

Thinking Offensively in a Defensive Environment

The I-405 Experience

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The Problem

- **Bad traffic**

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

- **Crowded HOV Lanes**

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

- **Transit Suffers**

- Congested lanes significantly delay transit trips and reduce reliability.



Policy and Operational Decisions Made Years in Advance

2+ or 3+ for toll-free?

Electronic declaration or transponders?

Limited access or continuous access?

Transponder required or photo tolling?

How will enforcement be handled?

Time of day pricing or dynamic pricing?

Minimum and maximum toll rates?

HOURS OF OPERATION?

How do motorcycles declare?

The Perfect Roster



Setting Expectations Pre-Launch

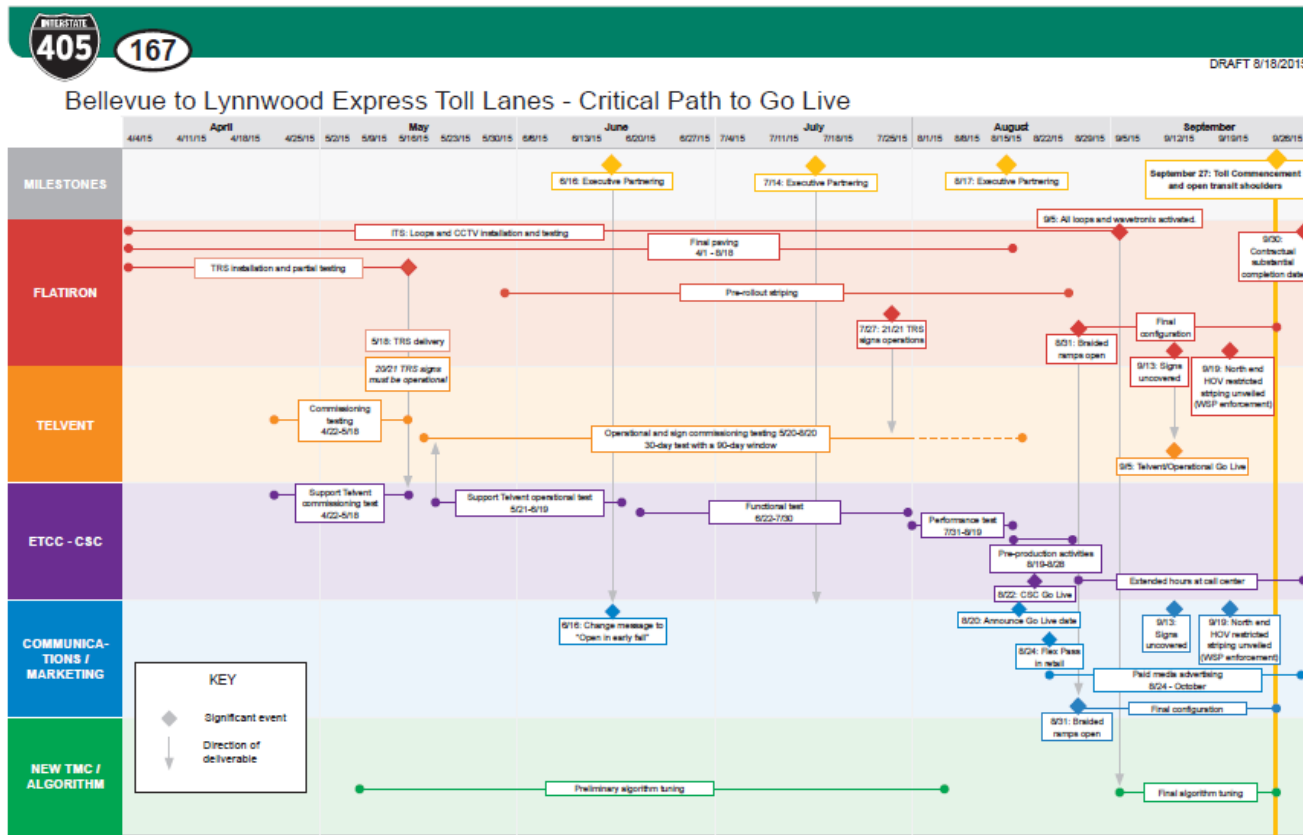
Big changes for drivers

- New type of tolled facility; different rules than existing WA toll facilities.
- New carpool requirements that change by time of day.
- New Flex Pass required to travel toll-free as a carpool.

