

November 2, 2023

# Westside Multimodal Improvements Study

Steering Committee Meeting #5



# Agenda

- 1 Welcome and Intros
- 2 Review and Updates
- 3 Scenario Results
- 4 Cost Assumptions
- 5 Activity and Discussion
- 6 Public Comment
- 7 Next Steps



# Project Charter

- The committee will strive to provide decisions by consensus. Consensus is defined as the point where committee members agree on the most viable option for the group, even if it is not each committee member's personal favorite.
- If consensus cannot be reached on a plan or on a strategy for moving forward, each agency responsible for any proposed element is committed to considering all the opinions of the committee members and determining their respective next steps.



# Review and Updates

- Charter – Desire for Consensus
- Recap Meeting #4
- Purpose of study – Problem Statement
- Expected outcomes of meetings 5 and 6



# Recap of Meeting #4 – Sept 7, 2023

- Results from Scenarios 1, 2, and 3
  - Mobility: Throughput, Travel Time, and Reliability
  - Safety, Social Equity, and Climate Action
  - Economic Vitality: Access and Freight Travel Times
- Benefits for safety and mode shift, but little impact on travel on US 26
- Evaluating costs is important to the committee



May 2022

# Problem Statement

Westside Multimodal  
Investments Study

Current multimodal transportation conditions in the Westside Corridor result in an inequitable and environmentally unsustainable system that is overly dependent on personal motor vehicle travel, which results in vehicle congestion, diversion, and unreliable travel times for people driving and moving freight. This adversely affects the safety, affordability, and livability of the area and can impede economic competitiveness.

**Travel conditions in the corridor are difficult due to traffic congestion and are expected to worsen as the corridor adds new housing and jobs. Despite a brief decrease due to the pandemic, trends are showing increased driving trips and freight travel. At the same time, there has been a decline in transit use. Active transportation networks are dispersed and incomplete.**

Traffic safety is trending in the wrong direction, and impacts are higher for Black, Indigenous and people of color (BIPOC). Many of the key arterials in the study area have among the highest rates of injury and fatalities, compared to the rest of the region. Those include: Cornelius Pass Rd, Cornell Rd, Evergreen Pkwy, 158<sup>th</sup> Ave, Baseline Rd, and Murray Blvd.



<i>Priority Area</i>	<i>Evaluation Metric</i>
<b>Mobility and Reliability</b>	Person throughput daily and peak periods
	Diversion onto local streets
	Vehicle delay
	Travel time reliability
<b>Safety</b>	Addresses crash types most often involving bicyclists and pedestrians
	Addresses high-crash vehicle locations on the highway and arterial road system
<b>Social Equity</b>	Increase in jobs and places reachable within 30 minutes by any mode of transportation
	Direct household transportation and housing costs as a percentage of income, compared to no action (doing nothing)
<b>Climate Action</b>	Change in VMT (proxy for GHG emissions) compared to no action
<b>Economic Vitality</b>	Access to essential destinations
	Freight travel cost index
	Value of commodity throughput (Freight throughput)

# Expected Outcomes: Meetings 5 & 6

Which investment options address the study's problem statement? Which investments should be included in the implementation plan?

- Bucket 1: This is worthy of further study and addresses the study's problem statement.
- Bucket 2: This doesn't address the study's problem statement but should be considered through a different process.
- Bucket 3: This is not recommended for further study/implementation





# Scenario Results

# Scenario Groupings

Scenarios		Includes projects such as...
1	<b>System management</b>	Faster transit, transit subsidies, carpooling, biking, ramp meters
2	<b>Relatively short-term improvements</b>	More transit, park and rides, minor improvements to US26 interchanges
3	<b>Existing Infrastructure Improvements</b>	Widen Cornelius Pass Rd, widen US26, add carpool lane, more overcrossings
4	<b>New infrastructure improvements</b>	I-405/US26 interchange, exit closures, new MAX tunnel, new North Willamette bridge
5	<b>Tolling / Congestion pricing</b>	Toll lanes on US26 to manage congestion

# Expected changes by 2045

Base year for comparison is 2045, using the draft Regional Transportation Plan

By 2045...

- Population grows 30% to over 2.2 million people
- Total employment grows 37% to 1.2 million jobs



# SCENARIO 4: Major, Large-Scale Infrastructure

## Scenario Description – Consider major highway and transit investments

- Scenario 4 imagines major, regionally significant new infrastructure to reshape travel on the Westside and across the region.
- Key projects include:
  - major redesign of the US26/405 interchange,
  - Northern Connector
  - widening of US26 through the Vista Ride tunnel
  - a new MAX tunnel through downtown Portland.

