

# I-405/SR 167 Corridor Update

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Bellevue City Council

Dec. 11, 2017

# I-405 MASTER PLAN

## Regional Consensus

- EIS Record of Decision, 2002
- *Multimodal, multiagency plan*

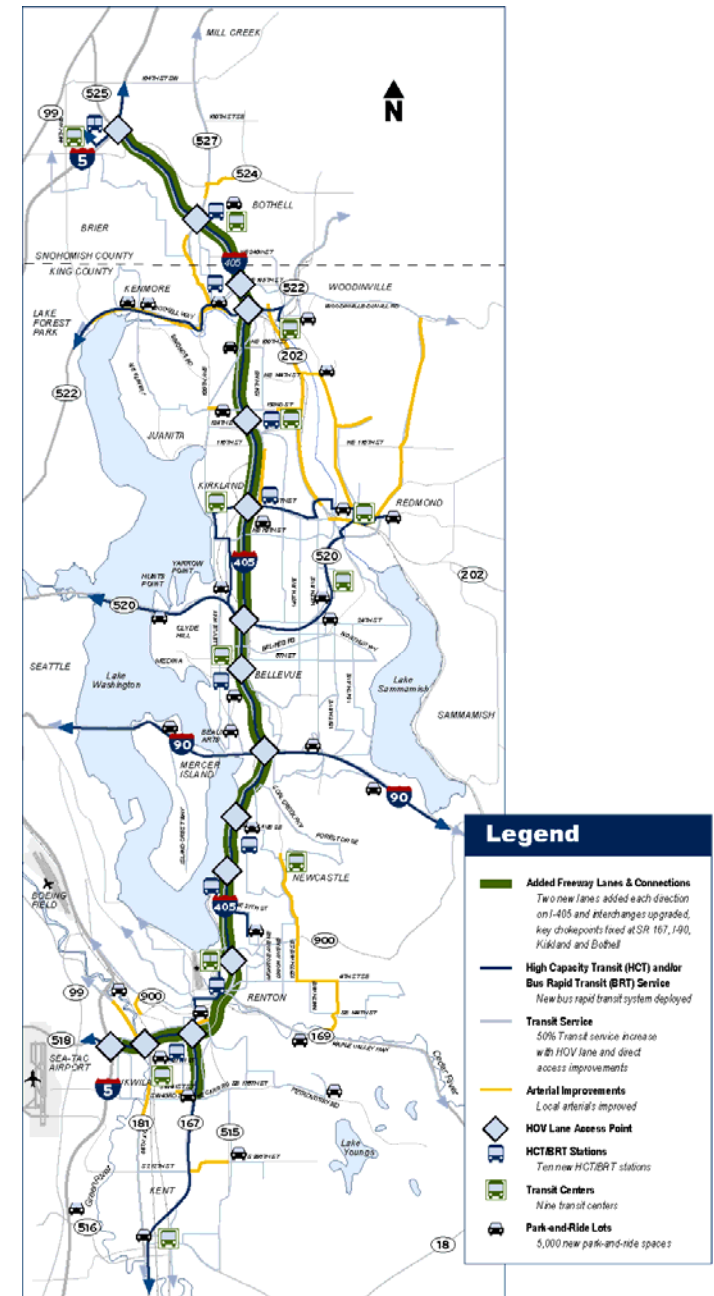
## Roadways

- 2 new lanes in each direction
- Local arterial improvements

## Transit & Transportation Choices

- Bus Rapid Transit system
- New transit centers
- 50% transit service increase
- HOV direct access ramps and flyer stops
- Potential managed lanes system
- 5000 new Park & Ride spaces
- 1700 new vanpools

## Environmental Enhancements



# CORRIDOR CONDITIONS

- I-405 is one of the most congested corridors in the state.
  - **Previous HOV lanes were often as congested as general purpose lanes** during peak periods
- Traffic volumes have increased at almost all points on the corridor by **up to 20 percent** during peak periods.



# EXPRESS TOLL LANE BASICS



**28.7 MILLION** TOTAL TRIPS





**19.9 MILLION** TOLLED TRIPS

**8.8 MILLION** FREE HOV TRIPS

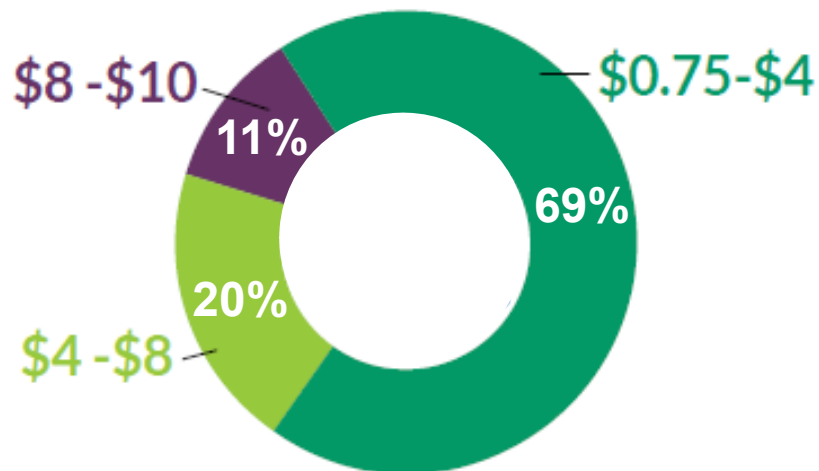
- Opened Sept. 27, 2015
- 15 miles of express toll lanes
  - **Dual-lane section:** Two express toll lanes each direction between Bellevue and Bothell
  - **Single-lane section:** One express toll lane each direction between Bothell and Lynnwood
- Operation hours: **5 a.m. to 7 p.m. Mon – Fri**
- Tolls and exemptions
  - Single-occupancy vehicles use the lanes for a toll
  - **Transit and vanpools always toll-exempt**
  - Qualifying carpools are toll-exempt



# Dynamic tolling

EXPRESS TOLL LANES	
NE 124th St	\$2.00
Jct 	\$2.50
Jct 	\$2.75
HOV 3+ FREE W/FLEX PASS	

Peak period toll rates



- I-405 tolling utilizes dynamic pricing to keep traffic moving
- The tolling algorithm adjusts tolls every five minutes based on congestion in the lanes.
  - Tolls range from \$0.75 to \$10
  - As express lanes fill and speeds drop, the toll rate increases.
  - Toll rates decrease when lane has capacity to move more vehicles
- Tolloed vehicles always pay the toll they see when they enter the lanes.
- Average toll during peak periods: \$2.82
- Two-thirds of tolls paid are under \$4

# Carrying higher traffic volumes than prior to tolling

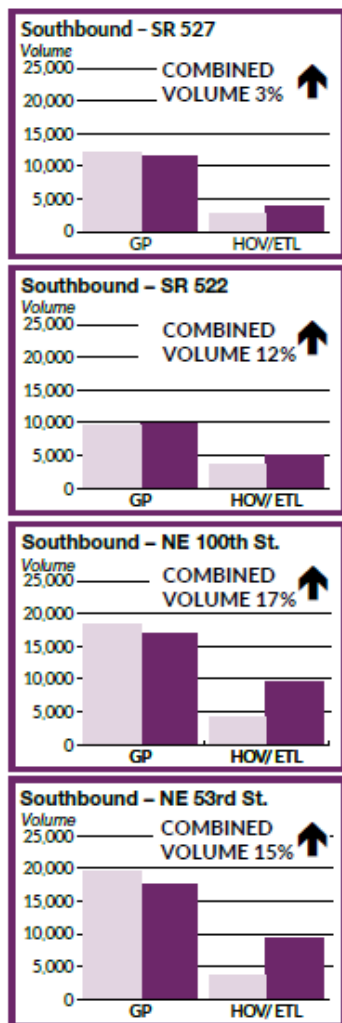
## Moving more vehicles

- Vehicle volumes have increased 3-24% depending on location

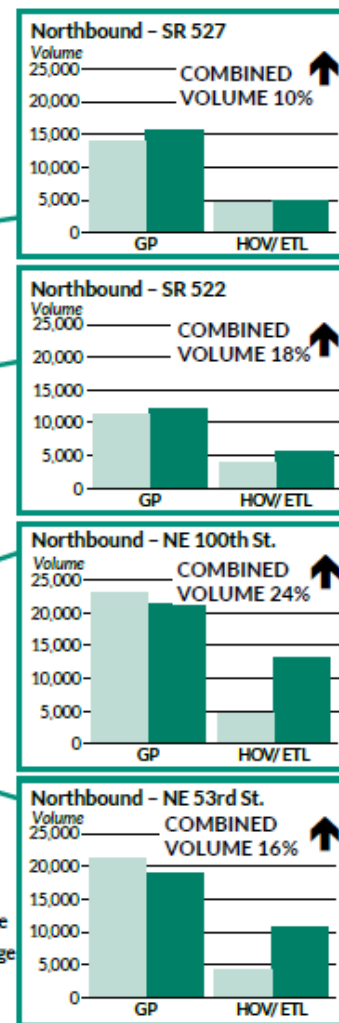
## Moving more people

- The number of people moving through the corridor has increased 5-30%

**Southbound AM Peak  
(5-9 a.m.)**



**Northbound PM Peak  
(3-7 p.m.)**



\* Vehicle volume increase is likely due to the increased capacity created by the peak-use shoulder lane.

