

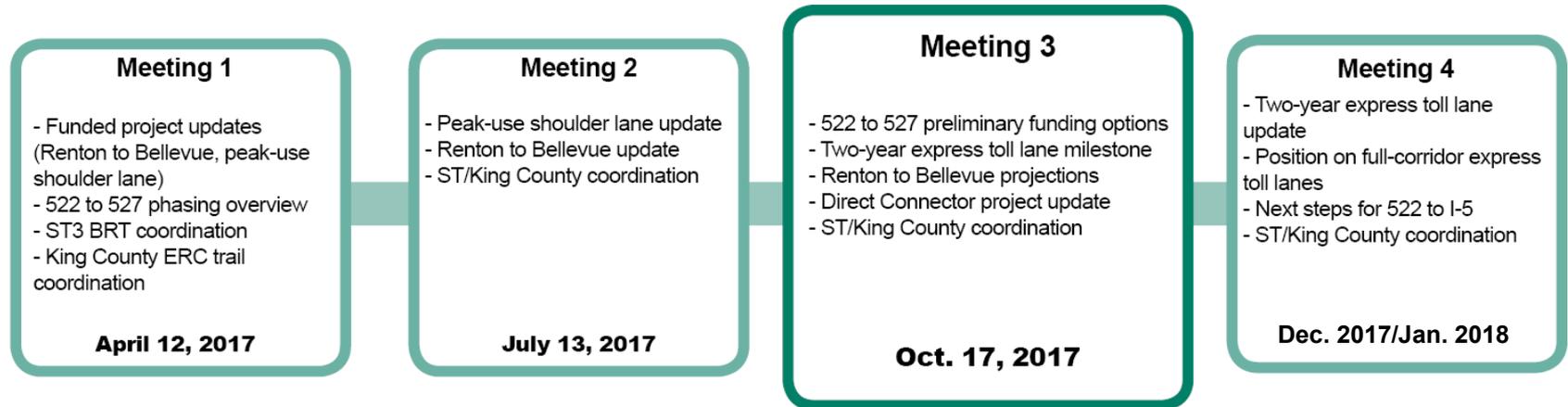
I-405/SR 167 Corridor **Executive Advisory Group**

Meeting #3, Bothell City Hall
Oct. 17, 2017

INTRODUCTIONS & AGENDA

- WSDOT update
- Transit agency updates
- Public comment
- Wrap-up and next steps

EAG MEETING TOPICS/SCHEDULE



Key Discussion Questions for Meeting 3

- What trends are we seeing in Bellevue to Lynnwood express toll lanes performance near the end of two years of operations?
- How do I-405 freeway sections with express toll lanes compare with other similar cross sections on I-5?
- What are potential funding approaches for the I-405 north end improvements?

I-405 MASTER PLAN

Regional Consensus

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

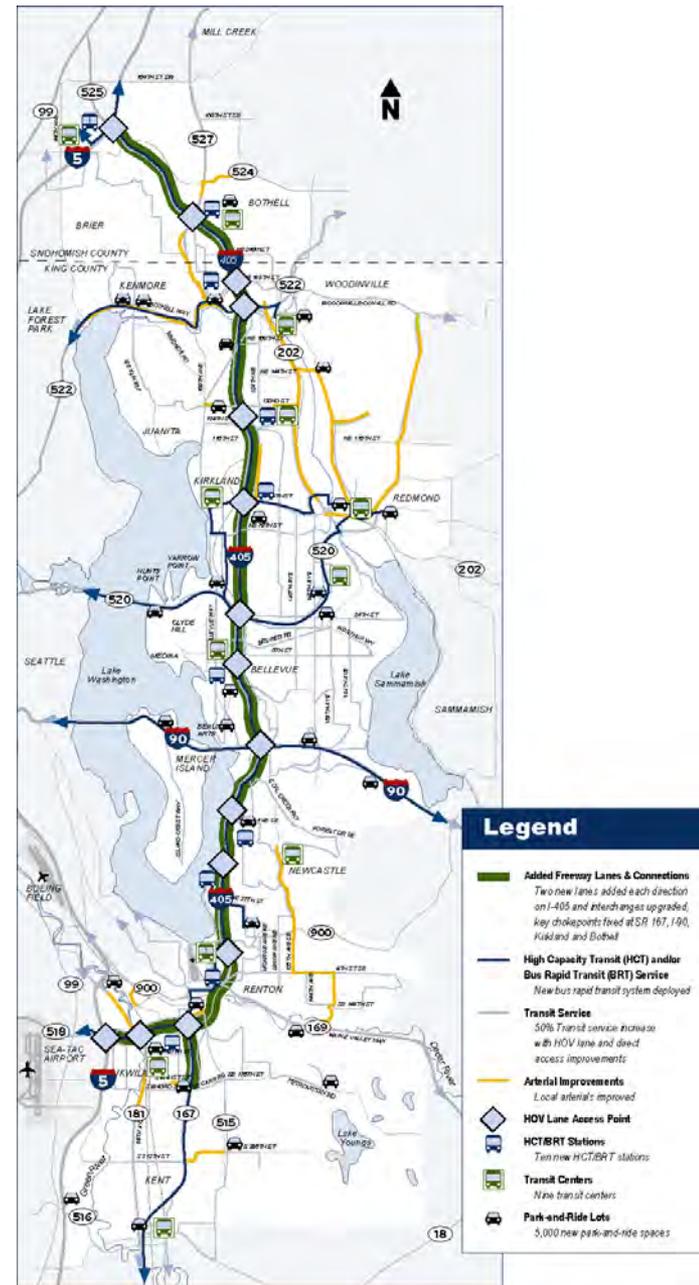
Roadways

- 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



WSDOT UPDATE

Kim Henry, P.E.
Program Administrator
I-405/SR 167 Corridor Program

Ed Barry, P.E.
Director
WSDOT Toll Division

Bruce Brown, Ph.D.
Director of Research, PRR

Karl Westby, Ph.D.
Traffic Manager
I-405/SR 167 Corridor Program

Executive Advisory Group History: 2010 endorsement of 40-mile express toll lane system

Dave Gossett
Dave Gossett
Snohomish County Councilmember

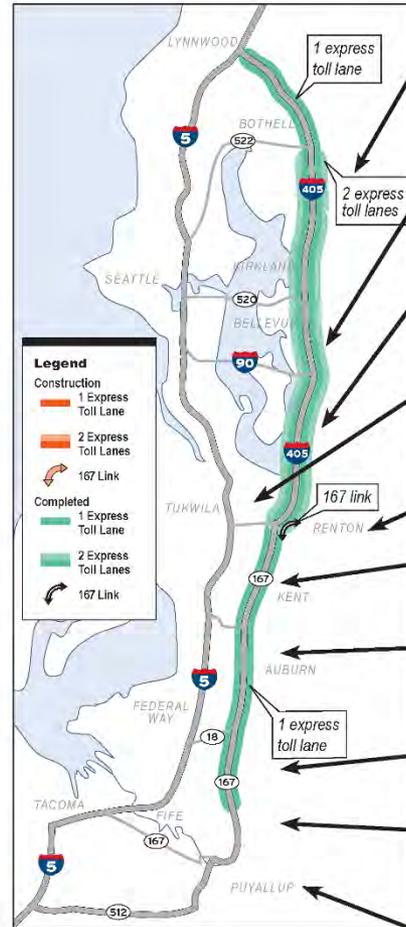
Reagan Dunn
Reagan Dunn
King County Council

Richard Ford
Richard Ford
WA State Transportation Commission

Sue Singer
Sue Singer
Puget Sound Regional Council

Ronald J. Posthuma
Ronald Posthuma
King County Dept. of Transportation

Roger Bush
Roger Bush, Chair
Pierce County Council



Joan McBride
Joan McBride
Mayor of Kirkland

Grant Degginger
Grant Degginger
Bellevue City Councilmember

Sonny Putter
Sonny Putter
Newcastle City Councilmember

Jim Haggerton
Jim Haggerton
Mayor of Tukwila

Randy Corman
Randy Corman
Renton City Councilmember

Suzette Cooke
Suzette Cooke
Mayor of Kent

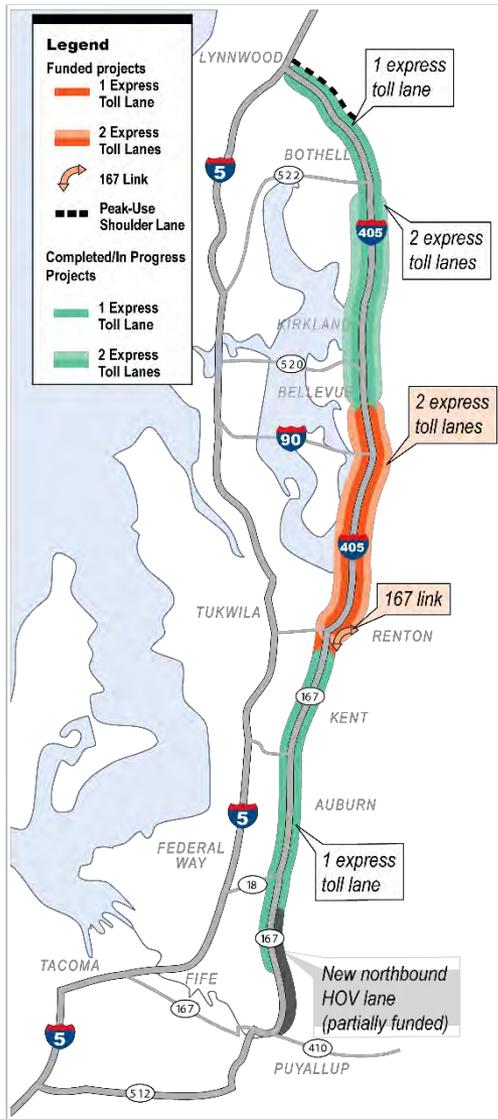
Peter Lewis
Peter Lewis
Mayor of Auburn

David Hill
David Hill
Mayor of Algona

Richard Hildreth
Richard Hildreth
Mayor of Pacific

Kathy R. Turner
Kathy Turner
Mayor of Puyallup

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. Immediate next steps include:

I-405 Bellevue to Lynnwood Express Toll Lanes

- Opened September 2015

SR 167 HOT Lane Extension

- Opened December 2016

I-405/SR 167 Direct Connector

- Under construction
- Open to traffic in 2019

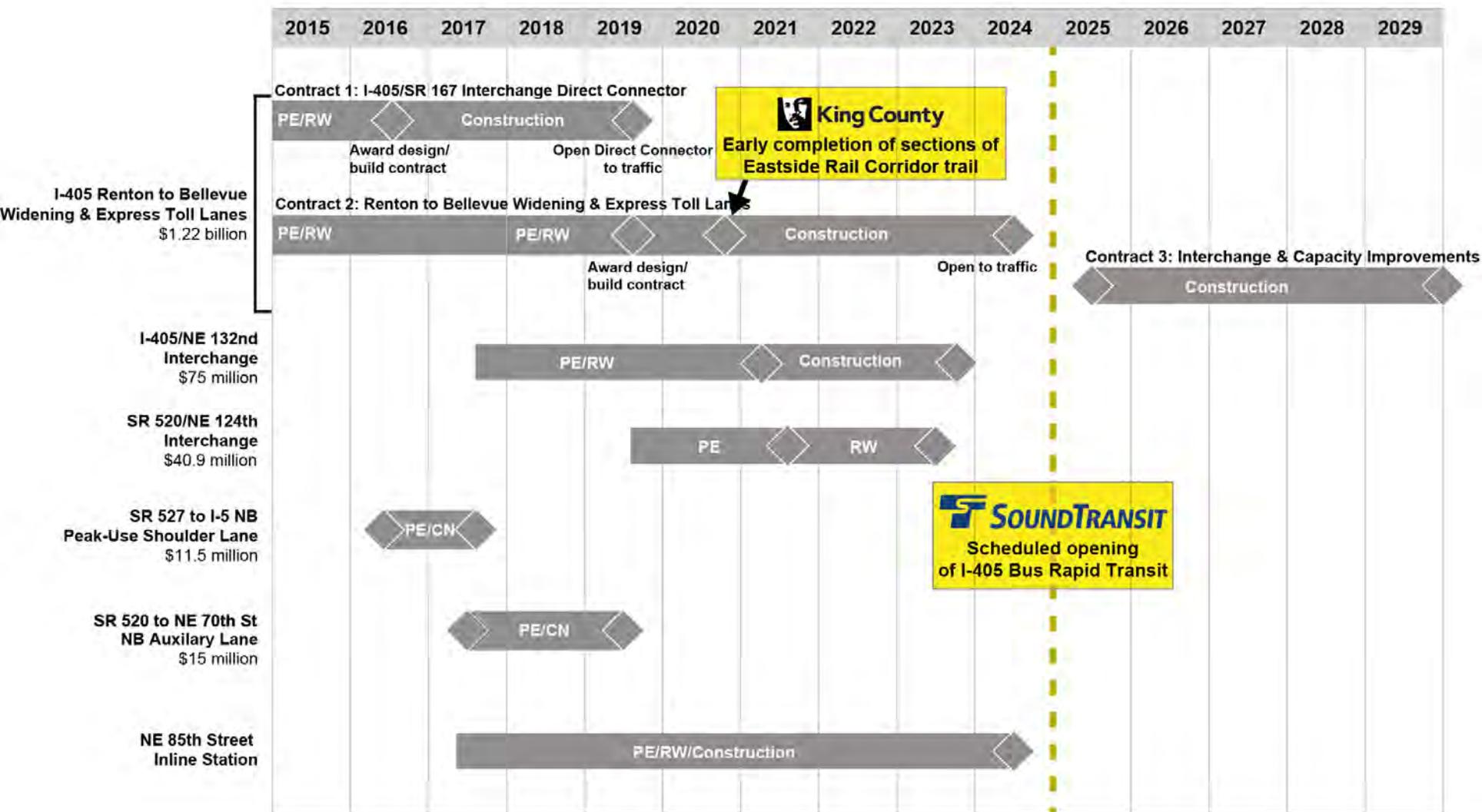
Renton to Bellevue Widening and Express Toll Lanes

