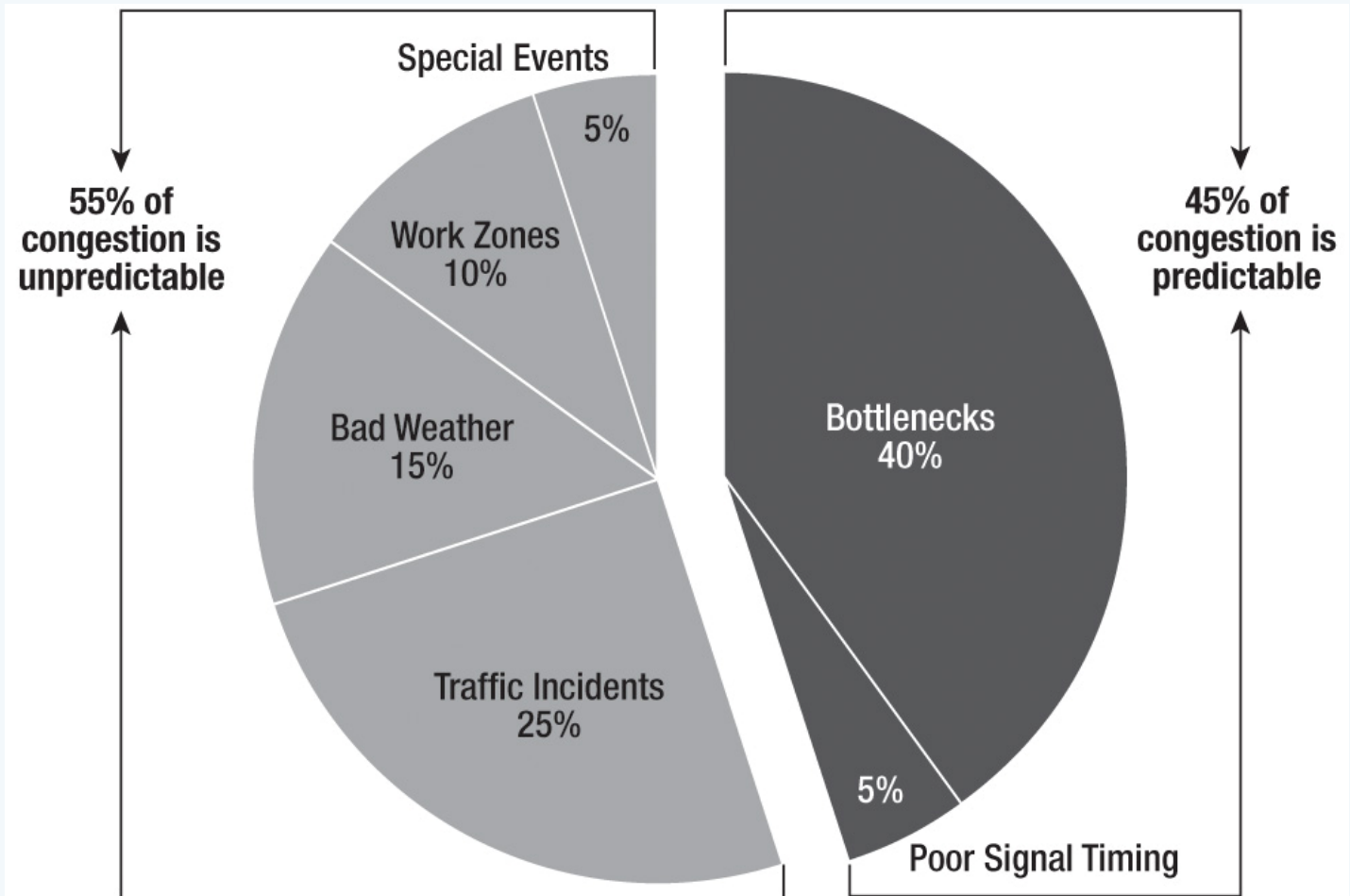


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**Active traffic
management**



What causes congestion?