# TWO YEAR ANNIVERSARY

The express toll lanes marked two years of operations on September 27, 2017. The state Legislature provided two performance standards for the lanes:

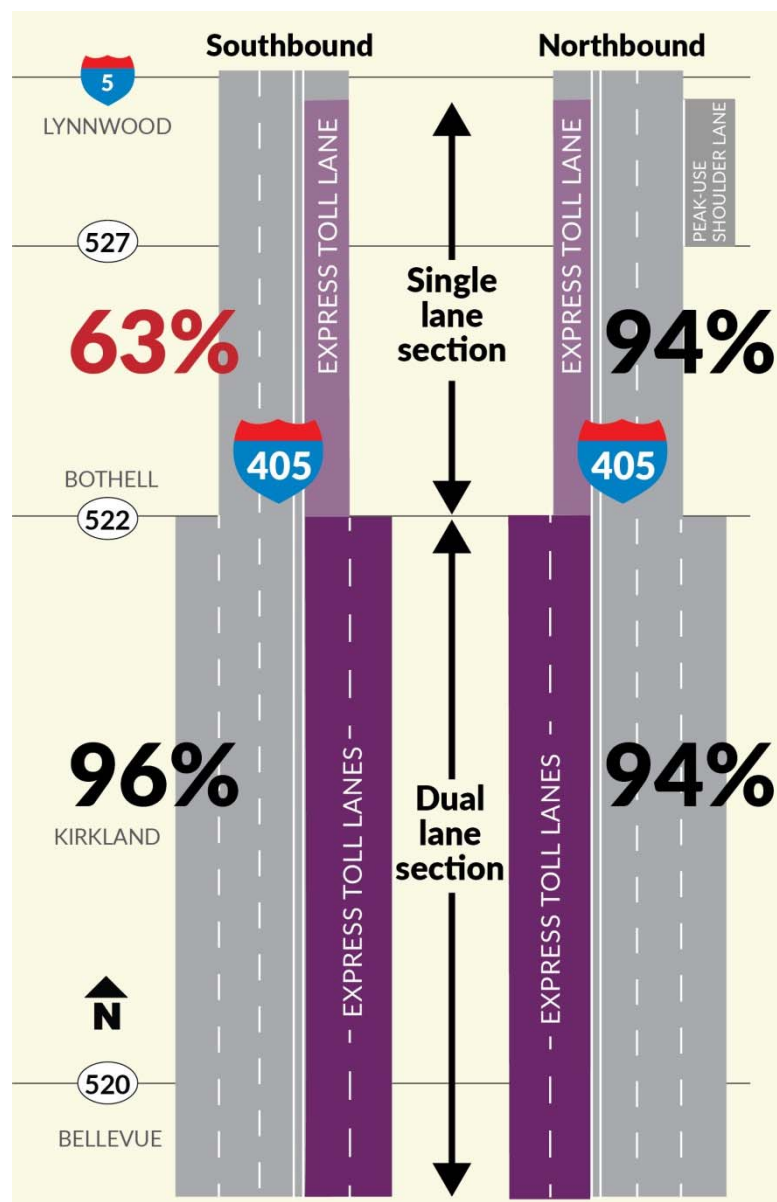
- Generate sufficient revenue to cover operations costs
- Move vehicles 45 mph 90 percent of peak periods.

The express toll lanes are generating enough revenue to support operations and to invest in improvements to the corridor. While the lanes are not meeting the speed target, it is primarily the southbound single-lane section which is bringing down the overall average.

Authorizing legislation states that if the lanes fail to meet both standards, they will be closed as soon as practicable.



# IMPROVING SPEED PERFORMANCE



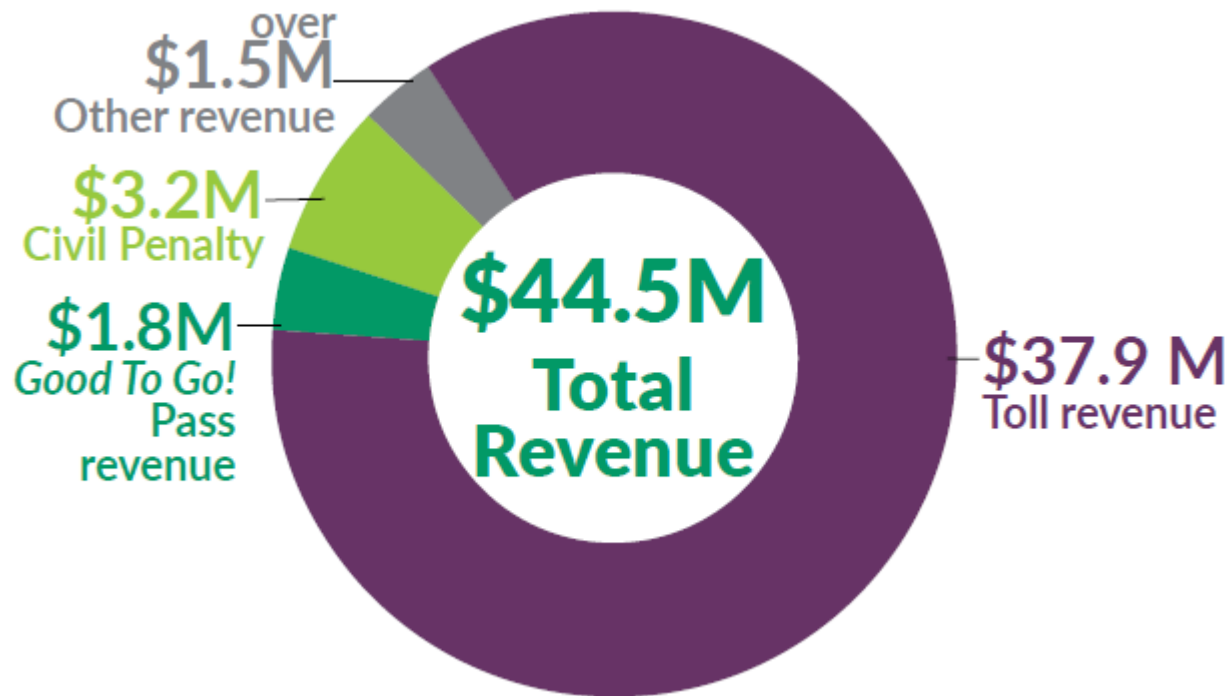
Between April and September, express toll lanes speeds moved 45 mph or faster **85%** of the peak period. Previously, the HOV lane met this standard only **56%** of the time (April-August 2015 data).

The peak-use shoulder lane, opened in April 2017, improved speeds in the northbound single lane section.

- NB single lane six months before:
  - 68% of the peak period
- NB single lane six months after:
  - 94% of the peak period

When looking at individual segments, the southbound single-lane section is the only section of the corridor to report under the target of 45 mph or faster 90% of peak periods. This is pulling down the overall average.

# REVENUE



TOTAL REVENUE

**\$44.5M**

OPERATIONS  
COSTS

**\$15.7M**

FUNDS AVAILABLE  
FOR I-405  
IMPROVEMENTS

**\$28.8M**

TOLL REVENUE  
USED  
FOR  
PEAK-USE  
SHOULDER

**\$11.5M**



# I-405 NORTHBOUND PEAK-USE SHOULDER LANE SR 527 TO I-5



## Project description

- Converted 1.8-mile section of right shoulder to general purpose lane
- Fully funded by express toll lane revenue (\$11.5 million)
- Opened to traffic April 24, 2017 (120 days from construction start to opening)



**BEFORE**  
February-April 2017

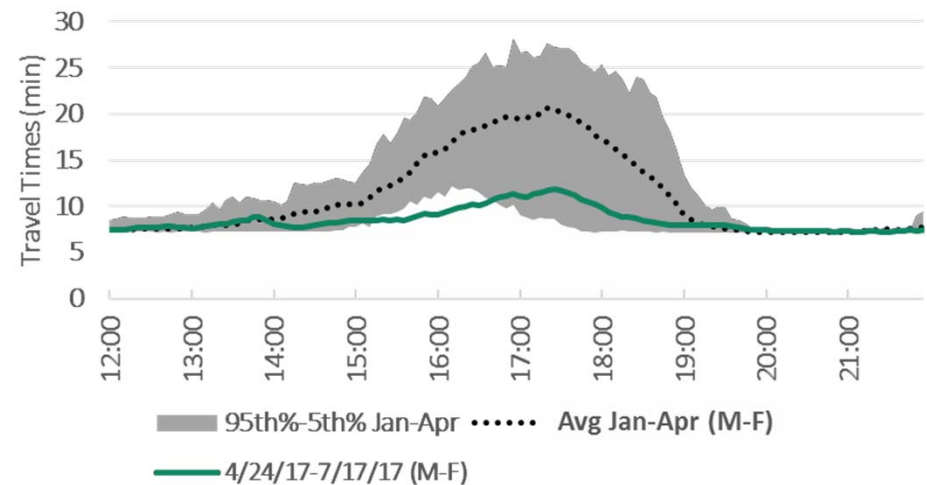


**AFTER**  
First 3 months



## I-405 Northbound General Purpose Travel Times from SR 522 to I-5

(SRMP: 21.83-28.98)

