WSDOT

OCTOBER 2015 – SEPTEMBER 2016

I-405 Express Toll Lanes One Year of Operations

THIS REPORT COMPARES DATA FROM THE FIRST YEAR OF OPERATIONS (OCTOBER 2015 – SEPTEMBER 2016) TO THE YEAR PRIOR TO LAUNCHING THE EXPRESS TOLL LANES (OCTOBER 2014 – SEPTEMBER 2015).

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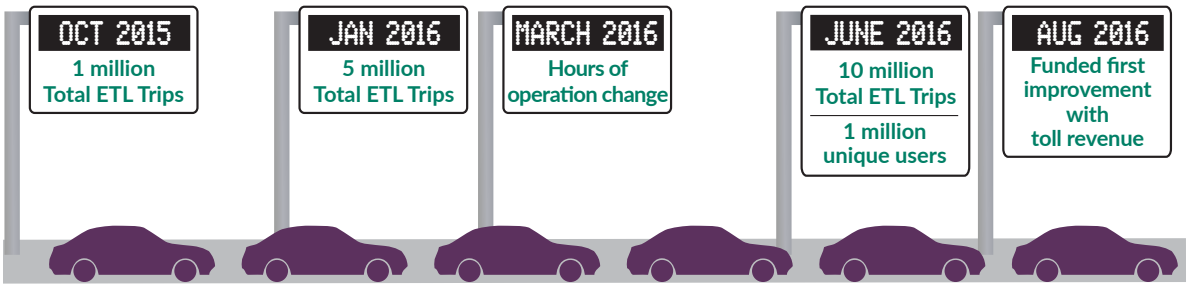
1. One year performance summary

The Washington State Department of Transportation (WSDOT) launched 17 miles of express toll lanes on Interstate 405 between the cities of Bellevue and Lynnwood on Sept. 27, 2015. This update includes data and observations from the first year of express toll lanes operations. WSDOT will continue to deliver performance reports through 2017.

In the last year, a lot has changed throughout the Puget Sound region – the region grew by 86,000 people[1] and added 64,000 jobs[2]. Traffic volumes have increased at almost all locations on major regional roadway facilities. Despite this growth, the I-405 express toll lanes are providing value to users in the form of faster speeds, reduced travel times and more reliable trips.

During the first year of operations (October 2015 – September 2016), data shows the I-405 express toll lanes provided 51,000 faster, more reliable trips each weekday for 37,000 toll paying customers and 14,000 toll exempt carpools and motorcycles. The lanes also provided more reliable trips each weekday for over 7,500 bus riders. **Express toll lane users saved an average of 13 minutes during peak commute times compared to the general purpose traffic, and paid an average toll of $2.50.**



Total Quarterly Weekday Trips

3.02 million Oct - Dec 2015	**3.20 million** Jan - March 2016	**3.34 million** April - June 2106	**3.60 million** July - Sept 2016

First year projections and realities

Prior to the start of tolling, WSDOT made forecasts and estimations for the first year of operations based on other express toll lane facilities across the United States. This section reviews those forecasts and estimations, organized by each of the goals set out for the express toll lanes.

Goal #1: Offer drivers a choice

The express toll lanes provide an option for drivers choosing to pay for a more reliable trip. We anticipated that drivers may not choose to use the express toll lanes every day, but that the lanes would be there to give drivers a choice for a faster trip when they needed it most. What we saw

[1]Source: See www.psrc.org/data/regionalprofile/regionalprofile-pop/
[2]Source: See www.psrc.org/assets/14876/Trend-Jobs-201609.pdf

was that 70 percent of express toll lane commuters use the lanes between one and five times each month, validating that drivers value the choice for a faster trip. In September 2016, after one year of operation, 50,000 new vehicles used the express toll lanes for the first time.

We also anticipated that typical toll rates would range between 75 cents and $4. The average peak period, peak direction toll rate was $2.50.

Goal #2: Provide a faster and more predictable trip

We anticipated that the express toll lanes would provide a faster trip. In the first year of operations during the peak commute periods, the northbound express toll lane saved drivers 14 minutes over the general purpose lane for those traveling the full length of the corridor. The southbound express toll lane saved drivers 11 minutes over the general purpose lane. Additionally, speeds in the general purpose lanes have improved in most areas.

Updated traffic and revenue analysis is underway and early results have identified revenue generation above original projections. This additional revenue will be kept within the corridor for the Renton to Bellevue project and other corridor projects.

The previous HOV lane moved traffic at 45 miles per hour or faster an average of 59 percent of the time during peak commute periods and we anticipated that express toll lanes would improve that percentage. The express toll lanes moved traffic at 45 miles per hour or faster an average of 88 percent of the time in the first year of operations.

Goal #3: Fund future corridor improvements

The Connecting Washington transportation package identified $215 million in toll revenue for funding the I-405 express toll lanes between Renton and Bellevue and other future I-405 improvements. What we saw was higher usage during the first year of operation which provided sufficient revenue to fund the Peak-Use Shoulder Lane project to add new general purpose capacity in the northbound I-405 segment between Bothell and Lynnwood.

Overall, demand for the express toll lanes has steadily increased, with 1.2 million drivers making nearly 15 million trips over the first year of operations. Heavy use means higher volumes in the lanes and toll revenue generation. Additionally, with heavy use and high demand, WSDOT has made over a dozen improvements throughout the first year to help the express toll lanes provide a reliable trip.

The remainder of the report will cover other metrics and information regarding the first full year of express toll lane operations.

2. Express toll lane background information

The Puget Sound Regional Council projects that nearly one million people will move to the region in the next 25 years, with a high concentration of new population in areas served by I-405, one of the state's most congested corridors. In 2011, the state Legislature authorized express toll lanes on I-405 between NE 6th Street in Bellevue and I-5 in Lynnwood to provide a more reliable trip for transit, vanpools and carpools and to create a sustainable solution for traffic management. The lanes also provide a choice for non-carpool drivers to pay a toll for a faster trip when they need it, generating funds to operate the system and fund future corridor improvements. More detailed project history can be found on WSDOT's website at www.wsdot.wa.gov/Projects/I405/.

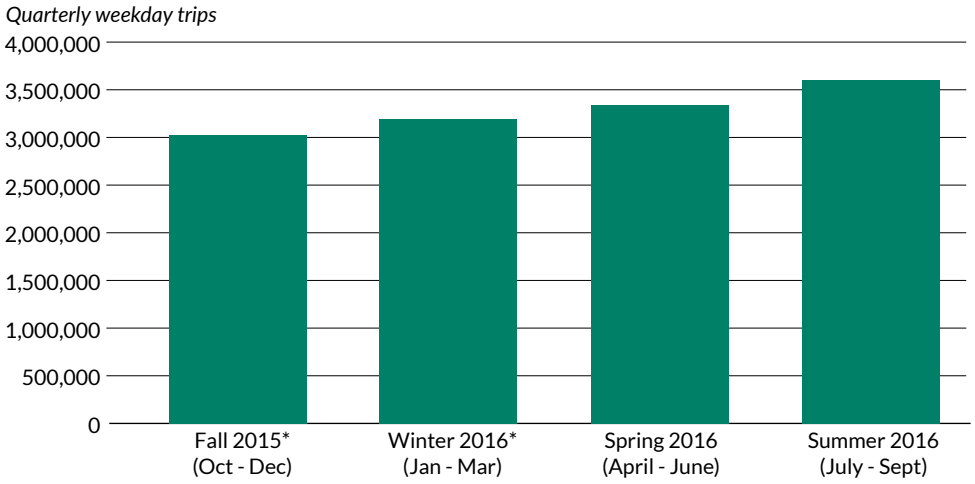
Operational parameters: The following parameters define how the express toll lanes operate and are critical to understanding the data and analysis discussed in this report:

- The I-405 express toll lane corridor is made up of single and dual-lane sections. The portion of the system with two lanes in each direction between Bellevue and Bothell is referred to as the **dual-lane section.** The portion of the system with one express toll lane in each direction between Bothell and I-5 in Lynnwood is referred to as the **single-lane section.**
- The I-405 express toll lanes only operate on **weekdays between 5 a.m. and 7 p.m.** During all other days and times, the lanes are open to all traffic.
- Carpools with enough occupants may use the express toll lanes for free with a Flex Pass set to HOV mode. The **HOV requirement,** set by the Transportation Commission, allows cars with three or more occupants to travel toll-free during peak travel times on weekdays (5-9 a.m. and 3-7 p.m.) and vehicles with two or more occupants to travel toll-free on weekdays from 9 a.m. to 3 p.m.

Initial ramp-up period: The initial ramp-up period occurred faster than anticipated and we continue to see quarterly usage increase due to both the ramp-up and regional growth. The total weekday trips chart below demonstrates that at one year of operations, weekday trips are still increasing, indicating that the lanes have not yet reached a new normal.

Trips continue to grow

Total Weekday Trips during the first year of operations – Oct. 1, 2015 to Sept. 30, 2016



*Note: Oct. 1, 2015 to March 17, 2016 - includes all weekday trips (24hrs/day). March 18, 2016 to Sept. 30, 2016 - includes weekday trips from 5 a.m. to 7 p.m. due to the change in hours of operation.

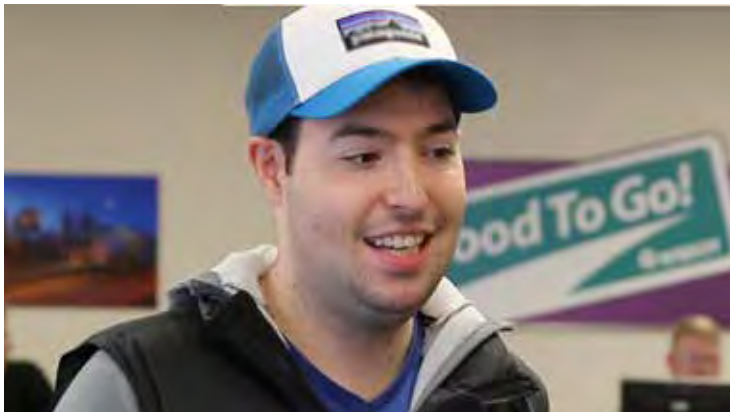
3. Express toll lane trip trends

Demand for the express toll lanes is higher than forecasted, with nearly 15 million trips in the first year compared the 12 million trips forecasted (based on the June 2016 forecast). Significant regional growth has led to more drivers choosing to use the express toll lanes. Drivers made 6,000 more daily weekday peak period trips in the express toll lanes in September 2016 compared to October 2015. The impact of recent economic growth on forecasts is discussed further in Section 9.

There are three categories of express toll lane trips:

- **Toll exempt**: Carpools traveling toll-free with a Flex Pass set to HOV mode, and motorcycles with a motorcycle pass.
- **Photo toll:** Vehicles who pay the toll through a photo of the vehicle license plate. There are two types of photo tolling:
  > Pay By Plate - License plates registered to a *Good To Go!* account; drivers are charged an additional 25 cent fee per trip.

  > Pay By Mail - Drivers without a *Good To Go!* account receive toll bills through the mail for an additional $2 toll per trip.
- ***Good To Go!* pass:** Non-carpools that pay a toll using any *Good To Go!* pass installed in their vehicle; this method is the most inexpensive way to pay a toll.



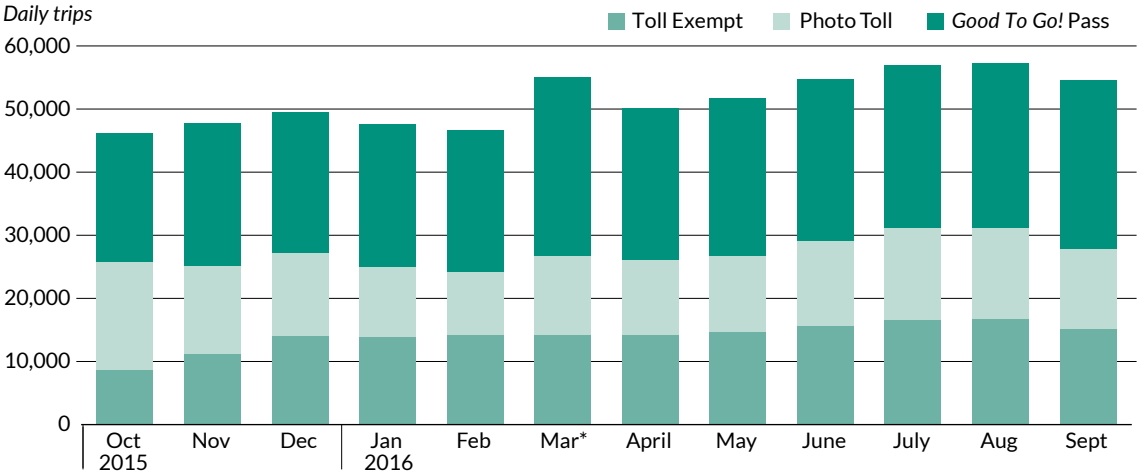
How often do you use the I-405 express toll lanes?

"Pretty much every time I go up north on I-405. Time is the only thing I'm never going to get back, so I'll pay a couple bucks to cut my commute in half."

– Jonah , I-405 driver

Drivers are choosing to pay for a more predictable trip

Average Weekday Trips by Type – Oct. 1, 2015 to Sept. 30, 2016



*On March 18, 2016, the hours of operation changes from 24 hours a day/7 days a week to Monday through Friday 5 a.m. to 7 p.m.

Weekday express toll lane usage has been steadily increasing, even after the hours of operation were reduced in March 2016. The first three months of operation saw 3 million total weekday trips, increasing to 3.6 million in the final three months of the first year of operations.

Forecasts estimated higher numbers of toll exempt trips, however, toll paying trips using a *Good To Go!* pass are the most common type of trip. Part of the reason the number of tolled trips were higher is likely due to the availability of Pay By Mail, allowing drivers to use the lanes without an account or *Good To Go!* pass. The percentages of both types of *Good To Go!* pass-based trips (toll exempt HOV trips and toll paying trips) both increased during the first three months of operations, and have been holding steady since January 2016. These *Good To Go!* pass-based trips made up an average of 75 percent of all trips during the first year of operations. The chart above shows the month-by-month payment type trip trends.

