



FUTURE NO-BUILD CONDITIONS

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SUBJECT: Gearhart Facility Plan

DRAFT Technical Memorandum #6 (Task 4.1)

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The following memorandum summarizes the 2040 no-build transportation conditions for the US 101 study corridor through the City of Gearhart. The analysis results establish a baseline of the transportation system performance in terms of how well it can serve the future travel demand and user needs in 2040 before assuming any new improvements to the US 101 corridor.

METHODOLOGY FOR ESTIMATING FUTURE TRAVEL

The 2040 no-build transportation conditions were forecasted based on expected new growth, assuming no new investments in infrastructure beyond what already is funded for construction.

FUTURE PEDESTRIAN, BICYCLE AND TRANSIT DEMAND

Methodology for determining future needs for walking, biking, and transit along and across the US 101 corridor through Gearhart is based on an assessment of forecasted population growth and planned uses in the corridor.

Future pedestrian, bicycle, and transit demand is expected to grow as the local population increases and as future policies are implemented. Technical Memorandum #5 (Land Use and Transportation System Inventory) summarizes the current and the 2040 forecasted populations of Gearhart and Clatsop County. The population of Gearhart is forecasted to grow by 5.6 percent by 2040, to a total of 1,618 people. This modest growth is consistent with Gearhart's Comprehensive Plan, which aims to preserve its "low-density, semi-rural character." The Comprehensive Plan also includes policies to promote walking, biking, and using transit, including development of a network of multi-use paths and trails. Implementation of these policies is expected to increase multimodal demand. Zoning along US 101 in the study area allows for additional commercial and residential development, which will bring more people to walk, bike, and use transit along the corridor.

Continued tourism to Gearhart and nearby coastal communities will further contribute to transportation demands, including walking, biking, and transit. Improvements are being planned for the Oregon Coast Bike Route, which will encourage more bicycle tourism through the City.

TRAFFIC VOLUME GROWTH TO 2040

The traffic volume development assumptions are provided in Appendix A, Technical Memorandum #4 – Analysis Methodology. Future traffic growth was estimated based on ODOT’s 2039 Future Volume Tables, which project a growth trend in average daily traffic (ADT) volumes on US 101 through Gearhart of around 1.6 percent annually. The annual growth rate was applied to the 2020 seasonally factored volumes to develop traffic volumes for 2040. The resulting volumes were used in the future traffic operations analysis. Overall, the northbound direction of US 101 is forecasted to serve around 1,000 vehicles, with southbound serving around 900 vehicles during the p.m. peak hour of an average weekday. This represents growth in traffic volumes of around 250 in each direction from the current levels during the p.m. peak hour of an average weekday.

FREIGHT

Existing data indicates that heavy vehicles account for approximately 5 to 6 percent of the traffic on US 101 through Gearhart during an average weekday.¹ Assuming this same share of trucks for the 2040 forecasting volumes would result in about 50 trucks in each direction of US 101 during the p.m. peak hour of an average weekday. Note that the future growth in heavy vehicles may not align with that of light vehicles, particularly since this segment of US 101 is not an Oregon Freight Route. As the level of traffic increases, the heavy vehicle share typically declines, and therefore the actual trucks volumes may be lower than the estimate noted above.

FUTURE 2040 NO-BUILD OPERATING CONDITIONS

The following sections summarize the adequacy of the future baseline facilities along the US 101 corridor, including for the bicycle, pedestrian, transit and motor vehicle travel modes. All facilities along the US 101 corridor are assumed to remain consistent with current conditions (i.e., no improvements were assumed for the no-build analysis).