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

I-405 North End Improvements

- Legislature authorized \$5 million toward preliminary engineering

I-405 Delivery Schedule: Current Funding



I-405/SR 167 Direct Connector: Summer construction progress

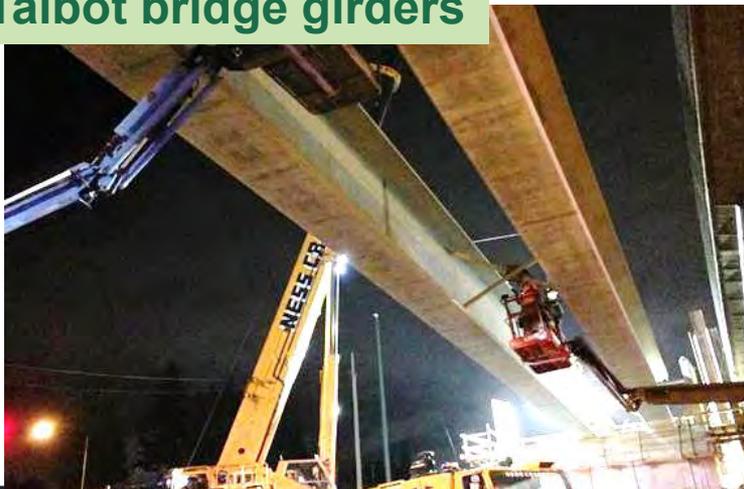
Noise wall relocation



Mass excavation

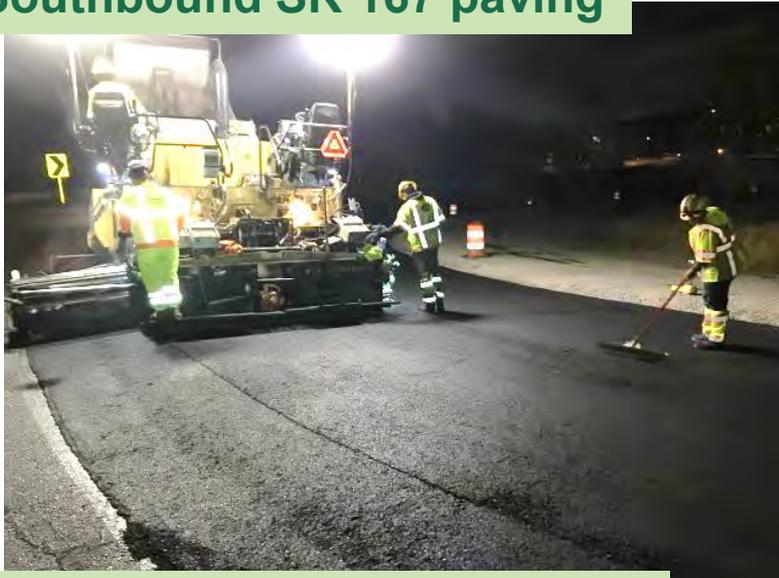


Talbot bridge girders

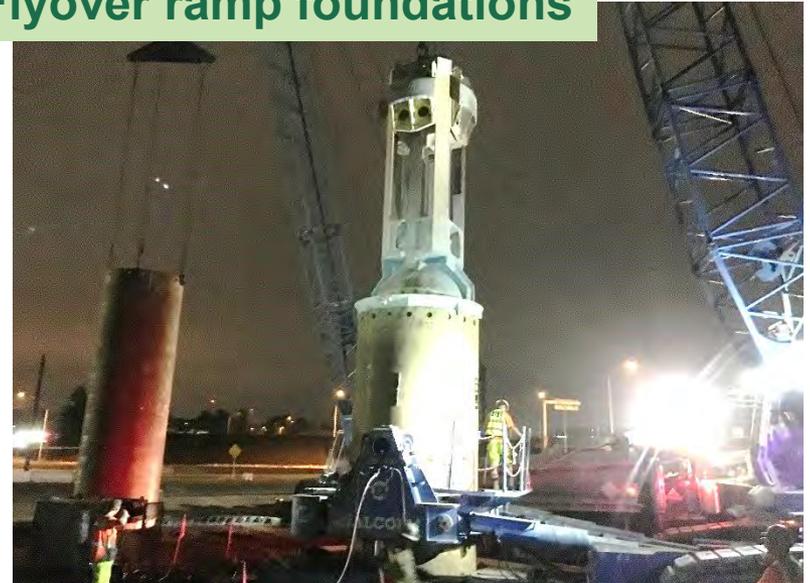


I-405/SR 167 Direct Connector: Ongoing construction work

Southbound SR 167 paving



Flyover ramp foundations



I-405 pavement rehabilitation



CORRIDOR CONDITIONS

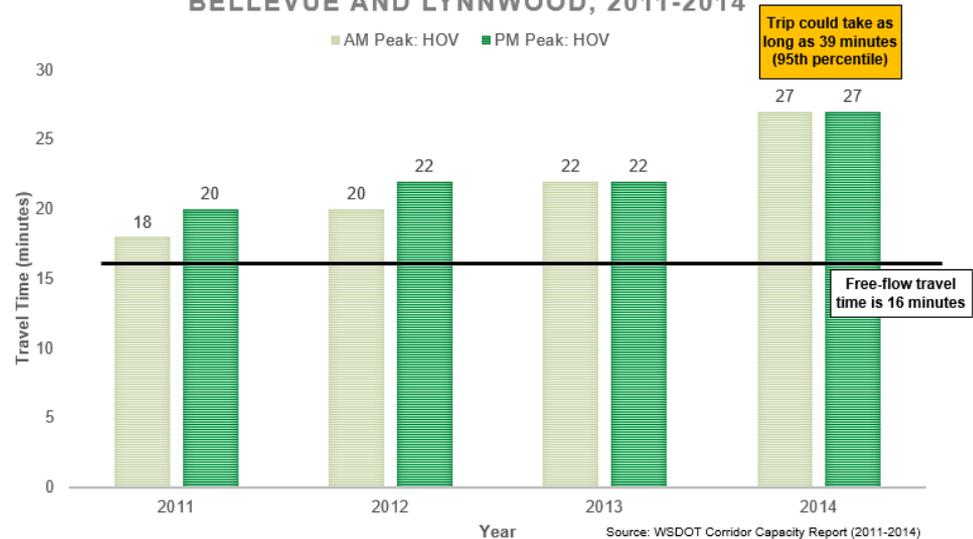
I-405 is one of the most congested corridors in the state.

- **The previous HOV lanes were often as congested as general purpose lanes during peak periods.** →

The Puget Sound region is growing rapidly. By 2040, an additional 1 million people are expected to be living in this region.

Since the express toll lanes opened in September 2015, the region has gained more than **168,000 residents** and almost **148,000 new drivers***.

AVERAGE WEEKDAY HOV TRAVEL TIMES BETWEEN BELLEVUE AND LYNNWOOD, 2011-2014



EXPRESS TOLL LANE BASICS



24.9 MILLION TOTAL TRIPS



17.2 MILLION TOLLED TRIPS

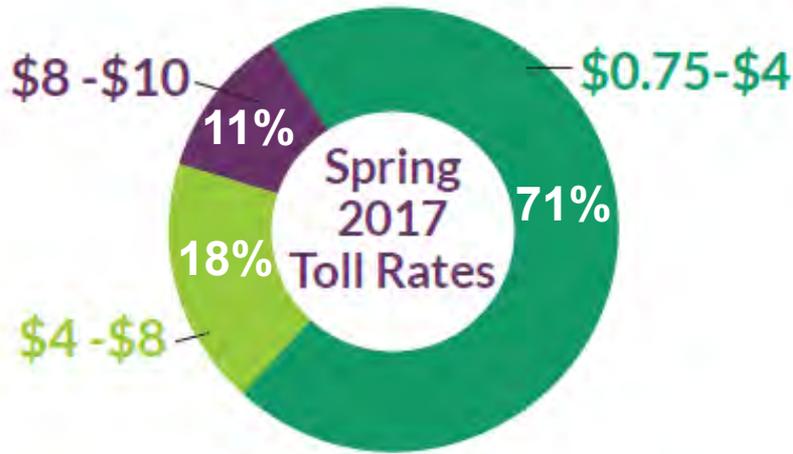
7.7 MILLION FREE HOV TRIPS

- 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: \$2.96
- Two-thirds of tolls paid are under \$4

Carrying higher traffic volumes than prior to tolling

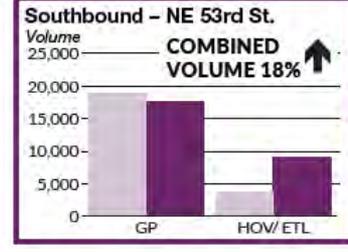
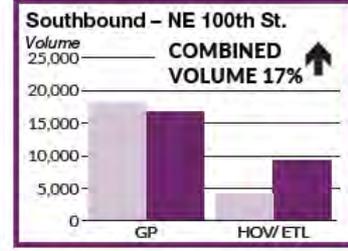
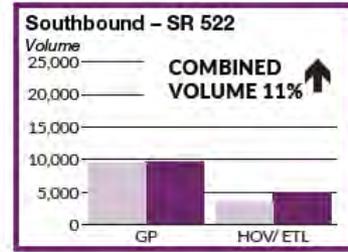
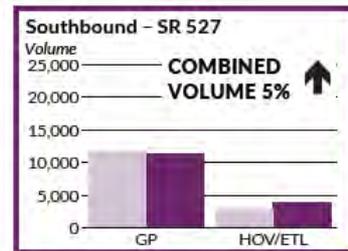
Moving more vehicles

- Overall, vehicle volumes have increased 4-20%

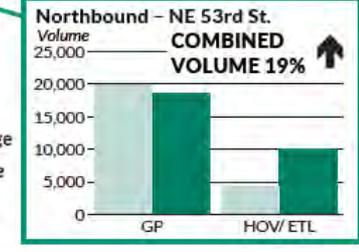
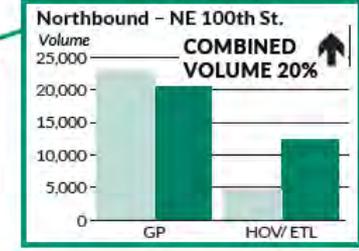
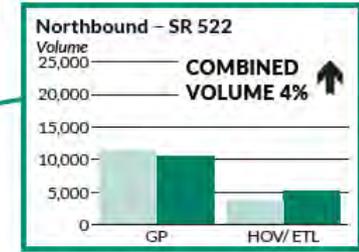
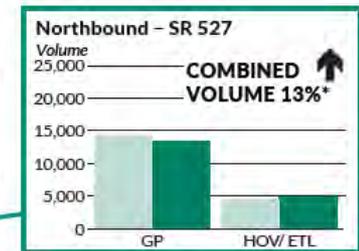
Moving more people

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

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



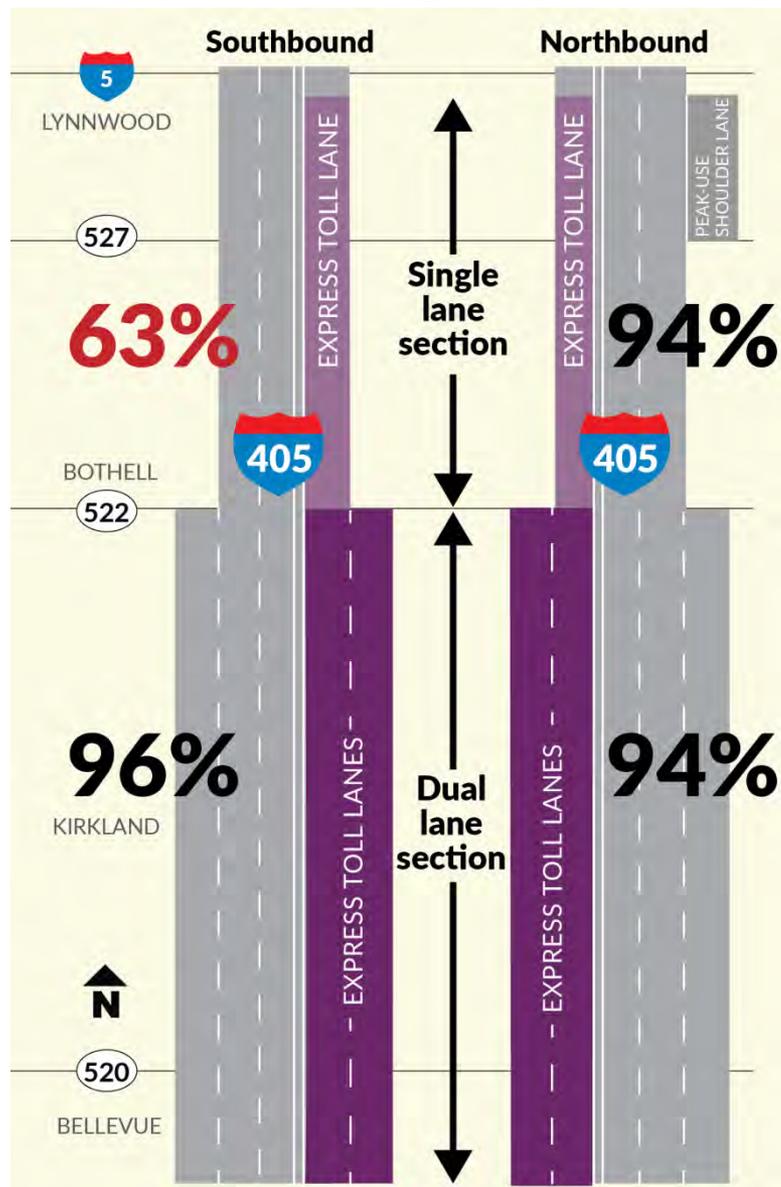
Northbound PM Peak (3-7 p.m.)