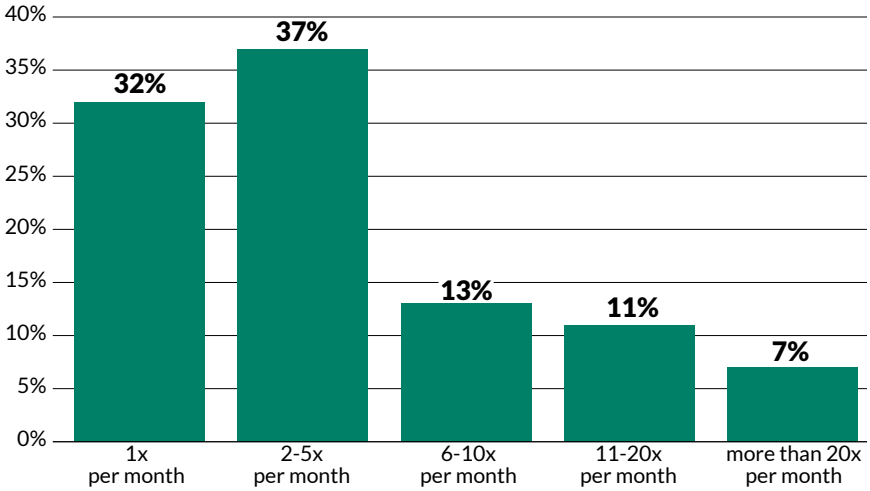
Drivers use the express toll lanes when they need them

WSDOT analyzed trip data to determine how often each individual driver with an active *Good To Go!* pass used the express toll lanes during the first year, including both tolled and toll-exempt trips during hours of operations when tolling is in effect.

- 32 percent of drivers were occasional users of the express toll lanes, making just one trip a month.
- 37 percent of drivers were semi-frequent users, with between two and five trips a month.
- 13 percent of drivers frequently used the express toll lanes, making between 6 and 10 trips a month.
- The highly frequent users, making 11-20 trips per month or more than 20 trips per month, total 18 percent of I-405 express toll lane drivers.

This data reinforces the fact that drivers use the express toll lanes when they need them.

Average Monthly Travel Frequency for *Good To Go!* Pass Holders – Oct. 1, 2015 to Sept. 30, 2016

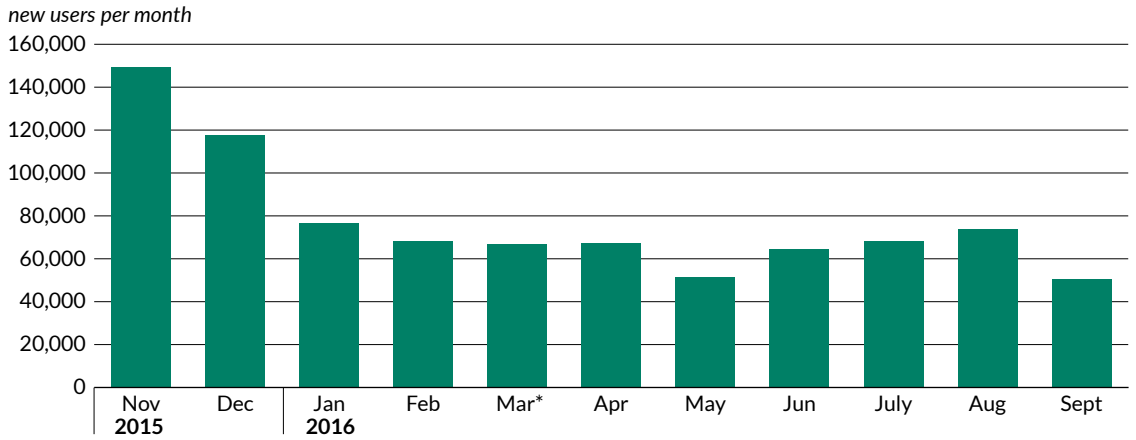


Comparison of the frequency of drivers using the express toll lanes by measure of unique Good To Go! passes during weekdays.

Continuing to see new drivers each month

WSDOT analyzed monthly trip data to determine how many drivers used the express toll lanes for the first time, starting from the second month of operations. This analysis includes both tolled and toll-exempt trips for all vehicles traveling on the express toll lanes. The graph below shows that over the first year of operations, new drivers are choosing to use the express toll lanes when they need them. Even after the first few months of operations, between 50,000 and 70,000 new users try the express toll lanes each month. This graph also indicates that the 'ramp-up' period is slowing as more drivers become familiar with the express toll lanes.

First time express toll lanes users by month – Nov. 1, 2015 to Sept. 30, 2016

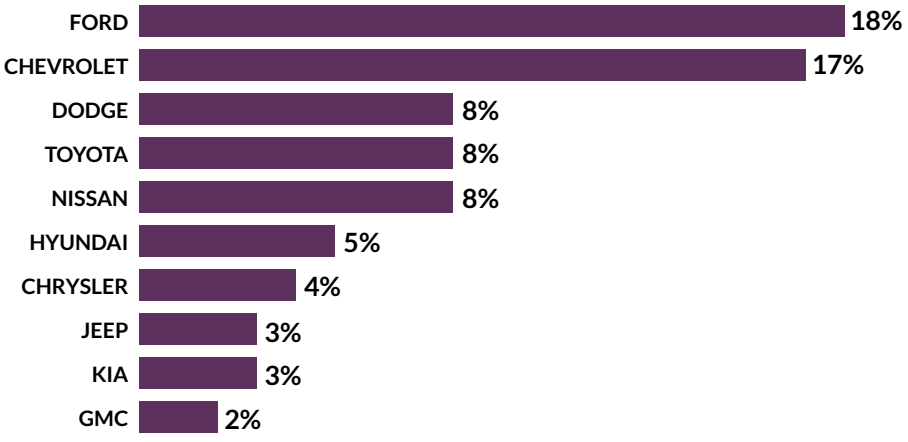


*On March 18, 2016, the hours of operation changed from 24 hours a day/7 days a week to Monday through Friday 5 a.m. to 7 p.m. Data up until March 18, 2016 includes weekend users.

All types of vehicles use the express toll lanes

WSDOT analyzed the *Good To Go!* account database to determine what types of vehicles have used the express toll lanes. The top vehicle type is Ford, followed closely by Chevrolet.

Top 10 Vehicle Types of *Good To Go!* accounts on the express toll lanes – Oct. 1, 2015 to Sept. 30, 2016



Source: ***Good To Go!*** account database. Considers all accounts which have taken a trip in the express toll lanes and all vehicles linked to these accounts

4. Corridor travel times, average speeds and corridor reliability

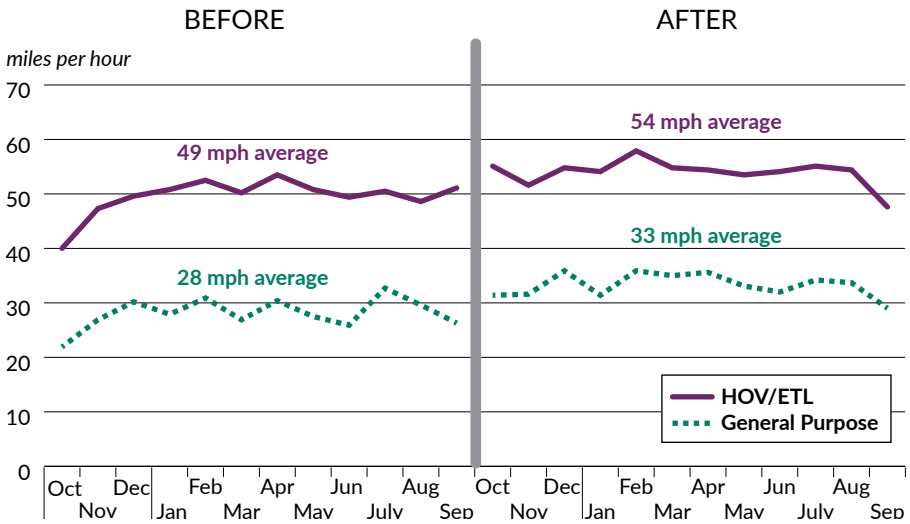
For this report, the first year of express toll lanes volumes, speeds, and travel times were analyzed and compared to the prior year. (Note: No adjustments for holidays or irregular traffic events were made in these comparisons.)

Corridor average speeds

In most of the corridor, I-405 is moving more vehicles at faster speeds, providing increased reliability during the peak commute periods. The express toll lanes moved vehicles an average of 13 miles per hour faster than the old HOV lanes during the northbound evening peak period and five miles per hour faster during the southbound morning peak period compared to the prior year for the full corridor. The general purpose lanes moved vehicles an average of one mile per hour faster northbound and five miles per hour faster southbound compared to the prior year for the full corridor.

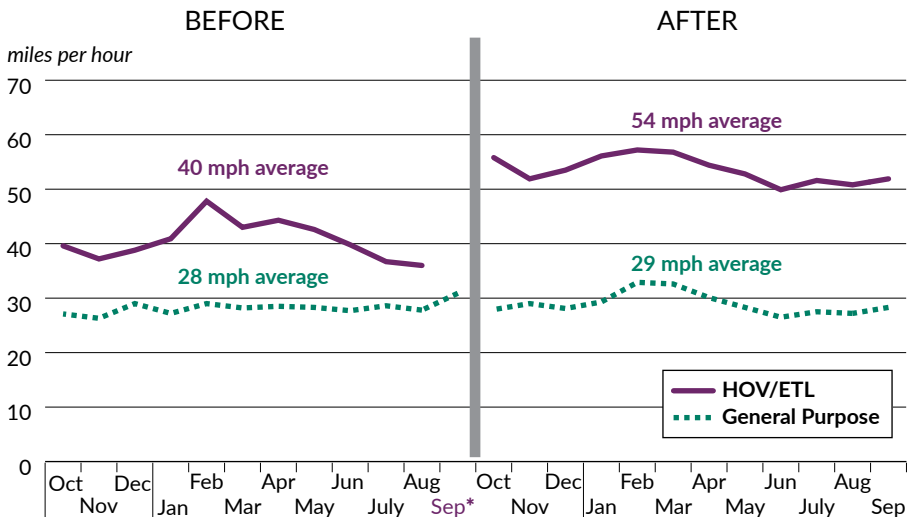
Morning speeds have improved

Average southbound weekday peak period (5-9 a.m.) speeds for the full corridor trip – Oct. 1, 2014 to Sept. 30, 2016



Evening speeds have improved

Average northbound weekday peak period (3-7 p.m.) speeds for the full corridor trip – Oct. 1, 2014 to Sept. 30, 2016



* Due to construction activity impacting traffic loop data in the northbound HOV lane, September 2015 data was deemed inaccurate and removed.

Corridor average travel times

Throughout the first year, the express toll lanes continued to provide travel time savings relative to the general purpose lanes, with drivers saving an average of 14 minutes northbound and 11 minutes southbound for the full corridor trip during the peak commute periods.

Travel times in the dual-lane section

The dual-lane section experienced faster travel times during peak commute periods during the first year of operations. The northbound general purpose lanes saw a 4 minute average travel time improvement, while the northbound express toll lanes saw a 6 minute travel time improvement, each during the evening peak period compared to the prior year. The southbound general purpose lanes saw a 3 minute average travel time improvement, while the southbound express toll lanes saw a 2 minute travel time improvement during the morning peak period compared to the prior year.

Drivers traveling northbound in the dual-lane section during the evening commute saved an average of 8 minutes in the express toll lanes compared to the general purpose lanes during the first year of operations. Drivers traveling southbound in the dual-lane section during the morning peak commute saved an average of 3 minutes in the express toll lanes compared to the general purpose lanes during the first year of operations.

Travel times in the single-lane section

Individual experiences may vary, and not all areas have experienced travel time improvements over the first year. Limited capacity between SR 522 and I-5 in the single-lanes section has resulted in slightly longer peak commute travel times for the express toll lanes in both directions (an average of 1 minute slower) and the northbound general purpose lanes (an average of 3 minutes slower) compared to the prior year.

However, express toll lanes do provide a reliable trip compared to the general purpose lanes. Over the first year of operations, drivers traveling in the single-lane section saved an average of 7 minutes in the express toll lanes compared to the general purpose lanes in both the northbound and southbound direction during the peak commute periods.

Corridor Reliability

One of WSDOT's main goals with the implementation of the express toll lanes is to provide reliability on I-405 through more predictable trips available to both carpools and as an alternative for toll paying drivers. The graphs on the next page show that the express toll lanes provide improved speed reliability compared to the general purpose lanes. WSDOT will continue to monitor average speeds and overall corridor reliability.

What do you think about the express toll lanes?

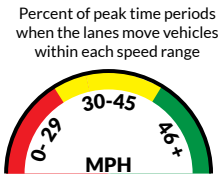
"I think express toll lanes are good idea. They help get me where I need to go faster."

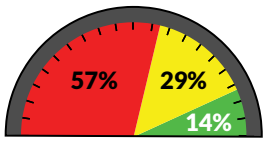
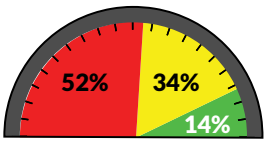
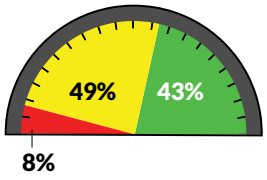
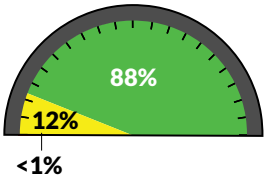
– Jodi, I-405 driver

Express toll lanes bring back corridor reliability to peak commute travel periods

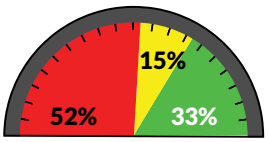
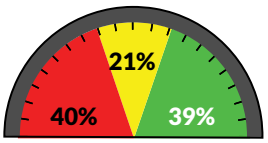
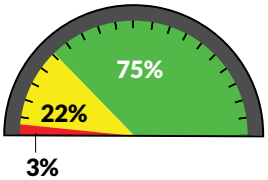
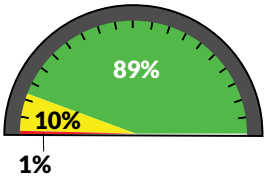
Northbound trips are faster and more reliable

Percent of time drivers are traveling at speeds throughout the corridor – Oct. 1, 2014 to Sept. 30, 2015 versus Oct. 1, 2015 to Sept. 30, 2016



	Before Oct. 1, 2014 to Sept. 30, 2015	After Oct. 1, 2015 to Sept. 30, 2016
Northbound (3-7pm)		
General Purpose		
HOV/ETL		
Volume change 2015 to 2016	-1% to +14% (depending on location)	

Southbound trips are faster and more reliable

Southbound (5-9am)		
General Purpose		
HOV/ETL		
Volume change 2015 to 2016	+6% to +16% (depending on location)	

5. Weekday volumes

Express toll lanes are moving higher volumes

Using sensors in the roadway, WSDOT collected traffic counts on the stretch of I-405 and on and off-ramps between Bellevue and Lynnwood. Volumes were reported at eight sample locations, four in the northbound direction and four in the southbound direction.

