



Nehalem Bay **TSP**

Manzanita

Nehalem

Wheeler

VOLUME 1

Transportation System Overview & Regional Plans

FEHR & PEERS

MAY 2023



TABLE OF CONTENTS

Volume 1: Executive Summary	6
Chapter 1: Introduction & TSP Overview	11
Chapter 2: TSP Development	15
Chapter 3: The Regional Transportation System	21
Chapter 4: Regional Projects	37
Chapter 5: Implementation	55



LIST OF FIGURES

Figure 1 Nehalem Bay Planning Area	22
Figure 2 Nehalem Bay Roadway Classification	24
Figure 3 U.S. 101 2040 V/C Results	28
Figure 4 Nehalem Bay Crash Locations Between 2014 and 2018	31
Figure 5 Transit Routes in Nehalem Bay	32
Figure 6 Existing Bicycle Network in Nehalem Bay	33
Figure 7 Existing Pedestrian Network in Nehalem Bay	34
Figure 8 Tsunami Evacuation	36
Figure 9 Regional Projects	40

LIST OF TABLES

Table 1 Goals & Objectives	7
Table 2 High Priority Projects	9
Table 3 Regional Goals & Objectives	18
Table 4 Evaluation Criteria	20
Table 5 Roadway Jurisdiction and Functional Classification ..	25
Table 6 Roadway Segment 30 th HV V/C	27
Table 7 Intersection Operations	29
Table 8 Timeline for Implementation	38
Table 9 Regional Project List	41



Nehalem
Bay **TSP**



**VOLUME 1: TSP
OVERVIEW &
REGIONAL PLANS**



ACKNOWLEDGEMENTS

Planning Advisory Committee

Chris Laity, Tillamook County Engineer
Deborah Cipolla, Manzanita
Julie Chick, Nehalem
Justin Baile, Nehalem
Mike Anderson, Wheeler
MJ Anderson, Nehalem
Phyllis Scott, Manzanita