■ Pre-tolling Average ■ Pre-tolling Average
■ 21 Month Average ■ 21 Month Average

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

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
\$38.6M

OPERATIONS COSTS
\$13.6M

FUNDS AVAILABLE FOR I-405 IMPROVEMENTS
\$25M

\$11.5M already reinvested in corridor for 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.



Independent I-405 express toll lanes study is ongoing

- Joint Transportation Committee study
- Funded by Legislature in summer 2017
- University of Minnesota research team
- **The JTC study will: “independently analyze and assess traffic data for the I-405 tolled corridor**, including the performance measures described in statute, and to recommend strategies for near-term and long-term improvement of traffic performance in the corridor.”

Schedule

- **Dec. 14, 2017:** Report out at Joint Transportation Committee meeting
- **Jan. 8, 2018:** Final report due to JTC

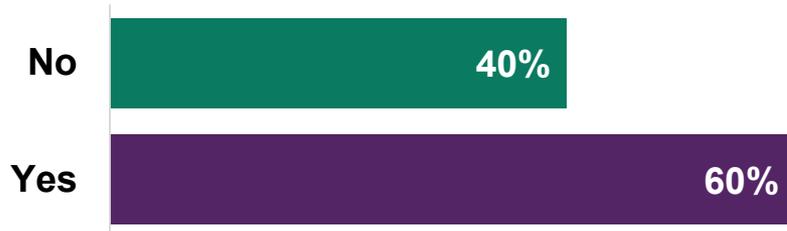


UNIVERSITY OF MINNESOTA

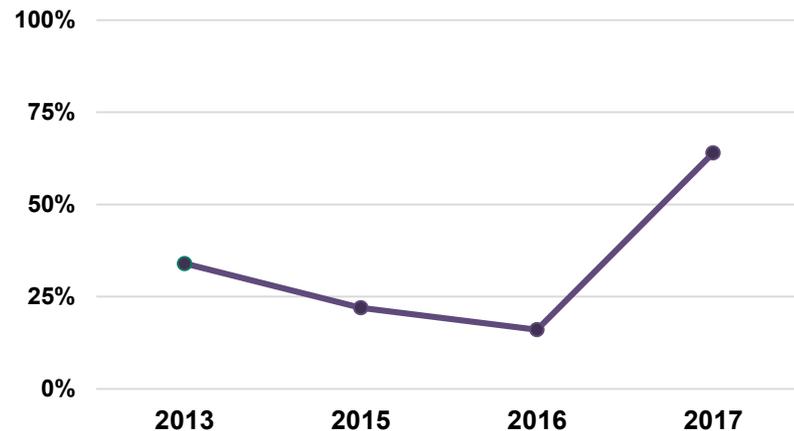
Drivers like having an option

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



Good To Go! business customer survey

Bruce Brown, Ph.D.
Director of Research, PRR

Summary of survey methodology

- Online survey sent to about 24,000 *Good To Go!* customers who had business name associated with account
- Have traveled in the I-405 express toll lanes or SR 167 HOT lanes at least once in the last year
- Received 1,020 responses
- Conducted in late August/early September 2017

I-405 Express Toll Lane Business Survey

10. On a scale of 1 through 7, how helpful do you find toll lanes for work purposes?

1: Very unhelpful

2: Unhelpful

3: Somewhat unhelpful

4: Neutral

5: Somewhat helpful

6: Helpful

7: Very helpful

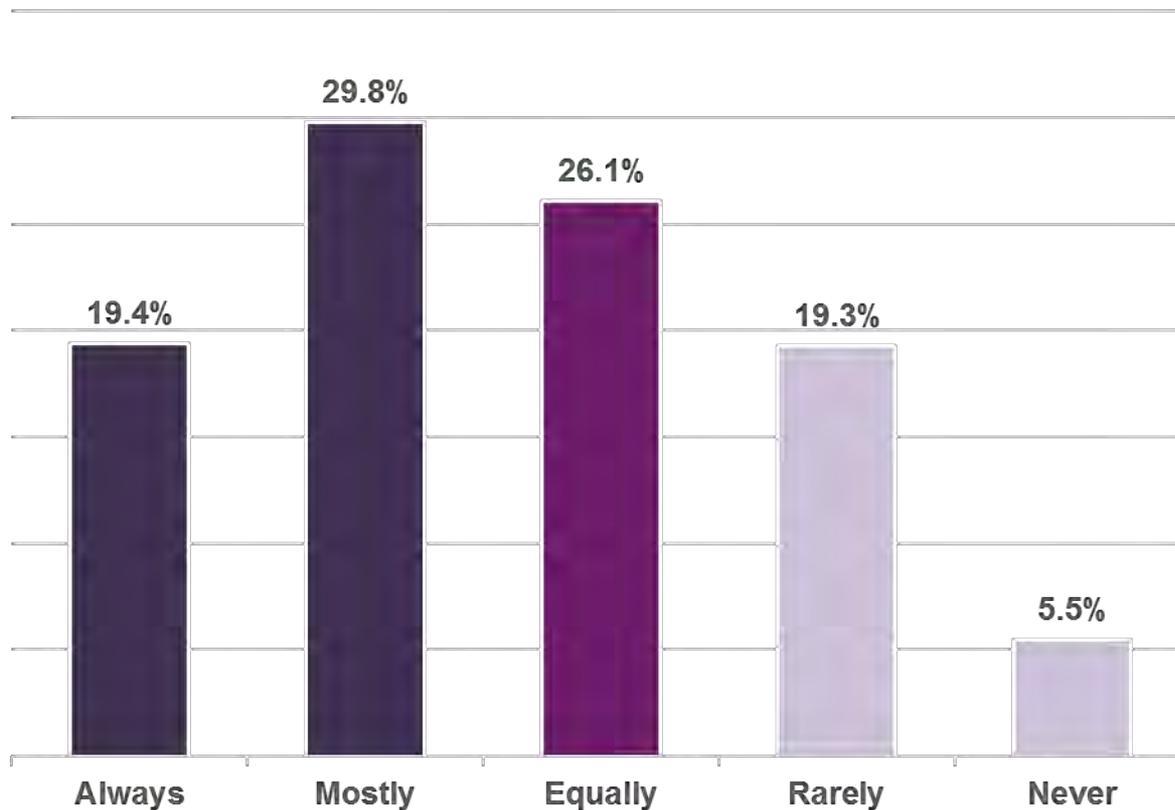
11. Do you support using toll revenue to fund improvements to SR 167 and I-405 in order to reduce congestion?

No

Yes

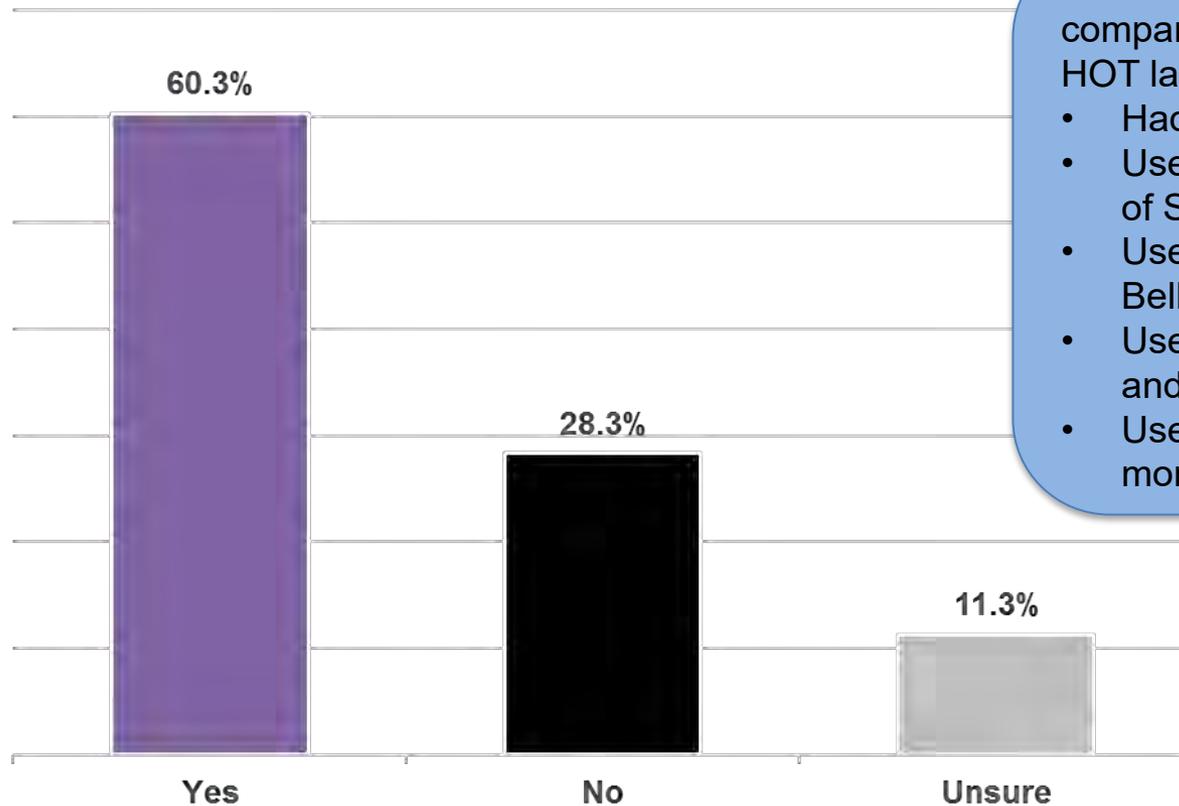
More than half of business survey respondents mostly or always use toll lanes

When you or your employees make business trips on the express toll lane section of I-405 or the HOT lane section of SR 167 during tolling hours, **how often do you use the toll lanes?**



Sixty percent of business respondents say they benefit from toll lane option

Does your company benefit from having the option of using the express toll lanes and/or HOT lanes?

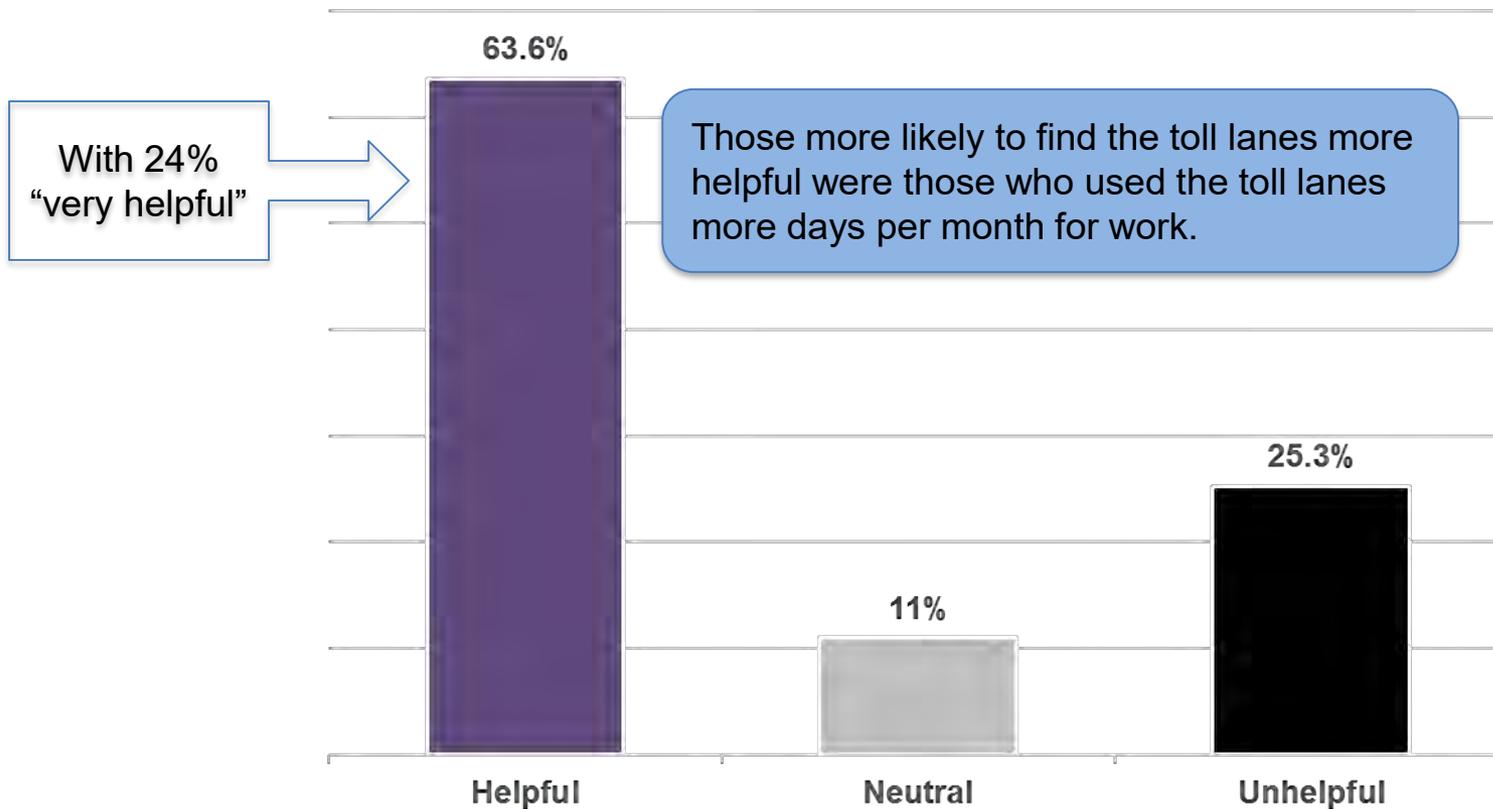


Those more likely to say their company benefits from ETLs and/or HOT lanes were those who:

- Had fewer employees
- Used Auburn to Renton section of SR 167 (67% said Yes)
- Used I-405 between Renton and Bellevue (64% said Yes)
- Used I-405 between Bellevue and Lynnwood (61% said Yes)
- Used toll lanes more days per month for work

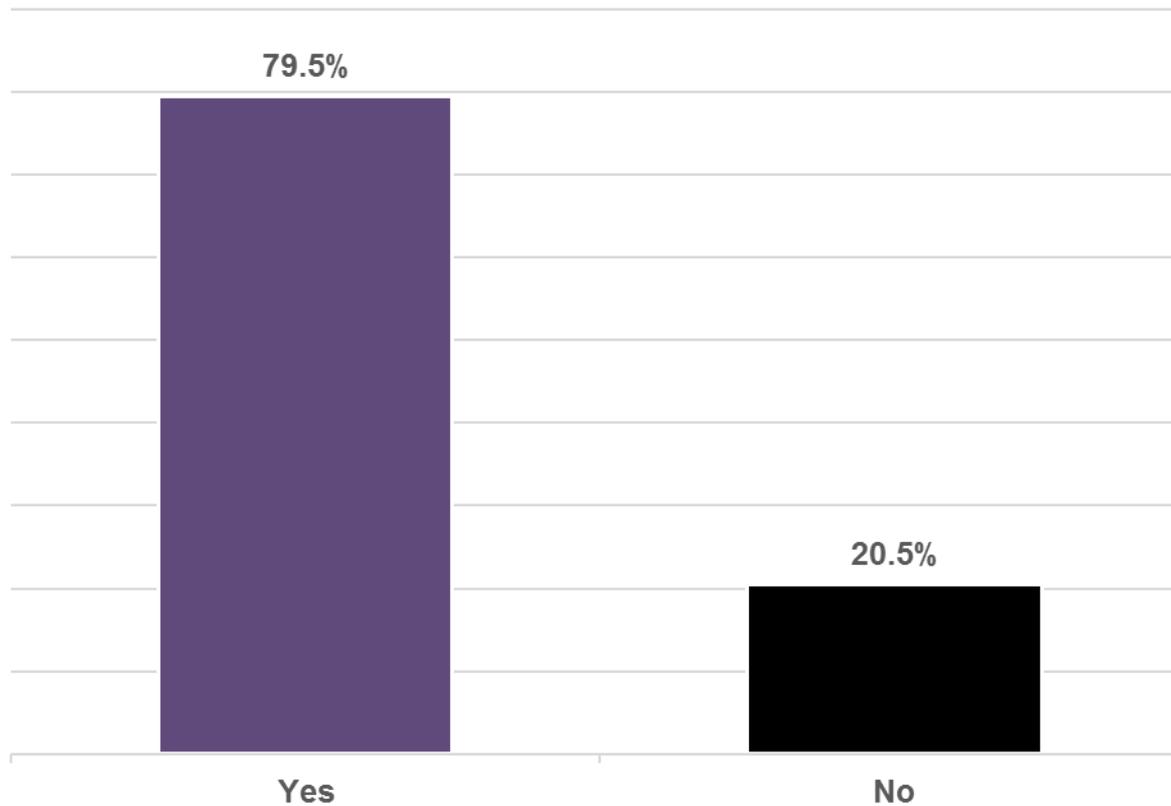
Nearly two-thirds of respondents find toll lanes helpful for their work travel

How helpful do you find toll lanes for work purposes?



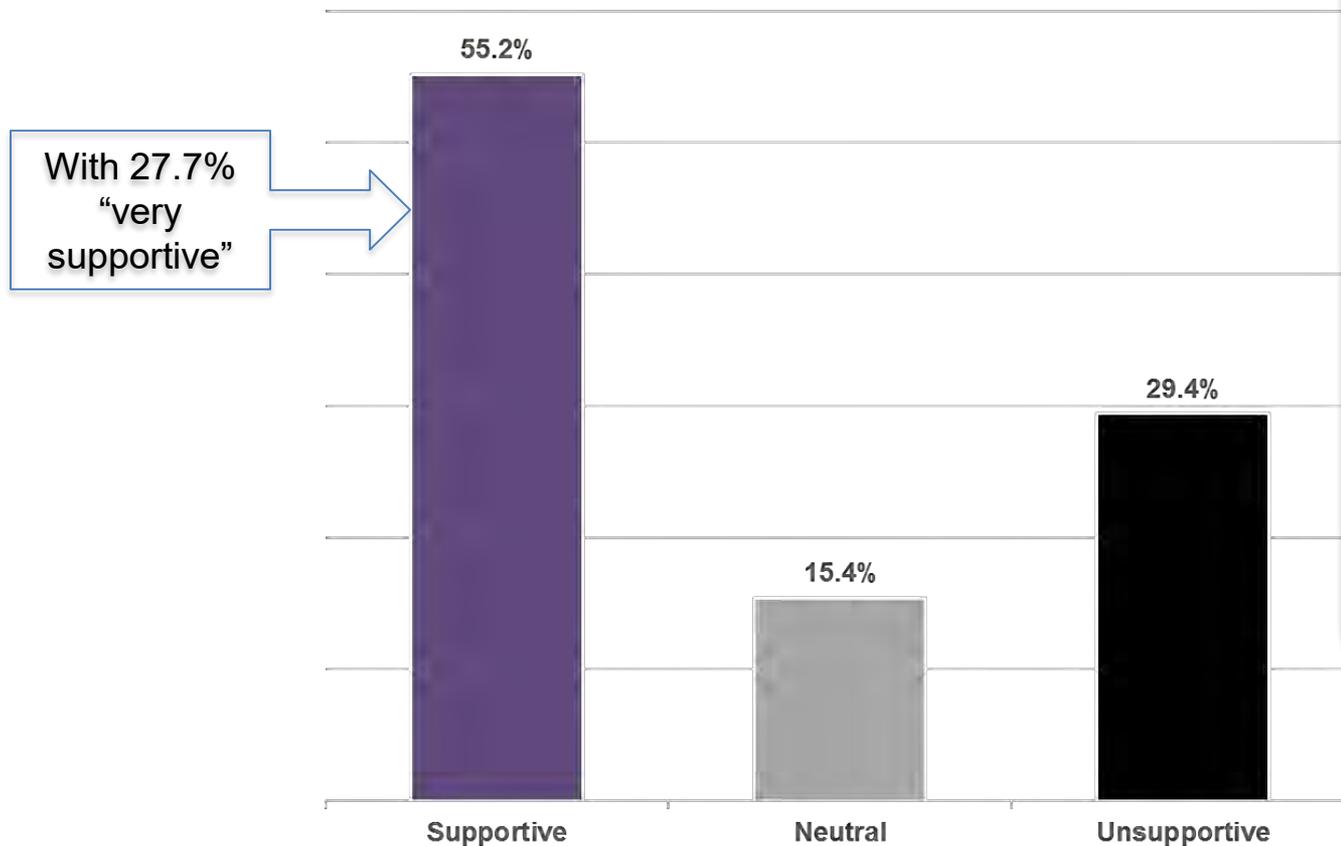
Vast majority of business respondents support using toll revenue to fund future improvements

Do you **support using toll revenue to fund improvements** to SR 167 and I-405 in order to reduce congestion?



More than half of business respondents support extension of toll lane system

Pending legislative approval, WSDOT will be directed to extend the express toll lanes south from Bellevue to Renton, connecting them with the HOT lanes on SR 167. **How supportive are you for this extension of the express toll lanes** when you think about your work?



Those more supportive were those who used:

- Auburn to Renton section of SR 167 (33% very supportive)
- I-405 between Renton and Bellevue (32% very supportive)
- I-405 between Bellevue and Lynnwood (28% very supportive)
- Toll lanes more days per month for work

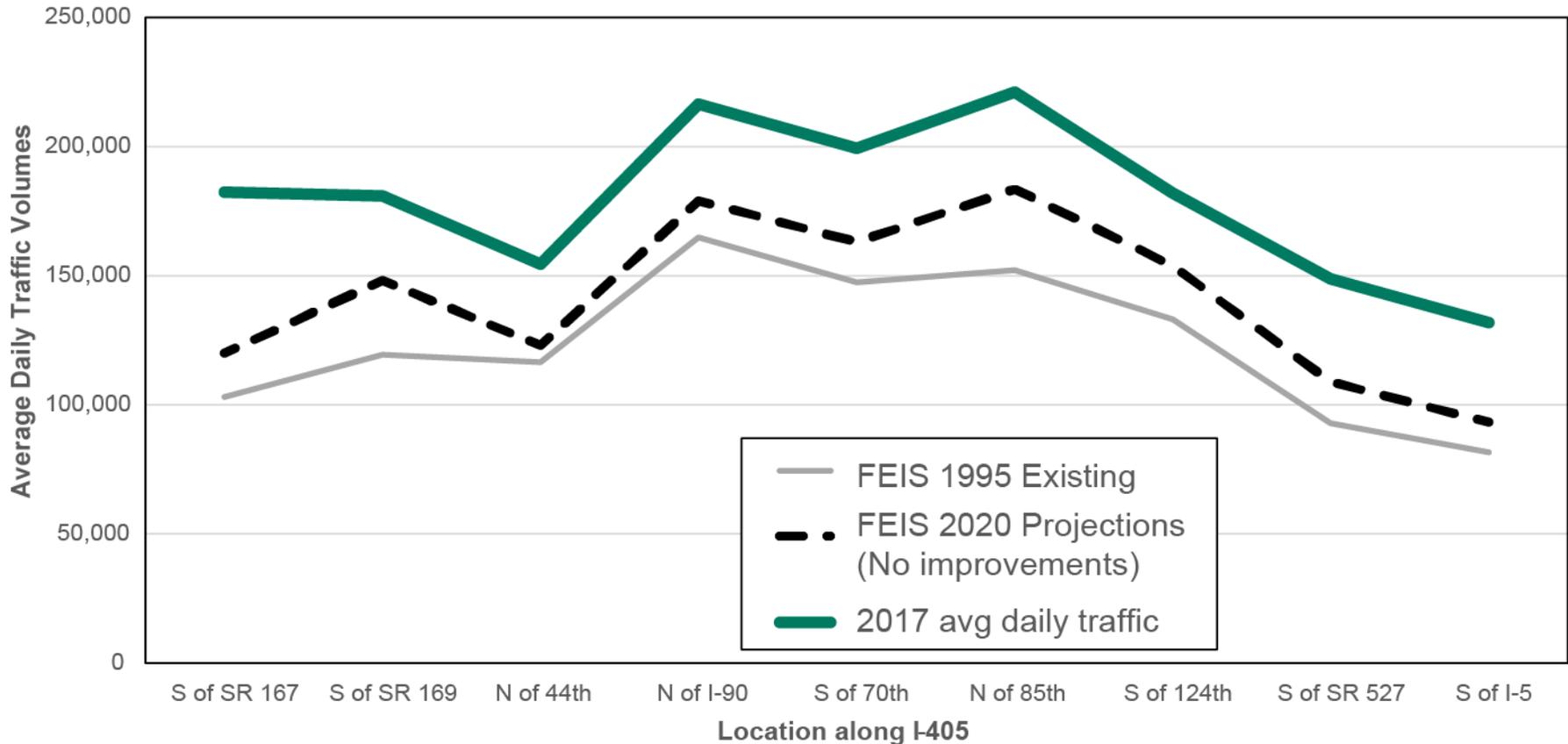
Traffic analysis

Karl Westby, Ph.D.
Traffic Manager
I-405/SR 167 Corridor Program

Why build express toll lanes?