Source: FHWA, 2004. Data reflects national estimate

Active Traffic Management Tools that are already making our highways smarter



- Variable message signs
- Variable speed limits
- Traffic management centers
- Traffic cameras
- Ramp meters



WSDOT is a nationwide leader using cutting edge traffic technology



- **Variable speed limits**
- **Lane status**
- **Automatic, real-time driver information**

Signs every half mile warn of slower traffic and blocked lanes ahead to prevent collisions that cause at least 25 percent of congestion.

Information instills trust; trust means compliance.



How will the system work?

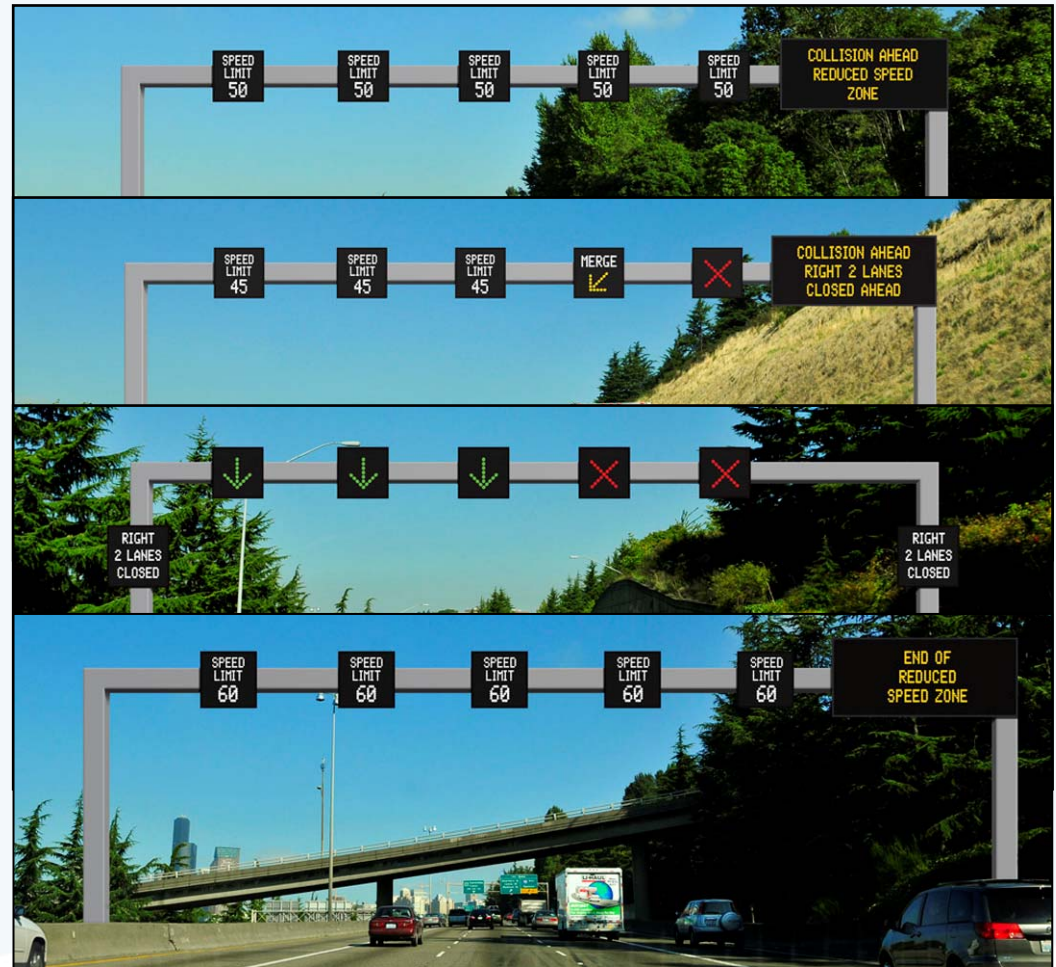
Smarter Highways in action during a blocking incident

A collision ahead causes speed limit to drop to 50 mph.

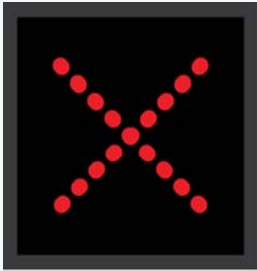
Speed drops again; message sign provides traffic information.

