

I-5 Wilsonville Facility Plan

Overview of purpose, scope, and
schedule

Preliminary Findings

City Council Work Session
January 4, 2018



WILSONVILLE
OREGON

Problem

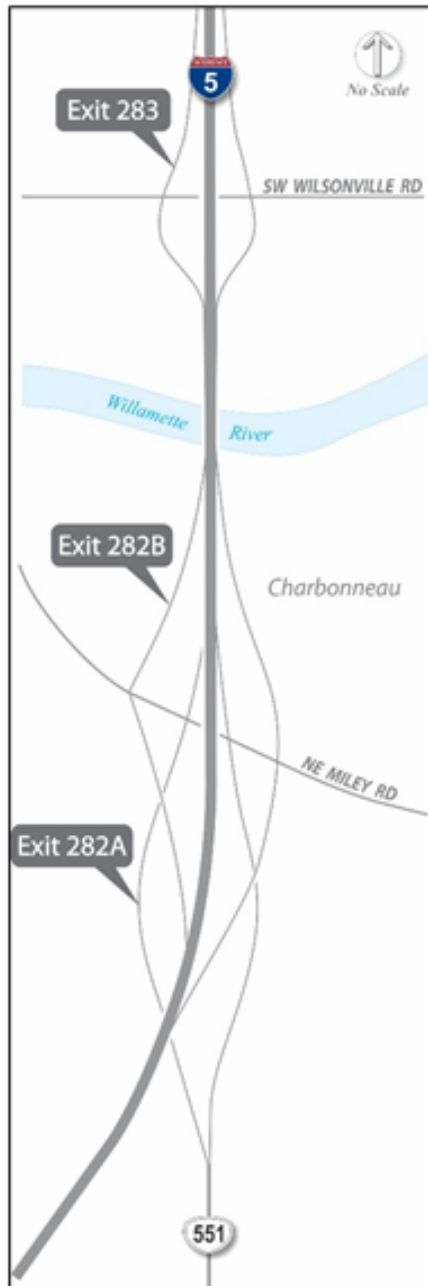


Figure 1: Study Area

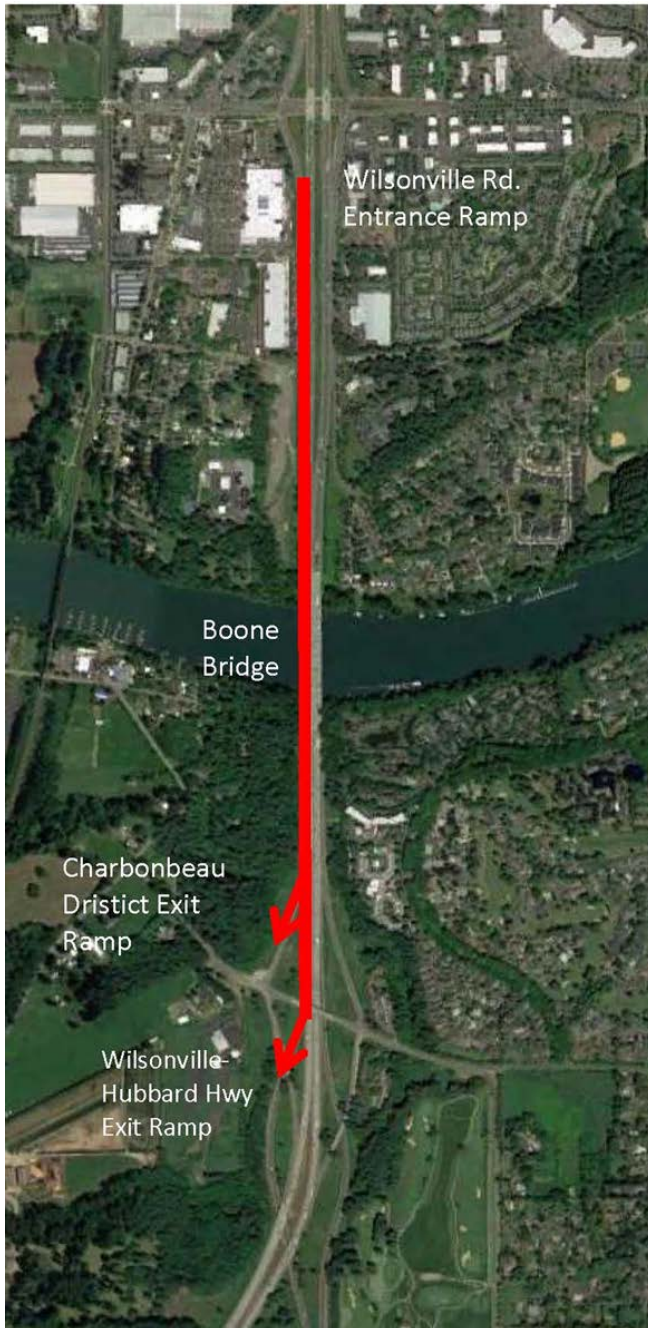
- Bottleneck between Wilsonville Road & Charbonneau and Canby-Hubbard interchanges
- PM speeds drop to 25 to 30 mph
- PM queue spill back toward I-205
- Wilsonville Road congestion
- Freight Delay – 14% freight on I-5 SB
- 319 crashes from 2011-2015