- Traffic growth has already exceeded 2020 projections in I-405 Master Plan
- Express toll lanes help manage demand for limited roadway space

I-405 Average Daily Traffic: Projected vs. Actual Current Volumes

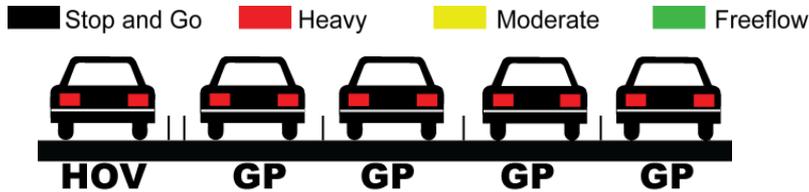


Sources: #05 Congestion Relief and Bus Rapid Transit Program Final Environmental Impact Statement

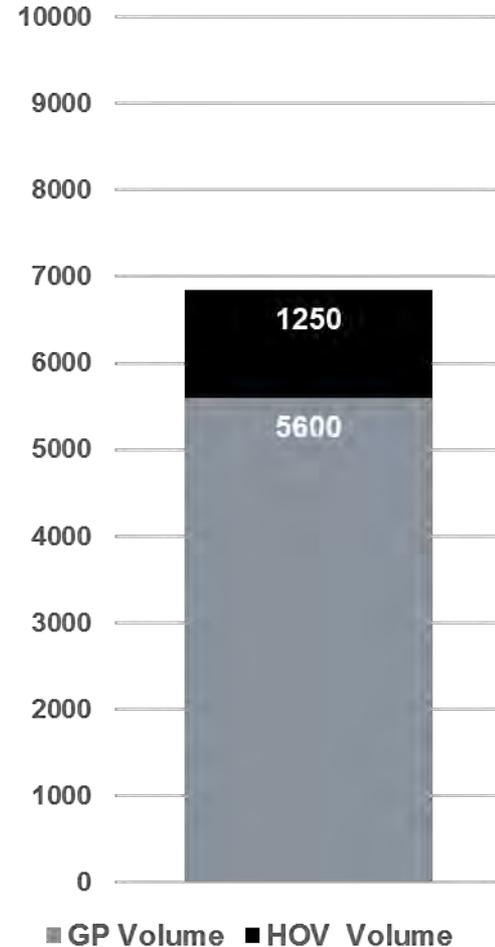
I-5 HOV and regular lanes experience extremely heavy traffic during rush hour

Northbound I-5 (Northeast 130th Street)

Daily Volume: 105,000



Peak-Hour Volume

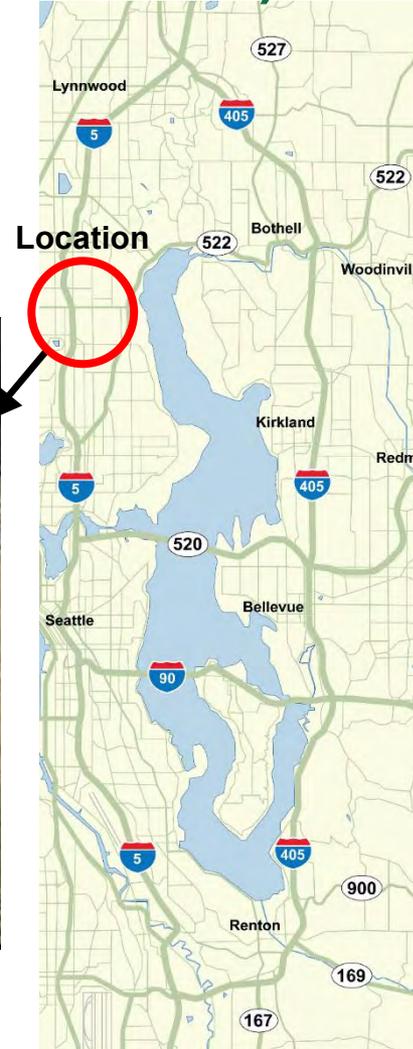
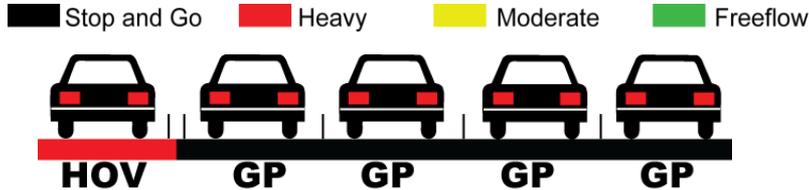


Tuesday, July 12, 2017 4:50 p.m.

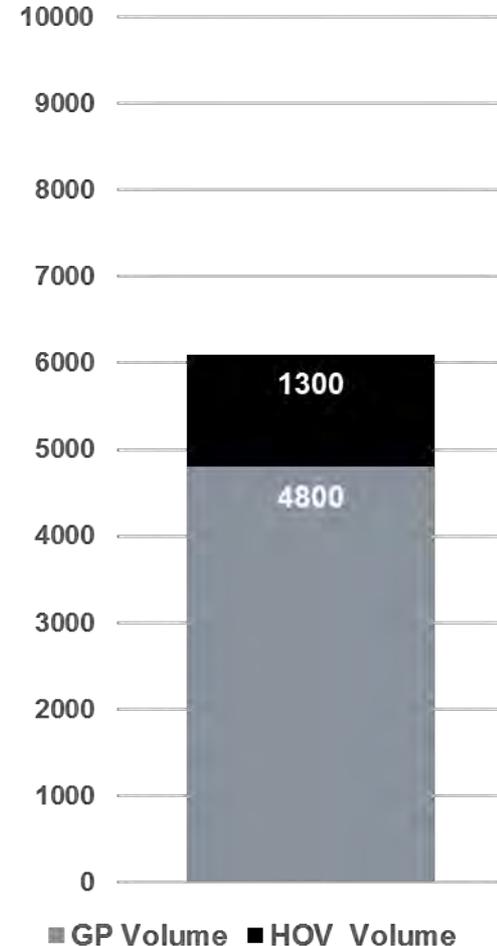
I-5 HOV and regular lanes experience extremely heavy traffic during rush hour

Northbound I-5 (Northeast 145th Street)

Daily Volume: 89,000



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

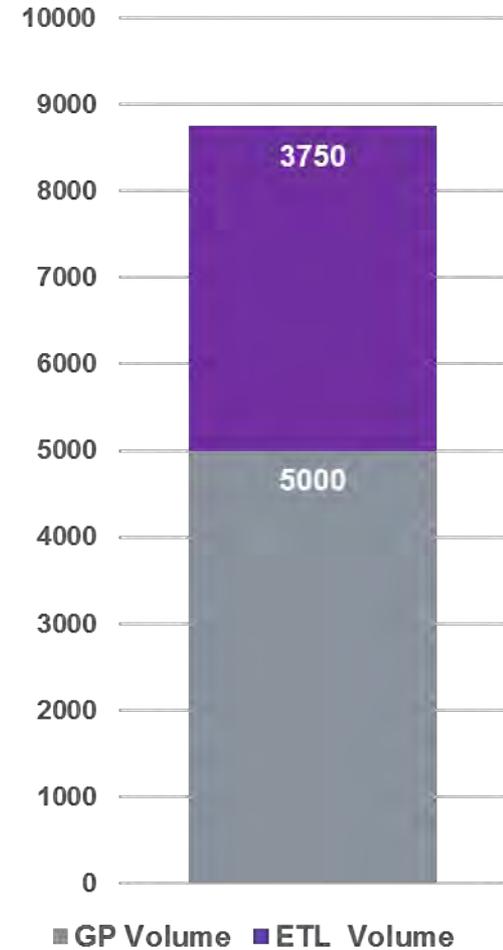
Southbound I-405 (north of Northeast 85th Street)

Daily Volume: 110,000

Stop and Go
 Heavy
 Moderate
 Freeflow



Peak-Hour Volume



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

I-405 express toll lanes offer a more reliable choice during afternoon rush hour

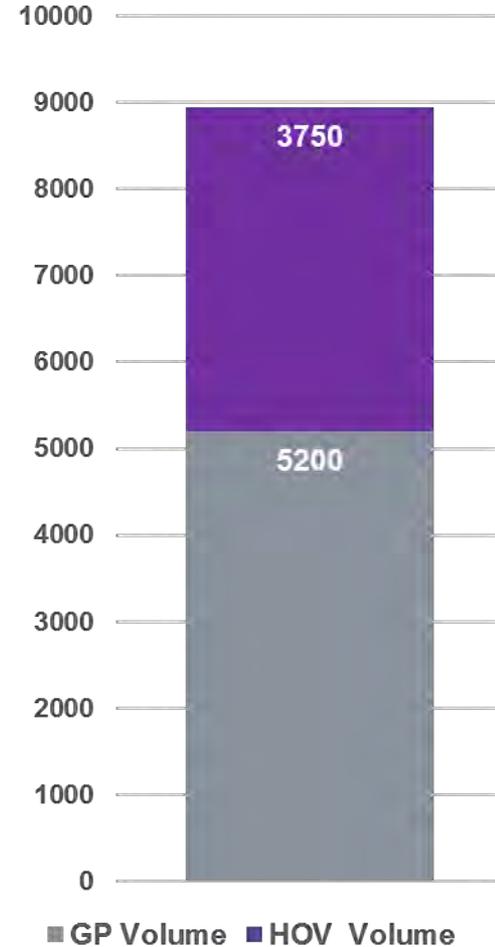
Northbound I-405 (north of Northeast 85th Street)

Daily Volume: 107,000

Stop and Go
 Heavy
 Moderate
 Freeflow

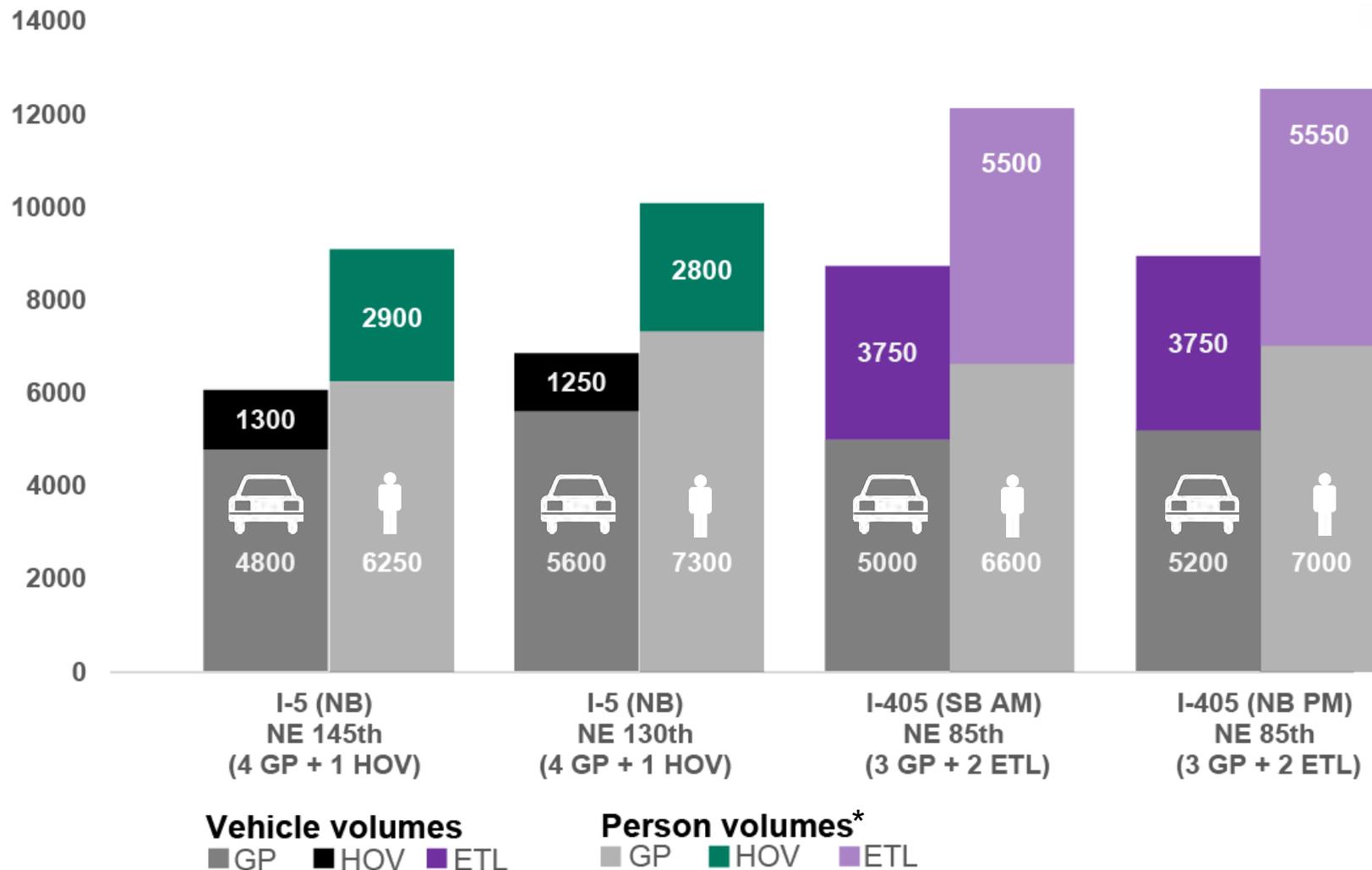


Peak-Hour Volume



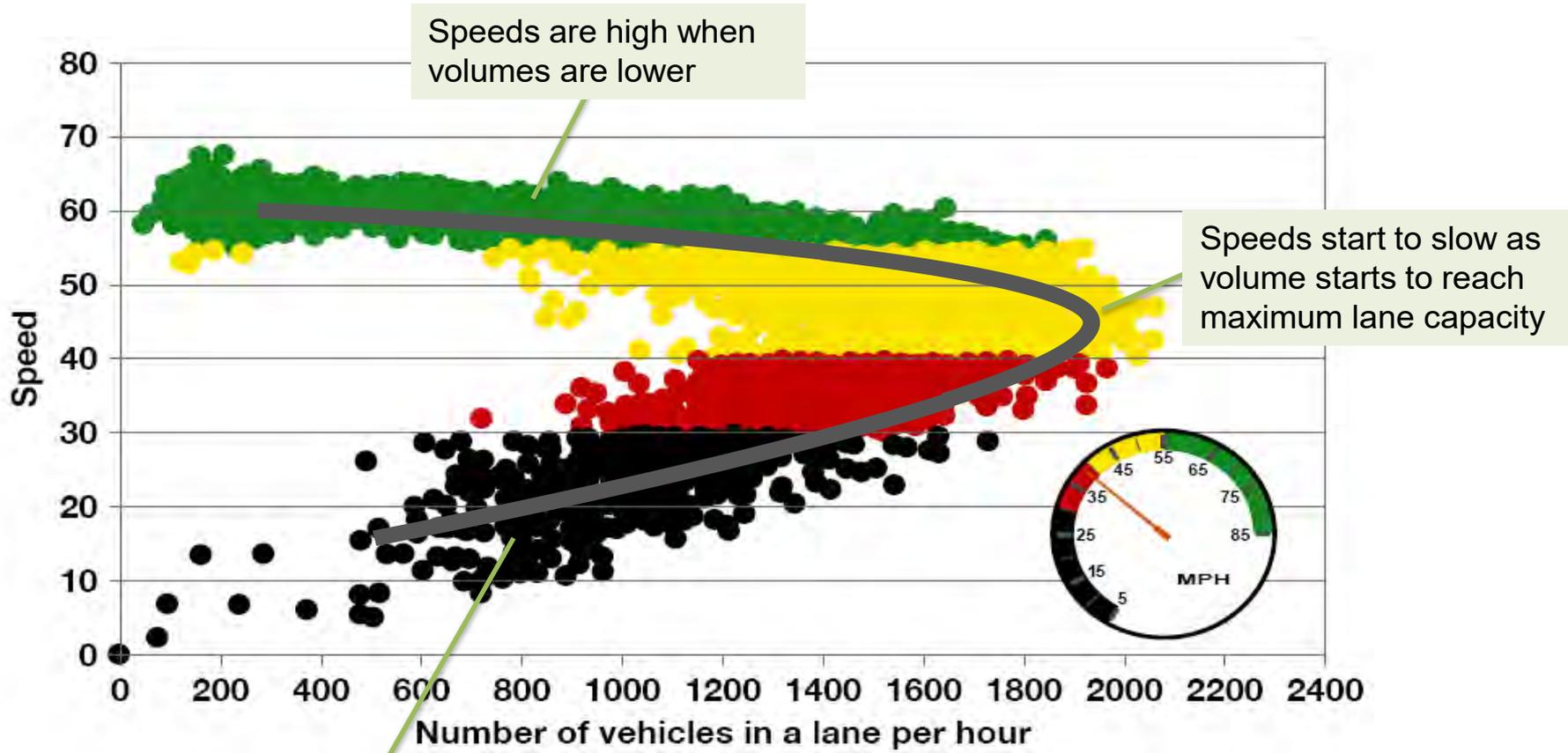
Tuesday, July 25, 2017 4:30 p.m.