Signs also indicate lane status.

After the incident, the speed limit automatically returns to the posted 60 mph.



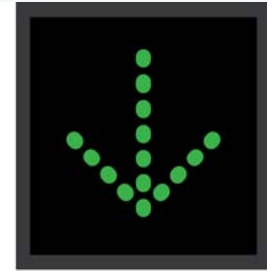
Smarter Highways symbols



lane closed



lane closed ahead



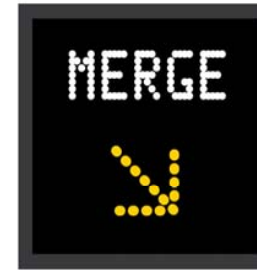
lane open



merge left



merge left or right



merge right

What makes Smarter Highways better?

- Safer and more efficient because they detect changes in traffic and adapt to current conditions.



- Help drivers make more informed decisions by providing real-time traffic information.

- Variable speed limits warn motorists of slower traffic ahead.

- The technology is proven to reduce congestion-causing collisions by up to 30 percent.

Getting the most out of our roadways

Using smarter roadway technology to improve traffic flow and reduce delay is a key element of WSDOT's three-point plan for reducing congestion.

This ongoing strategy includes:

- adding new road space where it makes the most sense
- offering travelers and commuters more choices to reduce traffic demand
- making the state's existing highways as efficient as possible.



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**What we've been
hearing**



Input sought by legislation

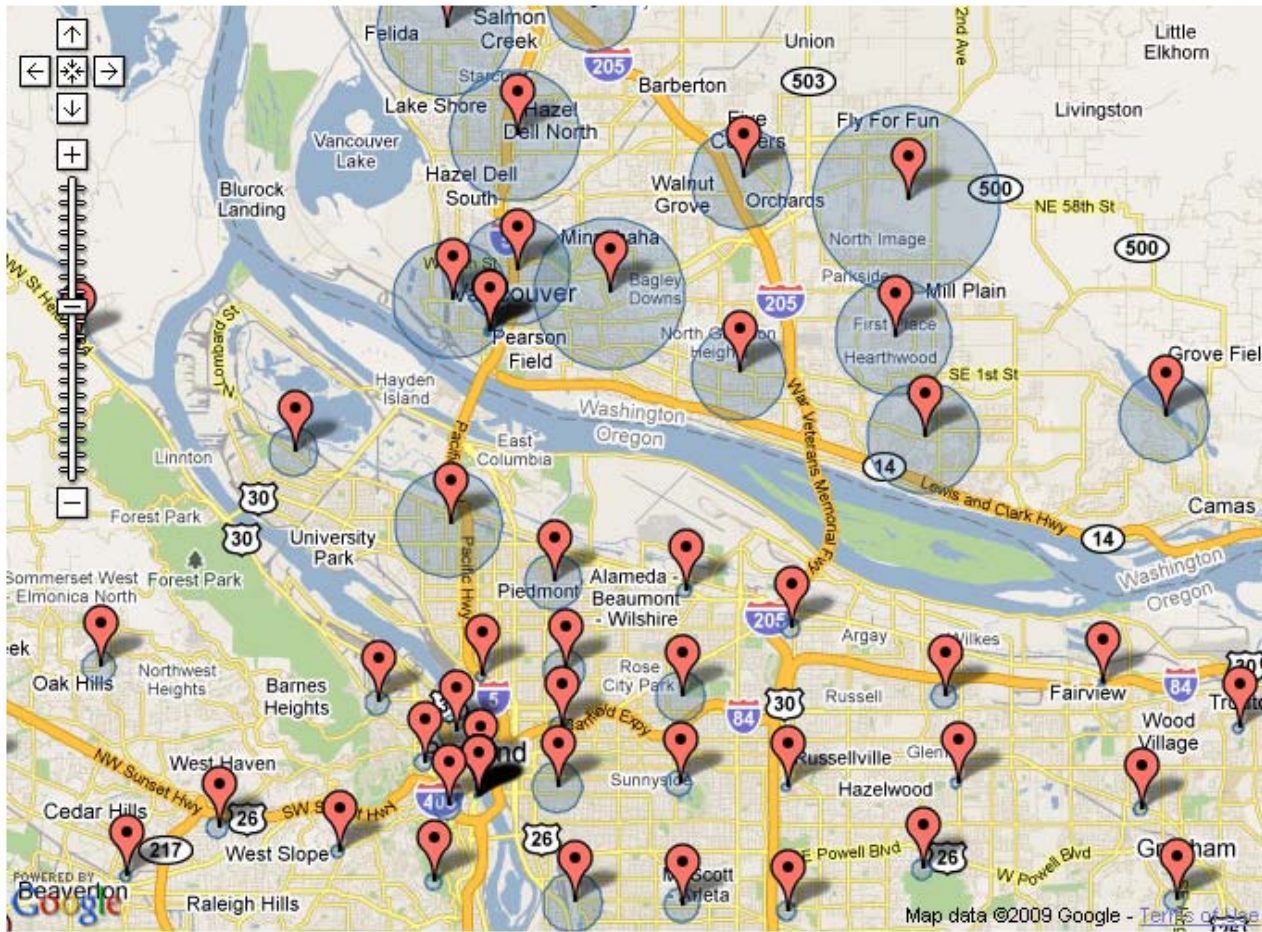
- Funding a portion of the CRC project with tolls
- Implementing variable tolling as a way to reduce congestion on the facility
- Tolling I-205 separately as a management tool for the broader state and regional transportation system