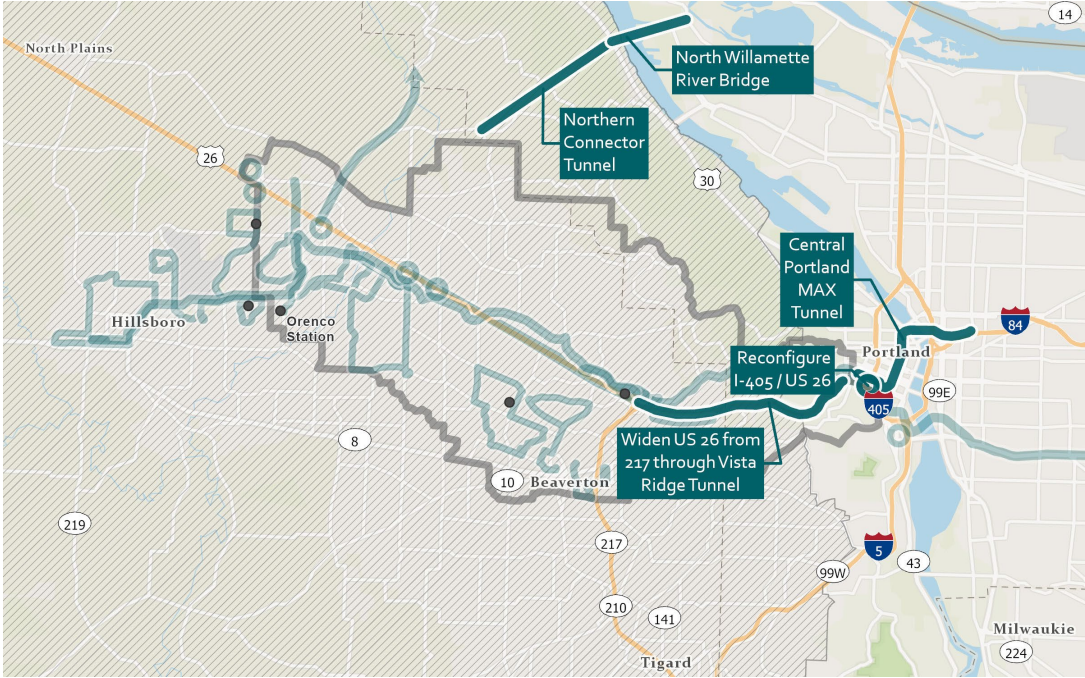
## High-Level Findings

- Mobility and reliability are improved, especially for eastbound US 26.
- The northern connector carries approximately 31,000 vehicles per day.
- Transit improvements continue to support mode shift from auto even with added highway capacity improvements in this scenario that improve auto times.

### Improvements

- Reconfigure US26/I-405 interchange at Market Street
- Northern Connector – new roadway, tolled tunnel connecting Kaiser Road to US30 across the west hills/Forest Park
- North Willamette River Bridge – connects US30 to Columbia/ Lombard; begins at Northern Connector
- Widen US26 from 217 through Vista Ridge Tunnel
- MAX tunnel downtown between Goose Hollow and Lloyd Center

## Where would improvements be implemented?



Projects in dark teal are new in this scenario. Scenario 4 includes projects from Scenarios 1-3.

## Scorecard

### Safety

- Auxiliary lanes reduce weaving and provide safety benefits
- Increased speed is associated with increase in crash severity

### Social Equity and Climate

- Construction projects would be resource-intensive
- Some of the gains in transit ridership and VMT reduction from previous scenarios are diminished
- VMT per capita decreases slightly compared to the 2045 RTP
- Travel time on transit with the MAX tunnel decreases, bringing thousands of additional households within 45-minutes of job centers

### Mobility and Reliability

**% Change in Travel time on US26 - Hillsboro to Tunnel (from baseline)**

Westbound	-4% AM	-3% PM
Eastbound	-13% AM	-11% PM

**Travel Demand on US 26, west of the Vista Tunnel**

16,600 (104%) AM	13,800 (86%) PM
Maximum = 16,000	

**Regional change in person trips by mode (from baseline)**

SOV	HOV
-14,100 (-0.3%)	-300 (-0%)
+14,200 (+0.7%)	

# TOLLING SCENARIO: Tolling on US 26 and OR 217

## Scenario Description – Tolling

- Tolling Scenario does not include improvements developed for Scenarios 1-4; it would be added to the baseline RTP set of projects
- Tolling Scenario includes tolling on US 26 and OR 217, along with tolling proposed in the 2023 Regional Transportation Plan.
- Rates would be consistent with the Regional Mobility Pricing Program in the draft RTP:
  - Fixed demand management fee
  - Supplemental high-demand fee based on time of day and congestion, levied in two locations:
    - Vista Ridge Tunnel (EB & WB)
    - Cedar Hills/Murray

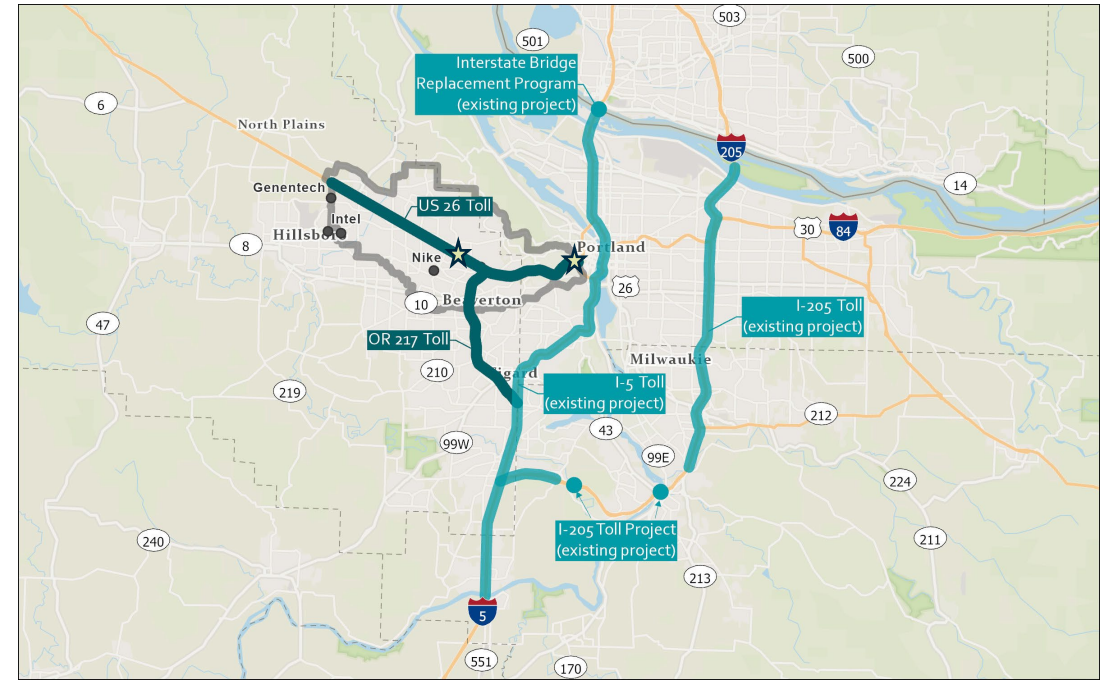
## High-Level Findings

- Tolling US 26 and OR 217 has substantial impact on travel times.
- Mode shift includes an increase in carpooling and transit, resulting in fewer vehicles on the road.
- These results would likely been strengthened with some of the other investments from Scenarios 1-4.

## Improvements

- Tolling Scenario would toll:
  - US 26 from Brookwood to I-405
  - OR 217 between US 26 and I-5
- Electronic gantries (no toll booths)
- Tolls are in addition to those planned and included in the 2023 RTP:
  - Interstate Bridge
  - Abernethy Bridge
  - Regional Mobility Pricing Program

## Where would improvements be implemented?



Tolling Scenario does not include improvements from scenarios 1-4. Lighter blue existing projects are proposed in the 2023 RTP.

