

DRAFT US 101: Gearhart Facility Plan

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Prepared for

Oregon Department of Transportation

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- F. Technical Memorandum #6: Future No-Build Conditions
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- H. Technical Memorandum #8: Corridor Concepts and Screening
- I. Technical Memorandum #9: Corridor Alternatives and Evaluation
- J. Technical Memorandum #10: Preferred Alternatives
- K. Performance-Based Decision Framework
- L. Environmental Scoping Memorandum
- M. Access Management Key Principles and Methodology
- N. Conceptual Striping Plan
- O. Project Cost Estimates
- P. Public Involvement Summaries

ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
BUD	Blueprint for Urban Design
EJ	Environmental Justice
Facility Plan	US 101: Gearhart Facility Plan
Framework	performance-based decision framework
HDM	Highway Design Manual
LOS	level of service
MP	mile point
MPH	miles per hour
OAR	Oregon Administrative Rules
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
OTC	Oregon Transportation Commission
RRR	Reduction Review Route
ROW	right-of-way
SAC	Stakeholder Advisory Committee
TAC	Technical Advisory Committee
TSP	Transportation System Plan
v/c	volume to capacity

1. EXECUTIVE SUMMARY

[Will do after review of initial draft.]

DRAFT

2. INTRODUCTION

US 101 is a vital north-south route through Gearhart, Oregon, and a critical link between communities on the Oregon coast. It is essential for internal circulation within Gearhart and for traveling to other coastal communities and beyond for both residents and tourists. It also supports regional travel and freight movement.

This US 101: Gearhart Facility Plan (Facility Plan) proposes improvements to make US 101 a safe and accessible facility through Gearhart. The *2017 Gearhart Transportation System Plan* (TSP)¹ identified transportation issues on US 101 including safety for all users, especially related to speeding drivers, difficulty making left turns, and a lack of places for people to comfortably walk and bike. This Facility Plan builds upon the work done for the TSP, as well as other plans, by identifying the needs of US 101 through Gearhart and developing solution investments for a 20-year planning horizon (2040). These investments were conceived and refined through a multi-step process over the course of 18 months. The resulting solutions are outlined in the Corridor Investments section. Ultimately, this Facility Plan will be presented to the Oregon Transportation Commission (OTC) for adoption.

Study Area

The study area for the Facility Plan, depicted in Figure 2-1, is US 101 in Gearhart, Oregon, approximately from Ocean Home Farm Lane (near mile point [MP] 17.15) to Airport Road (near MP 19.34). The corridor is approximately 2.2 miles long.

Corridor Vision and Goals

The vision and goals developed for this Facility Plan are based on local goals already established in the TSP and include guidance from the Oregon Department of Transportation (ODOT) *Blueprint for Urban Design* (BUD),² statewide plans, and local plans. The vision and goals shaped the development of the Facility Plan, particularly the performance-based decision framework (described in the Corridor Investments section) that guided the selection of the Facility Plan projects. The vision and goals were informed by ODOT, the City of Gearhart, the project's stakeholder and advisory committees, and public feedback.

¹ <https://www.cityofgearhart.com/general/page/transportation-system-plan-0>

² https://www.oregon.gov/odot/Engineering/Documents_RoadwayEng/Blueprint-for-Urban-Design_v1.pdf

At the time of writing, the Highway Design Manual and BUD are separate documents. However, ODOT is in the process of incorporating the BUD into the Highway Design Manual.

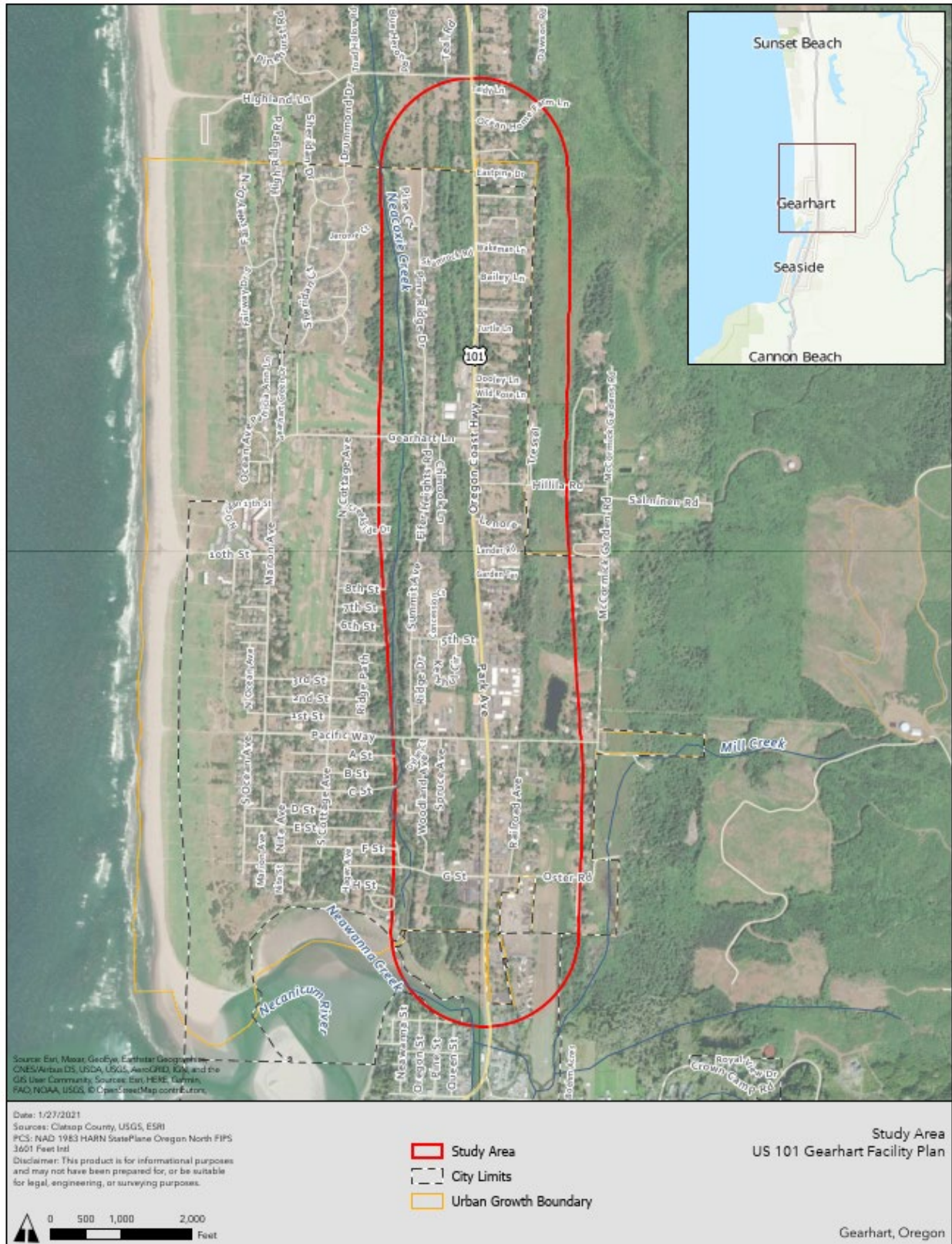


Figure 2-1. Study Area

Vision

This project vision was developed based on guidance from the BUD. The vision aims to clarify what is important for the plan and the desired outcomes as they relate to multimodal transportation and land use.

The following describes the vision for the US 101: Gearhart Facility Plan.

US 101 will be safe for all highway users, including people driving, walking, cycling, or waiting for the bus. The corridor's critical role serving regional traffic is balanced with changes that will calm traffic, increase highway safety, reduce flooding, and add visual appeal. As Gearhart's second "Main Street," people will feel both safe and comfortable accessing local businesses on foot or by bike.

Primary users of the US 101 corridor through Gearhart include bicyclists, pedestrians, motorists, and transit users; travelers include a mix of residents, regional through-traffic, and tourists. Bicyclists ride along the Oregon Coast Bike Route through Gearhart, and pedestrians access businesses on both sides of the highway and hike along a portion of the Oregon Coast Trail that runs adjacent to US 101 south of G Street. Transit stops are located on US 101 near Pacific Way (northbound and southbound).

Goals

The project goals reflect local goals expressed in the Gearhart TSP and guidance from the BUD. Stakeholder and public input helped to refine these goals.

1. Ensure that the US 101 corridor is safe and comfortable for everyone using the highway, including drivers, freight, and people who walk, cycle, use mobility devices, or take transit.
2. Design, operate, and maintain the US 101 corridor to align highway function with the evolving character of the surrounding community.
3. Address stormwater and flooding issues in the corridor that create hazards for all users.
4. Balance corridor travel needs so people and goods can affordably, reliably, and efficiently reach their destinations across all modes of travel.
5. Ensure that the US 101 corridor is convenient and accessible and connects people to destinations throughout the city and beyond.
6. Reduce transportation-related disparities and barriers along the US 101 corridor.
7. Protect the natural, cultural, and built environments with context-sensitive design solutions.

3. PLAN DEVELOPMENT

This Facility Plan was developed through a process that began in fall 2020 (see Figure 3-1).

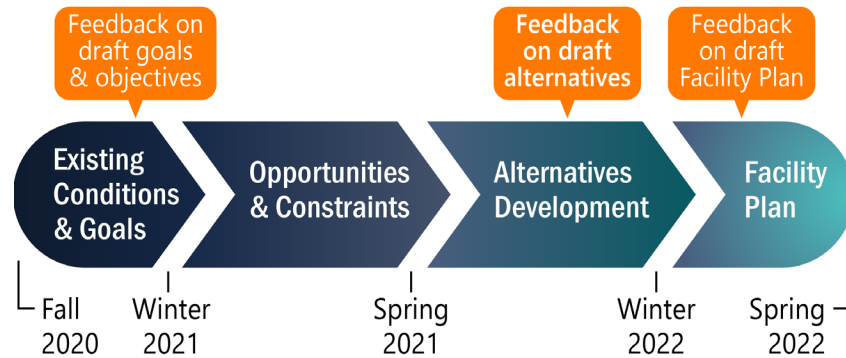


Figure 3-1. Project Timeline

Process Overview

Development of this plan, and the investments within it, was done through a multi-step process that was documented in reports and memoranda (Table 3-1). These documents were provided in draft form to the SAC and TAC for review, and their feedback informed the final versions. This Facility Plan is the culmination of the progression of these documents through the project.

Investments included in this Facility Plan began as concepts from the Gearhart TSP and stakeholder discussions. They were developed to realize the vision and goals established for the corridor and were shaped by feedback from ODOT, the City of Gearhart, the Stakeholder Advisory Committee (SAC), the Technical Advisory Committee (TAC), and the public. The investments in this plan have been developed to comply with the ODOT *Highway Design Manual* (HDM)³ and to fit the urban contexts as defined in the BUD. Land use along the corridor was closely considered to find appropriate improvements that serve existing and anticipated future needs.

³ <https://www.oregon.gov/odot/Engineering/Pages/Hwy-Design-Manual.aspx>

Table 3-1. Project Reports and Memoranda

Memorandum	Contents	Appendix
TM #1: Public Involvement and Communications Plan	Outlines approach for community engagement over the course of the project. Considers Title VI and Environmental Justice (EJ) populations.	A
TM #2: Plan and Policy Review	Lists relevant existing plans, policies, regulations, and standards including those from federal, state, and local sources. These inspired initial solution concepts and guided plan development.	B
TM #3: Project Definition and Corridor Vision and Goals	Defines the purpose and need for this Facility Plan and also defines the vision and goals for the study area.	C
TM #4: Analysis Methodology	Provides an overview of the methods and assumptions that were subsequently used to establish existing and future conditions.	D
TM #5: Land Use and Transportation System Inventory	Describes existing conditions in the study area for land use, the transportation system, environmental resources, and demographics.	E
TM #6: Future No-Build Conditions	Forecasts future conditions for the 2040 horizon year. Includes implementation of planned projects that are financially committed.	F
TM #7: Summary of Corridor Issues, Opportunities, and Constraints	Summarizes issues, opportunities, and constraints based on the findings in TM #5 and TM #6 and the established vision and goals.	G
TM #8: Corridor Concepts and Screening	Documents concepts generated during project workshops and screens the concepts with the Performance-Based Decision Framework.	H
TM #9: Corridor Alternatives and Evaluation	Identifies initial investment alternatives based on the concepts described in TM #8. Evaluates the alternatives using the Performance-Based Decision Framework.	I
TM #10: Preferred Alternatives	Describes the preferred investment alternatives, refined from TM #9.	J
Performance-Based Decision Framework	Identifies performance criteria and measures of effectiveness to guide plan development and inform later phases of design.	K
Environmental Scoping Memorandum	Identifies applicable environmental regulations, laws, and standards that may affect design and construction of Facility Plan investments. Also includes anticipated environmental impacts, mitigation measures, and permitting requirements. Informed the development of conceptual corridor improvements.	L
Access Management Key Principles and Methodology	Addresses how properties shall be evaluated to retain or obtain US 101 access through Facility Plan implementation.	M
Conceptual Striping Plan	A planning-level striping plan for the study area to illustrate how the Facility Plan investments could look when implemented.	N
Project Cost Estimates	Excel file (electronic document) that includes the calculations used for project cost estimates.	O
Public Involvement Summaries	Summarizes feedback heard during each outreach milestone.	P

TM = Technical Memorandum.