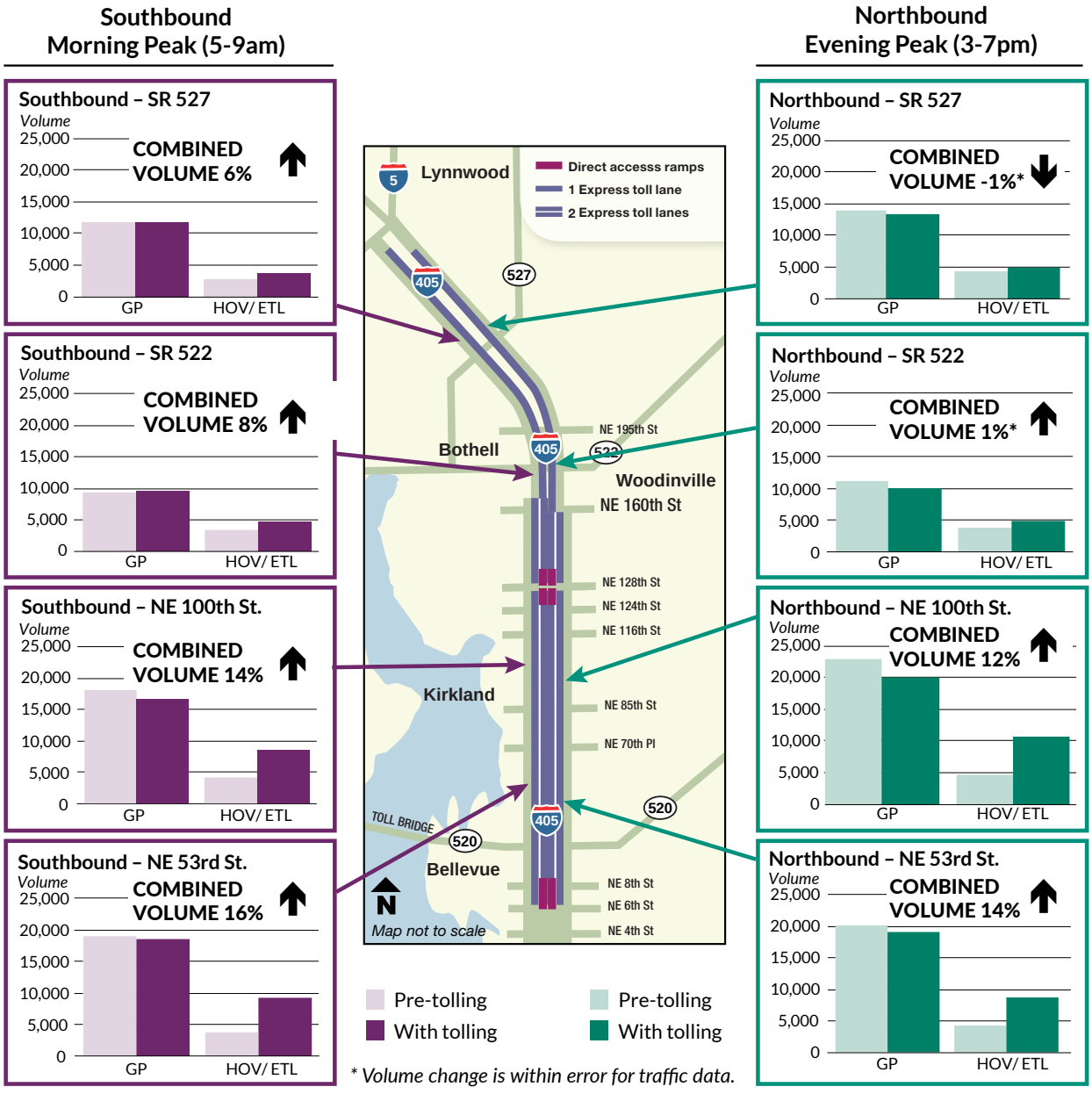
WSDOT observed the following weekday peak period traffic volume trends over the first year, compared to the prior year:

- Except in the northbound direction near SR 527, the entire corridor is carrying higher traffic volumes.
- General purpose lane volumes showed slight decreases during the peak periods in multiple locations as more vehicles use the express toll lanes, especially along the dual-lane section which resulted in increased speeds.

The graphs on the next page illustrate the peak period, peak direction trends for the eight sample volume locations for the first year.

Express toll lanes are moving more vehicles

I-405 Peak Period Traffic Volumes at Sample Locations – One Year of Operations – Oct. 1, 2014 to Sept. 30, 2015 versus Oct. 1, 2015 to Sept. 30, 2016



Northbound capacity and volume

As part of the I-405 NE 6th to I-5 Widening and Express Toll Lanes Project, WSDOT built a new lane between Bellevue and the SR 522 interchange in Bothell. The project did not include funds for new capacity north of SR 522.

Before adding the new lane from Bellevue to Bothell, northbound traffic would experience bottlenecks in the Kirkland area during the afternoon peak period. Since WSDOT added the new lane and opened the express toll lanes, the corridor is moving more vehicles through this area faster. On average, dual-lane section volumes are up to 14 percent higher (3,300 more vehicles) during the northbound peak commute (3-7 p.m.) compared to the prior year.

Northbound trips in all lanes between SR 522 and SR 527 have experienced slower speeds since the express toll lanes opened. This slowing is caused both by the merge at SR 527 and by the reduction of northbound lanes from five to three after SR 522. This section of the corridor lacks capacity to handle the current or future volume of vehicles coming with expected population growth.

However, even at slower speeds, the express toll lanes are still moving more vehicles through the full corridor than the previous HOV lane. For example, for northbound travel near SR 522, the express toll lane is moving 34 percent (1,250 vehicles) more vehicles during peak periods than the HOV lane in 2015.

In response to ongoing feedback from drivers, agency partners, and elected officials, WSDOT is working to expedite several adjustments to improve I-405 traffic performance; specifics are discussed in Section 8 of this report.

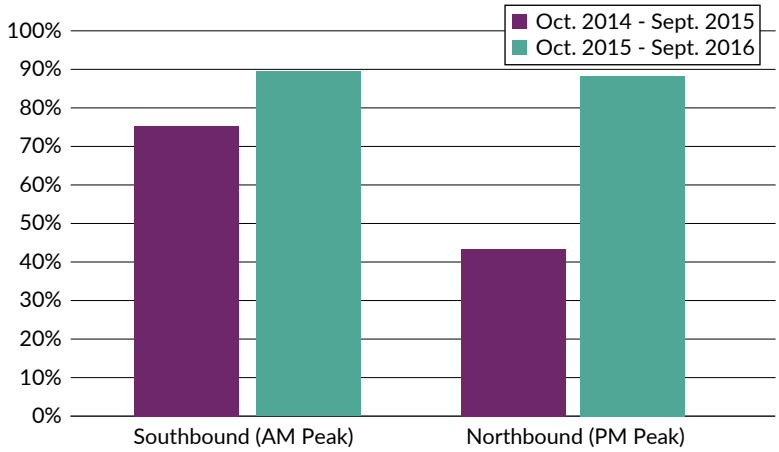
6. Percent of time express toll lanes are meeting 45 miles per hour

One goal and legislative metric of the express toll lanes is to keep peak period (Monday through Friday, 5-9 a.m. and 3-7 p.m.) traffic speeds of at least 45 miles per hour 90 percent of the time, giving drivers an option for a reliable trip. The Federal Highway Administration requires that express toll lane performance be monitored closely. To provide consistent reporting for FHWA, WSDOT reports this metric in one-year intervals.

I-405 HOV and Express Toll Lane Performance

Over the past year of operations (October 1, 2015 – September 30, 2016), the express toll lanes have met the target goal of 45 miles per hour an average of 88 percent of the time for peak period, peak direction trips. This results in speeds of 45 miles per hour or faster 45 percent more often in the northbound direction and 14 percent more often in the southbound direction compared to the HOV lanes before tolling.

Express toll lanes provide a more reliable trip than the previous HOV lanes
Percentage of peak period when speeds are > 45 miles per hour



The express toll lanes met the target goal of 45 miles per hour an average of 88 percent of the time between October 2015 and September 2016.

Capacity was not changed between Bothell and Lynnwood on northbound I-405. The speeds in the single express toll lane dictates whether or not the express toll lanes meet the 45 mph metric. More drivers are choosing to use the express toll lanes, causing toll rates to reach the $10 maximum more often and for longer durations in the single lane section to manage demand. When the toll rate is at $10, even if speeds are slowing in the express toll lanes, drivers are still traveling at faster speeds than the general purpose lanes. Additionally, the express toll lanes are providing travel time savings when compared to the HOV lanes before tolling.

WSDOT will continue to monitor this trend and identify adjustments to provide travel time reliability. WSDOT is also looking at a variety of operational improvements to address the capacity constraints on northbound I-405 between Bothell and Lynnwood.

7. Toll rates

In March 2015, the Transportation Commission approved a minimum toll rate of 75 cents and a maximum of $10. Toll rates adjust with the goal of keeping the express toll lane flowing by adjusting the toll rate to match the demand. As demand increases, the toll rate increases to keep the lane moving.

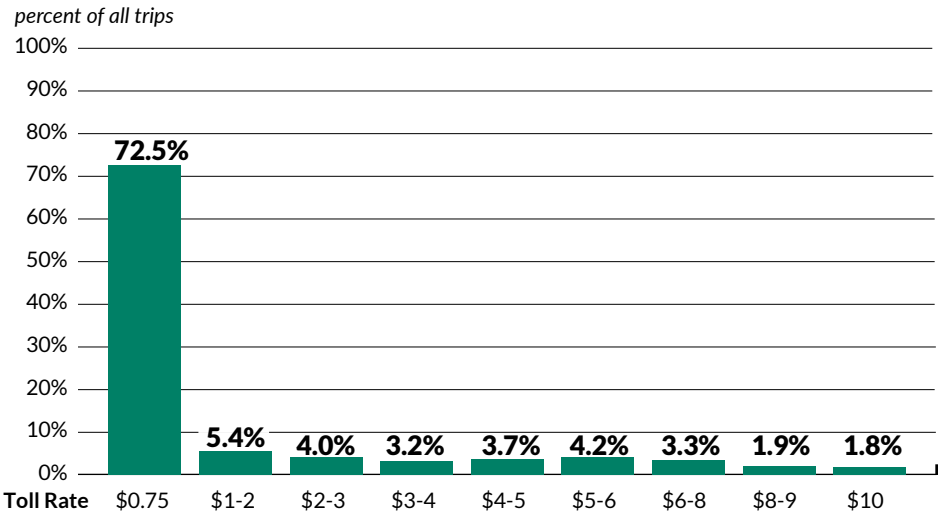
Since the September 2015 launch, as expected WSDOT observed a strong correlation between increased use of the express toll lanes and rising average toll rates. During the first year of operations, the average toll rate for all toll trips was $1.71. For the same timeframe, the average toll for peak period, peak direction trips was $2.50. Overall, 85 percent of tolls were $4 or less, and over 70 percent of toll transactions were for the minimum rate of 75 cents.

Over the last year, WSDOT tracked the instances where the express toll lanes reached $10. The express toll lanes began to reach the maximum toll rate regularly in spring 2016. Typically, each time the toll rate reached the maximum, it was because of heavy congestion caused by strong demand from drivers and capacity constraints in the single-lane section between Bothell and Lynnwood. Other factors that contribute to hitting the maximum toll rate include weather, disabled vehicles in the general purpose or express toll lanes, and collisions.

During the first year of operations, the maximum toll rate of $10 was reached at least once on 55 percent of weekdays northbound and 52 percent of weekdays southbound. Though the $10 maximum toll rate was reached frequently, it represented only 1.8 percent of total toll trips.

85 percent of all toll trips were $4 or less

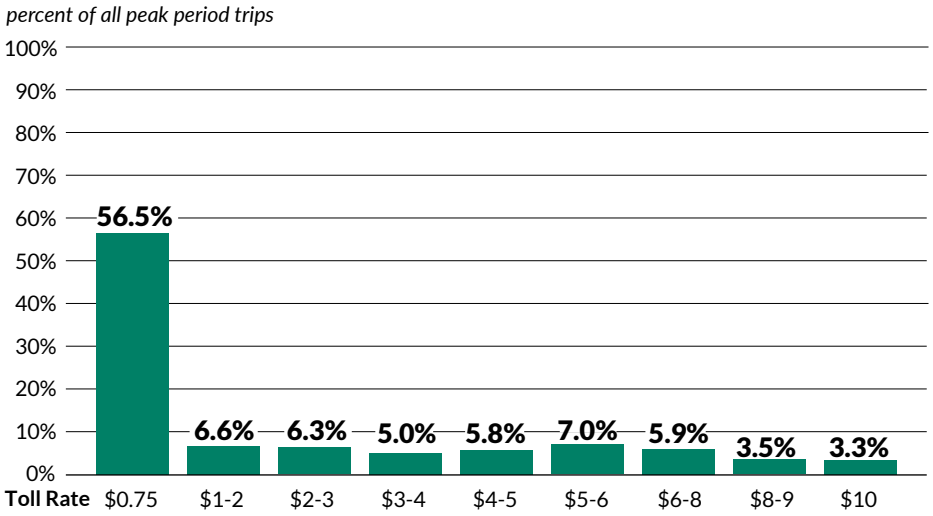
Percent of I-405 Toll Trips by Rate Category – Oct. 1, 2015 through Sept. 30, 2016



The chart above shows the average Good To Go! pass toll rates for all tolled trips in both directions during the first year of operations.

74 percent of all peak period toll trips were $4 or less

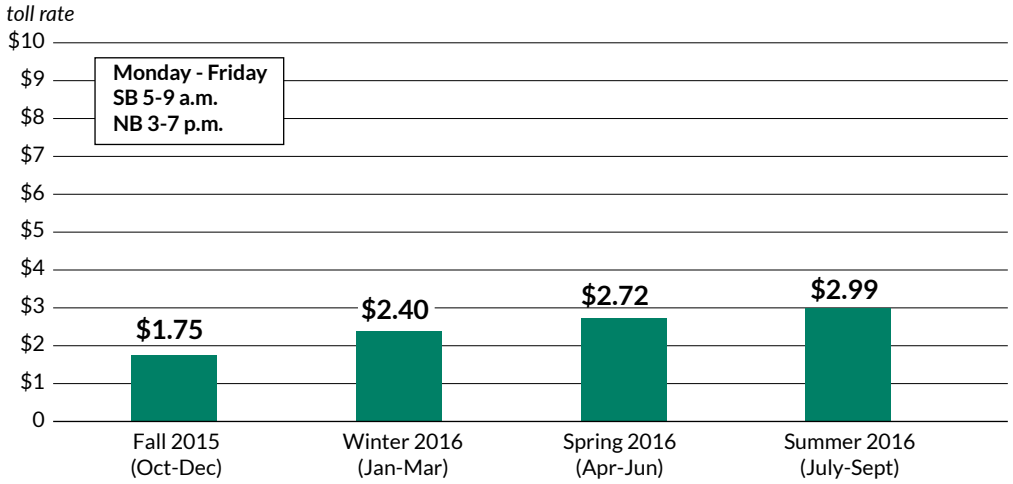
Percent of Peak Period I-405 Toll Trips by Rate Category – Oct. 1, 2015 through Sept. 30, 2016



The chart above shows the average Good To Go! pass toll rates for peak period, peak direction trips (southbound 5-9 a.m. and northbound 3-7 p.m.) during the first year of operations.