## Scorecard

### + Safety

- Tolling gantries or implementation would likely allow for continued flow of traffic (no toll booths).
- Reduction in vehicles on the road and improved reliability would decrease risk of crashes
- Potential for diversion would require safety and capacity analysis



### Social Equity and Climate

- Congestion Pricing supports reduced SOV VMT and results in more carpooling and transit use
- Low Income Toll Program will provide discounted options



### Mobility and Reliability

% Change in Travel time on US26 - Hillsboro to Tunnel (from baseline)

Westbound -26% AM -26% PM

Eastbound -28% AM -24% PM

Travel Demand on US 26, west of the Vista Tunnel

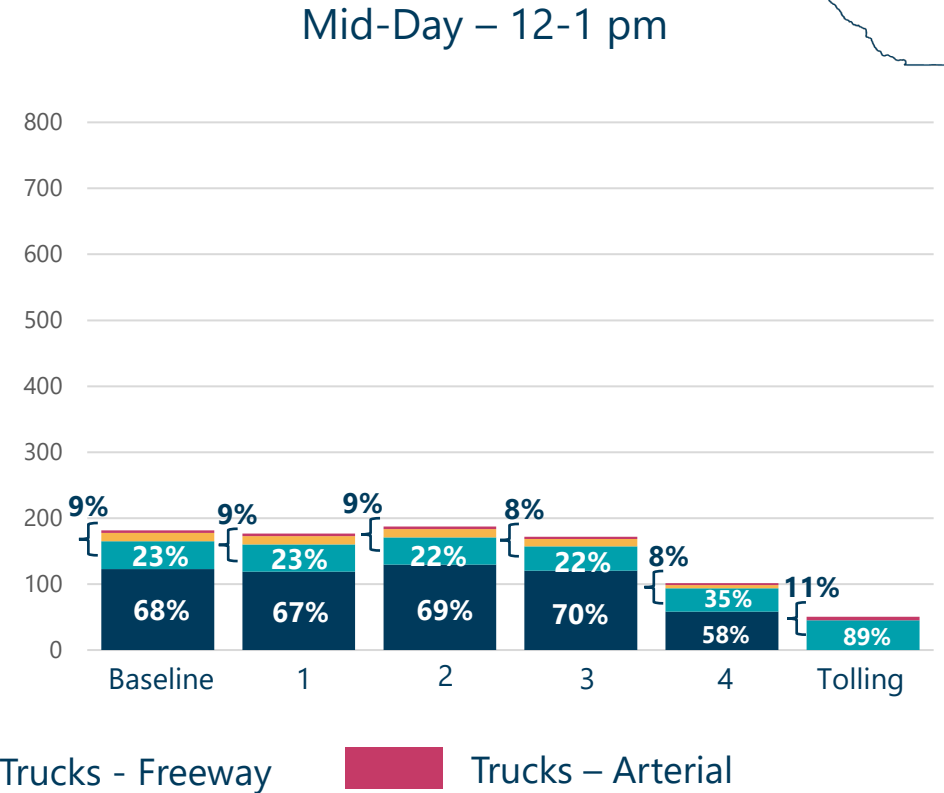
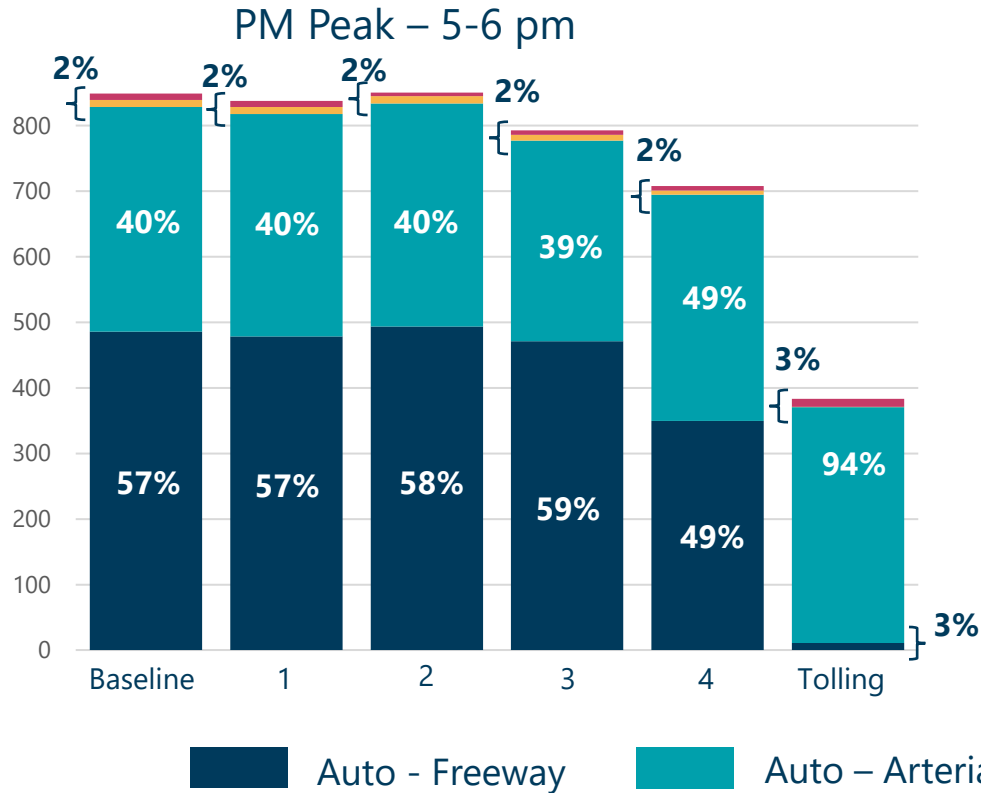
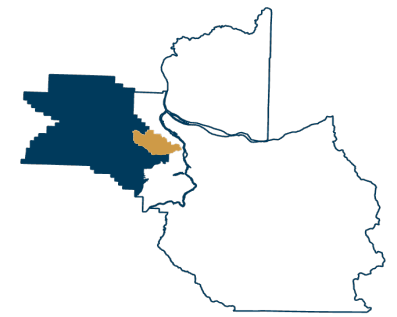
11,500 (96%) AM / 8,600 (72%) PM  
Maximum = 12,000

