

OREGON COAST BIKE ROUTE PLAN

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Acknowledgments

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Abbreviations and Acronyms

- BUILD Better Utilizing Investments to Leverage Development
EPDO equivalent property damage only
FLAP Federal Lands Access Program
INFRA Infrastructure Through Rebuilding America
LTS level of traffic stress
LWCF Land Water Conservation Fund
mph mile(s) per hour
MUTCD . . Manual on Uniform Traffic Control Devices
OCBR Oregon Coast Bike Route
OCP Oregon Community Paths
OCT Oregon Coast Trail
OCVA Oregon Coast Visitors Association
ODOT Oregon Department of Transportation
OPF Oregon Parks Forever
OPRD Oregon Parks and Recreation Department
OR 18 Oregon Route 18
OR 131 . . . Oregon Route 131
PPP public private partnership
RTP Recreational Trails Program
STIF Statewide Transportation Improvement Fund
STIP Statewide Transportation Improvement Program
TSP transportation system plan
U.S. 26 . . . U.S. Route 26
U.S. 101 . . U.S. Route 101



1

A UNIQUE OPPORTUNITY

This Oregon Coast Bike Route Plan (Plan) identifies opportunities to make improvements to the Oregon Coast Bike Route (OCBR) that will benefit all people who travel the route. Although the Plan's primary focus is on people taking multi day bicycle trips, the recommended improvements will make the route safer, more accessible, and more enjoyable for residents and visitors to the Oregon Coast, whether they are taking a short ride to the grocery store or driving between communities.

First established in the 1980s, the OCBR primarily follows U.S. Route 101 (U.S. 101) but occasionally deviates onto local roadways that are more scenic, have less traffic, and/or provide access into the heart of coastal communities. In the decades since the OCBR's establishment, standards for bicycling infrastructure have progressed and traffic volumes on the route have increased, including the numbers of large vehicles like RVs. This Plan identifies revisions to the route, recommendations for infrastructure improvements, and recommendations for other investments to better accommodate people biking and to attract more users.



This Plan:

- Identifies opportunities to revise the route, including adding alternate routes that provide more direct access, provide a different riding experience, and/or provide access to commercial areas within communities.
- Identifies critical needs based on existing roadway characteristics, crash data, local planning documents, and public input.
- Proposes infrastructure improvements and solutions to improve safety, accessibility, and comfort.

This unique and challenging planning effort was led by the Oregon Department of Transportation (ODOT). The 370 mile route connects seven counties and dozens of communities along the Oregon coast, all with different characteristics, needs, and interests in the OCBR. ODOT applied creative public outreach methods to capitalize on the wealth of knowledge of people who bike the OCBR or otherwise know it well.

This resulting OCBR Plan is the culmination of a several year, multijurisdictional effort that provides a snapshot of the current OCBR and an outline for the future. Implementation will not be easy, but any and all investments will be a significant improvement for all users and will help maintain the OCBR's status of as a premier bicycle tourism destination as well as enabling coastal residents to use the route for their everyday needs.



The OCBR sign.

About the Oregon Coast Bike Route

The Route

The OCBR connects state parks, coastal communities, and panoramic viewpoints from Astoria to the Oregon-California border south of Brookings for just over 370 miles, primarily on U.S. 101 (Figure 1). The OCBR is one of the most popular routes in the Adventure Cycling Association's national network of bike routes, and every year, thousands of people ride the route on single or multiday tours. Coastal residents and visitors also travel the route to reach school, work, shopping, services, and recreation.

The Oregon Coast Bike Route

- 1982: year of official designation by Oregon Transportation Commission
- 370+ miles: total length
- 16,000 feet: elevation rise and fall over the length of the route

Connecting Homes and Jobs

- 200,000+ residents on the Oregon Coast
- 63,000 jobs within 2 miles of the OCBR
- 13,000 accommodation and food service jobs

Providing Access to Recreation

- 362 miles of public coastline
- 87 total parks, recreation areas, and scenic areas
- 38 campgrounds
- 11 lighthouses
- Direct overlap or close access to the Oregon Coast Trail

Figure 1. Oregon Coast Bike Route: Corridor Overview



Rider Survey Quick Facts

A survey conducted at the beginning of the project provided insight into what people think about the OCBR. The survey targeted both experienced riders of the route and those who had not yet ridden it, but might be interested. Their feedback provided an idea of how people travel the OCBR and how the route is perceived.

Trip Characteristics

- 80%: OCBR trips made in summer or fall
- 97%: traveled southbound
- 6 days: average trip length
- 60 miles: average distance biked each day

Accommodations

- 71% camped
- 17% stayed in a hotel

Transportation

- 97% used their own bike
- 48% biked to the start of the trip
- 28% drove their own car to the start of the trip
- 16% used another form of transportation (for example, bus) to travel part of the route

OCBR Riders

The needs of all types of riders — from young kids to adults and people who ride occasionally to people who ride daily and confidently — are important to consider when making bicycling safer and more comfortable. We heard from many people during the planning process who wanted to see a facility that serves all ages and abilities of people. Although we recognize that as a long term goal, this plan is intended to solve some of the critical needs and pinch points in the shorter term.

This project recommends improvements at specific parts of the OCBR based on the people likely to be riding there. Improvements balance the context and needs of each location with the constraints of realistic, implementable solutions. The OCBR near cities and towns is frequently used by a wide range of rider types (people using their bikes to travel to work or school as well as people out for a recreational ride, for instance). In these more urban areas, considerations included accommodating more rider types. For example, recommendations for urban areas might include separating people biking from people driving with separated bike lanes.



In rural segments of the route, it is more common to see people riding recreationally. These people tend to be adults who are confident on their bikes and have a higher tolerance for riding in close proximity to vehicle traffic.

Economic Impacts of Cycling

Bicycle tourism is a major contributor to the Oregon economy and OCBR users bring significant economic benefit to coastal communities. A study commissioned by Travel Oregon found that bicycle tourism in 2012 brought \$56 million in spending and supported 670 jobs along the Oregon Coast that year (Dean Runyan Associates 2013). This includes people who ride bikes in the Coast region for day trips or overnight trips. Most of the income went to dining, accommodation, transportation, and groceries (Table 1).

Table 1. Bicycle related Travel Expenses

Expenditure	Millions (\$2012)
Dining (restaurants, bars, lounges)	\$13.7
Accommodation	\$13.5
Transportation (fuel, parking)	\$9.5
Groceries	\$7.8
Bicycle related (repairs/clothing/gear)	\$4.1
Bicycle event fees	\$3.4
Other	\$4.3
Total	\$56.3

Creating the OCBR Plan

The OCBR is over 370 miles long and passes through dozens of communities along the way. Creating a plan that covers such a diverse area required creatively designed public involvement and outreach. The OCBR project team, which included planners and active transportation representatives from ODOT Regions 2 and 3, as well as the consultants supporting the project, used a range of outreach techniques to involve the public and accurately identify the OCBR’s critical needs.



Grabbing a treat from The Rolling Pin in Bandon while riding the OCBR.

Public Involvement Timeline

- **March – April 2018**
User Survey
- **March – April 2018**
Economic Development Stakeholder Interviews
- **March - May 2018**
Local Agency Survey
- **April 2018**
Jurisdiction Work Sessions
- **June 2018**
Interactive Webinar
“Sounding Board” #1
- **September 2018**
Transit Roundtable
- **December 2018**
- **February 2019**
Online Open House #1
- **February 2020**
Interactive Webinar
“Sounding Board” #2
(see Figure 2)
- **March – April 2020**
Online Open House #2

Throughout, ODOT:

- Provided regular updates and sought feedback during quarterly check in meetings.
- Conducted outreach to Adventure Cycling Association to provide updates and get feedback on route change recommendations.
- Sent regular project updates via email to a list of over 1,900 subscribers and maintained a project website.

Public Involvement

Outreach efforts included “Sounding Boards,” surveys, targeted stakeholder interviews, and online open houses. Sounding Boards, virtual forums for testing ideas at key points in the project process, local and state agency staff, people who bike, business owners, transit partners, federally recognized tribes, and others provided direct feedback to ODOT at crucial project phases. Individuals with experience biking, community members, local business owners, local and national bicycle tourism groups, and staff from agencies statewide and local also provided significant feedback. As a result, this Plan’s recommendations reflect input from hundreds of individual voices. Appendix A includes more details on the outreach efforts and community feedback.

The following public involvement goals were established at the beginning of the planning process:

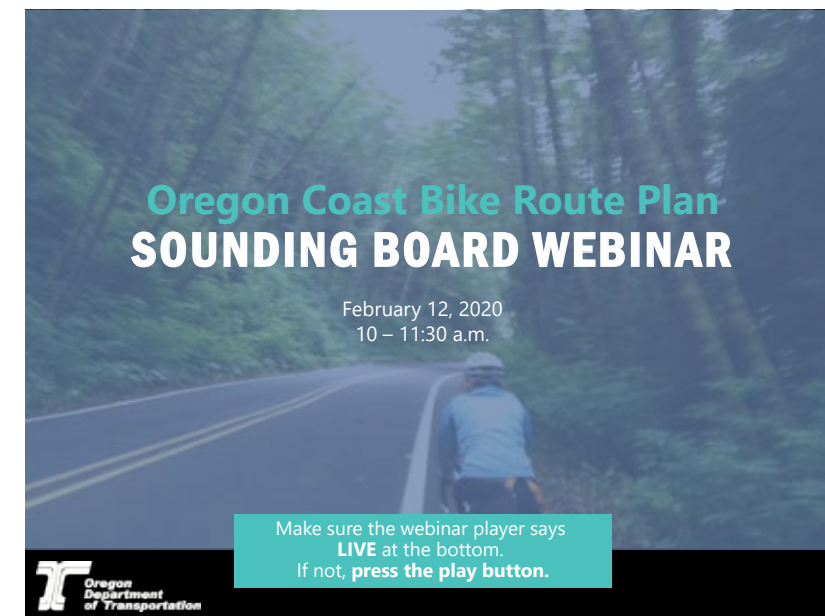
- Communicate complete, accurate, understandable, and timely information to the public.
- Actively seek public input throughout the project, engaging a broad and diverse audience.
- Seek participation of potentially affected and/or interested stakeholders, including route users, community members, and organizations.
- Comply with Civil Rights Act of 1964 Title VI requirements. Title VI and its implementing regulations provide that no person be subjected to discrimination on the basis of race, color, or national origin under any program or activity that receives federal financial assistance.
- Ensure that the public involvement process is consistent with applicable state and federal laws and requirements, and is sensitive to local policies, goals, and objectives.

1. A UNIQUE OPPORTUNITY

The first phase of public outreach began in 2018 by gathering an array of initial feedback. Strategies were tailored to various groups, such as surveys for people who bike the OCBR, work sessions with local jurisdictions, and an online open house for the public. This first phase of input informed:

- Existing route conditions, challenges, and opportunities.
- Estimated economic potential from the OCBR.
- Criteria to evaluate needs along the route.
- An initial list of critical needs or perceived problem areas.

Figure 2. Slide from Sounding Board #2.



A second phase of outreach began in early 2020. This phase used an interactive webinar and an online open house to share and get feedback on the list of critical needs and draft solutions. The draft solutions were also reviewed by Oregon Parks and Recreation Department (OPRD), Oregon Coast Trail (OCT) stakeholders, and federally recognized tribes in impacted communities. Responses helped further refine proposed solutions, including:

- Adjustments to the primary route and alternate routes.
- Closer alignment with local transportation system plans.
- Identify where the route might be separated from the roadway to serve people hiking and people biking.

Approach

The following three primary strategies were identified for improving the OCBR:

- **Refreshing the Route:** Considers the alignment of the OCBR and opportunities to adjust it to use more comfortable, enjoyable, or practical roads or paths.
- **Building Better OCBR Infrastructure:** Identifies critical needs along the OCBR and implementable solutions to improve them.
- **Adding Supportive Programs and Services:** Catalogs current programs and services that support people biking the OCBR and recommends investments to better serve people biking.