Outreach Process

Multiple strategies were used to share information and gather feedback related to the Facility Plan through the plan's development. The project team sought input from technical advisors, interested stakeholders, and the public.

Stakeholder and Technical Advisory Committees

The SAC and TAC advised during development of this Facility Plan. Members of the two committees reviewed project materials, guided the project management team, and provided feedback on issues throughout the project. The two committees brought a broad set of perspectives and interests to the project.

The SAC and TAC each had four meetings throughout the project to provide input at key decision points, which included at the following public involvement milestones:

- SAC Meeting #1: February 18, 2021
- SAC Meeting #2: May 6, 2021
- SAC Meeting #3: October 26, 2021
- SAC Meeting #4: February 16, 2022
- TAC Meeting #1: February 16, 2021
- TAC Meeting #2: May 4, 2021
- TAC Meeting #3: October 26, 2021
- TAC Meeting #4: February 14, 2022

In addition, members of the SAC and TAC met in person on July 21, 2021, to walk through the study area.

Public Engagement Tools

Public feedback was also sought and consulted in developing this Facility Plan. The multiple public engagement tools used and the responses received are summarized in Table 3-2. For more details about outreach and communication tools, see Appendix P, Public Involvement Summaries.

Table 3-2. Engagement Summary

	Engagement Tool	Opportunity for Feedback	Responses
Milestone 1 (March 1–26, 2021)	Online open house and survey	Survey responses	13 surveys
	Web map	Web map comments	6 comments
	Email	Email or phone reply	2 emails
	Interviews	Dialog	1 interview
Milestone 2 (November 3–30, 2021)	Online open house and survey	Survey responses	94 surveys
	Email	Email or phone reply	6 emails

Outreach Feedback

Safety was a consistent theme in feedback through both outreach milestones. Three safety issues emerged as top priorities:

- People driving at high speeds.
- Difficulty turning left onto or off of US 101.
- Need for pedestrian crossings to safely walk across US 101.

Many comments suggested strategies to improve these conditions such as adding signalized intersections, reconfiguring lanes, and marking pedestrian crossings.

In addition to safety issues, these themes emerged:

- Concerns about flooding and fixing standing water drainage issues along US 101.
- Concerns about the protection of wildlife.
- Both positive and negative reactions to a roundabout concept proposed at the intersection with Gearhart Lane.
- Interest in improvements outside of the study area such as to Highlands Lane, the bridge between Gearhart and Seaside (over Neawanna Creek), connections beyond Gearhart to Seaside and Warrenton, and US 101 in Astoria.

Title VI Inclusive Outreach Strategies

In compliance with the Civil Rights Act of 1964, Environmental Justice (EJ) executive order provisions, and ODOT Guidelines for Addressing Title VI/EJ in Transportation Planning,⁴ the project actively identified Title VI and EJ populations living within Gearhart and used outreach strategies to encourage fair and meaningful participation by these populations in the decision-making process including the strategies listed below. More details can be found in Appendix A (Public Involvement and Communications Plan) and Appendix P (Public Involvement Summaries). The following outreach strategies were used in developing this plan:

- Included Title II, Title VI, and EJ populations within the community.
- Engaged existing community organizations such as advocacy groups that work with or serve Title II, Title VI, and EJ populations.
- Conducted inclusive meetings and virtual community events with materials in English and Spanish, and provided the option of additional accommodation by request.
- Ensured the planning process does not result in projects that have a disproportionate negative impact on Title II, Title VI, and EJ populations, such as displacing or creating barriers between them and the rest of the community.

⁴ https://www.oregon.gov/ODOT/Planning/Documents/TitleVI-EJ_Guidance.pdf

4. EXISTING CONDITIONS

This section summarizes the current land use, transportation system, and environmental resources in the corridor to illustrate the existing conditions relevant to this Facility Plan. For a more detailed inventory of existing conditions, see Appendix E, Technical Memorandum #5: Land Use and Transportation System Inventory.

Land Use

Gearhart is a coastal community and a popular vacation destination known for its beachfront and golf course. The majority of the city is zoned residential, with most residential areas designated as low-density residential. The study area includes resort commercial, general commercial, commercial planned residential development, medium-density residential, and public or semi-public zoning. Commercially zoned areas in this strip along US 101 are diverse and include dining options, a bowling alley, retail shops, professional offices and services, and a concentration of industrial supply businesses near the southern city limits. A map of the current zoning of Gearhart can be found in Figure 4-1.

Population

The City of Gearhart has a permanent population of over 1,500, which makes up roughly 4 percent of Clatsop County's population. The Gearhart TSP estimates that the population rises to over 3,500 in the summer because of people visiting.

Table 4-1 compares the demographics of Gearhart, Clatsop County, and Oregon overall. The population in Gearhart is approximately 95 percent white, which is a higher proportion than that for the county (85.7 percent) and the state (76 percent). Gearhart's population is 2.5 percent Hispanic or Latino and 2.2 percent Asian. While the share of young people in Gearhart is similar to that for the county and state, the share of the population that is 65 or older in Gearhart (26.9 percent) is higher than for both the county (20.8 percent) and the state (16.7 percent).

In compliance with the Civil Rights Act of 1964, EJ executive order provisions, and ODOT Guidelines for Addressing Title VI/EJ in Transportation Planning, the project actively identified Title VI and EJ populations living within Gearhart. These populations in Gearhart include low-income households (5.3 percent), people of color (5 percent), and adults over 65 (27 percent).

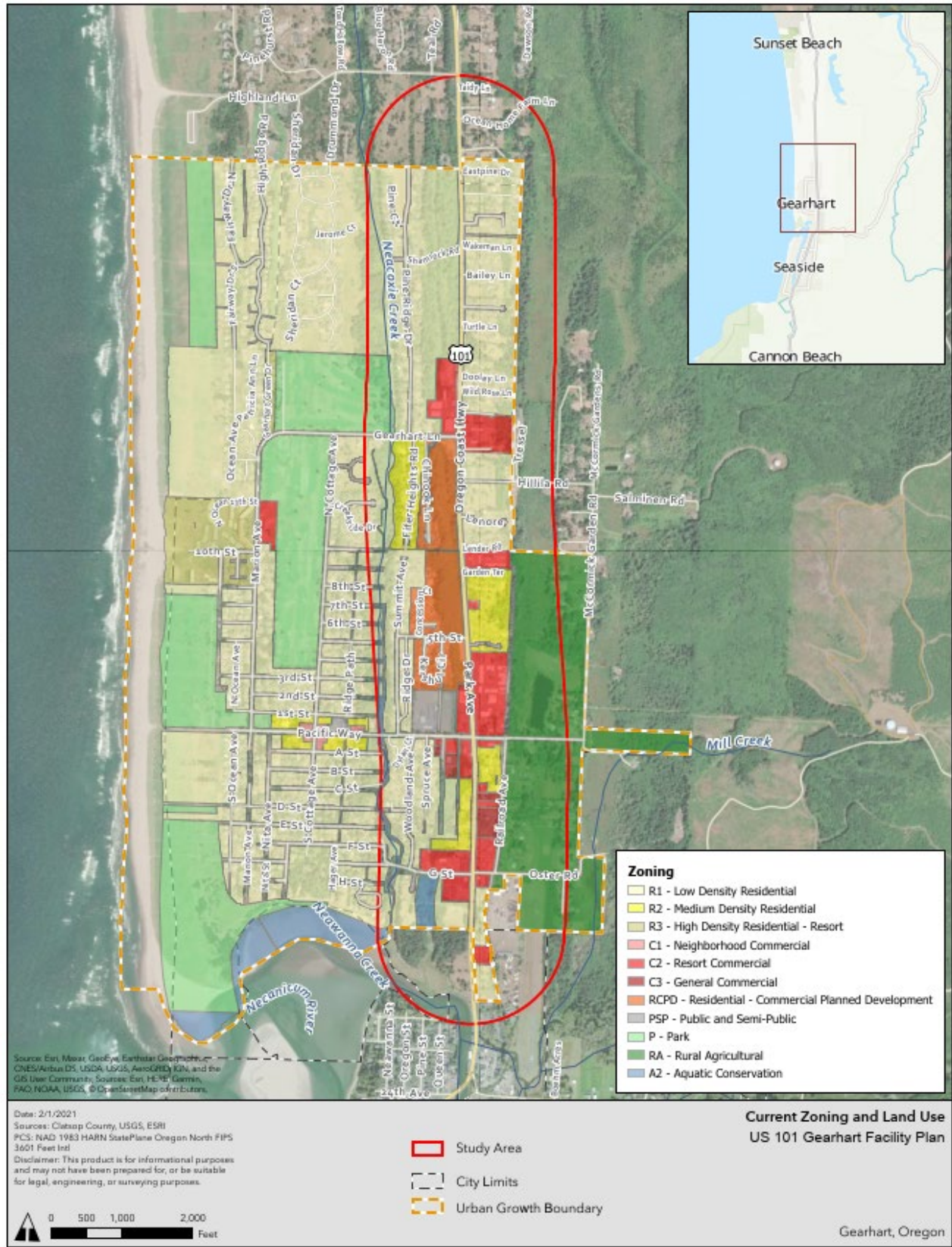


Figure 4-1. Current Zoning and Land Use

Table 4-1. Gearhart Demographic Information

	Gearhart		Clatsop County		Oregon	
	Total	Percent	Total	Percent	Total	Percent
Total Population	1,531	--	38,562	--	4,081,943	--
Youth (Under 18)	304	19.9%	7,511	19.5%	868,178	21.3%
Older Adults (65+)	412	26.9%	8,015	20.8%	682,546	16.7%
Total Families	432	--	9,631	--	1,005,869	--
Families Below Poverty Level	23	5.3%	539	5.6%	92,540	9.2%
Race and Ethnicity						
White (Non-Hispanic)	1,451	94.8%	33,048	85.7%	3,103,557	76.0%
Hispanic or Latino	39	2.5%	3,260	8.5%	523,956	12.8%
Asian alone (Non-Hispanic)	33	2.2%	400	1.0%	172,505	4.2%
American Indian and Alaska Native alone (Non-Hispanic)	0	0%	116	0.3%	36,776	0.9%
Black or African American alone (Non-Hispanic)	0	0%	272	0.7%	74,356	1.8%
Two or More Races	8	0.5%	1,340	3.5%	149,082	3.6%

Data Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates.

Tables: DP05 – ACS Demographic and Housing Estimates, S1702 – Poverty Status in the Past 12 Months of Families.

US 101 Roadway

US 101 is the major transportation route through Gearhart. It runs north-south—bisecting the city. It is part of the National Highway System and is under ODOT jurisdiction. Within Gearhart, US 101 has the following designations:

- Principal Arterial (federal designation)
- Statewide Highway
- Scenic Byway
- Tier 3 Lifeline Route
- Federal Truck Route / National Network
- Reduction Review Route (RRR)
- High Clearance Route

US 101 has three vehicle lanes at the south end and north end of the study area. Between Pacific Way and Shamrock Road it has four vehicle lanes. In some sections, additional left-turn lanes bring the roadway to five lanes. The posted speed on US 101 ranges from 40 MPH at the south end to 55 MPH at the north end of the study area. A traffic signal is located at the Pacific Way intersection, while all other collector street intersections with US 101 include stop control on the side street.