Regional change in person trips by mode (from baseline)

SOV -18,800 (-0.4%)  
HOV +8,100 (+0.2%)

+10,700 (+0.5%)

# Vehicle Hours of Delay – Westside, including the study area



Note: Values may not add to 100% due to rounding

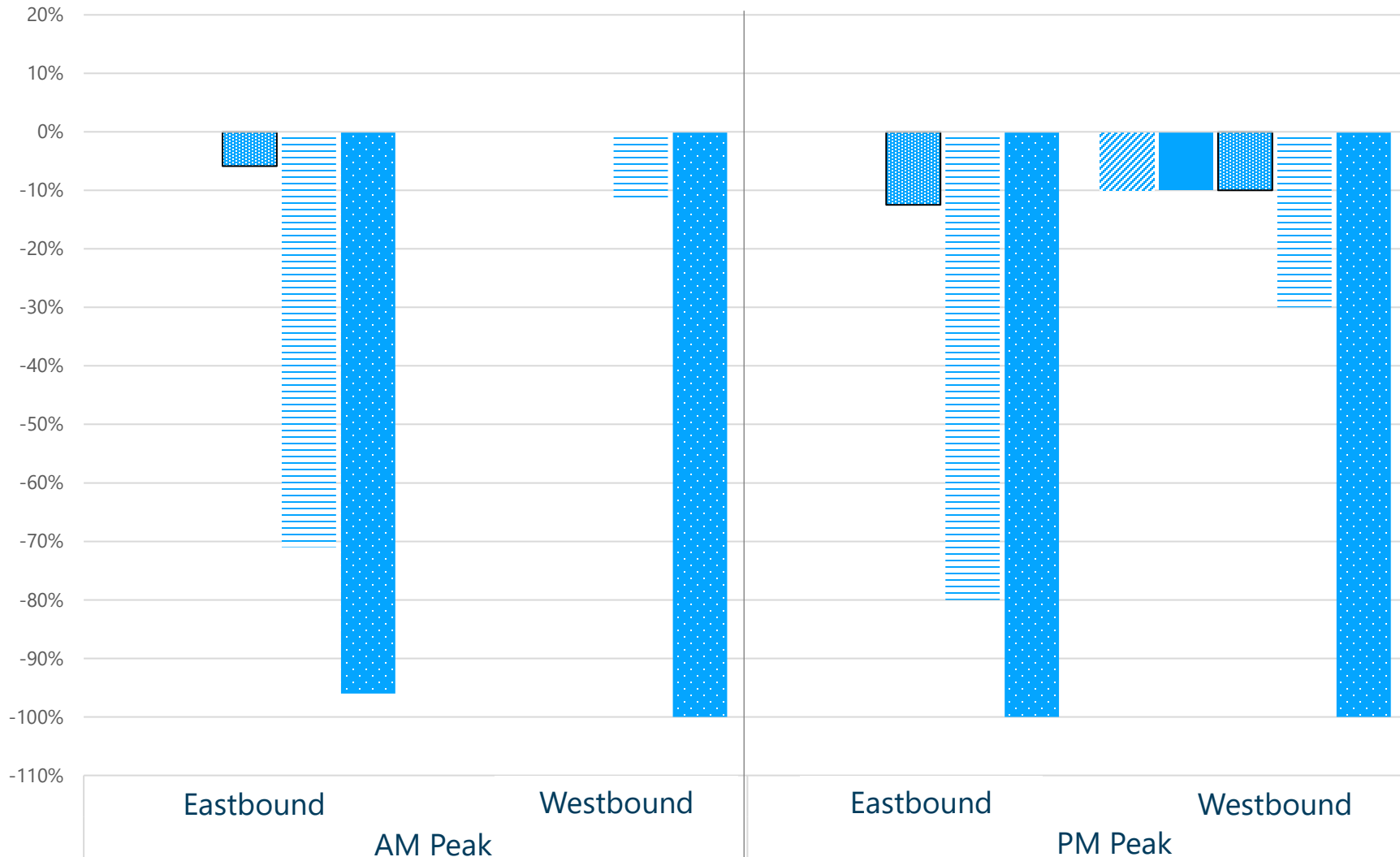
**Scenarios 1 – 3 show almost no change in peak or midday delay compared to the Baseline**

**Scenario 4 starts to show more decreases and a shift in freeway vs arterial delay**

**Tolling nearly eliminates delay on freeways and sees reductions overall in delay with small increases in truck delay primarily on arterials**

# Delay – Change in Delay on US 26

AM and PM Peak on an average weekday – Change from Baseline



**Both AM and PM Peak show small differences for Scenarios 1 – 3 compared to Baseline (0%-12%)**

**Scenario 4 shows more significant improvement particularly eastbound in both the AM and PM peak**

**Tolling removes all delay in the AM and PM Peak**



# Hours of Congestion at US 26 Vista Ridge Tunnel

	Baseline 2045	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Tolling
Eastbound	14	14	14	14	4	0
Westbound	11	11	11	10	9	0