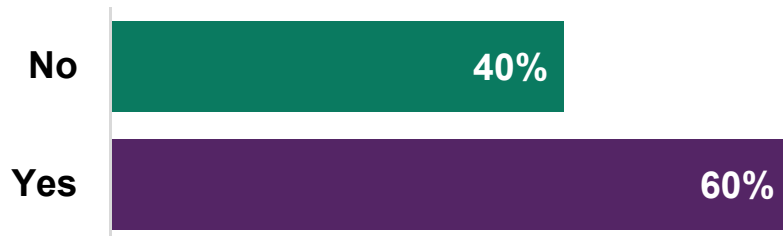




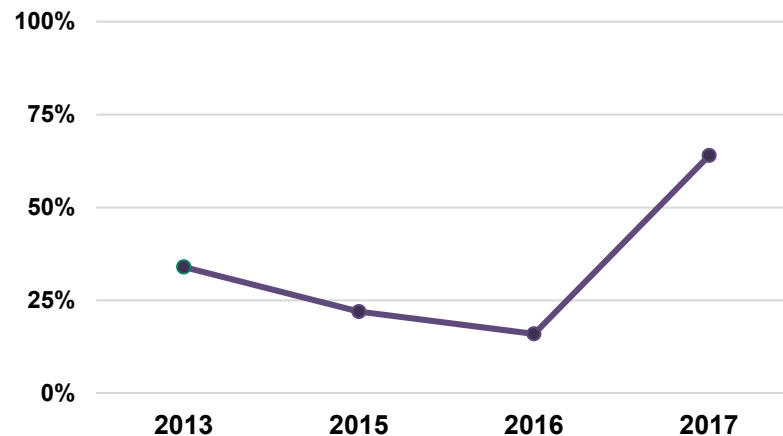
# DRIVERS LIKE HAVING AN OPTION

This spring, WSDOT conducted two surveys on public opinion of the I-405 express toll lanes. One survey focused on *Good To Go!* customers and the other targeted I-405 drivers, including drivers who self reported that they do not use the lanes. Both surveys found that 60% of drivers like having the option of a faster, more reliable trip.

**Do you like having the option of using the express toll lanes for faster trip?**



**Support Increases Over Time**

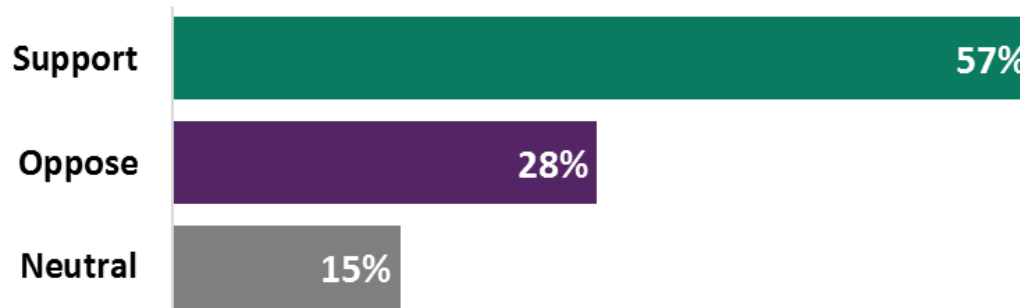


# EXPRESS TOLL LANE USERS SUPPORT EXTENDING THE SYSTEM

Surveys of *Good To Go!* customers and business users had similar opinions about completing the system.

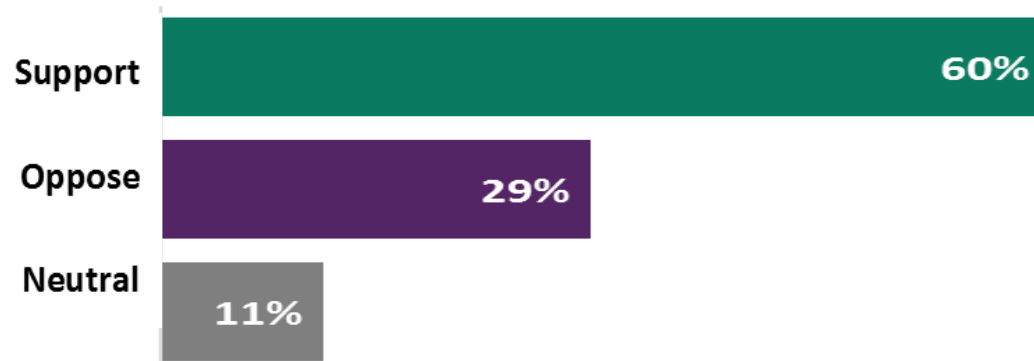
## I-405 express toll lane customers\*

Should the express toll lanes be  
extended from Renton to Bellevue?



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## I-405 express toll lane business users\*



*All respondents had traveled between Renton and Bellevue\**

# I-5 HOV AND REGULAR LANES EXPERIENCE EXTREMELY HEAVY TRAFFIC DURING RUSH HOUR

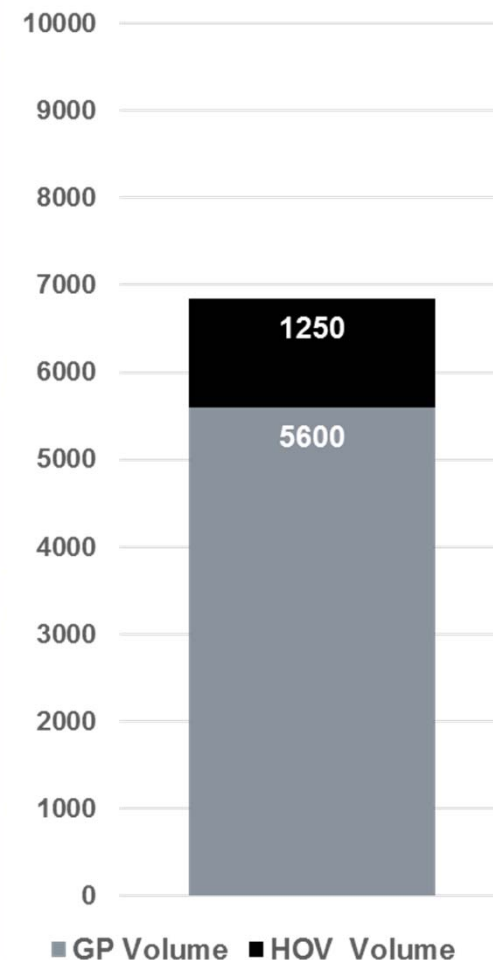
## Northbound I-5 (Northeast 130th Street)

Daily Volume: 105,000

Stop and Go Heavy Moderate Freeflow



### Peak-Hour Volume



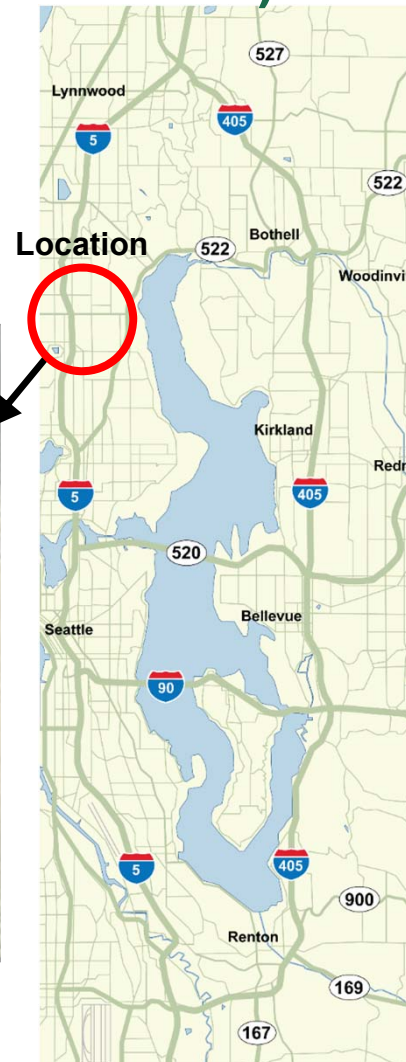
Tuesday, July 12, 2017 4:50 p.m.

# I-5 HOV AND REGULAR LANES EXPERIENCE EXTREMELY HEAVY TRAFFIC DURING RUSH HOUR

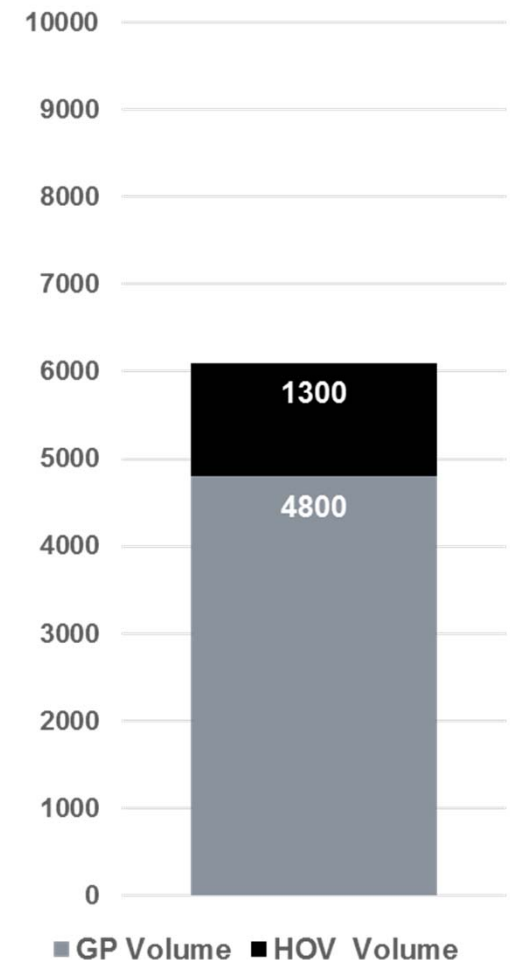
## Northbound I-5 (Northeast 145th Street)

Daily Volume: 89,000

Stop and Go Heavy Moderate Freeflow



## Peak-Hour Volume



Tuesday, July 11, 2017 5:20 p.m.