Bridge Locations and Conditions

There are no bridges along the US 101 study area through Gearhart. However, along US 101 just south of the study area is a bridge over Neawanna Creek (ID 01305) and a culvert that Mill Creek flows through below.

Freight Traffic Inventory

Heavy vehicles account for approximately 5 to 6 percent of the traffic on US 101 through Gearhart during an average weekday. Federal Truck Routes generally require 12-foot-wide travel lanes, while a review of potential reduction of vehicle-carrying capacity is required for all proposed actions on RRRs.

Bicycle and Pedestrian Inventory

US 101 lacks dedicated bicycle and pedestrian facilities such as sidewalks, bicycle lanes, and multi-use paths. When people walk along the corridor, they generally use the narrow shoulders, paved or gravel strips next to the roadway, or adjacent paved parking lots where available.

One signalized intersection in the study area (US 101 and Pacific Way) has marked crosswalks (Photograph 4-1). The intersection includes call buttons for crossing Pacific Way. Because there are no sidewalks, there are also no curb ramps. No other marked crosswalks exist along the corridor. There are also no marked crosswalks across perpendicular street and driveway crossings.



Photograph 4-1. Pacific Way at US 101 Intersection

Motor Vehicle Operations

With 2020 traffic volumes, all study area intersections met the mobility targets and had only minor delay at side street approaches to US 101. Details of the traffic analysis methodology, including seasonal factors and volume development, are provided in Appendix D, Technical Memorandum #4: Analysis Methodology.

Alternative Mobility Targets

The OTC has adopted alternative mobility targets for the US 101 corridor through Gearhart. Targets are based on average weekday conditions instead of peak summer conditions. These standards require that a v/c ratio of 0.85 be maintained during an average weekday, with a peak-hour factor of 1.0. Using an average weekday as a target instead of a peak summer day acknowledges that traffic conditions will be more congested during the summer months. Using the average weekday alternative mobility target

allows ODOT and the City of Gearhart to focus on maintaining efficient operations during the majority of the year.

Safety Analysis

ODOT crash data from January 2014 through December 2018 for the US 101 study area through Gearhart showed a total of 70 crashes (an average of about 14 crashes a year). There were no fatalities during the 5-year period, although two crashes caused serious injuries. Crash severity was reported as:

- 51 percent: property damage only
- 46 percent: minor and possible injuries
- 3 percent: serious injuries

None of the crashes in the study area involved pedestrians or bicycles. However, one pedestrian fatality occurred beyond the study area, just to the south of Airport Road. A pedestrian fatality also occurred in a crash near Highland Lane north of the study area. A separate crash near Highland Lane involved someone biking.

Additional records from the Gearhart Police Department indicate that there may be more crashes than reported in the ODOT crash data. The Gearhart Police showed an additional 68 crashes that occurred along US 101 in the same 5-year period, although no information was provided on crash severities or causes. For consistency, this Facility Plan safety analysis only used the data reported by ODOT. Further information on the safety analysis can be found in Appendix E, Technical Memorandum #5: Land Use and Transportation System Inventory.

Intersection Safety

The intersection of US 101 and Gearhart Lane had 11 crashes in the analysis period, which exceeded the state's 90th percentile crash rate. Turning movement crashes were most the common crash type here. The high crash rate may be due to the high speeds along US 101 and the five lane configuration, which requires drivers to cross three lanes of traffic to complete a left turn onto US 101 from Gearhart Lane.

Roadway Segment Safety

The crash rates using ODOT crash data for segments of US 101 in the study area were found to be lower than the statewide crash rate.

Alignment with Blueprint for Urban Design

The BUD provides guidance and preferred treatments for various design elements based on the urban context for state highway segments. These treatments are tailored to the area's urban context, which is determined from existing and planned land uses. The US 101 corridor through Gearhart includes two distinct segment types, namely:

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

Table 4-2 describes the BUD recommendations for design elements in each of the corridor's two urban contexts.

Table 4-2. BUD Context Design Elements

Element	BUD Guidance: Rural Community (Ocean Home Farm Lane to 5th Street)	BUD Guidance: Commercial Corridor (5th Street to Mill Creek Lane)
Target Speed (MPH)	25-35	30-35
Travel Lanes	Start with minimum widths, wider by roadway characteristics: <ul style="list-style-type: none"> • Minimum widths: 11-12 ft. 	Start with minimum widths, wider by roadway characteristics: <ul style="list-style-type: none"> • Minimum widths: 11-12 ft.
Turn Lanes	Balance crossing width and operations depending on desired use. Minimum widths: <ul style="list-style-type: none"> • Two-way left-turn lane: 11-12 ft • Left-turn lane: 11-12 ft. • Right-turn lane: 11-12 ft. 	Balance crossing width and operations depending on desired use. Minimum widths: <ul style="list-style-type: none"> • Two-way left-turn lane: 12-14 ft. • Left-turn lane: 12-14 ft. • Right-turn lane: 12-13 ft.
Shy Distance	Consider roadway characteristics, desired speeds. Minimum width above 35 MPH: 1 ft.	Consider roadway characteristics, desired speeds. Minimum width above 35 MPH: 1 ft.
Median	Optional, use as pedestrian crossing refuge. Minimum widths: <ul style="list-style-type: none"> • Raised median (no turn lane): 8-11 ft. • Raised median (with left-turn lane): 12-14 ft. 	Typically used for safety/operational management. Minimum widths: <ul style="list-style-type: none"> • Raised median (no turn lane): 8-11 ft. • Raised median (with left-turn lane): 14-16 ft.
Bicycle Facility	Start with separated bicycle facility, consider roadway characteristics	Start with separated bicycle facility, consider roadway characteristics
Sidewalk	Continuous and buffered sidewalks, sized for desired use	Continuous and buffered sidewalks, with space for transit stations
Target Pedestrian Crossing Spacing Range	250-750 ft.	500-1,000 ft.
On-Street Parking	Consider on-street parking if space allows	Not Applicable

Environmental Resources

This Facility Plan includes environmental resources considerations, as summarized below, to better inform investment development and decision-making as potential projects evolve. The environmental resource analysis identifies potential resources that should be noted as the process moves forward. For more details about environmental resources in the corridor, anticipated impacts, and potential mitigation measures, see Appendix L, Environmental Scoping Memorandum.

Wetlands and Waters

- There are flood plains immediately to the west of the study area. Most of the southern part of the corridor is also located within a 100-year floodplain. Desk research and field visit findings show that there are extensive wetlands throughout the study area.

Biological Resources and Threatened and Endangered Species

- Protected salmon species are known to use Neawanna Creek and Neacoxie Creek which are near the study area. Several other threatened or endangered species are also likely to occur in the study area.

Cultural Resources

- The study area is situated in an area known for extensive precontact shell midden deposits associated with thousands of years of use and settlement by Native Americans. No known resources are mapped as extending into the Highway 101 right-of-way but few of the sites have been formally recorded or evaluated, so overall, the extent and boundaries of most archaeological resources is unknown. Within the study area (quarter-mile buffer), 240 parcels appear to contain buildings aged 45 years or older.

Visual Impacts, Section 4(f), Section 6(f)

- Privately owned Bud's RV Park and Campground and the public North Gateway Park are both located in the corridor. North Gateway Park, the Oregon Coast Bike Route, and Oregon Coast Trail are considered Section 4(f) assets. There are no Section 6(f) properties.

Air, Noise, and Energy

- The study area is not located in a maintenance area or a non-attainment area.

Hazardous Materials

- Several sites within one mile of the corridor were identified on regulatory databases; however, none of the sites are situated within the proposed corridor itself.

Geologic Hazards

- US 101 is the only Lifeline Route in Gearhart, and this emergency response route is designated as Tier 3 in the OHP. Much of the city is within the Local Cascadia Earthquake and Tsunami area, and portions of the city and its western coast are in the distant tsunami evacuation zone.

Issues, Opportunities, and Constraints

Issues, opportunities, and constraints along the corridor were defined to guide the Facility Plan solutions. They were identified through analysis of the existing conditions and feedback from the SAC, TAC, and public outreach. These are described in detail in Appendix G, Technical Memorandum #7: Summary of Corridor Issues, Opportunities, and Constraints. The identified issues are listed below.

Motor vehicle mobility and safety

- **Issue 1:** The segment north of the Pacific Way intersection and much of the segment south of Shamrock Road lacks a median and/or center turn lane, and the posted speed exceeds the BUD target speed guidance.
- **Issue 2:** There is a high percentage of non-local travelers.

- **Issue 3:** Speeding has been noted by Gearhart Police Department as a top safety concern.
- **Issue 4:** Safety is a concern at the intersection of US 101 and Gearhart Lane which has a crash rate that exceeds the 90th percentile.
- **Issue 5:** Under future 2040 no-build conditions, side street delay at a few unsignalized intersections is expected to be high, with the G Street-Oster Road and Gearhart Lane approaches to US 101 expected to operate with an LOS of F.

Motor vehicle access

- **Issue 6:** All segments of US 101 through Gearhart currently have more driveway and public street approaches than allowed based on ODOT highway access spacing standards.

Bicycle and pedestrian mobility and safety

- **Issue 7:** Though cyclists and pedestrians can legally use the highway, conditions are not comfortable, and safety is a concern, especially with respect to crossings.

Public transportation

- **Issue 8:** Transit stops in the corridor have few amenities.
- **Issue 9:** The lack of improved pedestrian crossings near current transit stops can encourage unsafe crossing behavior.

Freight access and mobility

- **Issue 10:** US 101 is a Federal Truck Route and RRR for freight.

Gateways

- **Issue 11:** There are no welcoming “gateway” treatments along US 101.

Regional trails

- **Issue 12:** The Oregon Coast Trail and Oregon Coast Bike Route are both present in the corridor, and the corridor is identified as a “critical need” area by the *Oregon Coast Bike Route Plan*.⁵

Streetscape

- **Issue 13:** The current streetscape lacks “Main Street” qualities such as street trees, landscaping, lighting, and infrastructure that increase aesthetic appeal and support place-making.

Stormwater and flooding

- **Issue 14:** There are ongoing stormwater and flooding issues at several points in the corridor; lack of water quality treatment.

Natural, historic, and built environment resources

- **Issue 15:** There are multiple protected resources in the corridor including wetlands immediately adjacent to US 101 and likely Section 4(f) properties (e.g., parks, wildlife areas, historic and cultural sites).

⁵ https://www.oregon.gov/odot/Projects/Project%20Documents/OCBR_FinalPlan_1-22_lowres_spread.pdf

5. FUTURE CONDITIONS

Future transportation conditions were estimated for a 2040 horizon year. This analysis focuses on study area transportation system operations using forecasted growth of population and traffic volumes.

Population and Traffic Growth

The Population Research Center at Portland State University estimates that the Gearhart population will increase by 5.7 percent to just over 1,600 in 2040. Traffic is expected to increase at a faster pace than population. Future traffic forecasts estimate that the northbound direction of US 101 will serve around 1,000 vehicles, with southbound serving around 900 vehicles during the p.m. peak hour of an average weekday. This represents a growth of around 250 vehicles in each direction, an increase of over 30 percent from current levels.

Future Intersection Operations

Future 2040 no-build operational conditions are expected to continue to meet existing mobility targets, as summarized in Figure 5-1. However, side street delay at a few unsignalized intersections is forecasted to be high, with the G Street-Oster Road and Gearhart Lane approaches to US 101 expected to operate with a level of service (LOS) of F. Methods and assumptions used for this performance review are described in Appendix D, Analysis Methodology.

Figure 5-1. Future No-Build Traffic Operations

Study Intersection	Intersection Control	Maintain Existing Lane Configuration		
		V/C	Delay (seconds)	LOS
US 101/ Gearhart Ln.	Stop Control on side street (R-2a)	0.29 (NB TR) /0.36 (EB L)	10.2 (SB L) /55.3 (EB L)	B (NB L) /F (EB L)
US 101/ Hillila Rd.	Stop Control on side street	0.30 (NB TR) /0.05 (WB L)	10.3 (SB L) /24.9 (WB L)	B (SB L) /C (WB L)
US 101/ 5th St.	Stop Control on side street	0.32 (NB LT) /0.07 (EB L)	9.9 (NB L) /18.3 (EB L)	A (NB L) /C (EB L)
US 101/ Pacific Wy.	Traffic Signal	0.48	8.3	A
US 101/ G St.-Oster Rd.	Stop Control on side streets	0.60 (NB TR) /0.46 (EB L)	10.4 (NB L) /103.8 (WB L)	B (NB L) /F (WB L)

Note: Mobility target applies to all approaches of each intersection.

