

I-405/SR 167 Corridor

Executive Advisory Group

Heritage Hall, Kirkland

April 26, 2016

Introductions

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

Agenda

- Introductions
- I-405 Master Plan Funding and Phasing
- I-405 Express Toll Lanes Update
- King County Eastside Rail Corridor Update
- King County Metro Update
- Sound Transit Update
- Public Comment

I-405 Master Plan and Express Toll Lanes Update

Patty Rubstello, P.E.

Assistant Secretary, WSDOT Toll Division

Kim Henry, P.E.

I-405/SR 167 Corridor Program Director

I-405 Master Plan

Regional Consensus

- EIS Record of Decision, 2002

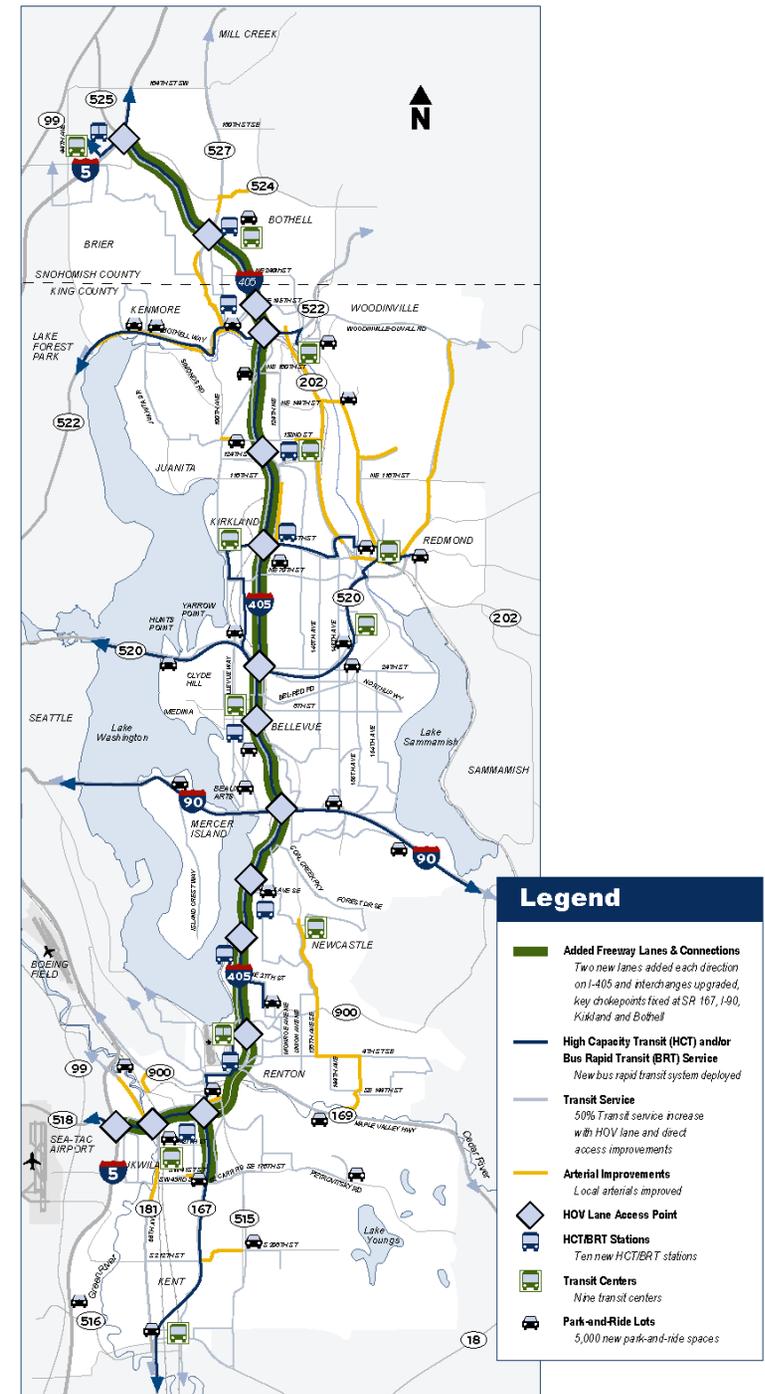
Roadways

- 2 new lanes in each direction
- Local arterial improvements

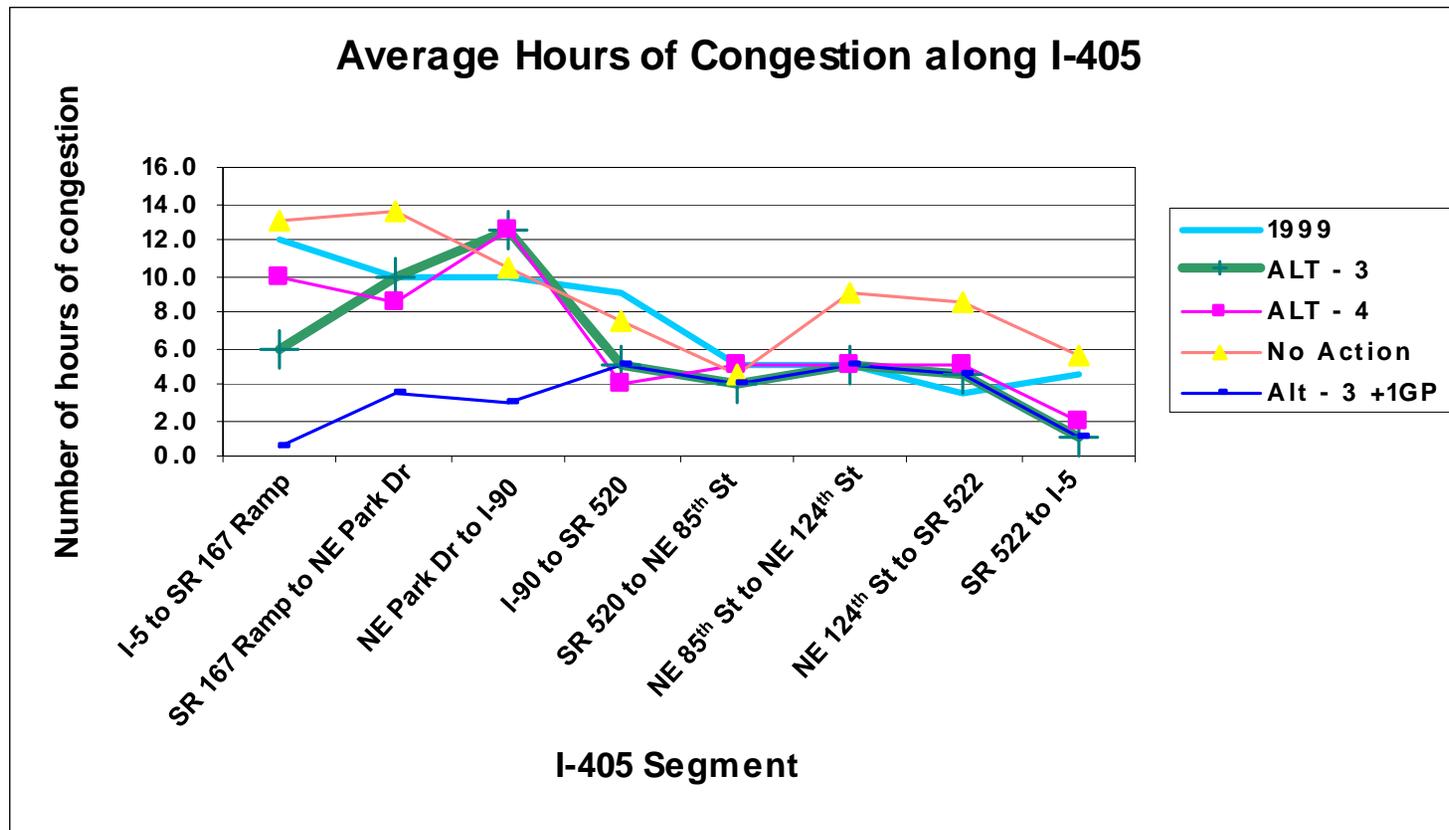
Transit & Transportation Choices

- 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

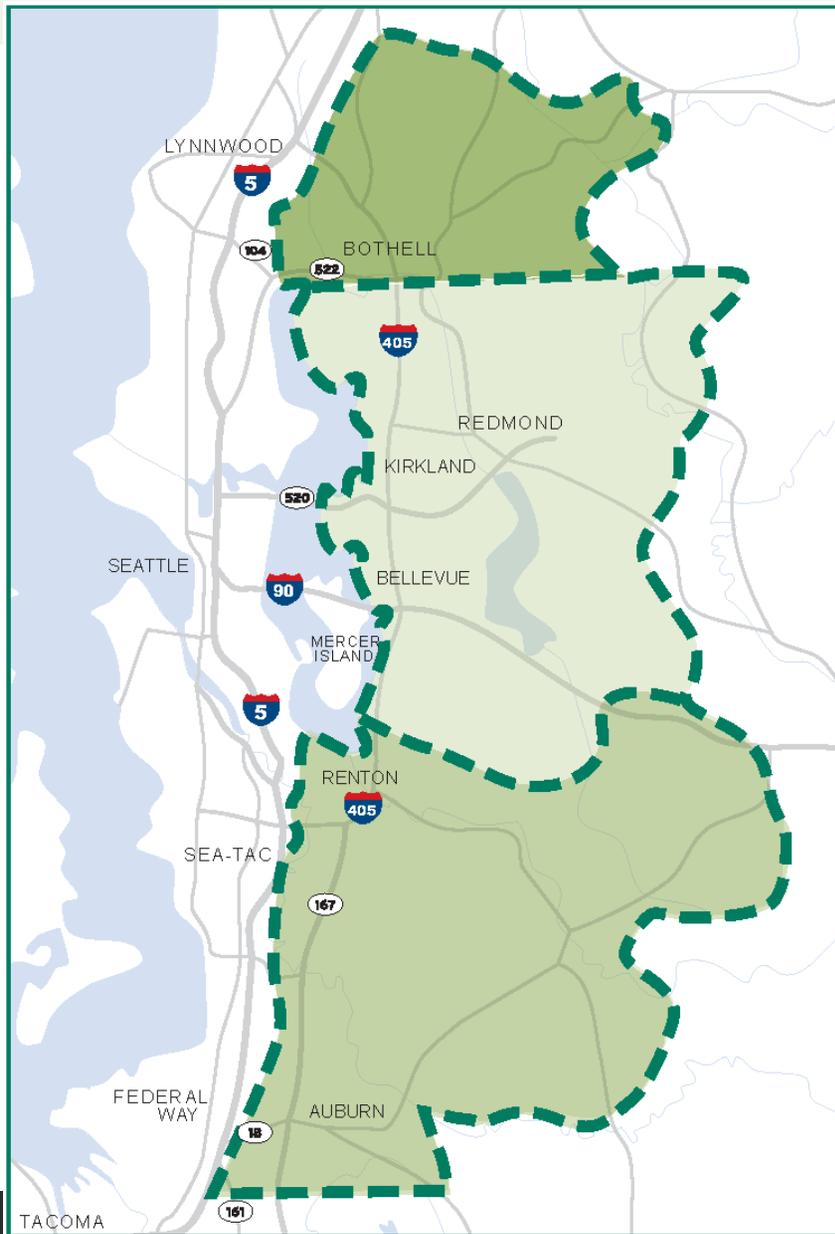
Environmental Enhancements



Master Plan Analysis: Hours of Congestion



Our region and corridor are growing



North Corridor

	2015	2045	% Increase
Population	217,800	253,400	16%
Households	77,700	98,800	27%
Jobs	61,900	68,300	10%

Central Corridor

	2015	2045	% Increase
Population	487,200	600,600	23%
Households	191,500	253,500	32%
Jobs	301,300	423,500	41%

South Corridor

	2015	2045	% Increase
Population	464,500	545,500	17%
Households	170,800	226,300	33%
Jobs	242,800	335,000	38%

Source: PSRC Land Use Vision forecast

Traffic volumes are increasing regionally

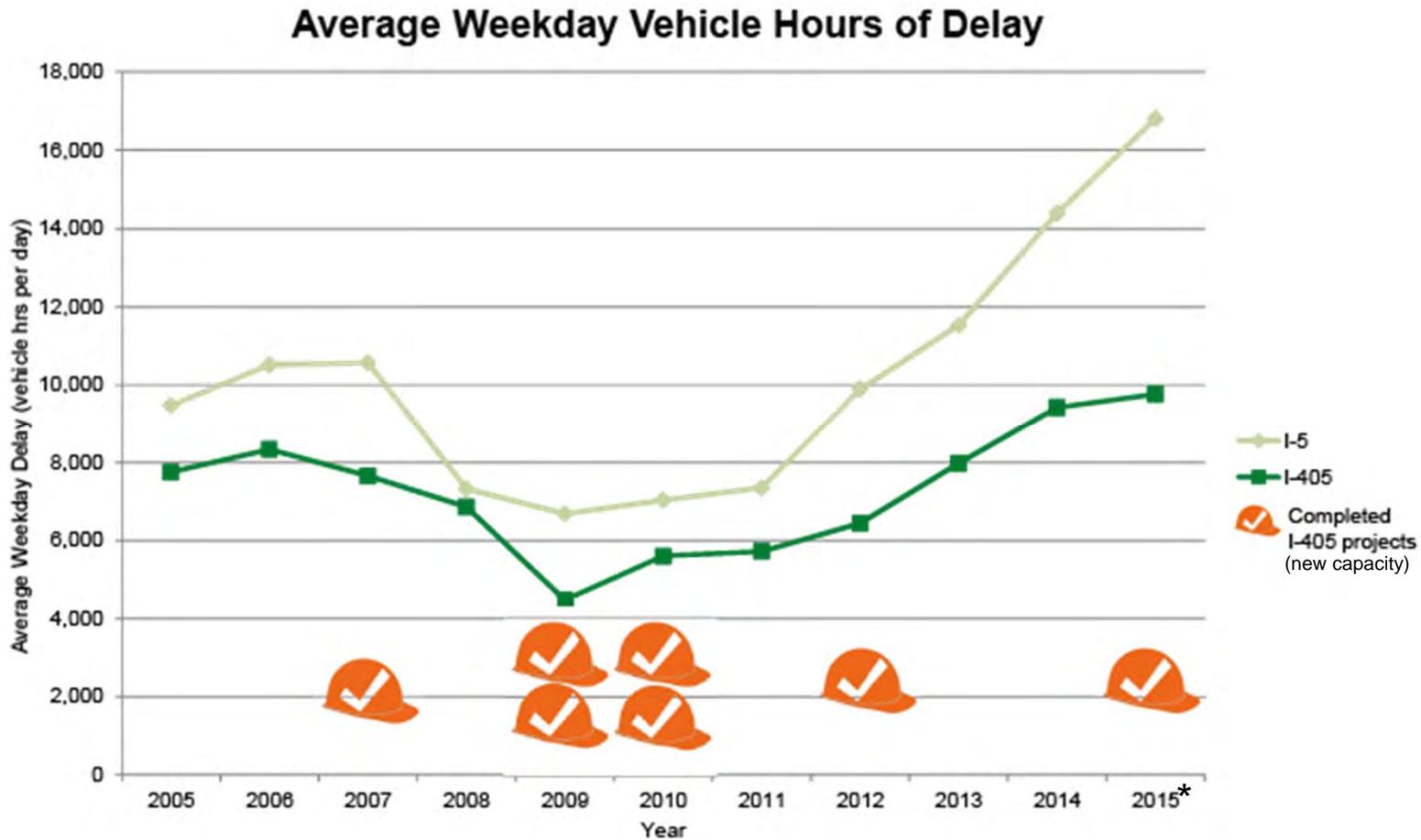
Average Weekday Vehicle Hours of Delay



Source: WSDOT Gray Notebook

2012-2014: I-405 congestion increased 46% 8

Traffic volumes are increasing regionally



Source: WSDOT Gray Notebook