Developing the List of Critical Needs

Critical needs (or “uncomfortable segments”) were identified based on six criteria to locate the areas with the greatest need for investment along the OCBR. Each criteria was weighted based on level of priority. Several stakeholder groups vetted the criteria and weighting as part of the public process. The six criteria are:

- **Existing conditions:** Segments received scores based on the existing width of the bike lane or shoulder. Segments with narrower bicycle lane or shoulder widths correspond with higher need and higher scores.
- **Level of traffic stress:** Level of traffic stress (LTS) estimates the amount of stress a person feels while biking a particular segment based on factors such as the presence or absence of a dedicated place to bike, the speed and volume of nearby motor vehicle traffic, and the quality of the intersections. LTS scoring ranges from one (low stress) to four (high stress).
- **Safety:** Each segment received a safety score based on the past five years of crash data and an equivalent property damage only (EPDO) analysis, which assigns higher weight to more severe injury crashes. For the EPDO analysis, fatal and severe injury crashes were assigned a score of 100, moderate to minor injury crashes were assigned a score of 10, and property damage only crashes were assigned a score of 1. This analysis helps highlight the segments with the highest severity of crashes.
- **Urban areas:** Urban areas are more likely to serve a higher number and greater variety of people riding bikes than rural areas. To account for this, urban areas received higher scores than rural areas.
- **Barriers:** Segments with barriers like guardrails, short bridges, and difficult intersections received higher scores than segments without barriers, as the barriers may create uncomfortable situations for people biking. Each segment was assigned a score based on the number of barriers present along the segment.
- **Overlap with the Oregon Coast Trail:** The OCT attracts many hikers to the area. Some segments of the OCT run along the OCBR where people hiking may share the shoulder

1. A UNIQUE OPPORTUNITY

with people biking, if a shoulder exists. Because these shared segments serve greater numbers and types of users, segments shared with the OCT received higher scores.

Each 1/10 mile segment along the OCBR was evaluated. Segments with worse conditions for biking received higher scores, while segments with better biking conditions received lower scores. Appendix B includes a description of these evaluation criteria.

Each high scoring segment was reviewed in detail using aerial maps, street view images, and local knowledge of the route. Along with the scores, each segment’s context was considered, keeping in mind that places for people to bike in urban areas should accommodate riders of all types. This analysis helped determine if a high scoring area was appropriate to add to the critical needs list and, if so, the geographic extent of the critical need. ODOT then presented the list of recommended critical needs to the public to get feedback and input on potential solutions.

The refined list of critical needs identifies 35 segments considered the least comfortable for people riding the OCBR and, therefore, have the greatest need for investment. Chapter 3 includes this final list and Appendix C includes a detailed spreadsheet. These critical needs were used to create recommendations around route changes and infrastructure solutions for improving the OCBR.

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REFRESHING THE OFFICIAL ROUTE

Route Overview

The OCBR primarily follows U.S. 101, with a few segments that deviate from the highway to parallel county or city roads. One of the primary draws of the Oregon Coast — its dramatic geography — also presents a great challenge for improvements to the OCBR. The officially designated route crosses dozens of creeks and rivers, climbs steep hills, tunnels through mountains, and perches on high cliffs primarily on U.S. 101. It is a dynamic environment, where the land is continuously reshaped by the Pacific Ocean geology and coastal weather. The geography creates stunning scenery and unique ecosystems, but also difficult conditions for transportation infrastructure. The quality of the experience for people biking varies greatly through these diverse contexts.

This planning effort reevaluated the existing route and identified potential route revisions. We considered route changes to make it more comfortable for users, avoid particularly unsafe sections of U.S. 101, or provide access to scenery or specific destinations. Because of the nature of the corridor, there are limited parallel



Enjoying destinations along the route.

routes. Changes to the route were considered sparingly, because change adds complexity to route navigation and potentially directs people away from the scenic beauty that riders come to experience. The following sections describe the approach to route changes and summarizes recommended modifications.

Route Changes

Many variables were considered to develop a full understanding of the existing route and identify opportunities for changes. Strong consideration was given to commonly used alternate routes that were identified through consulting with local bike organizations and residents who bike, scouting the route (by biking relevant segments to understand their conditions), and assessing Strava data to see where people most frequently leave the established route. The Adventure Cycling Association provided input on commonly used routes and the feedback they received from people who ride the OCBR or who ride parts of it combined with other routes.

ODOT assessed whether to recommend a change to the OCBR route, or whether to consider creating an “alternate” route that provides a lower stress or scenic option, but does not represent a change in the primary route. The following criteria were used to evaluate potential route changes:

- Avoids a critical need.
- Is less than 1 mile out of direction.
- Feels more comfortable than the current route or the parallel section of U.S. 101.
- Is more scenic than the current route or the parallel section of U.S. 101.
- Provides greater access to amenities than the current route or the parallel section of U.S. 101.
- Has local jurisdictional support (and they are willing to add signs, etc.).

Several sections of the OCBR have parallel routes that can serve different purposes such as a casual scenic day ride, climbing to high elevations for better ocean views, or traveling as quickly as possible through the area. For this reason, multiple “alternate routes” are included in the new OCBR. These alternate routes run parallel to the primary OCBR. Where possible, signs indicating alternate routes would be installed to assist with wayfinding. As part of this planning effort, ODOT updated the official OCBR map to reflect the proposed changes to the primary route and to include the new alternate routes.

Table 2 provides a summary of the proposed changes to the official route, going from north to south, and the rationale for these updates. Figure 3 through Figure 5 show the updated route.



The high stress New Young’s Bay Bridge near Astoria can be avoided by following the Lewis and Clark Road alternate route option.

Table 2. Proposed Changes to the OCBR

Roadway/Area	Type of Change	Rationale
Lewis and Clark Road, Astoria Area	Alternate Route	This alternate route takes people biking through scenic farmland and avoids the 2 mile long high stress New Young's Bay Bridge and a high stress section in Gearhart. Traffic volumes are low on this road, however, several sections have no shoulder.
Seaside Promenade, Seaside	Primary Route Change	This official route change takes people onto the Seaside Promenade for a more scenic ride and avoids higher stress locations in downtown Seaside on U.S. 101. Note that people biking will be sharing the promenade with people walking.
Downtown Manzanita, Manzanita	Alternate Route	This alternate route is a low stress, scenic option that provides access to amenities. It adds about 3 miles to the overall route.
Miami Foley Road, Wheeler to Garibaldi	Alternate Route	This alternate route provides scenic views of mountains and farms and avoids a high stress section of Wheeler. Traffic volumes are low on this route, however, much of the route lacks shoulders.
Oregon Route 18 (OR 18) and U.S. 101 Interchange, north Lincoln City	Primary Route Change	This official route change provides an improved bicycling route through the OR 18 and U.S. 101 interchange.
NW Jetty Avenue, Lincoln City	Primary Route Change	This official route change takes people biking onto a low stress, shared neighborhood route parallel to U.S. 101, avoiding over 3 miles of a high stress section of U.S. 101.
East Devils Lake Road, Lincoln City	Alternate Route	This alternate route is direct and lower stress than the road parallel to U.S. 101 through this section. Traffic volumes are low on this road, but not all sections have shoulders.
Newport South Beach Trail, Newport	Alternate Route	This alternate route provides a scenic ride on a low stress, family friendly paved trail. This route also provides access to the South Beach State Park.
Rhododendron Drive, Florence	Alternate Route	This alternate route provides a more scenic alternative to U.S. 101.
North Bend	Primary Route Change	The primary route revision keeps the route on U.S. 101 and Cape Arago Highway which results in the least complicated wayfinding and the most interaction with businesses in downtown North Bend.
North Bend	Alternate Route	This alternate route avoids high stress roads by routing to neighborhood streets with lower traffic volumes.
North Bend-Coos Bay Connector	Alternate Route	This alternate route provides a connection for people biking who want to go to downtown Coos Bay and back to the primary route.
5th/Railroad/Oak, Brookings	Alternate Route	This alternate route provides people biking with a lower traffic speed and volume alternative to the parallel section of U.S. 101.

Figure 3. Route Changes and Alternate Routes (North Coast)

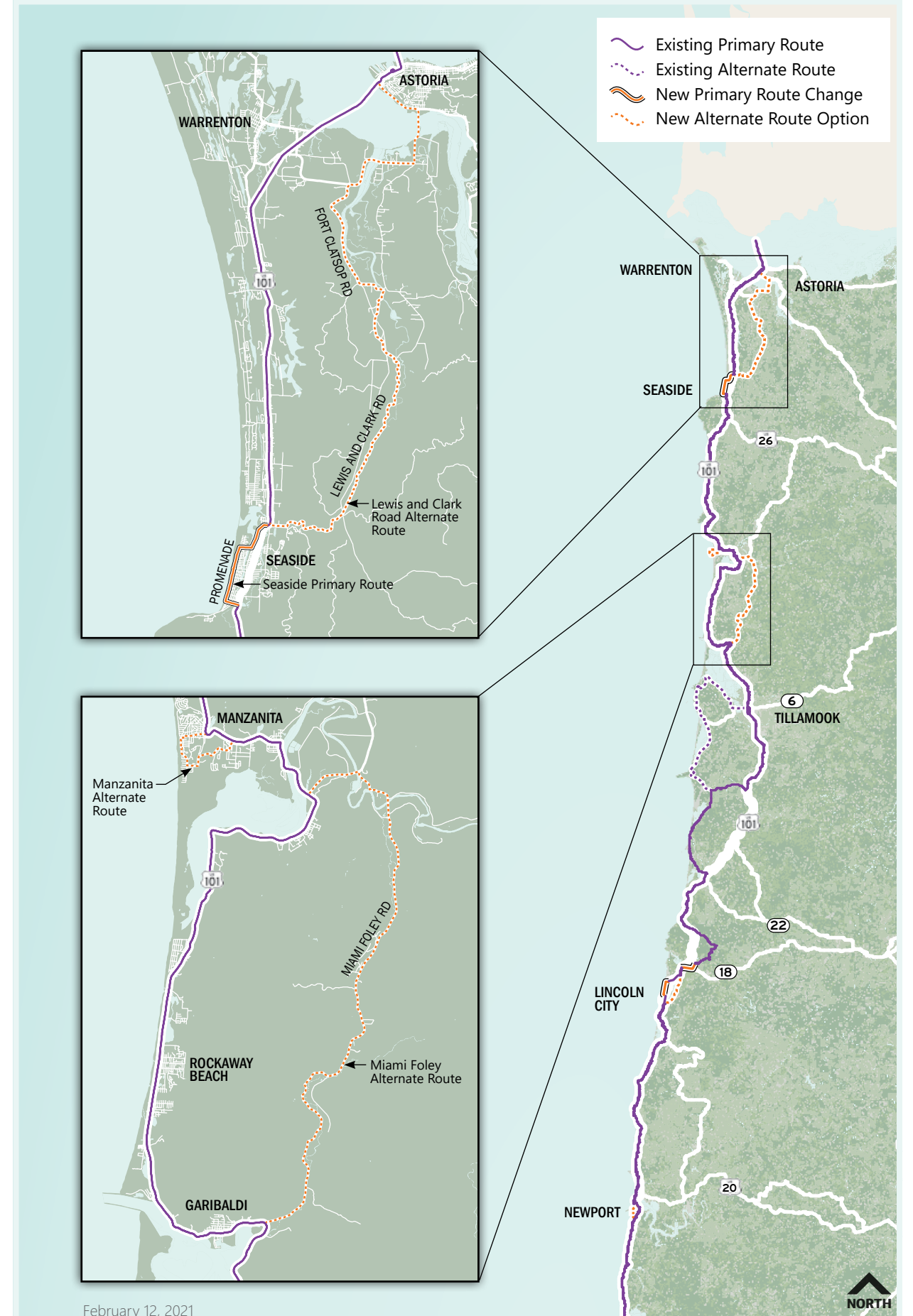


Figure 4. Route Changes and Alternate Routes (Mid Coast)