Setting expectations with the public

- Anticipated express toll lane use would be low initially, with the potential for empty express toll lanes and congested general purpose lanes.
- Encouraged carpoolers to get their free Flex Passes early to avoid any potential wait time.
- Set expectation that it would take up to a year for traffic to settle into new normal.

Precision Execution



Challenging Field Conditions

- 17 miles of express toll lanes
- Toll rates
 - Minimum toll rate \$0.75
 - Maximum toll rate \$10
- Carpool policy
 - To travel toll-free carpools must:
 - Meet new carpool occupancy requirements
 - 3+ carpools exempt at peak hours
 - 2+ carpools exempt at off-peak hours
 - Have a pre-paid *Good To Go!* account
 - Have a *Good To Go!* Flex Pass set to HOV mode



Six Month Performance Update – Speeds

Southbound morning peak period average speed (mph)

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

Northbound evening peak period average speed (mph)

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

Six Month Performance Update – Volumes

Southbound I-405

SR 527

Peak Period	Peak Hour
+7 percent	+7 percent

SR 522

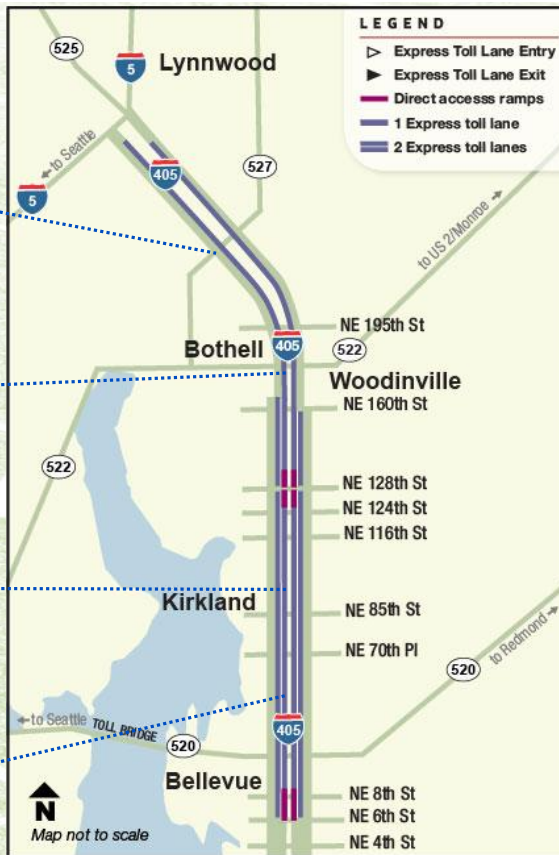
Peak Period	Peak Hour
+8 percent	+14 percent

NE 100th St

Peak Period	Peak Hour
+15 percent	+25 percent

NE 53rd St

Peak Period	Peak Hour
+15 percent	+22 percent



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

Changes in volume include all lanes and compare 2015 to 2016

Peak period: 5-9 a.m.
Peak hour: 7:15-8:15 a.m.

Six Month Performance Update – Volumes

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



Changes in volume include all lanes and compare 2015 to 2016

Peak period: 5-9 a.m.
Peak hour: 7:15-8:15 a.m.

Northbound I-405

SR 527

Peak Period	Peak Hour
0 percent	0 percent

SR 522

Peak Period	Peak Hour
+2 percent	+1 percent

NE 100th St

Peak Period	Peak Hour
+17 percent	+24 percent

NE 53rd St

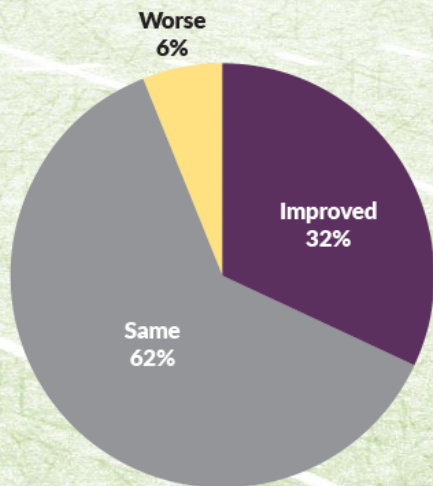
Peak Period	Peak Hour
+12 percent	+22 percent

How did general purpose commutes change?