Tolling outreach activities, June - December

- 2 open houses
- 2 freight forums
- 20 fairs and festivals
- 3 listening sessions/Tolling Study Committee meetings
- 19 presentations to business/freight groups
- 30 presentations to community groups
- 51 agencies/organizations have posted or distributed information
- Tolling Web site: <http://tolling.columbiarivercrossing.org>
- 4,248 participated in the CRC tolling Web survey

These activities are part of the project's 700 events to date, reaching over 21,000 people.

Online survey – top zip codes



Map by Google Maps

Online survey

- Over 4,200 participated in the survey
- About half travel across I-5 Bridge multiple times a week; I-205 was used less frequently
- More than half of the trips on I-5 were by single occupants in a personal vehicle; work was the most frequent reason for the trip
- Slight majority would support early tolling to lower tolls and financing costs
- Learning more about variable tolling did not change attitudes
- After learning benefits associated with tolling both bridges, a majority of respondents did not support tolling I-205

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Next steps



What happens after the report?

- January 2010: Tolling report submitted to legislatures
- Summer 2010: Final Environmental Impact Statement (includes financial chapter)
- Fall 2010: Federal Record of Decision
- 2012: Earliest construction could start
- 2017: New bridge opens

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Public comment



Tolling study comments and information

- Comments received by Dec. 11, 2009 will be included in the Tolling Study report
 - Email: feedback@columbiarivercrossing.org
 - Online: tolling.columbiarivercrossing.org
 - Mail: 700 Washington St., Suite 300, Vancouver, WA 98660
 - Phone: 866-396-2726
- Comments about the project can be submitted at anytime

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Tolling Scenario 1A: Draft EIS Toll

Variable Toll Range Tested*:	\$1.00 - \$2.00 (2006 \$) \$1.34 - \$2.69 (2018 \$)
Funding Estimate:	\$1.1 - \$1.4 billion

Details about this scenario

- Only I-5 is tolled
- Variable toll, rates change on a set schedule
- Tolls collected in both directions
- Same toll assumptions that were used in the Draft Environmental Impact Statement (EIS)

Time of day	Toll rate* (each direction)	
	2006 dollars	2018 dollars
Midnight to 5 a.m.	\$1.00	\$1.34
5 a.m. to 6 a.m.	\$1.50	\$2.02
6 a.m. to 10 a.m.	\$2.00	\$2.69
10 a.m. to 3 p.m.	\$1.50	\$2.02
3 p.m. to 7 p.m.	\$2.00	\$2.69
7 p.m. to 8 p.m.	\$1.50	\$2.02
8 p.m. to Midnight	\$1.00	\$1.34

Funding results**

- Estimated funding range of \$1.13 billion to \$1.43 billion
- If tolling were to start when construction begins in 2012, up to an additional \$330 million could be raised

Daily traffic diversion results (compared to a no toll scenario, year 2030)

- 82% of the trips remain on I-5
- 13,000 trips shift to I-205
- 26,000 fewer trips cross the river



DIMENSIONS ARE APPROXIMATE.
TRAFFIC VOLUMES MEASURED IN VEHICLES.