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.

Delay and LOS are reported for information only and do not apply to mobility targets at these locations.

LOS = "level of service," a measure of vehicle delay and driver experience, is ranked from "A" to "F", where "A" represents free-flow conditions and "F" represents gridlock or very congested conditions.

v/c = volume to capacity. EB = eastbound. NB = northbound. SB = southbound. WB = westbound.

Future Pedestrian, Bicycle, and Transit Demand

Future pedestrian, bicycle, and transit demand is expected to grow as the population increases and as future policies are implemented. These factors are expected to increase multimodal demand in the corridor:

- Implementation of planned policies to promote walking, biking, and using transit.
- Zoning along US 101 in the study area allows for additional commercial and residential development.
- Continued tourism to Gearhart and nearby coastal communities.
- Improvements are planned for the Oregon Coast Bike Route, which will encourage more bicycle tourism through the city.

DRAFT

6. CORRIDOR INVESTMENTS

This Facility Plan is composed of multiple corridor investments developed to address identified issues and move toward the vision and goals.

Investments were designed to balance improving conditions for people using all modes and with a particular focus on improving safety for people biking or walking (including people using a mobility device such as a cane, wheelchair, or walker). Investments were evaluated and prioritized based on the measures defined in the performance-based decision framework.

The performance-based decision framework, summarized in Table 6-1, identifies performance measures for guiding the development and selection of Facility Plan alternatives (i.e., different ideas for improving the corridor). The framework is rooted in the Facility Plan vision and goals, and it is also based on BUD guidance. The urban context as defined by the BUD is important in selecting the measures, as are the project goals. The framework considers both of the corridor's urban contexts (Commercial Corridor and Rural Community) to support development of a consistent facility design through the study area.

Table 6-1. Performance-Based Decision Framework

Performance Area	Measures
Alignment with TSP	<ul style="list-style-type: none"> Reflects desired lane configuration and features in the local TSP
Level of traffic stress	<ul style="list-style-type: none"> Improves level of traffic stress for pedestrians and cyclists to level 2 or better
Pedestrian environment	<ul style="list-style-type: none"> Alternative improves pedestrian facilities in line with the urban context recommendations of the BUD
Bicycle environment	<ul style="list-style-type: none"> Alternative improves cycling facilities in line with the urban context recommendations of the BUD Increases percentage of roadway served by an exclusive bicycle facility
Transit	<ul style="list-style-type: none"> Reduces distance between marked street crossings and transit stop locations
Crossing enhancement	<ul style="list-style-type: none"> Enhanced pedestrian crossings at key locations in the corridor Crossing spacing matches BUD spacing guidance
Motor vehicle and freight mobility	<ul style="list-style-type: none"> Maintains acceptable v/c ratios at key intersections Reduces length of vehicle queues during peak hour
Impacts to environmental resources	<ul style="list-style-type: none"> Avoids or minimizes impacts to the natural and built environments, as well as historic, cultural, and archaeological resources
Safety criteria	<ul style="list-style-type: none"> Addresses known safety issues in the corridor Estimated potential reduction in crashes using crash reduction factors Considers crash risk factors for active transportation modes
Speeding and aggressive driving behavior	<ul style="list-style-type: none"> Implements traffic calming measures, reduces lane widths, or would otherwise reduce speeding in the corridor
Flood reduction	<ul style="list-style-type: none"> Reduces flooding and/or facilitates improved stormwater conveyance
Cost	<ul style="list-style-type: none"> Provides greatest benefit for lowest cost Benefit to cost ratio (qualitative or quantitative)

Performance Area	Measures
Phasing	<ul style="list-style-type: none"> • Ability to be phased to achieve incremental improvements in the corridor
Oregon Coast Bike Route and Oregon Coast Trail support	<ul style="list-style-type: none"> • Supports preferred alignments, treatments, and users of the Oregon Coast Bike Route and Oregon Coast Trail

BUD = Blueprint for Urban Design. v/c = volume to capacity. TSP = transportation system plan.

The Investments

The investments included in the Facility Plan were chosen based on the decision framework and, therefore, how well they help identified issues and realize the project vision and goals. Investments would likely be implemented incrementally or in phases. Implementation and phasing considerations are discussed in the section titled Safety.

- **Lane Reconfiguration** – Lane configurations and facilities for walking and biking along US 101. Identification (ID) for project: “B”
- **Intersection Treatments** – Improvements at the intersections of Gearhart Lane and Pacific Way. ID for projects begins with: “R-”
- **Pedestrian Crossings** – Proposed locations and improvements for US 101 pedestrian crossings. ID for projects begins with: “X-”
- **Transit Investments** – Locations and improvements for transit stops. ID for projects begins with: “T-”
- **Other Corridor Improvements and Considerations** – Other improvements for the corridor including street lighting, stormwater management, landscaping, and gateway treatments, as well as other considerations such as safety, freight mobility, access management, and posted speed recommendations. ID for projects begins with: “S-”

Lane Reconfiguration

The roadway through the corridor would be reconfigured with Project B to make space for walking and biking. The roadway would be restriped to have two through-lanes (one in each direction), one center two-way left-turn lane, and two buffered bike lanes (one in each direction) throughout. The full corridor would have dedicated space to walk, though the pedestrian facilities would vary based on context. See Table 6-2.

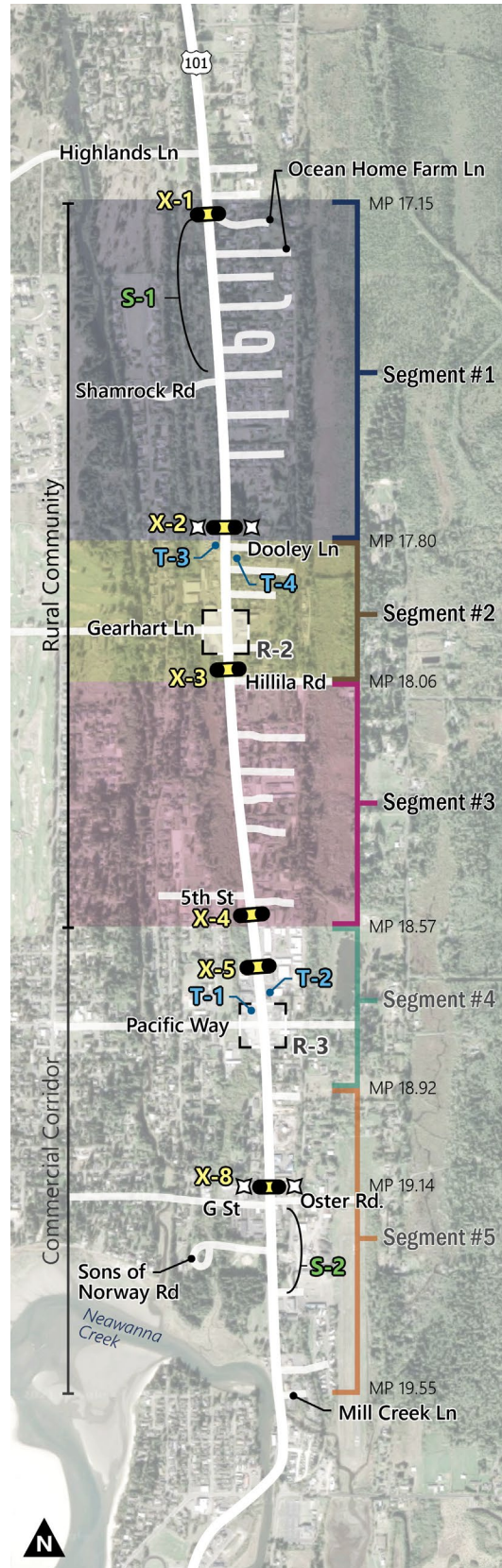
Table 6-2. Project B: Lane Reconfiguration

ID	Description	Considerations
B	Restripe corridor to three motor vehicle lanes, bike lanes, and a combination of walking lane and sidewalk(s).	<ul style="list-style-type: none"> • Walking facility varies by segment (Segments #1 - #5, [see the following section for more information on the segments]). • Urban areas would have sidewalk(s). New curbs would include inlets for drainage. • Less urbanized areas would have a walking lane on the roadway surface. • Enhanced visual delineation of bike or walking lanes with plastic candlesticks or other barriers would make the corridor more comfortable for biking and walking. The types and locations of these delineators would need to satisfy RRR and freight requirements. • Improvements go 0.21 miles beyond the study area to Mill Creek Lane (MP 19.55) at the south end to better serve the residents at Mill Creek Lane and connect with the planned multi-use path from Seaside.

Contexts and Segments

To better fit improvements to the land use contexts in the study area, the corridor was divided into five segments based on adjacent land use and development patterns (see Figure 6-1 and Figure 6-2). The improvements vary from segment to segment to match the context. Most segment boundaries are at proposed crossing locations to facilitate crossing when a walking facility begins.

Segments are described from north to south.

