

I-405 Express Toll Lanes: 24 Months of Operations

THIS REPORT REVIEWS DATA FROM THE FIRST 24 MONTHS OF OPERATIONS
(OCTOBER 2015 – SEPTEMBER 2017) OF THE EXPRESS TOLL LANES.

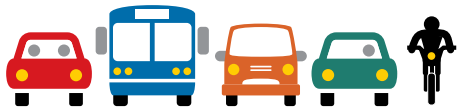


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Highlights of 24 months of operations

28.7 MILLION TOTAL TRIPS



19.9 MILLION
TOLLED TRIPS

8.8 MILLION
FREE HOV TRIPS

Goal #1

Provide a choice for drivers

53,000+ DAILY TRIPS

TOLL-EXEMPT CARPOOLS

15,500

vehicles per day

TOLL PAYERS

37,500

vehicles per day

have a faster and more reliable trip

70% drivers CHOOSE to use express toll lanes **1 to 5x a month**

5-30% MORE PEOPLE MOVED

during peak periods compared to pre-tolling

Goal #2

Provide a faster and more predictable trip

11 MINUTES southbound | **13 MINUTES** northbound

TRAVEL TIME SAVINGS
in EXPRESS TOLL LANE

compared to the GP lanes for the full corridor trip

General purpose trips save

2-7 MINUTES
compared to pre-tolling

Goal #3

Fund future improvements

\$28.8M GENERATED FOR IMPROVEMENTS

\$44.5

MILLION

GROSS REVENUE

\$15.7

MILLION

OPERATIONS & MAINTENANCE COSTS



\$11.5M REINVESTED IN CORRIDOR

PEAK-USE SHOULDER LANE OPENED APRIL 2017

Background

In 2009 the Washington State Legislature directed Washington State Department of Transportation (WSDOT) to study the merit of express toll lanes on I-405 and re-engage the I-405/SR 167 Executive Advisory Group. This work resulted in the 2009 Eastside Corridor Tolling Study which evaluated five options to implement express toll lanes on I-405. The I-405/SR 167 Executive Advisory Group endorsed option four which included a 40-mile express toll lane system from Puyallup to Lynnwood.

In 2010, the Secretary of Transportation directed WSDOT to convene a National Expert Review Panel to evaluate the findings of the 2009 Eastside Corridor Tolling Study. The Expert Review Panel reported out their findings to the I-405/SR 167 Executive Advisory Group, resulting in the publishing of the I-405/SR 167 Expert Review Panel Report. The report concluded that the proposed express toll lane concept was a viable and appropriate strategy for improving mobility on the I-405/SR 167 Corridor. In 2011, the Washington State Legislature authorized express toll lanes on I-405 between Bellevue and Lynnwood.

WSDOT launched 15 miles of express toll lanes on Interstate 405 between the cities of Bellevue and Lynnwood on Sept. 27, 2015.

Between October 2015 and September 2017, drivers made nearly 28.7 million trips on the express toll lanes. The corridor, one of the most congested in the state, is moving a higher volume of vehicles than before tolling, yet express toll lanes are still providing a valuable option for carpools, transit and toll paying users to access faster, more predictable trips.

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. Traffic volumes have increased at almost all locations on major regional roadway facilities. Despite higher traffic volumes, the I-405 express toll lanes are providing value to users in the form of faster speeds, reduced travel times and more predictable trips.

"It is the intent of the legislature to improve mobility for people and goods by maximizing the effectiveness of the freeway system. An express toll lanes network is one approach for managing the use of freeway high occupancy vehicle lanes and, at the same time, generating funds to improve the Interstate 405 and state route number 167 corridor."

RCW 47.56.880



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 7.9 mile portion of the system with two lanes in each direction between Bellevue and Bothell is referred to as the dual-lane section. The 7.15 mile 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 operate as a tolled facility on weekdays between 5 a.m. and 7 p.m., except on major holidays. 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 carpool occupancy requirement, set by the Transportation Commission, allows vehicles with three or more occupants to travel toll-free during peak periods on weekdays and vehicles with two or more occupants to travel toll-free on weekdays from 9 a.m. to 3 p.m.

Peak Time, Peak Direction: southbound morning peak period (5 a.m.-9 a.m.) and northbound afternoon peak period (3 p.m.-7 p.m.)

Trip categories: The following categories define toll 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 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 express toll lanes work

The I-405 express toll lanes were designed to provide faster, more predictable trips for transit, vanpools, carpools and toll-paying vehicles. While some factors, such as collisions, can inhibit the efficiency of the lanes, managing the flow of traffic in and out of the lanes allows the lanes to maintain faster speeds than general purpose lanes during periods of congestion.

WSDOT utilizes different strategies in the express toll lanes to promote steady speeds and more efficient person throughput, including lane design, vehicle limitations and tolling.

Design

Vehicles and transit can only enter and exit the express toll lanes by using specific access points. Limiting merging points and managing traffic flow through dynamic tolling allows the express toll lanes to maintain more consistent speeds. Drivers do not have to adjust the speeds of their vehicles as often in the express toll lanes to compensate for merging with other vehicles. Some access points have a dashed white line for vehicles to merge in or out or temporary weave lanes allow vehicles to merge in and out of the express toll lanes with less disruption, allowing the express toll lanes to operate more efficiently. Additionally, there are two direct access ramps that transit, high occupancy vehicles (HOV) and toll-paying drivers can use from NE 6th Street in Bellevue and NE 128th Street in Kirkland to enter the express toll lanes directly.

Vehicle limitations

WSDOT manages the types of vehicles that can and cannot use the express toll lanes during operational hours. Between 7 p.m. and 5 a.m. and on weekends and holidays, the lanes are open to all vehicles.

Express toll lanes are always free to transit, vanpools and carpools that meet occupancy requirements. During peak hours, vehicles must have at least three occupants and a Flex Pass in order to use the lanes free of charge. The lanes incentivize transit and carpooling by providing faster, more predictable trips without a toll.

Large commercial vehicles, such as trucks over 10,000 pounds gross vehicle weight, are never allowed in the express toll lanes. This is consistent with HOV lane restrictions throughout Washington which are designed to promote more efficient person throughput.

One of the primary goals of the express toll lanes is to improve transit reliability and travel times. The previous HOV lanes often experienced gridlock which interfered with transit efficiency. Limiting the number of vehicles that can use the lanes ensures more reliability for transit riders.

Motorcycles can always use the lanes free of cost as long as they have a *Good To Go!* motorcycle pass.

HOW DOES CHANGING THE CARPOOL REQUIREMENT TO 3+ DURING PEAK HOURS HELP REDUCE TRAFFIC?

Prior to the express toll lanes, the 2+ occupancy HOV lanes on I-405 failed to meet state target of speed and reliability 200 days out of the year. Buses, vanpools and carpools were often stuck in the same congestion as vehicles in the regular lanes, receiving little to no benefit from the carpool lanes. The change to a 3+ peak requirement, combined with managing volumes with tolls, brought the benefit and reliability back to those lanes. Now during off-peak times, vehicles with a Flex Pass in HOV mode can ride free with two passengers.

Dynamic tolling

The efficiency of the express toll lanes relies heavily on the dynamic tolling algorithm which determines toll rates for the lanes. The algorithm adjusts toll rates every 5 minutes based on congestion to influence the flow of vehicles into the lanes to ensure that traffic continues to move smoothly. Toll rates range from \$0.75 to \$10.

As traffic increases, the toll increases. As traffic subsides, the toll goes down. This process is called “dynamic pricing.” Dynamic pricing works to ensure that the lanes don’t get overloaded with vehicles and become as congested as the general purpose lanes. The tolling system monitors congestion throughout the corridor which is why toll rates can vary for different destinations, or “toll zones.”

Typically, drivers chose to use the express toll lanes most during peak periods when traffic is heavy. As more vehicles enter, the toll rate goes up, this is why when congestion is really bad, the tolls to use the lanes often reach \$10.

Transit and qualifying carpools can use the lanes for free. This has the combined benefit of incentivizing carpooling or use of public transportation to avoid paying a toll. When people opt to use these forms of transportation, they reduce the number of cars on the road which in turn helps reduce congestion.

Dynamic pricing is used successfully at other toll facilities around the country, including San Diego, Los Angeles, Miami, Denver, Washington D.C., the Bay Area and Dallas.

"At first I did not care for the toll lanes. However, after using them from Lynnwood to Bellevue one time, it was worth the cost since the readerboard was saying the trip would take 45 minutes. The time saved outweighed the cost."

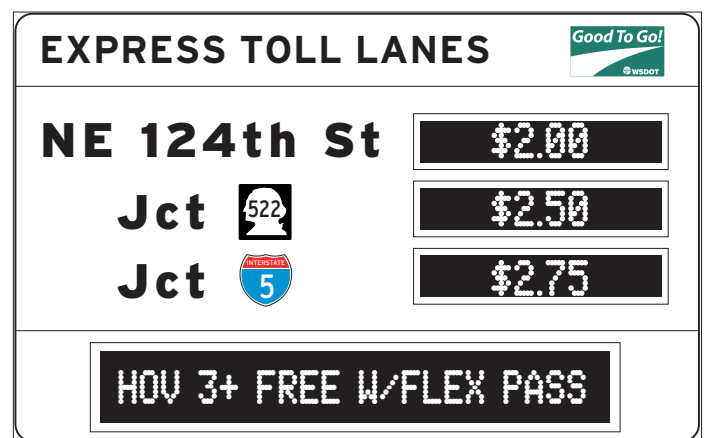
— 2017 Customer survey

HOW THE SIGNS WORK:

Drivers pay the rate they see when they enter the lanes.*

The rates displayed on the roadway signs are for any point up to and including the listed destination. Once a vehicle passes a listed destination, the rate for that trip will be based on the rate for the next destination you saw on the sign when you entered.

[Learn more about how express toll lanes work here.](https://youtu.be/lhwRTz7zrY)
<https://youtu.be/lhwRTz7zrY>



*Toll rates displayed are for drivers paying with a **Good To Go!** pass. Vehicles without a **Good To Go!** pass account, the vehicle's registered owner will receive a Pay By Mail toll bill for an additional \$2 per toll.

Legislative performance measures

The legislation that authorized the construction and operation of the I-405 express toll lanes requires WSDOT to report quarterly on seven performance measures. The statute also stipulates that if the lanes fail to meet both of the standards below, they will be closed as soon as practicable.

The two legislative performance measures identified by RCW 47.56.880 (5) are:

1. Whether the express toll lanes generated sufficient revenue to pay for all express toll lane-related operating costs.
2. Whether the express toll lanes maintain speeds of 45 miles per hour at least 90 percent of the time during peak periods

Revenue

The express toll lanes have consistently generated more revenue than is necessary to cover operations costs. In 24 months of operations, the express toll lanes generated \$44.5 million which was more than sufficient to cover the \$15.7 million cost of operating and maintaining the lanes.

The Legislature specified that revenue not used on operations and maintenance must be used to improve the corridor. WSDOT has already reinvested \$11.5 million of toll revenue into the engineering and construction of the peak-use shoulder lane.

Speed reliability

The second legislative measure has proved a challenge to meet. The measure itself is a reuse of the Federal Highway Administration's (FHWA) speed performance target for HOV facilities. WSDOT is required to report to the FHWA every six months on whether the express toll lanes are moving 45 mph or faster 90 percent of the time during peak periods.

While the express toll lanes have reduced travel times and increased speeds during peak periods in the corridor, some sections have fallen short of the second legislative performance measure of keeping speeds at 45 mph or faster 90 percent of the peak period. WSDOT reports this measure in six month increments, in order to be consistent with reporting to the Federal Highway Administration. Currently, the northbound direction is meeting the requirement 94 percent of peak periods but the southbound direction only reaches the metric 76 percent of peak periods. Lack of express toll lane capacity and high demand in the single-lane section have driven down speed reliability. Overall, the express toll lanes are meeting the performance target 85 percent of peak periods due to the slower speeds of the single-lane section. With the opening of the peak use shoulder lane in April, speeds in the northbound single-lane lane section are now meeting the legislative performance target but the southbound single-lane still struggles to meet the standard.

Media and Outreach summary: Sept. 27, 2015 through Sept. 26, 2017

WSDOT has conducted extensive outreach since the I-405 express toll lanes opened, including grassroots, social media and traditional media outreach. WSDOT has also provided free passes to drivers who identify as carpooling on the I-405 at least once a week, as well as free motorcycle passes for I-405 users.

Grass roots outreach and media
<ul style="list-style-type: none"> ✓ 120 presentations and events which reached 1,982 people ✓ Over 550 print, broadcast and radio stories ✓ Good To Go! Customer email reach: 670,000
Social media
<ul style="list-style-type: none"> ✓ YouTube: 118k total views on 7 animated videos ✓ Facebook reach: 293,173 ✓ Twitter: <ul style="list-style-type: none"> – Tweets: 589 – Impressions: 1,649,864 – Engagements: 16,507 ✓ Blog articles: 120 ✓ WSDOT Blogs: 43
Incentive programs for carpoolers and motorcyclists
<ul style="list-style-type: none"> ✓ 73,000 free Flex Passes distributed through RideshareOnline.com ✓ 17,000 free motorcycle passes distributed

Public perception

In summer 2017, the Washington State Department of Transportation conducted three surveys to determine how different kinds of drivers felt about the express toll lanes. Each survey has a different focus:

- **I-405 Public Opinion Survey** - People who drove in any lane of I-405 in the past year. 60 percent of respondents told us that they never use the express toll lanes during tolling hours. 70 percent of respondents used I-405 on a weekly basis.
- **Express Toll Lane Customer Survey** - People who used the express toll lanes in 2017.
- **Business Survey** - Businesses that used I-405 express toll lanes or SR 167 HOT lanes in past year.

Support for I-405 express toll lanes is growing

About 60 percent of each survey group liked having the option to use the express toll lanes. This represents a reverse in public opinion compared to the surveys WSDOT did when the express toll lanes first opened. In the January 2016 survey, 77 percent of people indicated they opposed the project. This trend has also been observed for toll facilities in other states.

Express toll lane customers were three times as likely to indicate satisfaction with the lanes than dissatisfaction. Customers were particularly happy with the speed and value of the lanes.

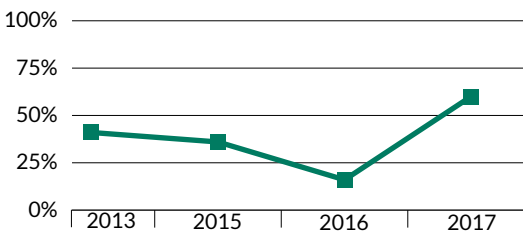
Support was consistently positive among people of all incomes, ages, and genders. However, most I-405 drivers didn't think the express toll lanes benefited low income people.

Surveys of both *Good To Go!* customer and other I-405 drivers found that 60% of drivers like having the option of a faster more reliable trip.

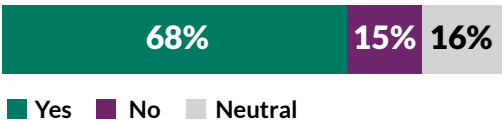
Do you like having the option of using the express toll lanes for faster trip?



Support increases over time



Are you satisfied with the speed of travel in the express toll lanes?



Source: 2017 I-405 Customer Survey

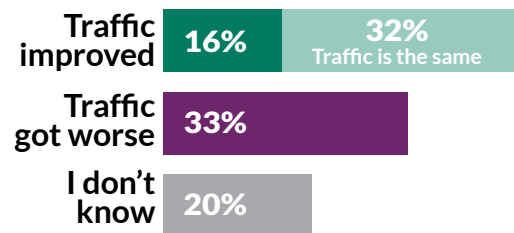
Most drivers believe express toll lanes benefit regular lanes

Two-thirds of those surveyed agree that the express toll lanes help reduce congestion in the regular lanes. This was also a complete reversal from polls conducted in the past.

Overall, respondents considered traffic on I-405 between Bellevue and Lynnwood to be bad, but still slightly better than on other major roadways. Only a third of respondents believed that traffic on I-405 had worsened since the express toll lanes opened, compared to nearly half who thought traffic had improved or stayed the same.

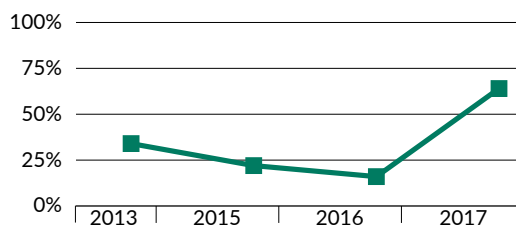
Despite the generally positive responses, people showed contrary opinions on some questions. For example, only a third of people listed tolls or a 3-person carpool requirement as an effective strategy to reduce congestion.

How do you think the I-405 express toll lanes affected traffic?

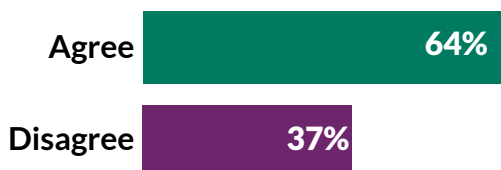


Source: 2017 I-405 Customer Survey

Support over time



Do express toll lanes reduce congestion for some trips in the regular lanes?



Source: 2017 I-405 Customer Survey

Express toll lanes are good for business

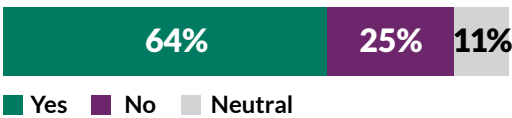
We invited businesses that use the I-405 express toll lanes and SR 167 HOT lanes to tell us about how these lanes affect their company. Nearly 70% of survey respondents represented locally-owned businesses. 78% of responses came from a business owner, executive, or management. Nearly two-thirds of businesses indicated that the toll lanes benefited their company. A quarter of businesses said that toll lanes were very helpful.

Most people and businesses say they want to expand the system

The majority of customers and businesses who drove between Renton and Bellevue supported expanding the express toll lanes to this area. Support for the expansion doubled opposition.

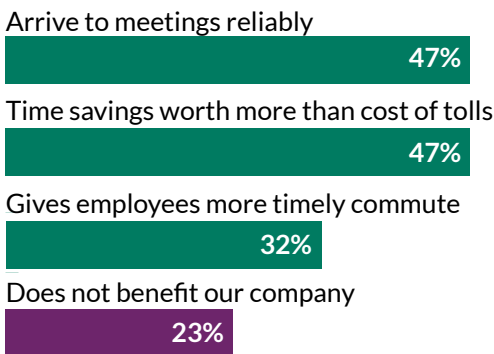
- 80 percent of customers and businesses supported using toll money to improve the corridor.
- 40 percent of customers said they did not want the express toll lanes to be changed to HOV lanes, compared to 38% who believed they should become HOV.

Do the toll lanes help your business?



Source: 2017 I-405/SR 167 Business Survey

How have tolls helped your business?



Source: 2017 I-405/SR 167 Business Survey

Methodology

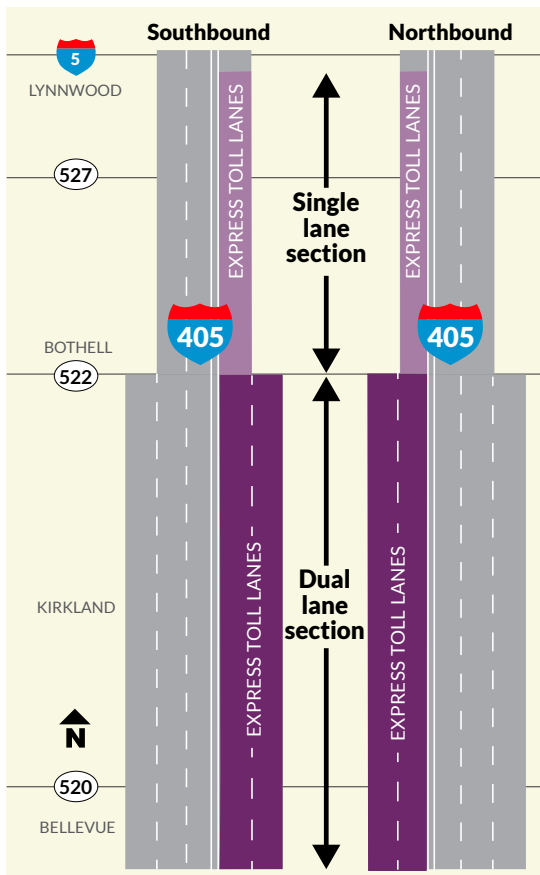
I-405 Public Opinion Survey: A private research firm invited participants who lived near I-405 to take a secure online panel survey. 416 people took the survey and results were statistically valid at the 95% confidence level. Demographics were representative of the actual population.