# I-405 EXPRESS TOLL LANES OFFER A MORE RELIABLE CHOICE DURING MORNING RUSH HOUR

## Southbound I-405 (north of Northeast 85th Street)

Daily Volume: 110,000

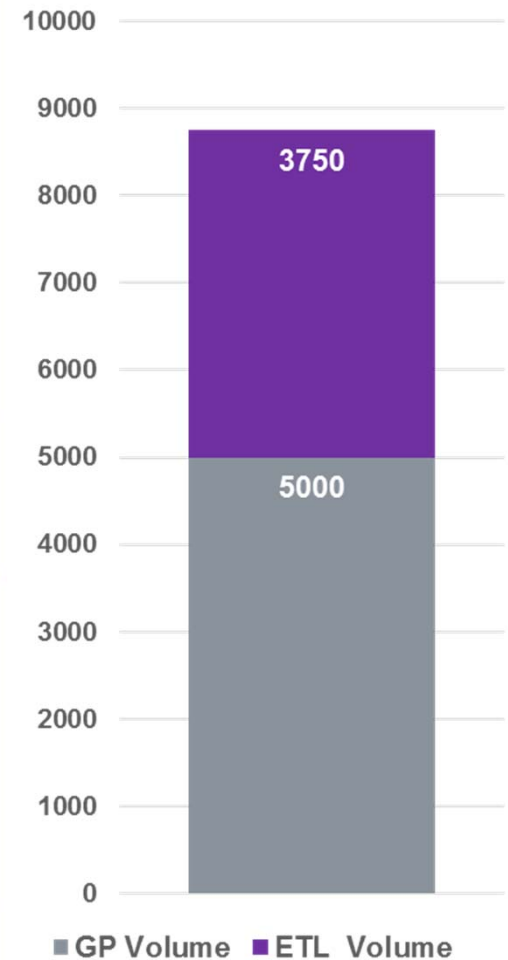
■ Stop and Go ■ Heavy ■ Moderate ■ Freeflow



Tuesday, July 26, 2017 8:45 a.m.



### Peak-Hour Volume

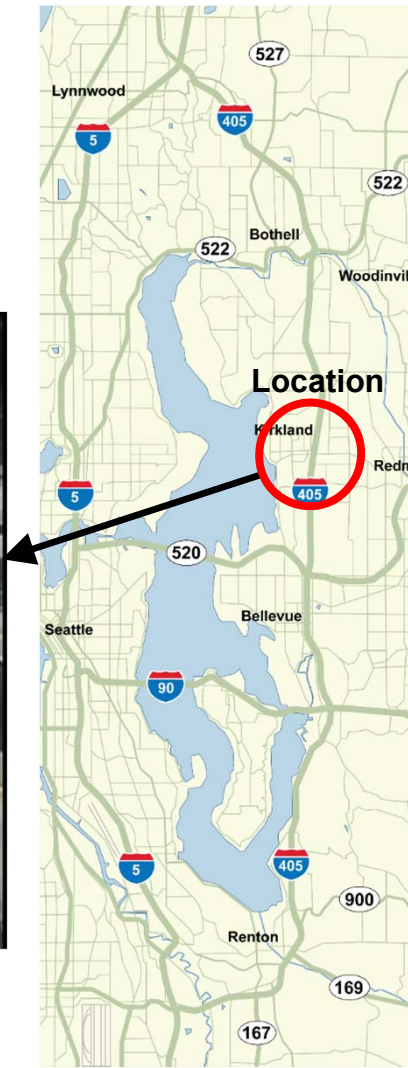


# I-405 EXPRESS TOLL LANES OFFER A MORE RELIABLE CHOICE DURING MORNING RUSH HOUR

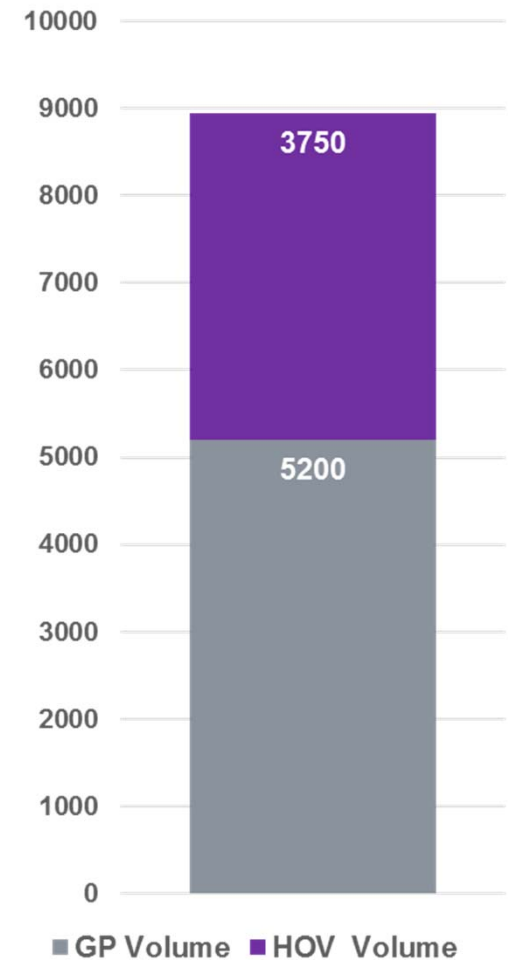
## Northbound I-405 (north of Northeast 85th Street)