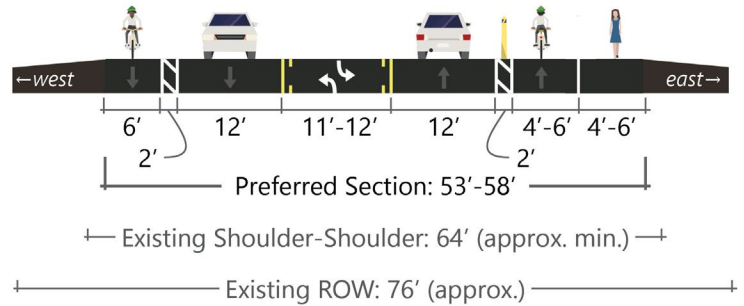


Overview: North Segments

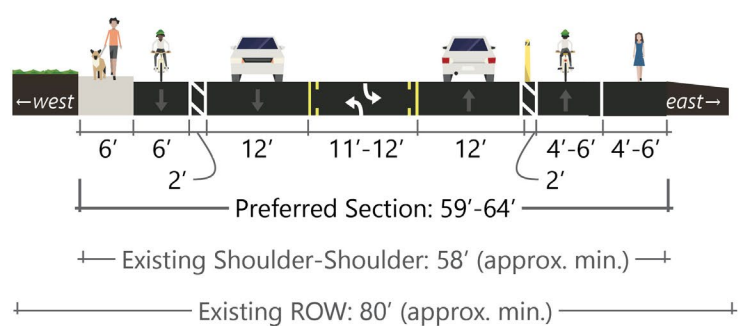
Ocean Home Farm Lane to 5th Street

BUD Context: Rural Community

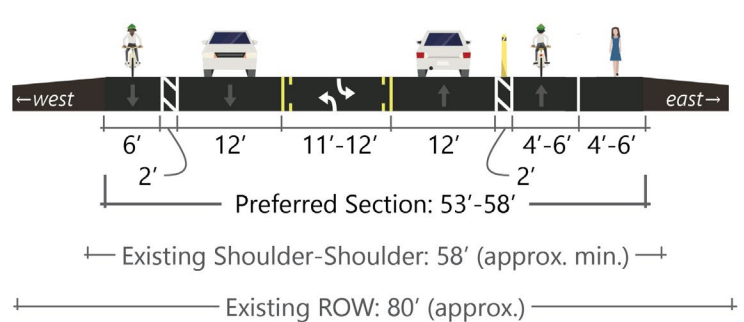
Segment #1



Segment #2



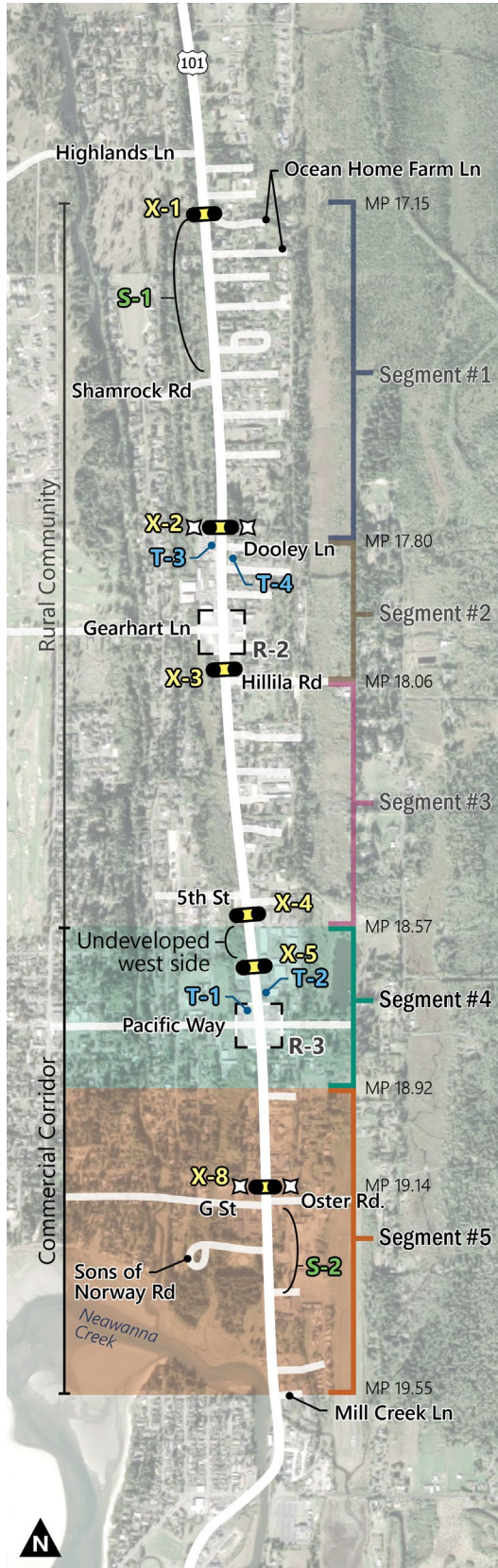
Segment #3



Legend

- Proposed Crossing with Median
- Proposed Rectangular Rapid Flashing Beacon
- Proposed Intersection Improvement

Figure 6-1. Segments 1 through 3 — Lane Reconfigurations

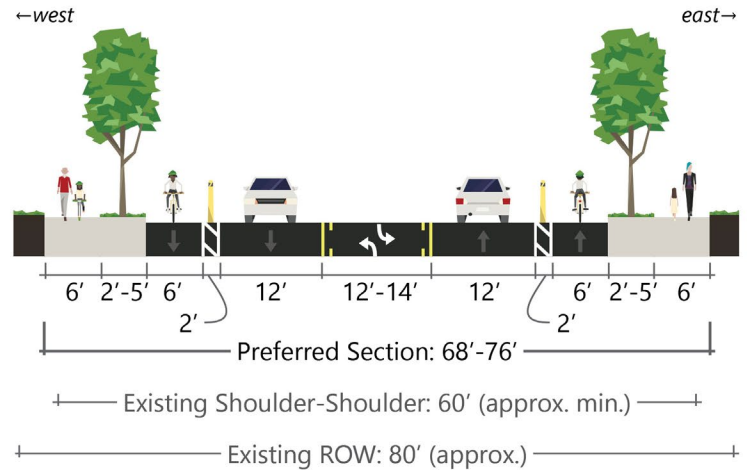


Overview: South Segments

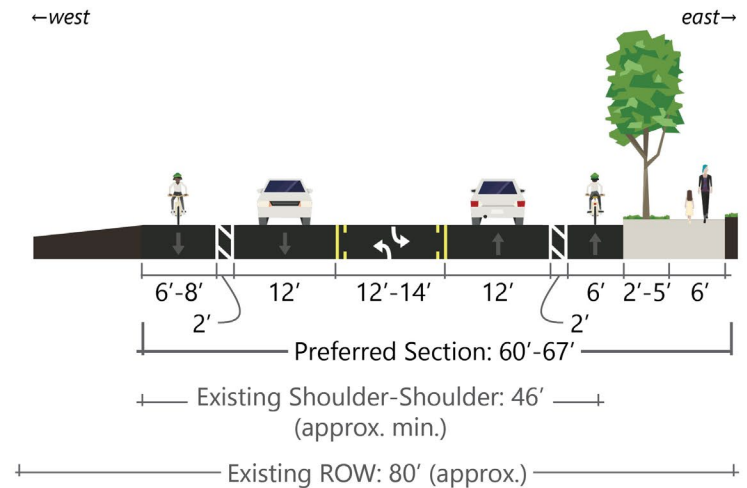
5th Street to Mill Creek Lane

BUD Context: Commercial Corridor

Segment #4



Segment #5



Legend

- Proposed Crossing with Median
- Proposed Intersection Improvement
- Proposed Rectangular Rapid Flashing Beacon

Figure 6-2. Segments 4 and 5 — Lane Reconfigurations

North Segments — BUD Land Use Context: Rural Community

Segments #1, #2, and #3 span approximately from Ocean Home Farm Lane to 5th Street, which is the portion of the corridor with a Rural Community BUD urban context. These segments would have a continuous walking lane on the east side, like that shown in Figure 6-3. To add comfort and improve safety, the asphalt walking lane could have plastic candlesticks or other delineators to reinforce the buffer between where people walk and where people drive. The types and locations of these delineators would need to satisfy RRR and freight requirements. The commercial area of Segment #2 would have a sidewalk on the west side in addition to the walking lane on the east side.



Figure 6-3. Rendering Looking North, North of Dooley Lane

South Segments — BUD Land Use Context: Commercial Corridor

Segments #4 and #5 span approximately from 5th Street to Mill Creek Lane, which is the portion of the corridor with a Commercial Context BUD urban context. These segments would have a continuous sidewalk on the east side that would connect with the planned multi-use path extending from Seaside (2010 *Seaside Transportation System Plan*⁶). Sidewalks in the south segments would include landscaping designed to collect stormwater runoff and reduce treatment requirements. Segment #4 would also have a sidewalk at the developed area on the west side of US 101 as shown in Figure 6-4.

⁶ https://www.cityofseaside.us/sites/g/files/vyhlf6311/f/uploads/seaside_tsp_final.pdf



Figure 6-4. Rendering Looking North Near Pacific Way

However, the undeveloped area on the west side of US 101 that extends nearly 400 feet north of the bowling alley (approximately between MP 18.60 and MP 18.69) would not have a sidewalk, as shown in Figure 6-5. This is between proposed crossings X-4 and X-5.

■ Segment #4 at Undeveloped Area

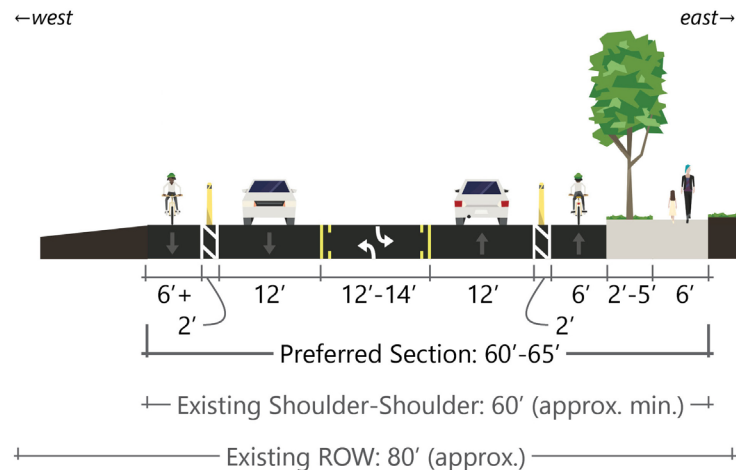


Figure 6-5. Section at Undeveloped Area on West Side of Segment #4

Omitting the sidewalk here would avoid potential wetland impacts by keeping improvements within the existing road prism. People on the west side who want to walk here could use crossings X-4 and X-5 to access the sidewalk on the east side. People may also walk in the bike lane.

Segment #5 could have a wider bike lane to accommodate people who may want to walk to North Gateway Park or Sons of Norway Field.

General Assumptions

Several assumptions were made during concept development and refinement. These will need further investigation in future planning and design phases.

- Existing shoulder-shoulder and right-of-way dimensions are approximate and based on aerial imagery and geographic information system data from ODOT and Clatsop County. Survey is required to refine these measurements in a future phase of project development.
- Improvements assume reuse of existing pavement wherever possible.
- New striping requires pavement resurfacing to eliminate “ghost lines.”
- Travel lanes are 12 feet wide to meet BUD guidance, HDM standards, and Federal Truck Route criteria.
- The two-way left-turn lane is either between 11 and 12 feet wide (in the Rural Community segment), or between 12 and 14 feet wide (in the Commercial Corridor segment); this meets BUD guidance and HDM standards.
- Bike lanes are a minimum of 6 feet wide and have a buffer that is 2 feet wide.
- Treatments such as mountable median curbs and flexible delineators could be used to satisfy RRR requirements while also improving the corridor for walking and biking.
- Installing a curbed sidewalk would require definition and consolidation of driveways/accesses in the corridor. Elimination of open accesses would reduce ingress/egress speeds and reduce potential conflict points between people driving, walking, and biking.

Intersection Treatments

The Facility Plan includes improvements for two intersections in the corridor: US 101/Gearhart Lane and US 101/Pacific Way.

Gearhart Lane and US 101 Intersection

With the existing stop control, the intersection at Gearhart Lane is expected to have relatively long delays for eastbound drivers wanting to turn left onto US 101. This is also a safety concern because of the relatively high number of crashes, mostly from turning movements.

Two alternatives are proposed at the intersection of Gearhart Lane and US 101 (see Table 6-3):

- R-2a – Maintain stop control (the preferred alternative).
- R-2b – Replace the intersection with a roundabout (the aspirational alternative). A roundabout would reduce delay and help calm traffic. However, it would require substantial resources to plan, design, and implement; is anticipated to have property impacts; and is a costly investment.

Table 6-3. Gearhart Lane and US 101 Intersection Alternatives

ID	Description	Considerations
R-2a	Maintain existing stop control	<ul style="list-style-type: none">• Maintains existing stop control.• Eastbound left turns from Gearhart Lane to US 101 expected to operate at an LOS F in the 2040 horizon year.• US 101 approaches modified to include only one travel lane in each direction.• The planned lane reconfiguration would facilitate two-stage left turns from Gearhart Lane onto US 101 northbound.
R-2b	Install a new roundabout	<ul style="list-style-type: none">• Installs a single-lane roundabout that meets HDM standards.• US 101 approaches modified to include only one travel lane in each direction.• Accommodates freight trucks.• Helps to calm traffic and provides substantial safety benefits.• Improves operations for drivers approaching US 101 from Gearhart Lane with reduced delay time and improved LOS.• Careful consideration should be given to the roundabout location and design to evaluate constructability and impacts to adjacent properties.• Includes pedestrian crossings, so proposed crossing X-3 would not be needed.