*Final draft data

I-405 Master Plan: Multimodal and making progress

Park and Ride expansions
80% complete or funded



Transit center expansions
70% complete



Bus Rapid Transit stations
70% complete



Local arterial improvements
50% complete



Add 2 lanes in each direction
45% complete or funded



Transit service increase
40% complete



Direct Access
12% complete



Vanpool service increase
30% complete



Pedestrian/bicycle improvements
25% complete



I-405: What was the problem?

- **Bad traffic**

- Drivers on I-405 experience some of the worst traffic in the state.
- Before express toll lanes, the southbound I-405 HOV lane dropped below 45 mph 200 days out of the year and I-405 HOV lanes were congested 60 percent of weekdays.

- **Crowded HOV Lanes**

- I-405 HOV lanes were not meeting state requirements to operate at 45 mph 90 percent of the time during peak hours.
- I-405 HOV lanes were often just as congested as the regular lanes.

- **Transit Suffers**

- Congested lanes significantly delay transit trips and reduce reliability.



HOV lane performance affects transit reliability

- **HOV asset:** Over \$2B invested to build a 300 lane-mile Puget Sound HOV system.
- **HOV congestion:** Lanes should operate at 45 mph 90% of the time. Many HOV lanes didn't meet this performance standard because 2+ HOV lanes were over-utilized.
- **HOV management:** Occupancy alone was a crude management tool. Some HOV lanes were congested, others were underused.
- **Transit impact:** Bus service costs increase and require more coaches when trips are slow or unreliable.

AM Peak Period



PM Peak Period



■ Congested segments not meeting performance standards.

Why express toll lanes?