As express toll lane use increases, so does the peak period, peak direction toll rate

Average Peak Period, Peak Direction Toll Rates by Quarter



8. Express toll lane improvements

Since opening, WSDOT has listened to and acted upon stakeholder feedback, and made more than a dozen improvements to the express toll lanes including longer access points, additional signage and pavement markings, and algorithm changes to respond to traffic volumes and patterns.

STRIPING AND ACCESS ADJUSTMENTS AT
9 locations

ADDED PAVEMENT MARKINGS AND SIGNAGE AT
3 locations

In February 2016, Gov. Jay Inslee and the state Legislature requested WSDOT to make changes to the I-405 express toll lanes system, including the hours of operation. After careful evaluation, WSDOT and the Transportation Commission agreed that effective March 18, 2016, tolling on the express toll lanes would only be in effect on weekdays from 5 a.m. to 7 p.m. On weeknights, weekends and six major holidays, the express toll lanes are free and open to all traffic.

One of the most notable changes occurred in March 2016 when WSDOT lengthened the northbound I-405 access at SR 520 and changed the access from a weave lane to skip stripe to provide more open access to the express toll lanes north of downtown Bellevue. Throughout spring and summer 2016, this change reduced general purpose lane congestion at the SR 520 interchange area during evening commutes. While WSDOT saw improvement in the area adjacent to the SR 520 merge, the bottleneck that existed at the SR 520 merge moved farther north to NE 85th St.

Since opening, WSDOT continued to fine tune the algorithm designed to manage demand and keep express toll lane traffic moving at the lowest possible toll rate while providing reliable travel times and speeds.

Upcoming express toll lanes improvements

In addition to improvements implemented in the first year, WSDOT is also working on plans for several other operational improvements targeted at addressing the evening peak commute congestion and bottleneck on northbound I-405 where five lanes funnel into three.

Northbound I-405 peak-use shoulder

- **Northbound I-405 peak-use shoulder lane between SR 527 and I-5** – Northbound trips in the single-lane section between SR 522 and I-5 have experienced slower speeds since the express toll lanes opened. With more driver demand for the express toll lanes, WSDOT was able to use I-405 toll revenue to fund and proceed with adding a peak-use shoulder lane that will operate on the right shoulder of northbound I-405 between SR 527 and I-5. WSDOT plans to convert the right shoulder into a general purpose lane during peak commutes to help alleviate congestion in the single-lane section. The peak-use shoulder lane is expected to open to traffic in spring 2017.
- **Northbound I-405 auxiliary lane between SR 520 and NE 70th Pl** – WSDOT is determining if this project is still needed since the striping changes made at the northbound SR 520 access point in March, referenced on the previous page, seemed to reduce the added congestion in this area.
- **Northbound I-405 capacity constraint improvements** – WSDOT was able to use I-405 toll revenue to fund a feasibility study regarding the construction of a second express toll lane in the north end of I-405. Adding capacity on I-405 between SR 522 and I-5 has been identified as a priority project for several years. After observing worsening traffic congestion, and at the request of the Legislature, the I-405 project team is now developing a phased strategy to lower costs and implement these improvements on an accelerated timeline, while allowing the Legislature time to make final decisions about future funding.

9. Forecast versus actual use

Traffic volumes in the I-405 express toll lanes exceeded the first year forecast. The number of tolled trips (with and without a *Good To Go!* pass) were higher than forecast by 95 percent, while the number of toll exempt carpool trips were lower than forecast by 38 percent.

WSDOT updates forecasts periodically for all toll facilities and is in the process of updating forecasts from June 2016 to reflect the continued trend of increased usage for the express toll lanes. There are a few key reasons why the original estimates were low.

- The economy grew, creating new jobs and increasing traffic. The initial forecast was completed in 2012 before the regional economic boom that spurred rapid growth in East King County and south Snohomish County, and in turn, increased traffic volumes on I-405. Since 2000, when planning for the I-405 corridor was underway, in King and Snohomish Counties, population has increased a total of 23 percent and employment by 15 percent.
  In the last year alone, the Puget Sound region grew by 86,000[3] people and 64,000 jobs[4].
- Comparative information was limited. WSDOT is one of the first agencies in the nation to implement express toll lanes with adjusting occupancy requirements and offer both electronic and Pay By Mail options for drivers. Tolled trips (with and without a *Good To Go!* pass) have been much higher than expected and this is likely due to the fact there is no pass requirement to use the express toll lanes which makes it easier for any driver to use the lanes when they choose to.

Why did you decide you wanted to get a Flex Pass?

"I want to save some money!"

– Laura, I-405 driver

[3] Source: www.psrc.org/assets/14735/Trend-Population-201607.pdf
[4] Source: www.psrc.org/assets/14876/Trend-Jobs-201609.pdf

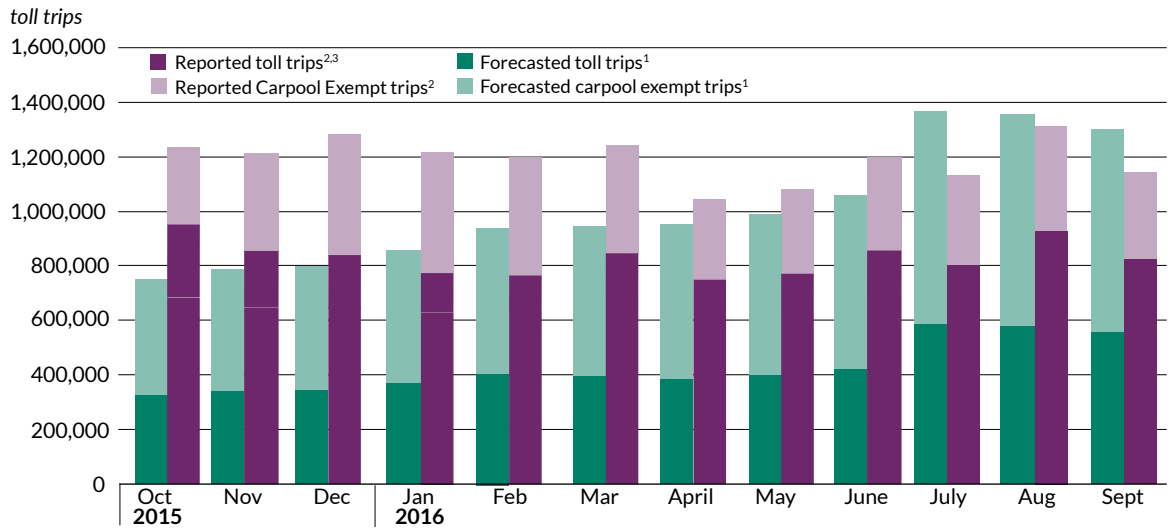
Traffic and revenue forecasts

WSDOT completed a planning level traffic and revenue study in 2012 which included annual toll and toll exempt trips, as well as a toll revenue forecast. Annual forecasts were developed taking into consideration the one-year ramp-up period for express toll lanes and the seasonal shifts in traffic volumes. The ramp-up factor is associated to the period of time it takes drivers to become familiar with the facility and obtain a *Good To Go!* pass and account. The seasonality factor is derived from historical I-405 general purpose lane traffic data, which provides an indication of monthly travel behavior on the roadway. In July 2016, WSDOT began using a revised forecast that was developed in early 2016 and adopted in June 2016. The new forecast contains updated traffic and revenue projections based on actual express toll lane operations through spring 2016.

The chart below shows monthly forecasts for the first year of operations.

Reported toll trips are higher than forecast

Forecasted and Reported I-405 Express Toll Lane Trips



1 March 18 - June 30, 2016 Forecast values based on EAG Scenario C Revised with the Following Key Assumptions: $0.25 Pay By Plate Fee | $2 Pay By Mail Toll Increment | $0.75 Fixed Minimum Toll | No Tolling Nights (7:00PM-5:00AM) and Weekends | 3+ Free for 8 Hours Peak | 2+ Free Off-Peak Oct. 1, 2015 - March 17, 2016 Forecast values based on EAG Scenario C Revised with the Following Key Assumptions:$0.25 Pay By Plate Fee | $2 Pay By Mail Toll Increment | $0.75 Fixed Minimum Toll | 24/7 Operations | 3+ Free for 8 Hours Peak | 2+ Free Off-Peak

2 Reported values are based on total monthly trips adjusted for non-revenue and duplicate trips. HOV carpool volumes include operations during toll hours only.

3 Trips by payment method are based on values extracted from the monthly WSDOT toll report and are subject to change as transactions are resolved.

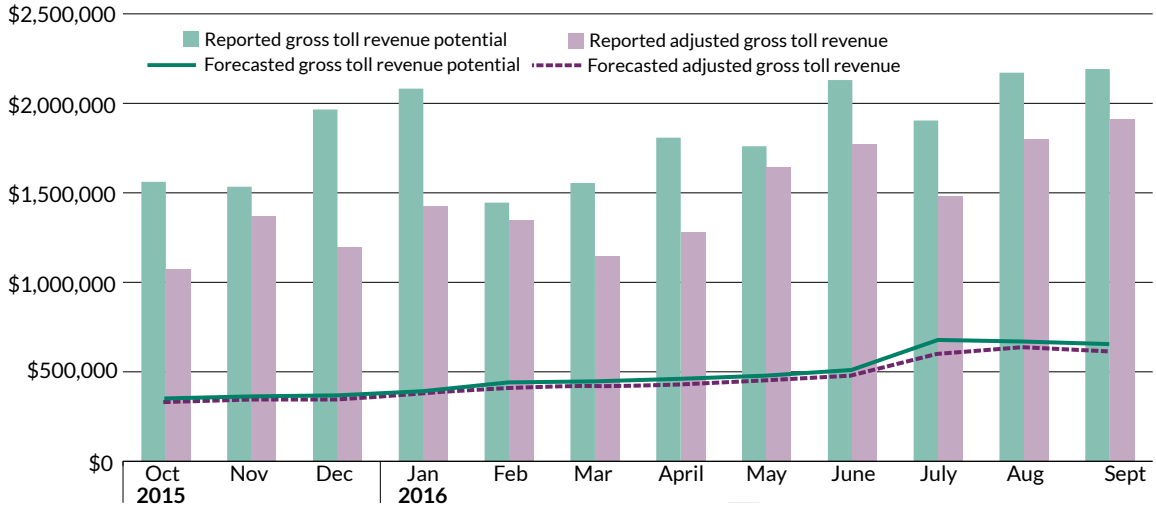
10. Express toll lane revenue and expenses

Toll revenue is appropriated by the Legislature and monitored by the Office of Financial Management. The Legislature decided I-405 express toll lane revenue should cover facility operation and maintenance costs, and any additional revenue will be reinvested back in to the I-405 corridor. Over the first year of operations, the I-405 express toll lanes generated $21.6 million in revenue, including $17.5 million toll revenue, $1.8 million in *Good To Go!* pass revenue, $1.5 million in civil penalty revenue, and $760,000 in other revenues. Operation and maintenance costs were $8 million.

With more drivers than originally forecasted using the express toll lanes, the Legislature directed WSDOT to use toll revenue to add a northbound peak-use shoulder lane that will operate on I-405 between SR 527 and I-5, as mentioned in Section 8.

Gross revenue is higher than forecast

Forecasted and Reported I-405 Express Toll Lane Gross Toll Revenue



1 March 18, 2016 - September 30, 2016 Forecast values based on EAG Scenario C Revised with the Following Key Assumptions: $0.25 Pay By Plate Fee | $2 Pay By Mail Toll Increment | $0.75 Fixed Minimum Toll | No Tolling Nights (7:00PM-5:00AM) and Weekends | 3+ Free for 8 Hours Peak | 2+ Free Off-Peak
October 1, 2015 - March 17, 2016 Forecast values based on EAG Scenario C Revised with the Following Key Assumptions: $0.25 Pay By Plate Fee | $2 Pay By Mail Toll Increment | $0.75 Fixed Minimum Toll | 24/7 Operations | 3+ Free for 8 Hours Peak | 2+ Free Off-Peak

2 Revenue potential values are calculated using the reported adjusted gross toll revenue with adjustments for Pay By Plate fees and Leakage as derived from the ICRS/VPS Report.

3 Values based on June 2016 Forecast. The forecasted adjusted gross toll revenue equals the gross toll revenue potential plus adjustments for Pay By Plate fees and less leakage.

4 Reported adjusted gross toll revenue corresponds to "Tolling revenue" values reported in WSDOT annual financial statements. Values may change to align with year-end reports.

11. Comparison of actual and projected gross revenue

The fiscal note for Engrossed House Bill No. 1382 distributed by the Office of Financial Management on March 15, 2011 estimated that gross toll revenue for the express toll lanes for the first year of operations would range from $7.4 million to $25 million under the scenario in which three-person carpools were exempt from tolls.

The actual gross toll revenue for the first year was $21.6 million, consistent with the March 2011 estimated range.

The fiscal note was developed before the Transportation Commission adopted the I-405 express toll lanes policies. Some of the assumptions (such as the hours of operation or the maximum toll rate) in the fiscal note were different from current tolling policies. Below is a brief summary of the main assumption differences:

	Fiscal Note Assumption	Adopted Policy
Minimum Toll	$1.00	$0.75
Maximum Toll	No toll cap	$10.00
Hours of Operation	5 am to 8 pm 7-days a week	5 am to 7 pm, Monday through Friday[1]
Toll Occupancy Exemption	HOV 3+	HOV 3 + during weekday peak hours[2]; HOV 2+ during weekday off peak hours.

Notes:

1 From Sept. 27, 2015 to March 17, 2016, I-405 express toll lanes operated 24 hours per day. Starting from March 18, 2016, tolls are waived for night-time (7 pm to 5 am), weekends, and major holidays.