Express Toll Lane Customer Survey: A random sample of 20,000 people who had used the express toll lanes in 2017 were sent a password-protected invitation to take the survey. 1373 customers took the survey. The results were statistically valid at the 95% confidence level.

Business Survey: Password protected invitations were sent to a random sample of 24,000 *Good To Go!* business customers which had used the SR 167 HOT lanes or I-405 express toll lanes in the past year. 1,020 businesses took the survey. The results were statistically valid at the 95% confidence level.

I-405 Corridor Conditions

Capacity



The I-405 express toll lane corridor consists of two highway segments with different capacities, referred to as the single- and dual-lane sections. The I-405 NE 6th St to I-5 Widening and Express Toll Lanes Project added a new express toll lane in each direction between Bellevue and the SR 522 interchange vicinity in Bothell. This lane was combined with the existing HOV lane to create a 7.9 mile portion of the system with two express toll lanes in each direction, known as the dual-lane section.

WSDOT did not add lane capacity north of SR 522. Instead, the 7.15 miles of HOV lane that already stretched between SR 522 and I-5 was converted into an express toll lane. This section of the corridor is referred to as the single-lane section.

Due to their different capacities, WSDOT has observed considerable

disparities in congestion and speed performance between the single- and dual-lane sections. While the express toll lanes have improved speeds and predictability for carpools and transit overall on the corridor, performance in the single-lane section is strained due to the lack of capacity. The dual-lane section is less congested because the additional capacity allows it to carry higher volumes.

It is important to note that the dual-lane section has three general purpose lanes while the single-lane section only has two. The differences in general purpose capacity also affect congestion and speed performance in both the general purpose and express toll lanes.

Projects that have added capacity in the single-lane section, such as the toll-funded peak-use shoulder lane, have improved speeds in the general purpose and express toll lanes. This additional general purpose capacity frees up room for vehicles, allowing for faster speeds and shorter travel times. However, as vehicle volumes continue to increase, the peak-use shoulder will only serve as an interim improvement. WSDOT is studying how adding another express toll lane to this section could provide needed congestion relief between Bothell and Lynnwood.

Growing population and transportation demand

The Puget Sound region grew by over 168,000 people between March 2015 and March 2017. This represents a four percent population growth, pushing the region's population to over 4 million.¹

According to the 2015 US Census American Community Survey, Seattle has the most motor vehicles per person among the 10 most densely populated cities in the country. Since the express toll lanes opened, almost 175,000 new drivers licenses were issued in King and Snohomish counties.² The rapid population and economic growth of the region means more drivers on the road and higher demand for faster, more reliable trips.

Volumes on corridor continue to increase

As the population of the Puget Sound region grows, so does the number of vehicles on the road. On average, 5-30% more people move through the corridor each weekday than prior to tolling. Traffic volumes have grown substantially on I-405 in more parts of the corridor, creating some of the worst gridlock in the state.

The I-405 NE 6th St to I-5 Widening and Express Toll Lanes Project added capacity in the dual lane section but did not build a new lane between Lynnwood and the SR 522 interchange in Bothell. Since WSDOT opened the express toll lanes, the corridor has carried rising traffic volumes.

Using sensors in the roadway, WSDOT collected traffic counts on the stretch of I-405 between Bellevue and Lynnwood. Volumes were reported at eight sample locations, four in the northbound direction and four in the southbound direction. In the dual-lane section, data is sampled at NE 53rd St and NE 100th St. In the single-lane section, data is sampled at the I-405 interchanges with State Route 522 and State Route 527.

During the peak periods, over the past 12 months, the express toll lanes carried 35 to 38 percent of the total I-405 volumes in the dual-lane section, and between 23 and 34 percent in the single-lane section. Compared to the average volumes the year prior to tolling, this represents a growth of up to 22 percent in peak period volumes in the dual-lane section, and up to 13 percent in the single-lane section.

**MAR. 2015 –
MAR. 2017**



**168,000+
new residents¹**

&

**OCT. 2015 –
SEPT. 2017**



**175,000
new drivers²**

=



**Higher
traffic
volumes**

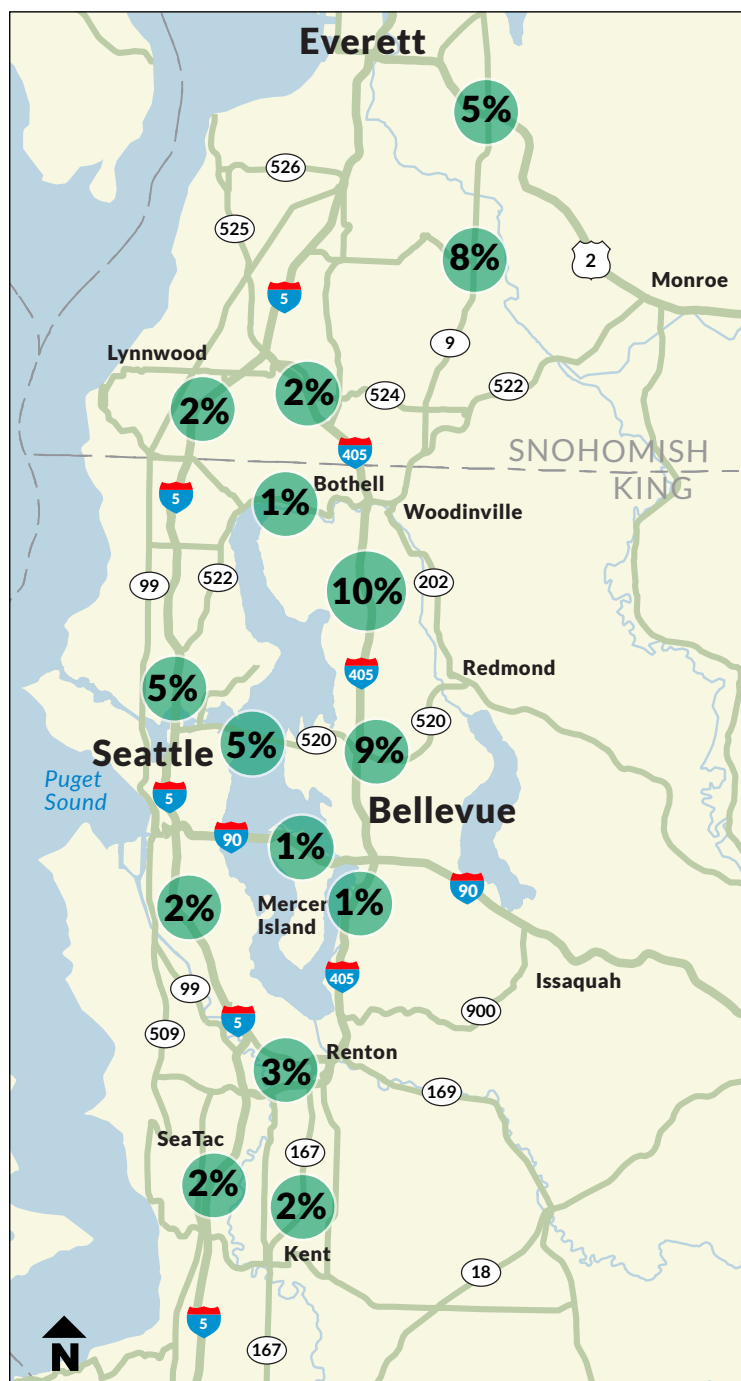
¹ Puget Sound Regional Council. (2017). Regional Population Trends. Retrieved from <https://www.psrc.org/sites/default/files/trend-population-201707.pdf>

² Washington State Department of Licensing. (2015-2017). Monthly driver reports and supporting data. Retrieved from <http://www.dol.wa.gov/about/driversreports.html>

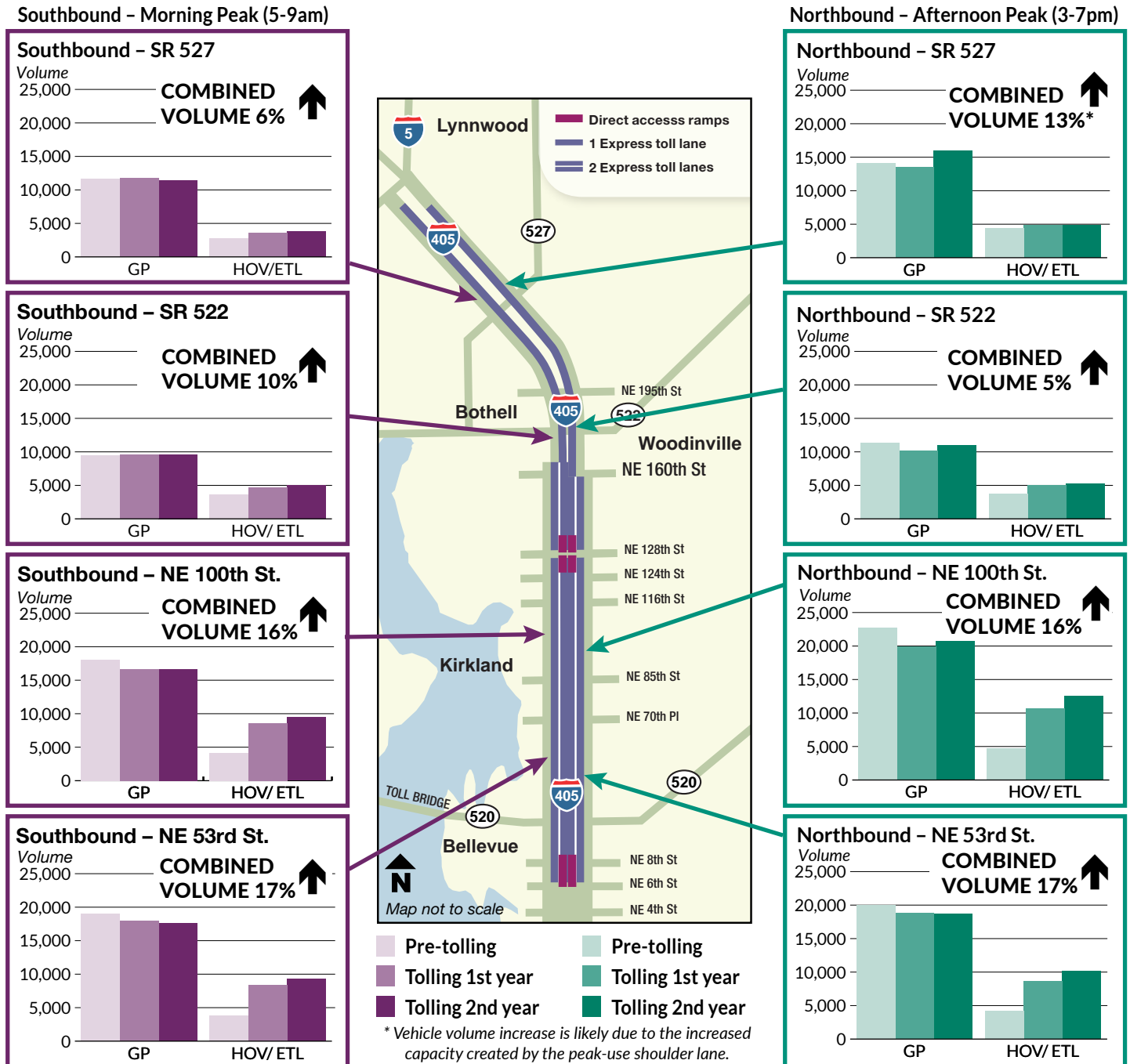
Regional volume growth

As the population grows and more out-of-state drivers get licensed in Washington, increased volumes on roadways are to be expected. Most corridors saw between 1 to 5 percent increase, however I-405 has seen the largest increase in vehicle volumes with a 2 to 10 percent growth. Data shows that 5-30 percent more people are moved through the corridor each day. The volumes show in the map below are daily vehicle volumes, which includes non-peak periods. The map on page 16 examines only peak period volumes.

**Average daily vehicle volume growth –
Oct. 1, 2014-Sept. 30 2015 compared to Oct. 1, 2015-Sept. 30, 2017**



I-405 Peak Period Traffic Volumes – Oct. 1, 2014-Sept. 30, 2015 (pre-tolling) compared to Oct. 1, 2015-Sept. 30, 2016 (tolling first year) compared to Oct. 1, 2016-Sept. 30, 2017 (tolling second year)



Combined peak period volumes in all sections of the I-405 corridor have increased compared to the year prior to tolling. The dual-lane section has experienced the highest volume growth, likely due to the added express toll lane capacity which more efficiently moves vehicles during peak periods. The single-lane section is also carrying increased volumes despite no express toll lane capacity being added in this section. This increase can be attributed to the express toll lanes' ability to move higher volumes during peak periods, compared to the previous HOV lanes.

Performance

The express toll lanes were designed to provide drivers with the option of a faster, more predictable trip. There are a variety of performance measures to determine whether the express toll lanes are providing this valuable choice to drivers, including speeds, travel times and reliability.

WSDOT seeks to support a sustainable, multimodal transportation system so it is vital to examine how the express toll lanes influence the overall congestion in the region and whether the lanes are promoting more efficient movement of vehicles.

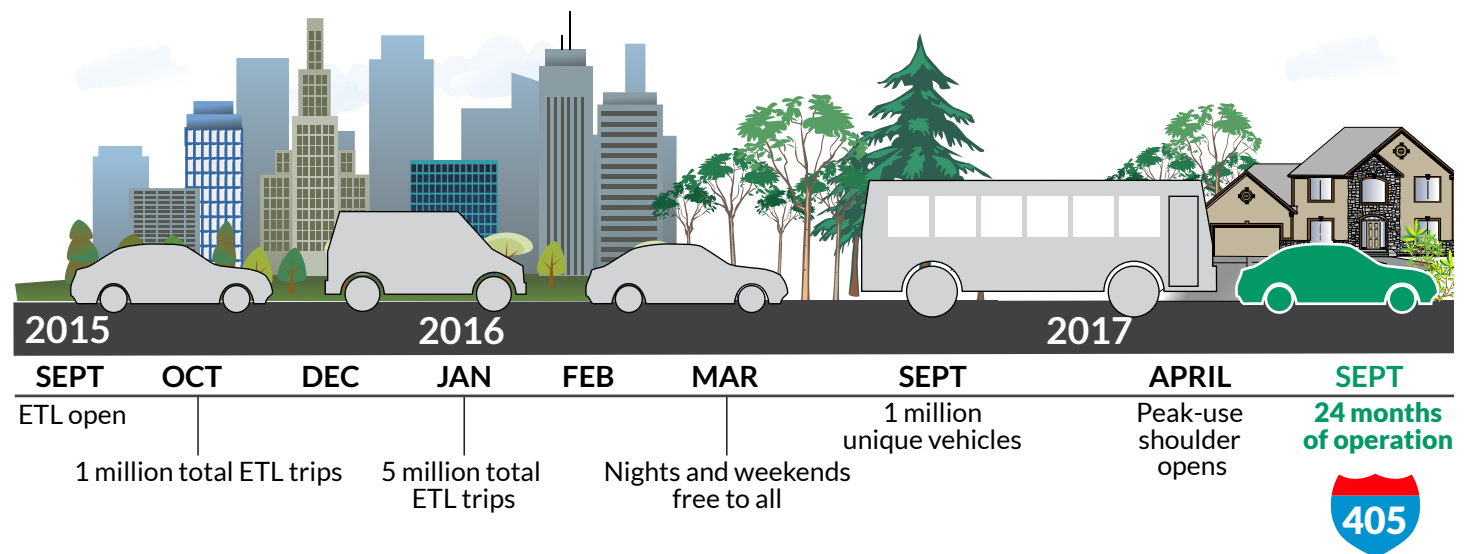
This section reviews these following measures of performance:

- Legislative speed performance measure
- Average speeds
- Average travel times
- General purpose performance
- Per-lane volumes
- Forecasted v. actual use
- Average use
- New users
- Transit ridership and travel times

"Free nights and weekends made toll lanes worth the pain of them being built. Entry points got much better. Signs with cost are frequent enough."

- 2017 Customer Survey

I-405 express toll lane milestones



45 mph metric

RCW 47.56.880 requires WSDOT to report on express toll lanes operating speed performance based on whether the lanes are reaching 45 mph or faster 90 percent of the time during peak periods.

WSDOT has observed a considerable difference in speed performance between the dual- and single-lane sections. This report focuses on the April-September 2017 reporting period.

Northbound

Speeds in the northbound express toll lanes achieved the 45 mph or faster metric 94 percent of peak periods. Performance in the single-lane northbound section has improved since the opening of the peak-use shoulder lane in late April.

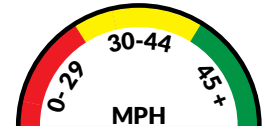
Southbound

Express toll lane speed performance in the southbound direction only reached the performance metric 76 percent of peak periods. This is largely due to the congestion in the single-lane section which is unable to absorb the high demand for a faster, more predictable trip.

Entire corridor

When considering the performance of the entire corridor, the express toll lanes are providing a more reliable trip than the previous HOV lanes. Between April and September 2017, the express toll lanes moved vehicles 45 mph or faster 85 percent of the time during peak periods. This is an improvement compared to the previous HOV lane which was only meeting the goal 56 percent of the time during the same months of 2015.

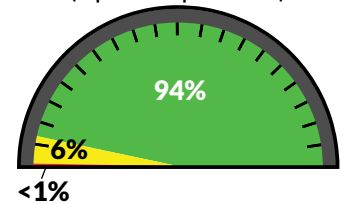
Percent of peak time periods when the lanes move vehicles within each speed range



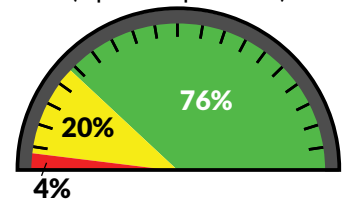
Goal

Speeds greater than 45 mph
90% of peak periods

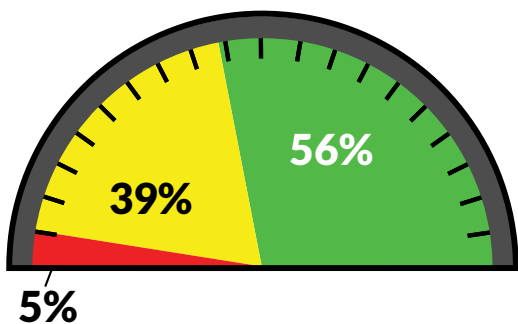
Northbound
(April - Sept. 2017)



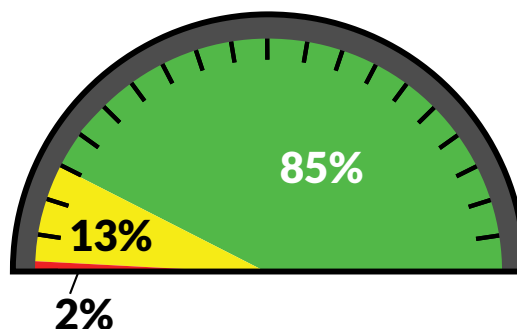
Southbound
(April - Sept. 2017)



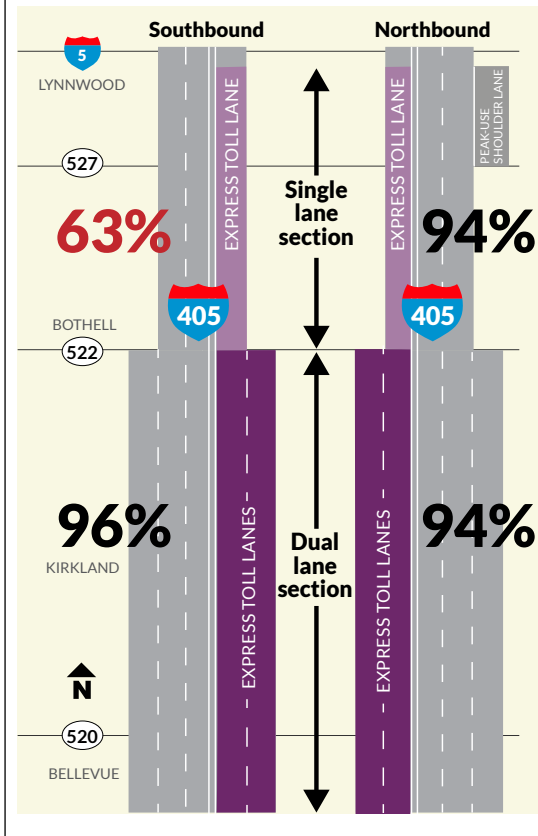
Pre-Tolling HOV
(April-Aug. 2015)



Express toll lanes
(April-Sept. 2017)



Peak-use shoulder improves reliability- April 1, 2017-September 30, 2017



Remediation

Improvements funded by tolls, such as the peak-use shoulder lane, have the potential to bring the express toll lane performance up to performance target. The challenges resulting from the constraints of the roadway will continue to exist until additional managed lane capacity is added. WSDOT's long-term plans include extending the dual express toll lane the entire length of the corridor.