Goals:

- Offer more choices to drivers
- Improve speed and reliability in the HOV lanes
- Fund future corridor improvements



Express Toll Lanes Quick Facts

- **Opened Sept. 27, 2015**
- **17 miles of express toll lanes**
- **Operation hours: 5 a.m. to 7 p.m.
Monday – Friday**
- **Toll Rates**
 - Minimum Toll Rate \$ 0.75
 - Maximum Toll Rate \$ 10.00
- **Carpool Policy**
 - 3+ carpools with Flex Pass exempt at all times
 - 2+ carpools exempt except 5-9 a.m. and 3-7 p.m. on weekdays



Key takeaways - Early successes

First six months
(Sept. 27, 2015 - March 31, 2016)

Last three months
(Jan. 1 - March 31, 2016)

EXPRESS TOLL LANES

GENERAL PURPOSE LANES

7.5 MILLION
TOTAL TRIPS



5.1 MILLION
TOLLED TRIPS

2.4 MILLION
FREE TRIPS

782,000
DIFFERENT VEHICLES
HAVE USED THE EXPRESS TOLL LANES

EQUIVALENT TO
1 IN 10 VEHICLES
IN
WASHINGTON STATE

10 MINUTES southbound | **13 MINUTES** northbound
TRAVEL TIME SAVINGS
in EXPRESS TOLL LANE
compared to the GP lanes during the same time frame Jan-March 2016

48,000
DAILY TRIPS
have a faster and
more reliable trip



TOLL PAYERS
34,000 vehicles
per day



CARPOOL
14,000 vehicles
per day

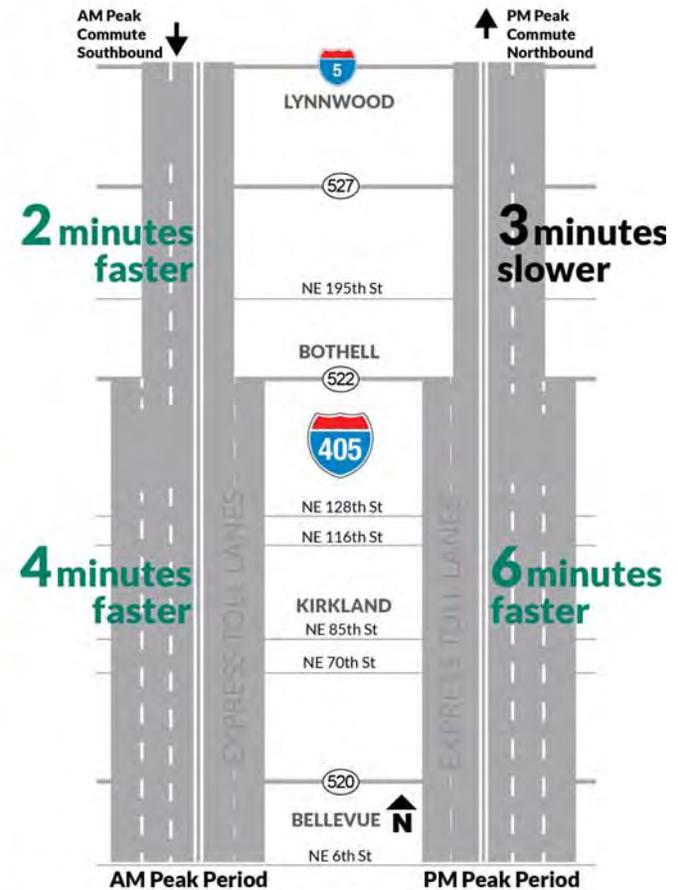


VANPOOL
350 vans
3,300 riders
per day



TRANSIT
7,800 riders
per day

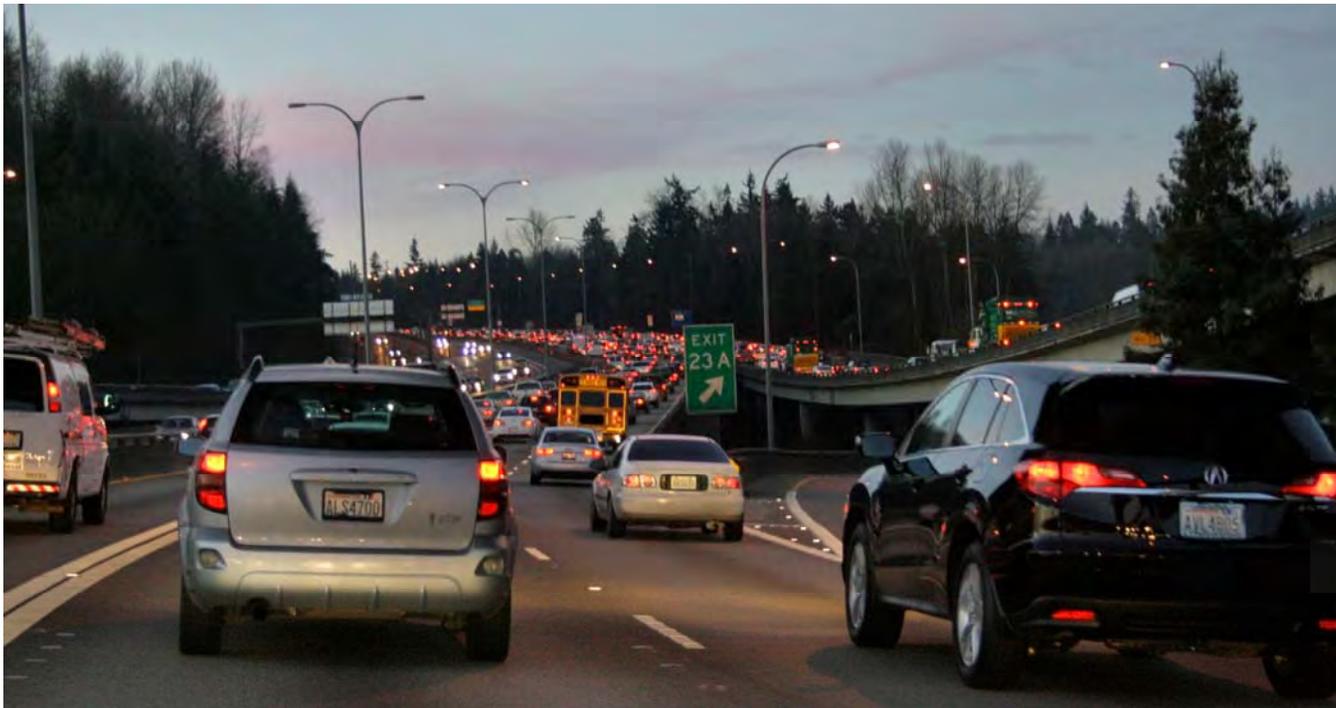
How are the general purpose lanes working compared to last year?



High usage, faster speeds, reduced travel time

Key takeaways – Early challenges

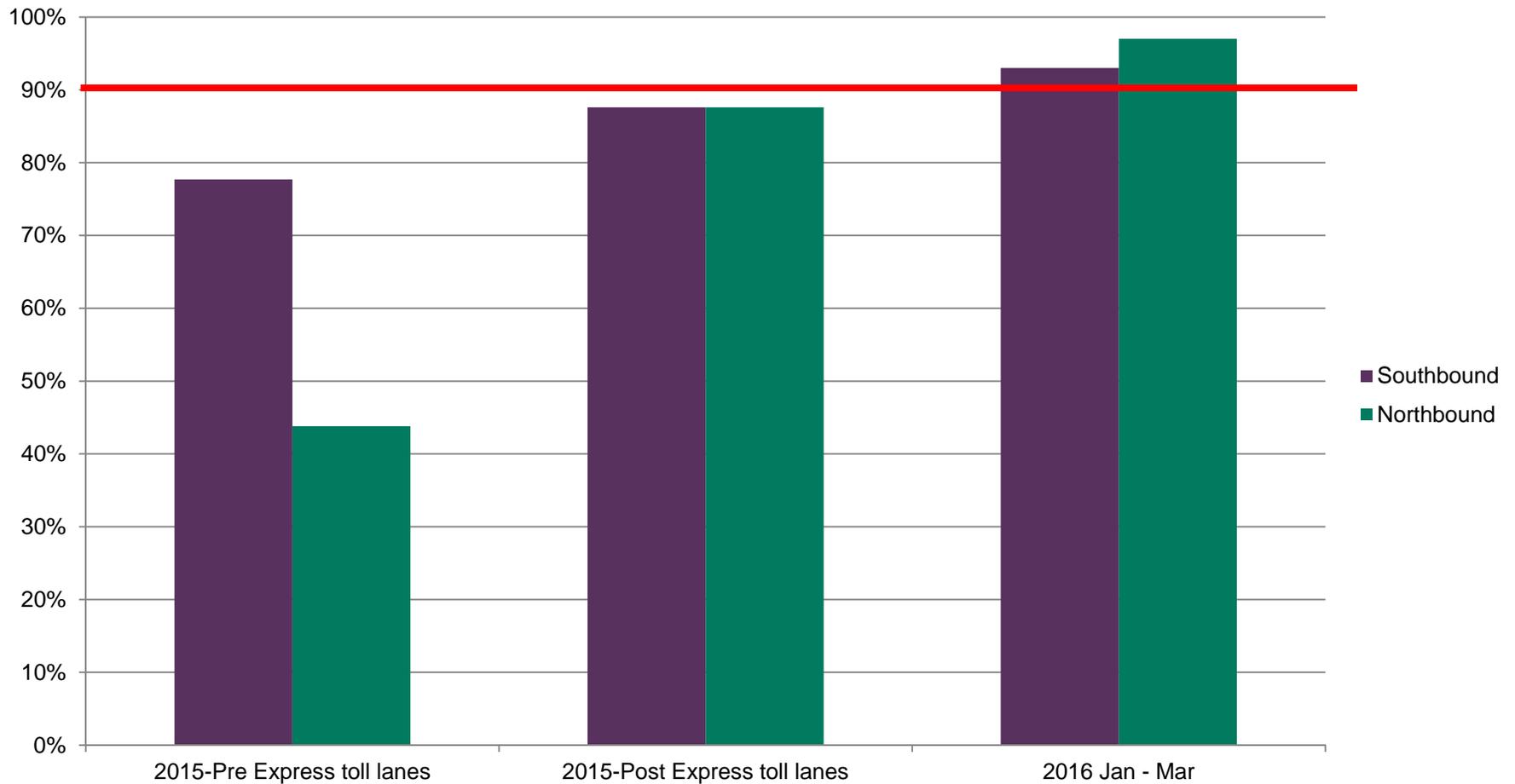
- Capacity challenges between Bothell and Lynnwood in both directions
- Access challenges throughout the corridor in both directions
- We've been making changes to address access challenges and evaluating long-term projects to address the needed capacity