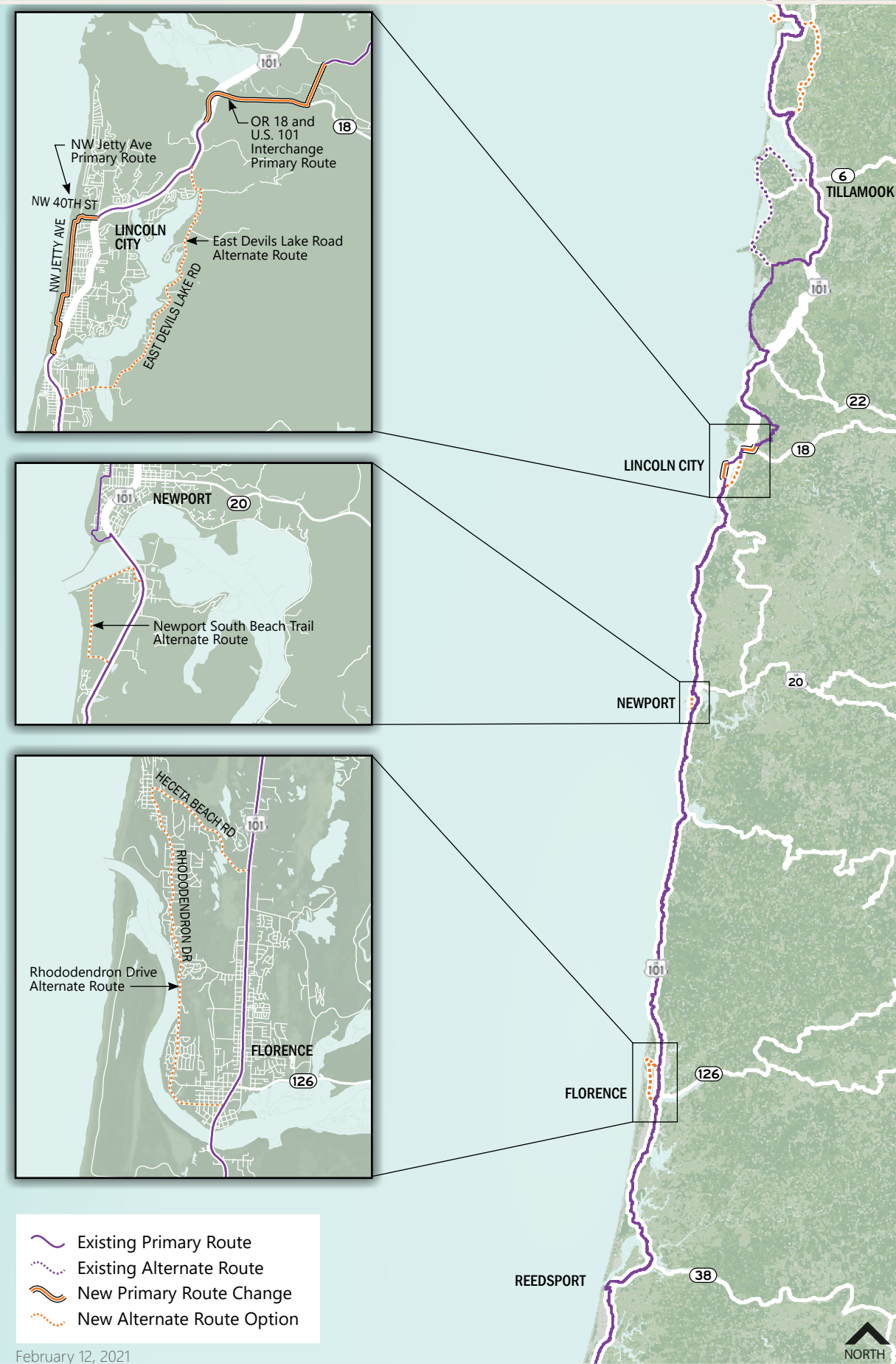
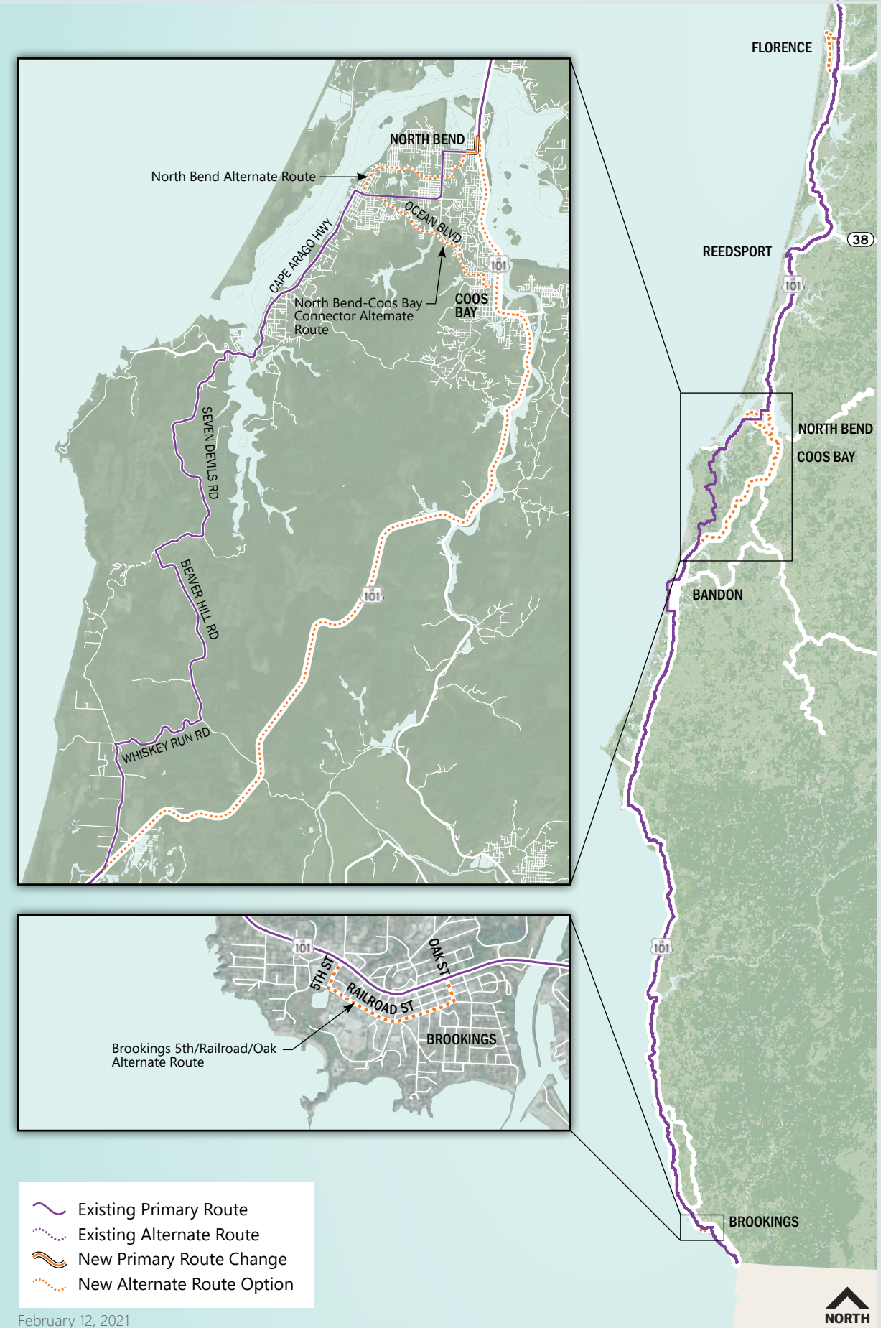


Figure 5. Route Changes and Alternate Routes (South Coast)





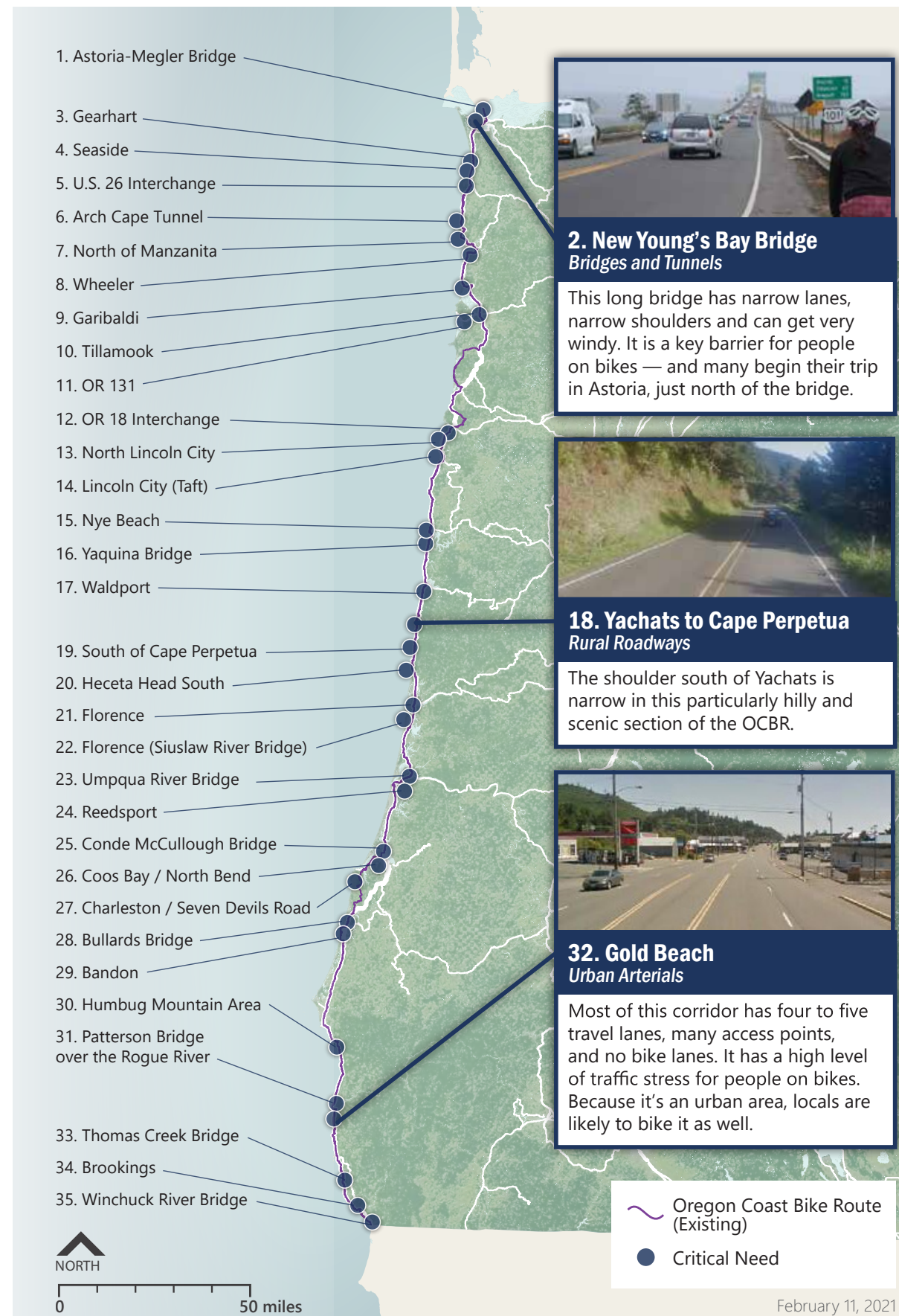
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BUILDING BETTER OCBR INFRASTRUCTURE

The OCBR primarily follows U.S. 101, where local communities and businesses, recreational opportunities, and dramatic scenery are defining characteristics. However, many of the most unique experiences along the route are also in areas with little or no space for people to bike. These pinch points, including bridges, tunnels, and segments bordered by steep hillsides, were described as “scary” and “dangerous” by people during the public outreach process. Some rural areas, for example, have high speeds and curves with constrained sightlines, so people biking have a hard time seeing approaching vehicles and vice versa. Urban stretches of U.S. 101, important for accessing services and businesses, might be four or five lanes wide with no space for people to bike and include many driveways and parking lot accesses, which can also make bicycling in these areas uncomfortable.

Though U.S. 101 has been upgraded, repaved, or otherwise improved over the years, these incremental improvements have not occurred consistently along the route. There was also no existing list of prioritized needs and potential solutions, nor readily available funding for bigger improvements.