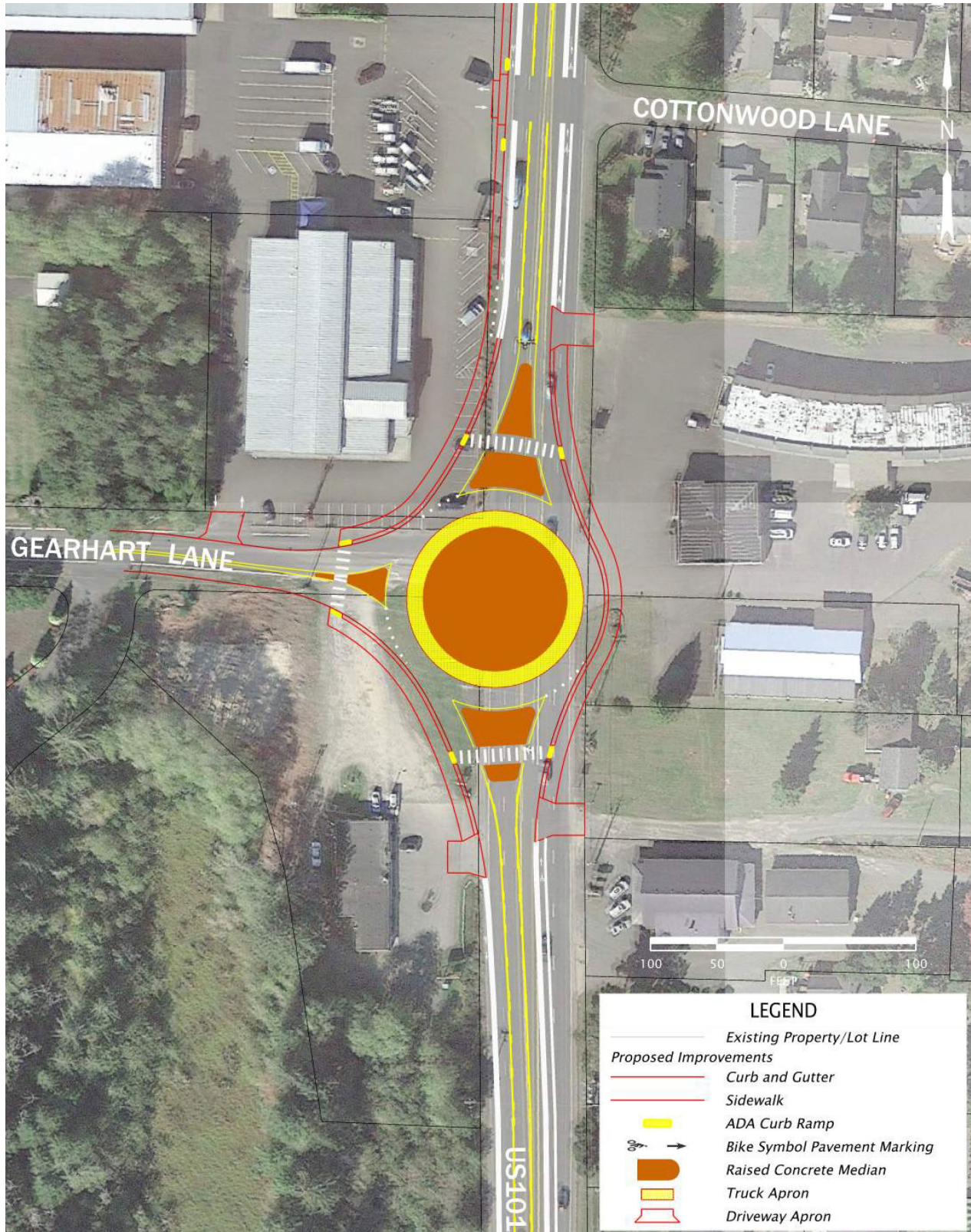


Figure 6-6. Conceptual Roundabout Design at Gearhart Lane (Project R-2b)

HDM Section 8.6

Pacific Way and US 101 Intersection

The signalized intersection of US 101 and Pacific Way would be updated to accommodate the lane reconfiguration (Project B). At the same time, sidewalks would be updated for ADA compliance, and the north leg crosswalk would be realigned to be perpendicular with the direction of traffic (see Figure 6-7).

Table 6-4. Pacific Way and US 101 Intersection

ID	Description	Considerations
R-3b	Pacific Way and US 101 Intersection: realign north crosswalk	<ul style="list-style-type: none"> • Updates to three-lane configuration and for ADA compliance. • Realigns the skewed north leg crosswalk, which reduces pedestrian crossing distance and is more intuitive; this is important for people with visual impairments. • Traffic performance in 2040 is estimated to operate with an LOS B after reconfiguring to three lanes.

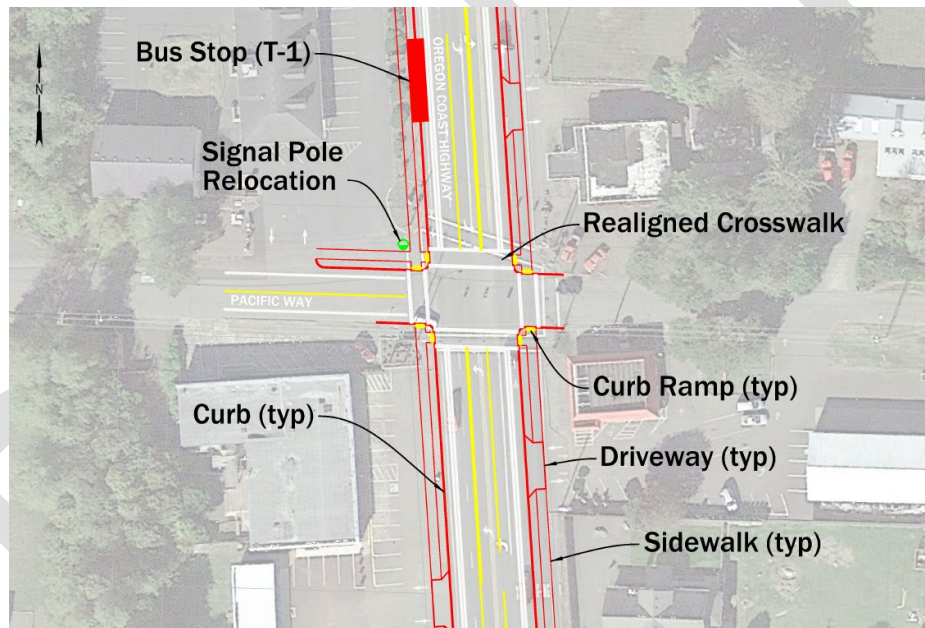


Figure 6-7. Project R-3b: Pacific Way Intersection Improvement

Pedestrian Crossings

Pedestrian crossing improvements are included to create a more comfortable and safer experience walking in the study area. Table 6-5 summarizes the proposed pedestrian crossing locations. Proposed crossing locations are shown in Figure 6-1 and Figure 6-2, as well as in Appendix N, Conceptual Striping Plan.

Marked and signalized crossings at the intersection with Pacific Way would remain, though they would be updated with Project R-3b. If the roundabout is implemented at Gearhart Lane (Project R-2b), that intersection would also include pedestrian crossings and would not require crossing X-3.

The following factors were considered in choosing crossing locations:

- ODOT design guidance.
- Evidence of existing pedestrian activity such as at Dooley Lane near Bud's RV Park and Campground (crossing X-2).
- Locations of destinations, businesses, or services that would be desirable to reach by walking, such as near the bowling alley and Dollar General (crossing X-5).
- Ease of accessing walking facilities on opposite sides of the road, such as near Ocean Home Lane (crossing X-1) and near 5th Street (crossing X-4), where residents to the west may want to connect to the walking lane or sidewalk on the east.

Note that crossing improvements are only proposed. This Facility Plan cannot define the exact location and features of a crossing. Instead, locations and features would require formal approval from the state traffic-roadway engineer.

Median islands can use mountable curbs if required to satisfy RRR requirements.

Table 6-5. Proposed Pedestrian Crossings

ID	Proposed Location	Proposed Improvements	Considerations
X-1	Near Ocean Home Farm Lane: MP 17.15	<ul style="list-style-type: none"> • Continental striping • Signs • Median pedestrian refuge island 	<ul style="list-style-type: none"> • North end of the corridor. • Would provide access from the east-side walking and biking facilities to neighborhoods on the west side. • Opportunity to pair with Project S-1 (see Table 6-7), north end gateway treatment. • Opportunity to coordinate with planned new fire station. • Existing roadway has a three-lane configuration, so crossing could be implemented without restriping. • Mid-block.
X-2	Near Dooley Lane: MP 17.80	<ul style="list-style-type: none"> • Rectangular rapid flashing beacon • Continental striping • Signs • Median pedestrian refuge island 	<ul style="list-style-type: none"> • Would be near Bud's RV, a popular destination and place to cross. • Opportunity to pair with Project S-1, north end gateway treatment. • Mid-block.
X-3	Near Lamont Lane: MP 18.06	<ul style="list-style-type: none"> • Continental striping • Signs • Median pedestrian refuge island 	<ul style="list-style-type: none"> • Would provide access between residential area on east side and south end of the commercial area on the west side. • Would not be needed if the roundabout at Gearhart Lane (R-2b) is implemented. • Mid-block.
X-4	Near 5th Street: MP 18.57	<ul style="list-style-type: none"> • Continental striping • Signs • Median pedestrian refuge island 	<ul style="list-style-type: none"> • Would connect neighborhoods on west side to walking and biking facilities on east side. • Mid-block.

ID	Proposed Location	Proposed Improvements	Considerations
X-5	Near bowling alley: MP 18.70	<ul style="list-style-type: none"> Continental striping Signs Median pedestrian refuge island 	<ul style="list-style-type: none"> Would be near popular destinations and the northbound bus stop at the Dollar General. Mid-block.
X-8	At G Street-Oster Road: MP 19.14	<ul style="list-style-type: none"> Rectangular rapid flashing beacon Continental striping Signs Median pedestrian refuge island 	<ul style="list-style-type: none"> Would improve access to residential area and beach west of US 101. Opportunity to pair with Project S-2 (see Table 6-7), south end gateway treatment. Existing roadway has a three-lane configuration, so crossing could be implemented without restriping. At intersection. Includes median pedestrian refuge island to meet guidelines from the ODOT Traffic Manual for crossings at uncontrolled approaches to intersections with three lanes and volumes over 15,000 for annual average daily traffic. Median pedestrian refuge island proposed for north leg to allow northbound vehicles to use the center lane to turn left on to G Street. Southbound drivers would still be permitted to turn left to go east on G Street-Oster Road, but they would not have access to the center turn lane and would make the turn from the through-lane. The local street network on both sides of US 101 connects to the signal at Pacific Way, so drivers may use Pacific Way instead of G Street-Oster Lane.

Unmarked Crossings

Unmarked crosswalks would need to be considered in future phases of planning and design. Side streets intersect with US 101 throughout the corridor; these establish unmarked crosswalks as defined by ORS 801.220. Special consideration must be made along Segments #2, #4, and #5 because new sidewalks would require ADA ramps to allow accessible travel at these unmarked crosswalks. Ramp locations are shown in the Appendix N, Conceptual Striping Plan, but these locations are preliminary. As the design develops and accesses are further defined, unmarked crosswalks will require assessment to ensure they do not conflict with driveways or other accesses. Unmarked crosswalks that conflict or pose safety hazards could be considered for closure, but would have to be evaluated for approval.

Transit Improvements

Four bus stop improvements are included in this Facility Plan: two northbound locations and two southbound locations. These are listed in Table 6-6 and shown in Figure 6-1, Figure 6-2, and Appendix N, Conceptual Striping Plan. Each location would receive information signs, a shelter, and a bench. They

would also receive roadway improvements to allow buses to pull out of the travel lane with the lane reconfiguration (Project B).

An additional bus stop is recommended in each direction—southbound (T-3) and northbound (T-4)—in the northern commercial area near Gearhart Lane. This commercial area is nearly one mile north of the existing stops near Pacific Way, which is a long distance to walk to access a bus stop; many residents live even farther to the north or to the west. New stops would make transit a viable option for traveling between the two commercial areas in the corridor. For example, people staying at Bud’s RV could take the bus to the bowling alley or Dollar General and back.

Table 6-6. Transit Improvements

ID	Location and Description	Considerations
T-1	Southbound near Pacific Way. Move southbound bus stop near bowling alley south to be closer to the crossing at Pacific Way.	<ul style="list-style-type: none"> • Provide a shelter and other amenities such as seating, route information, bicycle parking, and improved lighting. • Coordinate with intersection improvements with Project R-3b. • Implement roadway improvements to accommodate buses with the lane reconfiguration.
T-2	Northbound near Pacific Way (at Dollar General). Improve existing northbound bus stop with route information and roadway improvements to accommodate buses.	<ul style="list-style-type: none"> • Provide route information at existing bus stop. • Implement roadway improvements to accommodate buses with the lane reconfiguration. • Maintain existing shelter and bench. • Stop could be moved closer to the intersection at Pacific Way (should be considered with future stakeholder and public outreach as the project develops beyond this Facility Plan).
T-3	Southbound near Gearhart Lane. New bus stop north of Gearhart Lane near proposed Dooley Lane crossing (Project X-2).	<ul style="list-style-type: none"> • Provide a bus stop sign, route information, and local wayfinding. • Consider providing other amenities such as seating, a shelter, bicycle parking, and improved lighting. • Implement roadway improvements to accommodate buses with the lane reconfiguration. • Relocate existing Northwest POINT bus stop to this location.
T-4	Northbound near Gearhart Lane. New bus stop north of Gearhart Lane near proposed Dooley Lane crossing (Project X-2).	<ul style="list-style-type: none"> • Provide a bus stop sign, route information, and local wayfinding. • Consider providing other amenities such as seating, a shelter, bicycle parking, and improved lighting. • Implement roadway improvements to accommodate buses with the lane reconfiguration.