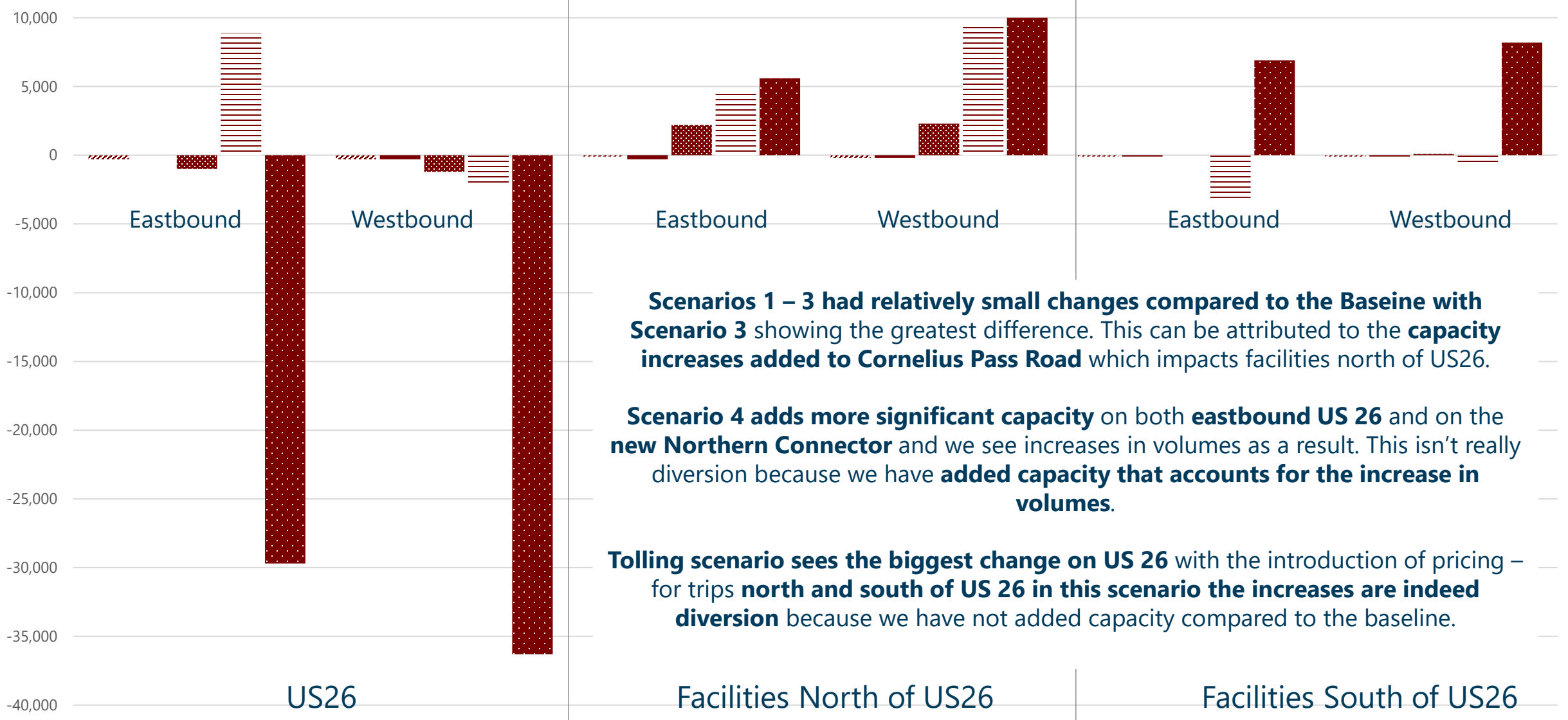
Hours of congestion in 2020:  
12 hours eastbound  
6 hours westbound





# Diversion – Change in Vehicle Volumes

All day during an average weekday – Change from Baseline





**Scenarios 1 – 3 had relatively small changes compared to the Baseline with Scenario 3 showing the greatest difference.** This can be attributed to the **capacity increases added to Cornelius Pass Road** which impacts facilities north of US26.

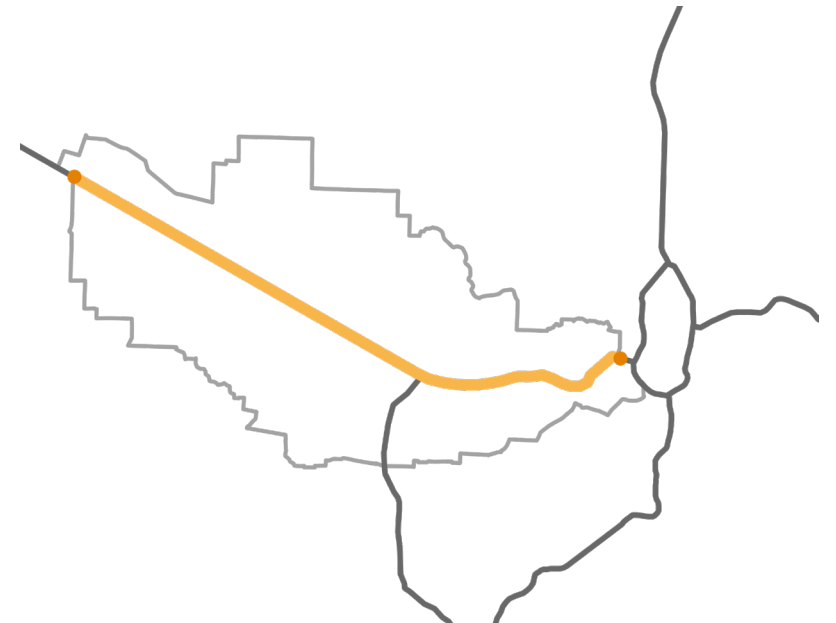
**Scenario 4 adds more significant capacity** on both **eastbound US 26** and on the **new Northern Connector** and we see increases in volumes as a result. This isn't really diversion because we have **added capacity that accounts for the increase in volumes.**

**Tolling scenario sees the biggest change on US 26** with the introduction of pricing – for trips **north and south of US 26 in this scenario the increases are indeed diversion** because we have not added capacity compared to the baseline.

# Change in AM Peak travel time on US26: Hillsboro to Tunnel

Minutes – Baseline from today, Scenarios from Baseline

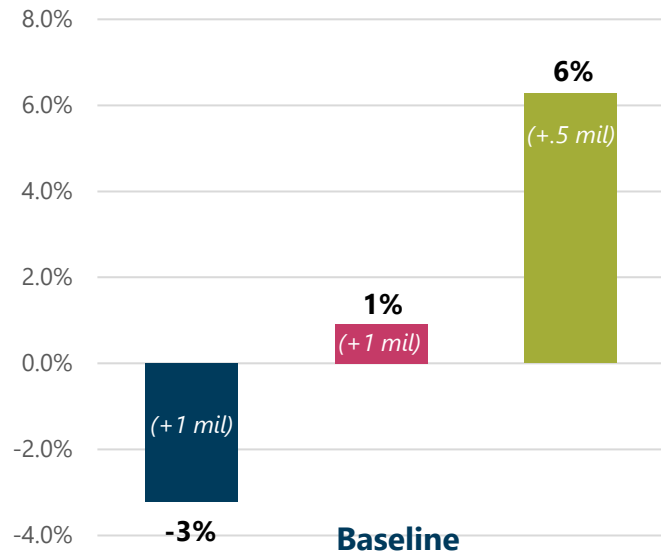
	Baseline 2045	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Tolling
Eastbound 	<b>+3</b>	<u>No Change</u>	<u>No Change</u>	<u>No Change</u>	<b>-3</b>	<b>-7</b>
Westbound 	<b>+2</b>	<u>No Change</u>	<u>No Change</u>	<u>No Change</u>	<b>-1</b>	<b>-6</b>



# Regional change in trips by mode (from Baseline 2045)

## Baseline 2045 Mode Shift

Baseline 2045 shows greater % change in mode share than scenarios 1-4 and Tolling because it is compared to 2020. While the number of auto trips increase from 2020 to 2045 by about 1 million, the overall share of auto trips decreases, with shifts towards carpooling and transit, walking and biking.