Daily Volume: 107,000

■ Stop and Go ■ Heavy ■ Moderate ■ Freeflow



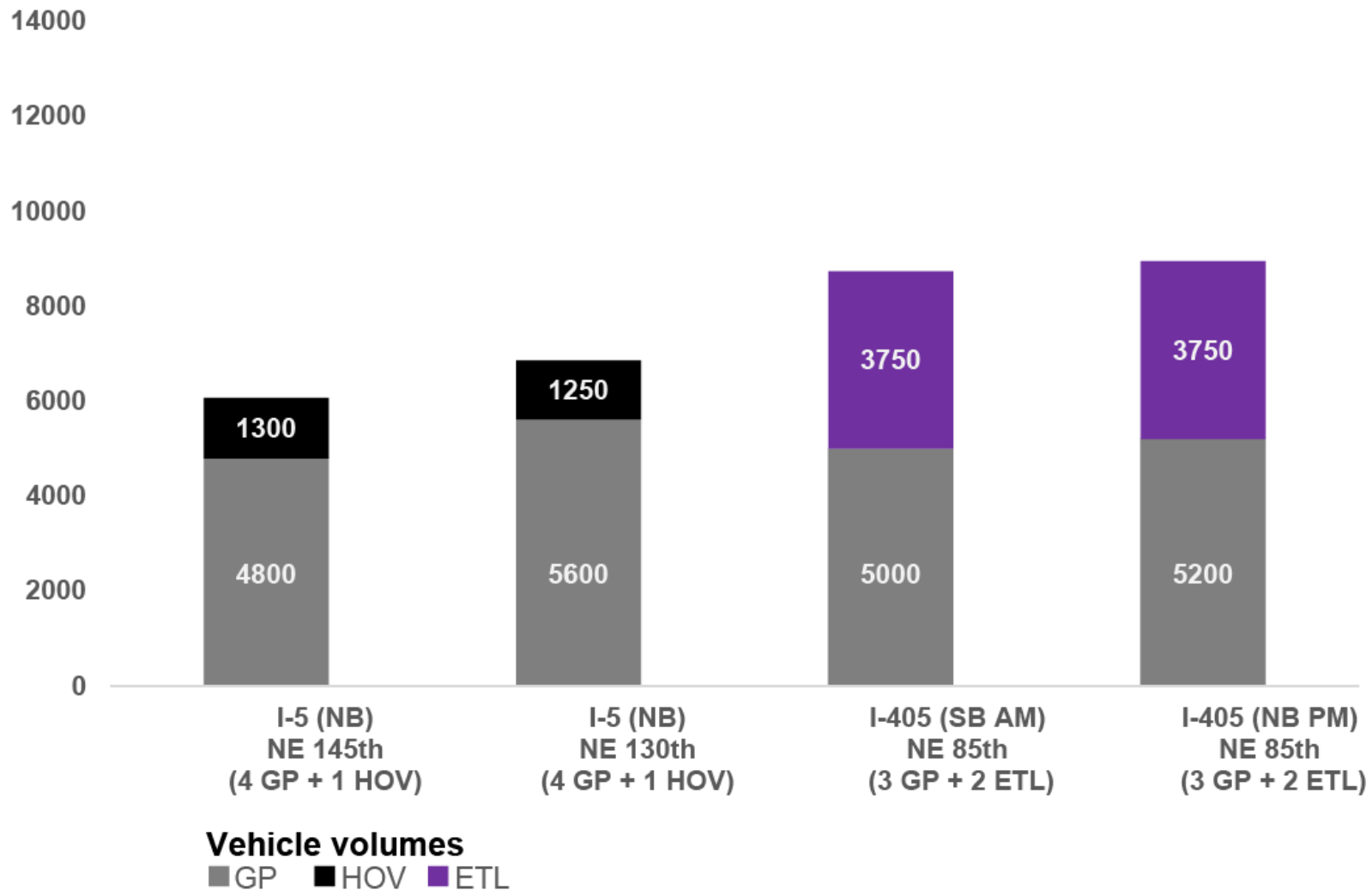
### Peak-Hour Volume



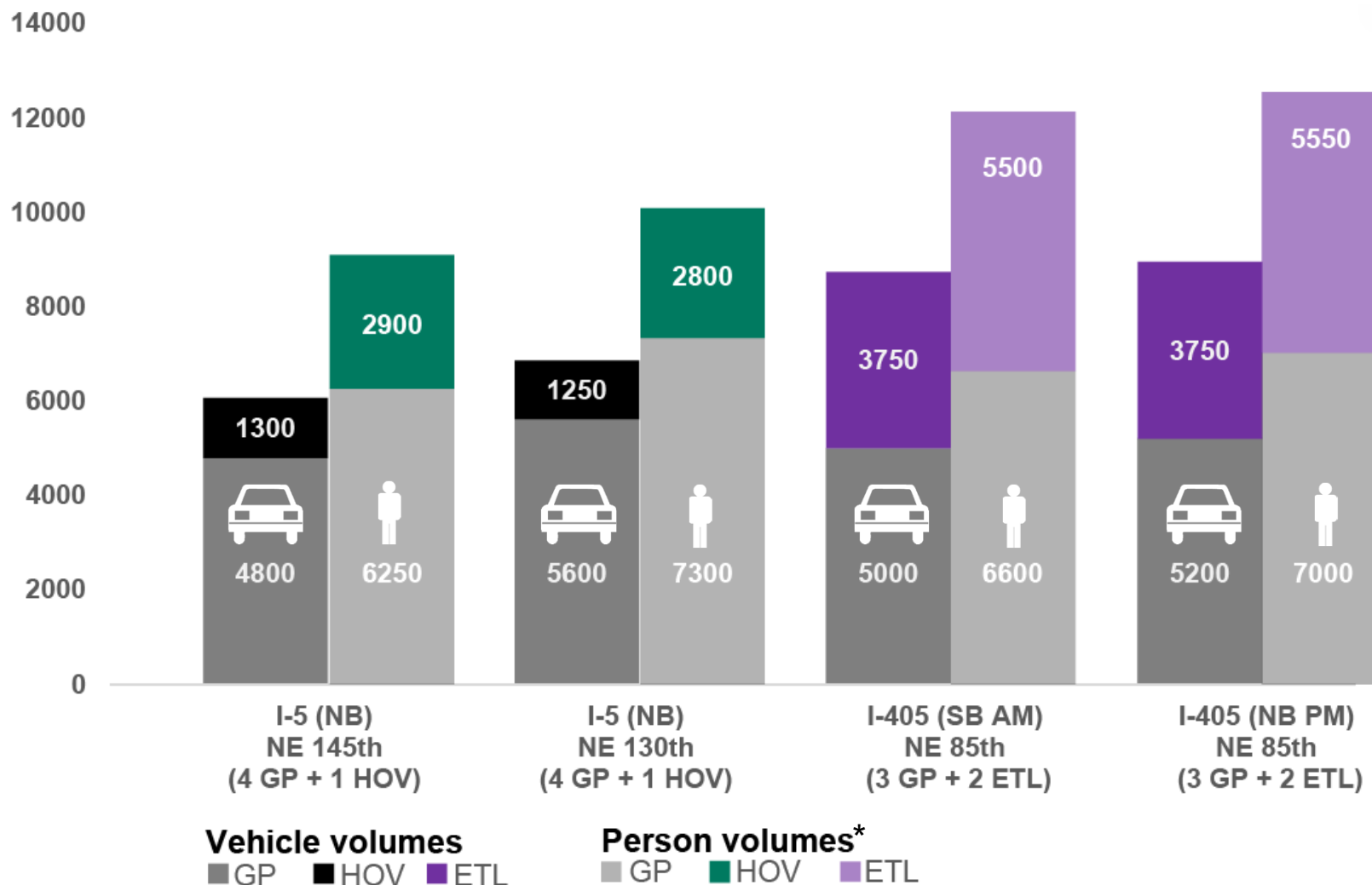
Tuesday, July 25, 2017 4:30 p.m.



# COMPARISON OF VOLUMES MOVED IN FIVE-LANE SECTIONS OF I-405 AND I-5 WITH SIMILAR TRAFFIC



# COMARISON OF VOLUMES MOVED IN FIVE-LANE SECTIONS OF I-405 AND I-5 WITH SIMILAR DAILY TRAFFIC



\*I-5 person estimates based on TRAC occupancy data (2012). I-405 person estimates based on occupancy sampling (2017). Transit ridership not included in person estimates.

# TRANSIT AGENCIES REPORT BENEFITS FROM I-405 EXPRESS TOLL LANES

## Community Transit

- Northbound bus travel times have improved 7.5% and reliability has improved
- Southbound bus travel times are consistent and arrive early more often
- Buses experienced twice as much variability on I-5 as on I-405, resulting in \$2.6 million in added schedule maintenance costs for 2015



## King County Metro

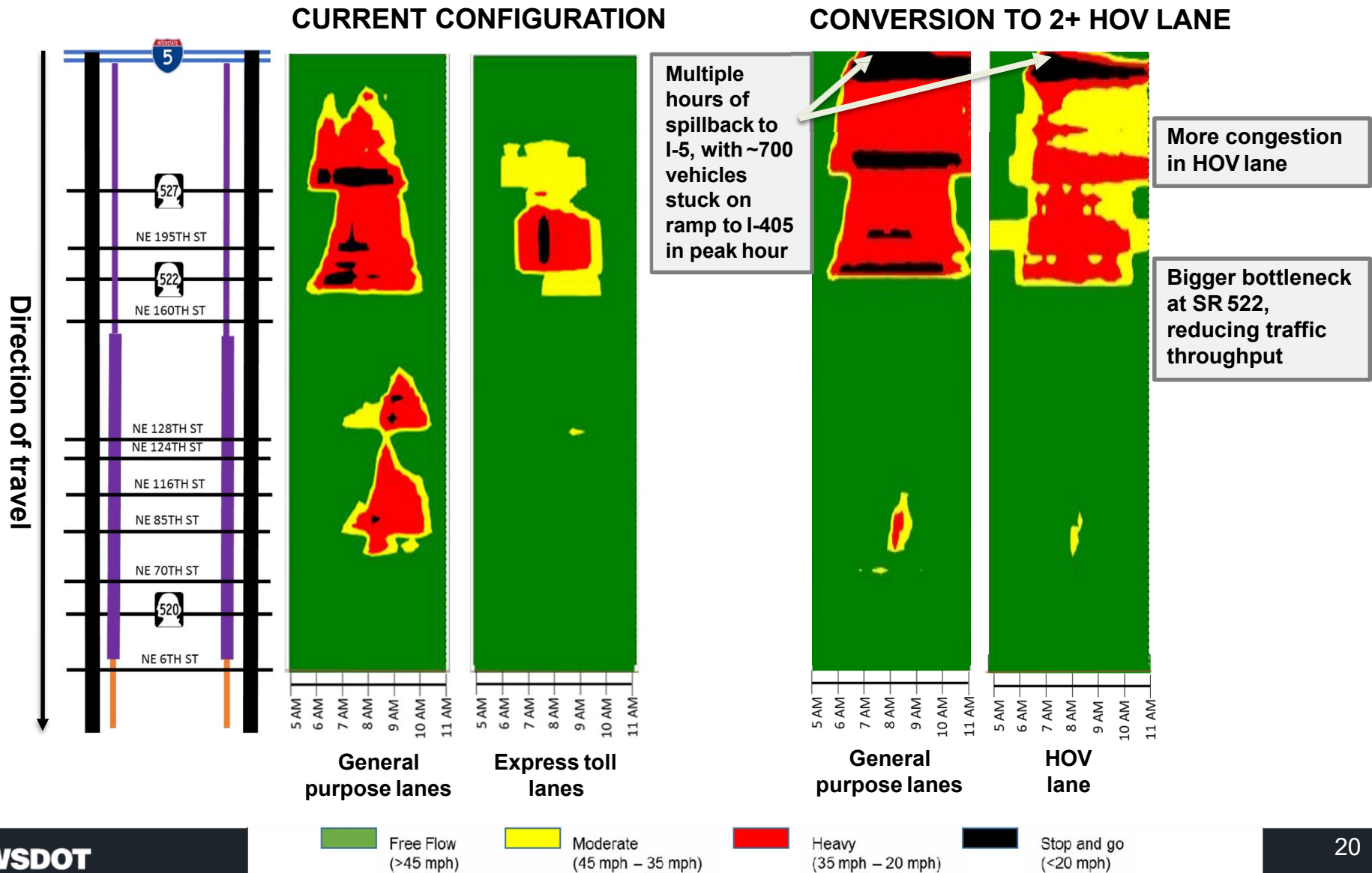
- Routes that travel on I-405 are moving faster since the express toll lanes opened between Bellevue and Lynnwood
- Afternoon trips are experiencing the greatest travel time savings (6 to 10 minutes)

## Sound Transit

- Relying on express toll lanes to operate new I-405 Bus Rapid Transit system reliably