Figure 6. Oregon Coast Bike Route: Critical Needs



2. New Young's Bay Bridge
Bridges and Tunnels

This long bridge has narrow lanes, narrow shoulders and can get very windy. It is a key barrier for people on bikes — and many begin their trip in Astoria, just north of the bridge.



18. Yachats to Cape Perpetua
Rural Roadways

The shoulder south of Yachats is narrow in this particularly hilly and scenic section of the OCBR.



32. Gold Beach
Urban Arterials

Most of this corridor has four to five travel lanes, many access points, and no bike lanes. It has a high level of traffic stress for people on bikes. Because it's an urban area, locals are likely to bike it as well.

3. BUILDING BETTER OCBR INFRASTRUCTURE

This OCBR planning effort included developing a list of the most critical needs and conceptual solutions for each. This meant analyzing existing infrastructure conditions, incorporating public input, and evaluating opportunities to include improvements to the OCBR with projects currently included in local transportation system plans (TSPs). The proposed solutions are implementable, practical, and closely coordinated to align with the priorities of the local jurisdictions.

Critical Needs

Chapter 1 described the process of determining the 35 critical need segments, those areas considered the most uncomfortable for people riding the OCBR and with the greatest need for investment. Four main categories of critical needs emerged from the evaluation. The categories are:

Urban arterials fall within city limits. They are auto oriented roadways with four or more travel lanes and, in most cases, a speed limit of 30 miles per hour (mph) or higher. Urban arterials can have large volumes of motor vehicle traffic with many accesses, which create potential conflicts between cars turning and people biking. These areas are important for people making local trips as well as for people making long distance, recreational trips. Generally, urban ODOT roads require a bicycle lane, buffered bicycle lane, or protected bicycle lane to appropriately provide for those biking. These requirements are defined in the ODOT Blueprint for Urban Design (ODOT 2020a). Some of these areas already have improvements planned in their local TSPs.



Urban arterial with five lanes for motor vehicle travel and many accesses.

Downtown roadways usually have a speed limit of less than 30 mph but often lack a place for people to comfortably bike. These areas are important for locals and visitors to access businesses and services. These areas may already have improvements planned in their local TSPs. Planned improvements were incorporated into the critical needs evaluation process.



Winding route, recreational vehicles, and narrow shoulders on this rural segment.



Narrow shoulders on the Isaac Lee Patterson Bridge over the Rogue River.

Rural roadways are outside of city limits and have a speed limit of 40 mph or higher. These areas have high speed traffic and can also have limited sight distance because of curves, elevation changes, and vegetation. Along the OCBR, there are lengthy sections of rural roadway with no or minimal shoulders.

Bridges and tunnels often have shoulders that are narrower than current ODOT standards, leaving little or no space for people biking. People report feeling especially vulnerable on bridges and in tunnels because they are trapped between traffic and the structure’s edge. Winds on bridges can be strong enough to destabilize a person biking, which can be made worse by the wind generated by close passing trucks. Bridges and tunnels exist to pass a natural barrier, like a river or mountain, so there are rarely options for parallel alternate routes. (This category includes bridges longer than 500 feet without adequate bike lanes or shoulders. Appendix E includes information on bridges shorter than 500 feet.)

Figure 6 highlights the locations of the critical needs areas and examples from three categories.

The ODOT *Oregon Bicycle and Pedestrian Safety Implementation Plan* (ODOT 2020d), which provides insight into what road characteristics factor into the risk of crashes, was also used during the infrastructure

Table 3. Road Characteristics that Factor into Crash Risk

In Urban Areas	In Rural Areas
Arterials	
Roadways with posted speeds of 35 mph or greater	Roadways with posted speeds of 35 mph or greater
Roadways with four or more lanes	
No bicycle lane	
High density of driveways and access points	

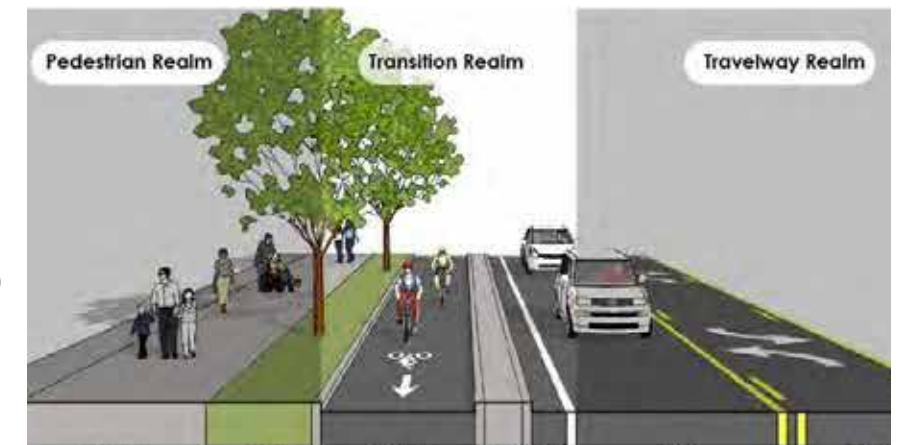
evaluation process. The characteristics outlined in the plan align with the critical needs identified for this project.

Recommendations

Design standards, public feedback, national best practices for bikeway design and, most importantly, local context were considered while developing infrastructure solutions and recommendations. Appendix D provides detailed concept designs and recommendations for each identified critical need. This chapter discusses the general recommendations for critical needs. Table 4 provides a summary of each critical need with short- and long-term recommendations.

Urban Arterials and Downtown Roadways

Several proposed solutions for urban roadways are included in the recommendations below. The *Blueprint for Urban Design* (ODOT 2020a) includes recommendations for lane widths in urban areas and the *Highway Design Manual: Chapter 6, Appendix L* (ODOT 2012) provides guidance on bike lane widths based on speed and traffic volumes on ODOT roads.



Road Reconfigurations

Reallocating roadway lane space — for example, reducing the number of travel lanes, narrowing travel lanes, or removing parking — creates space for people biking and improves safety for all road users. Road reconfigurations can be very cost effective, as they may only require restriping an existing roadway. There are several urban sections of U.S. 101 where daily motor vehicle traffic is low enough that a road reconfiguration would be possible. In some cases, such as the proposed reconfiguration of U.S. 101 through Gearhart, a road reconfiguration project is already included in the local TSP. In other cases, a road reconfiguration must go through detailed traffic analysis and more robust public participation before advancing to implementation.

Shared Use Paths

Off road, shared use paths, in most cases shared with OCT hikers, address some critical needs. The Salmonberry Trail, for example, is a proposed long term project that addresses critical needs between Wheeler and Tillamook. These trails would benefit OCBR users, OCT users, and local residents. Shared use paths tend to be more expensive design solutions to implement, but provide the highest level of comfort and safety for people biking and walking. Recommendations for shared use paths are in both urban and rural areas.

Alternate Routes

Alternate routes are recommended to avoid critical needs segments without adequate space to accommodate people biking.

Rural Roadways

Road Widening

Widening the roadway in areas with available right of way to either expand shoulders or add bike lanes provides space for people biking in accordance with ODOT guidance.

Rest Area Pullouts

When widening the roadway is not feasible, especially where there is a significant uphill climb or long segment of narrow roadway, places for people biking to pause and rest are recommended. These rest area pullouts are only recommended in areas where it is feasible to acquire right of way or where right of way is already available.

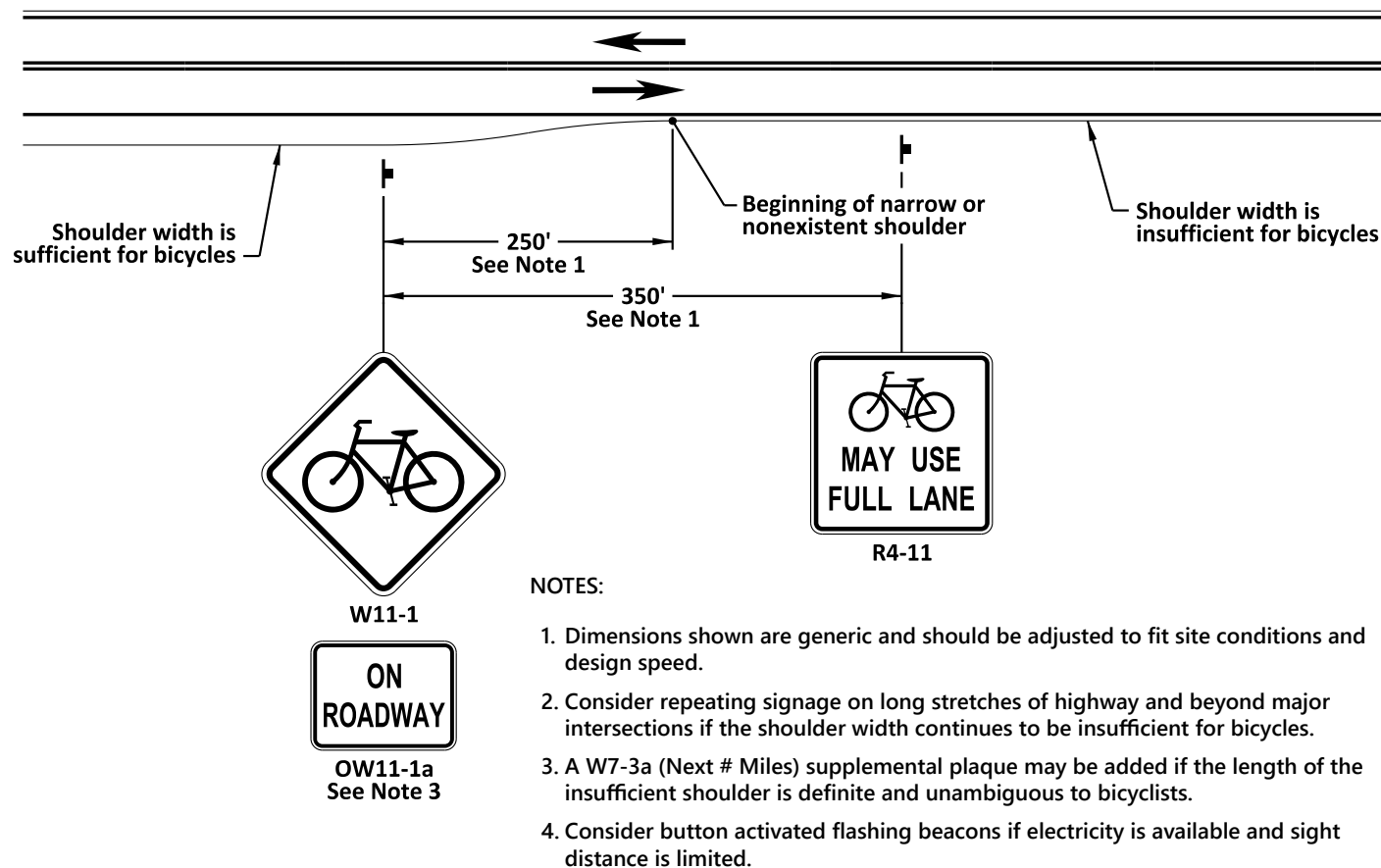
Improved and Consistent Signage

In areas without adequate right of way to add separate space for people to bike, improving signage can help address needs. This includes improving warning signs for all road users, standardizing the use of flashing beacons to alert people driving to people biking on the roadway, and providing pullouts where possible, especially on steep sections of roadway. Figure 7 provides an example sign plan. Appendix D provides further details.



Bike warning sign on the OCBR.

Figure 7. Typical Sign Plan for Narrow Shoulders



Bridges and Tunnels

Many bridges on U.S. 101 are challenging for people biking and the current approach to using signs, beacons, lane widths, and shoulder widths is inconsistent. They were built many years ago and do not meet the required standards needed today for bicycles and pedestrians. Treatments (such as signs and flashing lights) should be applied consistently on U.S. 101 bridges for people biking, with priority given to critical needs bridges. Many of these improvements can be added during maintenance activities or paving, while others may need to wait for major bridge retrofit, bridge rehabilitation, or bridge replacement projects for full implementation. A “typical” package of signs, beacons, and other improvements that can be applied to all bridges was developed.