Gateway Treatments

A gateway treatment is an aesthetic installation at the entry to a town, city, or neighborhood (see Photograph 6-1). It is primarily intended to help remind drivers that they are entering a community and encourages safe driving. Gateway treatments can be especially effective at slowing traffic speeds when paired with traffic-calming elements such as speed feedback signs. They also benefit the community by reinforcing civic pride.



Photograph 6-1. Gateway Treatment Entering Seaside

This Facility Plan includes two gateway treatments: one at the north end of town and one at the south end of town (Table 6-7). Approximate locations are shown in Figure 6-1 and Figure 6-2. Gateway treatment designs and specific locations should be planned in collaboration with the local community. Treatments would need to be outside of ODOT right-of-way and cannot hang over the roadway. Landscaping would require defined roles for ongoing maintenance. Generally, gateway treatments would be the responsibility of the City to purchase and maintain.

Table 6-7. Gateway Treatments

ID	Description	Considerations
S-1	Gateway: north end of the corridor	<ul style="list-style-type: none"> • Opportunity to pair with enhanced crossings near Ocean Home Farm Lane and near Dooley Lane, Project X-1 or X-2 (see Table 6-5).
S-2	Gateway: south end of the corridor	<ul style="list-style-type: none"> • Opportunity to pair with the enhanced crossing at G St.-Oster Rd, Project X-8.

Street Lighting

This Facility Plan includes street lighting improvements at locations where policy suggests (e.g., signalized intersections or areas with high nighttime crashes) and in urban areas (see Table 6-8). The enhanced illumination would increase visibility and make the corridor safer for all road users.

Table 6-8. Illumination Improvements

ID	Description	Considerations
S-4b	Illumination improvements where policy suggests and in urban areas	<ul style="list-style-type: none">• Would install lighting at intersections where there are most likely to be interactions between people and vehicles on the road. ODOT would furnish at locations where policy suggests (e.g., signalized intersections or areas with high nighttime crashes).• Would install additional lighting in urban areas including pedestrian-scale lighting to increase comfort and visibility for people walking after dark and to support placemaking.• Any lighting beyond locations described in ODOT policy would likely be City responsibility.• Can be implemented in phases as funding becomes available or other projects are implemented.

Other Corridor Improvements

Other improvements address needs for the corridor, but are not listed here as standalone projects. These improvements, namely landscaping, stormwater management, and access management, would be implemented along with the projects defined above.

Landscaping

Landscaping such as trees, native grasses, shrubs, and other vegetation can bring substantial benefits to the corridor:

- Improves visual aesthetics and, trees especially, can help dampen road noise.
- Creates visual “friction” that encourages drivers to go slower.
- Helps with drainage, can reduce flooding by absorbing stormwater runoff, and can be used to treat stormwater.

Vegetation would require ongoing maintenance to manage growth, water as needed, and dispose of fallen foliage. The City would be responsible for maintenance. Landscaping could also require additional right-of-way space, which could require trade-offs with other roadway elements when space is limited.

Landscaping is incorporated in Project B with the sidewalk buffer. Landscaping could also be implemented elsewhere in the corridor as other improvements are made.

Stormwater Management

Stormwater management has been identified as a concern throughout the corridor. Inadequate drainage in some locations allows water to pond on the roadway surface. Additionally, introducing curbed sidewalks would require collection and conveyance to remove stormwater from the roadway.

Improvements would manage stormwater through multiple strategies:

- Reconstructing and resurfacing the road would remove low points and restore proper crowning to allow water to shed to the sides of the road.

- Segments that would have curbs for sidewalks (Segments 2, 4, and 5) would have stormwater inlets and pipes as needed for proper drainage and conveyance.
- Landscaping planters in Segments 4 and 5 could be used for stormwater retention and treatment. Planters would be, at minimum, 3 feet wide to be practical for stormwater retention and treatment.
- Segments that would not have curbs would continue to drain into roadside ditches.

Stormwater collected at curbed segments of the corridor would require treatment and could require flow control depending on the discharge location. As mentioned, landscaping planters could be used for treatment, but it may not be sufficient for the full volume of stormwater. Additional strategies or mitigation may be required.

Access Management

Access management helps reduce potential conflict points by decreasing the locations where drivers can make turns. Access management should be considered as projects are planned and implemented, especially projects that create walking or biking facilities that cross driveway accesses. Access management must include outreach and collaboration with adjacent businesses and property owners.

When a modification or other improvement is made to a state highway or private approach, or redevelopment of highway adjacent private property occurs, ODOT must follow the procedures outlined in Oregon Administrative Rules (OAR) 734-051. This allows ODOT to control the issuing of permits for access to state highways, state highway rights-of-way and other properties under the State's jurisdiction. In addition, the statute sets access spacing standards, identifies the ability to close existing approaches, and establishes a formal appeal process in relation to access issues.

Table 6-9 summarizes several access management strategies that can provide safety and operational benefits in the corridor. Further information about access management can be found in Appendix M, Access Management Key Principles and Methodology.

Table 6-9. Access Management Strategies

Strategy	Description and Considerations
Narrow driveway width	<ul style="list-style-type: none"> • Wide-open, undefined driveways are particularly unfriendly to people walking or biking across the excessive driveway opening width. These existing designs should be modified so the driveway is defined for vehicles to enter and exit, and the rest of the frontage should be closed from highway access.
Consolidate access points	<ul style="list-style-type: none"> • A common method of reducing approach density is to eliminate multiple approaches to a single property where feasible. This can be accomplished where the property can be adequately served with fewer approaches than it currently maintains.
Share access points	<ul style="list-style-type: none"> • Sharing an approach to the highway is a means of consolidating approaches while providing direct access to properties that might not otherwise have it. It is often easiest to establish shared approaches using the local development code and making the shared approaches a condition of approval.
Inter-parcel circulation	<ul style="list-style-type: none"> • Access for vehicles to pass between adjacent properties without using the highway removes unnecessary conflicts. Vehicles using the highway for cross-circulation between adjacent properties can be particularly hazardous as such drivers can be tempted to drive

Strategy	Description and Considerations
	<p>the wrong way in travel lanes and utilize very small gaps in traffic because they perceive that they will only be on the highway for a short time.</p> <ul style="list-style-type: none"> • Similar to the establishment of shared approaches, the provision of cross-circulation requires the establishment of access easements between properties. Because such arrangements affect site circulation, the requirement for cross-circulation is best applied during design review for new developments.
Access from side street	<ul style="list-style-type: none"> • Property should ideally be accessed not from US 101, a Statewide Highway, but instead from facilities of a lower classification such as minor arterials, collectors, or local streets. This, in turn, reduces potential conflict points on the highway and moves them to a lower speed, lower volume roadway where they can be more easily accommodated. This treatment works for properties with frontage on other roads.
Backage roads	<ul style="list-style-type: none"> • A backage road is a service road that runs parallel to a major roadway and behind the abutting development and is similar to Railroad Avenue near Oster Road. A backage road provides alternative access to properties, rather than from the major roadway. • Because of the constraints adjacent to the US 101 corridor, including the narrow parcels, wetlands, and existing development, connections of backage roads to side streets could be difficult in some areas. Design of backage roads must consider freight accommodation and multimodal access.

Other Considerations

This section considers how Facility Plan improvements would affect factors such as traffic performance and safety. It also assesses how improvements align with the BUD and the Gearhart TSP.

Traffic Performance

Future 2040 operational conditions with the Facility Plan improvements are compared with the future no-build conditions in Table 6-10. The methods and assumptions used for this performance review are summarized in Appendix D, Technical Memorandum #4: Analysis Methodology.

All intersections are expected to meet the existing alternative mobility targets.⁷ However, side street delay at a few unsignalized intersections is expected to be high under both future conditions. These have bold text in the table. The G Street-Oster Road and Gearhart Lane approaches to US 101 are expected to operate with an LOS F with stop control on the side streets.

⁷ Alternative mobility targets adopted by the OTC require that a v/c of 0.85 be maintained during an average weekday, with a peak-hour factor of 1.0. See the Motor Vehicle Operations section of Existing Conditions for more details.

Table 6-10. Future 2040 Intersection Operations, No-Build and Facility Plan

Study Intersection	Intersection Control	Future No-Build Operations (Maintain Existing Lane Configuration)			Future Operations with Facility Plan Implemented (Reconfigure to Three Driving Lanes)		
		V/C	Delay (seconds)	LOS	V/C	Delay (seconds)	LOS
US 101/ Gearhart Ln.	Stop Control on side street (R-2a)	0.29 (NB TR) /0.36 (EB L)	10.2 (SB L) / 55.3 (EB L)	B (NB L) /F (EB L)	0.57 (NB T) /0.61 (EB L)	10.1 (SB L) / 121.7 (EB L)	B (NB L) /F (EB L)
	Roundabout (R-2b)	N/A	N/A	N/A	0.80	14.8	B
US 101/ Hillila Rd.	Stop Control on side street	0.30 (NB TR) /0.05 (WB L)	10.3 (SB L) /24.9 (WB L)	B (SB L) /C (WB L)	0.59 (NB TR) /0.04 (WB L)	10.3 (SB L) /20.7 (WB L)	B (SB L) /C (WB L)
US 101/ 5th St.	Stop Control on side street	0.32 (NB LT) /0.07 (EB L)	9.9 (NB L) /18.3 (EB L)	A (NB L) /C (EB L)	0.59 (NB T) /0.07 (EB L)	9.9 (NB L) /18.4 (EB L)	A (NB L) /C (EB L)
US 101/ Pacific Wy.	Traffic Signal	0.48	8.3	A	0.77	13.7	B
US 101/ G St.-Oster Rd.	Stop Control on side streets	0.60 (NB TR) /0.46 (EB L)	10.4 (NB L) / 103.8 (WB L)	B (NB L) /F (WB L)	0.60 (NB TR) /0.46 (EB L)	10.5 (NB L) / 103.8 (WB L)	B (NB L) /F (WB L)

EB = eastbound. NB = northbound. SB = southbound. WB = westbound.

Bold values indicate longer delay or lower performing LOS.

Traffic signals are not proposed at these intersections because preliminary signal warrant analyses showed that they are unlikely to comply with signal warrants because of low side street volumes. Side street turn lanes are not proposed at G Street-Oster Road because of right-of-way constraints and low traffic volumes.

A roundabout at Gearhart Lane (R-2b) is included as an aspirational option and would be expected to bring operational improvements. See the section, Intersection Treatments, for details.

Freight Mobility

This Facility Plan maintains freight mobility on US 101 through Gearhart. US 101 through Gearhart is designated a Federal Truck Route as part of the National Network and as a State of Oregon RRR. Federal Truck Routes generally require 12-foot-wide travel lanes. RRRs require consideration for maintaining the overall width and height of the roadway, referred to as the “hole in the air” capacity.

The lane reconfiguration (Project B) would maintain 12-foot minimum lane widths for travel lanes. Center turn lanes in the north segments are proposed at 11 or 12 feet wide per BUD guidance. However, 11 feet may be too narrow for the turn lane to satisfy conditions as an RRR, and it may need to be 12 feet wide. Mountable median curbs and flexible delineators can be used to maintain the hole-in-the-air capacity of this segment of US 101. The narrowest curb-to-curb point in the corridor is at the Neawanna Creek Bridge where the roadway is approximately 28 feet wide.

Posted Speeds

Driving at excessive speeds has been identified as a safety issue for the area and is often stated as a concern by stakeholders and the public. Current posted speed limits (40, 45, and 55 MPH) are higher than the target speed guidance from the BUD for Rural Community and Commercial Corridor contexts (25 to 35 MPH and 30 to 35 MPH, respectively). The project team recommends further analysis of posted speeds and consideration of a speed study after the lane reconfiguration and other elements of this Facility Plan are implemented. See Appendix J, Technical Memorandum #10: Preferred Alternatives, for more details.