Contributing Factors

- 63,590 vehicles a day cross Boone Bridge going south
- Close spacing of Exits 282A and B and 283
- More than 15% enter at Wilsonville Rd on-ramp
- 30% exit at Charbonneau or Canby-Hubbard
- Right lane overwhelmed by high volumes and weaving to get on and off of I-5
- Weaving results in conflicts which influence mobility and lane capacity



Facility Plan Purpose



- Analyze alternatives for adding an auxiliary lane to I-5 SB from Wilsonville Rd on-ramp to Canby-Hubbard exit
- Ensure public understands and supports auxiliary lane investment
- Include in 2018 RTP

Planning Process

October - January

Technical
analysis of
planning-level
benefits &
impacts

January - February

Gather public
input &
preferences

April - July

Plan will go to
City Council for
resolution, then
OTC for
adoption



Public & Stakeholder Involvement

Technical advisory
committee

1 in-person + 1 online open
house

News releases

3+ stakeholder group visits

Planning Commission
briefings

Public hearings at Planning
Commission & City Council

45-day public review for draft
facility plan

January – May 2018



Image source: <https://cyclotram.blogspot.com/2008/11/boone-bridge.html>



Preliminary Findings

Existing Conditions

1. Traffic volumes
2. Level of service – Freeway performance
3. Trend in travel time
4. Crash history
5. Origins and destinations

Traffic Volumes

Wilsonville Road SB On-Ramp

- Average Daily Trips (ADT): 12,200
- 3-4 pm peak hour: 1,200 vehicles per hour (meter controlled)

Charbonneau Off-Ramp

- ADT: 6,000
- 4-5 pm peak hour: 600 vehicles per hour

Canby/Hubbard Off-Ramp

- ADT: 14,900
- 4-5 pm peak hour: 1,500 vehicles per hour

I-5 Mainline

- Exit 283: As volumes accumulate, speeds begin to drop to 35 mph
- Exit 282 A and B: As volumes accumulate, speeds drop to just under 50 mph



Lane Imbalance

Volume by Lane during Data Collection



Volume by Lane

I-5 at Wilsonville Road:

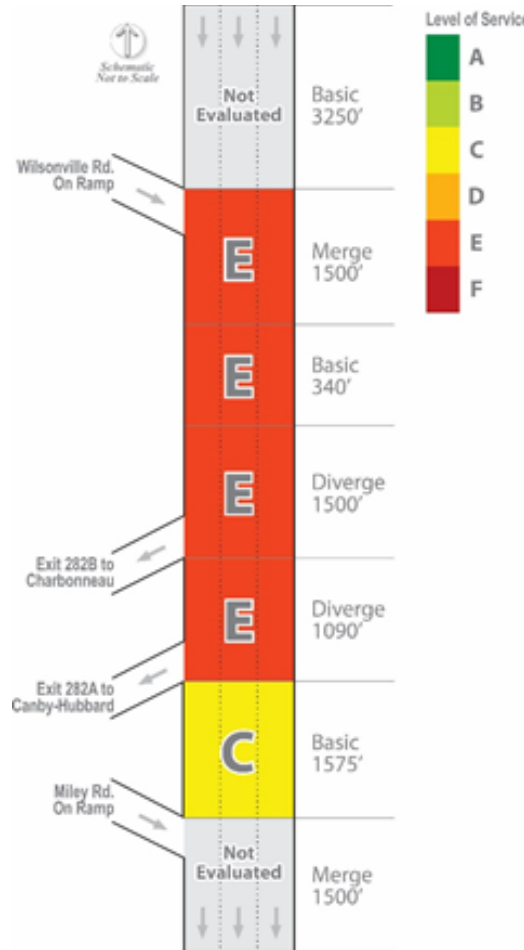
- Left Lane: 8,223
- Center Lane: 6,451
- Right Lane: 5,019