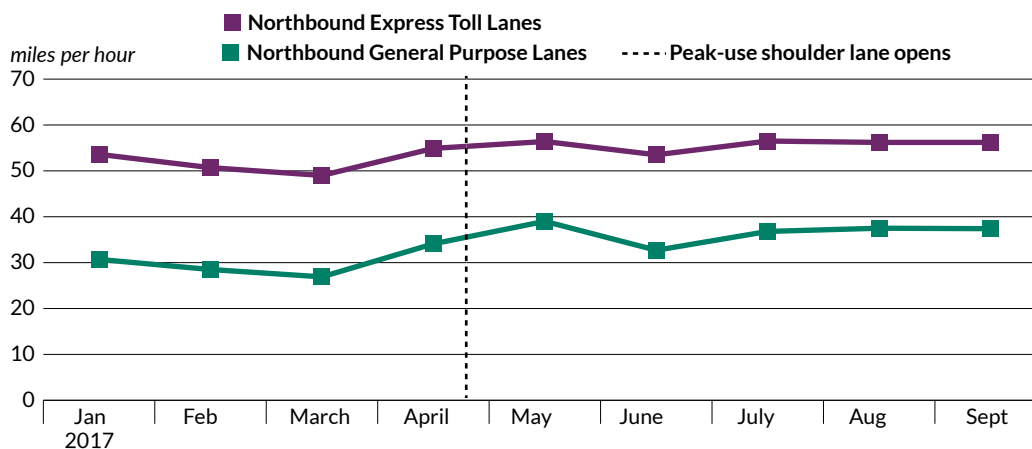
The peak-use shoulder lane opened to the public in late April 2017. The new shoulder lane has already improved northbound speeds between SR 522 and I-5. Since opening, all sections of the express toll lanes are meeting the performance target except the southbound single-lane section. The lanes met the target 85 percent of peak periods between April 1, 2017 and September 30, 2017.

"The 405 express lanes have made a huge difference for me. I need to go to the Kitsap Peninsula over night a few times a month, and get back for work in the morning. Since I do this infrequently, I pay to use the express lanes. Although expensive, it's a good value for the time I save - when I can travel @ 45mph, which is most of the time. I feel a little guilty speeding by, while others wait in traffic. But if the money is spent on more roads/lanes (not public transport, or other priorities), it makes sense to me."

- 2017 Customer Survey

The chart below shows how speeds, especially in the general purpose lanes, have improved since opening the new lane. The Legislature authorized WSDOT to study additional improvements for the single-lane section to increase capacity and improve speeds on the corridor.

Peak-use shoulder lane speeds improve general purpose and express toll lane speeds - January 1, 2017 - Sept. 30, 2017



Average corridor speeds

The express toll lanes must maintain faster speeds than general purpose lanes during periods of congestion. During the first 24 months of operation, the express toll lanes moved vehicles an average 19 mph faster than general purpose lanes during the southbound morning peak period and 23 mph faster during the afternoon northbound peak period. Additionally, speeds in the general purpose lanes have improved in all sections except the southbound single lane.

In the dual lane section, speeds in the express toll lanes and general purpose lanes improved after tolling began. During the Summer 2017 quarter (July-September 2017), the dual express toll lanes moved vehicles an average 15 mph faster than general purpose lanes southbound and 24 mph faster northbound during peak periods.

	Summer 2015 (July 1, 2015 - Sept. 26, 2015)	Summer 2016 (July 1, 2016 - Sept. 30, 2016)	Summer 2017 (July 1, 2017 - Sept. 30, 2017)
Dual Lanes			
Northbound:			
ETL/HOV	29	55	56
General Purpose	24	28	32
Southbound:			
ETL/HOV	48	59	58
General Purpose	36	44	43

Average speeds initially slowed in the northbound single-lane section after tolling began, due to high traffic volumes and increased demand for the lanes. The peak-use shoulder lane, opened April 2017, has provided additional general purpose capacity which has helped carry higher volumes. However, as population growth continues, the peak-use shoulders benefits may decline due to increased traffic volumes.

As the population and demand grows, speeds in the southbound single-lane section have declined. This section does not have sufficient express toll lane capacity to meet the demand for faster, more predictable trips. Additional express toll lane capacity in this section would allow higher traffic volumes to move through the corridor faster.

	Summer 2015 (July 1, 2015 - Sept. 30, 2015)	Summer 2016 (July 1, 2016 - Sept. 30, 2016)	Summer 2017 (July 1, 2017 - Sept. 30, 2017)
Single Lane			
Northbound:			
ETL/HOV	53	48	57
General Purpose	35	27	46
Southbound:			
ETL/HOV	54	47	43
General Purpose	28	26	25

**Express
toll lanes
move faster
than
general
purpose lanes
during
peak periods**

**+19 mph
faster
southbound**

**+23 mph
faster
northbound**

Travel times

During the first 24 months of operations, the express toll lanes consistently provided travel time savings relative to the general purpose lanes, with drivers saving an average 13 minutes northbound and 11 minutes southbound for full corridor trips during the peak periods.

Compared to general purpose lane travel times, vehicles in the dual-lane section of the I-405 express toll lanes saved an average 3 minutes during the morning southbound peak period and 7 minutes in the northbound afternoon peak period.

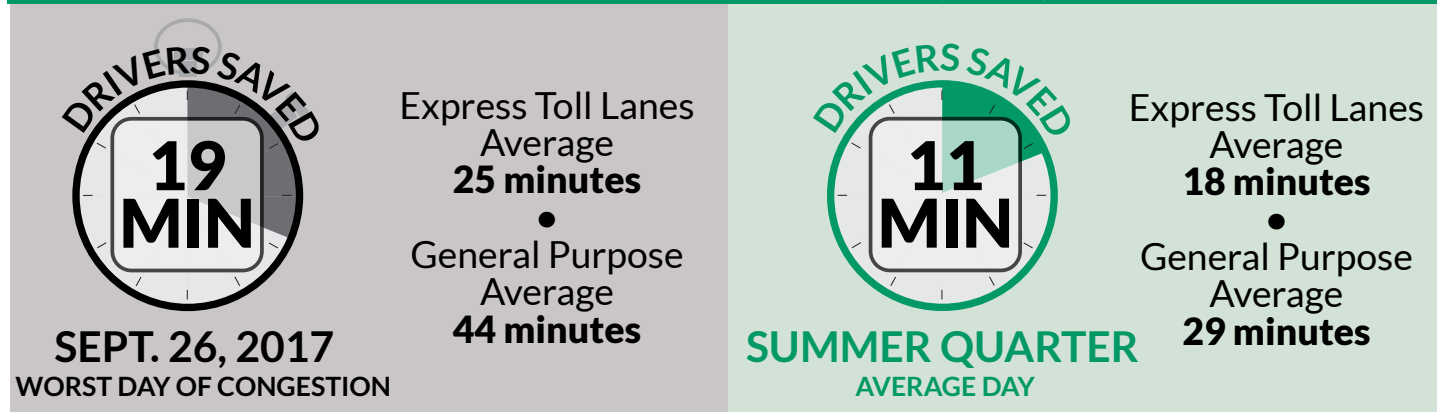
Limited capacity in the single-lane section has resulted in longer peak period travel times since the launch of the express toll lanes. Over 24 months of operations, travelers in the single express toll lane have saved an average 7 minutes during peak periods. Since the peak-use shoulder lane opened in Spring 2017, general purpose drivers have experienced shorter travel times during the northbound peak period. In the southbound direction, where no capacity was added, travel times have remained steady.

"WORST DAY OF CONGESTION"

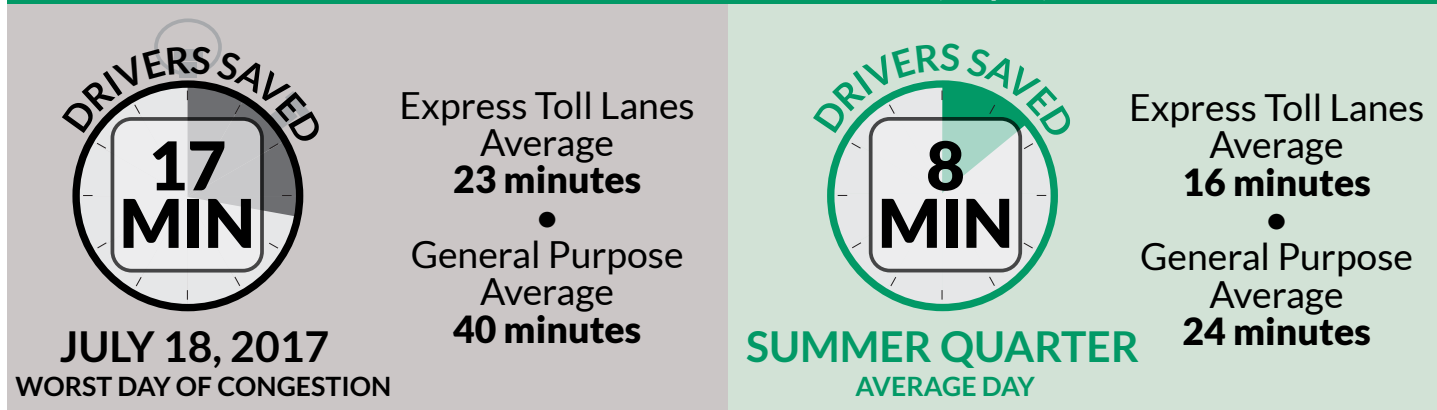
There are a number of factors that can influence travel times, including speeds, weather and collisions. The 'worst day of congestion' is defined as the day with the longest travel times of the quarter. Even during days with the longest travel times, the express toll lanes still provide value in the form of considerable travel time savings compared to general purpose lanes.

Reliable travel times savings in express toll lanes – July 1, 2017-Sept. 30, 2017

Travel Times – Southbound AM Peak Period (5-9 a.m.)



Travel Times – Northbound PM Peak Period (3-7 p.m.)



General purpose performance

The efficiency of the express toll lanes have helped improve general purpose lane speeds and travel times in some sections of I-405. Southbound average travel times during the morning peak period improved by four minutes in the two years of tolling, compared to the year prior to tolling. In the northbound direction, average travel times in the general purpose lanes remained largely unchanged for the afternoon peak period until the addition of the peak-use shoulder lane, which reduced the average travel time in the most recent 6 months from 32 minutes to 25 minutes.

Additionally, the general purpose lanes are moving faster in the dual-lane section than prior to tolling. When comparing Summer 2015 to Summer 2017, average speeds northbound are 8 miles faster and 7 miles faster southbound. In the single-lane section, speeds have improved substantially northbound after the peak-use shoulder opened but continue to drop southbound due to the lack of express toll lane capacity to manage the increasing demand and vehicle volumes.



Most efficient lanes on the road

The express toll lanes were designed to provide faster, more predictable trips when drivers need it most: periods of high congestion. Drivers entering the lanes want to move faster than general purpose traffic to cut down on their travel time. The more severe the congestion in the general purpose lanes, the more appealing the express toll lanes become. Toll rates go up during these periods to mitigate the increased demand for the lanes. Despite an increased demand for express toll lane trips during periods of congestion, express toll lanes are more efficient than general purpose lanes when drivers need it most.

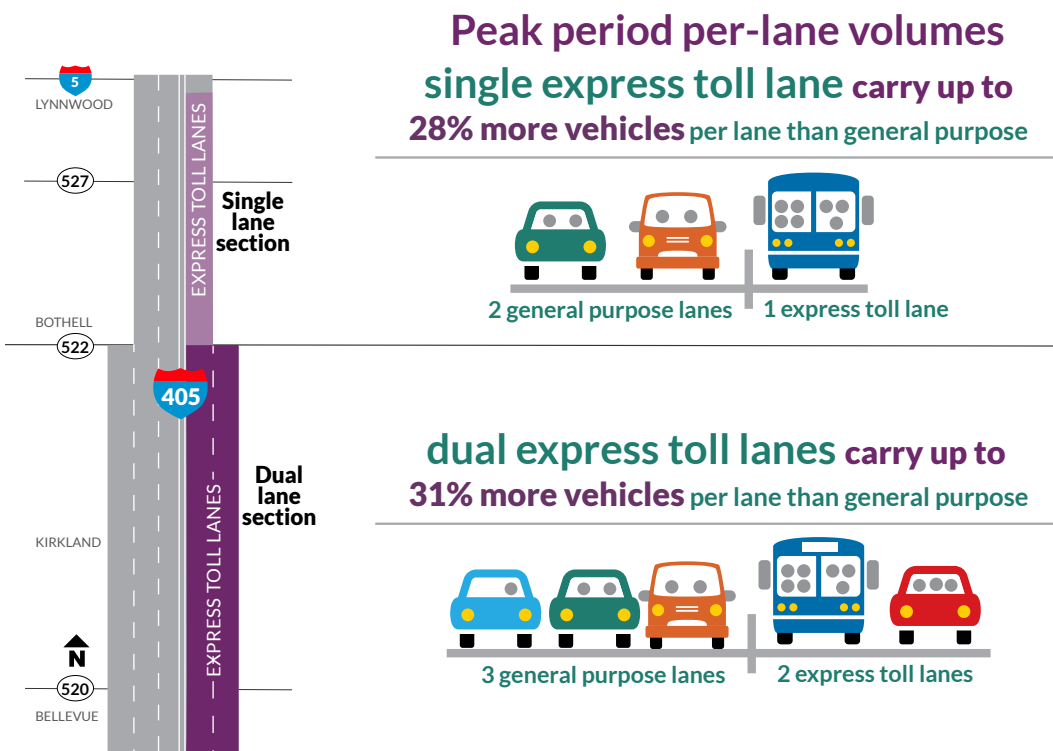
The express toll lanes carry higher per-lane volumes than general purpose lanes during periods of high congestion. During peak periods of the last quarter, the express toll lanes moved up to 28-31 percent more vehicles per-lane.

Managing the flow of vehicles into the express toll lanes allows the lanes to maintain faster speeds and move more vehicles through than general purpose lanes. Congestion can range dramatically throughout a peak period which is why a responsive dynamic tolling algorithm is essential for managing demand for the lanes.

HOW CAN THE EXPRESS TOLL LANES MOVE MORE VEHICLES THAN GENERAL PURPOSE LANES WHEN TRAFFIC IS AT ITS WORST?

Managing the flow of vehicles into the express toll lanes allows them to maintain faster speeds, thereby moving more vehicles through the corridor. General purpose lanes are not managed and are more likely to fill until there is too little room between vehicles to safely maintain speeds as high as the express toll lanes.

Managing speeds through dynamic tolling allows the express toll lanes to move higher volumes when general purpose lanes are congested – July 1, 2017 - September 30, 2017

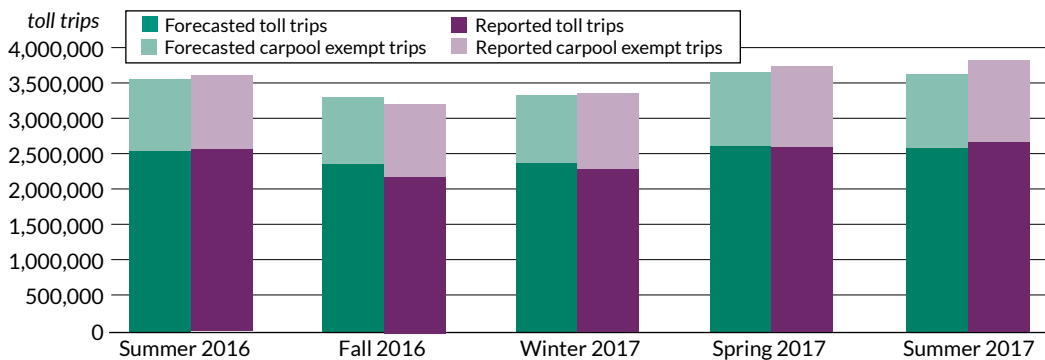


Forecasted v. Reported use

The express toll lanes have performed fairly consistently with WSDOT forecasts. The number of trips dipped in Fall 2016, which is not unusual when considering seasonality factors for that time. Additionally, the decrease in average volumes is consistent with historical trends on other regional highways including SR 167, I-90 and SR 522.

Trips dropped slightly below forecasted levels again in the Winter 2017 quarter (January - March 2017) but in the most recent quarter (April-June 2017), there were more trips than forecasted, largely due to the higher than forecasted number of HOV trips.

Forecast and Reported I-405 Express Toll Lane Trips – Jun. 1, 2016-Sept. 30, 2017



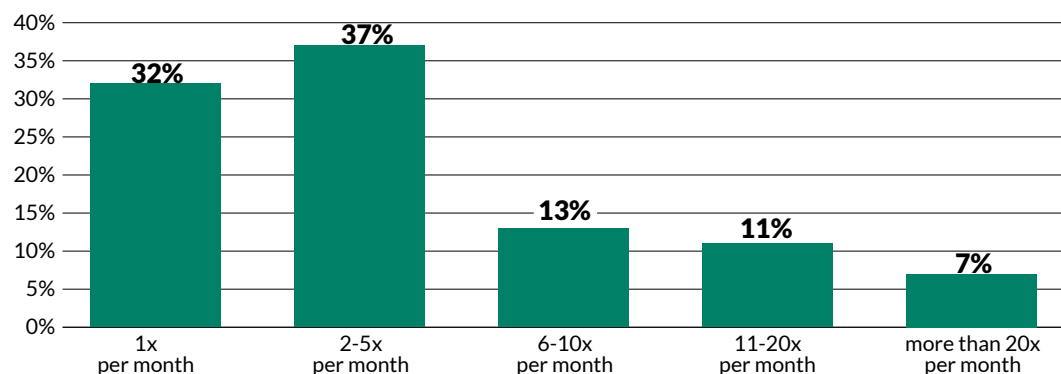
HOW OFTEN DOES WSDOT DO FORECASTS?

Annual forecasts were developed taking into consideration traffic trends, ramp-up periods, and seasonality factors derived from historical I-405 general purpose lane traffic data, which provides an indication of monthly travel behavior on the roadway. WSDOT has updated these forecasts twice, once in July 2016 and again in November 2016. The most recent November forecast contains updated traffic and revenue projections based on actual express toll lane operations through June 2016.

Drivers use the express toll lanes when they need them

WSDOT analyzed trip data to determine how often each individual vehicle with an active *Good To Go!* pass used the express toll lanes, including both tolled and toll-exempt trips. This data supports the conclusion that drivers use the express toll lanes when they need them. Almost 70 percent of express toll lane drivers only utilize the lanes 1 to 5 times a month, whereas only 18 percent use it more than 11 times a month.

