

Section 5
Year 2031 Forecast Transportation Conditions

5 YEAR 2031 FORECAST TRANSPORTATION CONDITIONS

This section presents the year 2031 forecast transportation conditions for the St. Helens Area. Included in this section is a summary of the future “no-build” traffic conditions analysis conducted for St. Helens to identify transportation system deficiencies that may exist by the year 2031 if no additional improvements to the system are made in the next twenty years. This analysis was used to inform the identification and evaluation of transportation system options as summarized in Section 6. Additional information related to year 2031 forecast transportation conditions, including details on the operations analyses performed at the study intersections, is included in Technical Memorandum 4: Future Needs, which is provided in the Volume 2 Technical Appendix.

2031 Traffic Volume Forecast

Oregon’s Transportation Planning Rule (TPR) requires communities to develop a 20-year transportation plan to support future land use and economic development. For St. Helens TSP Update, the year 2031 is an appropriate forecast horizon year.

The year 2031 traffic volumes were developed according to the Cumulative Analysis methodology described in the ODOT Analysis Procedures Manual (APM – Reference 10). This type of analysis combines growth in regional traffic volumes along US 30 with growth in local traffic volumes associated with the projected development of available land within the city⁸. A summary of the traffic volume projection process is presented below.

There are several steps required to prepare a cumulative analysis, including:

- Developing a growth rate projection for highway traffic volumes;
- Identifying where household and employment growth is likely to occur in the community;
- Developing estimates of the number of vehicle trips associated with household and employment growth, and;
- Allocating those trips across the city to various growth areas.

⁸ A detailed technical explanation of this methodology and additional information on the forecasts are contained the methodology memorandum included in the Volume 2 Technical Appendix.

Key growth trends identified through the forecasting process include:

- Through traffic on US 30 is projected to increase by 41 percent over the 20-year planning period based on ODOT's Future Volume Tables.
- Anticipated housing growth tends to be focused in the north and central portions of the city both to the east and west of US 30. Modest housing growth is also anticipated in the downtown area.
- Commercial (office) development is expected in nearly all areas of the city but will be largely focused east of US 30 and south of the downtown core.
- Industrial growth is expected east of US 30, primarily in the areas south of downtown.
- Institutional uses (churches, schools, government offices, parks, etc.) will likely be spread throughout the city and particularly focused in the north and central areas on both sides of US 30. In total, 695,000 square feet of new institutional uses could be developed in the city during the next twenty years based on existing zoning designations and developable lands.
- Retail growth is largely anticipated to follow the residential growth areas, with the majority of the growth west of US 30. The amount of new retail building space within the core retail area along the west side of US 30 and in the downtown area is smaller than that anticipated in the northwestern portion of the city.

2031 Traffic Conditions

Forecast 2031 traffic volumes reflect new local and through trips derived by the cumulative analysis process and the seasonally adjusted existing traffic volumes. The 2031 forecast traffic volumes are shown in Figure 5-1, which also shows the results of an operations analysis performed at each of the study intersections.

Table 5-1 summarizes the operational information provided in Figure 5-1 for the intersections that are forecast to fail to meet mobility standards in the year 2031. The table also compares the results to the individual performance standard for ODOT and City intersections.