Drive Alone (SOV)



Drive W/ Passenger (HOV)

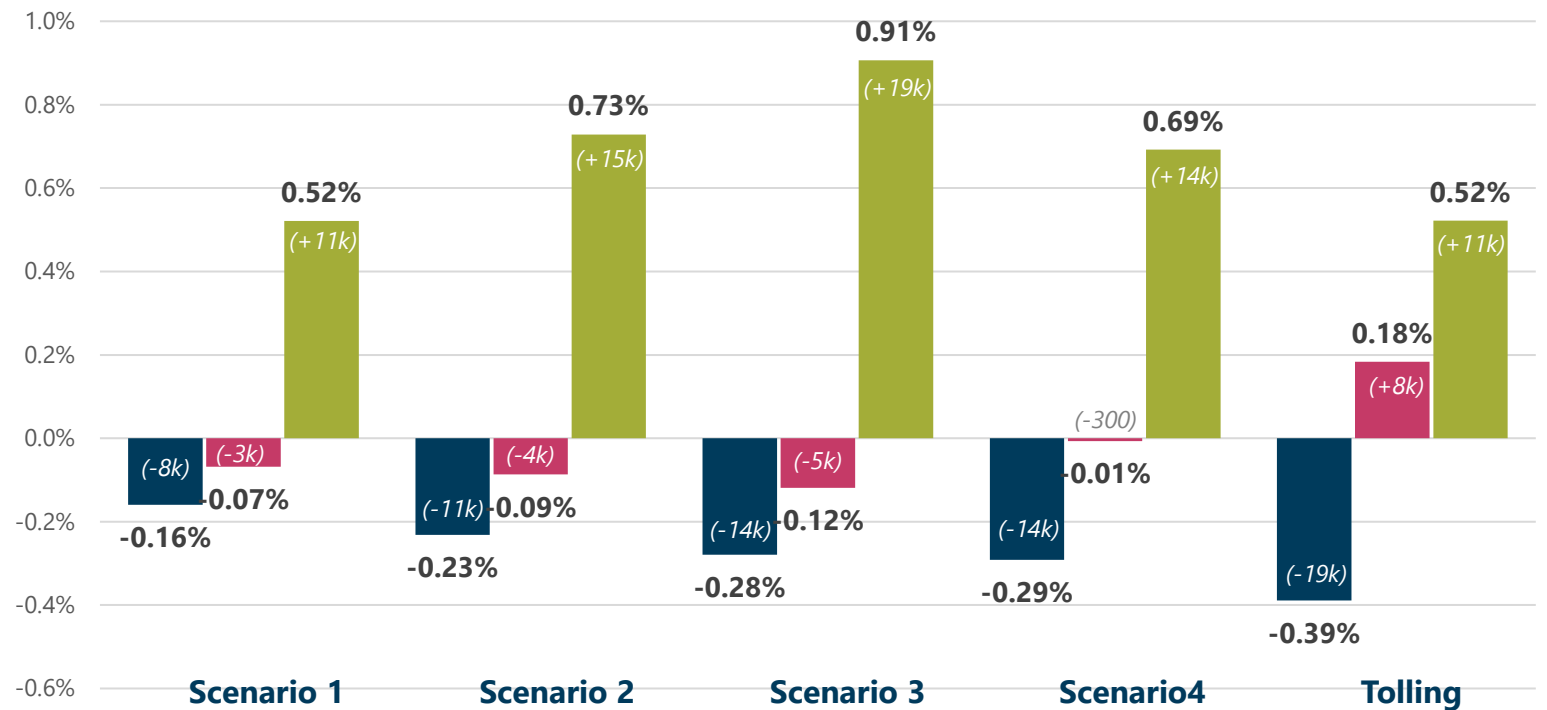


Non-Auto (Transit/Walk/Bike)

## Scenario Mode Shift

The overall and percent change for mode shift for all scenarios compared to baseline (2045) is small. Scenario 3 shows the greatest difference, with about 1% increase for non-auto trips. Scenario 4 adds auto capacity in addition to transit capacity so this causes some of the transit increases to get a little smaller.

Tolling scenario shows jumps in HOV trips and transit even with no added transit improvement over the Baseline.