Six month performance update - Speeds

I-405 HOV Performance

Percentage of Peak Period
When Speeds Are >45 MPH



Moving traffic at 45+ mph, 91%+ of the time 17

Six month performance update - Speeds

Southbound morning peak period average speed (mph)

	Winter 2015	Winter 2016
General purpose lanes	28	34
Express toll lanes	50	56

Northbound evening peak period average speed (mph)

	Winter 2015	Winter 2016
General purpose lanes	28	32
Express toll lanes	43	57

Six month performance update - Volumes

Southbound I-405

SR 527



Peak Period	Peak Hour
+7 percent	+7 percent

SR 522



Peak Period	Peak Hour
+8 percent	+14 percent

NE 100th St

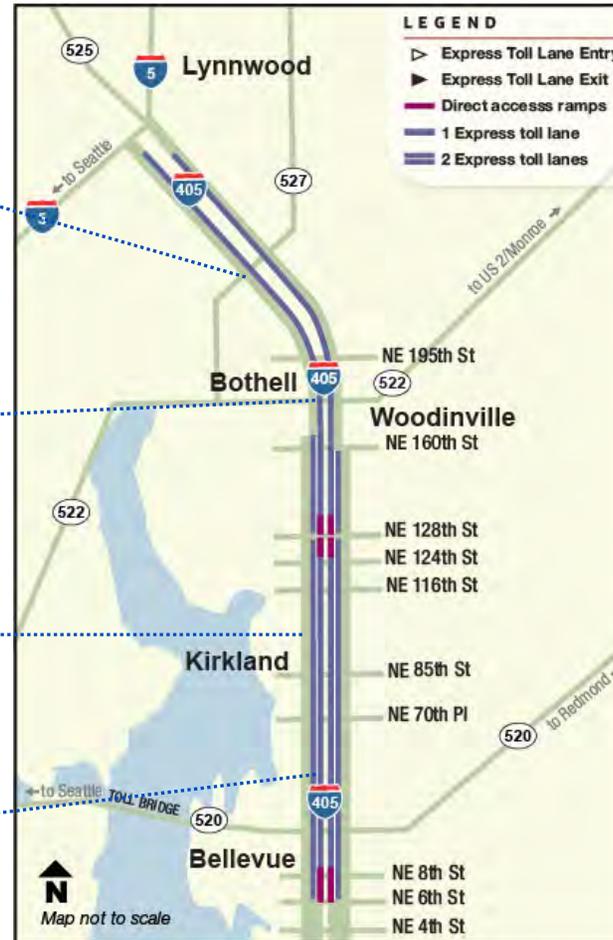


Peak Period	Peak Hour
+15 percent	+25 percent

NE 53rd St



Peak Period	Peak Hour
+15 percent	+22 percent



* **Note:** Added capacity on southbound I-405 was 7.5 lane miles for a 12% increase in lane miles.

Changes in volume include all lanes

Peak period: 5-9 a.m.

Peak hour: 7:15-8:15 a.m.

Moving more vehicles than before tolling

Six month performance update - Volumes

* **Note:** Added capacity on northbound I-405 was 3.5 lane miles for a 5% increase in lane miles.



Northbound I-405

SR 527

Peak Period	Peak Hour
0 percent	0 percent

SR 522

Peak Period	Peak Hour
+2 percent	+1 percent

NE 100th St

Peak Period	Peak Hour
+17 percent	+24 percent

NE 53rd St

Peak Period	Peak Hour
+12 percent	+22 percent

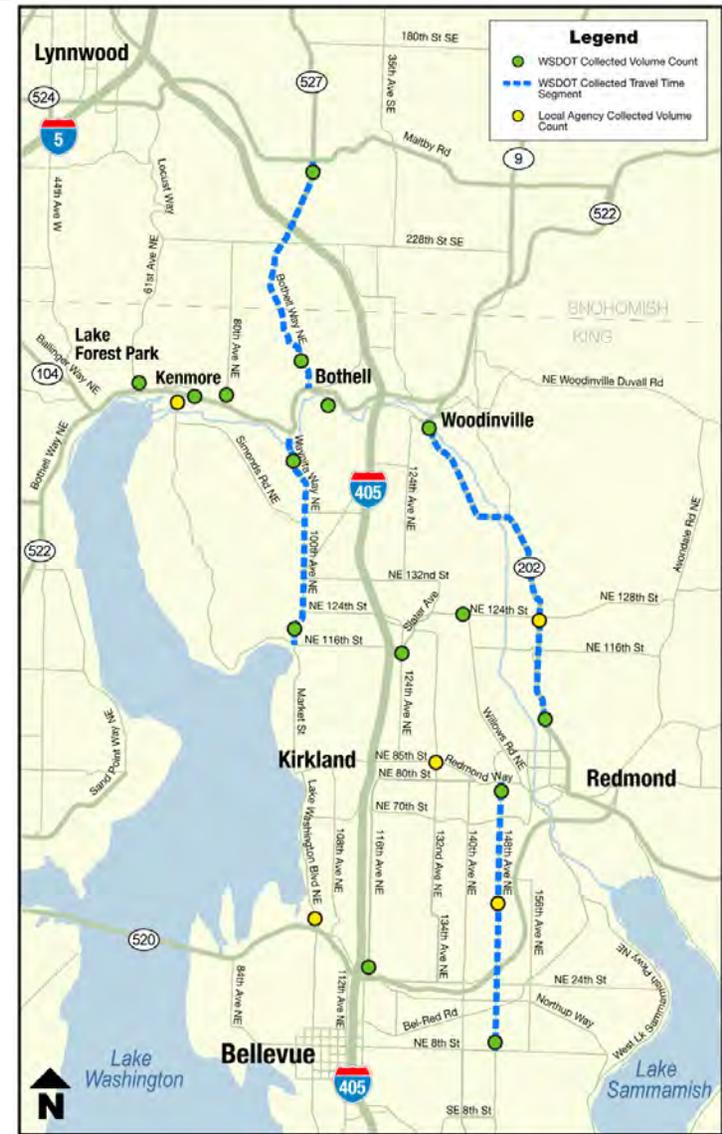
Changes in volume include all lanes
 Peak period: 3-7 p.m.
 Peak hour: 4:25-5:25 p.m.

I-405 operations – Local streets

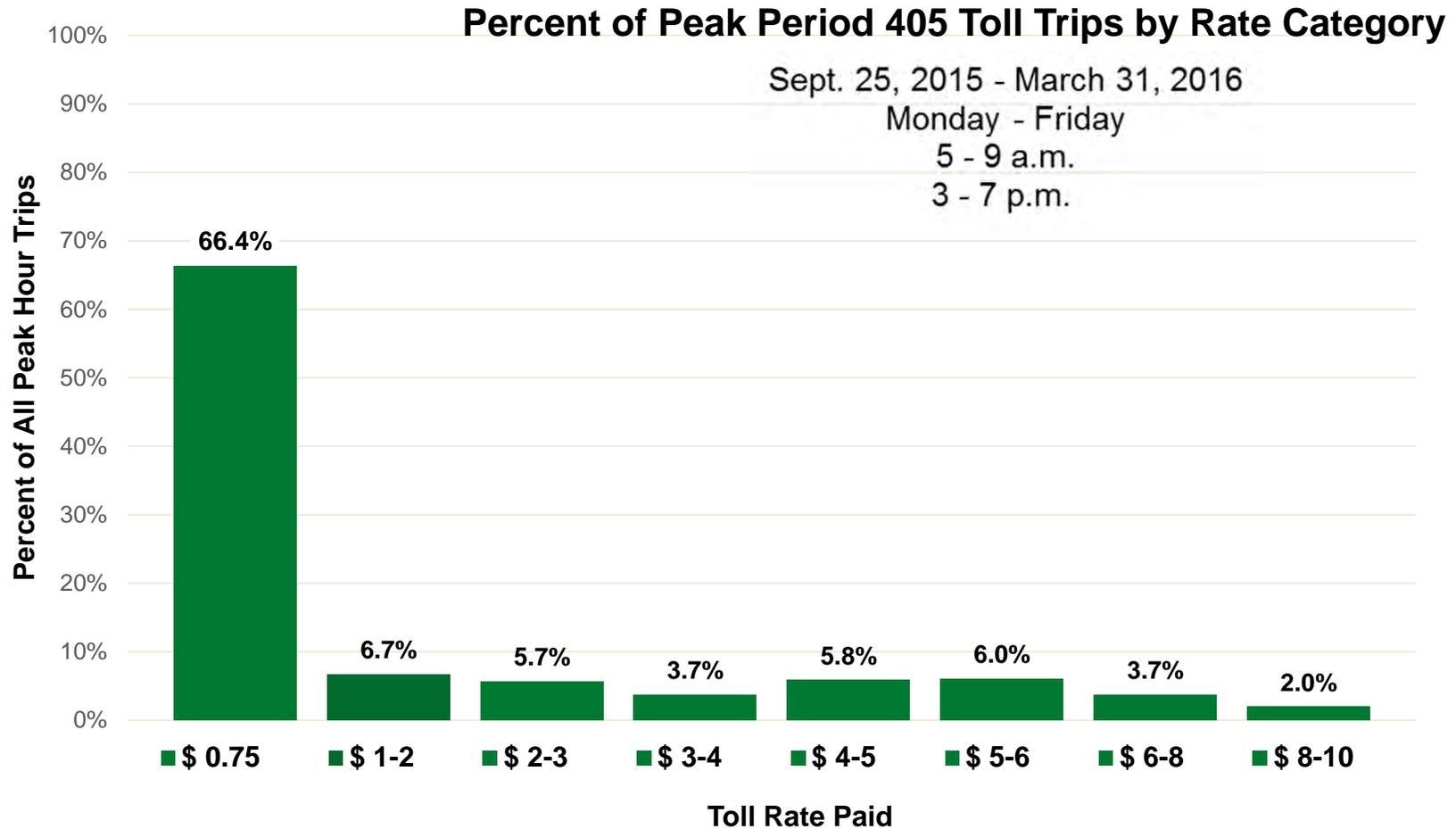
- Ongoing traffic monitoring

*“Woodinville’s data shows **no increase in traffic due to the express toll lanes...** In six out of the seven spots, **daily traffic volumes dropped significantly**, anywhere from 6 to 40 percent.”*

– Public Works Director Tom Hansen, Woodinville Northwest News, March 21, 2016.