Yaquina Bay Bridge in Newport.

The package of bridge improvements includes:

- Evaluate all critical needs bridges when restriping, paving, or other maintenance projects occur on the bridge.
- Install warning lights and flashing beacons that can be triggered by people biking to warn road users that people on bikes are present in constrained areas.
- Standardize advisory speed signs to correspond with flashing beacons.
- Standardize other warning and advisory signs.

Some critical needs could be addressed by exploring a transit or ferry shuttle, or a separated bicycle and pedestrian bridge to serve people biking the OCBR or hiking the OCT. In addition, the *ODOT Bridge Design Manual* (ODOT 2020b) should be updated to specifically address maintenance, rehabilitation, and replacement of bridges on U.S. 101

Short Bridges

Some short bridges did not meet the threshold for an OCBR critical need. These bridges, listed in Appendix E, span less than 500 feet and lack adequate space for bike lanes or shoulders. They remain a priority but have a separate set of considerations when evaluating the range of solutions available to improve bridge safety, including:

- Is there space within the roadway to restripe the lane widths to provide more shoulder space?
- Is the bridge part of the OCT?
- Are there structural issues with the bridge?
- Does the bridge have a historic categorization?

In addition, ODOT’s Bridge Design Manual should be updated to specifically address maintenance, rehabilitation, and replacement of bridges on U.S. 101 (ODOT 2020a).

Table 4 describes the full list of critical needs and proposed solutions in more detail.



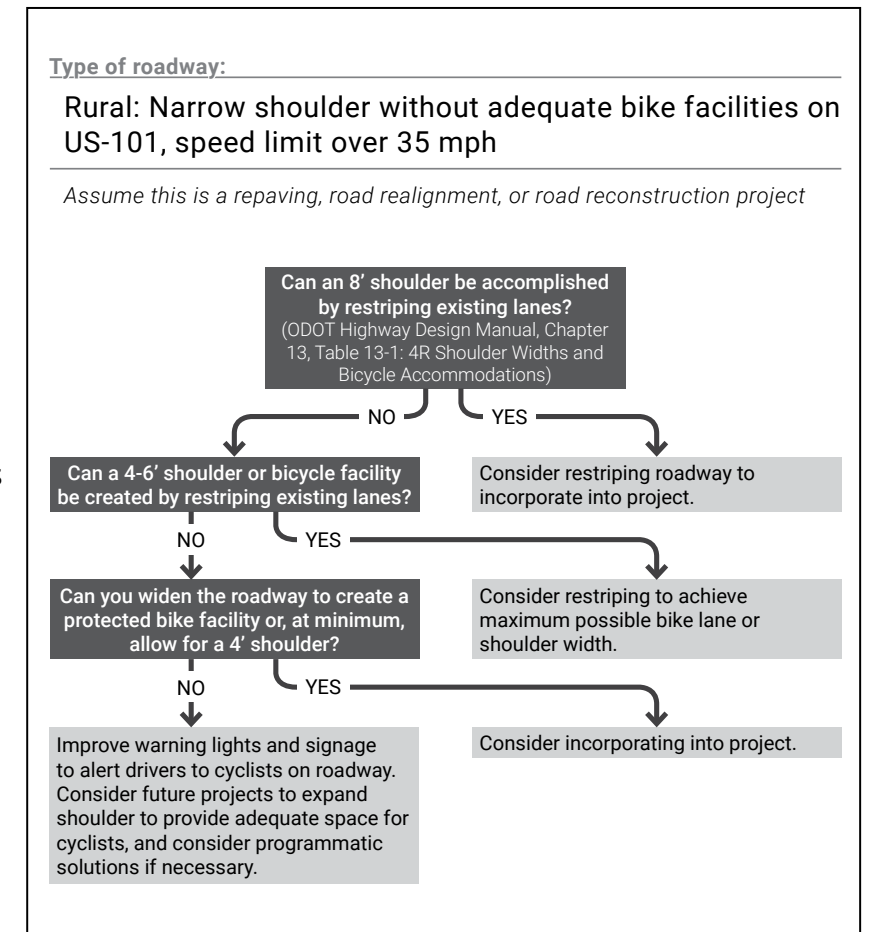
Bike lane in Port Orford.

Making It Happen

ODOT will implement these infrastructure solutions by seeking grants, incorporating solutions into the design of projects on U.S. 101, and including them in maintenance activities or as other opportunities arise. Some concepts are already adopted into local TSPs, while others are longer term solutions that will require additional design and feasibility assessments in partnership with local jurisdictions and other efforts, like the OCT Action Plan, to advance project development. Larger projects, such as a proposed shared use paths not already identified in a local TSP will require additional coordination with local jurisdictions to identify next steps. Some projects, such as restriping roadways, adding shared lane markings, or creating bicycle pullouts on U.S. 101, can be implemented as part of already scheduled paving or maintenance projects.

Decision Making Framework

To better understand when and how ODOT can include OCBR improvements with upcoming projects, a Decision Making Framework was developed. The framework guides ODOT through the considerations needed to improve places to bike and meet current standards. It is designed to be used when beginning a project on the OCBR, such as paving, maintenance, bridge retrofits, or road realignments. The framework helps to evaluate ways to incorporate improvements such as striping a bike lane or reconfiguring roadway space, improving signs or lane markings, or retrofitting bridge shoulders or sidewalks to improve conditions for OCBR users. It will also help to ensure that OCBR improvements are included in funding proposals and when coordinating planning efforts. The Decision Making Framework provides an opportunity for improvements to the OCBR to be considered at earlier stages in future ODOT projects. Appendix F includes the Decision Making Framework.



Decision making framework for rural roadways.

Coordination with Local Jurisdictions and Partner Agencies

Transportation System Plan Amendments

Local TSPs describe the desired future transportation system in each community. Proposed OCBR solutions in Coos Bay, Reedsport, Bandon, Gold Beach, and Brookings differ from locally adopted TSPs. In these cases, further discussion with local jurisdictions and additional traffic and safety analysis would need to be conducted prior to moving forward on this project or proposing TSP amendments.

- **Reedsport:** the proposed long term concept includes a road reconfiguration on U.S. 101 that differs from the 2006 Reedsport TSP. This would require coordination with the City of Reedsport and an amendment of the TSP.
- **Bandon:** the proposed road reconfiguration establishes bike lanes along Riverside Drive, which differs from the Bandon TSP. Additionally, although Riverside Drive is included in the list of projects in the TSP, the standards are out of date and would need to be updated. Several locations along Riverside Drive may require some level of environmental review.
- **Gold Beach:** the proposed short term concept includes a road reconfiguration on U.S. 101 that differs from the 2000 Gold Beach TSP. This would require coordination with the City of Gold Beach and an amendment of the TSP.
- **Brookings:** the proposed concept includes two alternatives for a road reconfiguration that differ from the 2017 Brookings TSP. A final recommendation should be determined in coordination with the City of Brookings.
- **Coos Bay:** the proposed changes to the new route and alternate route differ from the 2020 Coos Bay TSP. An amendment to the City TSP would be needed to reflect proposed changes.

Coordination with Oregon Coast Trail

Multiple areas of the OCBR overlap with the OCT, presenting “win win” opportunities to improve the routes for both joint funding partnerships and coordinated planning efforts to leverage resources from multiple agencies and jurisdictions. The OCT Action Plan identifies gaps in the OCT and identifies proposed solutions to address those gaps for people walking. There are several areas of overlap. In these cases, joint solutions for shared pathways were explored, including north of Manzanita, Waldport, Cape Perpetua, Heceta Head, the Siuslaw River Bridge, Humbug Mountain, and the Bullards Bridge. These opportunities provide promise for pursuing coordinated project funding to advance the concepts for further development.



Hiking the OCT.

3. BUILDING BETTER OCBR INFRASTRUCTURE

Table 4. Critical Needs and Recommendations

#	Critical Need	Critical Need Description	Short Term Solutions	Long Term Solutions	Pg # *
1	Astoria-Megler Bridge	The Astoria-Megler Bridge is a key barrier for people biking south from Washington State. The bridge has narrow 2 foot shoulders, is 3.7 miles long, and has 170 feet of elevation gain. It takes people on bikes nearly 20 minutes to ride across at 12 mph. There is no alternate route. People are allowed to bike on the bridge but people are not allowed to walk and there are no sidewalks.	<ul style="list-style-type: none"> • Provide signs leading to the bridge that remind people to share the road with people biking. Provide flashing beacon lights to indicate when people are biking on the bridge. Consider advisory speed signs when the flashing beacons are activated. • Explore transit shuttle with local bike shop. 	<ul style="list-style-type: none"> • Install pullout rest area(s) along the bridge for people biking to rest. 	1
2	New Young's Bay Bridge (Astoria)	This long bridge with narrow shoulders is a key barrier for people biking — and many begin their trip in Astoria. This major bridge is unlikely to include space for biking unless it is completely reconstructed.	<ul style="list-style-type: none"> • Provide flashing beacon lights to indicate when people are biking on the bridge. Consider advisory speed signs when the flashing beacons are activated. • Explore transit shuttle with local bike shop and improve bus stops on either side of bridge. • Explore bike pilot car programmatic option. 	<ul style="list-style-type: none"> • Install pullout rest area(s) along the bridge for people biking to rest. 	1
3	Gearhart	Most of this corridor has 4 travel lanes, many access points, and a very narrow shoulder. Because it's an urban area, locals are likely to bike it as well.	<ul style="list-style-type: none"> • Support existing ODOT planning efforts 	<ul style="list-style-type: none"> • Reconfigure road for 6 foot buffered bike lanes as recommended by the 2017 Gearhart TSP. 	3
4	Seaside	This corridor has seen a high occurrence of bicycle involved crashes over the last 5 years relative to other parts of the OCBR. Most of this corridor has 4 foot to 8 foot wide shoulders. There are many access points along U.S. 101 through Seaside. Because it is an urban area, locals are likely to bike it as well.	<ul style="list-style-type: none"> • Establish a route deviation to the Seaside Promenade with intersection treatments and improved wayfinding signs, coupled with local advertising and a potential for cycling etiquette signs. 	<ul style="list-style-type: none"> • Support the Avenue A-K project on U.S. 101 to improve places for people to bicycle, walk, and roll. Move people biking on to promenade and widen. 	4

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#	Critical Need	Critical Need Description	Short Term Solutions	Long Term Solutions	Pg # *
5	U.S. Route 26 (U.S. 26) Interchange	There are two primary conflict points at this interchange: where the southbound off-ramp for U.S. 26 merges onto U.S. 101 and where U.S. 26 has an on-ramp for drivers heading west and then north along the coast. Both merging areas can result in conflicts between people driving and people biking.	<ul style="list-style-type: none"> Paint skip striping to indicate bike crossings at the ramps in both directions. 	<ul style="list-style-type: none"> Build off road shared use path around the west side of the interchange. 	5
6	Arch Cape Tunnel	The Arch Cape Tunnel is a barrier for people biking the OCBR. It has narrow lanes and a very narrow shoulder. ODOT completed a lighting upgrade with new pedestrian and bicycle signals in May 2020.	<ul style="list-style-type: none"> Remove southbound curb in tunnel. 	<ul style="list-style-type: none"> Build a shared use path "up and over" the tunnel through State Parks land. 	6
7	North of Manzanita	This segment has a very narrow shoulder, and lacks a shoulder in some places. Parts of this segment are shared with the OCT (though the OCT will be moved off of U.S. 101 in the future).	<ul style="list-style-type: none"> Provide signs leading to the section that remind people to share the road with people biking. Install flashing beacon lights and provide signs indicating "Bikes May Use Full Lane" or equivalent. 	<ul style="list-style-type: none"> Explore shared use path with the OCT. 	2
8	Wheeler	This corridor has a very narrow shoulder and the speed jumps from 25 mph to 45 mph. It has a high level of traffic stress for people biking.	<ul style="list-style-type: none"> Provide traffic calming measures in town. Explore possibility to widen shoulders. 	<ul style="list-style-type: none"> Route the OCBR along the future Salmonberry Trail. 	7
9	Garibaldi	Shoulders vary from nonexistent to 6 feet wide, and this segment is shared with OCT hikers.	<ul style="list-style-type: none"> Widen shoulders of existing road rebuild project to cover the extent of this critical need (includes part of U.S. 101 outside of town). 	<ul style="list-style-type: none"> Route the OCBR along the future Salmonberry Trail. 	7
10	Tillamook	There is no shoulder on U.S. 101 from Hoquarten Slough to Dougherty Slough. This portion of the route has a high level of traffic stress for people biking.	<ul style="list-style-type: none"> Evaluate lane reconfiguration or widening the east side sidewalk. 	<ul style="list-style-type: none"> Route the OCBR along the future Salmonberry Trail. 	7, 8

