

FINAL TECHNICAL MEMORANDUM

DATE: April 5, 2022
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SUBJECT: Technical Memorandum #10: Preferred Alternatives
PROJECT NAME: US 101: Gearhart Facility Plan

This memorandum describes the preferred alternatives for the US 101: Gearhart Facility Plan. Technical Memorandum #9: *Corridor Alternatives and Evaluation* (TM9) provided alternative approaches to addressing the corridor needs. This memo documents the preferred alternatives which include a set of improvement concepts for the US 101 corridor approximately from Ocean Home Farm Lane to Mill Creek Lane. ODOT and the project team selected these alternatives based on feedback from ODOT staff, the City of Gearhart, the project's advisory committees, and public outreach conducted in fall 2021. The concepts included in this memo are subject to further refinement during a later design process.

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Appendix

Appendix A. Alternatives Considered and Rejected

Attachments

Attachment 1: Conceptual Corridor Layout [Gearhart_Facility_Plan_Concept_Striping_TM-10.pdf]

Attachment 2: Cost Estimates Electronic Excel File [Gearhart_Facility_Plan_Cost_Estimates_TM-10_Rev1.xlsx]

PREFERRED ALTERNATIVES SUMMARY

The preferred alternatives for the US 101: Gearhart Facility Plan would include improvements for all transportation modes, with an emphasis on improving conditions for walking and biking. Table 1 outlines the preferred alternatives that are described in more detail in the body of this memorandum. See Attachment 1: Conceptual Corridor Layout for an overview of how these improvements may be implemented.

Table 1. Preferred Alternative Summary

ID	Description	Features and Considerations	Cost Estimate
Cross Sections			
B	Restripe corridor to three motor vehicle lanes, bike lanes, and a combination of walking lane and sidewalk(s)	Reconfigure corridor to one motor vehicle lane in each direction and a center two-way left-turn lane. Bike lanes in both directions. Sidewalk(s) in urban areas. Walking lane on east side of US 101 in less developed areas.	\$7,843,000
Proposed Crossings			
X-1	Near Ocean Home Farm Lane: mile point 17.15 (proposed)	Proposed enhanced crossing with median pedestrian refuge island. North end of the corridor. Would provide access from the walking and biking facilities on the east side of US 101 to neighborhoods on the west side. Opportunity to coordinate with planned new fire station. Opportunity to pair with Alternative S-1, Gateway treatment: north end.	\$71,000
X-2	Near Dooley Lane: mile point 17.80 (proposed)	Proposed enhanced crossing with median pedestrian refuge island and rectangular rapid flashing beacon (RRFB). Would be near Bud's RV, a popular destination and place to cross. Opportunity to pair with Alternative S-1, Gateway treatment: north end.	\$232,000
X-3	Near Lamont Lane: mile point 18.06 (proposed)	Proposed enhanced crossing with median pedestrian refuge island. Would provide access between residential area on east side and south end of the commercial area on the west side.	\$71,000
X-4	Near 5th Street: mile point 18.57 (proposed)	Proposed enhanced crossing with median pedestrian refuge island. Would connect neighborhoods on west side to walking and biking facilities on east side.	\$71,000
X-5	Near bowling alley: mile point 18.70 (proposed)	Proposed enhanced crossing with median pedestrian refuge island. Would be near popular destinations and the northbound bus stop at the Dollar General.	\$71,000
X-8	At G Street-Oster Road: mile point 19.14 (proposed)	Proposed marked crossing on north leg of intersection with RRFB. Would provide access between residential area on east side.	\$202,000
Streetscape			
S-1	Gateway treatment: north end of the corridor	Creates a gateway treatment using signs, art, landscaping, etc. to indicate to drivers that they are entering a community. Opportunity to pair with Alternative X-1 or X-2, enhanced crossings near Ocean Home Farm Lane and near Dooley Lane.	N.C.
S-2	Gateway treatment: south end of the corridor	Creates a gateway treatment using signs, art, landscaping, etc. to indicate to drivers that they are entering a community. Opportunity to pair with Alternative X-8, enhanced crossing at G St.	N.C.

ID	Description	Features and Considerations	Cost Estimate
S-3	Corridorwide landscaping	<p>Adds landscaping, including trees, native grasses, shrubs, and other vegetation, throughout the corridor.</p> <p>Can be combined with updated drainage facilities and culvert replacement.</p> <p>Landscaping would require defined role(s) for ongoing maintenance.</p> <p>Landscaping requires right-of-way space, which may require trade-offs with other roadway elements when space is limited.</p>	N.C.
S-4b	Improved illumination at intersections (ODOT standard) and pedestrian-scale illumination along corridor	<p>Installs lighting through the urban segment of the corridor, in addition to intersections where there are most likely to be interactions between people on the road.</p> <p>Any lighting beyond locations described in ODOT policy would likely be City responsibility.</p>	N.C.
Intersections			
R-2a	Preferred alternative: Gearhart Lane and US 101, maintain existing stop control	<p>Maintains existing stop control.</p> <p>Expected to operate at a level of service F in the 2040 horizon year.</p> <p>US 101 approaches modified to include only one travel lane in each direction.</p>	N.C.
R-2b	Aspirational alternative: Gearhart Lane and US 101, roundabout	<p>Installs a roundabout at the intersection.</p> <p>US 101 approaches modified to include only one travel lane in each direction.</p> <p>Helps to calm traffic and improve safety.</p> <p>Improves operations for drivers approaching US 101 from Gearhart Lane.</p> <p>Careful consideration should be given to the roundabout location and design to evaluate constructability and impacts to adjacent properties.</p>	\$4,395,000
R-3b	Pacific Way and US 101, redesign intersection layout	<p>Adjusts the northwest corner of the intersection to straighten the north leg crosswalk.</p> <p>Straightened sidewalk reduces pedestrian crossing distance and is more intuitive, important for people with visual impairments.</p> <p>Update intersection as needed if road reconfiguration and ADA changes occur.</p>	\$2,111,000
Total			
	Combined preferred alternative, with R-2a	Combined cost to implement the complete preferred alternative package, including all alternatives with a calculated cost estimate and Alternative R-2a at the US 101 / Gearhart Lane intersection	\$10,672,000
	Combined aspirational alternative, with R-2b	Combined cost to implement the complete preferred alternative package plus the aspirational roundabout, Alternative R-2b, at the US 101 / Gearhart Lane intersection	\$15,067,000

N.C. = not calculated.

Cost estimates do not include right-of-way acquisition, escalation to year of expenditure, or utility impacts.
Each cost includes a 40 percent contingency.

PREFERRED ALTERNATIVE OVERVIEW

The preferred alternative is comprised of multiple corridor improvements. This memo describes these preferred improvements by element, as outlined here:

- **Corridor Cross Sections:** preferred lane configurations and facilities for walking and biking along US 101.
- **Intersection Treatments:** preferred improvements for the intersections at Gearhart Lane and Pacific Way.
- **Pedestrian Crossings:** preferred locations and improvements for US 101 pedestrian crossings.
- **Transit Improvements:** preferred locations and improvements for transit stops.
- **Other Corridor Improvements and Considerations:** other preferred improvements for the corridor, including street lighting, stormwater management, landscaping, and gateway treatments, as well as other considerations like safety, freight mobility, access management, and posted speed recommendations.

Improvements would likely be implemented incrementally or in phases. Implementation and phasing considerations are discussed in the final section, Implementation and Cost Estimates.

CORRIDOR CROSS SECTIONS

The preferred cross sections for the corridor are based on Alternative B from TM9. (See Appendix A for details about rejected alternatives.)

The preferred cross section would restripe the corridor to have two through lanes (one in each direction), one center two-way left-turn lane (TWLTL), and two buffered bike lanes (one in each direction) throughout. Bike lanes would provide a dedicated space for people to bicycle or use other micro-mobility vehicles. Enhanced visual delineation provided by plastic candlesticks or other barriers could be implemented to help make bike lanes more comfortable. Bike lanes also help to encourage safer driving by visually narrowing the motor vehicle lanes.

The full corridor would have dedicated space to walk, though the pedestrian facilities would vary based on context. Urban areas would have a sidewalk on one or both sides. Figure 1 illustrates the commercial area north of Pacific Way, where the preferred alternative has 6-foot sidewalks on both sides. Sidewalks installed in urban areas would include landscaping designed to collect stormwater runoff and reduce treatment requirements. The new curb would include inlets for drainage. 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. See the Other Corridor Improvements and Considerations section for a discussion about Access Management.