T = bridge being tolled for this scenario

* These are example toll rates for planning and testing purposes. Actual toll rates will be set by the Oregon and Washington state transportation commissions.

** Funding contribution ranges assume 30 year state-backed debt and a 2.5% annual escalation rate to keep pace with expected inflation.

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Tolling Scenario 1B: Lower than Draft EIS Variable Toll

Variable Toll Range Tested*:	\$1.00 - \$1.50 (2006 \$) \$1.34 - \$2.02 (2018 \$)
Funding Estimate:	\$0.9 - \$1.2 billion

Details about this scenario

- Only I-5 is tolled
- Tolls collected in both directions
- Peak period toll rates are lower than Draft EIS toll rate
- Variable toll, rates change on a set schedule

Time of day	Toll rate* (each direction)	
	2006 dollars	2018 dollars
Midnight to 5 a.m.	\$1.00	\$1.34
5 a.m. to 6 a.m.	\$1.25	\$1.68
6 a.m. to 10 a.m.	\$1.50	\$2.02
10 a.m. to 3 p.m.	\$1.25	\$1.68
3 p.m. to 7 p.m.	\$1.50	\$2.02
7 p.m. to 8 p.m.	\$1.25	\$1.68
8 p.m. to Midnight	\$1.00	\$1.34

Funding results**

- Estimated bridge funding range of \$0.94 to \$1.18 billion
- If tolling were to start when construction begins in 2012, up to an additional \$330 million could be raised

Daily traffic diversion results (compared to a no toll scenario, year 2030)

- 86% of trips remain on I-5
- 8,000 trips shift to I-205
- 22,000 fewer trips cross the river



DIMENSIONS ARE APPROXIMATE.
TRAFFIC VOLUMES MEASURED IN VEHICLES.

T = bridge being tolled for this scenario

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Tolling Scenario 1C: Fixed Rate Toll

Toll Amount Tested*:	\$1.65 (2006 \$) \$2.21 (2018 \$)
Funding Estimate:	\$1.1 - \$1.4 billion

Details about this scenario

- Only I-5 is tolled
- Tolls collected in both directions
- Same toll amount all day
- Toll rate based on weighted average of Draft EIS toll

Time of day	Toll rate* (each direction)	
	2006 dollars	2018 dollars
Midnight to 5 a.m.	\$1.65	\$2.21
5 a.m. to 6 a.m.		
6 a.m. to 10 a.m.		
10 a.m. to 3 p.m.		
3 p.m. to 7 p.m.		
7 p.m. to 8 p.m.		
8 p.m. to Midnight		

Funding results**

- Estimated bridge funding range of \$1.11 to \$1.38 billion
- If tolling were to start when construction begins in 2012, up to an additional \$330 million could be raised

Daily traffic diversion results (compared to a no toll scenario, year 2030)

- 80% of trips remain on I-5
- 12,000 trips shift to I-205
- 33,000 fewer trips cross the river



DIMENSIONS ARE APPROXIMATE.
TRAFFIC VOLUMES MEASURED IN VEHICLES.

T = bridge being tolled for this scenario

* These are example toll rates for planning and testing purposes. Actual toll rates will be set by the Oregon and Washington state transportation commissions.

** Funding contribution ranges assume 30 year state-backed debt and a 2.5% annual escalation rate to keep pace with expected inflation.