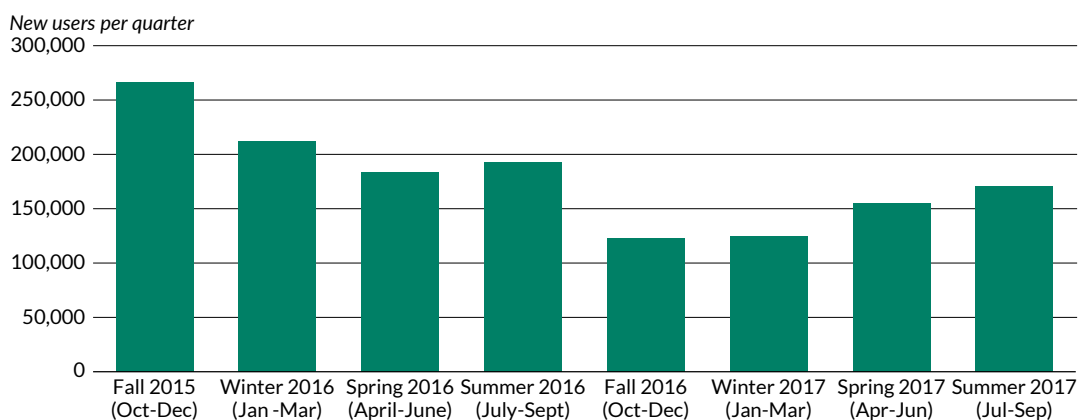
Average Monthly Travel Frequency for Good To Go! Pass Holders – Oct. 1, 2015-September 30, 2017



Continuing to see new vehicles each month

WSDOT analyzed monthly trip data to determine how many vehicles used the express toll lanes for the first time in a given month. This analysis includes both toll paying and toll-exempt trips for all vehicles traveling on the express toll lanes. As the regional population continues to grow, express toll lanes are helping to take on the demand from new drivers, relieving pressure on general purpose lanes. Even after the initial one year ramp-up period, between 43,000 and 63,000 new vehicles used the lanes for the first time each month.

New Users in Summer 2017 – July 1, 2017-Sept. 30, 2017



"I do appreciate the toll lane option. The initial opening was chaotic, however now that driver's are more accustomed to the procedure, it's a great choice for carpools."

"Starting next week I will be joining a vanpool and will be using the express lanes for free. I am a huge supporter of the express toll lanes. The price is worth it knowing I can be home on time."

– 2017 Customer Survey



Transit travel time savings and ridership

Since the express toll lanes opened in September 2015, transit ridership has increased by an average 5 percent on I-405. During the Summer 2017 quarter, an average 7,700 riders used transit routes on the express toll lanes every day. 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.

King County Metro travel times on I-405 between Bellevue and Lynnwood have improved 15-29 percent in the PM peak, and 3-7 percent in AM peak. Community Transit travel times are more reliable in both directions on I-405, while I-5 routes experienced twice as much variability, resulting in \$2.6 million in added schedule maintenance costs for 2015. Additionally, Sound Transit has reported decreased reliability due to rising congestion on all corridors except I-405 which has shown some improvement.

"Since the I-405 express toll lanes opened in 2015, Metro's travel times have improved significantly—especially during the afternoon commute when everyone wants to get home fast. Ensuring that Sound Transit can provide bus-rapid transit service on I-405 will enable Metro to provide more extensive and more frequent bus service to connect communities along this corridor with the regional transit network. It's another step to fulfilling the Executive's vision of integrating Metro and Sound Transit to create service that comes more often and takes you farther, faster."

– Christina O'Claire,
Assistant General
Manager, King County
Metro Transit



2% 
**RIDERSHIP
INCREASE**

**TIME SAVINGS
UP TO
4 MINUTES***



9% 
**RIDERSHIP
INCREASE**

**TIME SAVINGS
UP TO
11 MINUTES**



*Route 424 that travels along I-405 between SR 520 and SR 522 is the only route to show a travel time increase, but reports travel times over a significantly shorter distance than the other routes.

"[Sound Transit] is charged by law with providing high-capacity transit, transit that will move. We're depending on completion of the planned express toll lanes to fulfill this mission and our commitments to provide relief from rising congestion. Every rider we attract to our improved service is someone who not only will travel more quickly and reliably but won't add to rising congestion. If the lanes don't move, it will take the 'rapid' out of bus rapid transit and the 'high' out of high capacity transit. It would require the Sound Transit Board to re-think our major investments in the corridor."

– Peter Rogoff, CEO, Sound Transit



"Bus service has seen a distinct travel time advantage since the express toll lanes opened on I-405. That provides an incentive for commuters to use transit. We have seen an increase in both bus ridership and the use of vanpools during this time. That, in turn, gets more cars off the road, helping to ease overall congestion on the freeway."

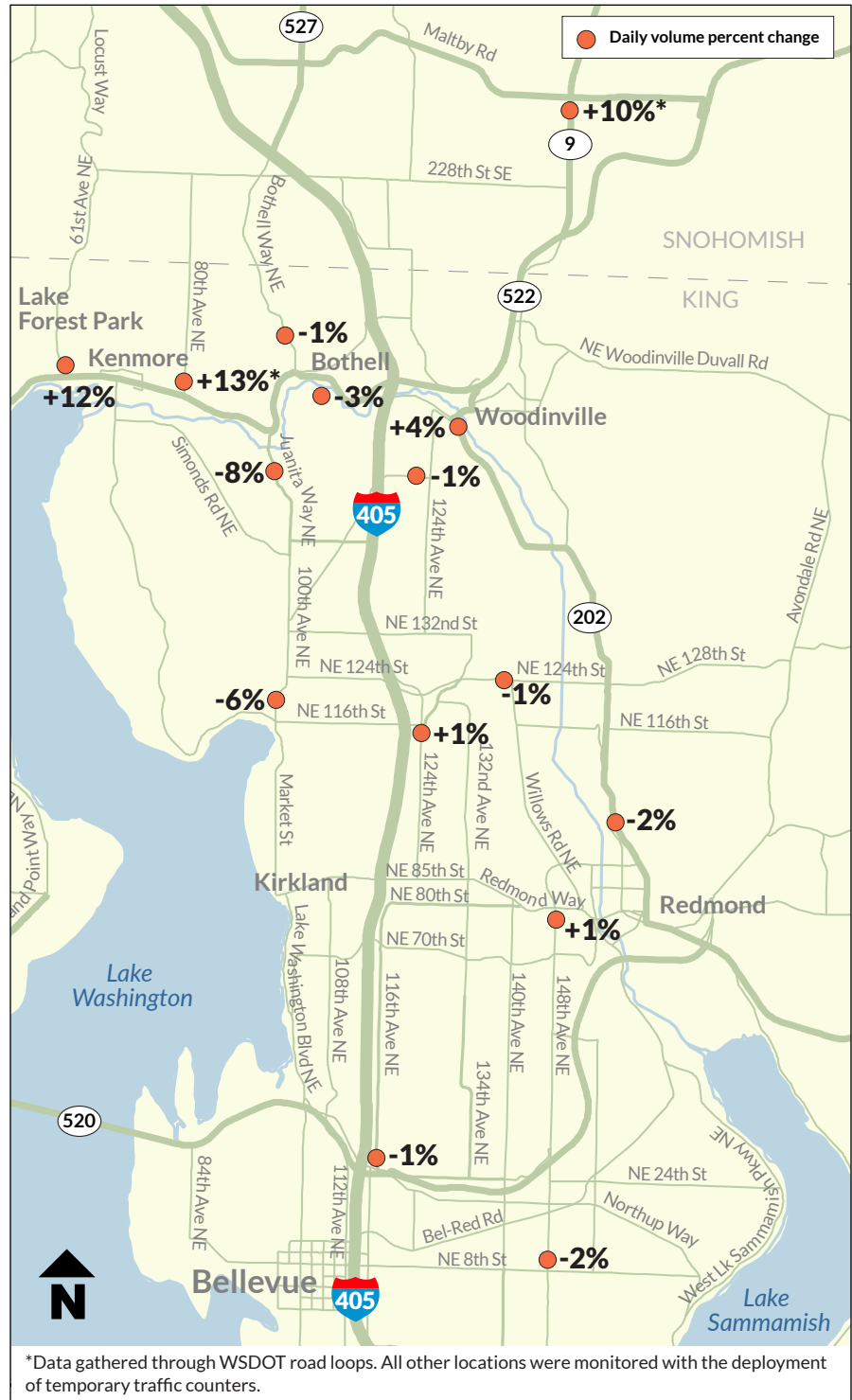
– Emmett Heath, CEO, Community Transit

Local arterial traffic

WSDOT is working with cities along the corridor to monitor the potential effects of express toll lanes on local streets. WSDOT collected volumes on arterial routes parallel to I-405 in August 2015 prior to express toll lanes and again in August 2017 for comparison after nearly two years of operation. Overall, the local arterial volumes remained about the same, with most locations reflecting less than 5 percent total change over the two-year period. The Kenmore vicinity appears to show the most cumulative change with growth primarily occurring between 2016 and 2017, this is likely due to the significant population growth in south Snohomish County. In addition, there was construction during 2016 in Kenmore which shifted traffic volumes in the area. With construction complete, traffic patterns have shifted again which is also impacting the change in volumes. While in 2016, the Bothell area at SR 522 experienced traffic changes due to construction, these roadways are open now and the Bothell area volumes are similar to the pre-tolling levels. The increase in volumes on SR 9 is also likely due to the significant growth in south Snohomish County.

Local arterial traffic remains about the same

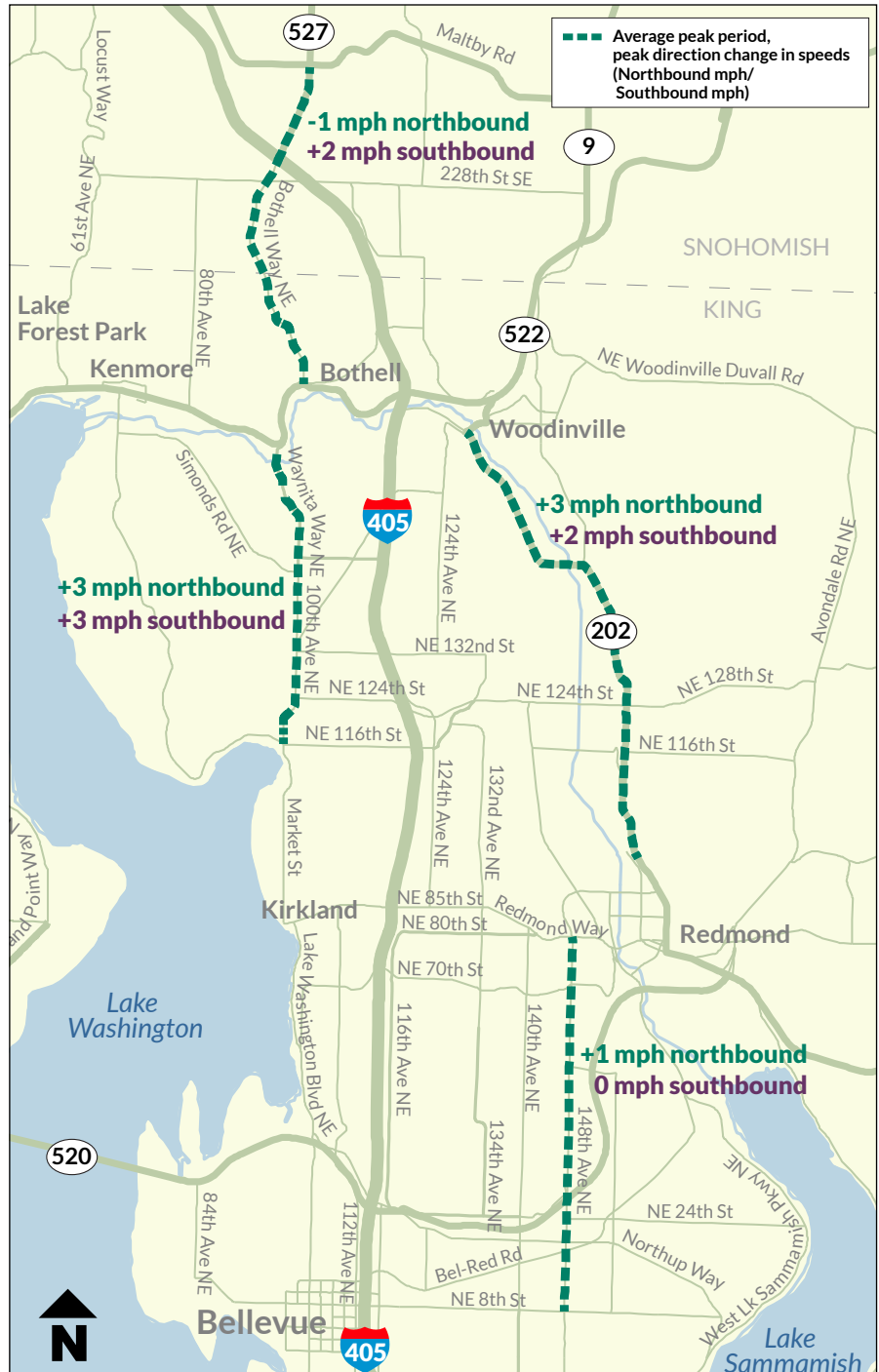
Percent volume change represents daily change in volume between August 2015 versus August 2017.



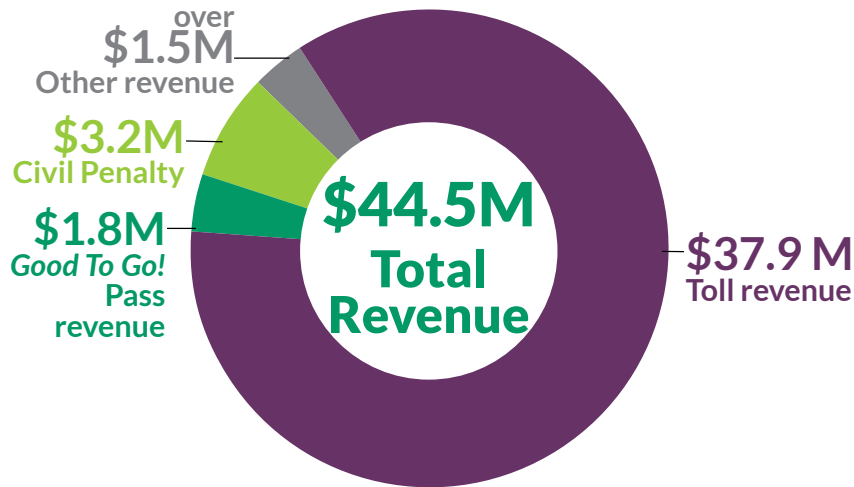
WSDOT also collected travel time information on local arterial routes parallel to I-405 in August 2015 and August 2017 to compare speeds year-over-year. Local arterial travel time data showed minimal changes in travel times, shown as a change in speed (mile per hour) on the map below. Comparing the speeds in August 2015 to August 2017, more routes show slight improvements versus no change or slight decrease.

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 2017.



Revenue



During the first 24 months of operations, the I-405 express toll lanes generated \$44.5 million in revenue, including:

- \$37.9 million in toll revenue
- \$1.8 million in *Good to Go!* pass revenue
- \$3.2 million in civil penalty revenue
- And over \$1.5 million in other revenues

Toll revenue is appropriated by the Legislature and monitored by the Office of Financial Management. Under existing law, I-405 express toll lane revenue must be used to cover facility operation and maintenance costs, and any additional revenue is to be reinvested back in to the corridor. An example of reinvestment in the corridor is the Peak-Use Shoulder Lane project which opened to traffic in spring 2017. The new 1.8-mile peak-use shoulder lane on northbound I-405 between SR 527 in Bothell and I-5 in Lynnwood eases congestion by providing additional capacity during the weekday afternoon peak period.

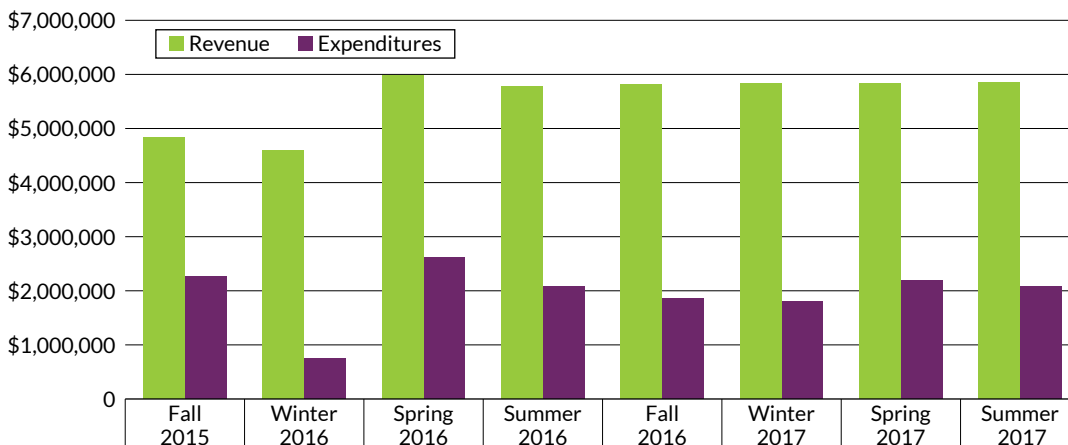
TOTAL REVENUE
\$44.5M

OPERATIONS COSTS
\$15.7M

TOLL REVENUE USED FOR PEAK-USE SHOULDER
\$11.5M

REMAINING FUNDS FOR I-405 IMPROVEMENTS
\$17.3M

Express toll lanes consistently generating funds – Oct. 1, 2015-Sept. 30, 2017



Toll rates

In March 2015, the Transportation Commission approved a minimum toll rate of 75 cents and a maximum of \$10. Toll rates are adjusted by a congestion-based tolling algorithm designed to keep the express toll lane flowing by adapting the toll rate to match the demand.

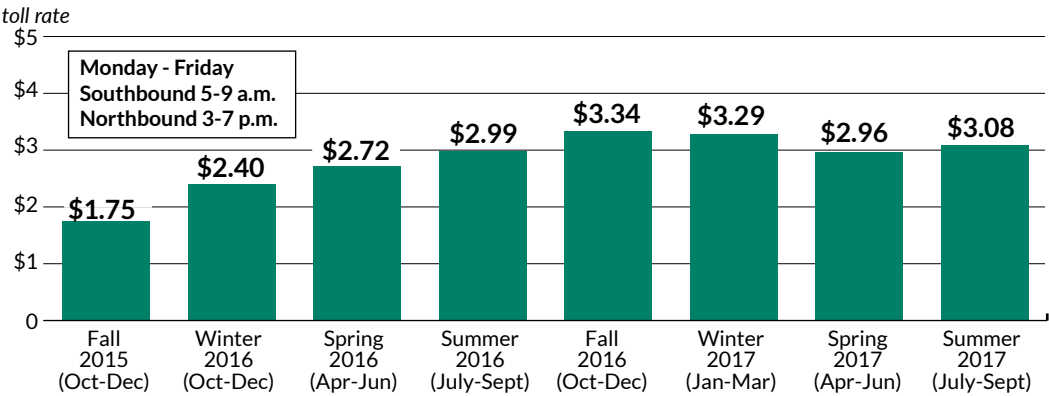
Toll rates increase and decrease to maximize efficient traffic movement in the express toll lanes.

In the most recent quarter (July-September 2017), the average toll paid for all tolled trips was \$1.93. For peak period, peak direction trips, the average toll paid was \$3.08. During peak periods, 71 percent of toll transactions were for amounts below \$4, while tolls of \$8 or more only accounted for 11 percent. Overall, nearly 80 percent of tolls collected on the corridor since opening were \$4 or less.

