Congestion + Safety on Portland Highways

Special Subcommittee on Transportation Planning – Meeting #2

Brendan Finn, Urban Mobility Office Director (he/him)
Mingyang Li, Lead Consultant/Data Scientist, WSP USA (he/him)

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Agenda

- Congestion in the Portland region, now and in the future
- Freight and congestion
- Urban Mobility Strategy
We are stuck in traffic.

At the busiest times, highway traffic flow starts to break down at 45 MPH – that means congestion.

Congestion is already pushing vehicles to arterials and local roads, and it will get worse in the future.

Source: ODOT, 2020 Traffic Performance Report; Google
87% of all trips on I-5 and I-205 start and end within the region.

Source: Metro, Regional Travel Demand Model

We cause our own congestion.
89% of passenger vehicle trips on I-5 and I-205 start and end within the region.

Source: Metro, Regional Travel Demand Model
Without action, traffic and delay will increase on I-5 and I-205.

I-5
13% more traffic
30% more delay

I-205
12% more traffic
27% more delay

Compares 2022 with 2045 without UMS projects. Traffic is measured in maximum average annual daily traffic. Delay is measured in number of hours per day in the corridor.

Sources: ODOT Statewide Integrated Model, Regional Integrated Transportation Information System (RITIS)
Congestion will get worse if we do nothing.

- Travel speed through bottlenecks will be even **slower**
- Rush hour will last **longer**
- Congested locations will **grow** in distance
Congestion increases safety risks on and off the highway.

**Crash frequency** on I-5 and I-205 increases with congestion and stop-and-go traffic.

Congestion means that after a crash, it takes longer for **medical and service vehicles** to get to the scene.

Congestion on highways pushes traffic to arterial and local streets. This can create **safety conflicts**.

Source: [ODOT, Safety Priority Index System Reports](https://www.oregon.gov/ODOT/Safety/Pages/priority_index.aspx)
We build **buffer time** into our trips because our travel time is **unpredictable**. That’s time wasted.

**Example: Wilsonville to the Portland Airport (I-205)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Average peak-hour speed</th>
<th>Average travel time range</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>30 mph</td>
<td>29-62 min</td>
</tr>
<tr>
<td>2023 to-date</td>
<td>30 mph</td>
<td>29-61 min</td>
</tr>
<tr>
<td>2040</td>
<td>24 mph</td>
<td>29-76 min</td>
</tr>
</tbody>
</table>

Sources: [ODOT Statewide Integrated Model](https://www.oregon.gov/ODOT/SWM/), Regional Integrated Transportation Information System (RITIS)

Travel speed and time have returned close to pre-pandemic levels and are expected to get worse.

A trip that should take **30 minutes** takes up to **60 minutes** today because of congestion.
We build **buffer time** into our trips because our travel time is **unpredictable**. That’s time wasted.

<table>
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<tr>
<th>Year</th>
<th>Average peak-hour speed</th>
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<tbody>
<tr>
<td>2019</td>
<td>29 mph</td>
<td>19-38 min</td>
</tr>
<tr>
<td>2023 to-date</td>
<td>37 mph</td>
<td>19-29 min</td>
</tr>
<tr>
<td>2040</td>
<td>22 mph</td>
<td>19-50 min</td>
</tr>
</tbody>
</table>

Sources: [ODOT Statewide Integrated Model](https://www.OregonTolling.org), Regional Integrated Transportation Information System (RITIS)

Travel speed and time have returned close to pre-pandemic levels and are expected to get worse.

A trip that should take **20 minutes** could take up to **50 minutes** in 2045 because of congestion.
We rely on freight trucks, and our demand for them is increasing.

Today,

- 70% of daily truck miles traveled occurs on highways
- Trucks carry ~70% of all goods transported from, to, and within Oregon

By 2040, daily truck miles traveled will grow by…

- 57% on highways
- ~75% on collector and local roads

Source: ODOT, 2022 Statewide Congestion Overview PBOT, 2040 Freight Future Conditions Report

Urban Mobility Strategy

Truck traffic is measured in vehicle miles traveled. Percentage increase is projected from 2015 to 2040.
46% of freight trips on I-5 and I-205 start and end within the region.

These trips deliver our packages and help move our export goods.

Source: Metro, Regional Travel Demand Model
We need to prepare the interstates for more freight traffic

Source: FHWA, Freight and Congestion
By 2045, peak hour travel speed will decrease on almost all parts of the ODOT system. Some locations are so congested already that they can’t get much worse. More congestion will spill over onto local streets – this means more diversion.

Source: ODOT Statewide Integrated Model
The Urban Mobility Strategy projects work together to improve safety, resiliency, and congestion.

Example: the I-5 Rose Quarter project alone will not eliminate congestion, but combined with regional tolling, travel will be more reliable in the corridor.
Urban Mobility Strategy Map

**ODOT Projects**
- System Improvement Project
- Bike/Ped Crossing Project
- Regional Mobility Pricing Project
- I-205 Toll Project

**Partner Project with ODOT Support**
- System Improvement Project
- Bike/Ped Crossing Project
- Bus on Shoulder Pilot
- TriMet Project
- Multimodal/Community Study

*Note: Core project names are boxed*
The **Urban Mobility Strategy** is a cohesive approach to make everyday travel safer and more efficient in the Portland metropolitan region.

- **Reduce traffic jams** using congestion pricing with variable-rate tolls
- **Alleviate highway bottlenecks** with improvement projects
- **Create new sustainable funding** to preserve and improve the transportation system
- **Invest** in strategic multimodal transportation improvements
- **Modernize bridges** to withstand a Cascadia-level earthquake
Thank you!

Urban Mobility Strategy