Project Team

City

Leila Aman, Manzanita
Mary Johnson, Wheeler
Melissa Thompson-Kiefer, Nehalem

Oregon Department of Transportation

Caroline Crisp
James Feldmann
Ken Shonkwiler

Fehr & Peers

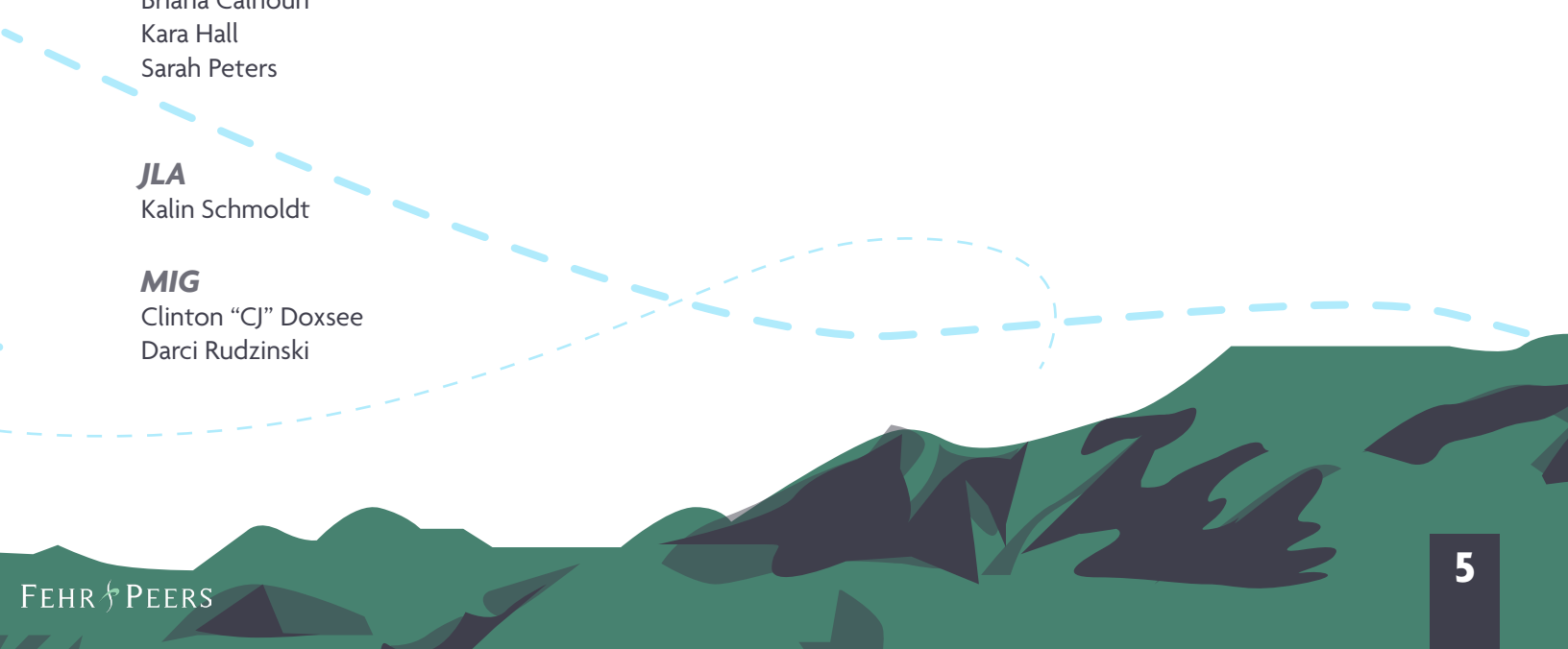
Briana Calhoun
Kara Hall
Sarah Peters

JLA

Kalin Schmoldt

MIG

Clinton “CJ” Doxsee
Darci Rudzinski





VOLUME 1: EXECUTIVE

SUMMARY

Transportation System Plan Introduction

The Nehalem Bay Transportation System Plan (TSP) establishes a vision for the transportation system in the Nehalem Bay region and serves as a long-range planning tool to bring that vision to fruition. Volume 1 of the TSP serves as a guide for regional needs and investments, while Volumes 2 through 4 were reflect the unique context of needs of Manzanita, Nehalem, and Wheeler, respectively.

Within the Nehalem Bay region, this TSP serves to:

- Define regional transportation needs based on community input
- Document existing transportation infrastructure
- Identify transportation improvements that will be needed as the region continues to grow
- Identifies potential funding sources for transportation projects
- Identifies high-priority projects

While the TSP serves as a guide for future investments, it does not include:

- Project refinement and design
- Specific timing for when projects will be designed and constructed
- Allocation of funding for any recommended projects

Community Involvement

Throughout development of the TSP, community members, business owners, and visitors were engaged to help shape the future of transportation in Nehalem Bay. Input from community members was gathered through a Planning Advisory Committee (PAC) and a series of online and in-person open-houses that were open to all community members.

The PAC met at key milestones throughout the project and helped to provide local context while serving as a sounding board for components of the TSP including the Goals, Objectives, and Recommended Projects. The PAC was comprised of members from each of the three cities and a representative from Tillamook County.

Throughout the TSP process community members had the opportunity to participate in three open-houses:

- **COMMUNITY TOUCHPOINT #1** provided an opportunity for community members to share their issues and concerns with travel in the region and provide feedback on the Goals and Objectives.
- **COMMUNITY TOUCHPOINT #2** provided an opportunity for participants to review the draft project list and included community conversations which provided an opportunity to share feedback directly with the project team.
- **COMMUNITY TOUCHPOINT #3** provided an opportunity for community members to help identify high priority projects included in the TSP.



Regional Needs & Challenges

TSP Goals

There were four, shown in Table 1, goals, as shown in **Table 1**, developed to help guide regional investment. The four goals, shown below, were used to evaluate all regional projects to ensure that the recommendations in the TSP will address the issues, needs, and desires shared by the community.

Table 1| Goals & Objectives


Goal	Objectives
 <p>GOAL #1: QUALITY OF LIFE Create a transportation system that provides equitable multimodal access for underserved and vulnerable populations and balances the needs of local travelers and regional through-traffic.</p>	<ol style="list-style-type: none"> 1. Provide equitable access for underserved and vulnerable populations by requiring Americans with Disabilities Act (ADA) compliance for new transportation infrastructure and upgrading existing infrastructure that does not meet ADA standards. 2. Increase connections to recreational opportunities by supporting the development of planned regional bicycle and pedestrian trails, including the Salmonberry Trail, Oregon Coast Trail, and Tillamook County Water Trail. 3. Create comfortable downtown spaces by identifying appropriate streetscape improvements, including landscaping, pedestrian scale lighting, benches, and street trees. 4. Reduce vehicle travel between cities by exploring options for visitors to 'park once', such as a regional shuttle service or water taxi.