Less-developed areas would have an at-grade walking lane on the roadway asphalt surface, as seen in Figure 2. 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.



Figure 1. Rendering of the Preferred Cross Section — Sidewalks

Looking north toward the commercial area near Pacific Way.



Figure 2. Rendering of the Preferred Cross Section — Walking Lane

Looking north toward the wooded and residential area north of Dooley Lane.

General Assumptions

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

- Existing shoulder-shoulder and ROW dimensions are approximate and based on aerial imagery and geographic information system (GIS) data from ODOT and Clatsop County. Survey is required to refine these measurements in a future phase of project development.
- New cross sections 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, Highway Design Manual standards, and National Network 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), meeting BUD guidance and Highway Design Manual 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 Reduction Review Route (RRR) requirements while also improving the corridor for walking and biking. See Freight section below.

Contexts and Segments

The US 101 corridor through Gearhart is approximately 2.3 miles long. Adjacent land uses vary substantially from a mostly wooded rural area at the north end to a commercial node with a Dollar General, Dairy Queen, and bowling alley near the intersection with Pacific Way (near mile point 18.7). To better fit each alternative to the varying contexts, the corridor was divided into five segments based on adjacent land use and development patterns (see Figure 3 and Figure 4). The cross sections for each alternative vary from segment to segment to

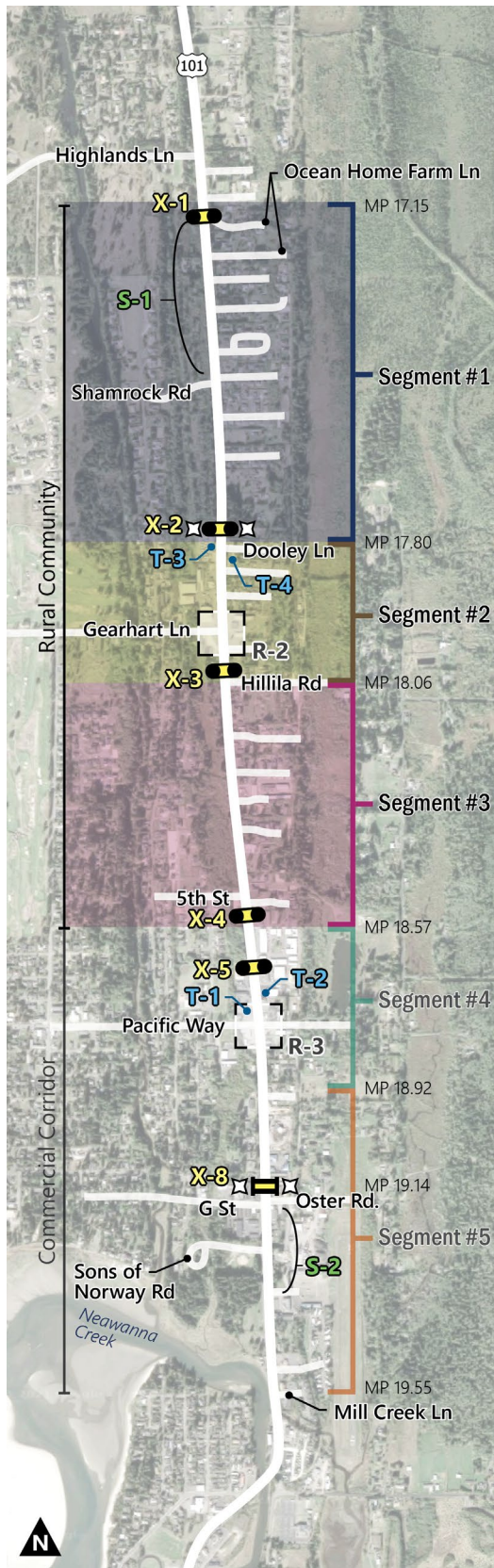
match the context. Most segment boundaries are at proposed crossing locations to facilitate crossing when a walking facility begins. Segments are described from north to south.

North Segments — BUD Land Use Context: Rural Community

Segments #1, #2, and #3 span approximately from Ocean Home Farm Lane to 5th Street (see Figure 3). These three segments were found to best match the Rural Community context in the Blueprint for Urban Design (BUD). These segments would have a continuous at-grade walking lane on the east side. The commercial area of Segment #2 would also have a sidewalk on the west side.

South Segments — BUD Land Use Context: Commercial Corridor

Segments #4 and #5 span approximately from 5th Street to Mill Creek Lane (see Figure 4). These two segments were found to best match the Commercial Context in the BUD. These segments would have a continuous sidewalk on the east side that would connect with the planned multi-use path extending from Seaside. The commercial area of Segment #4 would have a sidewalk on the west side as well. 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.