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#	Critical Need	Critical Need Description	Short Term Solutions	Long Term Solutions	Pg # *
11	Oregon Route 131 (OR 131)	The Cape Meares Loop (a "scenic option" off the primary route that continues south of Tillamook on U.S. 101) has a road closure alert due to safety concerns from an active slide area. Instead of staying on U.S. 101, some choose to bypass it, riding OR 131 to access the Three Capes area. OR 131 has very narrow shoulders and several narrow bridges. When Cape Meares Loop Road is reopened by Tillamook County, people can return to riding the full loop. Until then, OR 131 remains a challenging section that people are choosing to ride even though it is not the official route. While ODOT recommends using the designated route (staying on U.S. 101), improvements could be made on OR 131.	<ul style="list-style-type: none"> Install flashing beacon lights and provide signs indicating "Bikes May Use Full Lane" or equivalent. Trim vegetation to allow more room and improve sight distance. Explore a speed study. 	<ul style="list-style-type: none"> Widen road to allow more space for people biking. Move official route to Cape Meares loop route after rebuild is complete. 	2
12	OR 18 Interchange	There are two primary conflict points at this interchange: where the southbound off-ramp of OR 18 merges onto U.S. 101 and where OR 18 has an on-ramp for drivers heading west and then north along the coast. Both merging areas can result in conflicts between people driving and people biking.	<ul style="list-style-type: none"> Stripe bike lane transitions at interchanges and skip striping to indicate bike crossings at the ramps. 	<ul style="list-style-type: none"> Provide a paved path along/near Fraser Road on the west side of the interchange. 	9
13	North Lincoln City	There have been a high number of bicycle involved crashes over the last 5 years relative to other parts of the OCBR. This section has narrow shoulders or, in some places, no shoulders. U.S. 101 changes from 2 lanes to 4 or 5 lanes in this segment and has many access points. It is shared by people biking and people hiking the OCT.	<ul style="list-style-type: none"> Establish alternate routes to avoid this section of U.S. 101. An east alternate follows East Devils Lake Road and a west alternate uses Jetty Avenue/Harbor Avenue/Inlet Avenue between NW 40th Street and NW 2nd Drive. 	<ul style="list-style-type: none"> Consider road reconfiguration to increase space for people biking. Consider reconfiguration of crosswalk to prevent need to dismount. 	10A

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#	Critical Need	Critical Need Description	Short Term Solutions	Long Term Solutions	Pg # *
14	Lincoln City (Taft)	This segment of U.S. 101 has 5 lanes, no shoulder, and many commercial driveway access points. The 5 lanes narrow to 2 at the Schooner Bridge (going over the Siletz River).	<ul style="list-style-type: none"> Provide signs leading to the bridge that remind people to share the road with people biking. Provide flashing beacon lights to indicate when people are biking on the bridge. Consider advisory speed signs when the flashing beacons are activated. 	<ul style="list-style-type: none"> Provide buffered bike lanes consistent with the 2015 Lincoln City TSP. Construct a pedestrian and bicycle bridge over Schooner Creek, consistent with the 2008 Cutler District Community Vision and Corridor Plan. 	10B
15	Nye Beach	The OCBR uses NW Oceanview Dr. through Nye Beach, which is scenic, but narrow in spots.	<ul style="list-style-type: none"> Add signs in advance of narrow segments, primarily at the north end. Provide signs leading to the section that remind people to share the road with people biking, indicating "Bikes May Use Full Lane" or equivalent. Provide traffic calming improvements to make the route more comfortable. 	[None recommended.]	2
16	Yaquina Bridge	With 2 lanes and no shoulder or bike lane for more than 0.5 mile, the Yaquina Bridge is a barrier for people biking. It has triggered warning lights for people biking along with signs indicating that people can ride in the travel lane or can walk their bikes on the narrow sidewalk. This major bridge is unlikely to include space for biking unless it is completely reconstructed.	<ul style="list-style-type: none"> Provide flashing beacon lights consistent with other bridges along the OCBR. Consider advisory speed signs when the flashing beacons are activated. Explore transit and ferry shuttle options with stops on either side of the bridge. 	<ul style="list-style-type: none"> Install pullout rest area(s) along the bridge for people biking to congregate. Install ramp at high point of bridge that allows people to transition from walking up the sidewalk to riding in the lane. 	1
17	Waldport	U.S. 101 in downtown Waldport has 4 lanes and no bike lanes. It has a very narrow shoulder south of downtown next to the seawall, and this space is shared with the OCT during high tide.	<ul style="list-style-type: none"> Pave full roadway width to seawall barrier to eliminate existing longitudinal pavement joint. Reconfigure U.S. 101 to provide bike lanes, consistent with the 2020 Waldport TSP. 	<ul style="list-style-type: none"> Create a shared use promenade along the west side of U.S. 101 at the existing seawall in coordination with the OCT. 	11A, 11B

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#	Critical Need	Critical Need Description	Short Term Solutions	Long Term Solutions	Pg # *
18	Yachats to Cape Perpetua	The shoulder south of Yachats is narrow in this particularly hilly and scenic section of the OCBR.	<ul style="list-style-type: none"> Improve signs through the section. Provide signs leading to the section that remind people to share the road with people biking. Install flashing beacon lights at existing pullout rest areas and provide signs indicating "Bikes May Use Full Lane" or equivalent. Explore a transit shuttle service. 	[None recommended.]	12
19	South of Cape Perpetua	The shoulder is narrow in this particularly hilly and scenic section of the OCBR. The OCT also uses U.S. 101 in this section.	<ul style="list-style-type: none"> Provide signs leading to the section that remind people to share the road with people biking. Provide flashing beacon lights to indicate when people are biking or walking on this section. Consider advisory speed signs when the flashing beacons are activated. 	<ul style="list-style-type: none"> Widen shoulder and coordinate with OCT overlap to explore separation for people biking and people walking. Consider removing guardrail on bridge to improve sidewalk access. 	2
20	Heceta Head South	The shoulder is narrow in this scenic and windy section of the OCBR. Many areas have a guardrail close to the edge of the road, and there is a tunnel with no shoulder. The OCT also uses U.S. 101 in parts of this section.	<ul style="list-style-type: none"> Provide signs leading to the section that remind people to share the road with people biking. Install flashing beacon lights and provide signs indicating "Bikes May Use Full Lane" or equivalent. Enhance lighting to improve visibility at the Cape Creek Tunnel and Cape Creek Bridge. Explore reconfiguration of guardrail on Cape Creek Bridge. 	<ul style="list-style-type: none"> Construct a shared use path serving both the OCT and the OCBR. The path includes a new bridge over Cape Creek and a viaduct to bypass existing bridge and tunnel. 	13
21	Florence	The bike lane ends when it reaches downtown Florence, causing a higher level of stress for people biking. At this location, the highway is 4 to 5 lanes wide with on street parking and many access points.	<ul style="list-style-type: none"> Provide signs leading into Florence that remind people to share the road with people biking. Reconfigure road to provide bike lanes consistent with the 2019 ReVision Florence Improvements. 	<ul style="list-style-type: none"> Evaluate opportunities to calm traffic and improve comfort for people biking in Florence. 	14

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#	Critical Need	Critical Need Description	Short Term Solutions	Long Term Solutions	Pg # *
22	Florence (Siuslaw River Bridge)	With 2 lanes and no shoulder or bike lane, this bridge and its approach is a barrier for people biking. It is approximately 1,800 feet long, which takes about 1 minute and 40 seconds to cross at 12 mph. This major bridge is unlikely to include space for biking unless it is completely reconstructed.	<ul style="list-style-type: none"> Provide signs leading to the bridge that remind people to share the road with people biking. Provide flashing beacon lights to indicate when people are biking on the bridge. Consider advisory speed signs when the flashing beacons are activated. Improve the approach on north end of the bridge with new pavement. 	<ul style="list-style-type: none"> Coordinate with the OCT to potentially build a separate bike and pedestrian bridge. 	1
23	Umpqua River Bridge	With 2 lanes and a very limited shoulder, the Umpqua River Bridge is a barrier for people on bikes to cross comfortably. It is 2,200 feet long, which takes about 2 minutes to cross at 12 mph.	<ul style="list-style-type: none"> Provide signs leading to the bridge that remind people to share the road with people biking. Provide flashing beacon lights to indicate when people are biking on the bridge. Consider advisory speed signs when the flashing beacons are activated. 	[None recommended.]	1
24	Reedsport	U.S. 101 through Reedsport has 4 to 5 travel lanes with many access points and pinch points. Its bike lanes have inconsistent width and presence. This creates a high level of stress for people biking. Because it is an urban area, locals are likely to bike it as well. A recent project reconfigured the road south of 16th Street to 3 lanes with improved places for people to bike, walk, and roll.	<ul style="list-style-type: none"> Reconfigure road to provide consistent bike lanes through the 5 lane section. On the Schofield Creek Bridge, explore restriping options to provide more space for people biking. For this concept to advance, it must have further analysis and public input, and be coordinated with the city. 	<ul style="list-style-type: none"> Evaluate performance of the road reconfiguration and consider extending the 3 lane cross section through the segment. A 3 lane configuration here is inconsistent with the Reedsport TSP and will require an amendment. Coordinate with the implementation of the 2018 Dean to Dunes Trail Plan to find opportunities for collaboration on projects that will also improve the OCBR. 	15

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#	Critical Need	Critical Need Description	Short Term Solutions	Long Term Solutions	Pg # *
25	Conde McCullough Bridge	The bridge is a barrier for people biking. It has 2 lanes and a very limited shoulder. It is approximately 1 mile long and has a steep incline. This major bridge is unlikely to include space for people biking unless it is completely reconstructed.	<ul style="list-style-type: none"> Provide signs leading to the bridge that remind people to share the road with people biking. Explore coordination with the OCT for a transit/ferry shuttle. Install ramp at high point of bridge that allows people to transition from walking up the sidewalk to riding in the lane. 	[None recommended.]	1, 16
26	Coos Bay / North Bend	There are several choices for routing the OCBR through Coos Bay and North Bend that could include using U.S. 101 or local routes.	<ul style="list-style-type: none"> Reroute the OCBR off of U.S. 101 through Coos Bay and North Bend to create a more comfortable route that connects with Cape Arago Highway and Seven Devils Road to the south. Provide wayfinding and other improvements to reinforce the route. 	<ul style="list-style-type: none"> Support Virginia Road Reconfiguration project planning effort. 	—
27	Charleston/ Seven Devils Road	This is a hilly and winding rural corridor with no shoulder for about 10 miles. Some of this stretch is also shared with the OCT. Seven Devil's Road is locally owned, and ODOT will need to partner with local agencies to consider solutions.	<ul style="list-style-type: none"> Provide signs indicating "Bikes May Use Full Lane" or equivalent. Install pullout rest area(s) for people biking to rest and congregate. 	<ul style="list-style-type: none"> Reconfigure roadway space on Seven Devils Road, Beaver Hill Road, and Whiskey Run Road to provide more space for people biking, consistent with the 2011 Coos County TSP. The priority for improvements is the first mile of Seven Devils Road. 	17
28	Bullards Bridge	This is a narrow bridge with no shoulder. There are currently advisory speed signs and warning lights that can be activated by people walking or biking. This is a popular route for locals and tourists, connecting Bandon and Bullards Beach State Park.	<ul style="list-style-type: none"> Provide signs leading to the bridge that remind people to share the road with people biking. Provide flashing beacon lights to indicate when people are biking on the bridge. Consider advisory speed signs when the flashing beacons are activated. 	<ul style="list-style-type: none"> Provide a separate bridge, replacement bridge, or leading interval stoplight to allow people to cross comfortably on bikes. 	1