2 Weekday peak hours: 5-9 am & 3-7 pm.

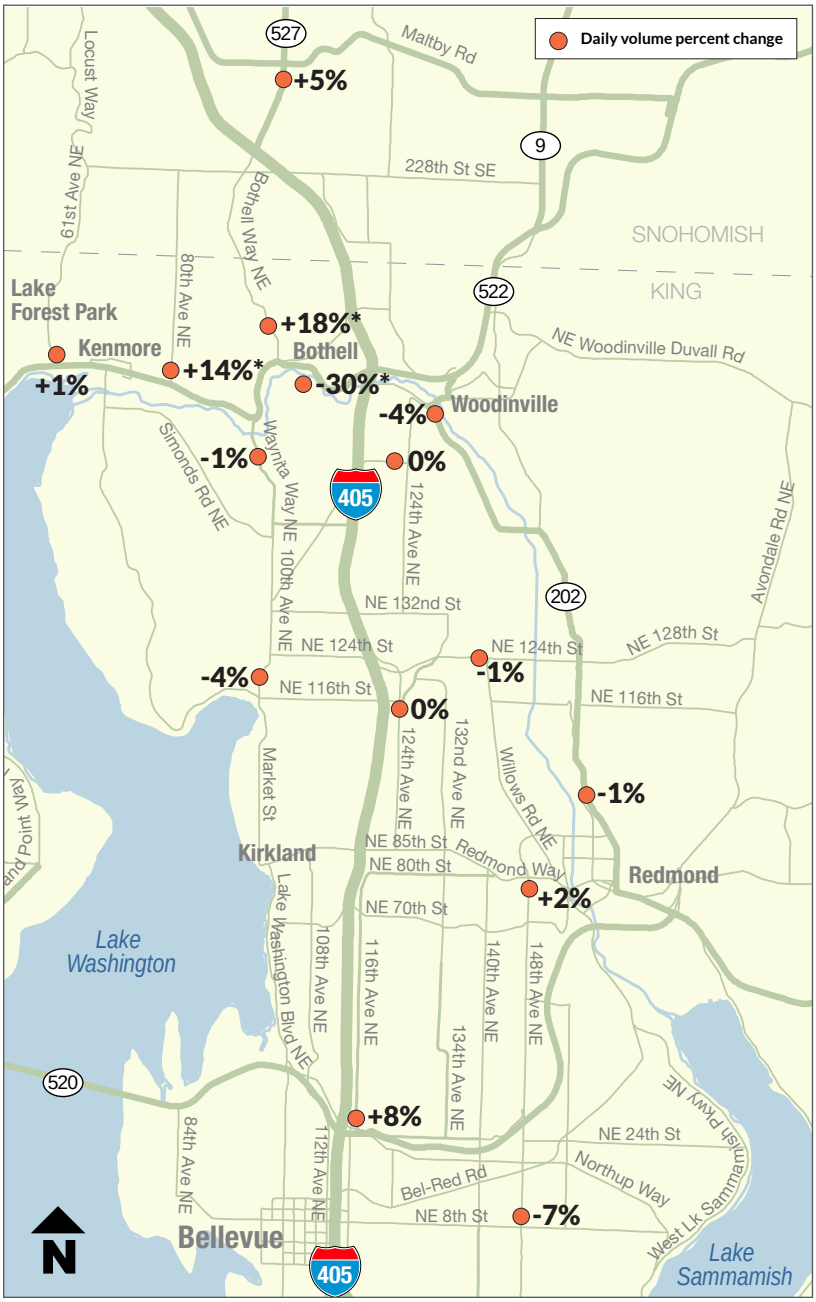
12. Local arterial traffic

WSDOT is working with cities along the corridor to monitor the potential effects of express toll lanes on local streets. In August 2015, WSDOT collected volumes on arterial routes parallel to I-405, and collected the same data in August 2016 for comparison year-over-year. Overall the local arterial volumes remain about the same comparing before and after express toll lanes. The Bothell area is the one exception as a result of construction activity along Bothell Way NE that diverted traffic to other routes, as well as major development in the area.

Local arterial traffic remains about the same

Percent volume change represents daily change in volume between August 2015 versus August 2016

**Note Bothell area volumes were affected by construction along Bothell Way near SR 522.*



WSDOT also collected travel time information on local arterial routes parallel to I-405 in August 2015 and again in August 2016 to compare speeds year-over-year. Local arterial travel time data showed a mix of increases and decreases in travel times shown as a change in speed (mile per hour) on the map below.

Local arterial speeds remain about the same

Mile per hour change represents peak period, peak direction change in travel time between August 2015 versus August 2016

13. Transit

Transit is experiencing travel time savings and increased ridership

WSDOT works with regional transit agencies King County Metro and Community Transit (servicing Snohomish County) to monitor transit performance on the I-405 express toll lanes. Both Community Transit and King County Metro operate Sound Transit routes on I-405.

In the first year of operations, each transit agency reported increased ridership on routes operating on I-405:

- Community Transit reported an increase in average daily ridership of approximately two percent and improvement in average travel times for most routes, with the exception of Route 424 that travels along I-405 between SR 520 and SR 522. The travel time increase on this route was about one minute, though the reason for the change is not clear. The remaining routes experienced travel time savings that range from 30 seconds to over three minutes.
- King County Metro reported an increase of approximately nine percent in daily ridership compared to the previous year before tolling. Travel times for King County Metro showed an improvement averaging between one and 12 minutes faster for routes that travel the express toll lane corridor.

Totem Lake Direct Access Ramp Incidental Use Agreement

The Totem Lake Direct Access Ramps were constructed as part of the Totem Lake Project. Sound Transit was the recipient of Federal Transit Administration grant funding for the design and construction of the Totem Lake Freeway Station/NE 128th Project ("Totem Lake Project") to provide speed, reliability, and access to Sound Transit express bus service operating on I-405.

WSDOT and Sound Transit recently finalized an Incidental Use Agreement for the Totem Lake Direct Access Ramps for tolled single occupancy vehicle access to the I-405 express toll lanes. As part of this agreement, WSDOT agrees to:

> ***"Provide information on the use of the direct access ramps and on the express toll lanes to Sound Transit on a quarterly basis during the first year of operation and upon request in the subsequent years or at frequencies otherwise agreed to by the parties."***

Traffic volume on the NE 128th St direct access ramps

Depending on the direction, volumes have been impacted differently on the direct access ramps at NE 128th St. Drivers traveling southbound on I-405 and exiting at the NE 128th St direct access ramp during the first year of operations experienced volumes similar to those in the year prior to express toll lanes.

Drivers accessing southbound I-405 from the NE 128th St direct access ramp experienced higher volumes on the direct access ramp, up from 300 vehicles per hour to 600 vehicles per hour during the first year of operations during the morning peak period when compared to the year prior to express toll lanes.

Drivers accessing northbound I-405 from the direct access ramp experienced lower volumes compared to the other ramps, though data is unavailable at this location to compare to volumes prior to express toll lanes. Drivers traveling northbound on I-405 and exiting to the NE 128th St direct access ramp experienced increased volumes during the evening peak period, with volumes up from 220 vehicles per hour to 450 vehicles per hour compared to the year prior to express toll lanes.

The increased volumes on both the northbound and southbound ramps were expected with the start of the express toll lanes, primarily due to traffic shifting from the NE 124th St interchange ramps to the NE 128th St direct access ramps.

Future improvements

The I-405/NE 128th St interchange currently allows drivers the option of making left turns to use the I-405 direct access ramps and access the express toll lane system, but there is no dedicated signal for this movement. Instead, drivers must find a gap in the opposing traffic to take a left turn. The popularity of the express toll lanes means that more drivers are using this interchange to access I-405. To improve the operations of the NE 128th St interchange area, the peak use shoulder lane project will modify the signal to include a dedicated left turn phase to use the direct access ramps. The improvement is scheduled to be complete by fall 2017.

14. Enforcement

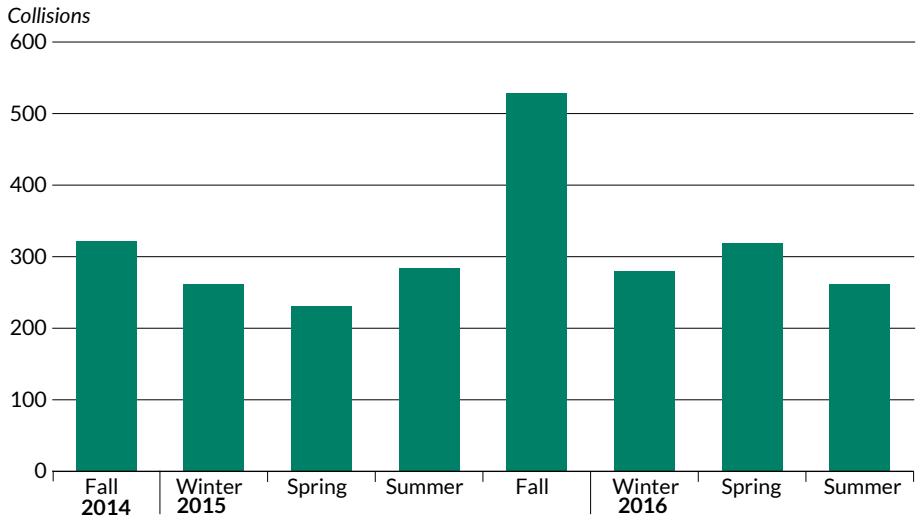
The Washington State Patrol (WSP) provides enforcement of the I-405 express toll lanes. During the first year of operations, troopers issued about 5,700 citations related to the express toll lanes, including citations for drivers crossing over the double white lines, incorrect HOV declaration, and exiting the lane to avoid paying a toll. Overall, the level of WSP enforcement and contacts with drivers and the number of citations remained very steady throughout the year.

15. Safety

Driver safety is WSDOT's top priority. WSDOT continues to work closely with Washington State Patrol to monitor traffic in both the express toll lanes and regular lanes to see how drivers are adjusting. Seasonal travel, weather, construction activity, special events and changes in regional travel all have an effect on short-term collision trends. Within this first year of operations, there has been significant month-to-month variation in the number of collisions. The first three months saw the largest increase, which is to be expected given that the system operation was new to motorists, and fall 2015 had the most rainfall on record for our region. Collisions trended downward in winter 2016 to previous levels, increased again during spring 2016, and then fell again in summer 2016.

With increased volumes on I-405, increased frequency of collisions is generally expected to occur along the corridor. The majority of collisions have occurred during the weekday peak periods in the general purpose lanes and not at the express toll lane access points. In addition, nearly 80 percent of the collisions along this stretch of I-405 were low-speed, low-severity "fender-bender" collisions. These low severity collisions are common on urban highways during the peak commute periods when traffic volumes and congestion are highest. During the first year of operations, the most common contributing circumstance of collisions was driver inattention or distraction, contributing to 32 percent of all collisions.

After adjustment period, collisions return to before tolling levels



Footnote: Under 23 U.S. Code § 409 and 23 U.S. Code § 148, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential collision sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

Typically, WSDOT evaluates collision trends over multiple years, not month-to-month or even year to year, given the significant variation often seen over shorter time periods, which do not provide an accurate picture of long-term trends.

16. Next steps

Over the next year, WSDOT will continue to compile and report data, make system improvements, and conduct public outreach around the I-405 express toll lanes. Activities planned to occur in the next three months include:

- Select a contractor to design and build the peak-use shoulder lane project on northbound I-405 between SR 527 and I-5. The peak-use shoulder lane will help address limited capacity in the northbound I-405 single express toll lane section.
- Continue to work with local jurisdictions to gather information about the effects of express toll lanes on local streets.
- Issue the next quarterly report for the I-405 express toll lanes in early 2017.

Appendix A: Legislative performance measures

In its 2011 authorizing legislation for the I-405 express toll lanes (ETLs) (RCW 47.56.880), the Legislature directed the Washington State Department of Transportation (WSDOT) to monitor and report on seven performance metrics on a quarterly basis.

The table below matches each legislative metric with a corresponding section of this report.

LEGISLATIVE MONITORING REQUIREMENT	REPORT SECTION REFERENCE
a. Whether the express toll lanes maintain speeds of 45 miles per hour at least 90 percent of the time during peak periods.	See Section 6 – Includes percent of time the express toll lanes are moving traffic at 45 miles per hour or faster.
b. Whether the average traffic speed changed in the general purpose lanes.	See Section 4 – Includes average speed and travel time trends for the general purpose lanes.
c. Whether transit ridership changed.	See Section 13 – Includes preliminary transit ridership and travel time findings.
d. Whether the actual use of the express toll lanes is consistent with the projected use.	See Section 3, 9 – Includes comparison of forecasted and reported express toll lane trips.
e. Whether the express toll lanes generated sufficient revenue to pay for all I-405 express toll lane operating costs.	See Section 10 – Includes preliminary revenue and expenditure results.
f. Whether travel times and volumes have increased or decreased on adjacent local streets and state highways.	See Section 12 – Includes overview of local agency coordination and arterial traffic monitoring.
g. Whether the actual gross revenues are consistent with projected gross revenues as identified in the fiscal note for Engrossed House Bill No. 1382 distributed by the office of financial management on March 15, 2011.	See Section 11 – Includes comparison of the preliminary revenue findings to the 2011 fiscal note.

The legislature added additional reporting requirements during the 2016 budget process detailed in ESHB 2524 209 (7). These requirements address 10 specific travel segments along the corridor and are included as Appendix B.

Appendix B: Additional legislative reporting requirements

The legislature added reporting requirements during the 2016 budget process detailed in ESHB 2524 209 (7). These subsequent reporting requirements address travel times and volumes for 10 specific travel segments along the I-405 express toll lanes corridor.
This appendix provides a high-level summary of the travel time data and links to electronic copies of the detailed travel time and volume data. The legislature requested average and at minimum, 90th percentile travel times. Consistent with WSDOT methodology and the requirements of the proviso, this report includes 95th percentile travel times.

ESHB 2524 209 (7) states:

The department must provide quarterly reports to the transportation committees of the legislature on the Interstate 405 express toll lane project performance measures listed in RCW 47.56.880(4). These reports must include:

(a) Information on the travel times and travel time reliability (at a minimum, average and 90th percentile travel times) maintained during peak and nonpeak periods in the express toll lanes and general purpose lanes for both the entire corridor and commonly made trips in the corridor including, but not limited to, northbound from Bellevue to Rose Hill, state route number 520 at NE 148th to Interstate 405 at state route number 522, Bellevue to Bothell (both NE 8th to state route number 522 and NE 8th to state route number 527), and a trip internal to the corridor (such as NE 85th to NE 160th) and similar southbound trips;

(b) A month-to-month comparison of travel times and travel time reliability for the entire corridor and commonly made trips in the corridor as specified in (a) of this subsection since implementation of the express toll lanes and, to the extent available, a comparison to the travel times and travel time reliability prior to implementation of the express toll lanes;

(c) Total express toll lane and total general purpose lane traffic volumes, as well as per lane traffic volumes for each type of lane (i) compared to total express toll lane and total general purpose lane traffic volumes, as well as per lane traffic volumes for each type of lane, on this segment of Interstate 405 prior to implementation of the express toll lanes and (ii) compared to total express toll lane and total general purpose lane traffic volumes, as well as per lane traffic volumes for each type of lane, from month to month since implementation of the express toll lanes; and

(d) Underlying congestion measurements, that is, speeds, that are being used to generate the summary graphs provided, to be made available in a digital file format.