Table 1| Goals & Objectives

Goal	Objectives
 <p>GOAL #2: CREATE SAFE CONNECTIONS</p> <p>Create safer connections between the Nehalem Bay communities for people walking, biking, or using other non-auto modes and identify strategies to reduce crashes for all users when traveling on U.S. 101.</p>	<ol style="list-style-type: none"> 1. Identify key non-motorized routes between the Nehalem Bay communities and prioritize pedestrian and bicycle facilities on these routes. 2. Connect businesses and recreational destinations with neighborhoods by enhancing pedestrian and bicycle crossings on U.S. 101. 3. Improve areas with higher crash risk by improving the visibility of transportation users in constrained areas, such as on hills and blind curves. 4. Address known safety issues at locations with fatal or severe injury crashes, crashes involving a bicyclist or pedestrian, and vehicles entering and exiting U.S. 101. 5. Collaborate with the Oregon Department of Transportation (ODOT) to implement engineering and traffic calming strategies on U.S. 101, where appropriate, to reduce vehicle speeds.
 <p>GOAL #3: PLAN FOR THE FUTURE</p> <p>Collaborate with ODOT and Tillamook County to create a transportation system that is resilient to extreme weather events, able to safely accommodate evacuation and recovery efforts, and consistent with the goals and objectives of each City, Tillamook County, and the state.</p>	<ol style="list-style-type: none"> 1. Maintain local infrastructure so that facilities can withstand extreme weather events and aid in evacuation efforts. 2. Improve traffic circulation and access for fire and emergency vehicles. 3. Collaborate with ODOT to develop and implement improvements to U.S. 101 that fit the land use context and are consistent with the Highway Design Manual (HDM) and other local and regional planning efforts.
 <p>GOAL #4: SUPPORT FISCAL RESPONSIBILITY</p> <p>Plan for a transportation system that is financially viable with consideration for life cycle costs by identifying new funding sources to make local dollars go farther.</p>	<ol style="list-style-type: none"> 1. Develop transportation solutions that are cost effective. 2. Identify outside funding sources for transportation projects such as grants, developer contributions, or transportation system charges. 3. Prioritize investments and maximize partnerships to provide maximum benefit and return on investment for the associated cost. 4. Consider future operation and maintenance costs in investment choices.



High Priority Regional Projects

The TSP includes over 30 projects that will improve how people travel in the Nehalem Bay region. The projects listed in **Table 2** were identified as high priority projects for the region based on alignment with the TSP goals and input from community members. For the full list of recommended projects and locations, see **Table 9** and **Figure 9** in **Chapter 4**.

Table 2 | High Priority Projects

ID	Project Name & Description	Extents	Cost	Timeline
R1	OCEAN ROAD CROSSING ENHANCEMENTS: Enhance Ocean Road cross at Laneda Avenue with high-visibility markings, advance signage to alert drivers of crossing, and illumination.	Laneda Avenue & Ocean Road	\$300,000	 NEAR-TERM
R2	OCEAN ROAD SEPARATED FACILITIES: Construct a path, providing separated space for people walking and biking, parallel to Ocean Road. Further analysis will be required to determine the appropriate cross-section and alignment.	Ocean Road from Laneda Avenue to Nehalem	\$750,000	 LONG-TERM
R4	CLASSIC STREET TO NECARNEY BOULEVARD CONNECTION: Construct a shared use trail with wayfinding to connect people walking and biking between Necarney Boulevard and Classic Street north of Nehalem Bay State Park. The trail would serve as a connection for people walking and biking in the area until development occurs connecting either Puffin Lane or Sandpiper Lane.	Gary Street to Necarney Boulevard	\$750,000	 LONG-TERM
R6	BAYSIDE GARDENS TO NEHALEM BAY STATE PARK CONNECTION: Provide a separated path for people walking and biking between Bayside Gardens and Nehalem Bay State Park. Further analysis would be required to identify final cross-section and alignment, which is expected to follow Necarney City Road and Classic Street. This project will also require coordination with Oregon State Parks and should also include wayfinding to encourage visitors to walk and bike to the state park.	U.S. 101 to Nehalem Bay State Park	\$4.3M	 LONG-TERM
R9	NEHALEM POINT TO NEHALEM STATE PARK BICYCLE AND PEDESTRIAN CONNECTION: Construct a paved or gravel trail that would connect people walking and bicycling between Manzanita and Nehalem off of U.S. 101. If possible, the trail should be wide enough to provide an additional route off of U.S. 101 in the event of a tsunami evacuation. More analysis will be required to determine the final alignment, cross-section, and recommended surface.	Nehalem Point Drive to Nehalem State Park	\$2.5M	 LONG-TERM