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#	Critical Need	Critical Need Description	Short Term Solutions	Long Term Solutions	Pg # *
29	Bandon	Most of this urban segment has between 2 and 4 travel lanes with a center turn lane, many driveway accesses, and minimal space for biking. While this stretch is on an alternate route and not on the primary route, it is a popular way to access supplies and businesses. Addressing this critical need will support local residents and OCBR users. A portion of this segment has been previously considered for a road reconfiguration safety pilot project.	<ul style="list-style-type: none"> Support local transportation system plan update to study and consider possible reconfiguration of space on U.S. 101. For this concept to advance, it must have further analysis and public input, and be coordinated with the city. 	<ul style="list-style-type: none"> Conduct a planning study to evaluate reconfiguration of roadway space on U.S. 101 to allow buffered or separated bike lanes and reduce the number of travel lanes. This is not included in the 2000 Bandon TSP and would require further study and a TSP amendment if advanced. 	18
20	Humbug Mountain Area	This is a hilly and winding corridor with little to no shoulder for about 3 miles. Much of this part of U.S. 101 is also shared with the OCT.	<ul style="list-style-type: none"> Provide signs leading to the segment that remind people to share the road with people biking. Provide flashing beacon lights to indicate when people are biking or walking in the area. Provide signs indicating "Bikes May Use Full Lane" or equivalent. Prioritize the narrowest stretch first. 	<ul style="list-style-type: none"> Construct a parallel shared use path to bypass the narrow, windy, and steep segment. 	19
31	Patterson Bridge over the Rogue River	With 2 lanes and no shoulder or bike lane, this bridge north of Gold Beach is a barrier for people on bikes. At approximately 1,800 feet long, crossing at 12 mph takes about 1 minute and 40 seconds. This major bridge is unlikely to include space for people on bikes unless it is completely reconstructed.	<ul style="list-style-type: none"> Provide signs leading to the bridge that remind people to share the road with people biking. Provide flashing beacon lights to indicate when people are biking on the bridge. Consider advisory speed signs when the flashing beacons are activated. 	[None recommended.]	1
32	Gold Beach	Most of this corridor has 4 to 5 travel lanes, many access points, and no bike lanes. It has a high level of traffic stress for people on bikes. Because it's an urban area, locals are likely to bike it as well.	<ul style="list-style-type: none"> Reconfigure roadway space on U.S. 101 through Gold Beach to allow 6 foot wide bike lanes. For this concept to advance, it must have further analysis and public input, and be coordinated with the city. 	[None recommended.]	20

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#	Critical Need	Critical Need Description	Short Term Solutions	Long Term Solutions	Pg # *
33	Thomas Creek Bridge	With 2 lanes and narrow shoulders, the Thomas Bridge is a barrier for people on bikes to cross comfortably. It is approximately 900 feet long, which takes about 1 minute to ride across at 12 mph.	<ul style="list-style-type: none"> Provide signs leading to the bridge that remind people to share the road with people biking. Provide flashing beacon lights to indicate when people are biking on the bridge. Consider advisory speed signs when the flashing beacons are activated. 	[None recommended.]	1
34	Brookings	This corridor has bike lanes except for a segment in downtown Brookings. There is a large level of traffic stress, and there have been a large number of bicycle involved crashes over the last 5 years relative to other parts of the OCBR.	<ul style="list-style-type: none"> Reconfigure roadway space to make space for people to bike. Reroute the OCBR off of U.S. 101 to use Railroad Street between Pacific Avenue and Oak Street, avoiding the section without bike lanes. For this concept to advance, it must have further analysis and public input, and be coordinated with the city. 	[None recommended.]	21
35	Winchuck River Bridge	With 2 lanes and narrow shoulders, the Winchuck Bridge is a barrier for people biking to cross comfortably. It is approximately 400 feet long, which takes about 30 seconds to ride across at 12 mph.	<ul style="list-style-type: none"> Provide signs leading to the bridge that remind people to share the road with people biking. Provide flashing beacon lights to indicate when people are biking on the bridge. Consider advisory speed signs when the flashing beacons are activated. 	<ul style="list-style-type: none"> Consider modifications to bridge rail to add width to bike facilities. 	1

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BEYOND PAVEMENT: SUPPORTIVE PROGRAMS & SERVICES

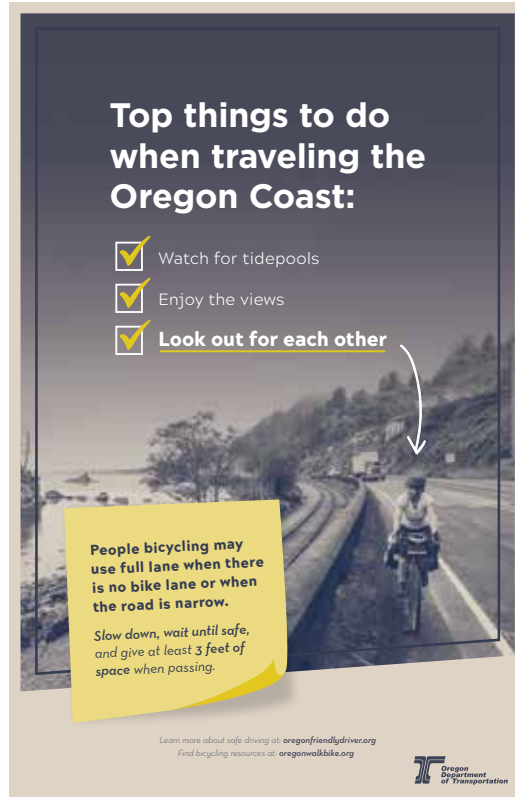
Programs and Services Inventory

The quality of programs and services that support the OCBR is fundamental for making the route attractive, safe, and enjoyable. Wayfinding, for example, helps people follow the route, promotes the OCBR to people driving, and reassures that they are going the right way. Secure bike parking provides people peace of mind while they visit a business or enjoy an attraction. An inventory of existing programs and services that support biking is shown in Table 5, in order of importance based on the 2018 OCBR User Survey (ODOT 2018). Appendix G provides a full description and assessment.

This inventory evaluates existing services and also provides a list of opportunities to be further explored in future efforts. These may be implemented through a variety of partnerships that could include ODOT, local jurisdictions, OPRD, economic development organizations, and private businesses. ODOT has invested resources to further develop one program: the OCBR Safety Education Campaign.



Figure 8. Safety Campaign Posters



The OCBR Safety Education Campaign

Promoting respectful and safe interactions between people driving and people biking is an important part of improving the user experience on the OCBR. As part of the planning process, ODOT developed a campaign to educate people driving and bicycling about safety concerns during peak tourism season.

The OCBR Safety Education Campaign reaches three distinct audiences with the key message of “watch out for each other”:

- People driving: raise awareness of the presence of people biking the OCBR, and how to pass safely.
- People biking: help bicycle tourists have a safe and comfortable trip, in particular by informing them that people biking can take the full lane.
- People driving and biking: encourage both road user groups to watch out for each other, reminding them that people biking may take the full lane and people driving must pass safely.

Campaign materials include brochures, digital ads, print ads, and, like the example in Figure 8, posters intended to reach people driving and biking traveling along the Oregon Coast. The materials include links to existing ODOT websites for more safety information (for example, oregonfriendlydriver.org and oregonwalkbike.org). Campaign materials will be distributed through communications from organizations in the tourism and travel industry (for example, the Oregon Coast Visitors Association, Travel Oregon, hotels, and campgrounds), local businesses (for example, coffee shops, gas stations, and bike shops), and ODOT communications (for example, social media and e-newsletters).

4. BEYOND PAVEMENT: SUPPORTIVE PROGRAMS & SERVICES

Table 5. Programs and Services Inventory

Strategy	Description	Recommended Example Activities	Implementing Agencies
Route Maintenance	Debris in the shoulder or bike lane can force a person biking to swerve into a traffic lane or damage a bike’s wheels. Overgrown vegetation can obstruct the shoulder and impede the line of sight. Maintenance, including street sweeping, trimming vegetation, and paving, is vital for keeping the road safe to ride. During outreach, 93 percent of survey respondents rated this as an extremely important or very important service — and also the service they were least satisfied with.	<ul style="list-style-type: none"> • Pave and repair shoulders as part of routine maintenance and pavement preservation activities. Widen shoulders where possible. • Keep bike lanes clean with frequent sweeping and vegetation trimming. • Restripe existing bike lanes. 	ODOT, Local Jurisdictions
Camping Amenities and Bike Pods	Many people riding the OCBR take advantage of the campgrounds with hiker/biker campsites, which help make bike touring possible by providing affordable, safe, and reliable places to sleep. They often also have additional amenities like showers, and bike pods, which include lockers, electrical outlets, bike parking, and bike repair stations. The OCBR Map identifies 37 Oregon State Park campgrounds along the route, and 22 of them offer hiker/biker spots. The distance between campgrounds is important to accommodate a day’s ride for different abilities. Most hiker/biker sites on the OCBR are within 30 miles of each other, except between Humbug Mountain and Harris Beach (49 miles) and Fort Stevens and Nehalem Bay (38 miles).	<ul style="list-style-type: none"> • Work with OPRD to create more hiker/biker campsites at parks that do not currently have sites, particularly along segments with long gaps between camping options such as the southern portion of the OCBR where campsites are furthest apart. • Improve wayfinding for people on bikes to easily find hiker/biker campsites. • Provide amenities at new and existing hiker/biker campsites, including: warm showers and the amenities provided with bike pods: bicycle repair stations, lockers for gear, sheltered bicycle parking, and electrical outlets. • There was specific interest in creation of new bike pods in the Astoria, Tillamook, and Lincoln City. 	OPRD, public private partnership (PPP), Oregon Parks Forever

Strategy	Description	Recommended Example Activities	Implementing Agencies
Wayfinding	Wayfinding helps people locate destinations, identify routes, recognize areas of different character, and discover new places. A wayfinding system establishes a brand and a language that users can recognize and identify with the route. The OCBR has 76 wayfinding signs placed along the route, which include standard MUTCD bicycle wayfinding signs and custom designation signs for the OCBR. Informational kiosks also have maps, though these are not frequently maintained. The OCBR does not have pavement markings or other bike oriented wayfinding signs. Outreach to stakeholders, local agencies, and users indicated that more wayfinding for the OCBR would be helpful, as well as signs leading to nearby amenities and businesses.	<ul style="list-style-type: none"> Design and implement a wayfinding system for the entire OCBR. Place wayfinding at all decision points along the OCBR and locate signs or pavement markings regularly along the route to reassure people they are still on the OCBR. Base the frequency of signs on local context, accounting for a rule of thumb that long stretches of the route in rural areas without decision points or other landmarks would benefit from a reassurance sign as often as every 5-10 miles. Consider expanding the wayfinding system beyond the minimum Federal Highway Administration MUTCD standards to help create a stronger route or community identity. 	ODOT
Route Planning Tools	Trip planning resources help people make the most of their bike trip by providing information on when to travel, what to see, what to do, where to stay, where to eat, and what route deviations to consider. While people riding the OCBR use a variety of tools to plan their trip, the printed ODOT OCBR Map is most popular, indicating that continuing to update and distribute the print and digital versions of the map is an important way to serve current and potential OCBR users. A consolidated list of other known route planning tools would serve current and prospective OCBR users. During outreach, several stakeholders and users expressed interest in the development of centralized information about the route.	<ul style="list-style-type: none"> Continue to update and publish the ODOT OCBR map. Provide information at kiosks on the route. Build a digital resource that compiles current information about the route, including lodging and camping, resources available in coastal communities, route conditions and construction, and special events. 	ODOT, OCVA