The Legislature directed WSDOT to examine travel times along specific segments of the I-405 express toll lanes corridor. The following table lists these travel segments and their corresponding mileposts. A map of the express toll lanes with milepost markers is included for reference at the end of this appendix.

Legislative segment requested and corresponding mileposts

	Legislative Request	Provided Travel Times	Missing GP Data[1]	Missing ETL Data[1]	Notes
1	**Interstate 405 Northbound Bellevue to Rose Hill**	(MP 13.92) Bellevue to (MP 20.22) Rose Hill			
2	**Interstate 405 Southbound Rose Hill to Bellevue**	(MP 20.22) Rose Hill to (MP 13.92) Bellevue	July 2015	May, June, July 2015	
3	**State Route 520 Westbound at NE 148th to Interstate 405 Northbound at State Route 522**	(SR 520 MP 9.11) SR 520 @ 148th to (I-405 MP 23.51) SR 522	Sept 2015	Aug, Sept 2015	EB and WB sensor at 148th not located in same place
4	**Interstate 405 Southbound at State Route 522 to State Route 520 Eastbound at NE 148th**	(I-405 MP 23.51) SR 522 to (SR 520 MP 9.35) SR 520 @ 148th			EB and WB sensor at 148th not located in same place
5	**Interstate 405 Northbound Bellevue to Bothell (State Route 522)**	(MP 13.92) Bellevue to (MP 23.51) SR 522	Sept 2015	Aug, Sept 2015	
6	**Interstate 405 Southbound Bothell (State Route 522) to Bellevue**	(MP 23.51) SR 522 to (MP 13.92) Bellevue		May, June, Sept 2015	
7	**Interstate 405 Northbound Bellevue to Bothell (State Route 527)**	(MP 13.92) Bellevue to (MP 26.16) SR 527			
8	**Interstate 405 Southbound Bothell (State Route 527) to Bellevue**	(MP 26.16) SR 527 to (MP 13.92) Bellevue		May, June 2015	
9	**Northbound Trip Internal to the Corridor (such as NE 85th to NE 160th)**	(MP 17.99) NE 85th to (MP 24.39) Beardslee Blvd	Sept, Dec 2015	Sept, Dec 2015	Insufficient data availability @ NE 160th
10	**Southbound Trip Internal to the Corridor (such as NE 85th to NE 160th)**	(MP 24.39) Beardslee Blvd to (MP 17.99) NE 85th	Sept, Dec 2015	Sept, Dec 2015	Insufficient data availability @ NE 160th

[1] Loop data is not available in various locations due to e.g., construction activity. This has resulted in incalculable travel times for certain months.

Note: Monthly average and 95th percentile travel times provided for both GP and ETL lanes for the AM Peak (5AM - 9AM), Midday Period(9 AM - 3PM), and PM Peak (3PM - 7PM)

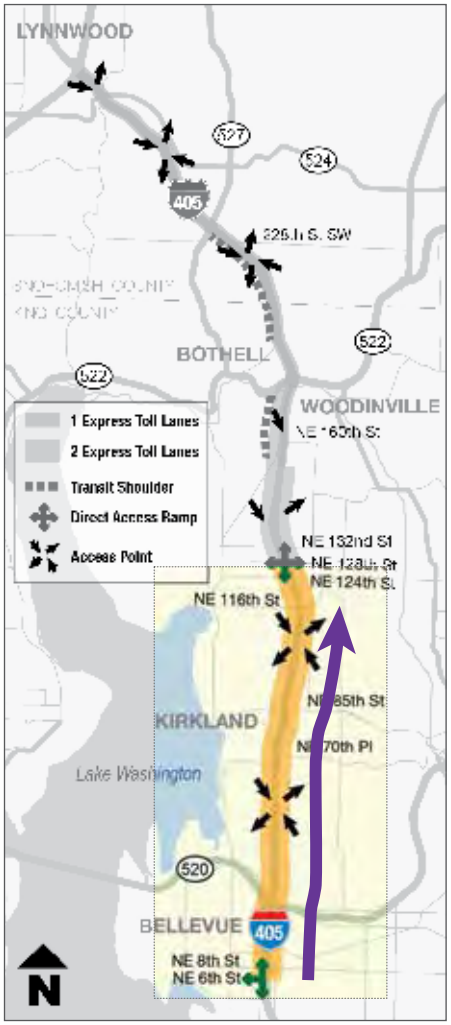
Note: The legislature requested average and 90th percentile travel times. Direction was received from OFM to report the 95th percentile.

Detailed general purpose lane travel time data

The Legislature directed WSDOT to report on travel times for northbound and southbound I-405 segments. For the segments that we've collected data for, we've seen that generally:

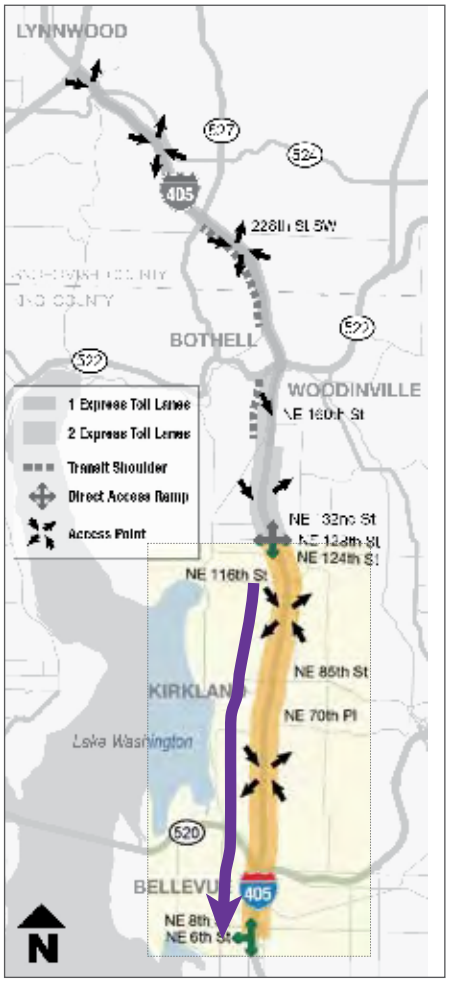
- Most trips have shorter travel times
- **Except** for trips on northbound I-405 between SR 522 and I-5 where capacity is limited as 5 lanes convert to 3 creating a bottleneck
- 95th percentile demonstrates **improved reliability**
- The following tables and graphs provide a summary of the travel time data. On the following pages, each set of roadway segment data is summarized and numbered to correspond to the legislative request detailed in the table on the prior page.
  More detailed data can be found on WSDOT's website at https://www.wsdot.wa.gov/Tolling/405/library.htm.

1. Travel Times: Northbound I-405 from Bellevue to NE 116th (PM Peak Period)



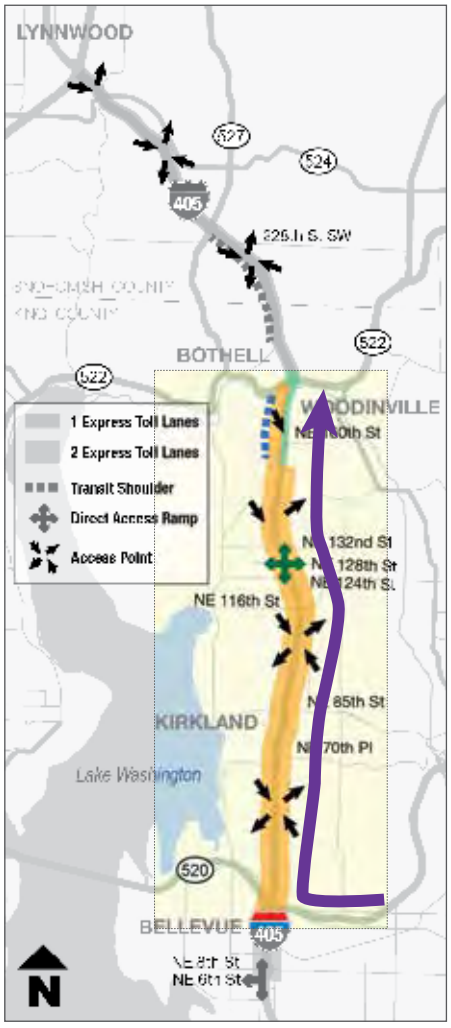
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	16	(24)	3 minutes faster	6 minutes faster
	2015	13	(18)		
Jan	2015	16	(22)	4 minutes faster	4 minutes faster
	2016	12	(18)		
May	2015	16	(23)	4 minutes faster	7 minutes faster
	2016	12	(16)		
Aug	2015	16	21	3 minutes faster	5 minutes faster
	2016	13	16		

2. Travel Times: Southbound I-405 from NE 116th to Bellevue (AM Peak Period)



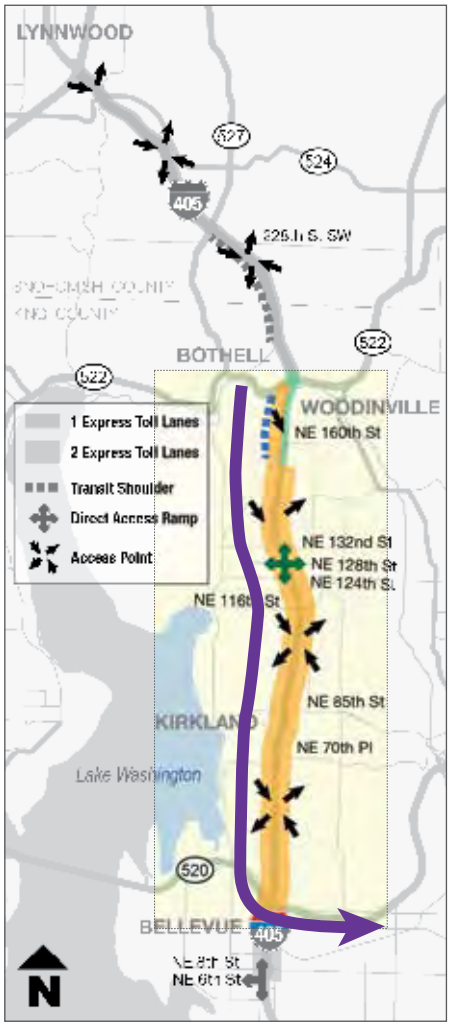
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	12	(13)	2 minutes faster	2 minutes faster
	2015	10	(11)		
Jan	2015	11	(13)	2 minutes faster	1 minute faster
	2016	9	(12)		
May	2015	11	(13)	2 minutes faster	2 minutes faster
	2016	9	(11)		
Aug	2015	10	(11)	1 minutes faster	1 minute faster
	2016	9	(10)		

3. Travel Times: Westbound SR 520 at 148th Ave NE to Northbound I-405 at SR 522



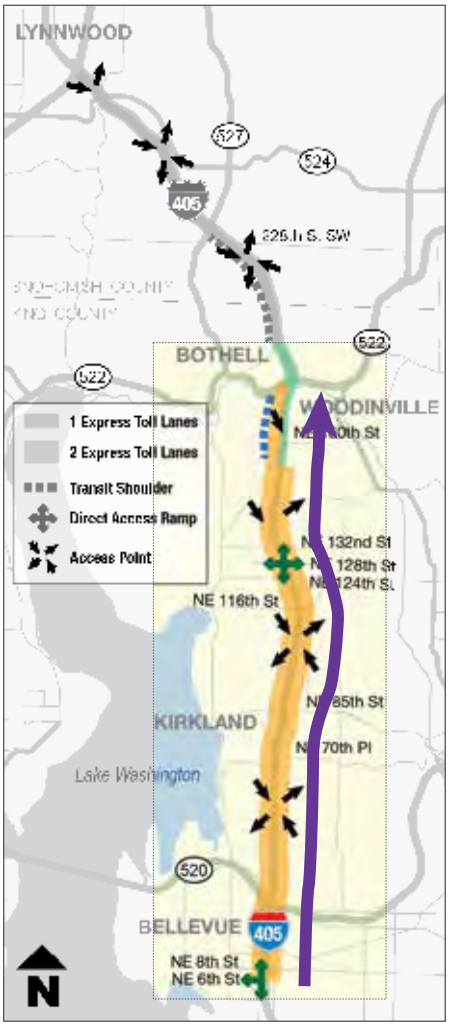
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	27	(38)	7 minutes faster	11 minutes faster
	2015	20	(27)		
Jan	2015	26	(32)	6 minutes faster	3 minutes faster
	2016	20	(29)		
May	2015	28	(40)	6 minutes faster	11 minutes faster
	2016	22	(29)		
Aug	2015	24	(30)	2 minutes faster	1 minute faster
	2016	22	(29)		

4. Travel Times: Southbound I-405 at SR 522 to Eastbound SR 520 at 148th Ave NE



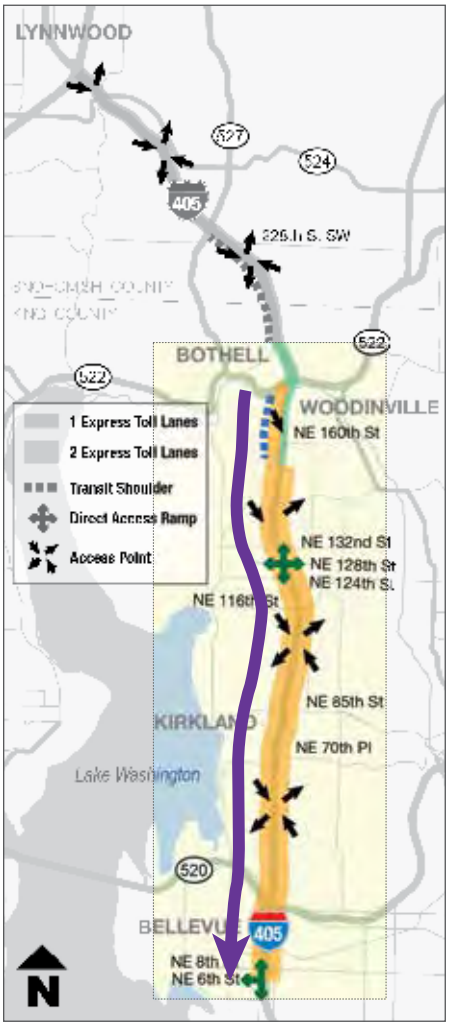
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	23	(27)	5 minutes faster	6 minutes faster
	2015	18	(21)		
Jan	2015	21	(25)	5 minutes faster	5 minutes faster
	2016	16	(20)		
May	2015	21	(24)	5 minutes faster	6 minutes faster
	2016	16	(18)		
Aug	2015	20	(23)	5 minutes faster	6 minutes faster
	2016	15	(17)		