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Tolling Scenario 1D: Additional Price Points

Variable Toll Range Tested*:	\$1.00 - \$2.50 (2006 \$) \$1.34 - \$3.36 (2018 \$)
Funding Estimate:	\$1.2 - \$1.5 billion

Details about this scenario

- Only I-5 is tolled
- Tolls collected in both directions
- Toll rates change more throughout the day, compared to other scenarios
- Peak toll rate higher than Draft EIS toll rate
- Variable toll, rates change on a set schedule

Time of day	Toll rate* (each direction)	
	2006 dollars	2018 dollars
Midnight to 5 a.m.	\$1.00	\$1.34
5 a.m. to 6 a.m.	\$1.50	\$2.02
6 a.m. to 7 a.m.	\$2.00	\$2.69
7 a.m. to 9 a.m.	\$2.50	\$3.36
9 a.m. to 10 a.m.	\$2.00	\$2.69
10 a.m. to 3 p.m.	\$1.75	\$3.36
3 p.m. to 4 p.m.	\$2.00	\$2.69
4 p.m. to 6 p.m.	\$2.50	\$3.36
6 p.m. to 7 p.m.	\$2.00	\$2.69
7 p.m. to 8 p.m.	\$1.50	\$2.02
8 p.m. to Midnight	\$1.00	\$1.34



DIMENSIONS ARE APPROXIMATE.
TRAFFIC VOLUMES MEASURED IN VEHICLES.

T = bridge being tolled for this scenario

Funding results**

- Estimated bridge funding range of \$1.22 to \$1.53 billion
- If tolling were to start when construction begins in 2012, up to an additional \$330 million could be raised

Daily traffic diversion results (compared to a no toll scenario, year 2030)

- 79% of trips remain on I-5
- 15,000 trips shift to I-205
- 32,000 fewer trips cross the river

* These are example toll rates for planning and testing purposes. Actual toll rates will be set by the Oregon and Washington state transportation commissions.

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Tolling Scenario 1E: 1.5X Draft EIS Toll

Variable Toll Range Tested*:	\$1.50 - \$3.00 (2006 \$) \$2.02 - \$4.04 (2018 \$)
Funding Estimate:	\$1.4 - \$1.8 billion

Details about this scenario

- Only I-5 is tolled
- Tolls collected in both directions
- All tolls are 1.5 times the Draft EIS tolls
- Variable toll, rates change on a set schedule

Time of day	Toll rate* (each direction)	
	2006 dollars	2018 dollars
Midnight to 5 a.m.	\$1.50	\$2.02
5 a.m. to 6 a.m.	\$2.25	\$3.02
6 a.m. to 10 a.m.	\$3.00	\$4.04
10 a.m. to 3 p.m.	\$2.25	\$3.07
3 p.m. to 7 p.m.	\$3.00	\$4.04
7 p.m. to 8 p.m.	\$2.25	\$3.02
8 p.m. to Midnight	\$1.50	\$2.02

Funding results**

- Estimated bridge funding range of \$1.43 billion to \$1.84 billion
- If tolling were to start when construction begins in 2012, up to an additional \$330 million could be raised

Daily traffic diversion results (compared to a no toll scenario, year 2030)

- 70% of trips remain on I-5
- 21,000 trips shift to I-205
- 45,000 fewer trips cross the river



DIMENSIONS ARE APPROXIMATE.
TRAFFIC VOLUMES MEASURED IN VEHICLES.

T = bridge being tolled for this scenario

* These are example toll rates for planning and testing purposes. Actual toll rates will be set by the Oregon and Washington state transportation commissions.

** Funding contribution ranges assume 30 year state-backed debt and a 2.5% annual escalation rate to keep pace with expected inflation.

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Tolling Scenario 1F: 2X Draft EIS Toll

Variable Toll Range Tested*:	\$2.00 - \$4.00 (2006 \$) \$2.69 - \$5.38 (2018 \$)
Funding Estimate:	\$1.6 - \$2.1 billion

Details about this scenario

- Only I-5 is tolled
- Tolls collected in both directions
- All tolls are double the Draft EIS toll rates
- Variable toll, rates change on a set schedule

Time of day	Toll rate* (each direction)	
	2006 dollars	2018 dollars
Midnight to 5 a.m.	\$2.00	\$2.69
5 a.m. to 6 a.m.	\$3.00	\$4.04
6 a.m. to 10 a.m.	\$4.00	\$5.38
10 a.m. to 3 p.m.	\$3.00	\$4.04
3 p.m. to 7 p.m.	\$4.00	\$5.38
7 p.m. to 8 p.m.	\$3.00	\$4.04
8 p.m. to Midnight	\$2.00	\$2.69

Funding results**

- Estimated bridge funding range of \$1.55 billion to \$2.09 billion
- If tolling were to start when construction begins in 2012, up to an additional \$330 million could be raised

Daily traffic diversion results (compared to a no toll scenario, year 2030)

- 60% of trips remain on I-5
- 28,000 trips shift to I-205
- 59,000 fewer trips cross the river



DIMENSIONS ARE APPROXIMATE.
TRAFFIC VOLUMES MEASURED IN VEHICLES.