Safety

Each investment included in this Facility Plan will contribute to a safer US 101 corridor in Gearhart. Several strategies are worth highlighting here because of their expected benefits:

- **Reconfigure the travel lanes** from two to one in each direction to reduce the potential for excessive speeding [Project B].
- **Install gateway treatments** [Projects S-1 and S-2] to indicate to drivers that they are entering a community where there may be increased pedestrian activity.
- **Incorporate speed-activated signs** into gateway treatments to alert drivers as they come into town (see an example in Photograph 6-2). Speed-activated signs can be relatively inexpensive, and they can encourage drivers to comply with the speed limit. The City would be responsible for installing, maintaining, and operating speed feedback signs.
- **Place pedestrian crossings** [Projects X-1 – X-8] to designate places for people to cross. Median pedestrian refuge islands improve pedestrian safety and comfort by providing a safe place to stop at the midpoint of a street before crossing the remaining distance.
- **Improve illumination** [Project S-4b] to enhance visibility in low light conditions.
- **Apply access management strategies** with lane reconfiguration and other developments to reduce the number of potential conflict points in the corridor.



Blueprint for Urban Design Alignment

Facility Plan investments were developed following BUD guidance. The implemented Facility Plan would meet most BUD recommendations, as seen in Table 6-11 for the Rural Community urban context (between Ocean Home Farm Lane and 5th Street) and in Table 6-12 for the Commercial Corridor urban context (between 5th Street and Mill Creek Lane). Both segments meet BUD recommendations for minimum widths of bike facilities, sidewalks, travel lanes, and turn lanes.

However, some BUD guidelines would not be met with the implemented Facility Plan. The posted speeds in the both segments are higher than BUD guidelines for target speeds. Speeds can be addressed with a speed study after the lane reconfiguration (Project B) is implemented. Also, in both contexts, proposed crossing improvements are generally spaced with greater distances than the BUD guidance. This is because travel speeds are relatively high in the corridor and the current context does not yet support the level of pedestrian investment recommended by the BUD. Although the targeted distance between pedestrian crossings is not met in all cases, additional pedestrian crossings are included in areas expected to have crossing demand.

**Table 6-11. Facility Plan Comparison to BUD Rural Community Urban Context
Ocean Home Farm Lane to 5th Street**

Element	BUD Guidance	With Facility Plan Improvements	Meets Guidance
Target Speed (MPH)	25–35	40–55 (existing posted speed)	No
Travel Lanes	Start with minimum widths, wider by roadway characteristics. Minimum widths 11–12 ft	One travel lane in each direction, 11–12-ft lane width	Yes
Turn Lanes	Balance crossing width and operations depending on desired use. Minimum widths: <ul style="list-style-type: none"> • Two-way left-turn lane: 11–12 ft • Left-turn lane: 11–12 ft • Right-turn lane: 11–12 ft 	11–12-ft center turn lane	Yes
Shy Distance	Consider roadway characteristics and desired speeds. Minimum width above 35 MPH: 1 ft	2-ft buffer between bike lanes	Yes
Median	Optional, use as pedestrian crossing refuge. Minimum widths: <ul style="list-style-type: none"> • Raised median (no turn lane): 8–11 ft • Raised median (with left-turn lane): 12–14 ft 	Center turn lane divides traffic with pedestrian refuge medians at crossings	—
Bicycle Facility	Start with separated bicycle facility, consider roadway characteristics.	Buffered bike lanes	Yes
Sidewalk	Continuous and buffered sidewalks, sized for desired use.	Sidewalk and/or protected walking lane	Yes
Target Pedestrian Crossing Spacing Range	250–750 ft	Three new pedestrian crossings are proposed, with approximate spacings between 1,300 ft. and 3,400 ft.	No
On-Street Parking	Consider on-street parking if space allows.	No on-street parking	Yes

BUD = Blueprint for Urban Design. ft = feet. MPH = miles per hour.

**Table 6-12. Facility Plan Comparison to BUD Commercial Corridor Urban Context
5th Street to Mill Creek Lane**

Element	BUD Guidance	With Facility Plan Implemented	Meets Guidance
Target Speed (MPH)	30–35	40 (existing posted speed)	No
Travel Lanes	Start with minimum widths, wider by roadway characteristics. Minimum width: 11–12 ft	One travel lane in each direction, 11–12 ft lane width	Yes
Turn Lanes	Balance crossing width and operations depending on desired use. Minimum widths: <ul style="list-style-type: none"> • Two-way left-turn lane: 12–14 ft • Left-turn lane: 12–14 ft • Right-turn lane: 12–13 ft 	12–14 ft center turn lane	Yes
Shy Distance	Consider roadway characteristics and desired speeds. Minimum width above 35 MPH: 1 ft	2-ft buffer between bike lanes	Yes
Median	Typically used for safety/operational management. Minimum widths: <ul style="list-style-type: none"> • Raised median (no turn lane): 8–11 ft • Raised median (with left-turn lane): 14–16 ft 	Center turn lane divides traffic with pedestrian refuge medians at crossings	No
Bicycle Facility	Start with separated bicycle facility, consider roadway characteristics.	Buffered bike lanes	Yes
Sidewalk	Continuous and buffered sidewalks with space for transit stations.	Sidewalk and/or protected walking lane	Yes
Target Pedestrian Crossing Spacing Range	500–1,000 ft	Four new pedestrian crossings proposed, for a total of five in the segment spaced 600–2,450 ft apart.	Yes
On-Street Parking	Not Applicable	No on-street parking	Yes

ft = feet. MPH = miles per hour.

Consistency with Planned Future Facilities

Improvements included in this Facility Plan are consistent with improvements planned in the Gearhart TSP.

- The lane reconfiguration (Project B) is consistent with TSP projects S1–S2 and S4–S7.
- Intersection improvements at Gearhart Lane (Project R-2a and Project R-2b) and Pacific Way (Project R-3b) are included in the TSP as projects S3 and S12, respectively.

- The proposed crossing enhancement locations included in this Facility Plan are at or near the locations proposed by the TSP, and all but one of the locations proposed by the TSP (Shamrock Lane) are included in this Facility Plan.

See Appendix J, Technical Memorandum #10: Preferred Alternatives, for a detailed analysis of how the Facility Plan aligns with the TSP.

7. IMPLEMENTATION AND FUNDING

When and how improvements are implemented will depend on implementation costs, available funding, right of way impacts, and opportunities to tie in with other projects.

Cost Estimates

Cost estimates were developed for the lane reconfiguration and pedestrian facilities, pedestrian crossings, intersection improvements, and roadway improvements. Cost estimates are included in Table 7-1. Cost estimates are planning-level costs based on average costs per unit for similar facilities. Estimates were developed without preliminary design or engineering for the facilities, although basic measurements were taken and geometric analysis was conducted to obtain reasonably accurate unit-level costs. Cost estimates do not include right-of-way acquisition, escalation to year of expenditure, or utility impacts. Each cost includes a 40 percent contingency.

Lane reconfiguration costs for Project B include the cost of resurfacing to avoid the possibility of ghost lines. Cost estimates assume reusing existing pavement wherever possible to reduce cost and other impacts. The complete cost estimates can be found in Appendix O, Project Cost Estimates.

Right-of-Way Impacts

This analysis assessed the anticipated likelihood of right-of-way impacts for each concept, as indicated in Table 7-1. The assessment considered only the *likelihood* of impact because this phase of concept development is too early to assess actual impacts. No survey was completed for this assessment. Instead, it used tax lot geographic information system data from Clatsop County (see Appendix N, Conceptual Striping Plan). Improvement designs are conceptual; further study of right-of-way impacts will be needed in future phases as the concepts are advanced.

The levels of right-of-way impact likelihood are described below:

- Low – The conceptual design appears to stay within the existing right-of-way.
- Medium – There is potential for the conceptual design to extend beyond the existing right-of-way.
- High – The conceptual design extends beyond the existing right-of-way.

The Facility Plan investments were developed to minimize potential right-of-way impacts. However, three improvements may extend beyond the existing right-of-way. The roundabout option at Pacific Way (R-2b) was assessed to have a high likelihood of impact because the footprint of the roundabout is likely to extend beyond the existing right-of-way. Gateway treatments (S-1 and S-2) were assessed as having medium likelihood because they would have to be installed outside ODOT right-of-way, but their impact would depend on their actual designs.

Implementation Timeline

Facility Plan investments could be implemented all at once or piecemeal depending on available opportunities. Investments may be implemented as a complete package through the Statewide Transportation Improvements Program or other state funding. Investments could also be implemented as a collection of smaller projects with state or local funding. Elements could be implemented with new private development, e.g., adding a sidewalk as part of frontage improvements required of new development.

The analysis considered whether each project (or element of the project) could be implemented in the near, medium, or long term. For the purposes of this memo, these are defined as:

- Near – Less than 2 years
- Medium – 2 to 5 years
- Long – More than 5 years

The timeline estimates take into account the project benefits, the amount of resources and planning required to implement, and whether other projects must be implemented first. These dependencies are documented in Table 7-1.

Table 7-1. Facility Plan Implementation and Cost Estimates

ID	Description	Cost Estimate	Anticipated Likelihood of ROW Impacts	Timeframe	Implementation Dependencies
B	Restripe corridor to three motor vehicle lanes, bike lanes, and a combination of walking lane and sidewalk(s)	\$8,426,000	Low	Near-Medium (restriping)	Reconfiguration could be implemented independently and relatively quickly, but it would require updating the signal at Pacific Way. Would provide immediate safety benefits. Should be implemented at the same time through the entire corridor to maintain coherent traffic pattern.
				Near-Long (sidewalks)	Sidewalks would require more investment and could be implemented later. They could be phased by segment with a focus on higher-need areas.
X-1	Near Ocean Home Farm Lane (north end of corridor): MP 17.15 (proposed)	\$53,000	Low	Near-Medium	Could be implemented before lane reconfiguration (Project B) with existing three-lane configuration.
X-2	Near Dooley Lane: MP 17.80 (proposed)	\$223,000	Low	Near	Should be implemented with or after lane reconfiguration (Project B). Location has higher pedestrian activity.
X-3	Near Lamont Lane: MP 18.06 (proposed)	\$62,000	Low	Near-Medium	Should be implemented with or after lane reconfiguration (Project B).
X-4	Near 5th Street: MP 18.57 (proposed)	\$71,000	Low	Near-Medium	Should be implemented with or after lane reconfiguration (Project B).

ID	Description	Cost Estimate	Anticipated Likelihood of ROW Impacts	Timeframe	Implementation Dependencies
X-5	Near bowling alley: MP 18.70 (proposed)	\$71,000	Low	Near	Should be implemented with or after lane reconfiguration (Project B). Location has higher pedestrian activity.
X-8	At G Street: MP 19.14 (proposed)	\$223,000	Low	Near	Could be implemented before lane reconfiguration (Project B).
T-1	Southbound near Pacific Way	N.C.	Low	Near-Medium	Should be implemented with or after Pacific Way intersection redesign (Project R-3b).
T-2	Northbound near Pacific Way	N.C.	Low	Near	None.
T-3	Southbound near Gearhart Lane	N.C.	Low	Near-Medium	Should be implemented with or after the crossing near Dooley Lane, Project X-2.
T-4	Northbound near Gearhart Lane	N.C.	Low	Near-Medium	Should be implemented with or after the crossing near Dooley Lane, Project X-2.
S-1	Gateway treatment: north end of the corridor	N.C.	Medium	Near	Could be implemented with crossings X-1 or X-2.
S-2	Gateway treatment: south end of the corridor	N.C.	Medium	Near	Could be implemented with crossing X-8.
S-3	Corridorwide landscaping	N.C.	Low	Near-Long	Requires landscape buffer space provided with sidewalks in Project B.
S-4b	Improved illumination at intersections (ODOT standard) and pedestrian-scale illumination along corridor	N.C.	Low	Near-Long	Pedestrian-scale lighting would be most beneficial after walking facilities are implemented with Project B.
R-2a	Gearhart Lane and US 101, maintain existing stop control	N.C.	Low	Near	Requires new lane configuration that would be implemented with Project B.
R-2b	Gearhart Lane and US 101, roundabout	\$4,429,000	High	Long	Requires new lane configuration that would be implemented with Project B.
R-3b	Pacific Way and US 101, redesign intersection layout	\$2,100,000	Low	Near-Medium	Requires new lane configuration that would be implemented with Project B.

MP = mile point. N.C. = not calculated. ROW = right-of-way.