5. Travel Times: Northbound I-405 from Bellevue to SR 522 (PM Peak Period)



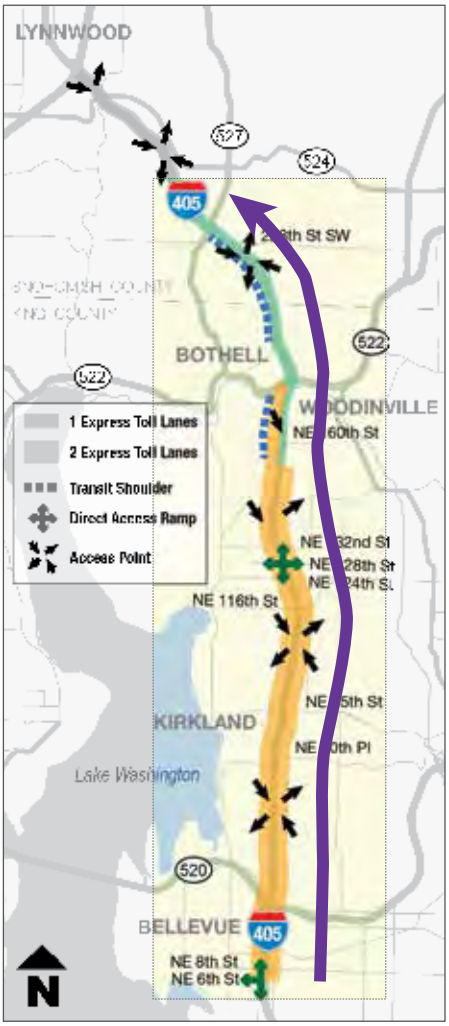
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	24	(33)	5 minutes faster	7 minutes faster
	2015	19	(26)		
Jan	2015	24	(31)	5 minutes faster	4 minutes faster
	2016	19	(27)		
May	2015	23	(33)	3 minutes faster	7 minutes faster
	2016	20	(26)		
Aug	2015	23	(30)	3 minutes faster	4 minutes faster
	2016	20	(26)		

6. Travel Times: Southbound I-405 from SR 522 to Bellevue (AM Peak Period)



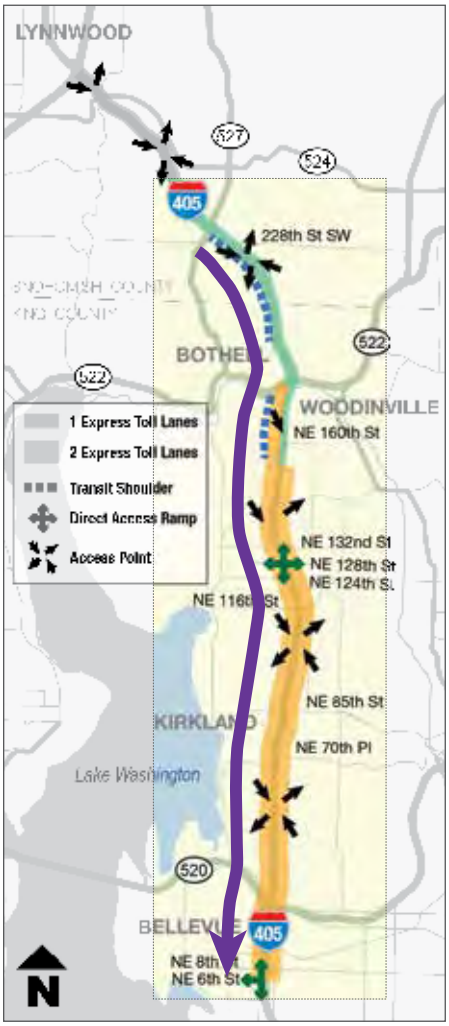
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	28	(38)	2 minutes faster	4 minutes faster
	2015	26	(34)		
Jan	2015	28	(36)	3 minutes faster	1 minutes faster
	2016	25	(35)		
May	2015	28	(38)	2 minutes faster	4 minutes faster
	2016	26	(34)		
Aug	2015	27	(33)	1 minute slower	1 minute slower
	2016	28	(34)		

7. Travel Times: Northbound I-405 from Bellevue to SR 527 (PM Peak)



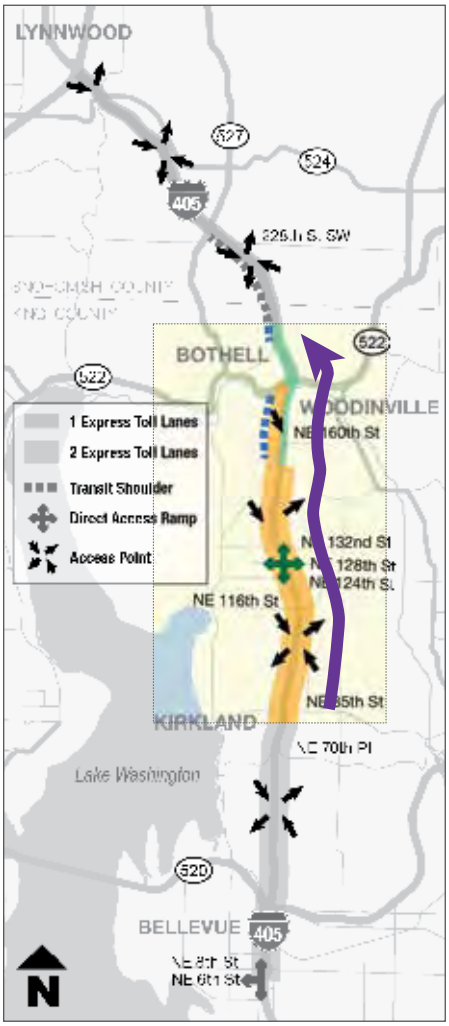
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	28	(38)	2 minutes faster	4 minutes faster
	2015	26	(34)		
Jan	2015	28	(36)	3 minutes faster	1 minutes faster
	2016	25	(35)		
May	2015	28	(38)	2 minutes faster	4 minutes faster
	2016	26	(34)		
Aug	2015	27	(33)	1 minute slower	1 minute slower
	2016	28	(34)		

8. Travel Times: Southbound I-405 from SR 527 to Bellevue (AM Peak Period)



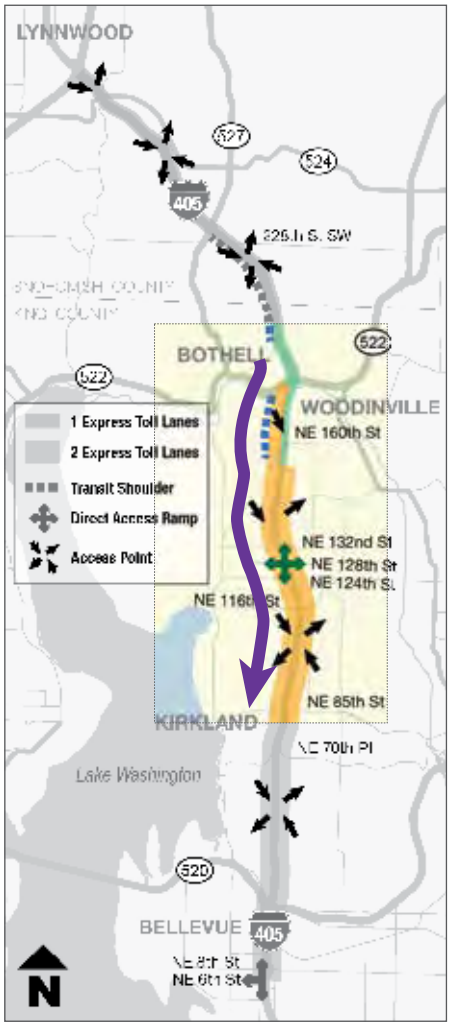
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	33	(40)	9 minutes faster	11 minutes faster
	2015	24	(29)		
Jan	2015	27	(35)	5 minutes faster	6 minutes faster
	2016	22	(29)		
May	2015	28	(34)	7 minutes faster	9 minutes faster
	2016	21	(25)		
Aug	2015	25	(33)	4 minutes faster	9 minutes faster
	2016	21	(24)		

9. Travel Times: Northbound I-405 from NE 85th to NE 195th (PM Peak Period)



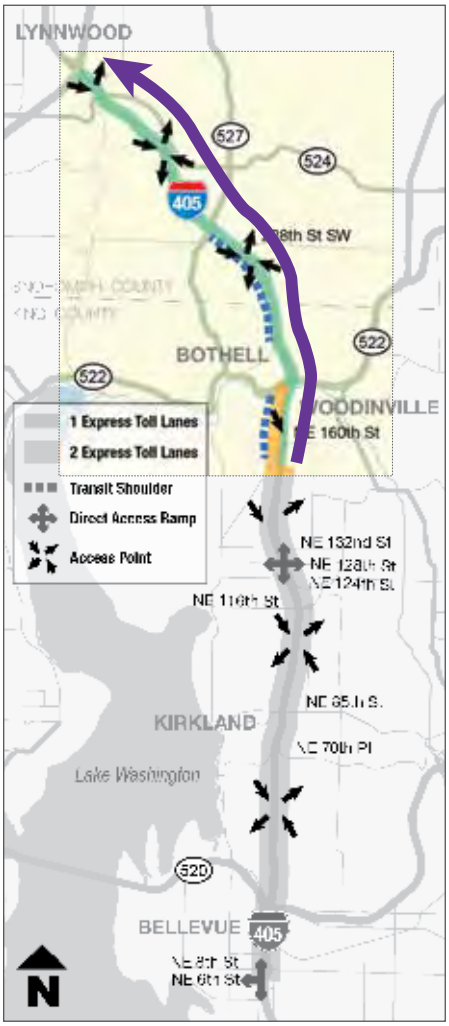
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	15	(18)	3 minutes faster	1 minute faster
	2015	12	(17)		
Jan	2015	15	(19)	3 minutes faster	2 minutes faster
	2016	12	(17)		
May	2015	15	(19)	1 minute faster	No change
	2016	14	(19)		
Aug	2015	14	(17)	No change	2 minutes slower
	2016	14	(19)		

10. Travel Times: Southbound I-405 from NE 195th to NE 85th (AM Peak Period)



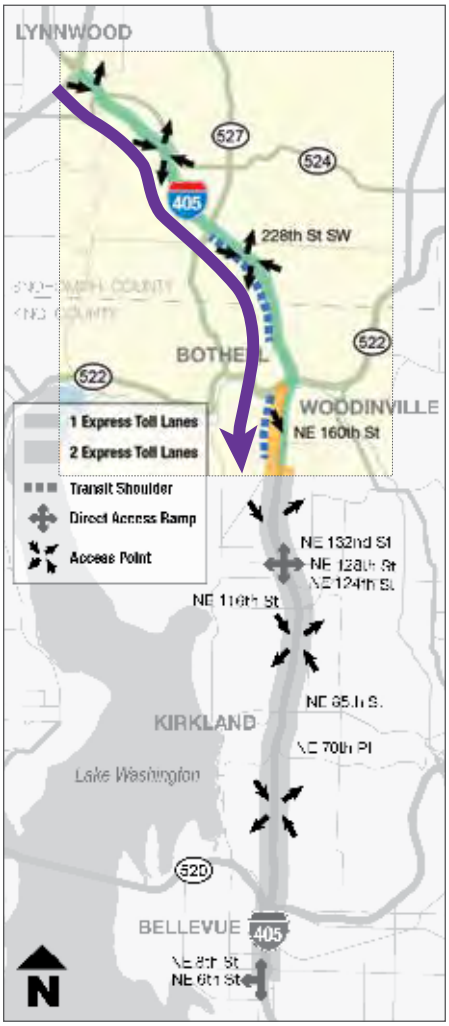
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	19	(23)	6 minutes faster	6 minutes faster
	2015	13	(17)		
Jan	2015	16	(20)	5 minutes faster	5 minutes faster
	2016	11	(15)		
May	2015	16	(20)	5 minutes faster	7 minutes faster
	2016	11	(13)		
Aug	2015	15	(19)	4 minutes faster	6 minutes faster
	2016	11	(13)		

Additional Example: Travel Times: Northbound I-405 from NE 160th St. to I-5



Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	13	(19)	3 minutes slower	7 minutes slower
	2015	16	(26)		
Jan	2015	12	(20)	4 minutes slower	6 minutes slower
	2016	16	(26)		
May	2015	13	(19)	3 minutes slower	7 minutes slower
	2016	16	(26)		
Aug	2015	12	(19)	5 minutes slower	6 minutes slower
	2016	17	(25)		

Additional Example: Travel Times: Southbound I-405 from I-5 to NE 160th St.



Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	25	(49)	9 minutes faster	22 minutes faster
	2015	16	(27)		
Jan	2015	17	(34)	No change	1 minute slower
	2016	17	(35)		
May	2015	18	(35)	2 minutes faster	7 minutes faster
	2016	16	(28)		
Aug	2015	16	(34)	No change	5 minutes faster
	2016	16	(29)		

Detailed volume data

- The following pages contain a summary of the requested volume data. Due to the large quantity
  and detail of volume data requested for each travel segment, the rest of this data
  will be provided on WSDOT's website at
  https://www.wsdot.wa.gov/Tolling/405/library.htm.