NO-BUILD INTERSECTION OPERATIONS

The future 2040 no-build operational conditions are expected to continue to meet existing mobility targets, with all intersections operating with a v/c of 0.48 or lower during the future p.m. peak hour of an average weekday, as summarized in Table 1. However, side street delay at a few unsignalized intersections is expected to be high, with the G Street-Oster Road and Gearhart Lane

¹ Automatic Traffic Recorder (04-001), US 101 MP 15.90, 2.09 miles north of Dellmoor Loop Road.

approaches to US 101 expected to operate with a LOS F. Methods and assumptions used for this performance review are summarized in Appendix A, Technical Memorandum #4.

TABLE 1: FUTURE 2040 NO-BUILD STUDY INTERSECTION OPERATIONS (AVERAGE WEEKDAY PM PEAK HOUR)

#	STUDY INTERSECTION	CONTROL	MOBILITY TARGET	V/C	DELAY (SECONDS)	LOS
1	US 101/ G Street-Oster Road	Stop Control on side streets	0.85 v/c; average weekday; peak hour factor of 1.0	0.60 (NB TR) /0.46 (EB L)	10.4/103.8	B/F
2	US 101/ Pacific Way	Signal		0.48	8.3	A
3	US 101/ 5 th Street	Stop Control on side street		0.32 (NB LT) /0.07 (EB L)	9.9/18.3	A/C
4	US 101/ Hillila Road	Stop Control on side street		0.30 (NB TR) /0.05 (WB L)	10.3/24.9	B/C
5	US 101/ Gearhart Lane	Stop Control on side street		0.29 (NB TR) /0.36 (EB L)	10.2/55.3	B/F

Note: Intersection operations are reported for the entire intersection at traffic signals, and for the worst major street turn movement/worst minor street turn movement at two-way stop control intersections.

MULTIMODAL FACILITIES

Future conditions would not be substantially different from what is described in Technical Memorandum #5 (Land Use and Transportation System Inventory). Some improvements for multimodal facilities and transit service in the project area are planned, however few are funded.

Conditions for walking and biking on US 101 in the project area are not expected to improve in the no-build condition. US 101 lacks sidewalks or other and dedicated pedestrian facilities. There is one signalized pedestrian crossing in the project area at Pacific Way, with curb ramps that are likely not ADA compliant. US 101 does not have a dedicated bike facility. The existing shoulders are narrow. The level of traffic stress for walking and biking were calculated for the 2017 Gearhart Transportation System Plan (TSP). The walking level of traffic stress is rated Poor for all of US 101 in the project area. The biking level of traffic stress is rated as Poor for most of US 101 in the project area. These conditions for walking and biking also hinder access to transit.

Projects identified in the TSP would help improve conditions in the project area. For example, a series of aspirational projects would create a lower stress alternative north-south route, allowing people to walk and bike from G Street to Shamrock Road without using US 101. However, these projects are unfunded.

Similarly, there are planned but unfunded improvements identified for transit. The TSP includes projects to improve transit stop facilities and Sunset Empire Transit District has planned modest

increases in service over a 20-year planning horizon. These improvements are unfunded and are not considered in the analysis.

Multimodal facilities are expected to remain substandard in the future 2040 no-build condition and insufficient for growing multimodal demand.

US 101 URBAN DESIGN CONTEXT COMPARISON

The future no-build conditions of the US 101 corridor were compared to guidance from the Oregon Department of Transportation (ODOT) Blueprint for Urban Design (BUD). The BUD provides preferred treatments for various design elements based on the urban context for state highway segments. The US 101 corridor through Gearhart includes two distinct segment types, namely:

- The Commercial Corridor urban context type between Airport Road to 5th Street, and
- The Rural Community urban context type between 5th Street to Ocean Home Farm Lane.

Table 2 highlights differences between how the BUD envisions the Commercial Corridor versus how it functions now and in the future no build case. As shown, many of the vehicle design elements meet the recommended BUD guidance for minimum widths, including shy distance, travel lanes and turn lanes (where they currently exist). However, the segment north of the Pacific Way intersection lacks a median and/or center turn lane, and the target speed exceeds the guidance. Pedestrian and bicycle facilities do not meet BUD guidance in either context in the project area.