Comparison of volumes moved in five-lane sections of I-405 and I-5 with similar 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.

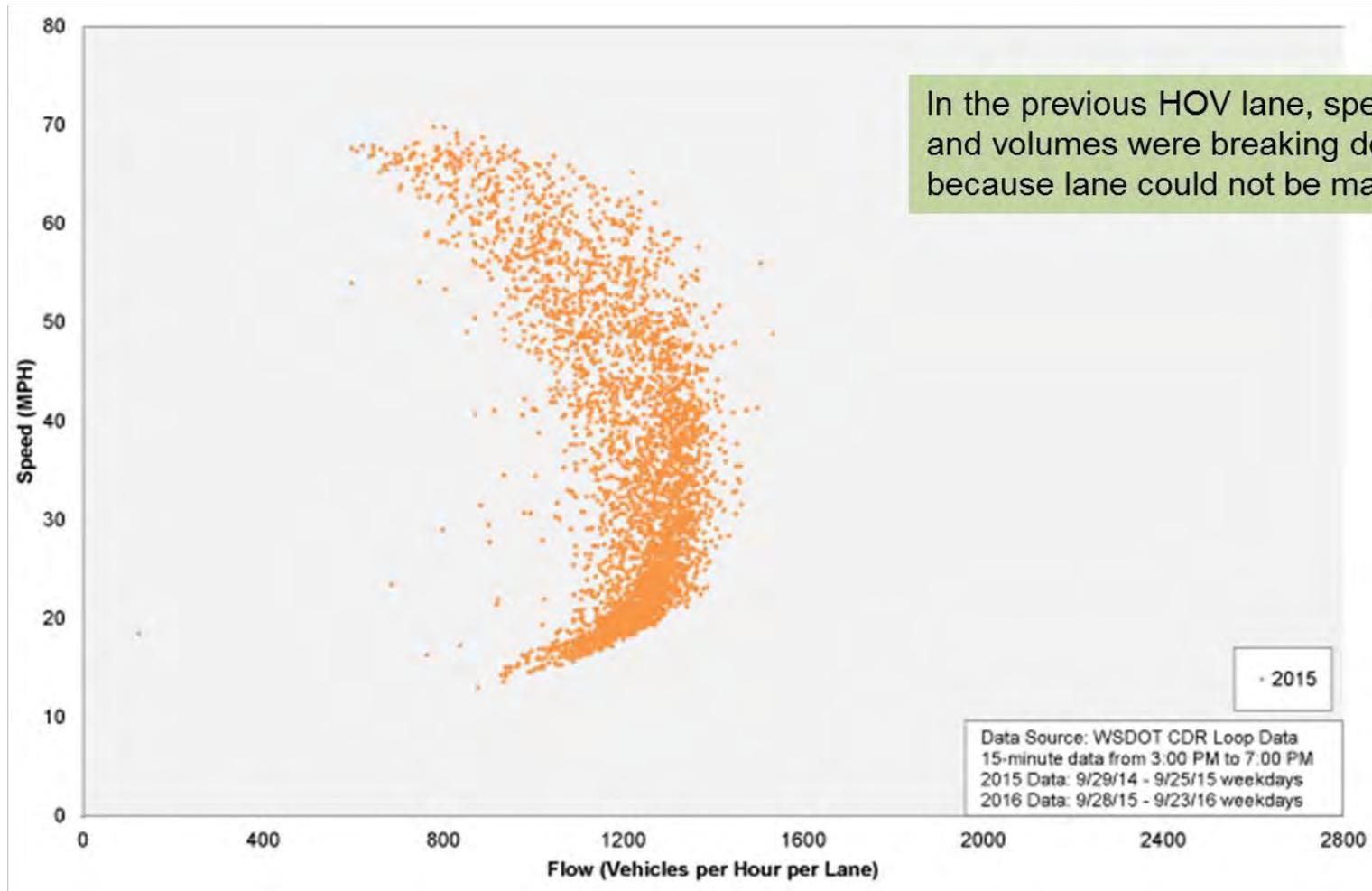
Sample I-405 speed-flow diagram South Bellevue



When demand gets too high, the lanes break down into stop and go conditions with low volumes

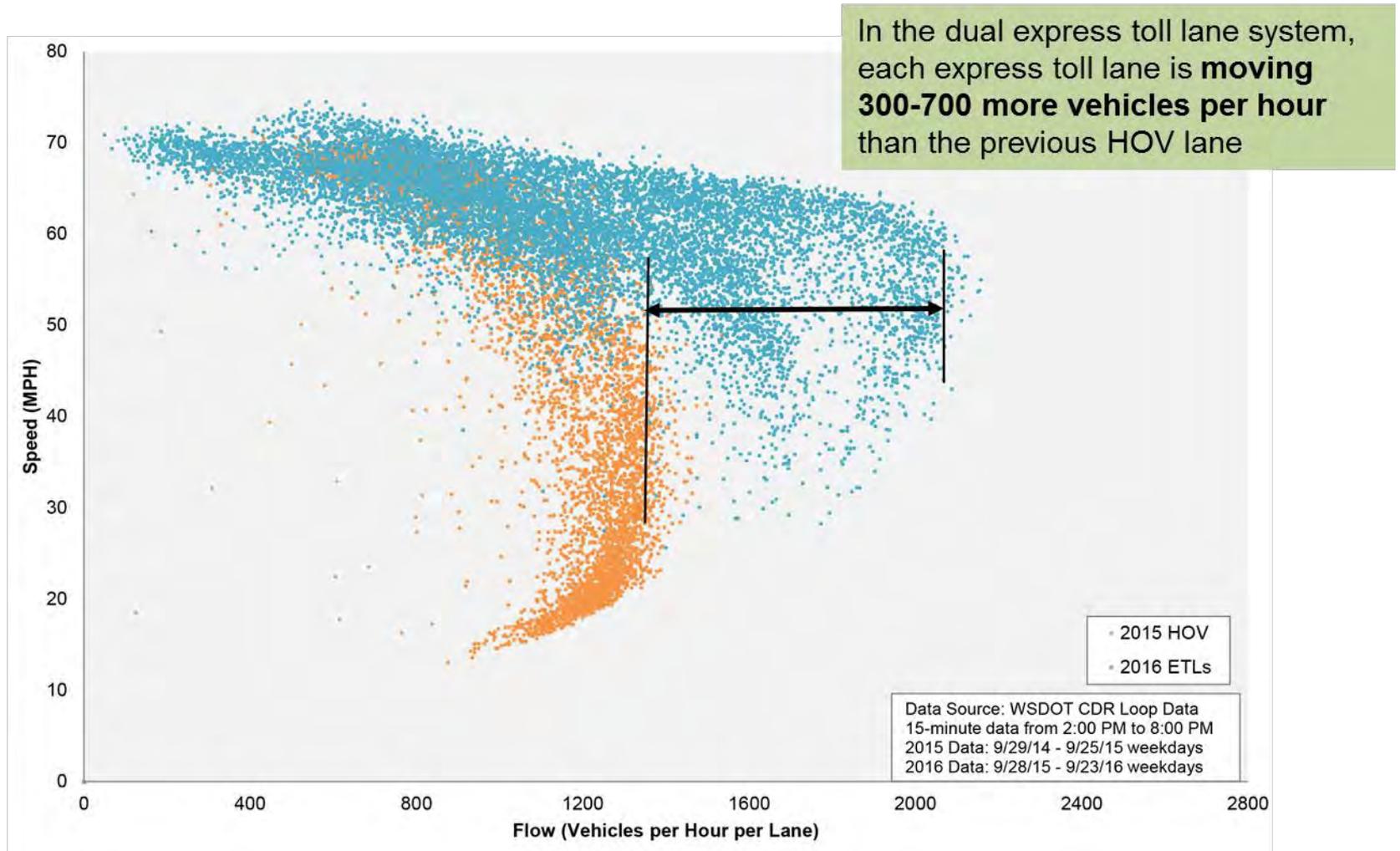
Why two express toll lanes work better than one HOV lane

Northbound I-405 (north of NE 85th St) Speeds and Volumes



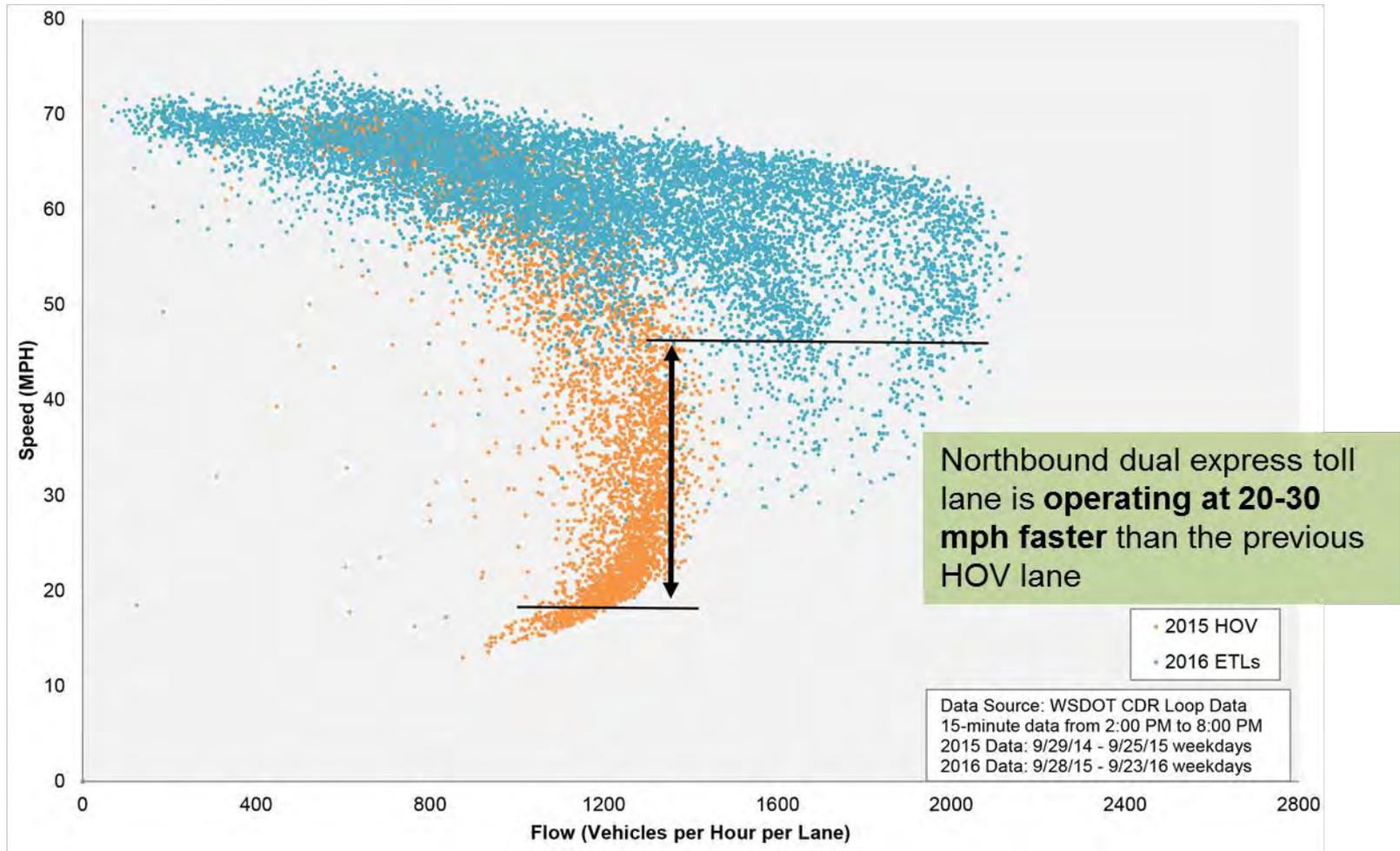
Why two express toll lanes work better than one HOV lane