AVERAGE WEEKDAY SCREENLINE VOLUMES COMPARISON BEFORE AND AFTER EXPRESS TOLL LANES						
			NE 100th (Dual Lane Section)			
			AM Peak (SB, 5-9a)	PM Peak (NB, 3-7p)	Daily Total (SB)	Daily Total (NB)
Oct	2014	Mainline	17,663	23,017	59,002	82,576
		HOV	4,301	4,850	10,402	10,812
		Total	21,964	27,867	69,404	93,388
	2015	Mainline	16,434	19,738	68,482	79,251
		ETL	7,622	8,755	16,053	14,538
		Total	24,056	28,493	84,535	93,789
	Total Change (2015-2014)		2,092	626	15,131	401
Nov	2014	Mainline	17,144	21,508	68,851	81,400
		HOV	3,932	4,565	12,511	11,345
		Total	21,076	26,073	81,362	92,745
	2015	Mainline	15,357	18,946	63,552	73,567
		ETL	7,490	8,865	16,220	14,663
		Total	22,847	27,811	79,772	88,230
	Total Change (2015-2014)		1,771	1,738	-1,590	-4,515
Dec	2014	Mainline	16,511	21,553	68,468	80,554
		HOV	3,507	4,504	12,859	10,968
		Total	20,018	26,057	81,327	91,522
	2015	Mainline	15,235	18,490	65,204	75,996
		ETL	6,576	8,452	16,502	15,581
		Total	21,811	26,942	81,706	91,577
	Total Change (2015-2014)		1,793	885	379	55
Jan	2015	ML	17,262	22,217	68,380	80,996
		HOV	3,950	4,609	11,343	10,426
		Total	21,212	26,826	79,723	91,422
	2016	ML	15,730	19,042	65,432	76,350
		ETL	8,019	9,205	17,236	15,321
		Total	23,749	28,247	82,668	91,671
	Total Change (2016-2015)		2,537	1,421	2,945	249

AVERAGE WEEKDAY SCREENLINE VOLUMES COMPARISON BEFORE AND AFTER EXPRESS TOLL LANES						
			NE 100th (Dual Lane Section)			
			AM Peak (SB, 5-9a)	PM Peak (NB, 3-7p)	Daily Total (SB)	Daily Total (NB)
Feb	**2015**	Mainline	18,152	23,283	67,434	80,586
		HOV	4,158	4,623	11,436	9,653
		Total	22,310	27,906	78,870	90,239
	2016	Mainline	17,038	19,918	68,765	79,759
		ETL	8,617	9,869	18,133	16,026
		Total	25,655	29,787	86,898	95,785
	Total Change (2016-2015)		**3,345**	**1,881**	**8,028**	**5,546**
Mar	**2015**	Mainline	18,539	**22,839**	72,882	85,870
		HOV	4,293	4,836	12,122	11,115
		Total	22,832	27,675	85,004	96,985
	2016	Mainline	17,359	20,000	69,351	79,866
		ETL	9,117	10,513	20,076	18,242
		Total	26,476	30,513	89,427	98,108
	Total Change (2016-2015)		**3,644**	**8,108**	**4,423**	**29,141**
Apr	**2015**	Mainline	19,022	22,890	73,793	85,949
		HOV	4,197	4,838	12,769	11,660
		Total	23,219	27,728	86,562	97,609
	2016	Mainline	17,505	20,568	69,840	74,820
		ETL	9,100	10,896	21,405	18,570
		Total	26,605	31,464	91,245	93,390
	Total Change (2016-2015)		**3,386**	**3,736**	**4,683**	**-4,219**
May	**2015**	Mainline	18,265	22,625	72,807	85,565
		HOV	4,190	4,794	13,665	11,840
		Total	22,455	27,419	86,472	97,405
	2016	Mainline	16,980	20,698	69,152	84,522
		ETL	9,182	11,990	21,812	22,335
		Total	26,162	32,688	90,964	106,857
	Total Change (2016-2015)		**3,707**	**5,269**	**4,492**	**9,452**

AVERAGE WEEKDAY SCREENLINE VOLUMES COMPARISON BEFORE AND AFTER EXPRESS TOLL LANES						
			NE 100th (Dual Lane Section)			
			AM Peak (SB, 5-9a)	PM Peak (NB, 3-7p)	Daily Total (SB)	Daily Total (NB)
Jun	2015	Mainline	19,028	23,427	74,338	88,340
		HOV	4,462	4,981	14,387	12,535
		Total	23,490	28,408	88,725	100,875
	2016	Mainline	17,672	20,693	69,964	85,705
		ETL	9,540	12,537	24,201	24,586
		Total	27,212	33,230	94,165	110,291
	Total Change (2016-2015)		3,722	4,822	5,440	9,416
Jul	2015	Mainline	18,697	23,398	74,231	89,503
		HOV	4,257	4,897	14,735	12,653
		Total	22,954	28,295	88,966	102,156
	2016	Mainline	16,812	20,397	69,454	84,960
		ETL	8,576	12,081	23,948	23,893
		Total	25,388	32,478	93,402	108,853
	Total Change (2016-2015)		2,434	4,183	4,436	6,697
Aug	2015	Mainline	18,633	22,896	74,145	88,103
		HOV	4,298	4,812	15,132	12,763
		Total	22,931	27,708	89,277	100,866
	2016	Mainline	17,510	20,683	70,068	85,514
		ETL	9,375	12,677	25,064	24,690
		Total	26,885	33,360	95,132	110,204
	Total Change (2016-2015)		3,954	5,652	5,855	9,338
Sep	2015	Mainline	17,763	23,025	71,767	85,595
		HOV	3,994	4,566	11,755	10,132
		Total	21,757	27,591	83,522	95,727
	2016	Mainline	16,589	20,618	67,817	83,428
		ETL	9,335	12,478	24,104	24,152
		Total	25,924	33,096	91,921	107,580
	Total Change (2016-2015)		4,167	5,505	8,399	11,853

AVERAGE WEEKDAY SCREENLINE VOLUMES COMPARISON BEFORE AND AFTER EXPRESS TOLL LANES						
			SR 527 (Single Lane Section)			
			AM Peak (SB, 5-9a)	PM Peak (NB, 3-7p)	Daily Total (SB)	Daily Total (NB)
Oct	2014	ML	10,841	14,319	51,987	53,767
		HOV	3,126	4,450	8,644	8,976
		Total	13,967	18,769	60,631	62,743
	2015	ML	11,773	13,483	53,876	55,295
		ETL	3,269	4,773	7,741	7,231
		Total	15,042	18,256	61,617	62,526
	Total Change (2015-2014)		1,075	-513	986	-217
Nov	2014	ML	10,665	13,653	50,239	52,349
		HOV	2,681	4,127	8,976	8,789
		Total	13,346	17,780	59,215	61,138
	2015	ML	11,047	13,103	52,034	53,390
		ETL	3,226	4,474	8,121	7,256
		Total	14,273	17,577	60,155	60,646
	Total Change (2015-2014)		927	-203	940	-492
Dec	2014	ML	10,586	13,544	50,562	52,184
		HOV	2,331	4,041	9,005	8,120
		Total	12,917	17,585	59,567	60,304
	2015	ML	10,845	12,846	52,300	53,035
		ETL	2,710	4,170	7,882	7,285
		Total	13,555	17,016	60,182	60,320
	Total Change (2015-2014)		638	-569	615	16
Jan	2015	ML	11,308	14,025	51,460	52,184
		HOV	2,522	3,985	7,565	8,120
		Total	13,830	18,010	59,025	60,304
	2016	ML	11,234	13,241	51,804	52,504
		ETL	3,306	4,362	7,715	7,201
		Total	14,540	17,603	59,519	59,705
	Total Change (2016-2015)		710	-407	494	-599

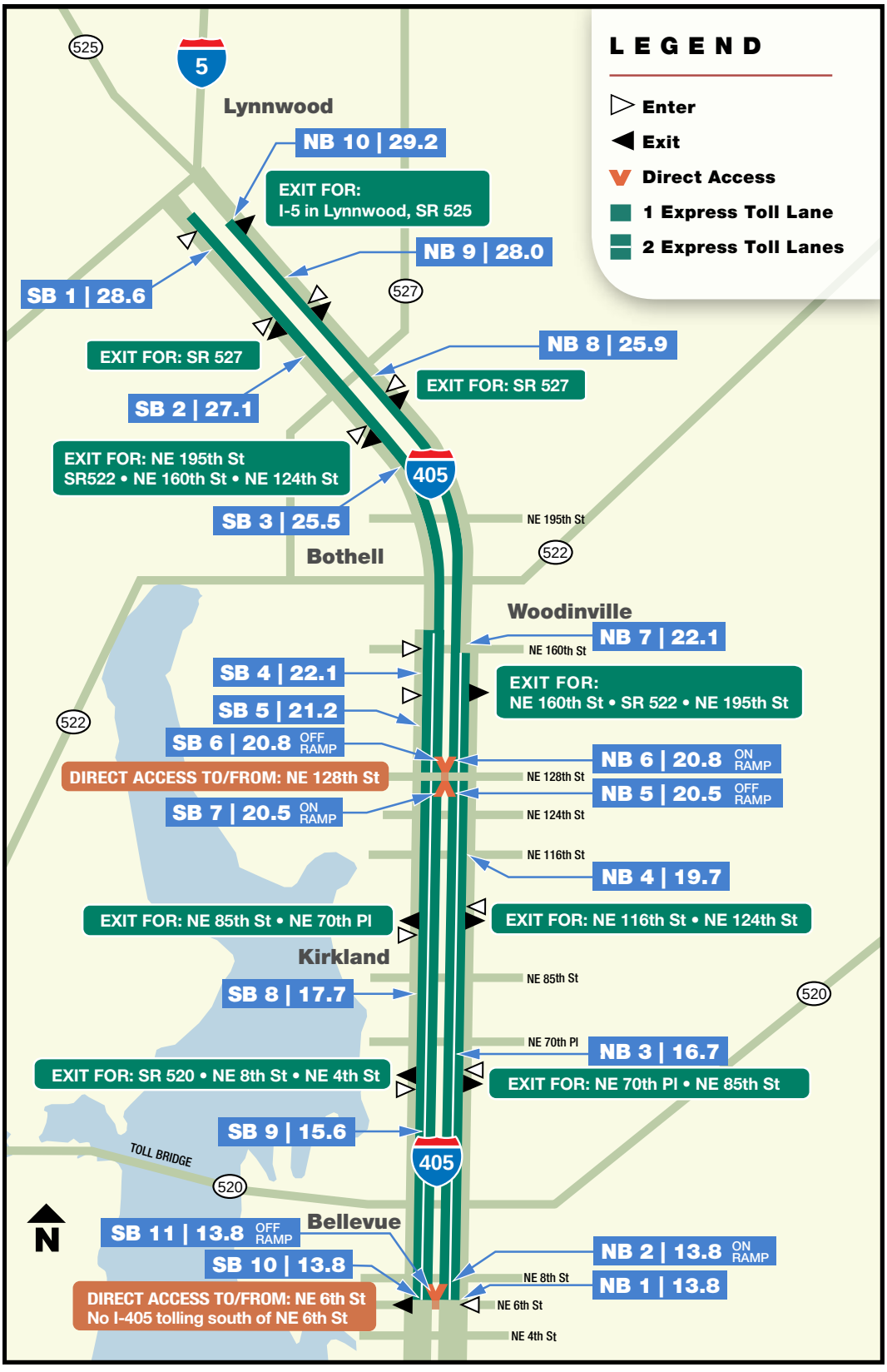
AVERAGE WEEKDAY SCREENLINE VOLUMES COMPARISON BEFORE AND AFTER EXPRESS TOLL LANES						
			SR 527 (Single Lane Section)			
			AM Peak (SB, 5-9a)	PM Peak (NB, 3-7p)	Daily Total (SB)	Daily Total (NB)
Feb	2015	ML	11,864	14,539	53,269	53,944
		HOV	2,665	4,290	8,046	8,467
		Total	14,529	18,829	61,315	62,411
	2016	ML	12,085	13,846	54,020	54,992
		ETL	3,431	4,642	8,251	7,684
		Total	15,516	18,488	62,271	62,676
	Total Change (2016-2015)		987	-341	956	265
Mar	2015	ML	11,937	14,681	49,388	50,728
		HOV	2,819	4,269	7,975	7,963
		Total	14,756	18,950	57,363	58,691
	2016	ML	12,240	14,076	54,019	55,254
		ETL	3,736	4,986	9,264	8,683
		Total	15,976	19,062	63,283	63,937
	Total Change (2016-2015)		1,220	112	5,920	5,246
Apr	2015	ML	12,277	14,506	54,498	54,996
		HOV	2,725	4,411	8,892	9,704
		Total	15,002	18,917	63,390	64,700
	2016	ML	12,433	13,952	54,906	56,333
		ETL	3,806	5,178	10,571	9,722
		Total	16,239	19,130	65,477	66,055
	Total Change (2016-2015)		1,237	213	2,087	1,355
May	2015	ML	11,929	14,182	54,062	55,279
		HOV	2,802	4,502	9,746	9,573
		Total	14,731	18,684	63,808	64,852
	2016	ML	11,990	13,670	54,741	55,531
		ETL	3,820	5,141	10,532	9,973
		Total	15,810	18,811	65,273	65,504
	Total Change (2016-2015)		1,079	127	1,465	652

AVERAGE WEEKDAY SCREENLINE VOLUMES COMPARISON BEFORE AND AFTER EXPRESS TOLL LANES						
			SR 527 (Single Lane Section)			
			AM Peak (SB, 5-9a)	PM Peak (NB, 3-7p)	Daily Total (SB)	Daily Total (NB)
Jun	2015	ML	12,225	14,166	55,328	56,319
		HOV	3,095	4,887	10,683	10,793
		Total	15,320	19,053	66,011	67,112
	2016	ML	12,260	13,865	55,920	56,902
		ETL	4,012	5,373	11,468	10,740
		Total	16,272	19,238	67,388	67,642
	Total Change (2016-2015)		952	185	1,377	530
Jul	2015	ML	12,440	14,016	56,522	56,423
		HOV	2,797	4,781	10,698	11,386
		Total	15,237	18,797	67,220	67,809
	2016	ML	11,761	13,432	54,902	55,848
		ETL	3,699	5,121	11,909	10,812
		Total	15,460	18,553	66,811	66,660
	Total Change (2016-2015)		223	-244	-409	-1,149
Aug	2015	ML	12,445	14,210	56,452	56,206
		HOV	2,925	4,685	10,755	11,346
		Total	15,370	18,895	67,207	67,552
	2016	ML	12,155	13,573	55,115	55,947
		ETL	4,035	5,268	12,364	11,170
		Total	16,190	18,841	67,479	67,117
	Total Change (2016-2015)		820	-54	272	-435
Sep	2015	ML	11,603	13,984	53,381	54,701
		HOV	2,820	4,286	8,897	8,964
		Total	14,423	18,270	62,278	63,665
	2016	ML	11,177	13,640	52,915	54,656
		ETL	3,950	5,125	11,567	10,450
		Total	15,127	18,765	64,482	65,106
	Total Change (2016-2015)		704	495	2,204	1,441

Detailed speed data

- Due to the large amount and detail of the speed data requested for each travel segment, this data will be provided on WSDOT's website at https://www.wsdot.wa.gov/Tolling/405/library.htm
- Data summary: Monthly average, 5th percentile, and 95th percentile speeds (miles per hour) along I-405 in 5 minute increments from October 2014 to June 2016. Speeds are summarized in two segments (Southern Corridor- Downtown Bellevue to SR 522 and Northern Corridor – SR 522 to Swamp Creek) and for the full length in the HOV/Express Toll Lanes and the general purpose lanes.

Reference map for locating mileposts along I-405



FOR MORE INFORMATION

Visit GoodToGo405.org or contact us at GoodToGoTolling@wsdot.wa.gov

16-11-0442