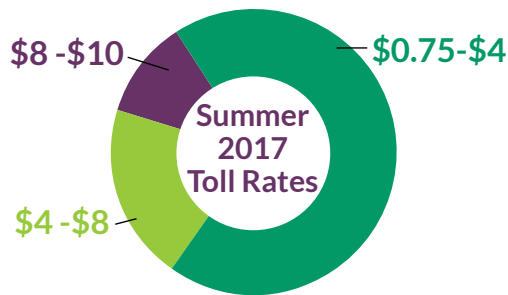
"While I don't necessarily agree with the toll lanes as opposed to gas tax I do benefit greatly for them. So it's very selfish of me but I love them. Hopefully they stay reasonable"

- Participant, June 2016
Good to Go!
customer survey

Average peak period, peak direction toll rates – October 1, 2015-September 30, 2017



Maximum toll



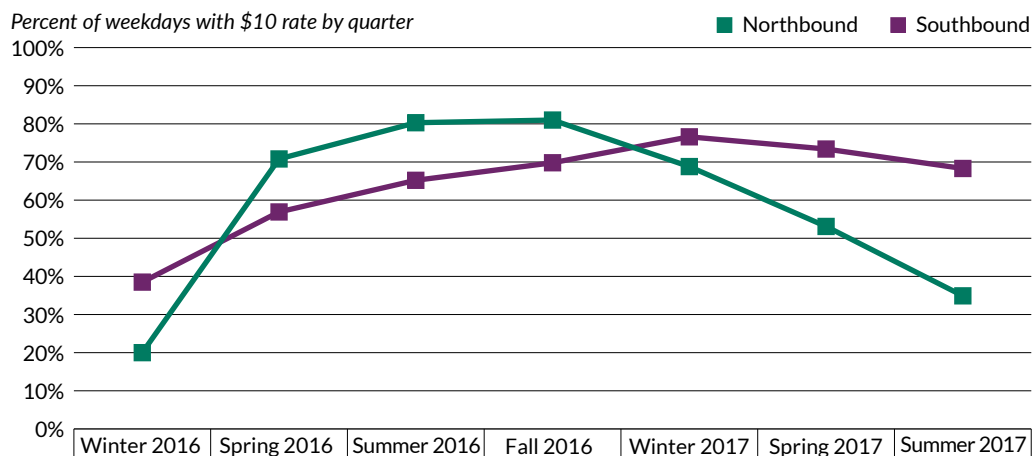
WSDOT tracks the instances where the express toll lanes reached \$10. Over the first two years of operation, the average toll rate paid during peak periods has been \$2.82. Over time, this average has fluctuated between \$1.75 and \$3.34, experiencing a rapid increase over the first year and a moderate decrease

for much of the second year ending with very slight upward trend at \$3.08 in the Summer 2017 quarter.

The most common toll rate paid during peak periods has consistently been \$0.75. Over the entire two years, 71 percent of all tolls paid during peak periods were below \$4, 19 percent of peak period tolls paid were between \$4 to \$8, and the remaining 10 percent of peak period tolls were for \$8 or more. Over the first year of express toll lane operations, the frequency of \$10 toll rates steadily increased every quarter until they reached a peak in Fall 2016; signs displayed the maximum \$10 toll rate approximately 8 percent of the time for both northbound and southbound trips. However, the frequency of \$10 toll rates declined in both direction over the following year especially in the northbound direction.

For northbound trips, the frequency of \$10 toll rates began going down in Winter 2017 and then declined significantly after the peak-use shoulder lane opened in the Spring. For southbound trips, the frequency of \$10 toll rates remained relatively consistent despite the modest decline seen in Summer 2017 quarter. During the same period, \$10 tolls were displayed 7 percent of the time for southbound trips and only 2 percent of the time for northbound trips.

The following chart represents the percentage of days that the maximum \$10 toll rate was displayed during the peak period in each quarter. For consistency, percentages for each quarter are calculated based on the current tolling hours both before and after the hours of operation were changed in March 2016.



"It's a bit expensive, but comes in really handy when I'm in a hurry. I believe it is much more effective than carpool lanes at minimizing your travel time. Because lots of people just aren't willing to pay the price, so it stays pretty open most of the time."

- 2017 Customer Survey

Toll rate value

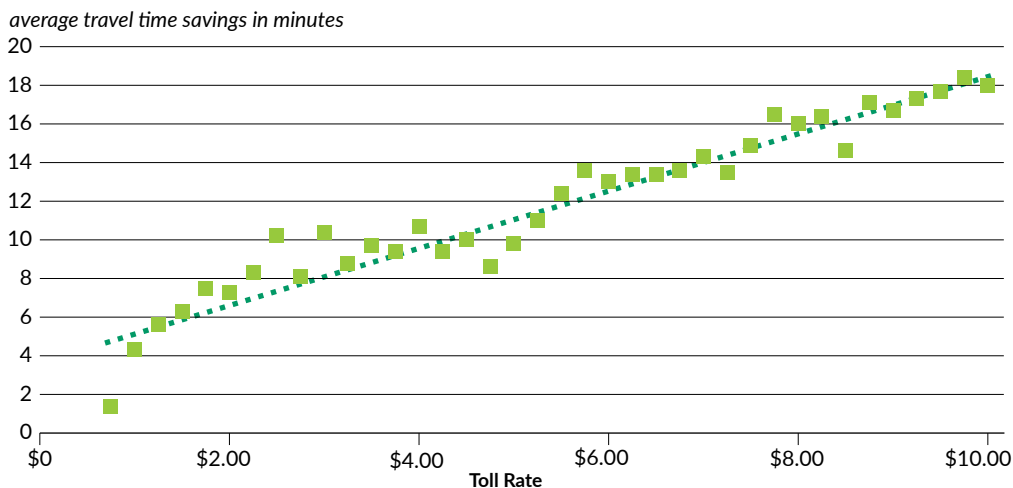
When congestion is at its worst, drivers enter the toll lanes knowing that they are increasing their chances of getting to their destination sooner. Drivers must determine if the toll rate for their destination is worth it to them. Some drivers find this frustrating because there is no guarantee of a completely congestion free ride in the express toll lanes. When congestion is high, so is the demand for the lanes.

The toll rates displayed on the express toll lanes during operating hours are adjusted in response to demand to manage the speeds within the lanes. As more vehicles enter the lanes at designated access points, toll rates increase to keep vehicles in the express toll lanes moving at 45 mph or faster. As more vehicles exit, the toll decreases to encourage more drivers use the lanes and maximize vehicle throughput while maintaining desired speeds. The tolling algorithm that adjusts the rates is based on speeds and traffic volumes in the express toll lanes, and takes into account volumes in the general purpose lanes.

During the Summer 2017 quarter, express toll lane users received the highest travel time savings during periods when higher toll rates were displayed. As rates increase with congestion, travel time savings on the express toll lanes also increase. At \$10, express toll lane drivers may save an average of 18 minutes for a full corridor trip, compared to the same trip on the general purpose lanes.

The graph below shows the average minutes saved on full corridor trips during peak periods compared to the rates displayed during those trips.

The higher the toll, the more time drivers save - July 1, 2017-Sept. 30, 2017



WHY DO YOU SAVE MORE TIME FOR MORE MONEY?

When congestion is severe in the general purpose lanes, more vehicles begin to enter the express toll lanes triggering the rates to go up. Rates change in proportion to demand which is driven by congestion in the general purpose lanes. More congestion means longer travel times in the general purpose lanes. Therefore, someone who enters the express toll lanes during times of high congestion will save more time relative to the general purpose lanes because general purpose lane travel times are high.

Operations and Maintenance

Since launching the I-405 express toll lanes, the facility has generated \$44.5 million in total revenue and only utilized \$15.7 million for operations and maintenance costs. Operations and maintenance costs include all expenditures used to administer the facility. All revenue not used to cover operations and maintenance must be reinvested into the corridor.

Express toll lane expenditures – October 1, 2015 – September 30, 2017



Total: \$44,494,497

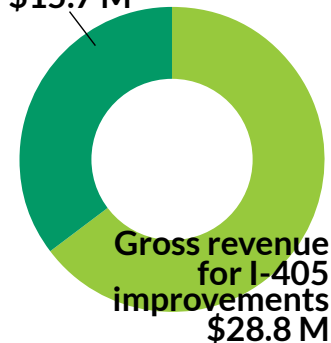
1 Customer service center vendor (ETCC)	\$3,149,125 (7.1%)	7 Consultant services	\$1,448,340 (3.3%)
2 Roadway Toll Collection System Vendor (Kapsch)	\$1,771,626 (4%)	8 Transponder Costs	\$1,506,180 (3.4%)
3 WSDOT oversight and other ¹	\$2,804,242 (6.3%)	9 Civil Penalty Adjudication Costs	\$1,058,223 (2.4%)
4 Credit card and bank fees	\$930,494 (2.1%)	10 Capital improvement - Hard Shoulder Running ²	\$9,407,562 (21.1%)
5 Pay By Mail mailing	\$1,214,800 (2.7%)	11 Available for reserves and capital expenditures	\$19,412,024 (43.6%)
6 WSP Enforcement	\$1,791,883 (4%)		

¹ "Other" includes Congestion Reduction Study, supplies, communications, rents, repairs, services provided by outside vendors, printing, and registered owner look up costs.

² \$8.3 million of the \$11.5 million toll Funding dedicated to the peak-use shoulder project has been spent in FY 2017. The remaining funding is used to be spent in FY 2018.

Source: WSDOT Financial Data as of 9/30/2017

Total operations costs \$15.7 M



Gross revenue for I-405 improvements \$28.8 M

Express toll lane revenue and expenditures

Since the express toll lanes opened, they have generated \$44.5 million in gross revenue, a figure that includes other revenues such as *Good To Go!* pass sales, reprocessing fees and civil penalties.

After operating costs, the express toll lanes have generated a total net revenue of \$28.8 million in the first 24 months. Including a \$2 million loan from the Motor Vehicle Fund from October 2014, this brings the I-405 account balance at the end of the first quarter of FY 2018 to \$44.5 million. This loan was intended to cover operating costs prior to the opening of express toll lanes and to cover the costs of *Good To Go!* passes allocated to I-405.

The fiscal note for Engrossed House Bill No. 1382 distributed by the Office of Financial Management on March 15, 2011 estimated that total gross toll revenue for the express toll lanes fiscal year 2018 (July 1, 2017-June 30, 2018) would range from \$14 million to \$47 million under the scenario in which three-person carpools were exempt from tolls.

The actual gross toll revenue for the first 24 months was \$44.5 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 and 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 ³
Toll Occupancy Exemption	HOV 3+	HOV 3 + during weekday peak hours ⁴ ; HOV 2+ during weekday off peak hours.

Notes:

³ 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.

⁴ Weekday peak hours: 5-9 am & 3-7 pm.

Improving I-405

Reinvesting in the corridor

Since opening, WSDOT has listened to and acted upon stakeholder feedback, making 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. In addition to improvements implemented in the first 24 months, WSDOT is also working on plans for several other operational improvements between the SR 527 and I-5 interchanges.

Peak-use shoulder lane

On April 24th, 2017, the peak-use shoulder lane opened to the public during the northbound afternoon commute period. The shoulder lane is the first major improvement to the I-405 corridor funded by toll revenue collected from the express toll lanes. The shoulder lane added much needed capacity to ease afternoon congestion and has already had noticeable effects on performance for the northbound single-lane section, including a decrease in tolls and improved general purpose speeds.

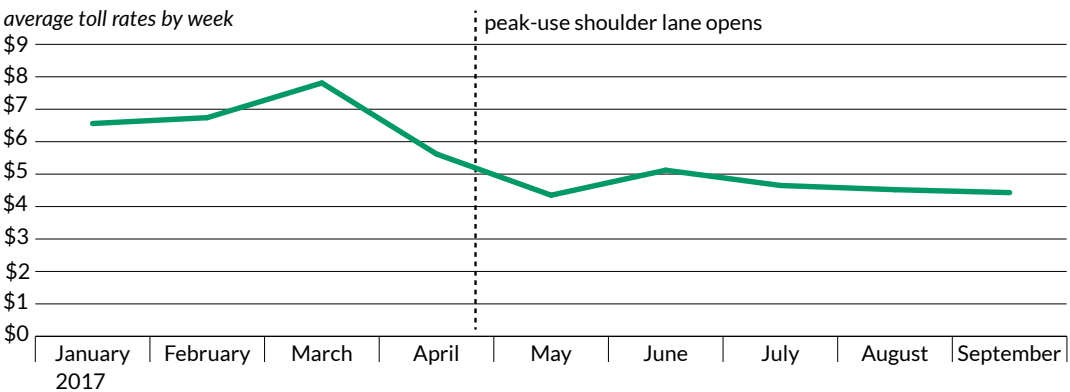
This new 1.8 mile general purpose lane between the SR 522 and I-5 interchanges was retrofitted from the existing shoulder. Overhead lane control signs display whether the peak-use shoulder lane is open to drivers. The lane is generally open during the afternoon commute, between 2 p.m. and 7 p.m., but WSDOT can adjust this period under special circumstances. During periods when the shoulder is not open to the public, it can still be used for maintenance, emergency services and vehicle breakdowns.

As regional vehicle volumes continue to rise, the peak-use shoulder will eventually fill up over time. General purpose lanes, like the peak-use shoulder, cannot offer sustainable congestion relief.

"The new entry/exit point for the toll lanes on Northbound I-405 right before Exit 26 is a great idea, which should be duplicated elsewhere if feasible. The new shoulder use lane between Canyon Park and I-5 has helped tremendously. It would be nice if that became a regular traffic lane someday. Thanks for all that you do!"

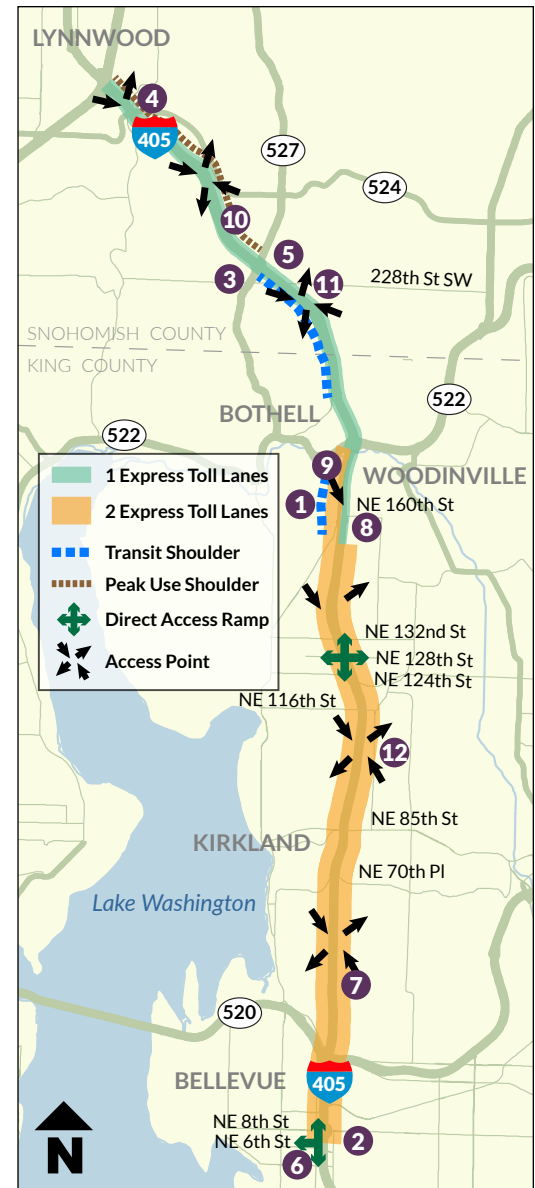
- 2017 Customer Survey

Northbound peak period weekly average toll rates displayed with new peak-use shoulder lanes



Completed changes to I-405

- 1 **SB I-405 at NE 160th St.** – Added skip stripes to better define the start of second express toll lane and inside general purpose lane. (October 1, 2015)
- 2 **NB I-405 at NE 6th St.** – Added clarifying pavement markings to eliminate driver confusion and extended existing access point. (December 18, 2015)
- 3 **SB I-405 at SR 527** – Lengthened access point to the north to allow drivers more time to merge into and out of the express toll lanes. (December 18, 2015; June 2, 2016)
- 4 **NB I-405 at I-5** – Lengthened access point to allow drivers additional time to merge to I-5. (January 22, 2016)
- 5 **NB I-405 access at SR 527** – Lengthened access point to allow drivers additional time to merge in and out of the express toll lanes. (January 22, 2016)
- 6 **SB I-405 at NE 6th St.** – Added pavement markings to clarify for drivers the exit to NE 6th St and which lane continues onto I-405 southbound. (February 25, 2016)
- 7 **NB I-405 at SR 520** – Lengthened access point and changed from weave lane to skip stripe to provide more open access to the express toll lanes. (March 18, 2016)
- 8 **NB at NE 160th St.** – Added additional signage and lengthening access point to provide driver clarity and more time to merge to SR 522. (April 17, 2016)
- 9 **SB SR 522 to NE 160th St.** – Adjusted access to address demand during morning peak commute. (April 17, 2016)
- 10 **NB I-405 between SR 527 and I-5** – Added a new peak-use shoulder lane, which opens the shoulder lane as a regular travel lane during times with heaviest traffic. Construction funded with I-405 express toll lane revenue. (April 24, 2017)
- 11 **NB I-405 north of NE 195th St** – Added weave lane to access point for drivers to use in for transitioning to the general purpose lanes. (May 10, 2017)
- 12 **NB at NE 85th St** – Adjusted the access length on two occasions to provide more open access to the express toll lane (June 19, 2017)



"LOVING the new 405 'shoulder open to traffic' change. LOVING IT!"

"Thank you! Loving the new shoulder lanes, hopefully this fixes all the slowdowns!"

Upcoming Improvements

Northbound I-405 capacity constraint improvements – With initial funding from the 2016 Supplemental Transportation Budget, WSDOT began preliminary work to study potential capacity improvements between SR 522 and I-5, including major interchange work and an extension of the dual express toll lane system. The I-405 project team has been working with stakeholders on the north end of I-405, including cities and transit agencies, to develop a phased strategy for the next set of capacity improvements. In the 2017 session, the Legislature authorized \$5 million to continue preliminary engineering.

WSDOT has determined, with optimal delivery and assuming all funding can be identified, improvements to I-405 could be delivered as soon as 2024. Southbound capacity improvements could be accelerated by staging the project in two phases. Phase 1A would partially rebuild the SR 522 interchange and construct a second southbound express toll lane between SR 522 and SR 527. Phase 1B would add a second northbound express toll lane between SR 522 and SR 527, and a direct access ramp and Bus Rapid Transit station at SR 527.