Six month performance update – Toll Rates



82% of drivers are paying \$4 or less during peak periods

22

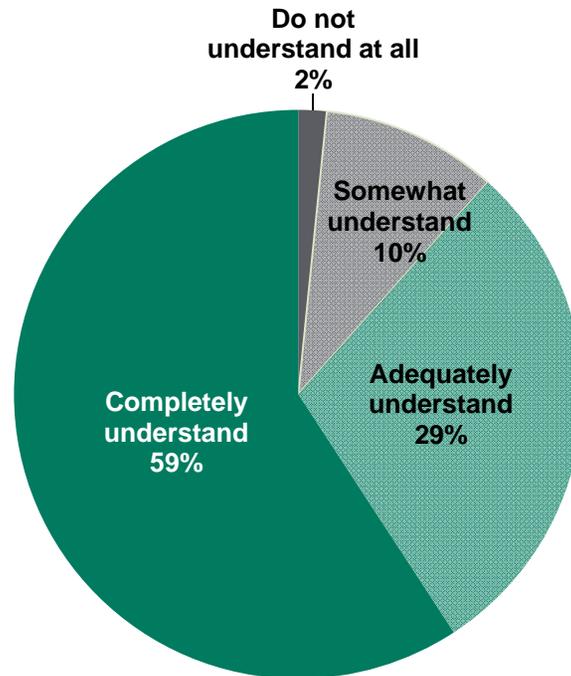
Six month performance update – Revenue

- **January to March Financial Summary**
 - Initial data indicates revenue is exceeding forecast.
 - As expected, the change in hours of operation in mid-March has impacted revenue.
 - Full costs of operations will be realized in next quarter.
- Next quarter's financial statement will be more representative of overall net revenue potential.

Six month performance update

Good To Go! Customer Survey

Overall understanding of how to use the express toll lanes



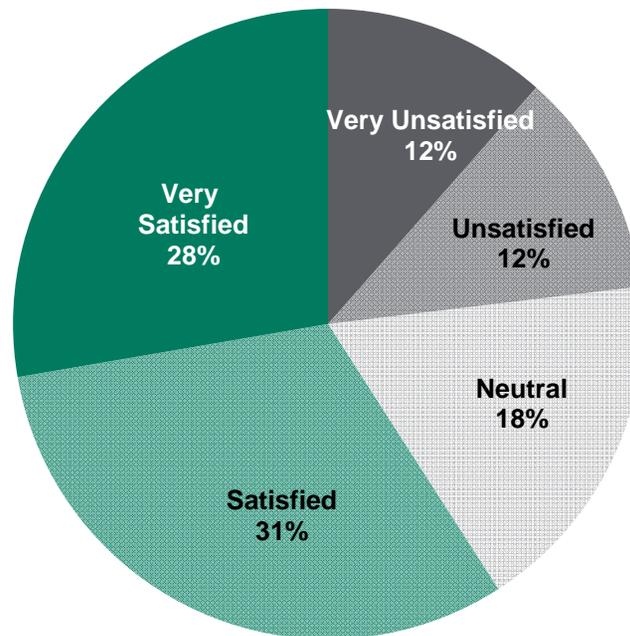
Source: WSDOT Good To Go! Customer Survey, April 2016, surveyed only customers who have used the Express Toll Lanes since opening.

88% of respondents understand how to use the lanes 24

Six month performance update

Good To Go! Customer Survey

The option to use the express toll lanes
when I need them



Source: WSDOT Good To Go! Customer Survey, April 2016, surveyed only customers who have used the Express Toll Lanes since opening.

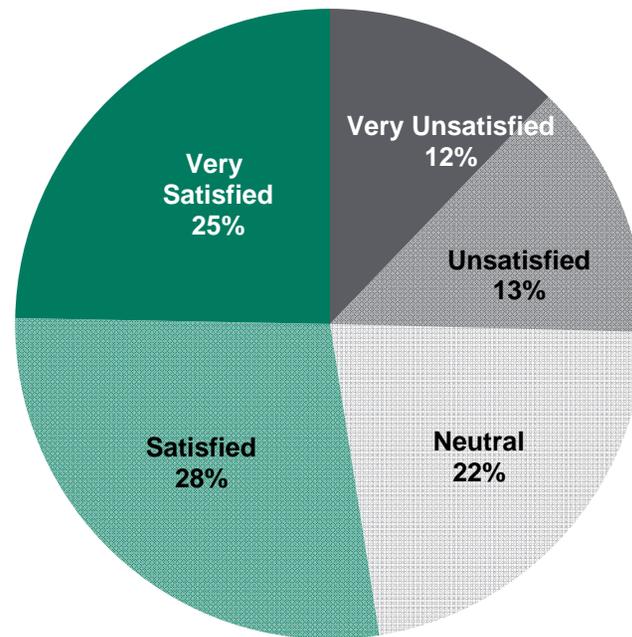
59% of respondents are satisfied having the choice

25

Six month performance update

Good To Go! Customer Survey

The value of time saved relative to the tolls I paid



Source: WSDOT Good To Go! Customer Survey, April 2016, surveyed only customers who have used the Express Toll Lanes since opening.

Over half of respondents are satisfied with the value 26

How express toll lanes are measuring up

SPEED AND RELIABILITY

- ✓ Express toll lane speeds >45 mph 90 percent of the time
- ✓ Travel times more reliable
- ✓ Express toll lane usage is well above projected use with 48,000+ daily trips



COVERING OPERATING COSTS

- ✓ Express toll lanes on track to generate revenue to cover operating costs



LOCAL STREETS

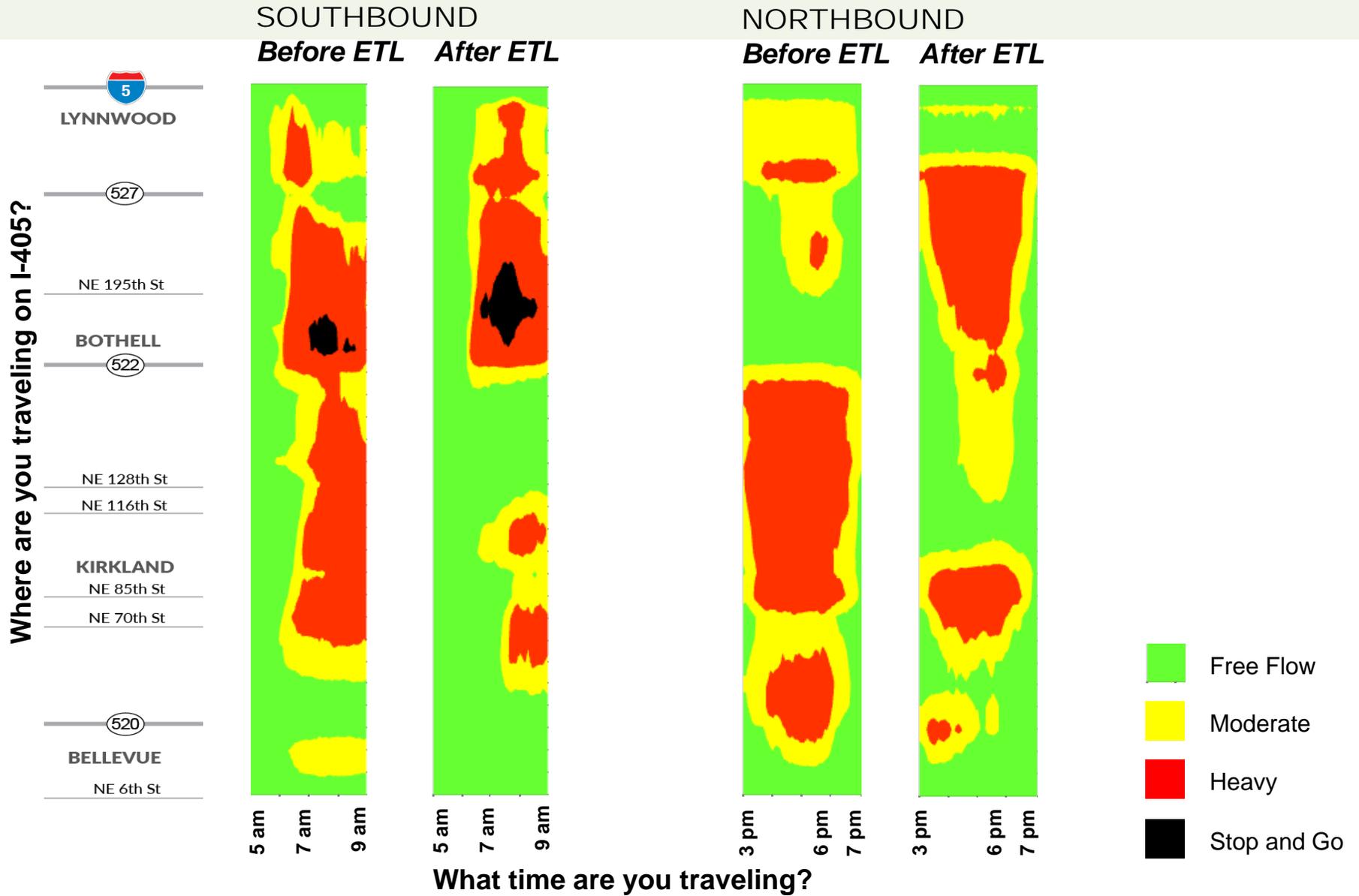
- ✓ Adjacent local streets and state highways travel times and volumes have not changed much since before tolling, monitoring is on-going