Strategy	Description	Recommended Example Activities	Implementing Agencies
Bike Parking	<p>Secure bike parking provides people peace of mind when they visit a business or enjoy an attraction. People on bike tours require special attention because of the amount of cargo they typically carry.</p> <p>Overall, bicycle parking conditions on the OCBR are considered "poor" by local jurisdictions, users, and some stakeholders. Many places lack places to park bikes.</p> <p>However, a few communities have recently built bike hubs, which provide additional amenities such as repair stations, water, and restrooms. These can be useful for near services or destinations and many communities have expressed interest in incorporating them in their downtowns.</p>	<ul style="list-style-type: none"> Install bike parking at destinations and attractions. To encourage OCBR users to patronize local businesses or step away from their bikes, short term bicycle parking should be prioritized in locations with a direct line of sight from desired destinations or include additional security features. These added features may be of most benefit when line of sight parking is not available. Encourage coastal communities to include bike parking requirements in local codes. Recommend bike parking improvements as part of development review. Evaluate additional features such as lockers, monitored or valet bicycle parking, and secure bicycle cages. Pursue Travel Oregon grants for bike parking and bike hub improvements. 	Local jurisdictions, PPP, OCVA
Transit and Shuttle Connections	<p>Many OCBR users rely on transit and shuttles to reach the starting point of their trip, skip portions of the route, recover from a mechanical problem, travel between the route and nearby towns, or return home once their trip is complete.</p> <p>A large number of transit services exist along the OCBR, but buses are often infrequent and do not reach all parts of the route. The quality and clarity of online information varies by service. Seven intercity buses connect coastal communities on the OCBR with major inland cities. Since planning efforts for this project began, bus service and coordination between services have improved to reduce travel time.</p> <p>Transit buses can usually take two bikes at a time. Private bus services may only accept bikes if they are boxed.</p>	<ul style="list-style-type: none"> Continue to enhance coastal transit service and coordinate transit systems for convenient access. OCBR users would benefit from clear and centralized information about transit connectivity between coastal communities and to major inland cities and the types of bicycle accommodations provided. Improve transit frequency in the middle and southern portion of the route to better support people biking the OCBR. There is currently a gap of public transit service between Florence and Lakeside. Expand existing privately operated bus and shuttle services to supplement transit and help groups travel to and from the OCBR. 	ODOT, transit agencies, local jurisdictions, PPP

OREGON DEPARTMENT OF TRANSPORTATION

Strategy	Description	Recommended Example Activities	Implementing Agencies
Speed and Safety	Feedback frequently cited high traffic speed as a concern for people biking the OCBR. New ODOT guidelines and Oregon Administrative Rules adopted in May 2020 offer more flexibility in establishing speed limits that could achieve lower speed limits in urban areas (ODOT 2020e). Additionally, standardizing the use of advisory speeds on bridges may help make traffic speeds more comfortable.	<ul style="list-style-type: none"> Advise local jurisdictions they can request a speed study or use of advisory speeds on local roads. Cities and counties can conduct the speed investigation if they have the necessary expertise. 	ODOT/Local jurisdictions
Safety Education Campaign (full description above)	Promoting respectful and safe interactions between people driving and people biking is an important part of improving the user experience on the OCBR. As part of the planning process, ODOT developed a campaign to educate people driving and bicycling about safety concerns during peak tourism season.	<ul style="list-style-type: none"> Implement a campaign to educate people driving and bicycling about safety concerns and promote respectful and safe interactions on the route. 	ODOT implemented in summer 2021
Interpretative Opportunities	Cycle tourists are able to stop and enjoy landmarks and destinations as they travel down the Oregon Coast, including local businesses and restaurants, beaches, cultural centers, museums, visitors centers, and more. To connect people biking with opportunities, it is important to identify key destinations and promote them through trip planning resources and wayfinding along the route.	<ul style="list-style-type: none"> Highlight key destinations and landmarks, such as local business districts, waterfront areas, museums, and historical sites, on the OCBR to enrich the experience. Identify features with interpretive signs and with trip planning resources, like the OCBR map. 	ODOT, OPRD, OCVA



Notes:

- MUTCD = Manual on Uniform Traffic Control Devices
- OCVA = Oregon Coast Visitors Association
- OPRD = Oregon Parks and Recreation Department
- PPP = public private partnership

5

MOVING FORWARD

The priority project list of infrastructure solutions described in Section 3 addresses critical needs on the OCBR, from standardizing the signs on the route to reconfiguring the road with more space for people biking and installing bicycle rest areas. Implementing these recommendations requires ongoing coordination between ODOT and local jurisdictions to ensure that projects are included in local plans and funding opportunities for each project are considered. Some proposed infrastructure solutions will need to be implemented as stand alone projects, while others could become part of existing ODOT maintenance, paving, or road improvement projects. The Decision Making Framework will help ensure that infrastructure improvements are considered for upcoming roadway, bridge, or culvert projects on the OCBR and help ensure that ODOT projects make improvements in accordance with this Plan.



Section 4 includes recommendations for programs and services. Two program investments, the Safety Education Campaign and a revised official OCBR Route Map, were included with this planning effort, and are expected to be complete by 2021. Other recommendations will require additional study to prioritize investments.

ODOT should also consider implementing recommendations as pilot projects and consider funding opportunities to move projects forward, as discussed below.

Possible Pilot Projects

Pilot projects are an opportunity to consider possible road reconfigurations or traffic calming measures before making final plans to adapt a roadway more permanently. ODOT should coordinate with local jurisdictions to identify pilot project opportunities that reflect the recommendations in the OCBR infrastructure solutions concepts. There may be multiple options for pilot projects, here are two example opportunities that could test out solutions before making permanent roadway changes.

- **Gearhart U.S. 101 (Pacific Avenue)**
This planning effort is refining a variety of projects on U.S. 101 that were identified in the Gearhart 2017 TSP. The plan and resulting design solutions could serve as a nearer term opportunity to implement a road reconfiguration.
- **Reedsport**
A planning project to evaluate traffic calming alternatives will provide an opportunity to evaluate the most appropriate mix of strategies to improve safety for people biking through this critical need area.

Funding Opportunities

More funding is needed to implement OCBR Plan priorities. Some funding will be provided directly by ODOT or local governments to complete projects already in their TSPs, while others may require collaboration between ODOT and other agencies. ODOT will also work with partner jurisdictions to pursue grant funds to implement OCBR priority projects. Each funding source has different requirements to apply, such as facility type, proximity to federal land, or proximity to schools. The following list provides an overview of possible funding sources.

Federal Lands Access Program (FLAP)

FLAP is a federal program that provides funds to transportation facilities that are on, adjacent to, or provide access to federal lands. Funding through this program is available for bicycle facilities. This can apply to OCBR segments on U.S. 101 or other areas that provide access to National Forest, Bureau of Land Management, National Wildlife Refuge, and military lands (FHWA 2018).

U.S. Department of Transportation Discretionary Grant Programs

There are two competitive federal grant programs where bike and pedestrian infrastructure and programs that support biking could be funded if incorporated into a larger capital project. Those programs are the Better Utilizing Investments to Leverage Development (BUILD) and Infrastructure Through Rebuilding America (INFRA) grants which are authorized under the Fixing America's Surface Transportation System Act. BUILD grants fund capital investments in surface transportation infrastructure projects that generate economic development and improve access to transportation with a minimum award amount of \$5 million for urban areas and \$1 million for rural areas. In past rounds, the average award size was \$14.5 million. INFRA grants offer funding for projects of national or regional significance that address major issues on highways and bridges and have a minimum award size of \$25 million for large projects and \$5 million for small projects. These grant programs both require a minimum 20 percent local, non federal match and could fund infrastructure investments that could include bike and pedestrian bridges, shared use paths and trails, road reconfigurations, traffic calming, bike and pedestrian wayfinding, curb cuts, and ramps and other investments (U.S. Department of Transportation 2018).

Land Water Conservation Fund (LWCF)

LWCF is a federal grant program administered by OPRD to fund Oregon recreation areas and facilities, and includes up to 50 percent match. LWCF grants are available to either acquire land for public outdoor recreation or to develop basic outdoor recreation facilities. LWCF requires the property to be open to recreational use in perpetuity, or must be replaced with another property nearby (OPRD 2020a).

Recreational Trails Program (RTP)

The RTP is a Federal Highway Administration program to provide funds for recreational trails and is part of the Transportation Alternatives set aside funds that states receive from the U.S. Department of Transportation. These grants require a match of 20 or 40 percent, depending on the grant amount. This can apply to OCBR segments that are on or planned to be on shared use paths.

Statewide Transportation Improvement Program (STIP) The STIP distributes funding for state and federally funded capital projects. Improvements to the OCBR are likely to qualify for specific funding opportunities as part of the STIP for walking and biking improvements. ODOT should collaborate with local jurisdictions to prioritize projects that can be leveraged for OCBR improvement projects to the STIP (DLCD 2015).

Statewide Transportation Improvement Fund (STIF) Discretionary Fund

Pedestrian and bicycle improvements that provide connections to transit are eligible for most public transportation funding sources. The discretionary fund receives 5 percent of STIF funds. ODOT awards discretionary funds to public transportation service providers based on a competitive grant process. The Intercommunity Discretionary Fund receives 4 percent of STIF funds. ODOT awards intercommunity funds to public transportation service providers to improve public transportation between two or more communities based on a competitive grant process. (ODOT 2020c).

Sidewalk Improvement Program

ODOT State Highway Fund dollars are allocated to each ODOT region for bicycle and pedestrian improvements on or along state highways on a rolling basis. These funding requests are managed through ODOT Region Active Transportation Liaisons.

Safe Routes to School

Safe Routes to School is a state and federal funding program that supports efforts to improve access to schools for both infrastructure and non infrastructure projects. Most infrastructure funding is given through competitive grants, which requires projects must be within 1 mile of a school and have a local cash match. This can apply to segments of the OCBR near schools and could include both infrastructure projects and programs.

Oregon Community Paths (OCP)

OCP issues grants to fund improving and constructing shared use paths for people walking and biking. The funds require a match between 10.27 and 30 percent. This can apply to segments of the OCBR that are on or planned to be on shared use paths.

OPRD Local Grant Program

Many segments of the OCBR share facilities with the OCT. Grant proposals that include both the OCBR and OCT could be more attractive, leverage funding from multiple agencies, and open up more grant opportunities for shared use paths. A local match is required for these grants, administered by OPRD, and only local governments can apply (OPRD 2020b)

OPRD County Opportunity Grants

These grants are administered by OPRD and provide funding for counties on properties they own or manage for recreational use. Counties could apply for these grants to be used for projects related to acquisition, development, rehabilitation, or planning to enhance overnight public camping facilities (OPRD 2020c).

Oregon Parks Forever (OPF)

Previously the Oregon State Parks Foundation, OPF has a Hiker-Biker Amenities Improvement Project to fund projects such as bike pods and shelters on the Oregon Coast. This project is actively raising funds to fund additional hiker-biker amenities at additional State Parks (OPF 2020).

Travel Oregon Grants

Travel Oregon small grants of up to \$20,000 could be available for local jurisdictions to facilitate improvements that focus on tourism investment. This could include bike safety improvements, shuttle services, wayfinding, bike parking and hubs, or other amenities to support OCBR users.

PeopleforBikes Community Grant Program

These competitive grants of up to \$10,000 support bicycle infrastructure projects and targeted advocacy initiatives that make it easier and safer for people of all ages and abilities to ride. These grants primarily fund cycling infrastructure and could support shared use pathways, trails, and bridges (PeopleforBikes 2020).

Biking Forward

This OCBR Plan provides a framework for making the OCBR a worldwide destination, while also improving the safety and connectivity of Oregon's coastal communities. Plan investments align with local priorities and create opportunities to share resources to improve safety, bolster tourism, and improve access to recreation for a growing population. Improvements will yield dividends beyond the economic development impacts from bike tourism, including providing local residents safe ways to get around without needing to drive and the public health benefits that comes with increased physical activity.

Successful implementation of projects and programs requires strong partnerships among ODOT, local jurisdictions, local businesses, and community residents. Investments in the OCBR are investments in Oregon's coastal communities and the agency's commitment to improving biking statewide. ODOT has made the first steps toward updating the OCBR by developing this Plan, but sustained momentum from ODOT and its partners is critical to realize the full potential of this coastal gem.





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