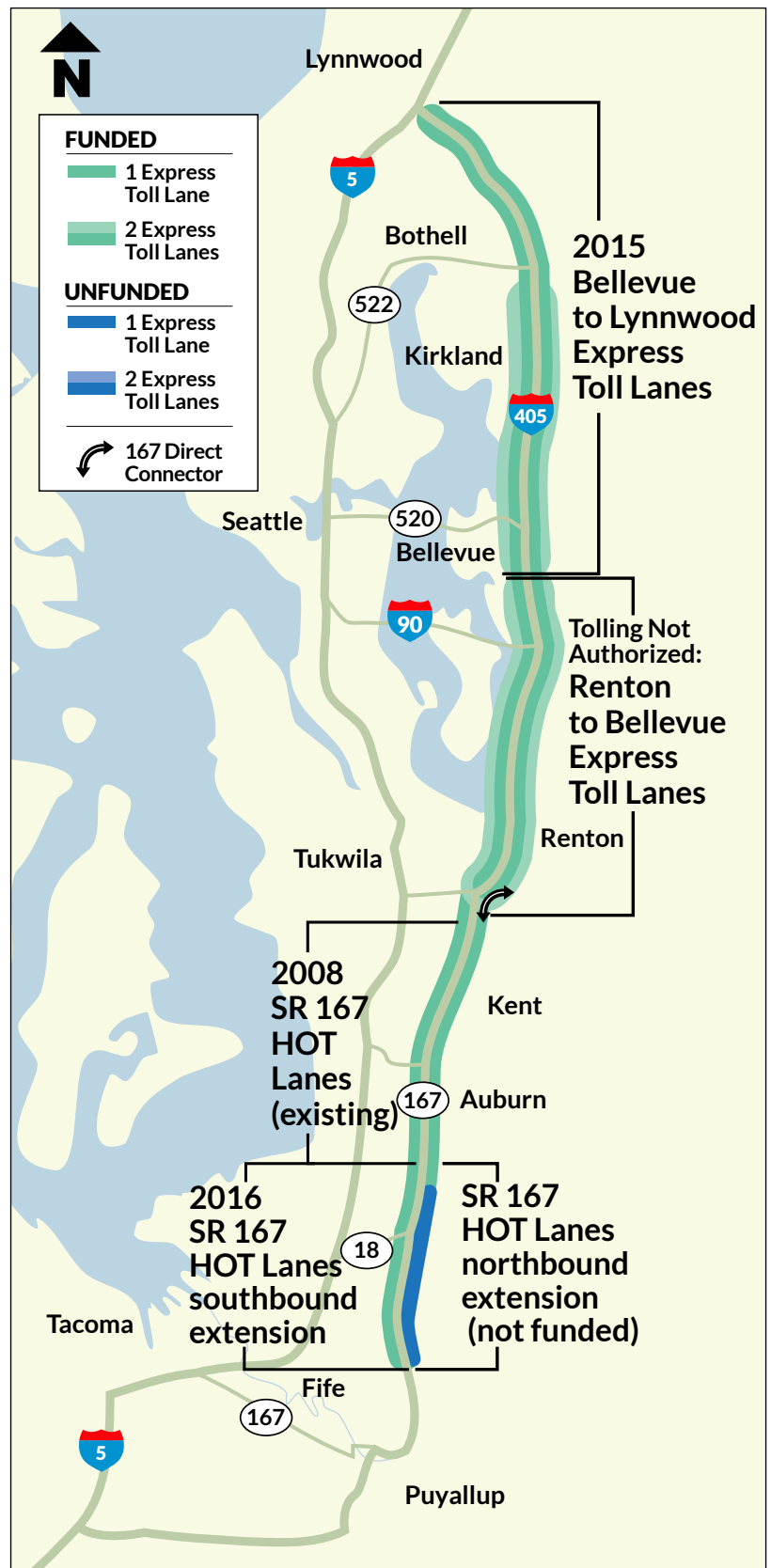


I-405 Renton To Bellevue Project

Peak period congestion on I-405 between Renton and Bellevue is the worst in the state. In order to provide relief to this chronically congested corridor, the 2015 Connecting Washington transportation package provided gas tax and toll funding for preliminary engineering, right of way acquisition, and construction of an extension of the express toll lanes, pending Legislative authorization of tolling, 57 percent of customers and 60 percent of businesses surveyed in 2017 support extending the express toll lanes through Renton. Construction is expected to start in 2019 and open to traffic in 2024 to coincide with the opening of Sound Transit's new I-405 Bus Rapid Transit system.

The I-405 Renton to Bellevue Widening and Express Toll Lanes will connect the express toll lane system between Bellevue and Lynnwood, as well as the SR 167 HOT lanes, completing a 40-mile system of express toll lanes that will improve speeds and trip reliability. This 40-mile system was endorsed in 2010 by stakeholders representing cities and transportation agencies from the I-405 corridor. Benefits of this project are:

- **Congestion relief:** The addition of the northbound and southbound express toll lanes between SR 167 in Renton and NE 6th Street in Bellevue will reduce congestion by moving higher volumes during peak periods.
- **Improve Access:** The project will improve performance at four interchanges and build a new direct access ramp and transit station at Northeast 44th Street in Renton to support new I-405 Bus Rapid Transit system, in partnership with Sound Transit.



Appendix A: Legislative performance measures

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

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.	Page 18. 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.	Page 20. Includes average speed and travel time trends for the general purpose lanes.
c. Whether transit ridership changed.	Page 26. Includes preliminary transit ridership and travel time findings.
d. Whether the actual use of the express toll lanes is consistent with the projected use.	Page 24. 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.	Page 30. Includes preliminary revenue and expenditure results.
f. Whether travel times and volumes have increased or decreased on adjacent local streets and state highways.	Page 28-29.
g. Whether the actual gross revenues are consistent with projected gross revenues as identified in the fiscal note for EHB 1382 distributed by the office of financial management on March 15, 2011.	Page 35. Includes comparison of the preliminary revenue findings to the 2011 fiscal note.

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.

³ Source: www.psrc.org/assets/14735/Trend-Population-201607.pdf

⁴ Source: www.psrc.org/assets/14876/Trend-Jobs-201609.pdf

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.

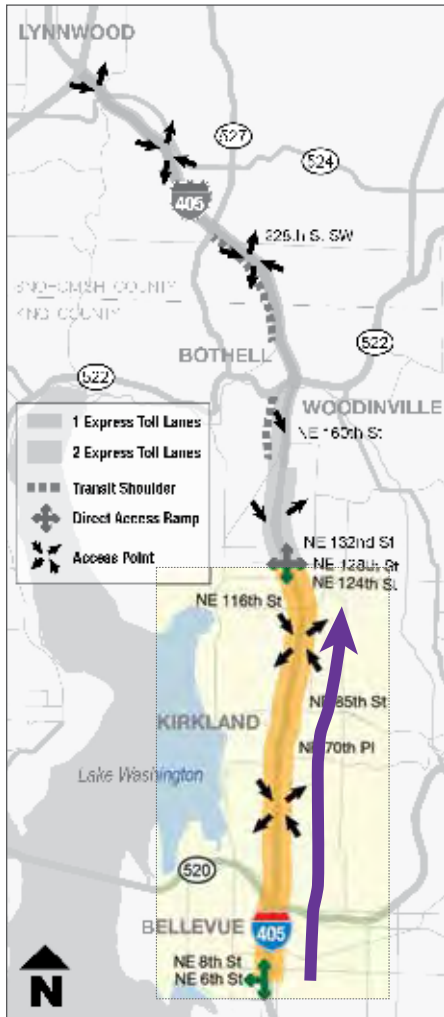
The addition of the I-405 Express Toll Lanes in September 2015 saw immediate improvement in travel times for general purpose and the Express Toll Lanes in both directions between Bellevue and Bothell.

During the first year of I-405 express toll lane operations, the northbound general purpose lanes experienced improved speed and reliability compared to the previous year for the morning, mid-day, and evening peak periods. The largest improvement in travel times on northbound I-405 occurred in the evening peak period, with the segment between SR 520 and SR 522 showing the greatest time savings. The second year of operations still shows better performance compared to pre-express toll lane conditions, but less travel time savings than the first year, particularly between October 2016 and March 2017. Evening peak period travel times from Bellevue to SR 527 trip degraded the most until the April 2017 opening of shoulder lanes, which significantly improved travel times and reliability.

Travel time performance in the southbound general purpose lanes generally mirrors the northbound pattern; the first year of operations shows broad improvements in speed and reliability, with the strongest improvements during the morning peak period. However, evening peak period performance in the southbound direction slightly degraded for the segment between Bellevue and SR 520. The second year of express toll lane operations shows continued improvement compared to pre-express toll lane conditions, but the magnitude of travel time savings and reliability is less than the first year. The exception to this is southbound evening peak period performance, which generally improved compared to the first year of operations.

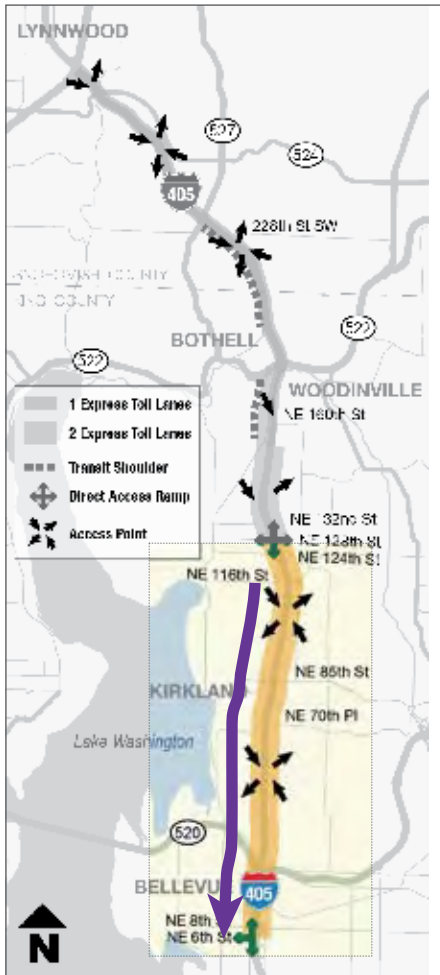
More detailed data can be found on WSDOT's website at www.wsdot.wa.gov/Tolling/405/library.htm.

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



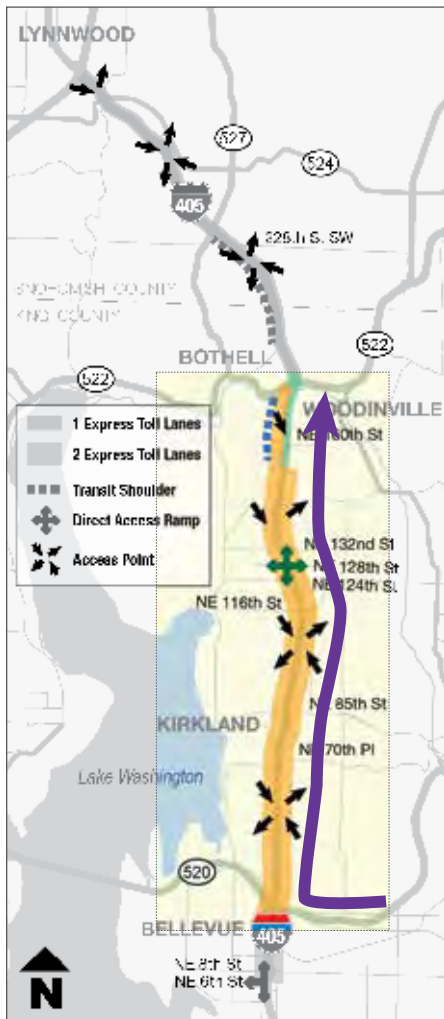
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	16	(26)	3 minutes faster	7 minutes faster
	2015	13	(19)		
Jan	2015	16	(23)	4 minutes faster	4 minutes faster
	2016	12	(19)		
May	2015	16	(25)	4 minutes faster	8 minutes faster
	2016	12	(17)		
Aug	2015	16	(22)	3 minutes faster	5 minutes faster
	2016	13	(17)		
Oct	2015	13	(19)	1 minute slower	4 minutes slower
	2016	14	(23)		
Jan	2016	12	(19)	1 minute faster	3 minutes faster
	2017	11	(16)		
May	2016	12	(17)	No change	1 minute slower
	2017	12	(18)		
Aug	2016	13	(17)	1 minute faster	No change
	2017	12	(17)		

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



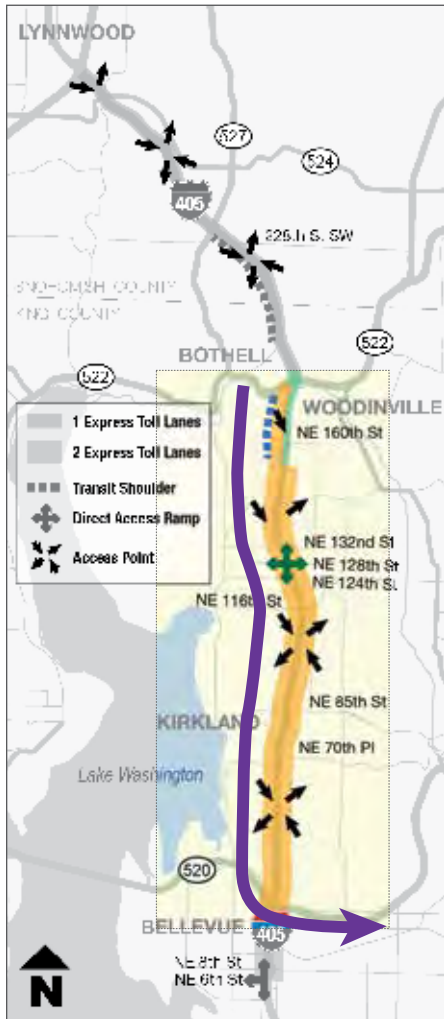
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	12	(14)	2 minutes faster	2 minutes faster
	2015	10	(12)		
Jan	2015	11	(13)	2 minutes faster	1 minute faster
	2016	9	(12)		
May	2015	11	(13)	2 minutes faster	2 minutes faster
	2016	9	(11)		
Aug	2015	10	(12)	1 minute faster	2 minute faster
	2016	9	(10)		
Oct	2015	10	(12)	No change	No change
	2016	10	(12)		
Jan	2016	9	(12)	No change	No change
	2017	9	(12)		
May	2016	9	(11)	No change	No change
	2017	9	(11)		
Aug	2016	9	(10)	1 minute faster	No change
	2017	8	(10)		

3. Travel Times: Westbound SR 520 at 148th Ave NE to Northbound I-405 at SR 522 (PM Peak Period)



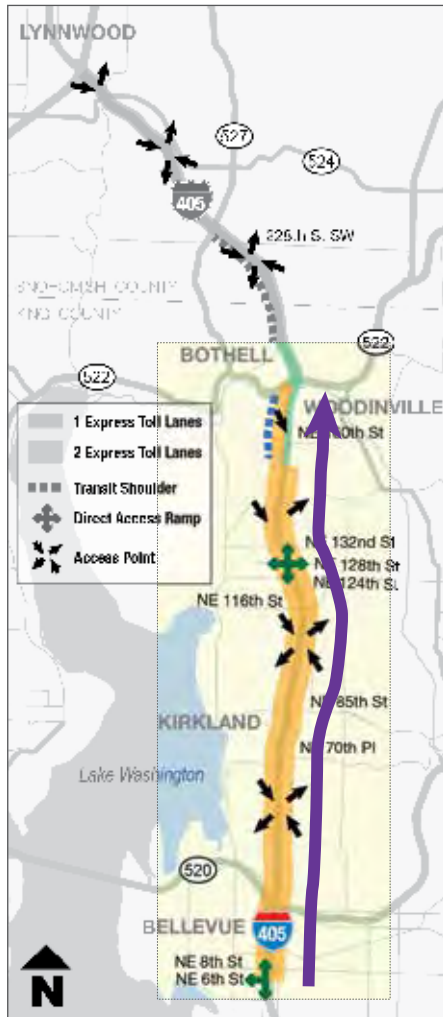
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	27	(43)	7 minutes faster	13 minutes faster
	2015	20	(30)		
Jan	2015	26	(34)	6 minutes faster	4 minutes faster
	2016	20	(30)		
May	2015	28	(43)	6 minutes faster	12 minutes faster
	2016	22	(31)		
Aug	2015	24	(30)	2 minutes faster	1 minute faster
	2016	22	(29)		
Oct	2015	20	(30)	3 minutes slower	7 minutes slower
	2016	23	(37)		
Jan	2016	20	(30)	1 minute faster	2 minutes faster
	2017	19	(28)		
May	2016	22	(31)	3 minutes faster	3 minutes faster
	2017	19	(28)		
Aug	2016	23	(30)	4 minutes faster	6 minutes faster
	2017	19	(24)		

4. Travel Times: Southbound I-405 at SR 522 to Eastbound SR 520 at 148th Ave NE (AM Peak Period)



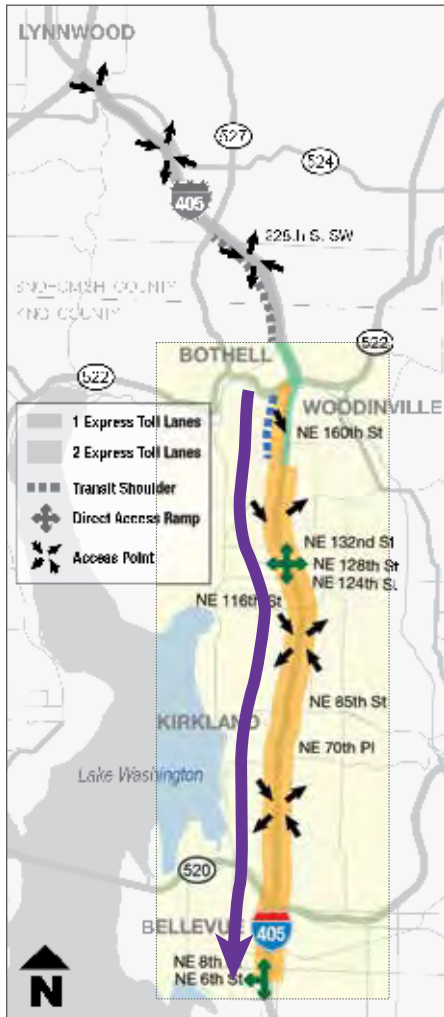
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	23	(28)	5 minutes faster	6 minutes faster
	2015	18	(22)		
Jan	2015	21	(25)	5 minutes faster	5 minutes faster
	2016	16	(20)		
May	2015	21	(25)	5 minutes faster	6 minutes faster
	2016	16	(19)		
Aug	2015	20	(24)	5 minutes faster	7 minutes faster
	2016	15	(17)		
Oct	2015	18	(22)	No change	1 minute slower
	2016	18	(23)		
Jan	2016	16	(20)	1 minute slower	1 minute slower
	2017	17	(21)		
May	2016	16	(19)	1 minute slower	1 minute slower
	2017	17	(20)		
Aug	2016	15	(17)	No change	1 minute slower
	2017	15	(18)		

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



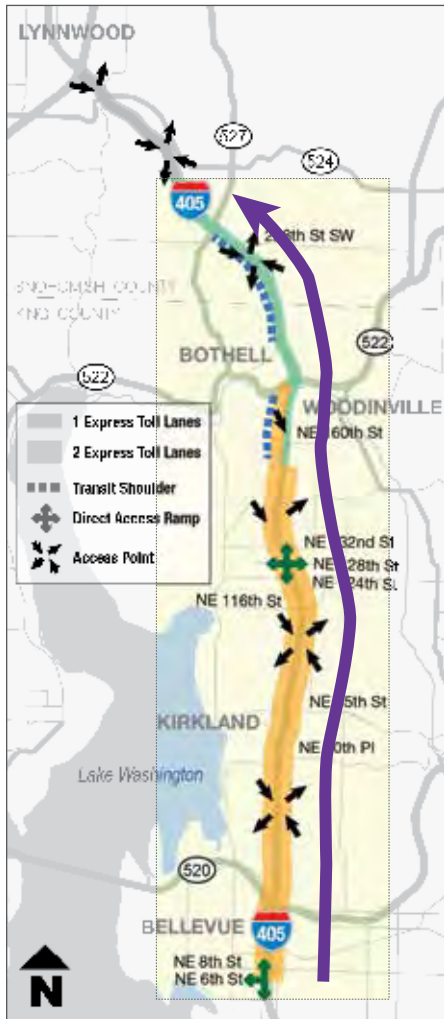
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	24	(35)	5 minutes faster	7 minutes faster
	2015	19	(28)		
Jan	2015	24	(32)	5 minutes faster	4 minutes faster
	2016	19	(28)		
May	2015	23	(35)	3 minutes faster	8 minutes faster
	2016	20	(27)		
Aug	2015	23	(30)	3 minutes faster	3 minutes faster
	2016	20	(27)		
Oct	2015	19	(28)	2 minutes slower	7 minutes slower
	2016	21	(35)		
Jan	2016	19	(28)	2 minutes faster	3 minutes faster
	2017	17	(25)		
May	2016	20	(27)	3 minutes faster	4 minutes faster
	2017	17	(23)		
Aug	2016	20	(27)	3 minutes faster	4 minutes faster
	2017	17	(23)		