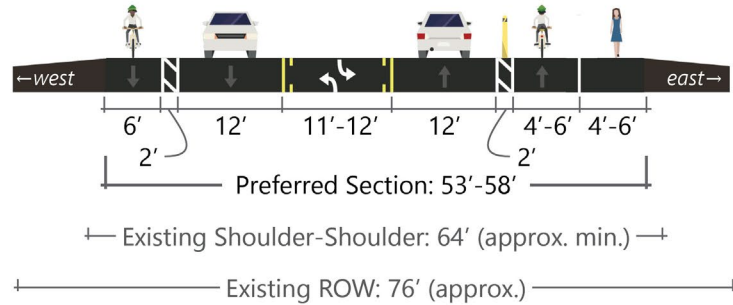


Overview: North Segments

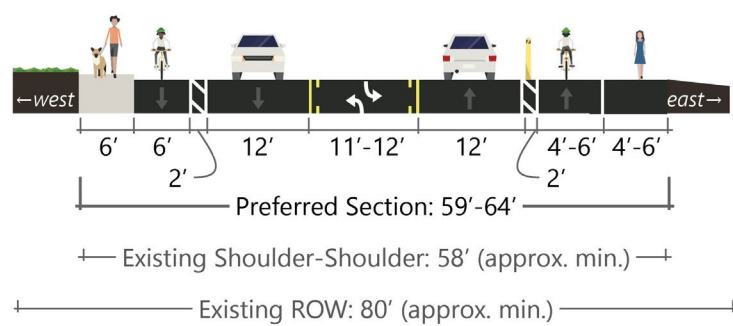
Ocean Home Farm Lane to 5th Street

BUD Context: Rural Community

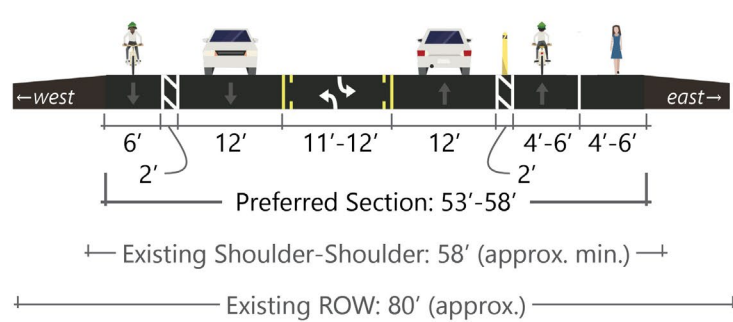
Segment #1



Segment #2



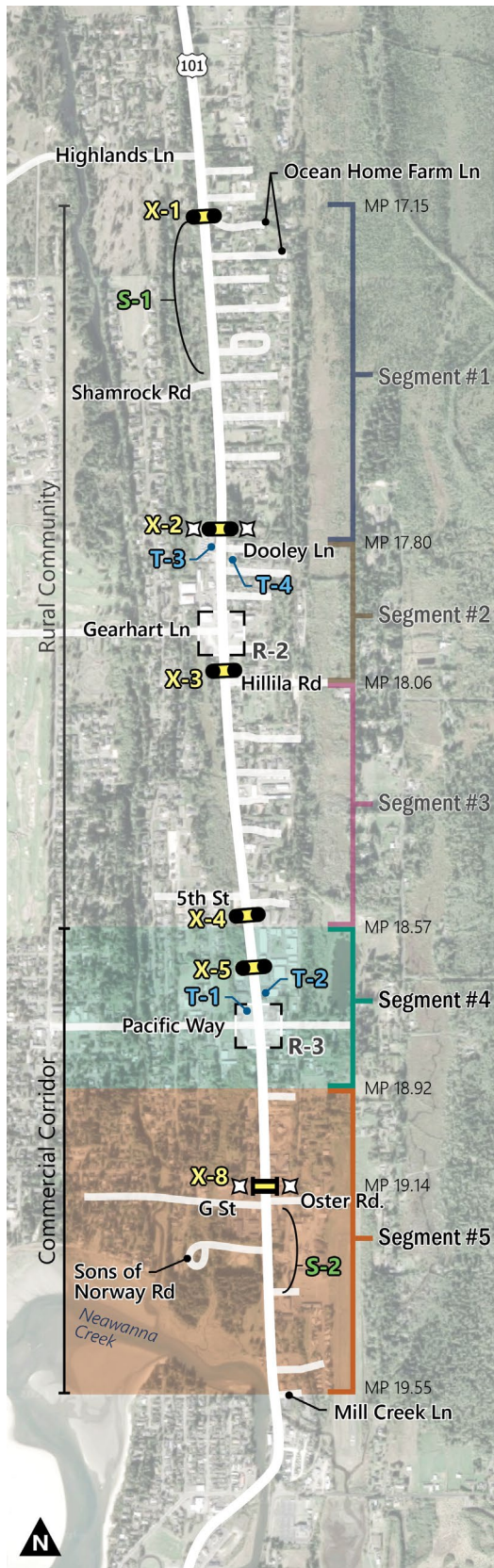
Segment #3



Legend

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

Figure 3. Preferred Cross Sections, Segments 1 - 3

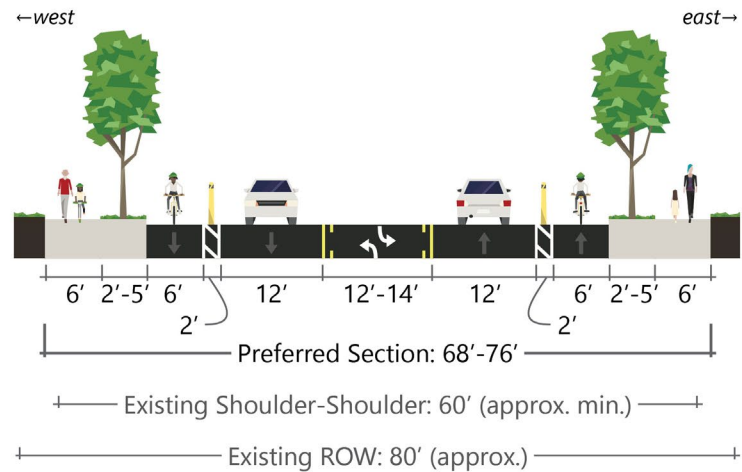


Overview: South Segments

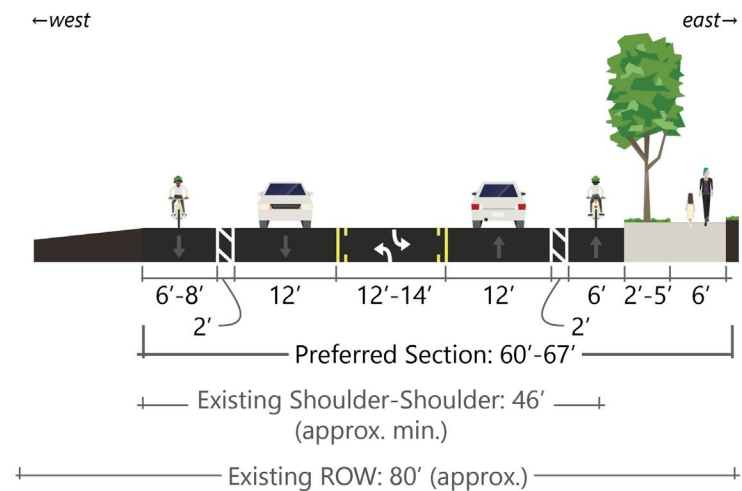
5th Street to Mill Creek Lane

BUD Context: Commercial Corridor

Segment #4



Segment #5



Legend

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

Figure 4. Preferred Cross Sections, Segments 4 - 5

Traffic Performance

The future 2040 operational conditions with the preferred improvements implemented are compared with the future no-build operational conditions in Table 2. The preferred alternative would reconfigure US 101 to three lanes, which means one through travel lane in each direction and a center turn lane.

Alternative mobility targets adopted by the OTC require that a volume to capacity ratio (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. Designing the transportation system to meet the mobility target during the peak summer months would require expensive and impactful investments that would be unrealistic to implement. 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. As shown, all intersections are expected to continue to meet existing mobility targets, operating with a v/c lower than the 0.85 stated mobility target during the future p.m. peak hour of an average weekday.

However, 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 a LOS F with stop control remaining on the side street. Side street turn lanes were considered to reduce delay at the intersection with G Street-Oster Road (Gearhart Lane already has turn lanes), but they were not carried forward. Potential traffic control types were investigated to better serve the intersection with Gearhart Lane, including a traffic signal and a roundabout. The traffic signal is not reported here because it is unlikely to comply with signal warrants because of low side street volumes. See Appendix A for more details about alternatives considered and rejected.

In all cases, the resulting v/c measure was adequate. A separate evaluation is required to determine if the potential traffic control complies with signal warrants. The methods and assumptions used for this performance review are summarized in Technical Memorandum #4: *Analysis Methodology*.

Table 2. Future 2040 Intersection Operations with Preferred Improvements (Average Weekday p.m. Peak Hour)

		Future No-Build Operations			Future Operations with Preferred Improvements Implemented		
Study Intersection	Intersection Control	Maintain Existing Lane Configuration			Reconfigure US 101 to Three Driving Lanes		
		V/C	Delay (seconds)	LOS	V/C	Delay (seconds)	LOS
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)
US 101/ Pacific Wy.	Traffic Signal	0.48	8.3	A	0.77	13.7	B
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/ 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/ 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

Note: Mobility Target = 0.85 v/c; average weekday; peak hour factor of 1.0. Mobility Target applies to all approaches of each intersection.

Intersection operations are reported for the entire intersection at traffic signals and roundabouts, 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.

INTERSECTION TREATMENTS

The preferred alternative would include improvements for two intersections in the corridor: at Gearhart Lane and at Pacific Way.

Gearhart Lane and US 101 Intersection

Two alternatives are proposed to include in the Facility Plan (see Table 3):

- R-2a — maintain stop control (the preferred alternative).
- R-2b — replace the intersection with a roundabout (the aspirational alternative).

For each of the intersection alternatives, the northbound and southbound US 101 approaches to the Gearhart Lane intersection would be modified to include only one travel lane in each direction.

Table 3. Gearhart Lane and US 101 Intersection Alternatives

ID	Description	Considerations
R-2a	Gearhart Lane and US 101 Intersection: 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 a LOS F in the 2040 horizon year. • US 101 approaches modified to include only one travel lane in each direction.
R-2b	Gearhart Lane and US 101 Intersection: roundabout	<ul style="list-style-type: none"> • Installs a single-lane roundabout at the intersection. • US 101 approaches modified to include only one travel lane in each direction. • Roundabout helps to calm traffic and provide substantial safety benefits. • Improves operations for drivers approaching US 101 from Gearhart Lane. • Careful consideration should be given to the roundabout location and design to evaluate constructability and impacts to adjacent properties. • Includes pedestrian crossings, so proposed Alternative X-3 would not be needed.

R-2a — Maintain Stop Control

The center turn lane would still exist on US 101 in Alternative R-2a to help left-turning vehicles queue and to allow two-stage left turns on to US 101. The eastbound approach to US 101 from Gearhart Lane in R-2a would maintain the existing exclusive left- and right-turn lanes. This eastbound approach is expected to operate with a level of service (LOS) F in the 2040 horizon year.

R-2b — Replace the Intersection with a Roundabout

Alternative R-2b would serve existing and future traffic demand and provide additional safety benefits with a single-lane roundabout. A rendering of this alternative is shown in Figure 5 and a preliminary sketch is shown in Figure 6. The proposed roundabout concept includes a 165-foot inscribed diameter and would safely accommodate biking and walking through the intersection via multi-use paths and enhanced pedestrian crossings. Careful consideration should be given to the roundabout location to evaluate impacts to adjacent properties and constructability.