# COMPARISON OF TRAFFIC CONGESTION WITH CHANGES TO EXPRESS TOLL LANE SYSTEM

2017 Morning Commute, Lynnwood to Bellevue (5 to 11 a.m.)

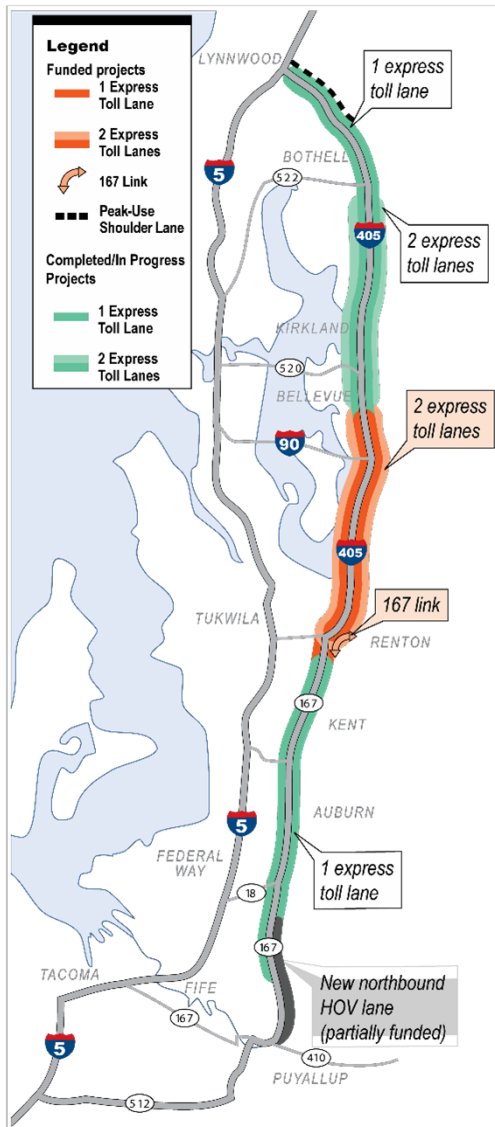


# CONSEQUENCES OF REMOVING EXPRESS TOLL LANES

- **Overall traffic performance degrades**
  - Continued regional growth creating even more demand
  - No choice for a reliable trip without managed lanes
- **Transit reliability suffers**
  - Sound Transit investing \$860M in I-405 Bus Rapid Transit system from Lynnwood to Tukwila
  - Improvements achieved in Bellevue to Lynnwood segment would be lost
- **New revenue source disappears**
  - No clear path or timeline for funding additional Master Plan improvements



# 40-MILE CORRIDOR



The existing I-405 express toll lanes between Bellevue and Lynnwood are part of a planned 40-mile corridor that will ultimately extend south to the Pierce County line. This system will provide drivers with an option for a faster, more reliable trip. Recent projects and immediate next steps include:

## I-405 Bellevue to Lynnwood Express Toll Lanes

- Authorized by the Legislature in 2011; opened September 2015

## SR 167 HOT Lane Extension

- Opened December 2016

## I-405/SR 167 Direct Connector

- Under construction
- Open to traffic in 2019

## Renton to Bellevue Widening and Express Toll Lanes

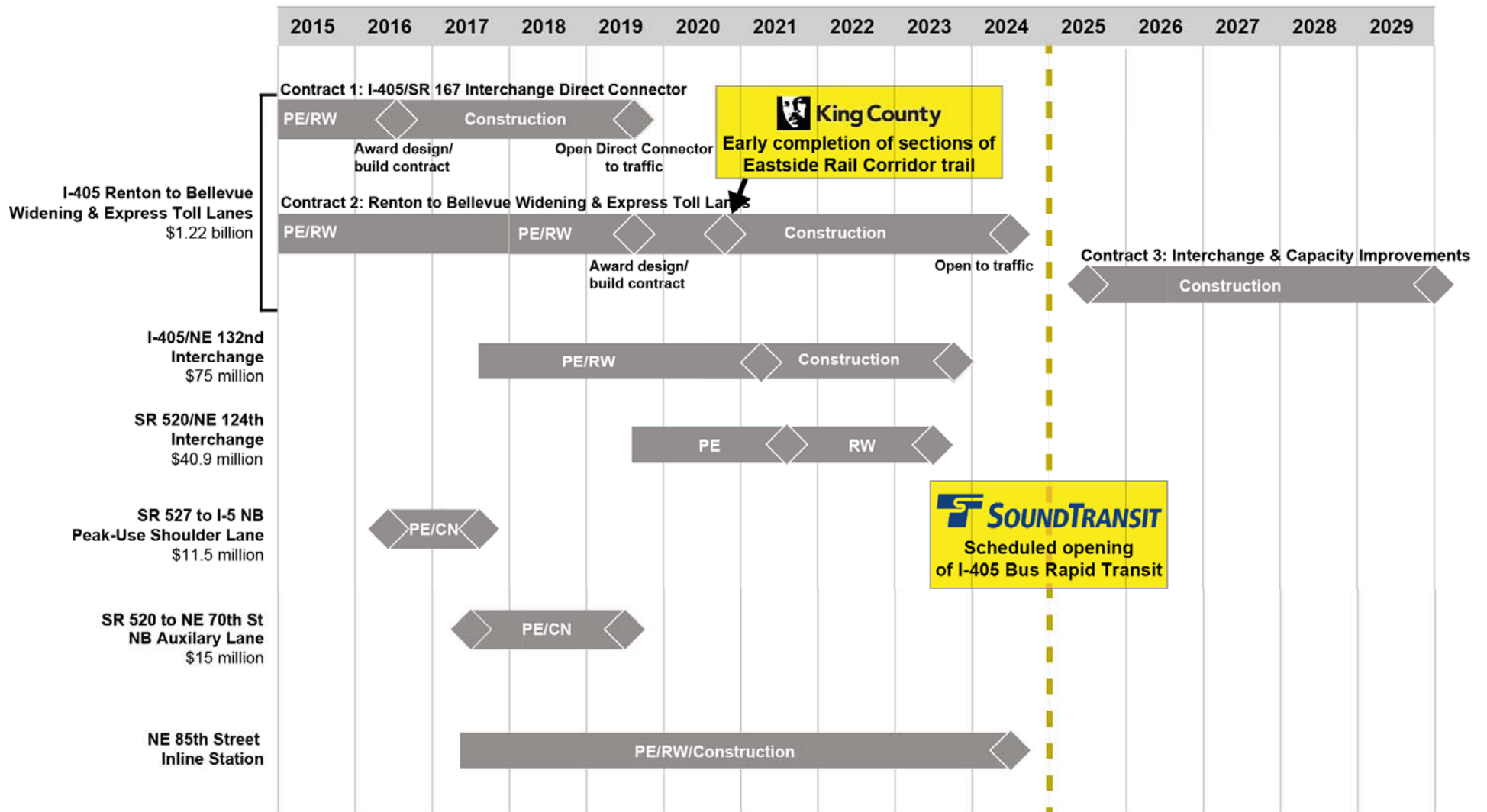
- Construction to begin in 2019
- Open to traffic in 2024

## I-405 North End Improvements

- Northbound peak-use shoulder lane (SR 527 to I-5) opened April 2017
- Legislature authorized \$5 million toward preliminary engineering for next phase of improvements



# I-405 DELIVERY SCHEDULE: CURRENT FUNDING



# I-405/SR 167 Direct Connector: Project overview

## Status:

- Under construction, open to traffic in 2019

## Project Description:

Builds a new flyover ramp connecting the SR 167 HOT lanes to the I-405 HOV lanes. Also relocates a noise wall and constructs portions of local streets in the Talbot Hill neighborhood.