January-March 2015 vs. January-March 2016 (Peak Periods)

Southbound General Purpose Lane Trips Morning Peak Period

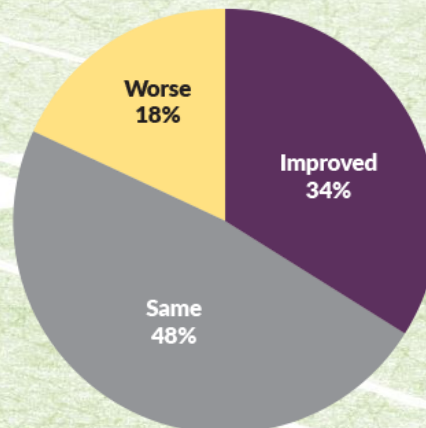
5 to 9 a.m.



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

Northbound General Purpose Lane Trips Afternoon Peak Period

3 to 7 p.m.



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

Expectations and Outcomes

Toll Trips – Expected initial low usage

Sept 2015 – April 2016

- **129% higher** than forecast
 - Forecast: 2.6 M
 - Actual: 5.9 M

Carpool Trips – Expected more carpools than tolled trips

- **23% lower** than forecast
 - Forecast: 3.5 M
 - Actual: 2.7 M

Gross Toll Revenue (Adjusted) – Given the above expectations, expected revenue to be lower

- **232% higher** than forecast
 - Forecast: \$2.7 M
 - Actual: \$8.9 M
- *** Pay By Mail at 25%, forecast was less than 5%

In Response to Public Feedback: Good Data vs. Bad Driver Experience

According to an analysis by the University of Washington Transportation Center (TRAC), there is a disconnect between I-405 express toll lanes data and driver experience.

Key findings:

1. In many areas that used to experience congestion prior to express toll lanes, there is now less congestion. However, congestion has gotten worse in some areas.
2. While overall conditions improved in the corridor, some drivers may be experiencing congestion in the same areas they did before in addition to new areas where congestion has shifted.
3. Therefore, depending on your trip and the time you travel, your experience varies.

Last Minute Interception



Legislative Response

Proposed legislation

- Remove the second express toll lane and provide continuous access where possible.

New legislative direction

- *To provide some relief to drivers, we are calling on you to **eliminate tolls during evening non-peak hours, weekends, and holidays**, to the extent that such a change will improve commuters' experience on I-405.* – Letter signed by 11 state representatives and senators, supported by the Governor, February 2, 2016
- To address north end, single-lane congestion, the Legislature asked WSDOT to look into general purpose hard shoulder running and an added northbound auxiliary lane.

Response from the Governor

- *While the data shows there have been significant improvements for many motorists and the corridor as a whole, new chokepoints have developed and we are hearing the frustration from those affected drivers.* – Press release from Governor Inslee, February 16, 2016

Touchdown



7.5 
MILLION
TOTAL TRIPS

5.1 **MILLION**
TOLLED TRIPS

2.4 **MILLION**
FREE HOV TRIPS

782,000
DIFFERENT VEHICLES
HAVE USED THE EXPRESS TOLL LANES

EQUIVALENT TO
1 IN 10 VEHICLES
IN
WASHINGTON STATE

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

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


TOLL PAYERS
34,000 vehicles
per day


CARPOOL
14,000 vehicles
per day


VANPOOL
350 vans
3,300 riders
per day


TRANSIT
7,800 riders
per day

“My bus ride from Bellevue to Totem Lake is now 10 minutes, every time. It’s cut 10-15 minutes off my commute home. Love it. Use the lanes periodically in my car - happy to pay the toll.”

— Breslin L., Snohomish, WA.

“My wife and I use the lanes almost every day either together or independently. One of the keys to using the lanes is the Flex Pass which allows us to travel the lanes during peak periods as a carpool. At other times I will more than likely choose to pay the toll in order to get to my destination faster with less stress.”

— Michael Z., Mill Creek, WA

Monday Morning Quarterback

Peer Review Panel concurred with WSDOT findings

- Initial complications with operations have been addressed with subsequent actions
- Northbound bottleneck moved with new capacity provision, providing travel time savings but introducing new congestion downstream of previous bottleneck
 - Proposed shoulder lane will likely resolve this bottleneck in short term
 - Longer term may require direct access ramp at SR 522
- Express Toll Lanes proven to be desirable and successful
- Robust improvement in overall travel metrics in the corridor
- Changing occupancy rates / mandatory transponders were major changes; doing both at the same time ended up being disruptive for a period of transition
- WSDOT should consider a regional concept of operations for how all “managed” capacity will integrate with each other

Post-game Wrap-up

“No end runs”—Ensure coordination of decision making on policy and operational decisions across functional areas.

“Be careful of early celebration”—Driver experience (across the corridor) trumps data. Set and manage expectations for stakeholders and users.

“Be ready to call an audible”—Be responsive and make adjustments as needed.

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