Alternative R-2b would provide safety and operational improvements at the intersection, but it would take more resources to implement. This alternative is recommended for the Facility Plan as a viable option if funding becomes available. A roundabout is proposed instead of a signal because, in addition to the traffic calming benefits of a roundabout, a signal is unlikely to meet warrants.



Figure 5. Rendering of Roundabout at Gearhart Lane (R-2b)

Looking north from near Lamont Lane.

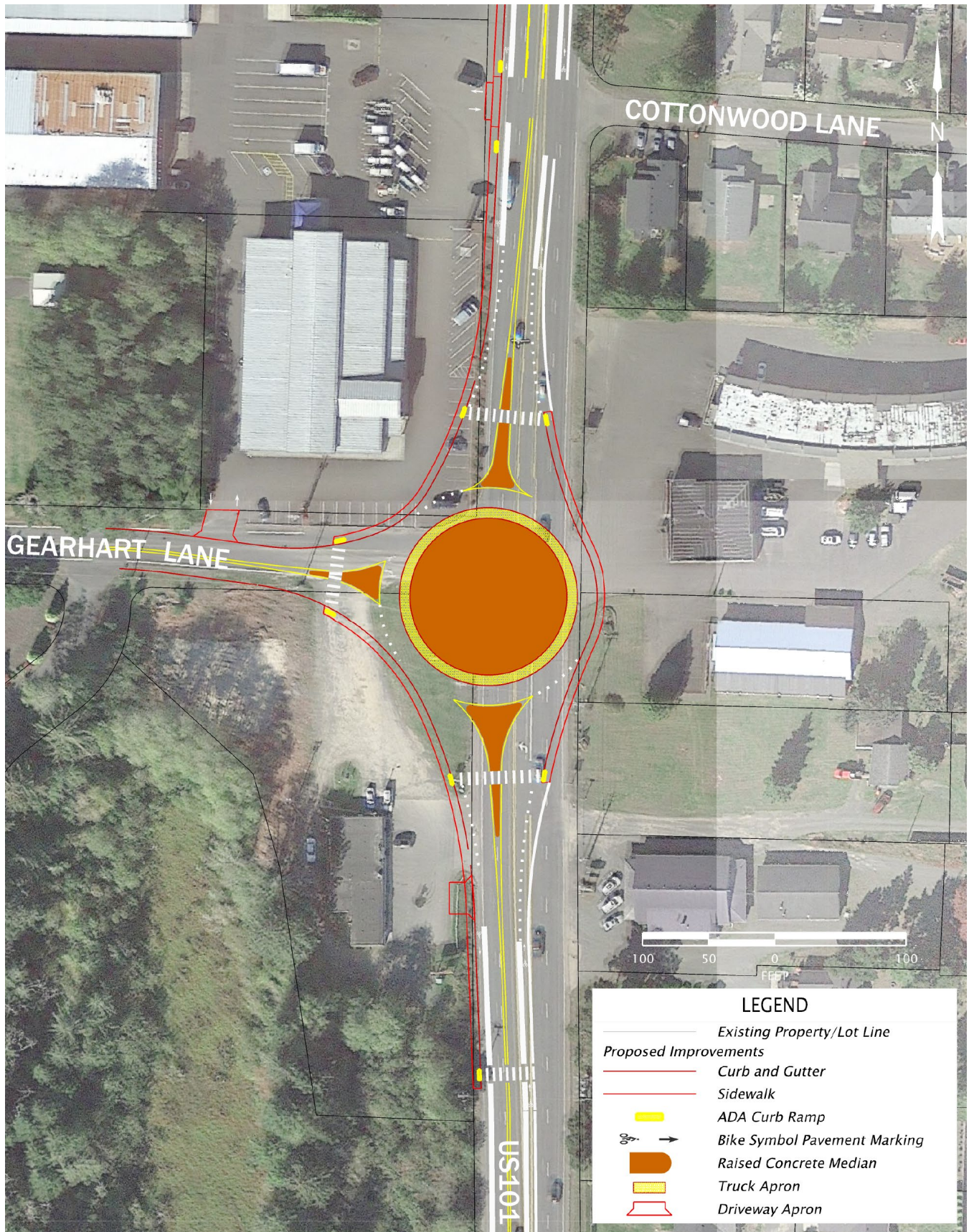


Figure 6. Preliminary Roundabout Design at Gearhart Lane (Alternative R-2b)

HDM Section 8.6

Traffic Performance

The preferred alternative at this intersection would maintain the stop control on Gearhart Lane at the US 101 approach (Alternative R-2a) and reduce the travel lanes on US 101 from two to one in both directions. The preferred alternative also includes the roundabout (Alternative R-2b) as a long-term “aspirational” improvement if funding becomes available in the future, pending a separate future study and verification.

The intersection is expected to continue to meet existing mobility targets with the preferred alternative, operating with a v/c ratio of 0.61 or better for all movements during the 2040 p.m. peak hour of an average weekday, well below the target of 0.85.

However, vehicles will be expected to experience higher delays when turning left from eastbound Gearhart Lane to US 101 northbound. The p.m. peak hour for this movement is expected to experience over 120 seconds of delay due to the significant amount of conflicting traffic along US 101 (see Table 2). Since US 101 will only include one travel lane in each direction, northbound and southbound vehicles will be platooned more, thereby reducing the acceptable gaps where vehicles can turn left onto the highway from side streets. However, the existing Gearhart Lane approach to US 101 includes separate left and right turn pockets, and the center turn lane along US 101 would allow for two-stage left turns. This configuration allows left turning vehicles from Gearhart Lane to cross the southbound direction of US 101 and queue in the center turn lane while waiting for the northbound direction of US 101 to have an acceptable gap.

The roundabout alternative at the intersection would significantly reduce the delay for vehicles approaching US 101 from Gearhart Lane. Eastbound left turns are expected to experience an average delay of 14.8 seconds, from 121.7 seconds with the preferred alternative (see Table 2). The intersection would also operate with a v/c ratio of 0.80 during the p.m. peak hour of an average weekday with this improvement, allowing the intersection to continue to meet existing mobility targets. However, a separate future evaluation is recommended to determine if the potential traffic control is needed after implementation of lane reconfiguration.

Pacific Way and US 101 Intersection

The intersection of US 101 and Pacific Way would require improvements to accommodate the new preferred cross sections (Alternative B). The preferred alternative (R-3b) would modify the northbound and southbound US 101 approaches to include only one shared through / right-turn lane and a left-turn lane for each approach (Table 4). The Pacific Way west approach includes lane configuration and the addition of bike lanes. The east approach remains the same. The signal would be modified to accommodate the new configuration.

The preferred intersection treatment would also modify the shape of the intersection by extending the northwest corner of the intersection further south, so the north leg crosswalk becomes perpendicular with the direction of traffic (see Attachment 1). This would shorten the pedestrian crossing distance. This provides additional sidewalk space that could be used for a relocated southbound bus stop (see Transit Improvement T-1). Sidewalks would be updated for ADA accessibility.

Table 4. Pacific Way and US 101 Intersection Alternatives

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 accessibility. • Adjusts the northwest corner of the intersection to straighten the north leg crosswalk. • Straightened sidewalk reduces pedestrian crossing distance and is more intuitive, important for people with visual impairments. • Traffic performance in 2040 is estimated to operate with a LOS B after reconfiguring the roadway to the preferred three lane cross section.

PEDESTRIAN CROSSINGS

Pedestrian crossings improvements would help provide a more comfortable experience walking in the corridor and would help encourage safer driving. The only existing marked pedestrian crossings are at the signalized intersection with Pacific Way. BUD guidance recommends crossing spacing based on urban context, as summarized in Table 5 and described in more detail in Memorandum #6: *Future No-Build Conditions* (TM6).

In most cases, the preferred crossing improvements are 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 this level of pedestrian investment.