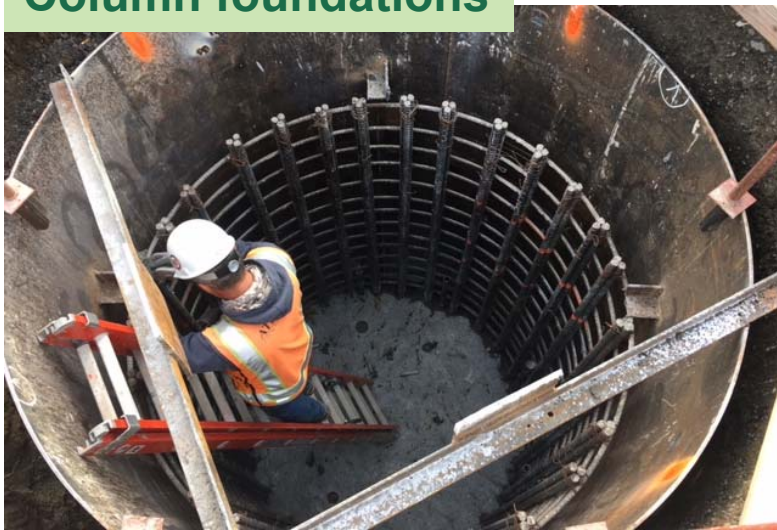


# I-405/SR 167 Direct Connector: Construction progress

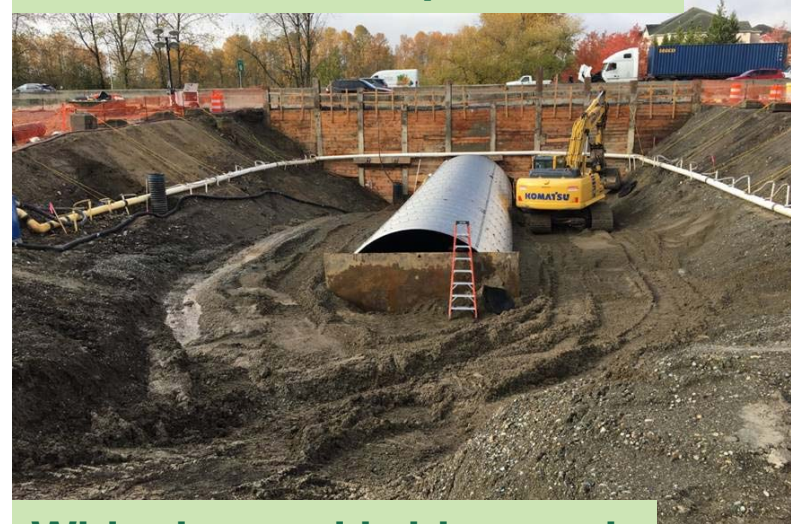
Flyover ramp columns



Column foundations



SR 167 culvert replacement



Widening and bridge work



# NEXT STEPS: RENTON TO BELLEVUE WIDENING AND EXPRESS TOLL LANES

## Status:

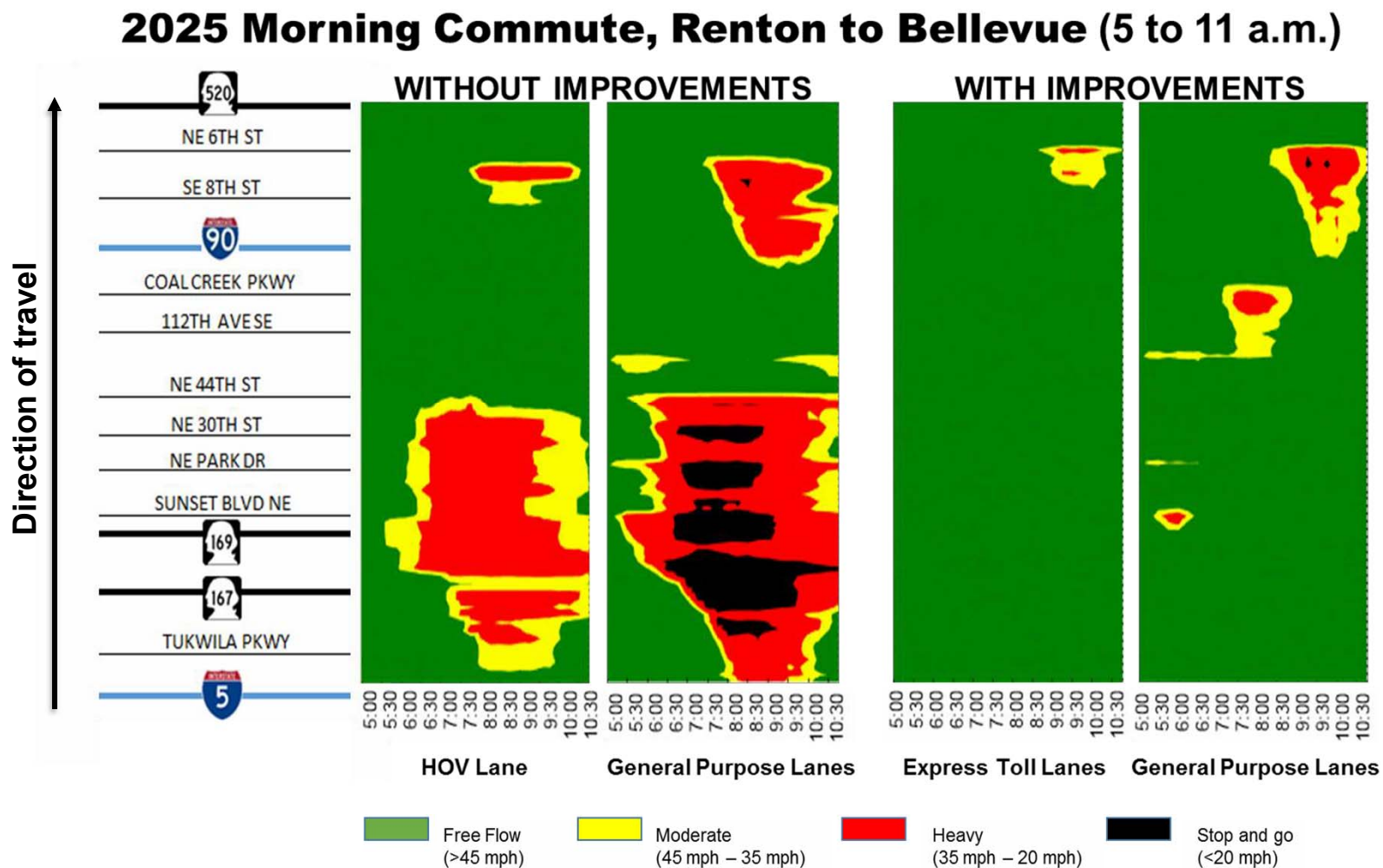
- Fully funded by Connecting Washington and anticipated express toll lane revenue
- In preliminary engineering and environmental review phase
- Construction scheduled to start in 2019

## Major multimodal project elements

- New general purpose capacity and interchange improvements
- Dual express toll lane system
- Bus Rapid Transit infrastructure (with Sound Transit)
  - Direct access ramps and park and ride at Northeast 44th Street in Renton
- Eastside Rail Corridor Regional Trail segments (with King County)
- Coordination with Mountains to Sound Greenway trail



# RENTON TO BELLEVUE TRAFFIC WOULD CONTINUE TO WORSEN WITHOUT IMPROVEMENTS





# LEGISLATIVE DIRECTION

## **RCW 47.56.820**

(2) All revenue from an eligible toll facility must be used only to construct, improve, preserve, maintain, manage, or operate the eligible toll facility on or in which the revenue is collected.

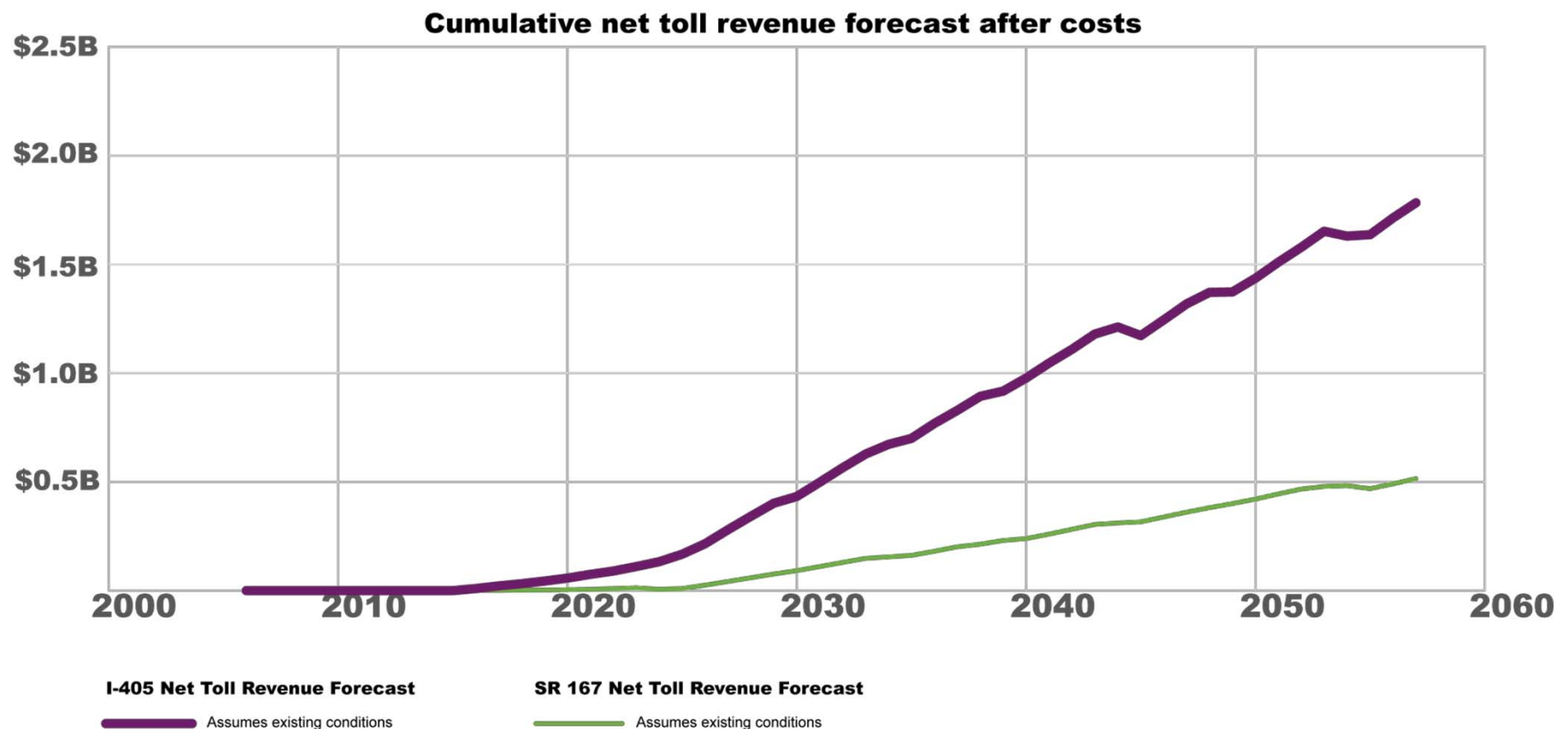
## **ESB 5096 (2017-19 Biennial Transportation Budget)**

During this biennium, \$5 million of TPA funding “is provided solely for preliminary engineering for adding capacity on Interstate 405 between state route number 522 and Interstate 5. The funding is a transfer from the I-405/Kirkland Vicinity Stage 2 - Widening project due to savings, and will start an additional phase of this I-405 project.”