Northbound I-405 (north of NE 85th St) Speeds and Volumes



Why two express toll lanes work better than one HOV lane

Northbound I-405 (north of NE 85th St) Speeds and Volumes

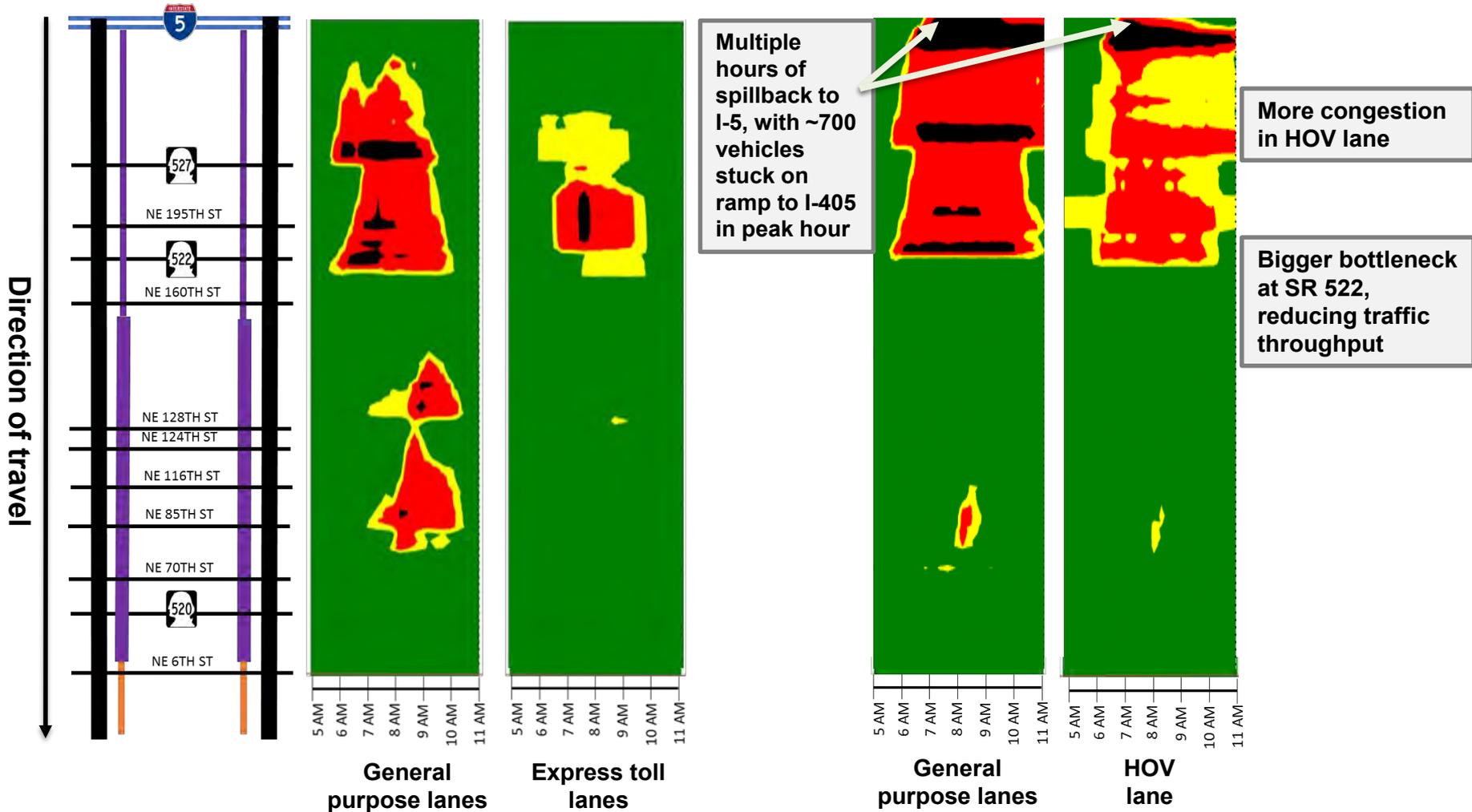


Comparison of traffic congestion with changes to express toll lane system

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

CURRENT CONFIGURATION

CONVERSION TO 2+ HOV LANE

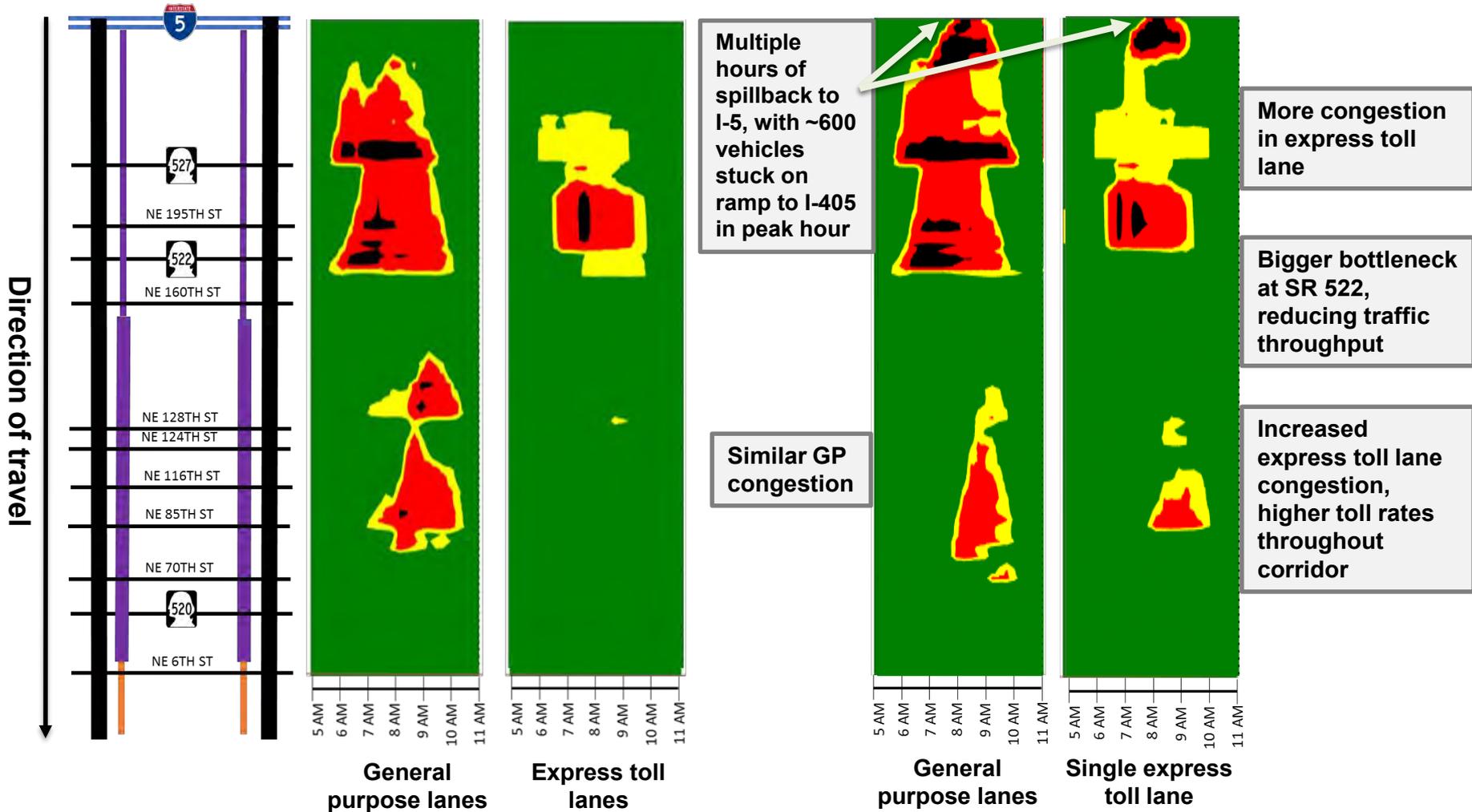


Comparison of traffic congestion with changes to express toll lane system

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

CURRENT CONFIGURATION

CONVERSION TO SINGLE ETL



General purpose lanes

Express toll lanes

General purpose lanes

Single express toll lane



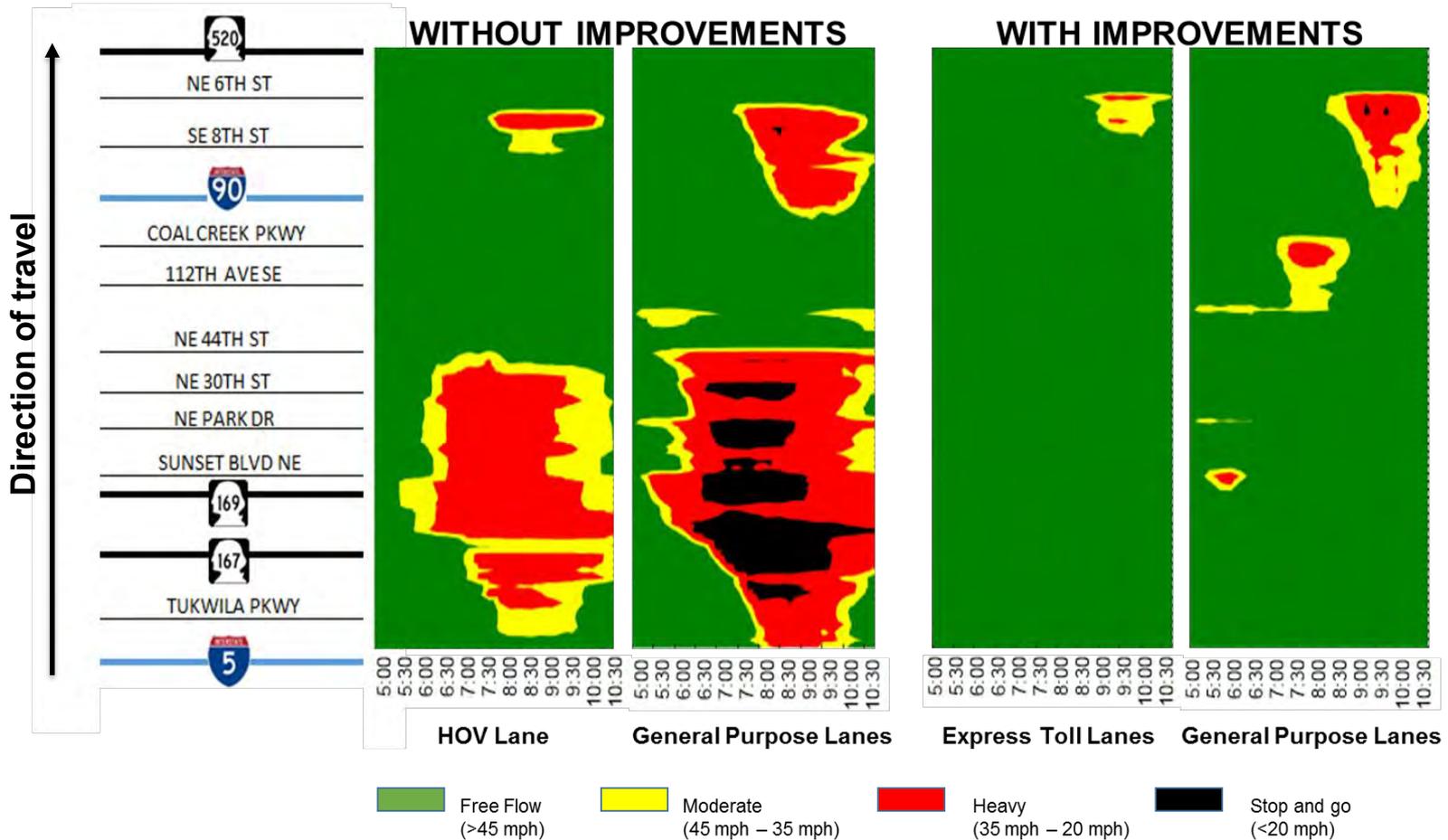
Consequences of removing express toll lanes

- **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



Renton to Bellevue traffic would continue to worsen without improvements

2025 Morning Commute, Renton to Bellevue (5 to 11 a.m.)



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.