Boone Bridge:

- Left Lane: 8,890
- Center Lane: 6,126
- Right Lane: 9,714



Freeway Performance



HCM Freeway Segment Performance

| | Segment | Volume/ Capacity | LOS |
|---|-----------------------------------------------|---------------------------|-----|
| 1 | Wilsonville Road On-Ramp (Merge) | 0.98 (Fwy) 0.61 (Ramp) | E |
| 2 | Boone Bridge (Basic) | 0.93 | E |
| 3 | Charbonneau Off- Ramp (Diverge) | 0.94 (Fwy) 0.36 (Ramp) | E |
| 4 | Canby/Hubbard Off-Ramp (Diverge) | 0.83 (Fwy) 0.83 (Ramp) | E |
| 5 | South of Canby/Hubbard Off-Ramp (Basic) | 0.57 | C |

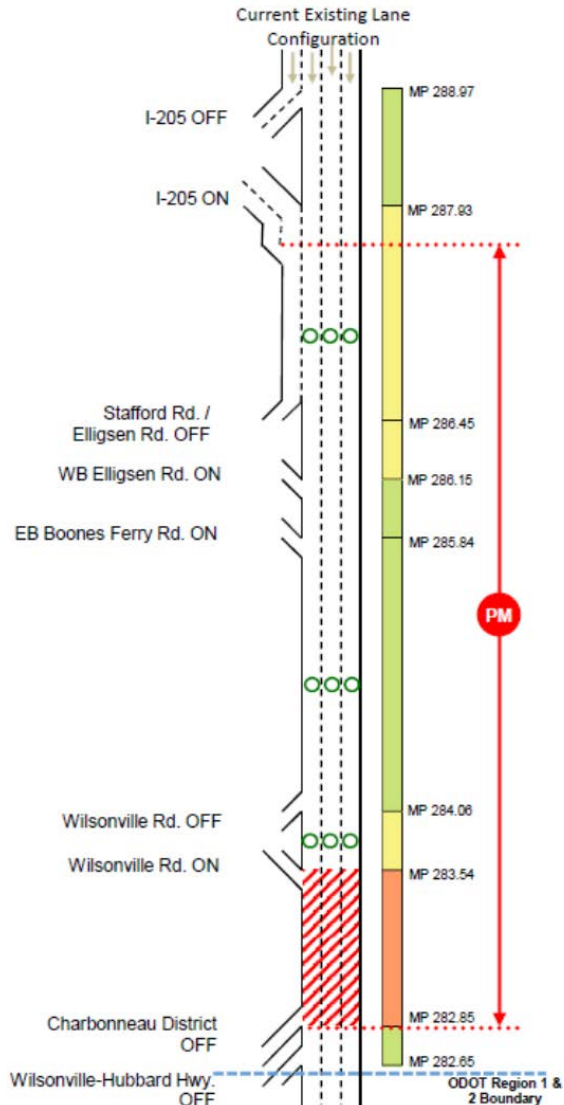
← Worst

Trend in Travel Speed

- Three years of HERE data indicate
- Average travel speeds north of the Wilsonville Road on-ramp bottleneck have slowed over recent years.
 - 2014 – 2015: As low as **42 mph at 5:00 PM**
 - 2015 – 2016: Dropping below **35 mph by 5:00 PM**
 - 2016 – 2017: Reaching about **32 mph around 5:30 PM.**



Crash History



Crashes by Type:

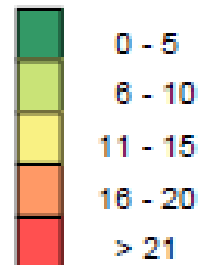
Turning: 3%

Fixed / other object: 3%

Sideswipe: 18%

Rear End: **59%**

Other: 3%



Crashes per mile per year
(2011 to 2015)

Origin-Destination Patterns



Metro model predicts 73% of traffic from the WV Road on-ramp will use one of the two off-ramps in the study area.

Our estimate 59%, but still high enough to make the prospect of an auxiliary lane promising.

Discussion



For more information on the project and to sign-up for updates, see

www.ci.wilsonville.or.us/I-5BooneBridge