T = bridge being tolled for this scenario

* These are example toll rates for planning and testing purposes. Actual toll rates will be set by the Oregon and Washington state transportation commissions.

** Funding contribution ranges assume 30 year state-backed debt and a 2.5% annual escalation rate to keep pace with expected inflation.

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Tolling Scenario 1G: 3X Draft EIS Toll

Variable Toll Range Tested*:	\$3.00 - \$6.00 (2006 \$) \$4.04 - \$8.07 (2018 \$)
Funding Estimate:	\$1.2 - \$2.0 billion

Details about this scenario

- Only I-5 is tolled
- Tolls collected in both directions
- All tolls are triple the Draft EIS toll rates
- Variable toll, rates change on a set schedule

Time of day	Toll rate* (each direction)	
	2006 dollars	2018 dollars
Midnight to 5 a.m.	\$3.00	\$4.04
5 a.m. to 6 a.m.	\$4.50	\$6.05
6 a.m. to 10 a.m.	\$6.00	\$8.07
10 a.m. to 3 p.m.	\$4.50	\$6.05
3 p.m. to 7 p.m.	\$6.00	\$8.07
7 p.m. to 8 p.m.	\$4.50	\$6.05
8 p.m. to Midnight	\$3.00	\$4.04

Funding results**

- Estimated bridge funding range of \$1.21 billion to \$1.99 billion
- If tolling were to start when construction begins in 2012, up to an additional \$330 million could be raised

Daily traffic diversion results (compared to a no toll scenario, year 2030)

- 40% of trips remain on I-5
- 37,000 trips shift to I-205
- 94,000 fewer trips cross the river



DIMENSIONS ARE APPROXIMATE.
TRAFFIC VOLUMES MEASURED IN VEHICLES.

T = bridge being tolled for this scenario

* These are example toll rates for planning and testing purposes. Actual toll rates will be set by the Oregon and Washington state transportation commissions.

** Funding contribution ranges assume 30 year state-backed debt and a 2.5% annual escalation rate to keep pace with expected inflation.

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Tolling Scenario 2A: Draft EIS Variable Toll on Both Bridges

Variable Toll Range Tested*:	\$2.00 - \$4.00 (2006 \$) \$2.69 - \$5.38 (2018 \$)
Funding Estimate:	\$2.8 - \$3.4 billion

Details about this scenario

- I-5 and I-205 are tolled
- Variable toll, rates change on a set schedule
- Tolls collected southbound only
- Both bridges tolled at base Draft EIS toll rate

Time of day	Toll rate* (southbound only)	
	2006 dollars	2018 dollars
Midnight to 5 a.m.	\$2.00	\$2.69
5 a.m. to 6 a.m.	\$3.00	\$4.04
6 a.m. to 10 a.m.	\$4.00	\$5.38
10 a.m. to 3 p.m.	\$3.00	\$4.04
3 p.m. to 7 p.m.	\$4.00	\$5.38
7 p.m. to 8 p.m.	\$3.00	\$4.04
8 p.m. to Midnight	\$2.00	\$2.69

Funding results**

- Estimated bridge funding range of \$2.75 billion to \$3.36 billion
- If tolling were to start when construction begins in 2012, up to an additional \$330 million could be raised

Daily traffic diversion results (compared to a no toll scenario, year 2030)

- 90% of trips remain on I-5
- 26,000 fewer trips use I-205
- 48,000 fewer trips cross the river



DIMENSIONS ARE APPROXIMATE.
TRAFFIC VOLUMES MEASURED IN VEHICLES.