TRANSIT AND VANPOOL RIDERSHIP

- ✓ Ridership has increased for King County Metro (+10 percent)
- ✓ Vanpool ridership has increased for both King County Metro and Community Transit to 350+ vans and 3,300+ riders per day

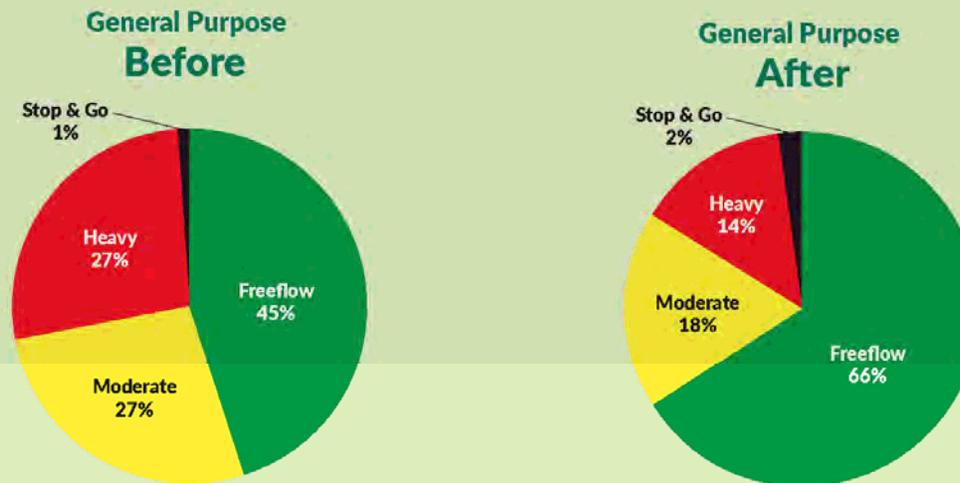


Peak Period Congestion in the General Purpose Lanes

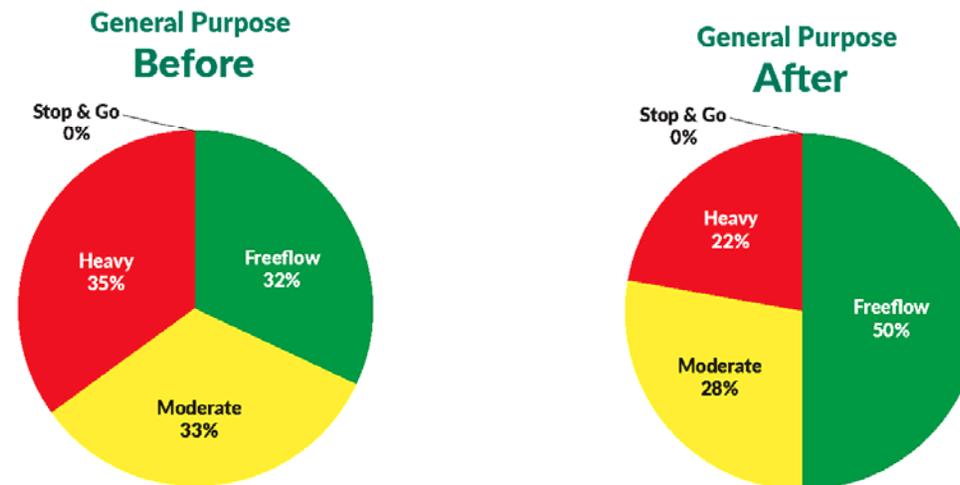


Changes in Corridor General Purpose Congestion January-March 2015 vs. January-March 2016 (Peak Periods)