TABLE 2: US 101 FROM AIRPORT ROAD TO 5TH STREET COMPARISON TO URBAN CONTEXT

URBAN CONTEXT	ELEMENT	BUD GUIDANCE	FUTURE NO BUILD CONDITIONS
Commercial Corridor	Target Speed (MPH)	30-35 mph	40 mph
	Travel Lanes	Start with minimum widths, wider by Roadway characteristics: Minimum widths: 11-12 ft.	2 or 4 travel lanes, 12 ft. lane width
	Turn Lanes	Balance crossing width and operations depending on desired use. Minimum widths: Two-way left turn lane: 12-14 ft. Left turn lane: 12-14 ft. Right turn lane: 12-13 ft.	14 ft. Center turn lane from Airport Rd to Pacific Wy; 14 ft. Left Turn lanes at Pacific Wy intersection
	Shy Distance	Consider roadway characteristics, desired speeds. Minimum width above 35 mph: 1 ft.	1-4 ft. paved shoulders
	Median	Typically used for safety/operational management. Minimum widths: Raised median (no turn lane): 8-11 ft. Raised median (with left turn lane): 14-16 ft.	No median

URBAN CONTEXT	ELEMENT	BUD GUIDANCE	FUTURE NO BUILD CONDITIONS
	Bicycle Facility	Start with separated bicycle facility, consider roadway characteristics	No dedicated bicycle facility
	Sidewalk	Continuous and buffered sidewalks, with space for transit stations	No sidewalks
	Target Pedestrian Crossing Spacing Range	500-1,000 ft.	One marked crossing in the project area. Next closest crossing is in Seaside, 1.4 miles south.
	On-Street Parking	Not Applicable	No on-street parking

The comparison of the US 101 segment from 5th Street to Ocean Home Farm Lane to the BUD is shown in Table 3. As shown, many of the vehicle design elements meet the recommended BUD guidance for minimum widths, including shy distance, travel lanes and turn lanes (where they currently exist). However, much of the segment south of Shamrock Road lacks a median and/or center turn lane, and the target speed is currently above the BUD guidance.

TABLE 3: US 101 FROM 5TH STREET TO OCEAN HOME FARM LANE COMPARISON TO URBAN CONTEXT

URBAN CONTEXT	ELEMENT	BUD GUIDANCE	FUTURE NO BUILD CONDITIONS
	Target Speed (MPH)	25-35 mph	40-55 mph
	Travel Lanes	Start with minimum widths, wider by Roadway characteristics: Minimum widths: 11-12 ft.	2 or 4 travel lanes, 12 ft. lane width
	Turn Lanes	Balance crossing width and operations depending on desired use. Minimum widths: Two-way left turn lane: 11-12 ft Left turn lane: 11-12 ft. Right turn lane: 11-12 ft.	14 ft. Center turn lane from Shamrock Rd to Ocean Home Farm Ln.; 14 ft. Left Turn lanes at Gearhart Lane and Shamrock Rd intersection
Rural Community	Shy Distance	Consider roadway characteristics, desired speeds. Minimum width above 35 mph: 1 ft.	1-4 ft. paved shoulders
	Median	Optional, use as pedestrian crossing refuge. Minimum widths: Raised median (no turn lane): 8-11 ft. Raised median (with left turn lane): 12-14 ft.	No median
	Bicycle Facility	Start with separated bicycle facility, consider roadway characteristics	No dedicated bicycle facility
	Sidewalk	Continuous and buffered sidewalks, sized for desired use	No sidewalks

URBAN CONTEXT	ELEMENT	BUD GUIDANCE	FUTURE NO BUILD CONDITIONS
	Target Pedestrian Crossing Spacing Range	250-750 ft.	One marked crossing in the project area. Next closest crossing is in Seaside, 1.4 miles south.
	On-Street Parking	Consider on-street parking if space allows	No on-street parking