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



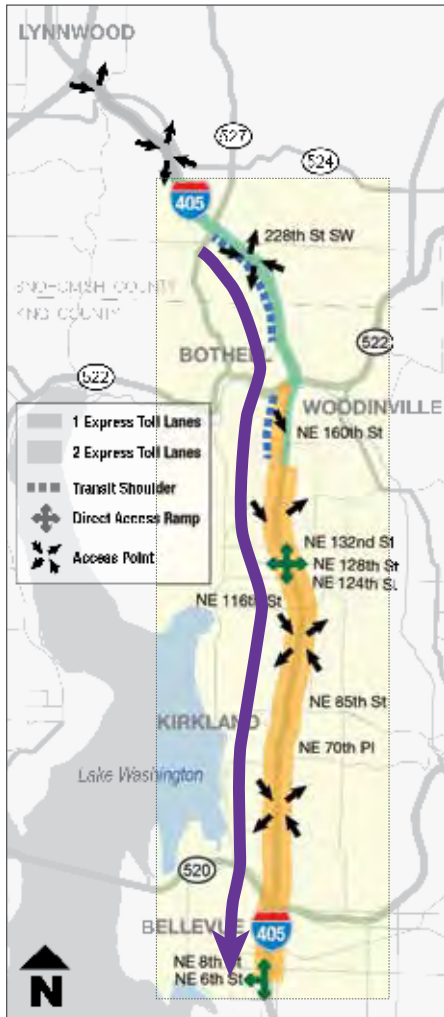
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	21	(25)	6 minutes faster	5 minutes faster
	2015	15	(20)		
Jan	2015	19	(23)	5 minutes faster	5 minutes faster
	2016	14	(18)		
May	2015	19	(23)	5 minutes faster	6 minutes faster
	2016	14	(17)		
Aug	2015	17	(21)	4 minutes faster	6 minutes faster
	2016	13	(15)		
Oct	2015	15	(20)	1 minute slower	No change
	2016	16	(20)		
Jan	2016	14	(18)	No change	No change
	2017	14	(18)		
May	2016	14	(17)	No change	No change
	2017	14	(17)		
Aug	2016	13	(15)	No change	1 minute slower
	2017	13	(16)		

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



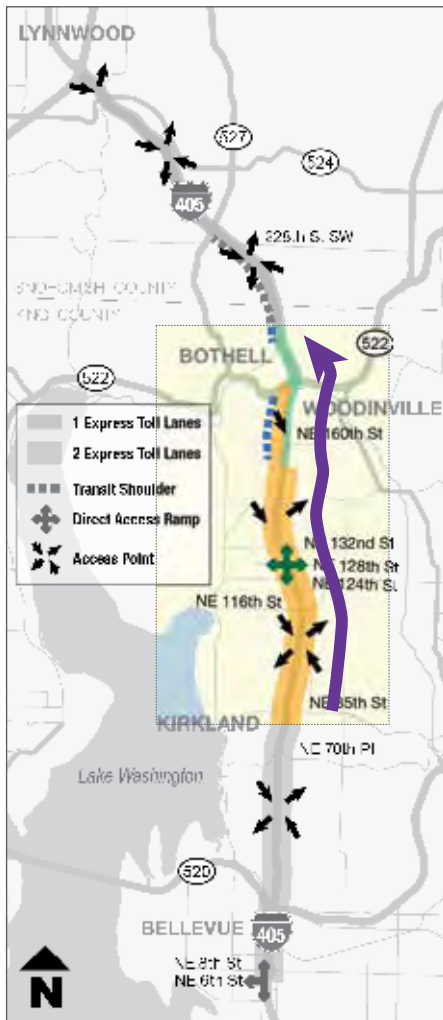
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	28	(39)	2 minutes faster	1 minute faster
	2015	26	(38)		
Jan	2015	28	(39)	3 minutes faster	3 minutes faster
	2016	25	(36)		
May	2015	28	(40)	2 minutes faster	4 minutes faster
	2016	26	(36)		
Aug	2015	27	(35)	1 minute slower	1 minute slower
	2016	28	(36)		
Oct	2015	26	(38)	2 minutes slower	3 minutes slower
	2016	28	(41)		
Jan	2016	25	(36)	1 minute faster	3 minutes faster
	2017	24	(33)		
May	2016	26	(36)	6 minutes faster	9 minutes faster
	2017	20	(27)		
Aug	2016	28	(36)	7 minutes faster	9 minutes faster
	2017	21	(27)		

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



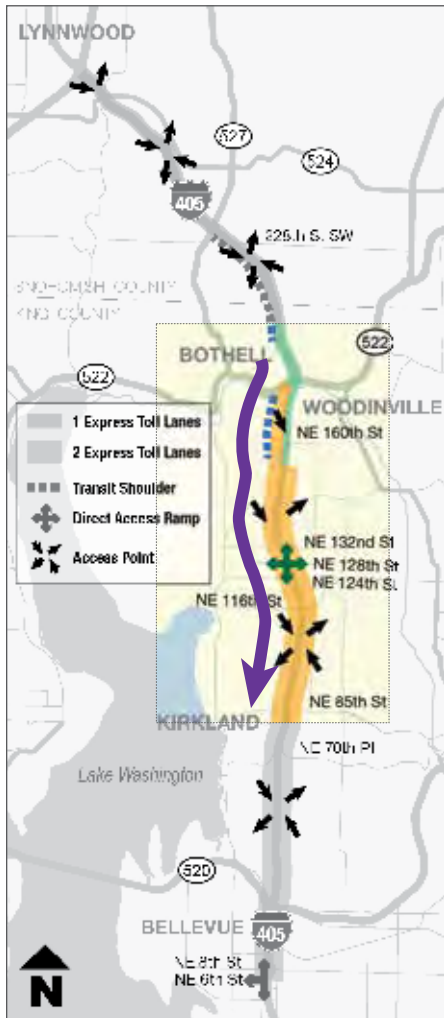
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	33	(41)	9 minutes faster	10 minutes faster
	2015	24	(31)		
Jan	2015	27	(36)	5 minutes faster	6 minutes faster
	2016	22	(30)		
May	2015	28	(35)	7 minutes faster	9 minutes faster
	2016	21	(26)		
Aug	2015	25	(34)	4 minutes faster	9 minutes faster
	2016	21	(25)		
Oct	2015	24	(31)	2 minutes slower	3 minutes slower
	2016	26	(34)		
Jan	2016	22	(30)	No change	1 minute faster
	2017	22	(29)		
May	2016	21	(26)	2 minutes slower	2 minutes slower
	2017	23	(28)		
Aug	2016	21	(25)	1 minute slower	2 minutes slower
	2017	22	(27)		

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



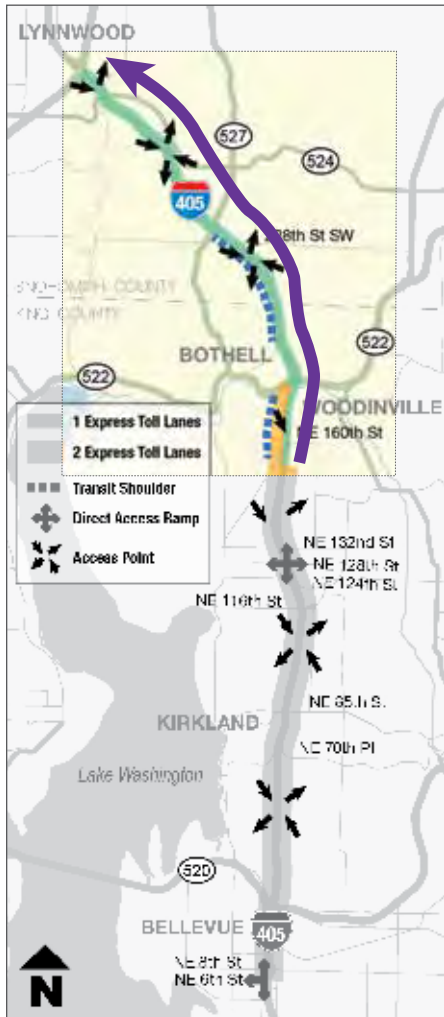
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	15	(19)	3 minutes faster	No change
	2015	12	(19)		
Jan	2015	15	(20)	3 minutes faster	2 minutes faster
	2016	12	(18)		
May	2015	15	(20)	1 minute faster	No change
	2016	14	(20)		
Aug	2015	14	(18)	No change	2 minutes slower
	2016	14	(20)		
Oct	2015	12	(19)	2 minutes slower	2 minutes slower
	2016	14	(21)		
Jan	2016	11	(16)	No change	No change
	2017	11	(16)		
May	2016	14	(20)	5 minutes faster	7 minutes faster
	2017	9	(13)		
Aug	2016	14	(20)	4 minutes faster	6 minutes faster
	2017	10	(14)		

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



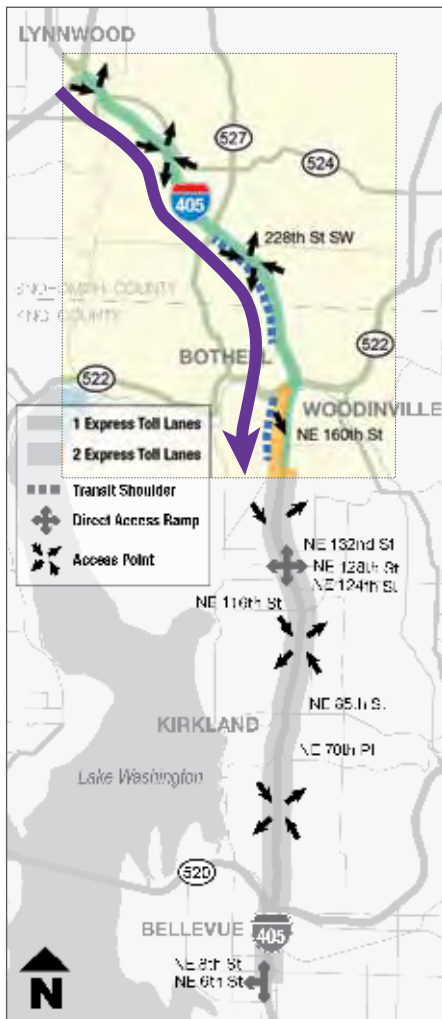
Timeframe Comparison		General Purpose Lane Travel Times in Minutes		Change in Travel Times in Minutes	
		Average	(95th Percentile)	Average	Reliable
Oct	2014	19	(24)	6 minutes faster	6 minutes faster
	2015	13	(18)		
Jan	2015	16	(21)	5 minutes faster	5 minutes faster
	2016	11	(16)		
May	2015	16	(20)	5 minutes faster	6 minutes faster
	2016	11	(14)		
Aug	2015	15	(20)	4 minutes faster	7 minutes faster
	2016	11	(13)		
Oct	2015	13	(18)	1 minute slower	No change
	2016	14	(18)		
Jan	2016	12	(18)	No change	1 minute faster
	2017	12	(17)		
May	2016	11	(14)	No change	No change
	2017	11	(14)		
Aug	2016	11	(13)	No change	1 minute slower
	2017	11	(14)		

Additional Example: Travel Times: Northbound I-405 from NE 160th St. to I-5 (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	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)		
Oct	2015	16	(26)	No change	1 minute faster
	2016	16	(25)		
Jan	2016	16	(26)	1 minute faster	2 minutes faster
	2017	15	(24)		
May	2016	16	(26)	7 minutes faster	12 minutes faster
	2017	9	(14)		
Aug	2016	17	(25)	8 minutes faster	11 minutes faster
	2017	9	(14)		

Additional Example: Travel Times: Southbound I-405 from I-5 to NE 160th St. (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	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)		
Oct	2015	16	(27)	3 minutes slower	10 minutes slower
	2016	19	(37)		
Jan	2016	17	(35)	1 minute faster	1 minute faster
	2017	16	(34)		
May	2016	16	(28)	2 minutes slower	5 minutes slower
	2017	18	(33)		
Aug	2016	16	(29)	1 minutes slower	4 minutes slower
	2017	17	(33)		

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 www.wsdot.wa.gov/Tolling/405/library.htm.
- The appendix volume data summarizes volume totals by peak hour, peak period, daily total, direction, lane and by month from October 2014 through September 2017 at four screen line locations along the corridor. During the first two years of Express Toll Lane Operations, all four locations saw average volume growth compared to the year prior to Express Toll Lane Operations. The rate of growth was higher during the peak periods in the peak direction than the daily volume rate of growth. The rate of growth was also higher at the locations between Bellevue and Bothell than between Bothell and Lynnwood. The locations between Bellevue and Bothell clearly showed greater growth during the first year of operations than the second year. However the locations between Bothell and Lynnwood displayed a mix of trends over the two years, most notably that southbound AM peak period primarily grew in the first year of operations, while northbound PM peak period primarily grew in the second year of operations.

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	Mainline	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	Mainline	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
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

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)
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
Oct	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
	2016	Mainline	16,540	20,598	66,729	82,580
		ETL	9,708	12,459	23,975	23,434
		Total	26,248	33,057	90,704	106,014
	Total Change (2016-2015)		2,192	4,564	6,169	12,225
Nov	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
	2016	Mainline	15,916	19,888	65,746	81,248
		ETL	89,57	11,648	23,290	22,950
		Total	24,873	31,536	89,036	104,234
	Total Change (2016-2015)		2,026	3,725	9,264	16,004

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)
Dec	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
	2016	Mainline	16,210	19,588	65,620	81,107
		ETL	9,284	12,257	24,024	23,577
		Total	25,494	31,845	89,644	104,684
	Total Change (2016-2015)		3,683	4,903	7938	13,107
Jan	2016	Mainline	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
	2017	Mainline	16,374	20,661	65,794	81,035
		ETL	9,038	11,972	21,846	22,077
		Total	25,412	32,633	87,640	103,112
	Total Change (2017-2016)		1,663	4,386	4,972	11,441
Feb	2016	Mainline	17,038	17,038	68,765	79,759
		ETL	8,617	8,617	18,133	16,026
		Total	25,655	25,655	86,898	95,785
	2017	Mainline	16,117	16,117	64,383	79,389
		ETL	9,092	9,092	22,912	22,956
		Total	25,209	25,209	87,295	102,345
	Total Change (2017-2016)		-446	-446	397	6,560
Mar	2016	Mainline	17,359	17,359	69,351	79,866
		ETL	9,117	9,117	20,076	18,242
		Total	26,476	26,476	89,427	98,108
	2017	Mainline	16,984	16,984	67,585	83,419
		ETL	10,130	10,130	25,301	24,356
		Total	27,114	27,114	92,886	107,775
	Total Change (2017-2016)		638	638	3,459	9,667

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)
April	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
	2017	Mainline	17,173	21,366	68,899	85,444
		ETL	10,120	12,619	25,060	24,692
		Total	27,293	33,985	93,959	110,136
	Total Change (2017-2016)		688	2,521	2,714	16,746
May	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
	2017	Mainline	16,932	21,161	68,485	85,044
		ETL	10,019	12,942	25,526	25,782
		Total	26,951	34,103	94,011	110,826
	Total Change (2017-2016)		789	1,415	3,047	3,969
June	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
	2017	Mainline	17,362	21,026	70,000	87,110
		ETL	10,188	13,751	27,847	27,414
		Total	27,550	34,777	97,847	114,524
	Total Change (2017-2016)		338	1,547	3,682	4,233

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)
July	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
	2017	Mainline	16488	20895	69575	85995
		ETL	9207	12861	27057	26607
		Total	25695	33756	96632	112602
	Total Change (2017-2016)		307	1,278	3,230	3,749
Aug	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
	2017	Mainline	17470	21509	70940	87151
		ETL	9832	13482	27658	27178
		Total	27302	34991	98598	114329
	Total Change (2017-2016)		417	1,631	3,466	4,125
Sept	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
	2017	Mainline	16523	21319	68411	84558
		ETL	9645	13325	26281	26422
		Total	26168	34644	94692	110980
	Total Change (2017-2016)		244	1,548	2,771	3,400

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	Mainline	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	Mainline	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	Mainline	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	MainlineL	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	Mainline	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	Mainline	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	Mainline	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	Mainline	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
Feb	2015	Mainline	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	Mainline	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

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)
Mar	2015	Mainline	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	Mainline	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	Mainline	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	Mainline	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	Mainline	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	Mainline	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
Jun	2015	Mainline	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	Mainline	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	Mainline	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	Mainline	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

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)
Aug	2015	Mainline	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	Mainline	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	Mainline	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	Mainline	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
Oct	2015	Mainline	11,773	13,483	53,876	55,295
		ETL	6,269	4,773	7,741	7,231
		Total	15,042	18,256	61,617	62,526
	2016	Mainline	11,186	13,643	51,919	53,482
		ETL	4,020	5,127	11,039	10,534
		Total	15,206	18,770	62,958	64,016
	Total Change (2016-2015)		164	514	1,341	1,490
Nov	2015	Mainline	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
	2016	Mainline	10,724	13,296	51,492	52,930
		ETL	3,540	4,807	10,866	10,279
		Total	14,264	18,103	62,358	63,209
	Total Change (2016-2015)		-9	526	2,203	2,563

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)
Dec	2015	Mainline	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
	2016	Mainline	10,915	13,433	51,169	53,155
		ETL	3,769	4,914	11,126	10,252
		Total	14,684	18,347	62,295	63,407
	Total Change (2016-2015)		1,129	1,331	2,113	3,087
Jan	2016	Mainline	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
	2017	Mainline	11,440	13,473	51,395	51,891
		ETL	3,609	4,829	9,906	9,833
		Total	15,049	18,302	61,301	61,724
	Total Change (2017-2016)		509	699	1,782	2,019
Feb	2016	Mainline	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
	2017	Mainline	11,248	13,197	50,733	51,471
		ETL	3,681	4,740	10,329	10,219
		Total	14,929	17,937	61,062	61,690
	Total Change (2017-2016)		-587	-551	-1,209	-986
Mar	2016	Mainline	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
	2017	Mainline	11,535	13,292	53,175	52,949
		ETL	3,943	5,163	11,739	11,122
		Total	15,478	18,455	64,914	64,071
	Total Change (2017-2016)		-498	-607	1,631	134

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)
April	2016	Mainline	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
	2017	Mainline	11,912	15,641	54,023	56,908
		ETL	3,897	4,989	11,367	11,579
		Total	15,809	20,630	65,390	68,487
	Total Change (2017-2016)		-430	1,500	-87	2,432
May	2016	Mainline	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
	2017	Mainline	11,675	15,684	53,901	55,572
		ETL	3,930	4,655	11,585	10,657
		Total	15,605	20,339	65,486	66,229
	Total Change (2017-2016)		-205	1,528	213	725
June	2016	Mainline	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
	2017	Mainline	11,805	15,373	55,261	57,850
		ETL	4,074	4,993	12,732	11,493
		Total	15,879	20,366	67,993	69,343
	Total Change (2017-2016)		-393	1,128	605	1,701