Southbound

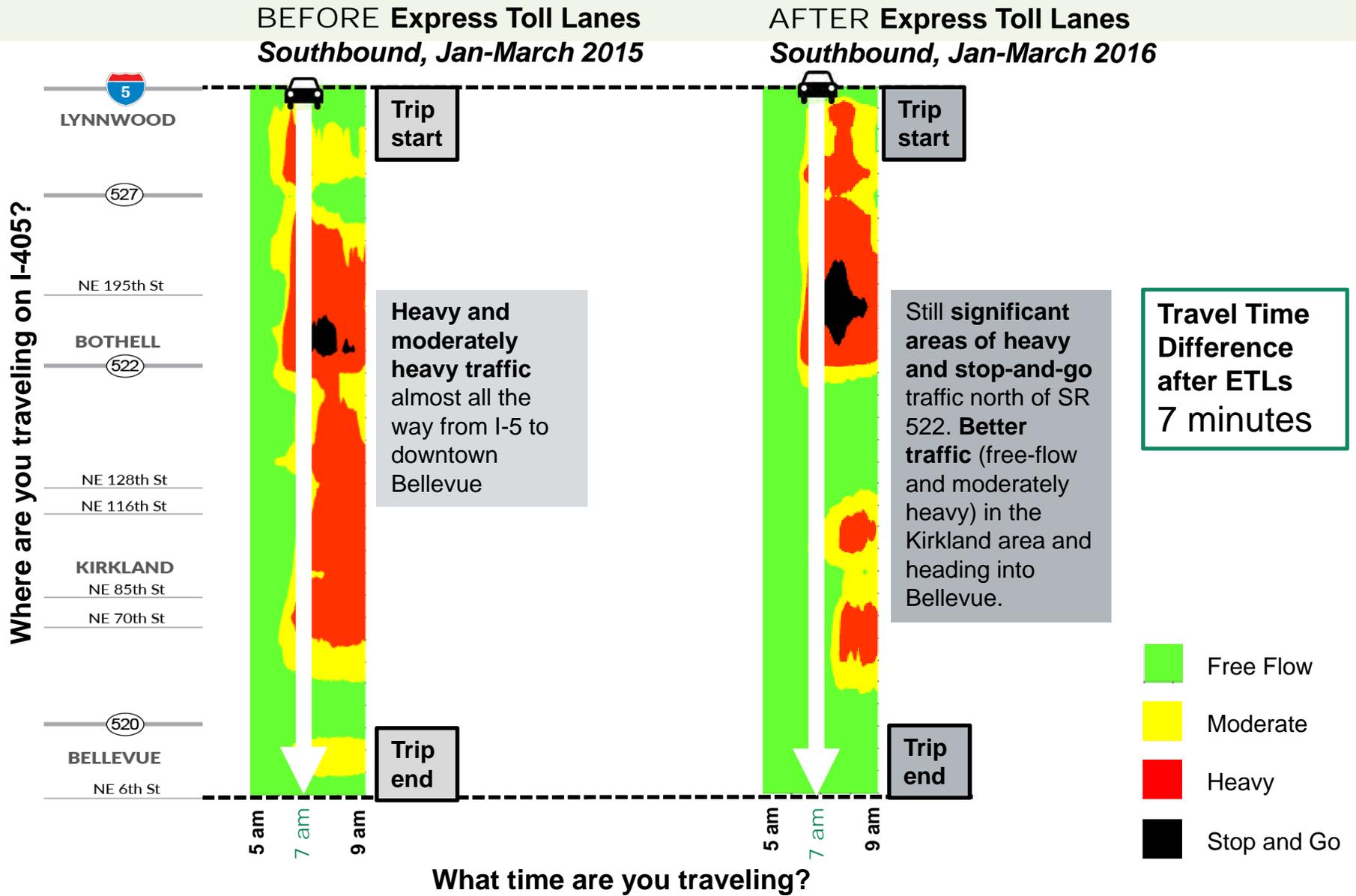


Northbound



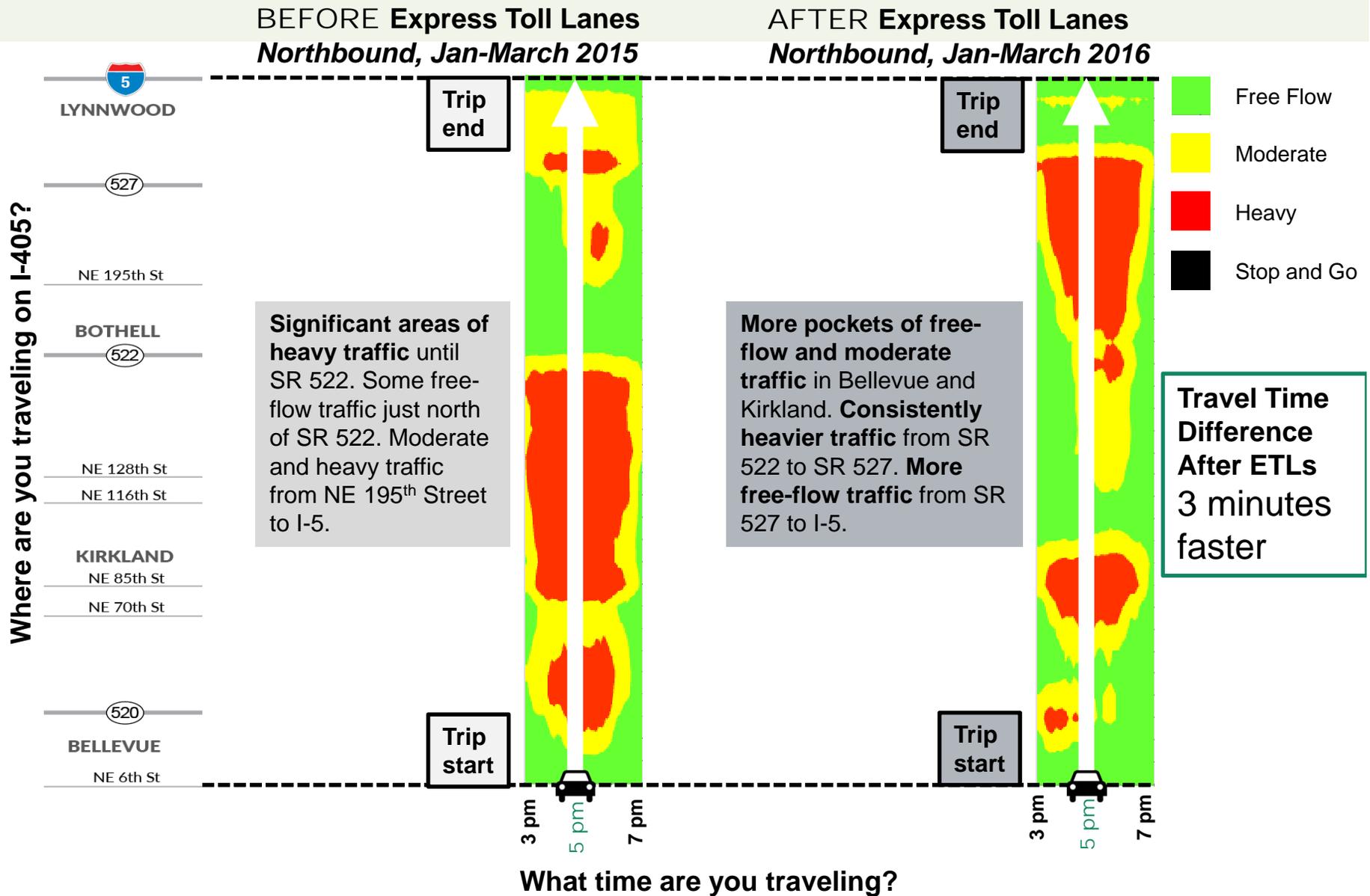
Overall improvements in congestion

Sample Commute: Regular Lanes, Lynnwood to Bellevue, 7 a.m.



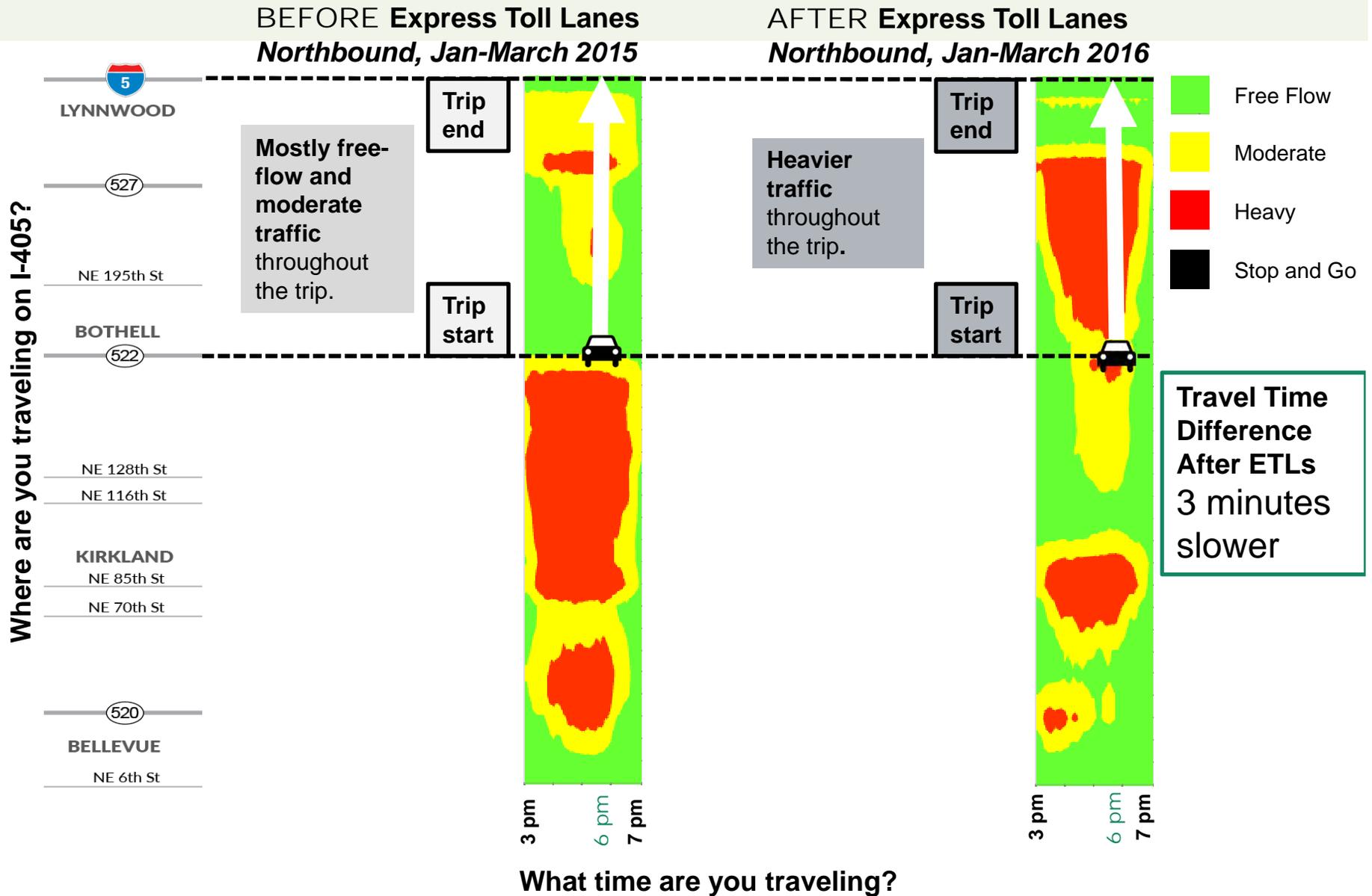
Travel experiences vary

Sample Commute: Regular Lanes, Bellevue to Lynnwood, 5 p.m.



Travel experiences vary

Sample Commute: Regular Lanes, Bothell to Lynnwood, 6 p.m.

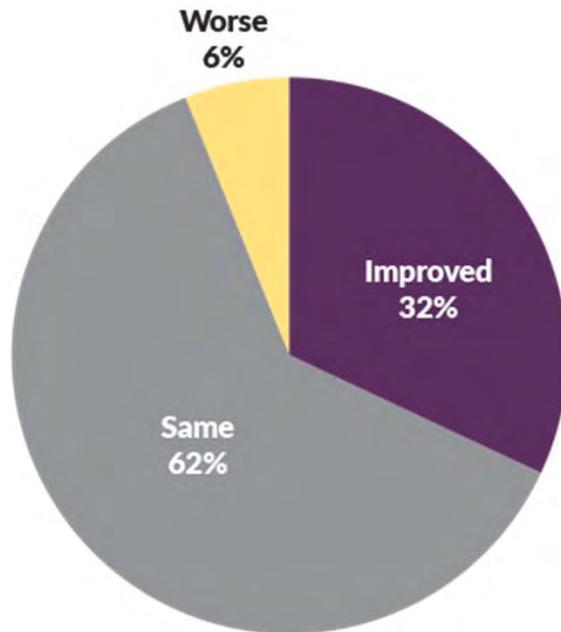


Travel experiences vary

How did regular lane commutes change? January-March 2015 vs. January-March 2016 (Peak Periods)

Southbound General Purpose Lane Trips Morning Peak Period

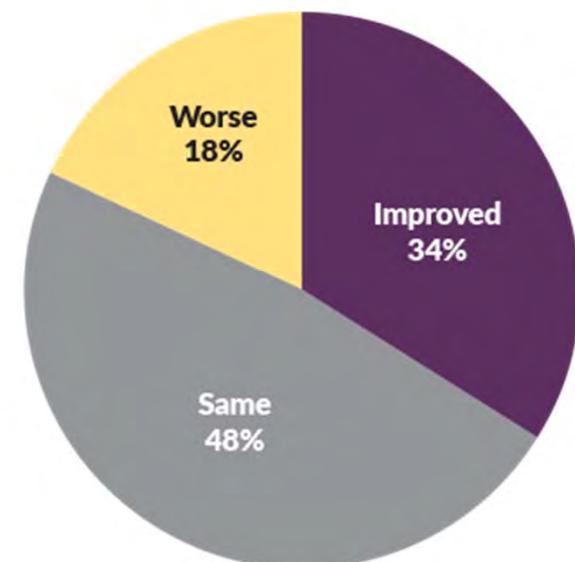
5 to 9 a.m.



Added 7.5 southbound lane miles for a 12% increase
(61 to 68.5 total miles)

Northbound General Purpose Lane Trips Afternoon Peak Period

3 to 7 p.m.