Scenario 1

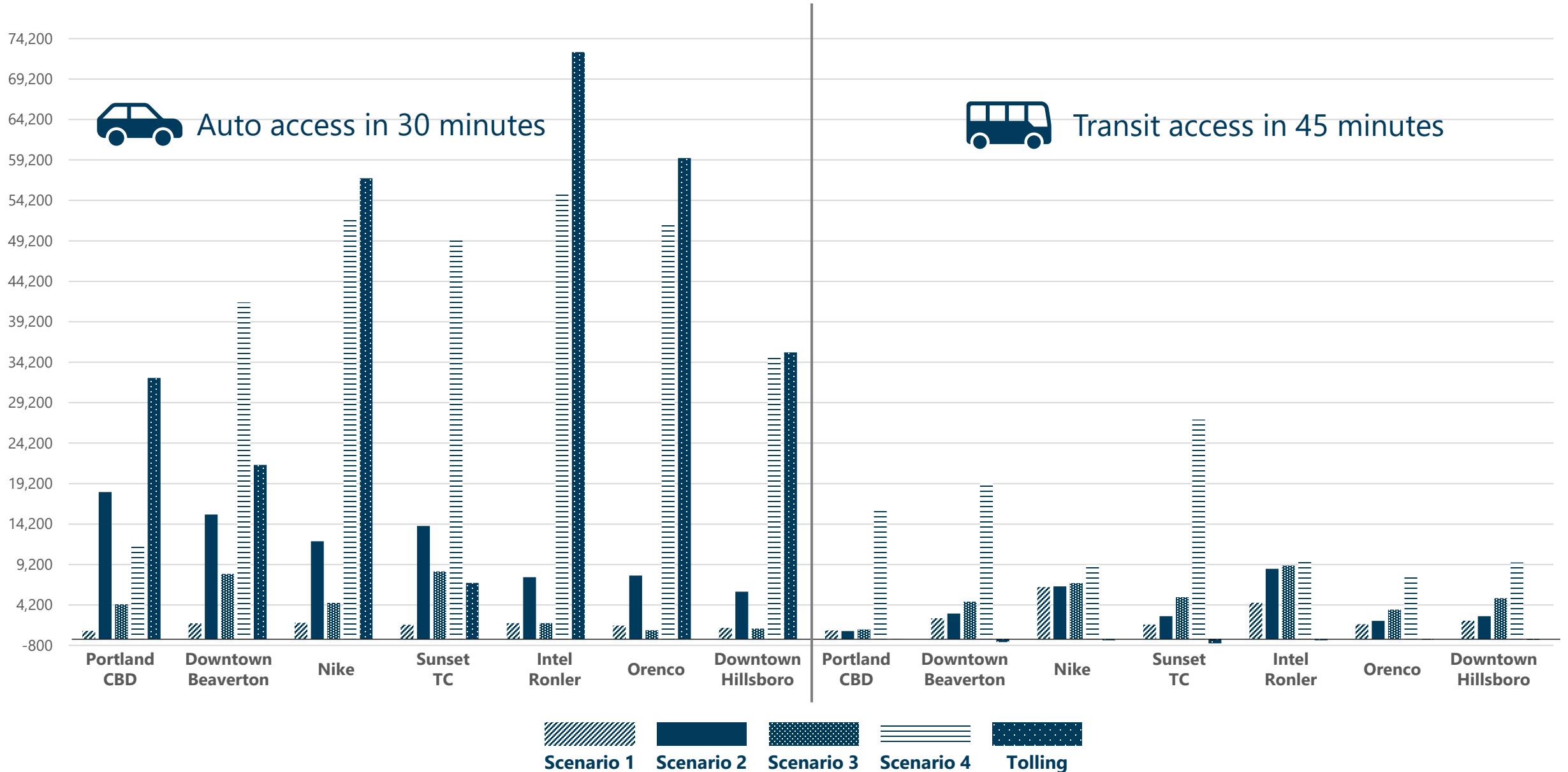
Scenario 2

Scenario 3

Scenario 4

Tolling

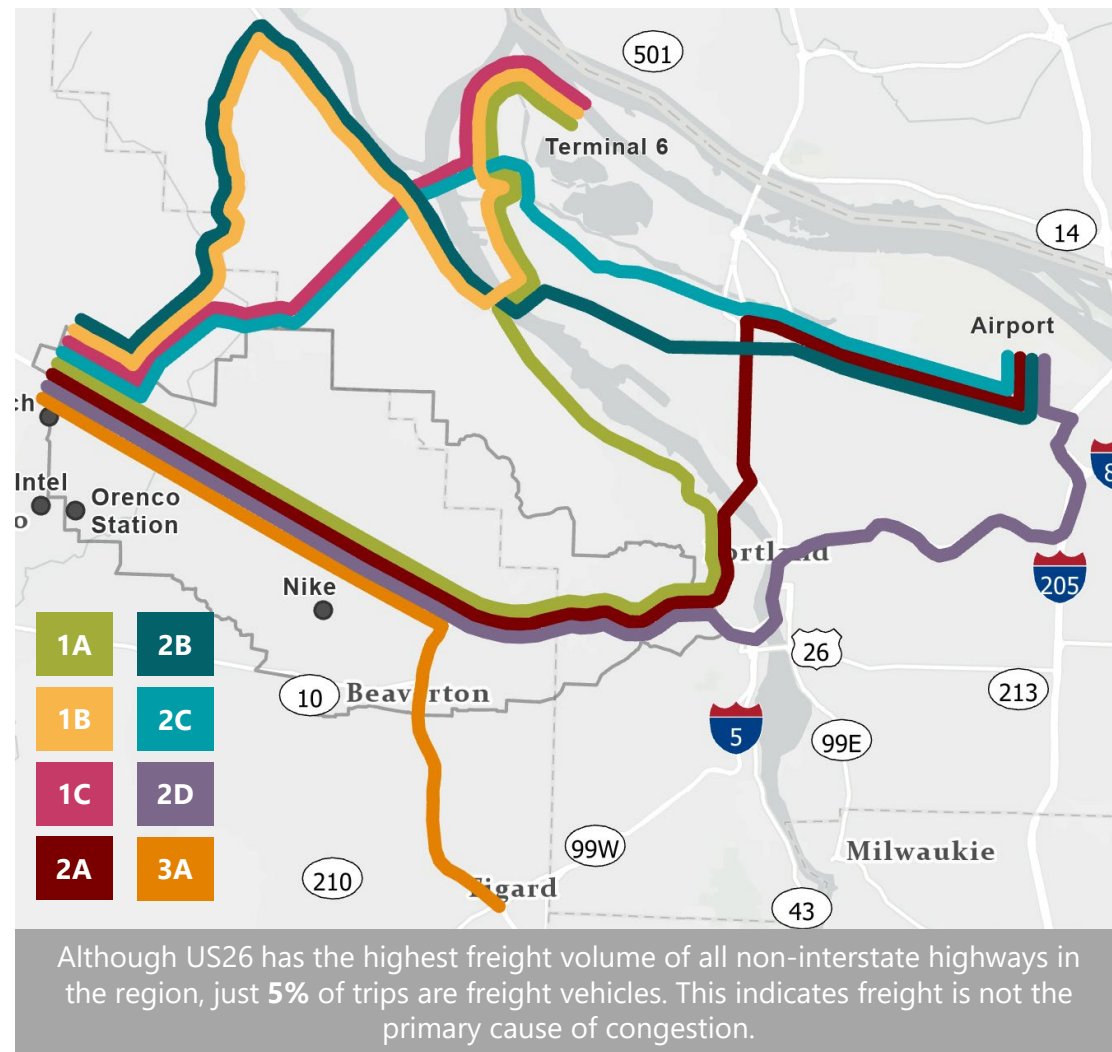
# Change in Households with Access to Job Centers by Mode *(from baseline)*