Table 5. Crossing Spacing Comparison Between BUD Guidance and Preferred Improvements

	Rural Community North of 5th Street		Commercial Corridor South of 5th Street	
	BUD Guidance	Proposed Improvements	BUD Guidance	Proposed Improvements
Target Pedestrian Crossing Spacing Range (feet)	250 – 750	1,350-3,500	500 - 1,000	600-2,450

The existing marked and signalized crossings at the intersection with Pacific Way would remain, though may be improved with updates at the intersection (R-3b). If the roundabout is implemented at Gearhart Lane (R-2b), it would also include pedestrian crossings. See the Intersection Treatments section for more details.

Table 6 summarizes proposed pedestrian crossing locations through the corridor. Proposed crossing locations are shown in Figure 3 and Figure 4, as well as in Attachment 1. All proposed crossings would be marked with continental striping and signage. X-1 through X-5 would be enhanced with median pedestrian refuge islands. These proposed crossing locations would be mid-block to allow median pedestrian refuge islands without conflicting with left-turn access to adjacent businesses. Median islands can use mountable curbs if necessary to satisfy Reduction Review Route requirements. X-8 at G Street-Oster Road would be striped and have signage, but no median pedestrian refuge island. Two crossings, X-2 (near Dooley Lane) and X-8, include a rectangular rapid flashing beacon (RRFB).

Locations were chosen after considering multiple factors, including:

- ODOT design guidance.
- Evidence of existing pedestrian activity, such as at Dooley Lane near Bud’s RV Park and Campground (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 (X-5).
- Facilitating access between walking facilities on opposite sides of the road, such as near Ocean Home Lane (X-1) and near 5th Street (X-4), where residents to the west may want to connect to the walking lane or sidewalk on the east.

Note that these crossing improvements are only proposed. The facility plan cannot give the exact location and features of a crossing. Instead, locations and features will require formal approval from the State Traffic-Roadway Engineer (STRE).

Table 6. Preferred Pedestrian Crossings

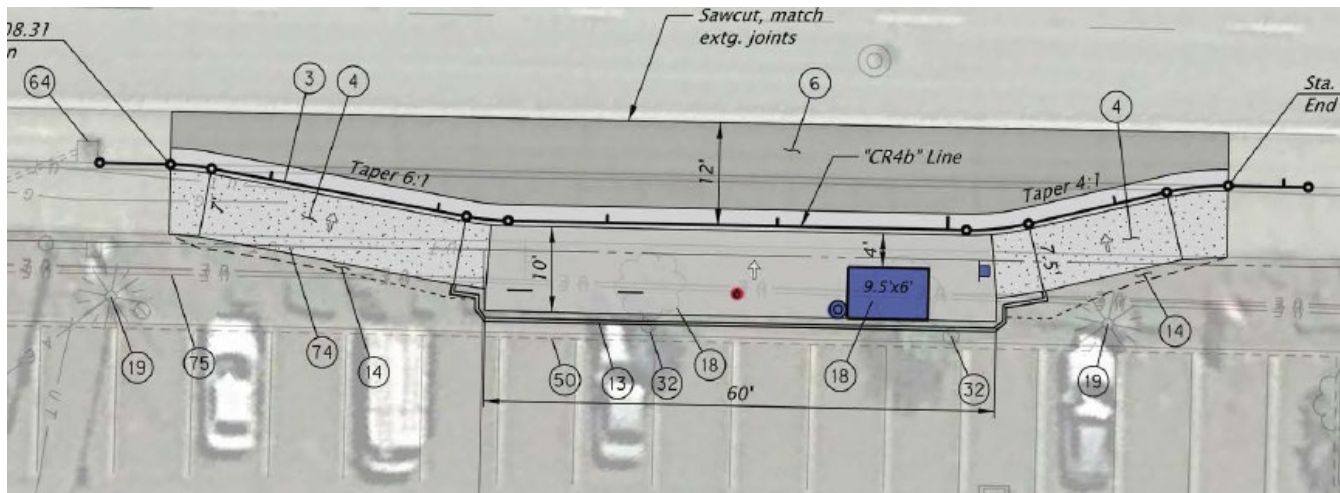
ID	Description	Considerations
X-1	Near Ocean Home Farm Lane: mile point 17.15 (proposed)	<ul style="list-style-type: none"> • North end of the corridor. • Would provide access from the east-side walking and biking facilities to neighborhoods on the west side. • Opportunity to pair with Alternative S-1, north end gateway treatment. • Opportunity to coordinate with planned new fire station. • Existing roadway has a three lane cross-section, so crossing could be implemented without restriping. • Mid-block.
X-2	Near Dooley Lane: mile point 17.80 (proposed)	<ul style="list-style-type: none"> • Would be near Bud's RV, a popular destination and place to cross. • Includes RRFB. • Opportunity to pair with Alternative S-1, north end gateway treatment. • Mid-block.
X-3	Near Lamont Lane: mile point 18.06 (proposed)	<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 5 th Street: mile point 18.57 (proposed)	<ul style="list-style-type: none"> • Would connect neighborhoods on west side to walking and biking facilities on east side. • Mid-block.
X-5	Near bowling alley: mile point 18.70 (proposed)	<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: mile point 19.14 (proposed)	<ul style="list-style-type: none"> • Would improve access to residential area and beach east of US 101. • Opportunity to pair with Alternative S-2, south end gateway treatment. • Existing roadway has a three lane cross-section, so crossing could be implemented without restriping. • At intersection.

Unmarked Crossings

Unmarked crosswalks will need to be considered in future phases of planning and design. Side streets intersect with US 101 throughout the corridor, establishing unmarked crosswalks as defined by ORS 801.220. Special consideration must be made along segments 2, 4, and 5 because the new sidewalks would require ADA ramps to allow accessible travel. Ramps are located in the conceptual layout in Attachment 1, 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

Transit improvements are intended to make transit easier and more comfortable to use. Four bus stop improvements are proposed: two northbound locations and two southbound locations, as listed in Table 7 and shown in Figure 3, Figure 4, and Attachment 1. Each location would receive signs to indicate that it is a bus stop, describe which routes are served there, share the bus schedules, give a website or phone number to learn more, and have wayfinding pointing to local destinations. Each would have a shelter and a bench. They would also receive roadway improvements to allow buses to pull out of the through lane with the new cross section and bike lanes. An example of a similar bus pull out, developed for the NW Connector Northwest Oregon Transit Access Project, is shown in Figure 7. Actual designs will need further planning and engineering.



KEY NOTES

- | | | |
|---|---|---------------------------------------|
| (1) Const. standard curb | (13) Const. retaining wall with handrail
Max height 2'
Avg. height 1' | (50) Preserve and protect extg. curb |
| (3) Const. curb and gutter - 30" width | (14) Seed with grass | (64) Preserve and protect extg. inlet |
| (4) Const. P.C. conc. sidewalk | (18) Remove extg. tree | (65) Protect extg. gas line |
| (6) Const. plain conc. pavmt., Dowelled | (19) Preserve and protect extg. light pole | (74) Protect extg. telephone line |
| (7) Const. curb ramp (perpendicular) | (32) Remove sprinkler | (75) Protect extg. electric line |
| (9) Const. truncated dome detectable warning surface, safety yellow | | |

BUS STOP LEGEND

- | | |
|--|----------------------------|
| | Bus stop shelter (1 Bench) |
| | Bus stop ID sign |
| | Light pole |
| | Bike rack |
| | Trash receptacle |
| | Bike repair station |

Figure 7. Example Bus Pull Out Design

Source: NW Connector Northwest Oregon Transit Access Project

The southbound bus stop near Pacific Way (T-1) would move south from its current location near the bowling alley to the crosswalk at the Pacific Way intersection. This southbound stop would be improved with a shelter and bench. The northbound stop at the Dollar General north of Pacific Way (T-2) would remain with minimal additional improvements. To make this stop easier to reach, it could be relocated closer to the intersection at Pacific Way when the sidewalk improvements are made. However, this should be considered with future stakeholder and public outreach.

An additional southbound and northbound bus stop (T-3 and T-4, respectively) are recommended at the northern commercial area near Gearhart Lane to make transit a more practical option. 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 — and many residents live even further to the north or to the west. These new stops near Gearhart Lane would be especially convenient for residents who live off of Gearhart Lane or US 101. 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 7. Preferred 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 Concept R-3. • Roadway improvements to accommodate buses with the new cross section.
T-2	Northbound near Pacific Way. 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. • Roadway improvements to accommodate buses with the new cross section.
T-3	Southbound near Gearhart Lane. New bus stop north of Gearhart Lane near proposed Dooley Lane crossing (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. • Roadway improvements to accommodate buses with the new cross section. • 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 (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. • Roadway improvements to accommodate buses with the new cross section.