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LEGEND

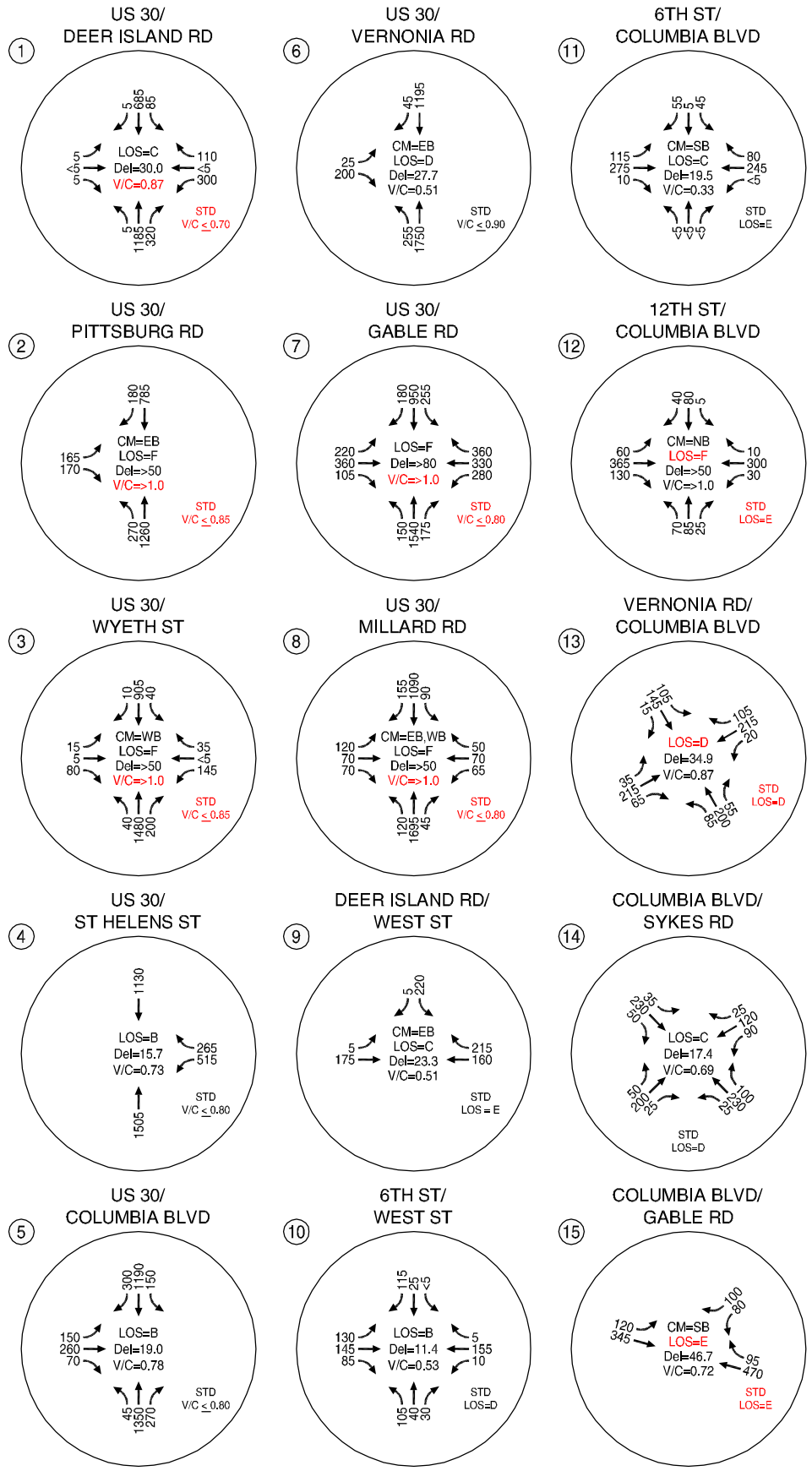
STD = MOBILITY STANDARD

CM = CRITICAL MOVEMENT (UNSIGNALIZED)

LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)

Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)

V/C = CRITICAL VOLUME-TO-CAPACITY RATIO



FORECAST TRAFFIC CONDITIONS
ST. HELENS, OREGON

FIGURE
5-1

TABLE 5-1: INTERSECTION OPERATIONS ANALYSIS, 2031 NO BUILD, WEEKDAY PM PEAK HOUR

Intersection	Existing Traffic Control ¹	Performance Standard	Forecast Intersection Operations	Meets Standard?
ODOT Intersections				
US 30/Deer Island Road	Signal	$V/C \leq 0.70$	0.88	No
US 30/Pittsburg Road	TWSC	$V/C \leq 0.85^2$	>1.00	No
US 30/Wyeth Street	TWSC	$V/C \leq 0.85^2$	>1.00	No
US 30/Gable Road	Signal	$V/C \leq 0.80$	>1.00	No
US 30/Millard Road	TWSC	$V/C \leq 0.80^1$	>1.00	No
City Intersections				
Columbia Boulevard/12 th Street	TWSC	LOS "E"	LOS "F"	No

¹TWSC=Two-way stop control

²V/C ratio reflects minor street approach

As shown in Table 5-1, six of the study intersections are projected to not meet ODOT or City performance standards under 2031 no-build traffic conditions. This is primarily due to growth in local and regional traffic volumes, but also to a general lack of connectivity within the city and a heavy reliance on US 30 for making local trips.

The alternatives analyses presented in Section 6 considers the relationship/interaction between the study intersections and explores opportunities to provide greater connectivity through alternative routes to each of the areas served by these intersections.

Additional issues identified through the future conditions analysis include:

- Limited north-south connectivity between major roadways along US 30;
- Limited connectivity between areas east and west of US 30 and the Portland & Western Rail Line. As a result each of the major intersections along US 30, such as Deer Island, Gable and Millard Road are overloaded under future conditions (as indicated above);
- A lack of north-south collector or arterial level routes on city streets parallel to US 30. As a result, local circulation tends to rely on US 30. For example, to get from the northeast part of the city to any area west of US 30, motorists must use US 30 or travel a significant distance out of direction on local streets;

- A lack of sufficient spacing between US 30 and the parallel roads that do exist east of the highway. For example, the close spacing between US 30 and Oregon Street along Deer Island Road and between US 30 and Milton Way along Columbia Boulevard can make use of the parallel facilities difficult.

Conclusions

The results of the future “no-build” traffic conditions analysis indicate that many of the intersections along US 30 will not meet minimum performance standards by 2031 without significant improvements to the transportation system.

It is unlikely the city and ODOT would allow development to occur without incremental improvements. Readers should understand the results shown in Figure 5-1 are an illustration of what would happen if growth occurred without corresponding improvements. This analysis offers insights as to probable “hot spots” where planning now can help avoid future congestion and capacity failures. Section 6 outlines potential improvement alternatives to address the forecast traffic growth.