Added 3.5 northbound lane miles for a 5% increase
(65 to 68.5 total miles)

I-405 operations – Adjustments

- **Completed/Planned Adjustments**
 - Operational hours
 - Mon-Fri 5 a.m. to 7 p.m.
 - Toll rate algorithm adjustments
 - Striping and access adjustments at 10 locations
 - Additional pavement markings and signage at 3 locations



I-405 operations – Adjustments

Planned Adjustments

- 3** Southbound I-405 at SR 527: Lengthen access point to the north to allow drivers more time to merge.
- 10** Northbound I-405 near NE 85th Street: Adjust the access length to provide more open access to the express toll lane.



Adjustments continue

I-405 operations – Adjustments

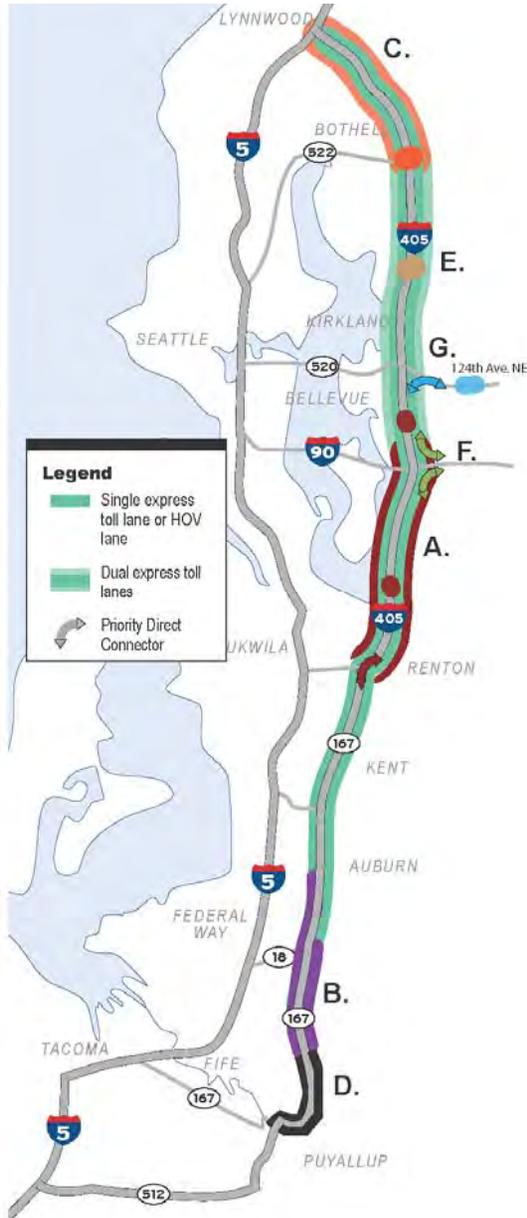
Future Projects Under Evaluation

- 14** Northbound auxiliary lane between SR 520 and NE 70th Place
- 15** General purpose hard shoulder running on northbound I-405 from SR 527 to I-5
- 16** Address limited capacity in single express toll lane section (SR 522 to I-5)



Plans to address capacity issues

What are the next priorities?



Completing the 40-mile system

A. Tukwila to Bellevue - \$1,353* million (WSDOT: \$1,215 m; others: \$138 m)			
Benefits • Benefit/Cost: 4.7 • Approximately 50,000 vehicle hours of delay reduced every day which equates to \$276 M in annual travel time savings by drivers.	Renton to Bellevue (Option 4)	\$890 (funded)	• Adds one lane in each direction
	SR 167 Direct Connector	\$325 (\$40M in PE/RW funded)	• Builds a flyover ramp connecting the I-405 express toll lanes to the SR 167 HOT lanes
	Sound Transit: N 8th St Direct Access	\$78*	• Builds a direct access ramp at N. 8th St.
	City of Bellevue: NE 6th St Extension Bellevue Share	\$60*	• Extends NE 6th St. east across I-405 to 120th Ave. NE
B. SR 167 Express Toll Lanes Extension - \$117 million			
Benefits • Benefit/Cost: 2.3 • Increases capacity over 50% and extends the reliability and traffic benefits of the SR 167 HOT lanes.	Stage 4 (SB)	\$82 (Funded)	• Extends the existing southbound HOT lane to the King / Pierce County line.
	Stage 5 (NB)	\$35	• Starts the northbound HOT lane at the King/Pierce County.

Future I-405 Corridor priorities

C. Bothell to Lynnwood Dual Express toll Lanes - \$570 million			
Benefits • Benefit/Cost: 1.7 • 36,000 vehicle hours of delay reduced every day (\$211 M annual travel time savings). Provides a new direct access connection between SR 522 and I-405 express toll lanes eliminating weaving and improving operations for the general purpose lanes.	SR 522 Interchange	\$315	• Builds a new direct access connection to SR 522 and redesigns a new interchange. • Replaces the northbound I-405 bridge over the Sammamish River and SR 522.
	SR 522 to I-5 Dual Express Toll Lanes	\$255	• Adds a new lane in each direction between SR 522 and I-5 in Lynnwood to be paired with the existing HOT lane to form a dual express toll lane system.
D. SR 167 Stage 6 - \$300 m			
Benefits • Benefit/Cost: 2.5 • Reduces vehicle delay by 32,000 vehicles daily. • Project connects regional facilities of SR 410, SR 512, and future SR 167 extension.	SR 167 Stage 6	\$300m	• Extends the SR 167 HOT lanes northbound and southbound to SR 410 / SR 512 interchange.
E. I-405/NE 132nd St. Interchange – Prior TPA project commitment			
Benefits • Benefit/Cost: 1.1 • Provides new access to and from north Kirkland area and complements 116th interchange which has recently been rebuilt.	NE 132nd St. Interchange	\$75 (funded)	• Builds a new half-diamond interchange at NE 132nd St. in Kirkland.

Projects on other corridors with direct benefits to I-405 (system to system connections)

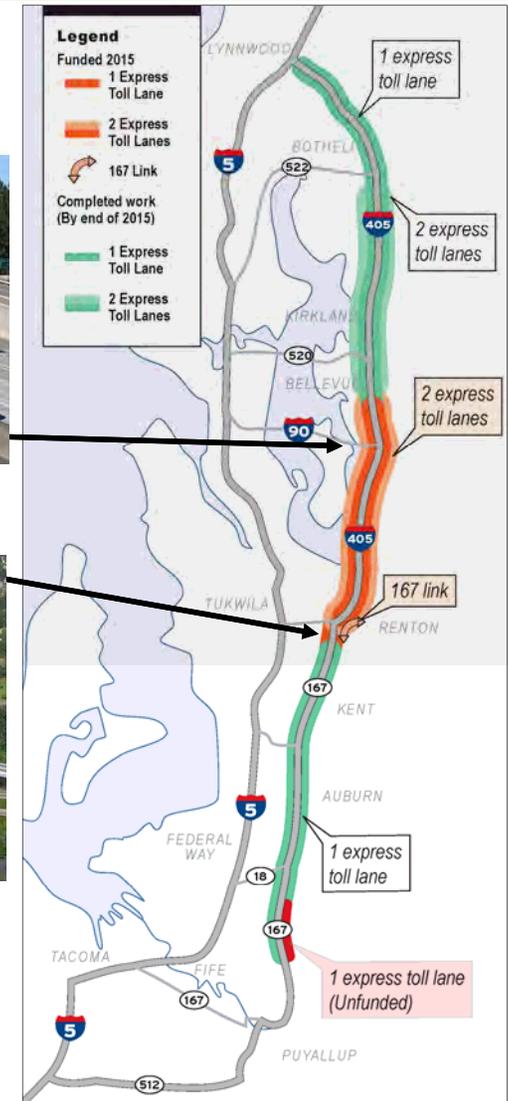
F. I-90/I-405 Interchange Direct Connectors - \$535 million			
Benefits • Benefit/Cost: 1.6 • Reduces daily delay by 22,000 vehicle hours of \$112M in annual travel time savings. Reduces weaving and provides high speed reliable trips between the two interstate systems.	I 405 / I 90 Renton to Issaquah Direct Connector	\$270	• Builds a new flyover ramp between the express toll lanes on I-405 and the HOV lanes on I-90. • The ramp would connect Renton to Issaquah.
	I-405 / I-90 Bellevue to Issaquah Direct Connector	\$265	• Builds a new flyover ramp between the express toll lanes on I-405 and the HOV lanes on I-90. • The ramp would connect Bellevue to Issaquah.
G. SR 520/I-405 Interchange and SR 520/124th Ave NE Interchange - \$550 million			
Benefits • Benefit/Cost: 1.6 • Reduces delay by 24,000 vehicle hours daily or \$136 M in annual travel time savings. Provides direct connection between I-405 and SR 520 and eliminates weaving in the general purpose lanes.	SR 520 / 124th Ave NE New Interchange	\$235	• Rebuilds the SR 520/124th Ave NE interchange to Master Plan configuration (PE/RW funded)
	I-405 / SR 520 Direct Connectors	\$315	• Builds flyover ramps connecting the express toll lanes on I-405 to the HOV lane on SR 520. Ramps will connect Bellevue to Redmond traffic.

Next Steps: Completing the 40-mile system

The backbone to Bus Rapid Transit

Phase 2: Next steps

- **Renton to Bellevue Widening and Express Toll Lanes** – \$890 m
- **Benefit/Cost** – 4.7, open 2024
- **I-405/SR 167 Direct Connector** – \$285 m
Contract award in 2016; Open 2019
- **SR 167 Stage 5**
 - \$35 m PE/ROW/CN unfunded



I-405 Delivery Schedule: Current Funding