OTHER CORRIDOR IMPROVEMENTS AND CONSIDERATIONS

Safety

Several strategies are included in the preferred alternative that can provide safety benefits for all users.

Speeding has been noted by the Gearhart Police Department as a top safety concern in the corridor. Reconfiguring the travel lanes from two to one in each direction, as proposed in Alternative B, reducing the potential for excessive speeding.

Additionally, speed-activated signs can be incorporated into gateway treatments, Alternatives S-1 and S-2 (described in the Gateways section), to target drivers as they come into town. A speed-activated sign is an electronic sign that is connected to a device that measures the speed of approaching vehicles. If the vehicle is exceeding the legal speed limit, then the electronic sign is activated to display the legal speed limit. This may also be accompanied by the word “SLOW” or other appropriate message. Another style of speed-activated sign is a speed feedback sign, which displays the speed at which a vehicle is traveling (Figure 8). Speed-activated signs can be relatively low cost and can be effective at encouraging drivers to stay below the speed limit. The City would be responsible for installing, maintaining, and operating speed feedback signs.



Figure 8. Speed Feedback Sign

A median refuge island, included with the proposed crossings, can improve pedestrian safety and comfort by providing a safe place to stop at the midpoint of a street before crossing the remaining distance. They can also help enhance visibility of crosswalks, particularly at unsignalized locations. All crossing alternatives include median pedestrian refuge islands.

Roundabouts can also be effective at improving safety by managing speeds. The yielding required to enter and travel through a roundabout slows travel speeds. However, a roundabout works better with balanced traffic flow between all legs. An unbalanced intersection with most of the volume on the major street may not see the same benefits as other more balanced locations because drivers approaching from the minor streets may have difficulty finding large enough gaps in traffic to enter the roundabout. A roundabout is proposed for Gearhart Lane in intersection Alternative R-2b (described in the Intersection Treatments section).

Landscaping

The preferred alternative includes a long-term strategy to incorporate landscaping along the corridor. Landscaping, including trees, native grasses, shrubs, and other vegetation, can bring substantial benefits. Landscaping can improve visual aesthetics and, trees especially, can help dampen road noise. The presence of

trees can create visual “friction” that encourages drivers to go slower. Landscaping also helps with drainage, can reduce flooding by absorbing stormwater runoff, and can be used to treat stormwater.

Landscaping 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 could be implemented opportunistically as other improvements are made.

Gateway Treatments

The preferred alternative includes two gateway treatments, one at the north end of town and one at the south end of town (Table 8). Approximate locations are shown in Figure 3 and Figure 4. A gateway treatment is an aesthetic installation at the entry to a town, city, or neighborhood (see Figure 9). It is primarily intended to help remind drivers that they are entering a community and encourage 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.

Gateway treatments are often a combination of signs (such as “Welcome to Gearhart”), landscaping, art, and traffic control (such as a pedestrian crossing). Designs and specific locations should be done 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 role(s) for ongoing maintenance. Generally, gateway treatments would be the responsibility of the City to purchase and maintain.



Figure 9. Gateway Treatment Entering Seaside

Table 8. Preferred Gateway Treatments

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

Street Lighting

The preferred alternative (S-4b) would include street lighting improvements at locations where policy suggests (e.g. signalized intersections or areas with high night-time crashes) and in urban areas (see Table 9). The enhanced illumination would increase visibility, making the corridor safer for all road users.

In addition to implementing ODOT's standard lighting at intersections, the preferred alternative would include illumination in the urban areas of the corridor, including pedestrian-scale lighting to increase comfort and visibility for people walking after dark. Pedestrian scale lighting would help make the corridor more attractive and support placemaking. Any lighting beyond the major intersections would likely be City responsibility. This may be implemented in phases as funding becomes available or other projects are implemented.

Table 9. Preferred Illumination Improvements

ID	Description	Considerations
S-4b	Pedestrian-scale illumination along corridor	<ul style="list-style-type: none"> • Installs lighting at intersections where there are most likely to be interactions between people on the road. ODOT would furnish at locations where policy suggests (e.g. signalized intersections or areas with high night-time crashes). • Any lighting beyond locations described in ODOT policy would likely be City responsibility.

Stormwater Management

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

Improvements will manage stormwater through multiple strategies.

- Reconstructing and resurfacing the road will remove low points and restore proper crowning to allow water to shed to the sides of the road.
- Segments that will have curbs for sidewalks (Segments 2, 4, and 5) will have stormwater inlets and pipes as needed for proper drainage and conveyance.
- Landscaping planters in Segments 4 and 5 can be used for stormwater retention and treatment. Planters should be minimum three feet wide to be practical for stormwater retention and treatment.
- Segments that will not have curbs will continue to drain into roadside ditches.

Stormwater collected at curbed segments of the corridor will require treatment and may require flow control, depending on the discharge location. As mentioned, landscaping planters may 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

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, it sets access spacing standards, identifies the ability to close existing approaches and establishes a formal appeal process in relation to access issues. These rules enable the state to direct location and spacing of intersections and approaches on state highways, ensuring the relevance of the functional classification system and preserving the efficient operation of state routes.

The access spacing standards for driveways and approaches to the state highway system are set in Oregon Highway Plan (OHP) Goal 3, Policy 3A. These standards balance the safety and mobility needs of travelers on state highways with the access needs of property and business owners. There are several access management modifications to the corridor that can provide safety and operational benefits for all users. A raised median, consolidating or combining existing driveways or taking access from frontage roadways or side streets can all be effective ways to regulate access to adjacent properties.

Access management helps to reduce conflict points for people driving by decreasing the locations where they can make turns. The potential for crashes is reduced as there are fewer places where a car crosses paths with other travelers, including people walking or biking. 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.

Freight Mobility

US 101 through Gearhart is designated a Federal Truck Route as part of the National Network and as a State of Oregon Reduction Review Route. Federal Truck Routes generally require 12-foot travel lanes. Reduction Review Routes require consideration for maintaining the "hole in the air" capacity.

The preferred alternative would continue to maintain freight mobility on US 101 through Gearhart. The preferred alternative 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 a Reduction Review Route and it may need to be 12 feet wide. The preferred alternative would use mountable median curbs and flexible delineators 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 (ID 01305) where the roadway is approximately 28 feet wide.

Posted Speeds

Fast driving 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 miles per hour) are higher than the guidance from ODOT's Blueprint for Urban Design (BUD) for Rural Community and Commercial Corridor contexts (25 to 35 miles per hour and 30 to 35 miles per hour, respectively). See TM9 for more details.

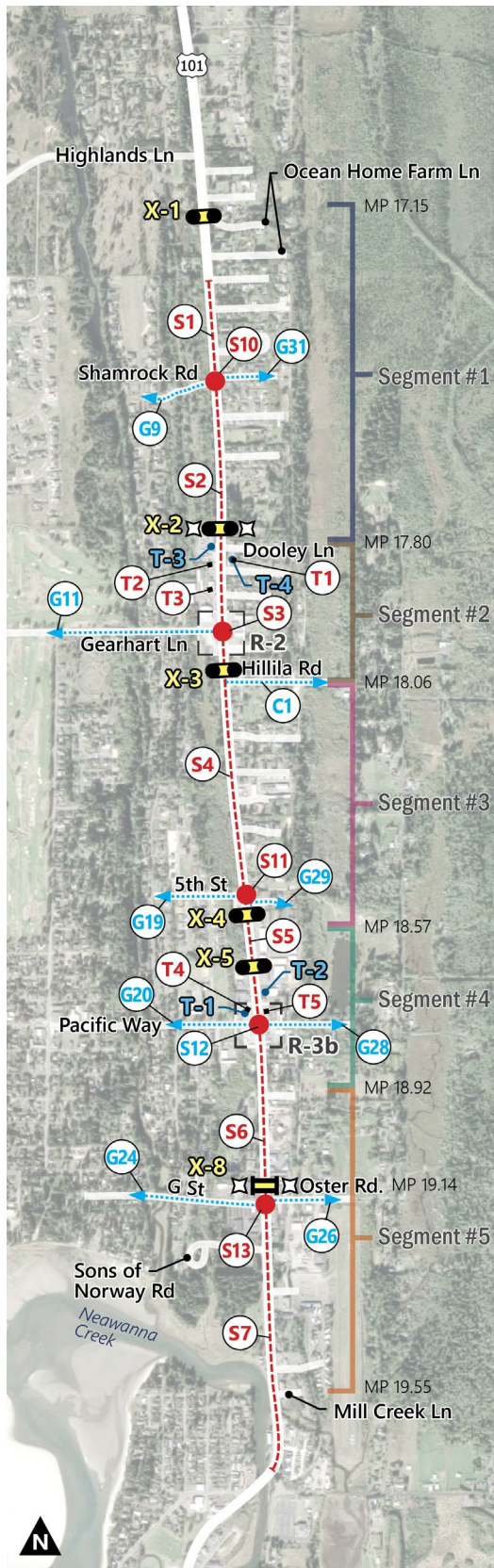
Though the BUD does not establish posted speeds, it does give desired speed ranges. Once elements of this Facility Plan are constructed, the speed zone could be investigated. Improvements from the lane reconfiguration, addition of pedestrian crossings, and other traffic calming strategies are anticipated to reduce driving speeds. The project team recommends further analysis of posted speeds and consideration of a speed study after the lane reconfiguration is implemented.