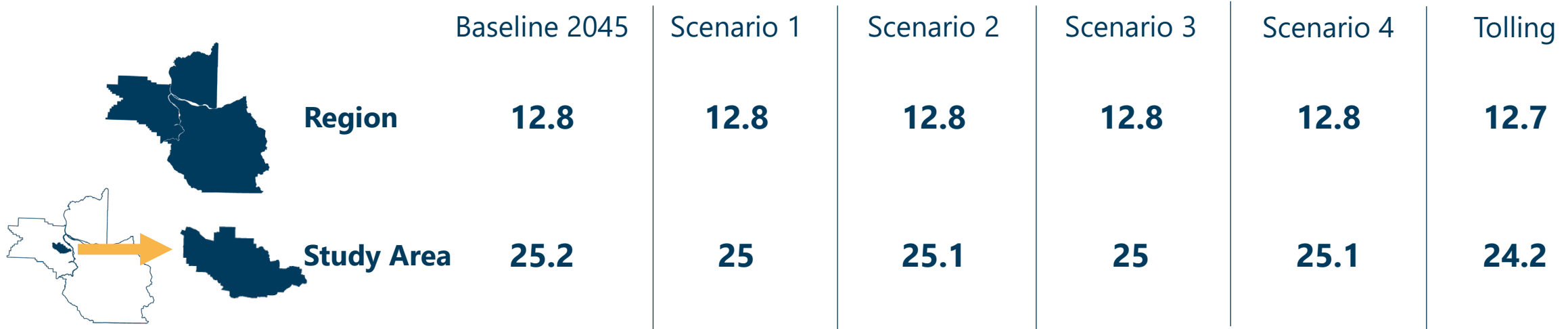
# Freight Routes

## Freight Eastbound Travel Times *(range of minutes based on time of day)*

Freight Routes	Baseline 2045	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario Tolling
<b>1A:</b> To Terminal 6a via US 26	44 - 53	44 - 53	43 - 53	43 - 52	40 - 47	39 - 46
<b>1B:</b> To Terminal 6 via Cornelius Pass	42 - 49	40 - 49	40 - 49	38 - 45	35 - 38	40 - 50
<b>1C:</b> To Terminal 6 via Northern Connector & new Willamette River Bridge	-	-	-	-	19-21	-
<b>2A:</b> To the Airport via US 26, I-405, I-5, Columbia Blvd	36 - 41	36 - 41	36 - 41	36 - 40	33 - 37	32 - 34
<b>2B:</b> To the Airport via Cornelius Pass, St. John's, US 30	49 - 55	48 - 55	48 - 55	46 - 51	43 - 45	48 - 56
<b>2C:</b> To the Airport via Northern Connector & new Willamette River Bridge	-	-	-	-	32 - 35	-
<b>2D:</b> To the Airport via US 26, I-405, I-84, I-205	42 - 49	42 - 49	42 - 49	42 - 48	40 - 46	38 - 42
<b>3A:</b> To OR 217/I-5 via US 26	21 - 25	21 - 25	21 - 25	21 - 24	21 - 24	19 - 21



# Vehicle Miles Traveled (VMT) per capita



Current numbers indicate very little change to per capita VMT compared to Baseline 2045.

The Tolling scenario is the only one that really changes with a 1-mile per capita reduction.



**Questions?**

# **Cost Assumptions & Lead Agency**



# Cost Assumptions & Lead Agency

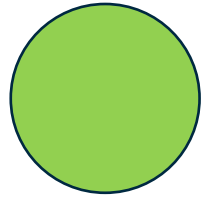
**Estimated costs** are given on the following scale:

- \$ = Less than \$5M
- \$\$ = \$5M to \$50M
- \$\$\$ = \$50M to \$250M
- \$\$\$\$ = \$250M to \$1B
- \$\$\$\$\$ = Over a billion

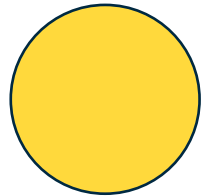
- **Lead agency** or facility owner indicates which entities own the facility or have primary responsibility for the facility or the program. It does not commit the listed agency to take action.
- A lead agency can decline to take up an action (from charter).

# Sorting Activity

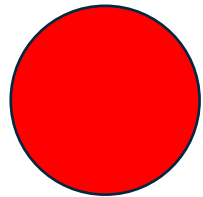
# Instructions for Sticky Wall



**Green** = Move this project forward, should be part of WMIS plan.



**Yellow** = Worthy of further study, but not part of this plan.



**Red** = Should not move forward or beyond our 20-year planning timeline.

# Investment Option Sorting

Does this option address the problem statement?

- Place a dot on the options that are worthy of more study.

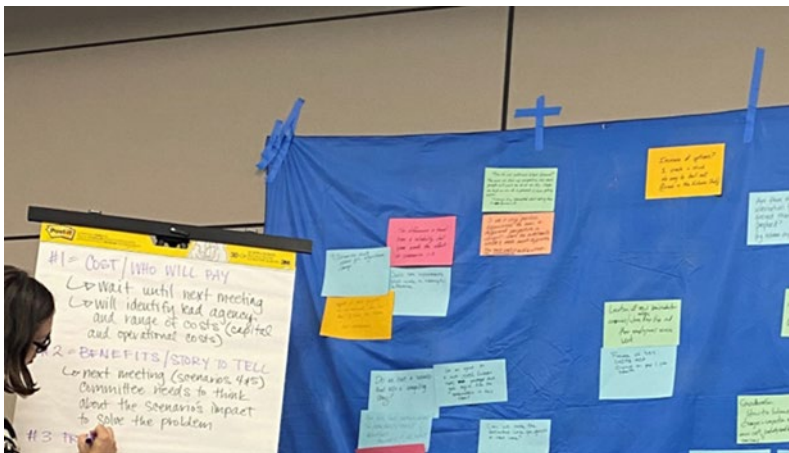
We'll discuss your results and fine tune:

- Is this helpful in the next 20 years?
- What implication does cost have?



# Discussion & Report Back

- What moves the needle?
- Where are there common themes?
- Where are there disagreements?



# Public Comment

# Next Steps

- November 9: Washington County Chamber of Commerce
- November 30: Next WMIS Steering Committee meeting

# Thank you!



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