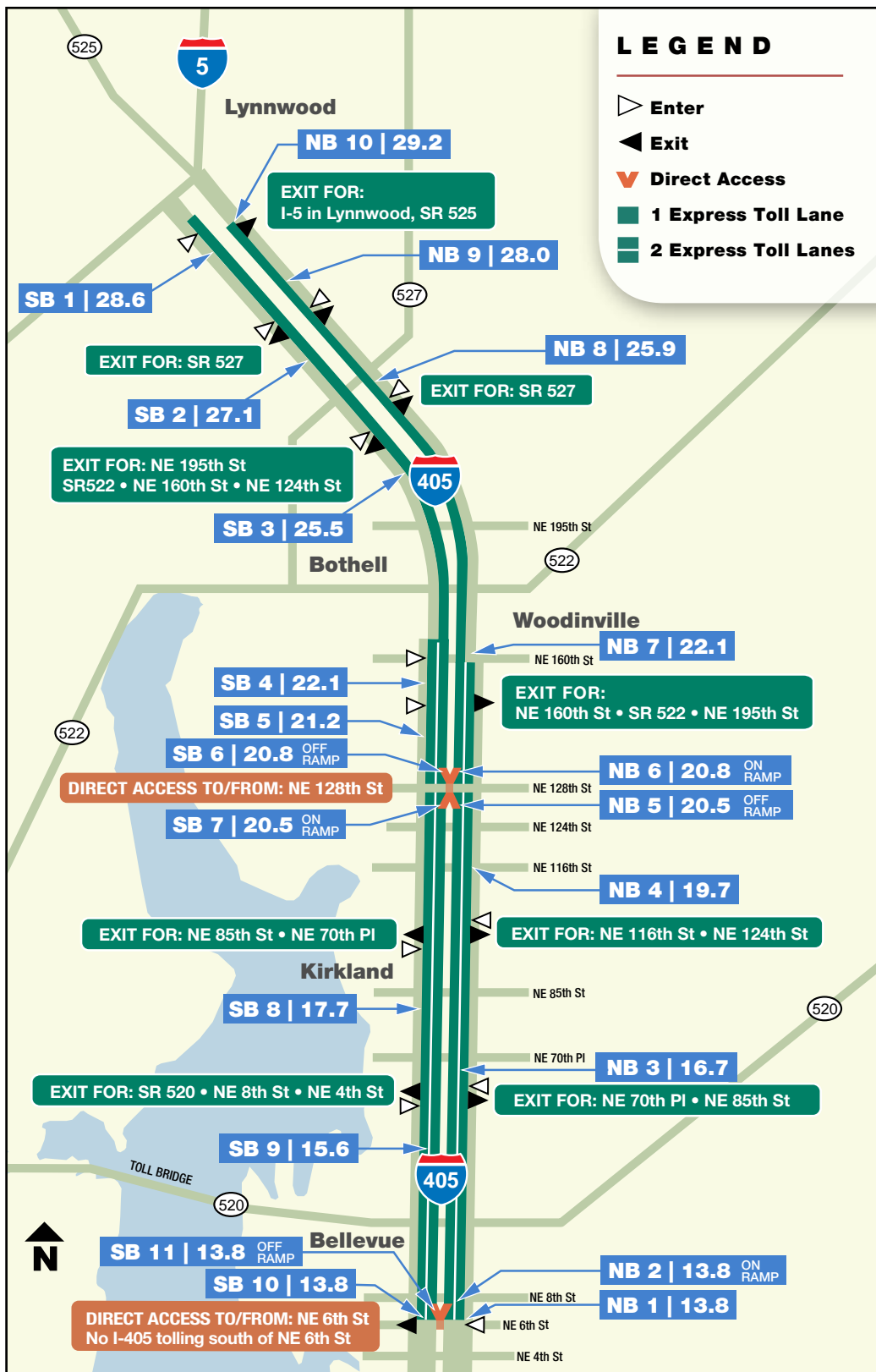
AVERAGE WEEKDAY SCREENLINE VOLUMES COMPARISON BEFORE AND AFTER EXPRESS TOLL LANES						
			SR 527 (Single-Lane Section)			
			AM Peak (SB, 5-9a)	PM Peak (NB, 3-7p)*	Daily Total (SB)	Daily Total (NB)
July	2016	Mainline	11,761	13,432	54,902	55,848
		ETL	3,699	5,121	11,909	10,812
		Total	15,460	18,553	66,811	66,660
	2017	Mainline	11792	15723	54399	57083
		ETL	3970	4867	11910	11,206
		Total	15762	20590	66309	68289
	Total Change (2017-2016)		302	2,037	-502	1,629
Aug	2016	Mainline	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
	2017	Mainline	11953	15768	55688	57721
		ETL	3992	4939	13261	11562
		Total	15945	20707	68949	69283
	Total Change (2017-2016)		-245	1,866	1,470	2,166
Sept	2016	Mainline	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
	2017	Mainline	11326	15904	53689	56433
		ETL	3940	4852	12365	10960
		Total	15266	20756	66054	67393
	Total Change (2017-2016)		139	1,991	1,572	2,287

*PM Mainline data includes Peak Use Shoulder Lane counts starting April 2017.

Detailed speed data

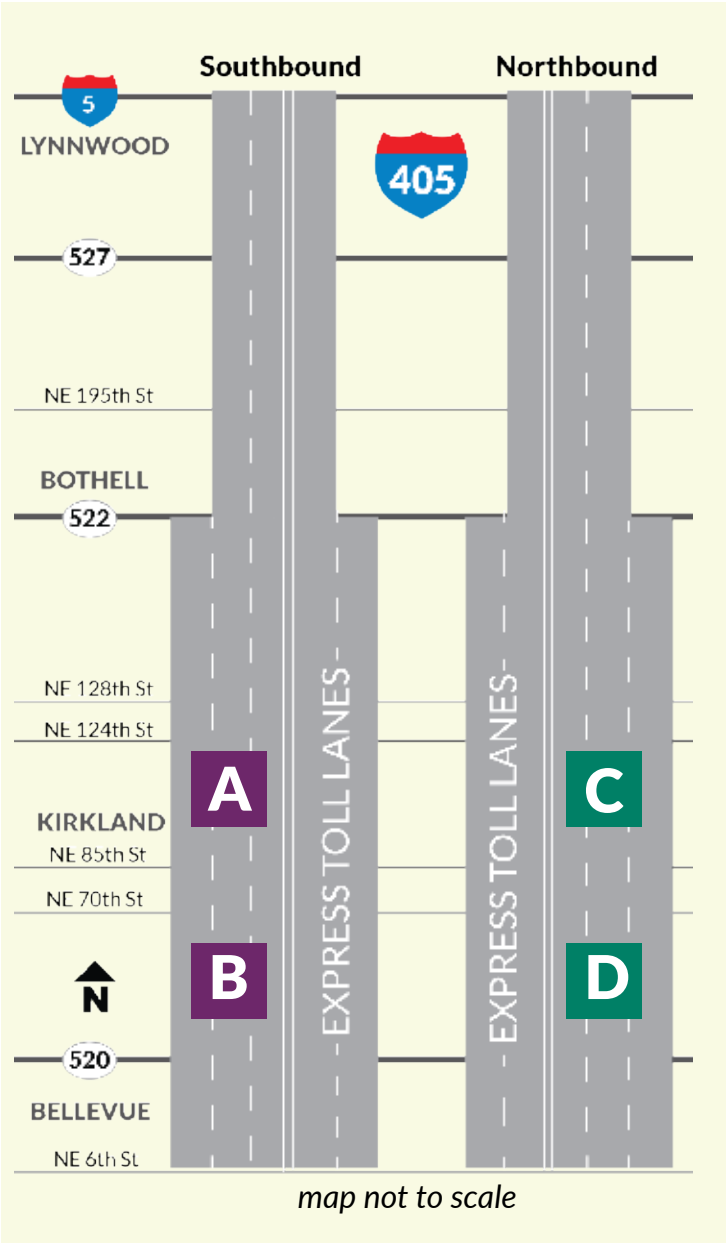
- Due to the large amount and detail of the speed data requested for each travel segment, this data will be provided on WSDOT's website at www.wsdot.wa.gov/Tolling/405/library.htm
- Data summary: Monthly average, 5th percentile, and 95th percentile speeds (miles per hour) along I-405 in 5 minute increments 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



Appendix C: Additional Traffic Performance Data

Using sensors in the roadway, WSDOT collected traffic counts on the stretch of I-405 between Bellevue and Lynnwood. Volumes were reported at eight sample locations, four in the northbound direction and four in the southbound direction. In the dual-lane section, sensors collect traffic data at NE 53rd St and NE 100th St. In the single-lane section, the sensors are located at the I-405 interchanges with State Route 522 and State Route 527.

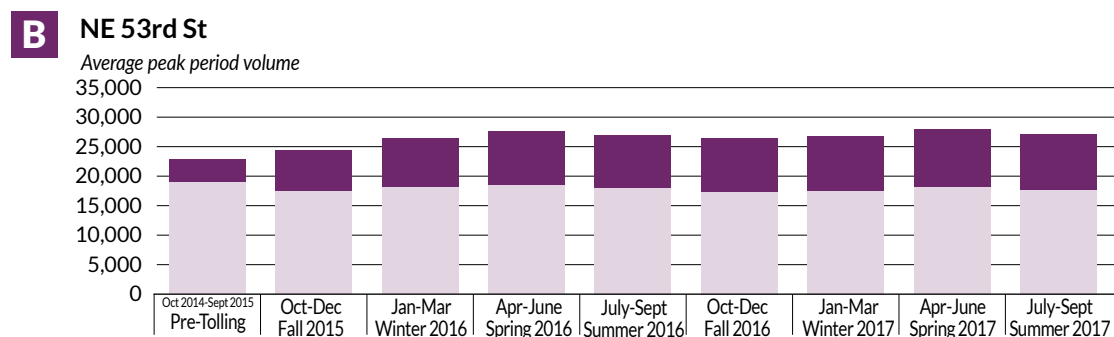
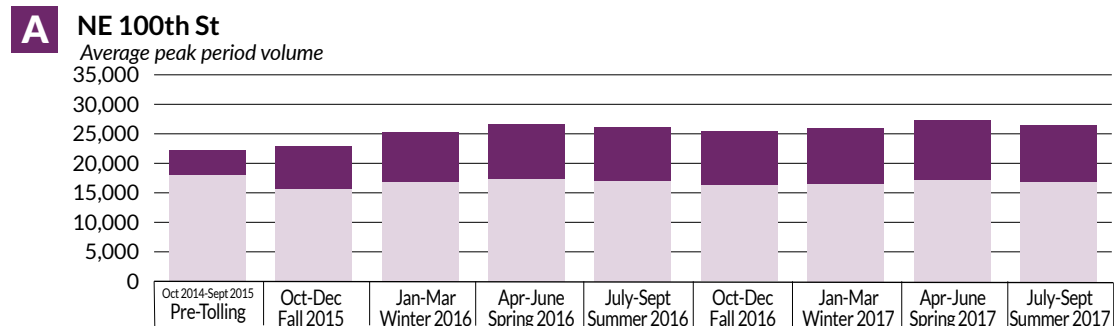


To monitor daily vehicle volumes on the portion of the I-405 corridor with dual express toll lanes, WSDOT collected data at NE 53rd St, markers A and C, and NE 100th St, markers B and D. Quarterly average daily volumes for general purpose and express toll lanes at these locations can be viewed on the following page.

Average weekday dual-lane section volumes at sample locations – Oct. 1, 2014-Sept. 30, 2017

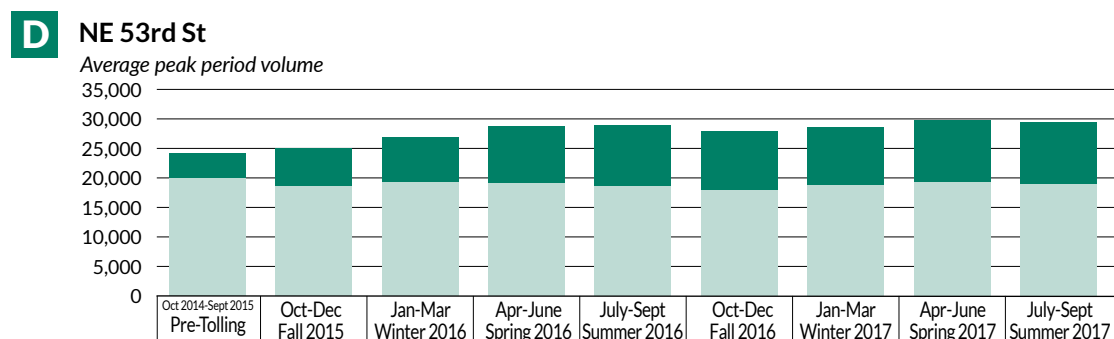
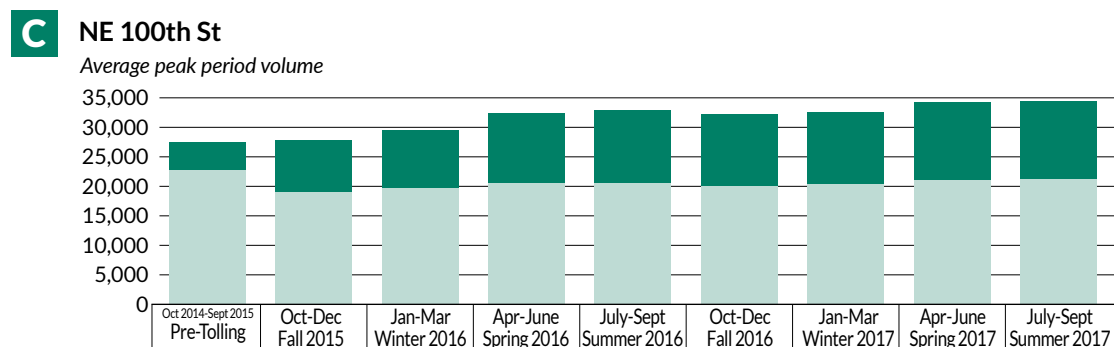
Southbound Morning Peak (5-9 a.m.)

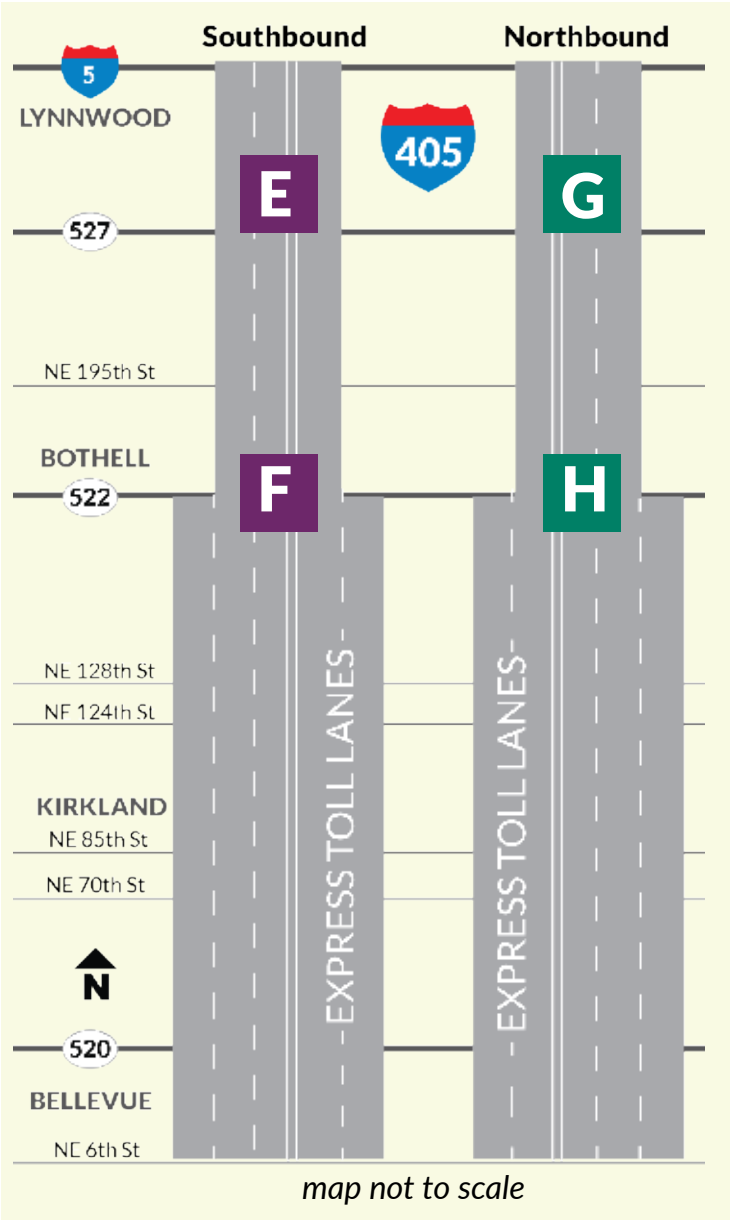
General purpose lanes HOV/Express toll lanes



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

General purpose lanes HOV/Express toll lanes





To monitor daily vehicle volumes on the portion of the I-405 corridor with single express toll lanes, WSDOT collected data at the SR 527 interchange, markers E and G, and SR 522 interchange, markers F and H. Quarterly average daily volumes for general purpose and express toll lanes at these locations can be viewed on the following page.

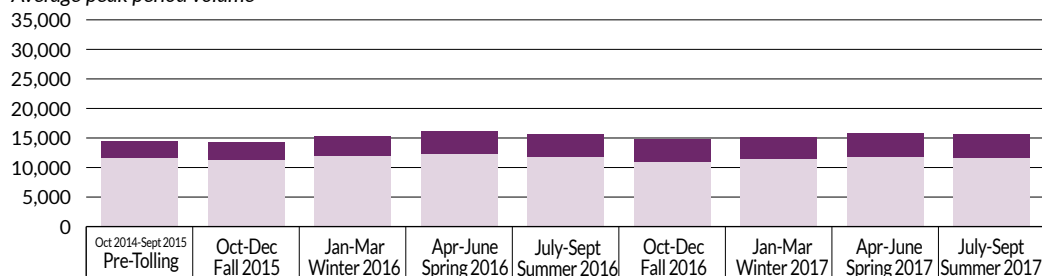
Average weekday single-lane section volumes at sample locations – Oct. 1, 2014-Sept. 30, 2017

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

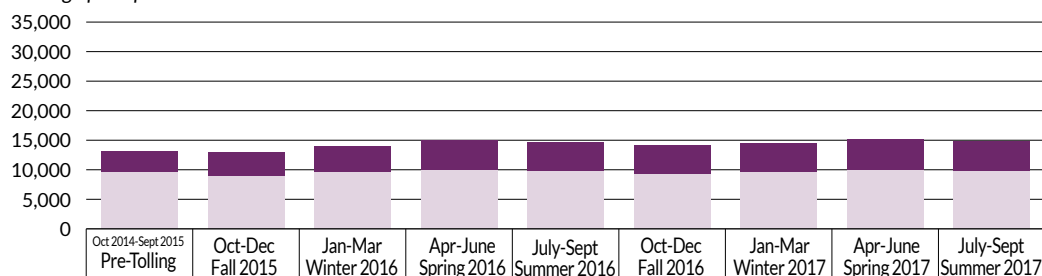
General purpose lanes HOV/Express toll lanes

E SR 527

Average peak period volume

**F** SR 522

Average peak period volume

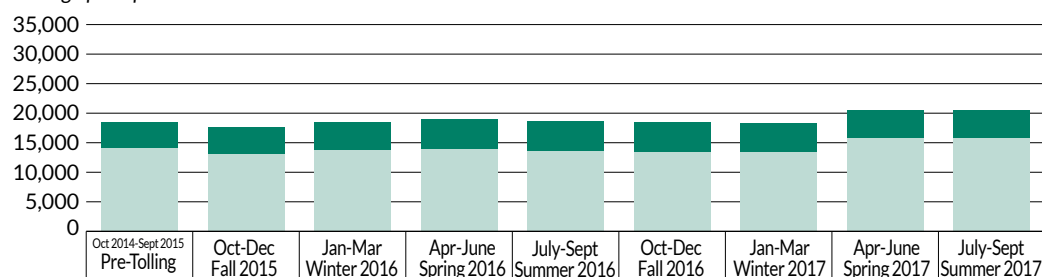


Northbound Evening Peak (3-7 p.m.)

General purpose lanes includes Peak-use shoulder lane HOV/Express toll lanes

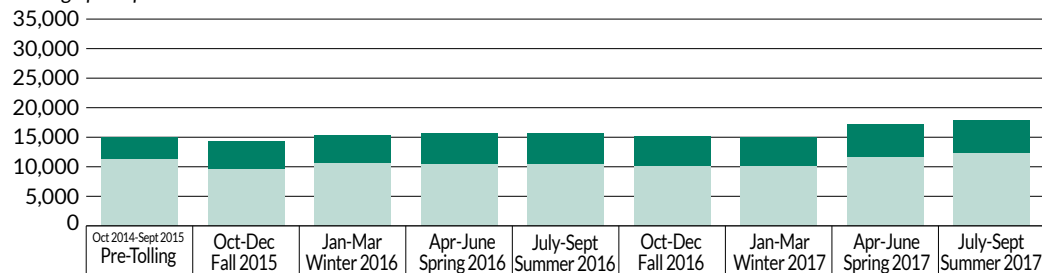
G SR 527

Average peak period volume

**H** SR 522

Average peak period volume

General purpose lanes HOV/Express toll lanes



FOR MORE INFORMATION

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

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