CONNECTIONS TO PLANNED FUTURE FACILITIES

Improvements included in the preferred alternative would be consistent with improvements planned in Gearhart Transportation System Plan (TSP), and the preferred alternative would carry forward many of the projects identified in the TSP along the US 101 corridor. The lane reconfiguration included in TSP projects S1-S2 and S4-S7 are included in Alternative B. Intersection improvements at Gearhart Lane (TSP project S3) and Pacific Way (S12) are both included in the preferred alternative as R-2 and R-3b, respectively. Most of the proposed crossing enhancement locations are included in the facility plan at or near the locations proposed by the TSP.

Two of the TSP improvements along the US 101 corridor were not advanced with the preferred alternative. Each project was to “study for potential crossing enhancements” in a specific location: near Shamrock Lane (TSP project S10) and near G Street-Oster Road (TSP project S13). Crossings at these locations were considered but not advanced because of concerns with the high number of pedestrian crossings along the stretch. These could be considered again at a later date after elements of the preferred alternative have been implemented.

TSP projects along the corridor are mapped in Figure 10 and listed in Table 10, along with their relationship to improvements in the Facility Plan. Note that preferred alternatives for the US 101: Gearhart Facility Plan use a hyphen, as in X-1, whereas projects in the TSP, like S1, do not.



Planned Future Facilities

Projects from the 2017 Gearhart Transportation System Plan

Legend

- Planned TSP Project on US 101
- Planned TSP Project that Connects with US 101
- Proposed Crossing with Median
- Proposed Intersection Improvement
- Proposed Crossing
- Proposed Rectangular Rapid Flashing Beacon

Figure 10. Planned TSP Projects

Table 10. Gearhart TSP Projects Along US 101 Corridor

TSP Project Numbers	Description	Relation to the Facility Plan
S1-S2, S4-S7	Reconfigure US 101 to three lanes with bike lanes and widen for a shared use path. S5 and S6 add sidewalks between 5th St. and G St.	Preferred Alternative B includes the lane reconfiguration, bike lanes, and sidewalks that are planned in the TSP. The shared use path was modified to be a walking and biking lane at several locations in the corridor. This alternative is consistent with the intent of the TSP projects.
S3	Intersection improvements at Gearhart Ln.	Included in preferred Alternatives R-2a and R-2b.
S10	Study for potential US 101 crossing enhancements near Shamrock Rd.	This location was considered but not advanced as a preferred crossing.
S11	Study for potential US 101 crossing enhancements near 5th St.	Included in preferred Alternative X-4.
S12	Intersection improvements at Pacific Way.	Included in preferred Alternative R-3b.
S13	Study for potential US 101 crossing enhancements near G St.-Oster Rd.	Included in preferred Alternative X-8.
T1	Bus stop improvements near Wild Rose Lane (northbound).	Included in preferred Alternative T-4.
T2	Bus stop improvements near Wild Rose Lane (southbound).	Included in preferred Alternative T-3.
T3	Relocate the southbound NorthWest POINT bus stop near Cottonwood Lane to the proposed southbound bus stop location near Wild Rose Lane (T2).	The POINT bus no longer services a stop near Cottonwood Lane. It stops in Gearhart near Pacific Way. Proposed bus stops near Dooley Lane (T-3 and T-4) would accommodate the desire for the stop near Wild Rose Lane. The proposed stops would be served by Sunset Empire Transportation District and would connect to the NorthWest POINT bus stops near Pacific Way.
T4	Bus stop improvements near Pacific Way (southbound).	Included in preferred Alternative T-1.
T5	Bus stop improvements near Pacific Way (northbound).	Most elements of this improvement have already been implemented near the Dollar General just north of Pacific Way. Preferred Alternative T-2 includes adding route information at the bus stop and improving the roadway to accommodate buses with the proposed new cross section.

Table 11. Gearhart TSP Projects that Connect with US 101 Corridor

TSP Project Numbers	Description	Relation to the Facility Plan
G9	Add pedestrian and bicycle improvements to Shamrock Rd. This is currently a private street.	Pedestrian and bicycle facilities on Shamrock Rd. would directly connect with the southbound bike lane on US 101. Connecting to the walking lane and northbound bike lane on US 101 would require crossing the highway. No crossing improvements are proposed at this location.
G11	Add pedestrian and bicycle improvements to Gearhart Ln.	Pedestrian and bicycle facilities on Gearhart Ln. would directly connect with the southbound bike lane and west side sidewalk on US 101. Connecting to the walking lane and northbound bike lane on US 101 would require crossing the highway. Crossing improvements are proposed just south of Gearhart Ln. (X-3) and with the roundabout concept (R-2b).
G19	Add pedestrian and bicycle improvements to 5th St.	Pedestrian and bicycle facilities on 5th St. would directly connect with the southbound bike lane on US 101. Connecting to the walking lane and northbound bike lane on US 101 would require crossing the highway. Crossing improvements are proposed just south of 5th St. (X-4).
G20, G28	Add pedestrian and bicycle improvements to Pacific Way.	Pedestrian and bicycle facilities on Pacific Way would directly connect with the bike lanes and sidewalks on US 101. Signalized crossings at the intersection allow for easy crossing of US 101. Improvements at the intersection (R-3b) could be designed to accommodate pedestrian and bicycle facilities on Pacific Way.
G24, G26	Add pedestrian and bicycle improvements to F St.-G St.-Oster Rd.	Pedestrian and bicycle facilities on G St. west of US 101 would connect with the northbound bike lanes and sidewalk on US 101. Facilities on G St. east of US 101 would connect with the southbound bike lane, which is proposed to be up to 8 feet wide to better accommodate people walking. Improvements from G24 and G26 would be connected with proposed crossing X-8 at G St.
G29	Create a shared-use path connection between 5th St. and McCormick Gardens Rd.	A shared use path at 5th St. (on the east side of US 101) would directly connect with the walking lane and northbound bike lane on US 101. Connecting to the southbound bike lane would require crossing the highway. Crossing improvements are proposed just south of 5th St. (X-4).
G31	Shared use path connection between Shamrock Rd. and Tressel Dr.	A shared use path at Shamrock Rd. (on the east side of US 101) would directly connect with the walking lane and northbound bike lane on US 101. Connecting to the southbound bike lane would require crossing the highway. No crossing improvements are proposed at this location.
C1	Add pedestrian and bicycle improvements to Hillila Rd.	Pedestrian and bicycle facilities on Hillila Rd. would directly connect with the northbound bike lane and east side sidewalk on US 101. Connecting to the southbound bike lane would require crossing the highway. Crossing improvements are proposed just north of Hillila Rd. (X-3).

IMPLEMENTATION AND COST ESTIMATES

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

Cost Estimates

Cost estimates were developed for the cross-section, pedestrian crossing, and roadway improvement. Cost estimates are included in Table 12. 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 Alternative B include the cost of resurfacing to avoid 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 Attachment 2: Cost Estimates.