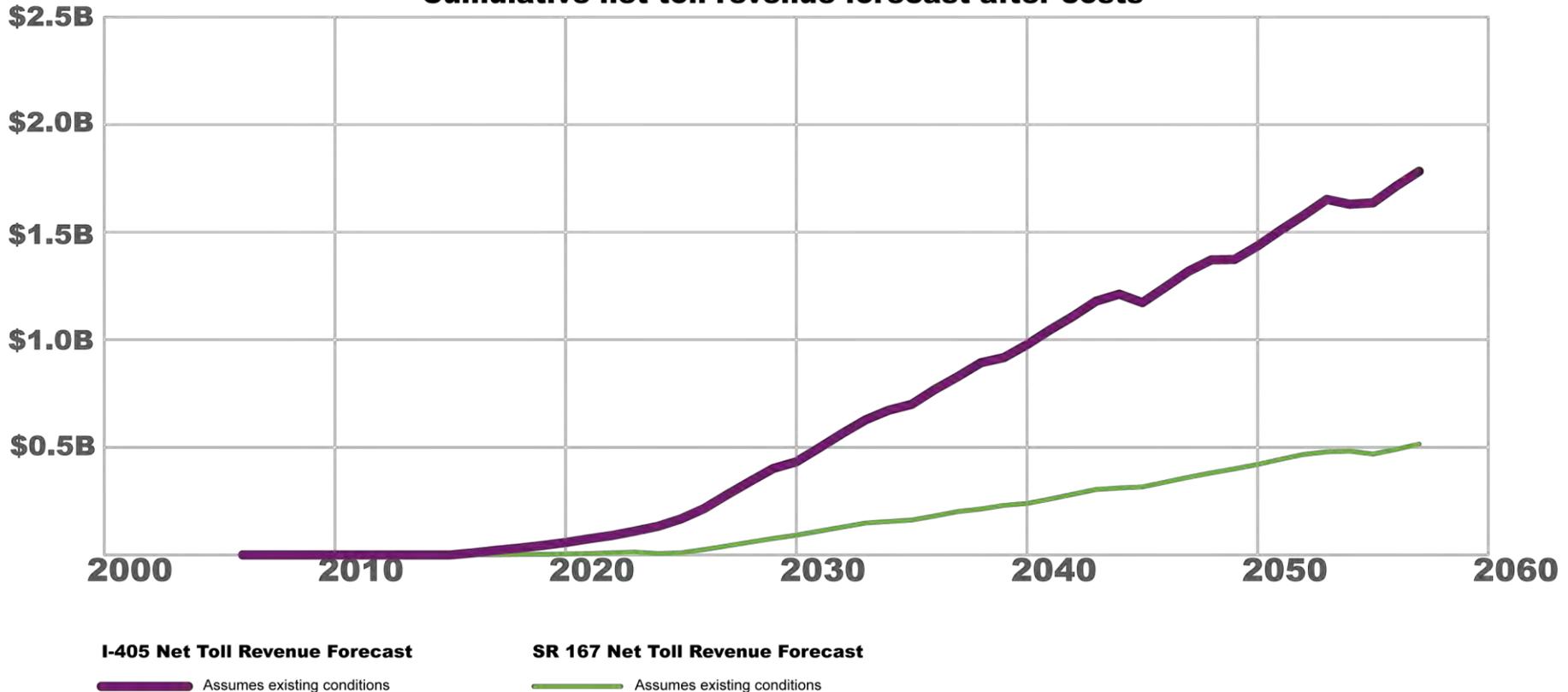
ESB 5096 (2017-19 Biennial Transportation Budget)

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 toll revenue potential for I-405/SR 167 improvements

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

Cumulative net toll revenue forecast after costs



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 (\$225M)*

- 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



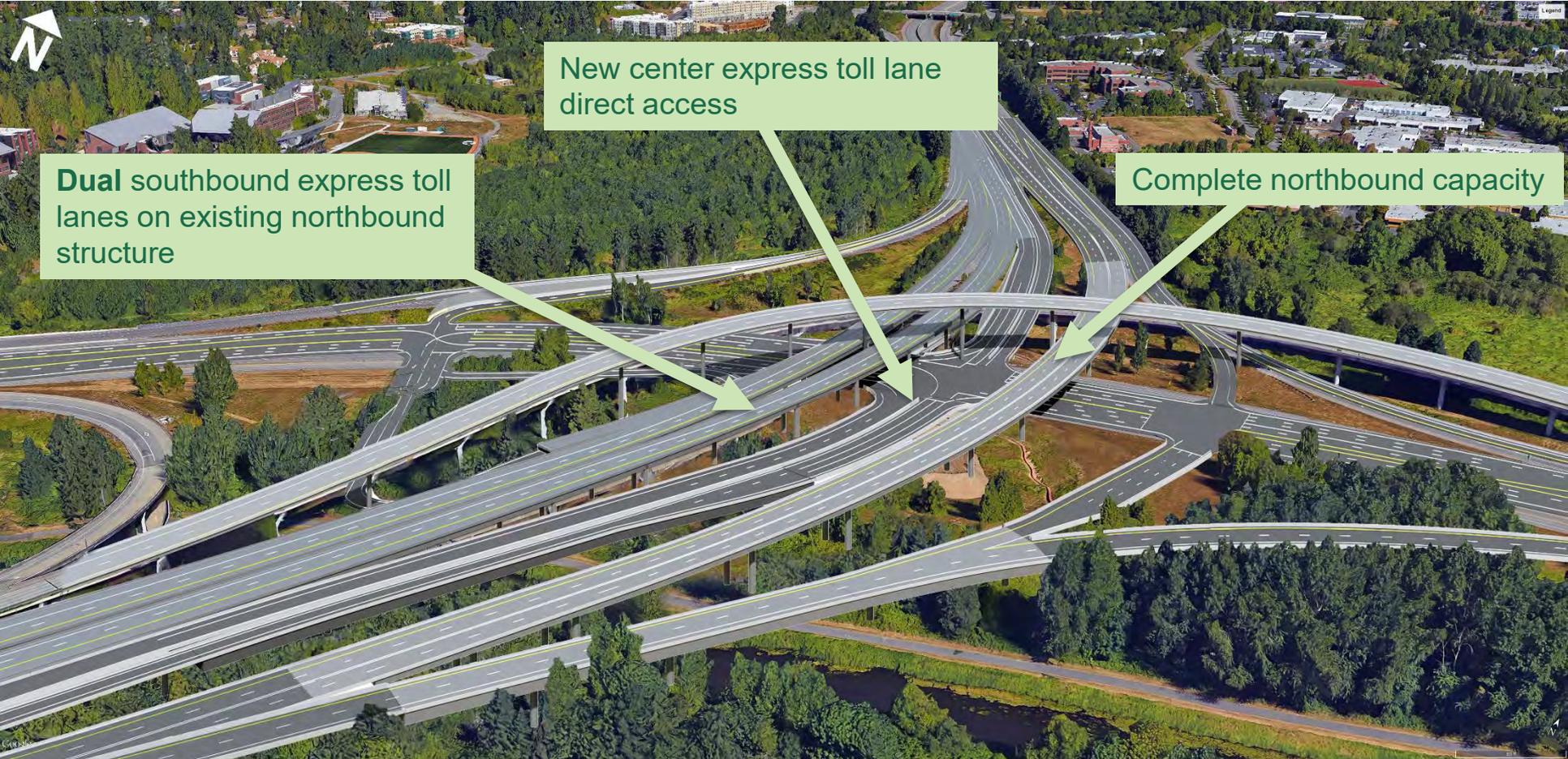
I-405/SR 522 Interchange Phase 1A



Dual southbound express toll lanes on existing northbound structure

New northbound bridge

I-405/SR 522 Interchange Phase 1B



New center express toll lane direct access

Dual southbound express toll lanes on existing northbound structure

Complete northbound capacity

TRANSIT AGENCY UPDATES

Chris O’Claire

Assistant General Manager, King County Metro

Emmett Heath

CEO, Community Transit

Peter Rogoff

CEO, Sound Transit

Average peak period travel times for King County Metro buses on I-405 2015 (before express toll lanes) vs. 2017

- 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)

Route	2015		2017		2015-2017 Comparison	
	AM	PM	AM	PM	AM	PM
237 (Woodinville to Bellevue)	22.9	33.0	22.3	23.4	-3%▼	-29%▼
311 (Woodinville to downtown Seattle)	22.7	34.1	21.3	28.2	-6%▼	-17%▼
342 (Shoreline to Renton)	21.5	36.3	19.9	30.8	-7%▼	-15%▼

Average peak period travel times for King County Metro buses on I-5 2015 vs. 2017 (for comparison to I-405)

- Sample routes suggest that travel times have slowed a little
- The biggest slowing is northbound from Federal Way in the morning (2.5 to 3 minutes)

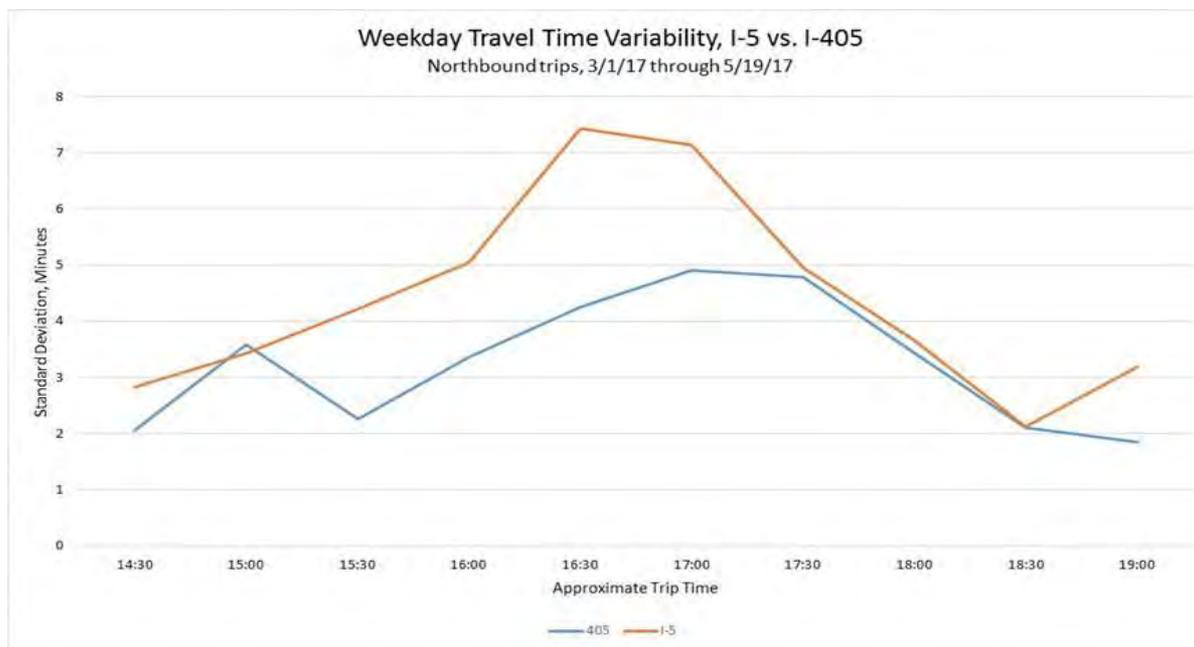
Route	2015		2017		2015-2017 Comparison	
	AM	PM	AM	PM	AM	PM
157 (Kent to downtown Seattle)	21.7	24.2	22.5	24.7	4% ▲	2% ▲
159 (Kent to downtown Seattle)	27.0	31.4	28.1	29.9	4% ▲	-5% ▼
177 (Federal Way to downtown Seattle)	29.8	28.3	32.4	28.6	9% ▲	1% ▲
179 (Federal Way to downtown Seattle)	32.2	32.8	35.2	32.7	9% ▲	0%

Community Transit – Customer Journey with ETLs

- **Faster, More Reliable Trips**
 - NB travel times improved 7.5% and reliability has improved
 - SB travel times are consistent and arrive early more often
- **Current Services** – **Crucial for customers, modest volume**
 - DART: 17 trips on I-405 (38 riders/weekday)
 - CT Vanpools: 165 trips on I-405 (2,400 riders/weekday), 18 trips on SR 520 (260 riders/weekday)
 - CT Fixed Route: 18 trips/weekday on I-405 (450 riders/weekday), 4 trips/day on 520 (120 riders/weekday)
 - ST Fixed Route: 79 trips/weekday on I-405 (3,800 riders/weekday)
- **Future Services**
 - Regional connectivity
 - Transit access
 - Additional HCT corridor (BRT Burien to Lynnwood)

Community Transit - I-405 vs. I-5 Performance

- **Investment**: In fall 2015 CT invested \$2.6M in Schedule Maintenance on I-5. An annual expense. Running total = \$7.8M. No schedule maintenance needed on I-405 since ETLs opened.
- **Speed**: 7.5% improvement on I-405; Continued decline on I-5.
- **Reliability**: I-5 is less reliable, *double* the variability of I-405.
- **Efficiency**: Savings reinvested in additional service for riders.



DISCUSSION

Facilitated by:
Roger Millar, P.E., AICP
Secretary of Transportation

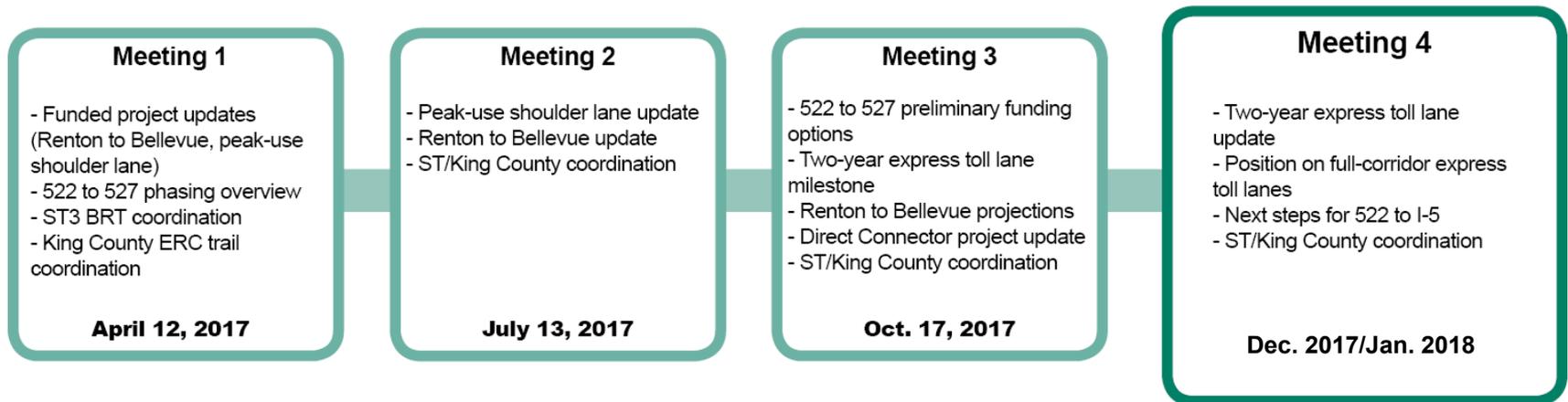
PUBLIC COMMENT

Facilitated by:

Anne Broache

I-405/SR 167 Program Communications

NEXT EAG MEETING TOPICS/SCHEDULE



Key Discussion Questions for Meeting 4

- What is the EAG's position on the 40-mile system of express toll lanes on the I-405/SR 167 corridor?
- What are the EAG's recommendations on next steps for I-405 improvements between SR 522 and I-5?

WRAP UP

Roger Millar, P.E., AICP
Secretary of Transportation