T = bridge being tolled for this scenario

* These are example toll rates for planning and testing purposes. Actual toll rates will be set by the Oregon and Washington state transportation commissions.

** Funding contribution ranges assume 30 year state-backed debt and a 2.5% annual escalation rate to keep pace with expected inflation.

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Tolling Scenario 2B: Lower than Draft EIS Toll on Both Bridges

Variable Toll Range Tested*:	\$2.00 - \$3.00 (2006 \$) \$2.69 - \$4.04 (2018 \$)
Funding Estimate:	\$2.1 - \$2.5 billion

Details about this scenario

- I-5 and I-205 are tolled
- Variable toll, rates change on a set schedule
- Tolls collected southbound only
- Peak period tolls on both bridges lower than Draft EIS tolls

Time of day	Toll rate* (southbound only)	
	2006 dollars	2018 dollars
Midnight to 5 a.m.	\$2.00	\$2.69
5 a.m. to 6 a.m.	\$2.50	\$3.36
6 a.m. to 10 a.m.	\$3.00	\$4.04
10 a.m. to 3 p.m.	\$2.50	\$3.36
3 p.m. to 7 p.m.	\$3.00	\$4.04
7 p.m. to 8 p.m.	\$2.50	\$3.36
8 p.m. to Midnight	\$2.00	\$2.69

Funding results**

- Estimated bridge funding range of \$2.08 billion to \$2.54 billion
- If tolling were to start when construction begins in 2012, up to an additional \$330 million could be raised

Daily traffic diversion results (compared to a no toll scenario, year 2030)

- 91% of trips remain on I-5
- 22,000 fewer trips use I-205
- 41,000 fewer trips cross the river



DIMENSIONS ARE APPROXIMATE.
TRAFFIC VOLUMES MEASURED IN VEHICLES.

T = bridge being tolled for this scenario

* These are example toll rates for planning and testing purposes. Actual toll rates will be set by the Oregon and Washington state transportation commissions.

** Funding contribution ranges assume 30 year state-backed debt and a 2.5% annual escalation rate to keep pace with expected inflation.

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Tolling Scenario 2C: Lower Toll on I-205

Variable Toll Range Tested*:	\$2.00 - \$4.00 (2006 \$) \$2.69 - \$5.38 (2018 \$)
Funding Estimate:	\$2.4 - \$3.0 billion

Details about this scenario

- I-5 and I-205 are tolled
- Variable toll, rates change on a set schedule
- Tolls collected southbound only
- Peak period tolls on I-205 lower than Draft EIS tolls
- 1-5 tolled at Draft EIS toll rate

Time of day	Toll rate (southbound only)			
	I-5 only		I-205 only	
	2006 dollars	2018 dollars	2006 dollars	2018 dollars
Midnight to 5 a.m.	\$2.00	\$2.69	\$2.00	\$2.69
5 a.m. to 6 a.m.	\$3.00	\$4.04	\$2.50	\$3.36
6 a.m. to 10 a.m.	\$4.00	\$5.38	\$3.00	\$4.04
10 a.m. to 3 p.m.	\$3.00	\$4.04	\$2.50	\$3.36
3 p.m. to 7 p.m.	\$4.00	\$5.38	\$3.00	\$4.04
7 p.m. to 8 p.m.	\$3.00	\$4.04	\$2.50	\$3.36
8 p.m. to Midnight	\$2.00	\$2.69	\$2.00	\$2.69



DIMENSIONS ARE APPROXIMATE.
TRAFFIC VOLUMES MEASURED IN VEHICLES.

T = bridge being tolled for this scenario

Funding results**

- Estimated bridge funding range of \$2.42 billion to \$2.98 billion
- If tolling were to start when construction begins in 2012, up to an additional \$330 million could be raised

Daily traffic diversion results (compared to a no toll scenario, year 2030)

- 87% of trips remain on I-5
- 18,000 fewer trips use I-205
- 46,000 fewer trips cross the river

* These are example toll rates for planning and testing purposes. Actual toll rates will be set by the Oregon and Washington state transportation commissions.

** Funding contribution ranges assume 30 year state-backed debt and a 2.5% annual escalation rate to keep pace with expected inflation.