Right-of-Way Impacts

This analysis assessed the anticipated likelihood of right-of-way impacts for each concept, as indicated in Table 12. 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 GIS data from Clatsop County (see the conceptual layout in Attachment 1). 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 likelihood are:

- Low: the conceptual design appears to stay within the existing right-of-way.
- Medium (Med.): 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 preferred alternatives were developed to minimize potential right-of-way impacts. However, three improvements may extend beyond the existing right-of-way. The roundabout alternative at Pacific Way (R-2b) was assessed to have a high likelihood 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

When and how alternatives are implemented will depend on available funding and opportunities to tie in with other projects. They may be implemented as a complete package through the Statewide Transportation Improvements Program (STIP) or other state funding. Or alternatives may be implemented as a collection of smaller projects with state or local funding. Elements may also be implemented with new private development, e.g., adding a sidewalk as part of frontage improvements required of new development.

The analysis considers whether each alternative (or element of the alternative) may be implemented in the near, mid, or long-term. For the purposes of this memo, these are defined as:

- Near: less than two years
- Medium: two to five years
- Long: more than five years

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 12.

Some alternatives may be divided into smaller projects and implemented piecemeal using logical project termini. For example, the sidewalks in Alternative B would require more resources and planning than the lane reconfiguration. The sidewalks could be implemented later, after restriping the roadway to the three-lane cross section, and could be built in segments as opportunities arise.

Table 12. Preferred Alternative Implementation and Cost Estimates

ID	Description	Cost Estimate	Anticipated likelihood of R.O.W. Impacts	Timeframe for Implementation	Implementation Dependencies
B	Restripe corridor to three motor vehicle lanes, bike lanes, and a combination of walking lane and sidewalk(s)	\$7,843,000	Low	Near-Medium (restriping) Near-Long (sidewalks)	Reconfiguration could be implemented independently and relatively quickly, but 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. Sidewalks would require more investment and could be implemented later. Depending on the final cross section, they may require restriping to fit in the right-of-way. They could be phased by segment with a focus on higher need areas.
X-1	Near Ocean Home Farm Lane (north end of corridor): mile point 17.15 (proposed)	\$71,000	Low	Near-Medium	Could be implemented before lane reconfig. (B) with existing three-lane cross section.
X-2	Near Dooley Lane: mile point 17.80 (proposed)	\$232,000	Low	Near	Should be implemented with or after lane reconfig. (B). Location has higher pedestrian activity.
X-3	Near Lamont Lane: mile point 18.06 (proposed)	\$71,000	Low	Near-Medium	Should be implemented with or after lane reconfig. (B)
X-4	Near 5th Street: mile point 18.57 (proposed)	\$71,000	Low	Near-Medium	Should be implemented with or after lane reconfig. (B)
X-5	Near bowling alley: mile point 18.70 (proposed)	\$71,000	Low	Near	Should be implemented with or after lane reconfig. (B) Location has higher pedestrian activity.
X-8	At G Street: mile point 19.14 (proposed)	\$202,000	Low	Near	Could be implemented before lane reconfig. (B)

ID	Description	Cost Estimate	Anticipated likelihood of R.O.W. Impacts	Timeframe for Implementation	Implementation Dependencies
T-1	Southbound near Pacific Way	N.C.	Low	Near-Medium	Should be implemented with or after Pacific Way intersection redesign (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 (X-2)
T-4	Northbound near Gearhart Lane	N.C.	Low	Near-Medium	Should be implemented with or after the crossing near Dooley Lane (X-2)
S-1	Gateway treatment: north end of the corridor	N.C.	Med	Near	Could be implemented with crossings X-1 or X-2.
S-2	Gateway treatment: south end of the corridor	N.C.	Med	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 Alternative 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 Alternative 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 Alternative B.
R-2b	Gearhart Lane and US 101, roundabout	\$4,395,000	High	Long	Requires new lane configuration that would be implemented with Alternative B.
R-3b	Pacific Way and US 101, redesign intersection layout	\$2,111,000	Low	Near-Medium	Requires new lane configuration that would be implemented with Alternative B.

N.C. = not calculated; ROW = right-of-way.

Cost estimates do not include right-of-way acquisition, escalation to year of expenditure, or utility impacts.

Each cost includes a 40 percent contingency.

Appendix A. Alternatives Considered and Rejected

APPENDIX A. ALTERNATIVES CONSIDERED AND REJECTED

Many alternatives have been considered thus far in the development of the US 101: Gearhart Facility Plan. Those that were not advanced are listed below, along with a summary of why each was rejected.

Alternative	Description	Reason for Rejection
A. Full length multi-use path	Multi-use path on east side through full length of corridor. West-side sidewalk in urban areas. Bike lanes both directions. Reconfigure travel lanes to one lane in each direction plus a center two-way left-turn lane.	Cost (estimated at \$16 million) deemed infeasible.
R-1b. Reconfigure four lane section (between Park Dr. and Shamrock Rd.) with two-way left turn lane (1 SB, 1 TWLTL, 2 NB)	Maintains a four lane section, but converts one lane to a two-way left turn lane.	Would not adequately address safety concerns from fast or aggressive driving in the corridor. Limits potential space for other multimodal improvements.
R-1c. Reconfigure four lane section (between Park Dr. and Shamrock Rd.) with two-way left turn lane (2 SB, 1 TWLTL, 1 NB).	Maintains a four lane section, but converts one lane to a two-way left turn lane.	Would not adequately address safety concerns from fast or aggressive driving in the corridor. Limits potential space for other multimodal improvements.
R-3a. Maintain existing intersection layout at Pacific Wy.	Maintains existing layout and skewed north leg crosswalk. Updates to three-lane configuration and for ADA accessibility.	Does not address pedestrian crossing concerns and safety issues at this intersection.
Signal at Gearhart Ln.	Install signal control at existing stop controlled intersection to reduce side street delay.	Unlikely to meet signal warrant.
Two-lane roundabout at Gearhart Ln.	Install a two-lane roundabout at the intersection with Gearhart Ln.	Would require substantial right-of-way impacts.
Signal at G St.-Oster Rd.	Install signal control at existing stop controlled intersection to reduce side street delay.	Unlikely to meet signal warrant.
Widening side streets for turn lanes (at G St.-Oster Rd. and 5th St.)	Add turn lanes to reduce delay for side street approach to US 101.	Would result in substantial ROW impacts and potential impacts to wetlands. Left turn volumes are low at these locations. Many of the side streets, including G Street and Oster Road, are connected off US 101 to allow drivers to circulate to the signal at Pacific Way.

Alternative	Description	Reason for Rejection
A-2. Reconfigure lanes on culvert over Mill Creek (Bridge ID 03079A) to create a shared-use path for people to walk/bike, remove center turn lane.	Continues bike lanes south to Seaside.	Structure is in Seaside and outside the geographic scope of this Facility Plan.
Enhanced crossing south of Pacific Wy. (X-6, MP 18.92) and enhanced crossing near Sons of Norway Rd. (X-7, 19.28).	Proposed enhanced crossings with medians at the south end of the corridor.	Stakeholder advisory committee preferred a crossing at G St. rather than the crossings north and south of G St. Access to G St. is more desirable than to Sons of Norway Rd. or the area south of Pacific Wy. A new proposed crossing, X-8, is now the preferred crossing at the south end of the corridor.
Basic crossings	Implement basic crossings (including striping, but no median refuge island or RRFB) at various mid-block locations through the corridor.	Technically infeasible at mid-block crossings due to the posted speeds in the corridor.
Locating pedestrian crossings at intersections	Implement crossings at intersections to improve pedestrian connections.	<p>Crossings were generally not preferred at unsignalized intersections. The high speeds on US 101 make median refuge islands desirable at unsignalized pedestrian crossings. However, refuge islands do not allow for vehicles to use the center turn lane, which, depending on the location of the crossing, impedes queueing for vehicles turning from US 101, or impedes two-stage turns for people turning on to US 101.</p> <p>One exception is at G Street-Oster Road, which was considered an important crossing location. Here the crossing would be enhanced with an RRFB instead of a median to maintain vehicle access to the center turn lane.</p>

NB = northbound; ROW = right-of-way, SB = southbound; TWLTL = two-way left turn lane.