# LONG-TERM REVENUE POTENTIAL FOR I-405/SR 167 IMPROVEMENTS

- Nearly \$500M in I-405 net toll revenue after first five years of Renton to Bellevue express toll lanes opening\*
- Approximately \$1 billion by 2040 assuming current toll policy
- Toll revenue is required to stay in corridor for future improvements



*\*\$215 million anticipated by Connecting Washington for Renton to Bellevue contract 3*

# POTENTIAL NEXT STEPS TO ACCELERATE NORTH END IMPROVEMENTS



- With optimal delivery, and assuming all funding can be identified, all planned improvements between SR 522 and SR 527 could be delivered by 2024.
- With toll revenue only (pay as you go), southbound capacity improvements could be accelerated by staging the project in two construction contracts:

## Phase 1A – Southbound Capacity (\$225M)

- Partially rebuilds SR 522 interchange
- Second southbound express toll lane between SR 522 and SR 527

## Phase 1B – Northbound Capacity and Transit (\$225-275M)\*

- Second northbound express toll lane between SR 522 and SR 527
- Direct access ramp/Bus Rapid Transit station at SR 527
- Environmental and transit elements

*\*Not inflated*

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Earlier Delivery	PE/RW				Phase 1(A/B) CN												
	Toll Revenue + other sources to be identified																
Phased Delivery	PE/RW								Phase 1A CN					Phase 1B CN			
									Toll Revenue only (Pay as you go)				Toll Revenue only (Pay as you go)				

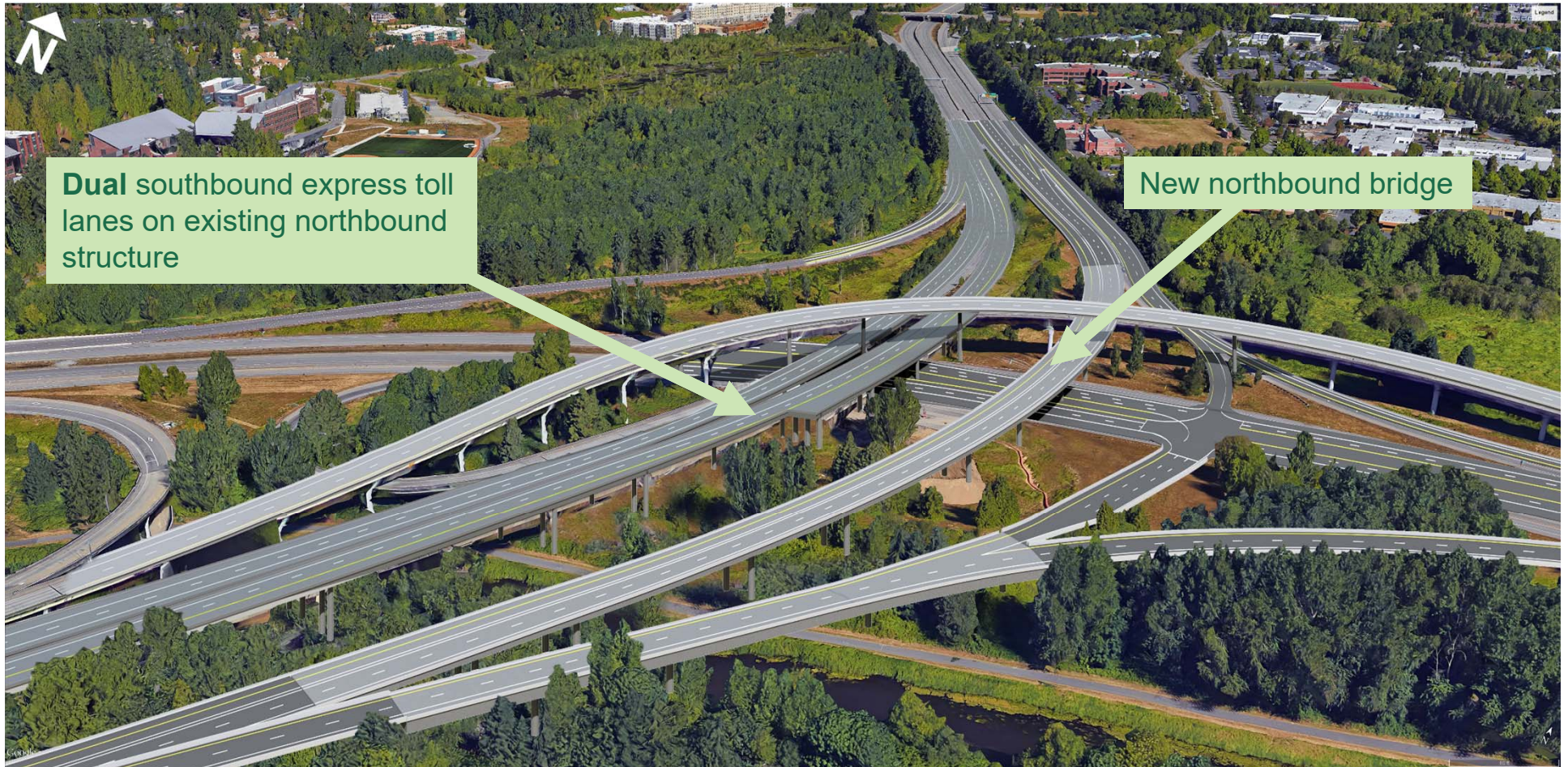


# I-405/SR 522 INTERCHANGE EXISTING CONDITIONS



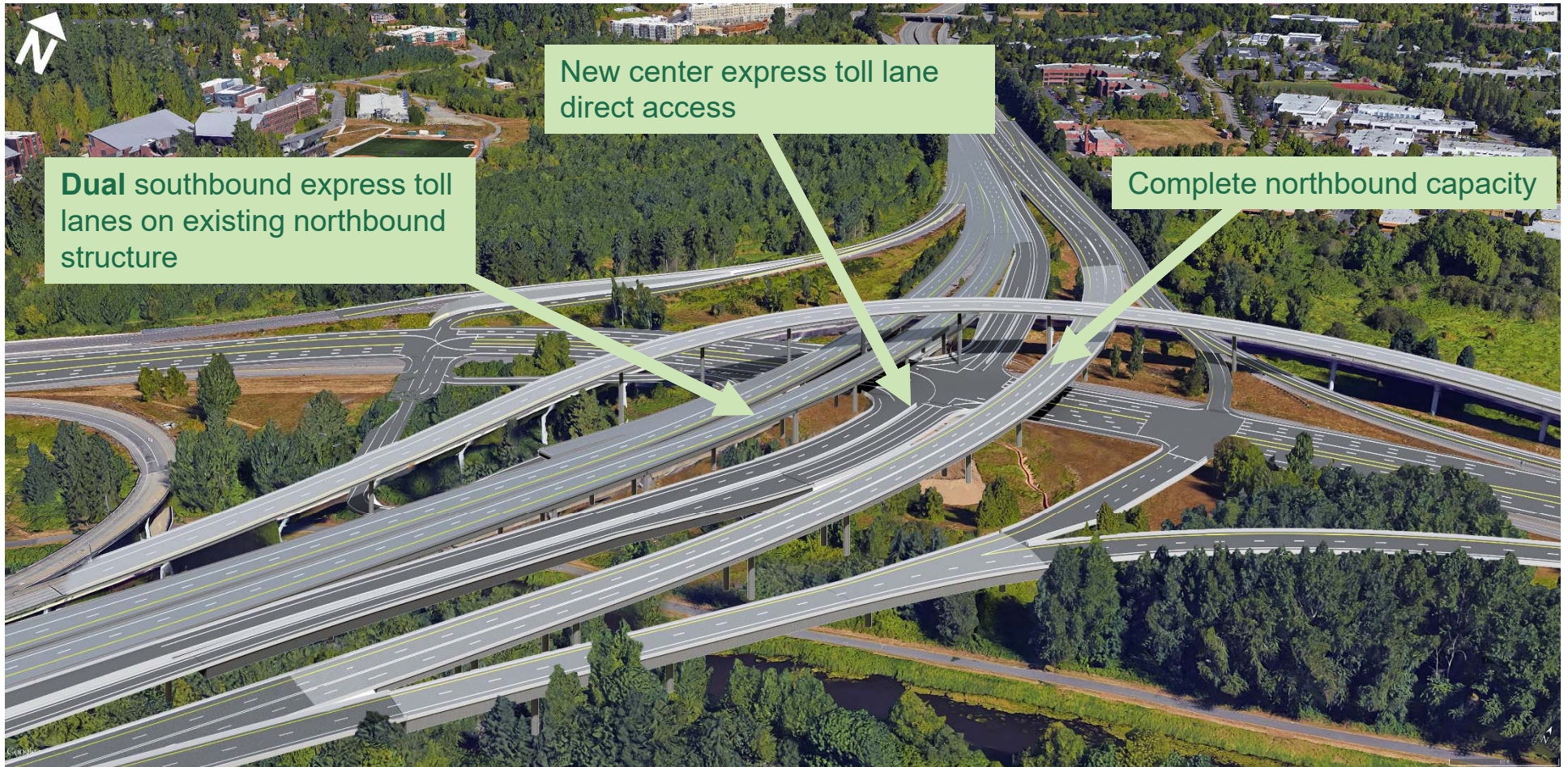


# I-405/SR 522 INTERCHANGE PHASE 1A





# I-405/SR 522 INTERCHANGE PHASE 1B





# CONTACT

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