Table 2 | High Priority Projects

ID	Project Name & Description	Extents	Cost	Timeline
R12	SALMONBERRY TRAIL: Construction of the Salmonberry Trail in the Nehalem Bay region was identified as a high priority by community members in all three communities. This portion would create a new connection for people walking and bicycling between Wheeler and Mohler that would not require the use of U.S. 101 or OR 53, neither of which are accessible to users of all ages and abilities. This project would construct the portion of the Salmonberry Trail from Wheeler to Mohler. Based on the feasibility study, completed in 2017, this segment of the trail is assumed to be a “rail-with-trail” segment with the trail located to the west of the existing rail line.	Wheeler to Mohler	\$9M	 LONG-TERM
R15	SEASONAL CIRCULATOR SHUTTLE: Coordinate with the Tillamook County Transportation District to operate a seasonal circulator providing service between Manzanita, Nehalem, Wheeler, and Mohler with stops at Nehalem Bay State Park and Neahkahnie Trailhead. This route could be operated with trolleys to enhance visitor experience. Shuttle would be assumed to operate from Memorial Day through Labor Day, Friday through Sunday on holiday weekends, and Saturday- Sunday on typical summer weekends with service beginning at 9AM and ending at 7PM with 30-minute headways. Additional coordination would be needed to determine the appropriate location for stops within each city.	-	\$45,000/season (dependent on operations)	 MEDIUM-TERM
U1	WIDEN U.S. 101 SHOULDERS & ADD RUMBLE STRIPS: Widen shoulders on U.S. 101 to ODOT standard to support bicycle travel and add rumble strips to improve safety.	Manzanita City Limits to Nehalem City Limits	\$3.7M	 LONG-TERM
U10	EXPLORE OPPORTUNITIES TO LOWER SPEEDS ON U.S. 101: Explore opportunities to low speeds on U.S. 101, which may include a speed study.	U.S. 101 from Manzanita City Limits to Wheeler City Limits	-	 NEAR-TERM
U11	SPEED FEEDBACK SIGNS: Identify locations on U.S. 101 where speed feedback signs may be placed to alert drivers of their speeds. While feedback signs are typically maintained and operated by the local jurisdiction, coordination with ODOT is required to determine where feedback signs may be placed on state highways.	Dependent on further coordination with Oregon Dept. of Transportation	\$40,000 per sign	 NEAR-TERM



CHAPTER 1: INTRODUCTION & TSP OVERVIEW

Introduction

The Nehalem Bay Region, which is made up of the cities of Manzanita, Nehalem, and Wheeler, is home to nearly 1,200 year-round residents and some of the most picturesque coastline in Oregon, which draws hundreds of thousands of visitors each year. The Nehalem Bay TSP was initiated to establish a vision for the transportation system in the Nehalem Bay Region while recognizing the unique context and needs of each of the three communities.

This TSP serves as an important long-range planning tool to ensure the transportation system within each city and the region can meet community needs and conform to state and regional policies.

This document meets the state requirements for a TSP and acts as a resource for staff, decision makers and the public. The TSP also identifies the preferred multi-modal transportation system, including a network of facilities adequate to serve local, regional, and state transportation needs. It is the principal document used for identifying the function, capacity, and location of future facilities, directing resources to transportation projects, and providing the community with the level of investment that will be needed to support anticipated growth and development over the next 20 years.

This TSP will also serve as the transportation element of each city's Comprehensive Plan as required by state law. Goals and policies were identified at an early stage of the TSP development and are adopted as the Goal 12: Transportation element of the Comprehensive Plan. These goals and policies will help to guide future decisions and make the transportation system envisioned in this document a reality.

This TSP serves as:



A blueprint for transportation investments;



A coordination tool with regional agencies and local jurisdictions;



A compilation of existing and future transportation needs related to pedestrians, bicycles, transit, automobiles, and freight.



Background & Regulatory Context

There are numerous state, regional, and city plans that influenced the development of this TSP. State and regional plans provided a regulatory framework for the analysis and elements incorporated in the TSP, while the cities' plans provided local context. This TSP is consistent with and complementary to the work that has already been done in the region, while responding to changing conditions.

State & Regional Context

The Oregon Revised Statutes require that the TSP be based on the current Comprehensive Plan land uses and that it provides for a transportation system that accommodates the expected growth in population and employment that will result from implementation of the land use plan. Development of this TSP was guided by Oregon Revised Statute (ORS) 197.712 and the Department of Land Conservation and Development (DLCD) administrative rule known as the Transportation Planning Rule (TPR, OAR 660-012).

The TPR requires that alternative travel modes be given consideration along with the automobile, and that reasonable effort be applied to the development and enhancement of the alternative modes in providing the future transportation system. In addition, the TPR requires that local jurisdictions adopt land use and subdivision ordinance amendments to protect transportation facilities and to provide walking and bicycling facilities between residential, commercial, and employment/institutional areas. It is further required that local communities coordinate their respective plans with the applicable county, regional and state transportation plans.

Local Plans

The development of the TSP began with a review of local plans and policies that guide land use and transportation planning in Nehalem Bay. The Nehalem Bay TSP incorporates other transportation planning efforts as outlined on the following page.

These previous planning efforts informed the understanding of existing and future conditions, shaped the vision, goals, and policies, and were the starting point for the projects included in this TSP. More information on these plans is provided in Volumes 2 through 4 for each of the cities.





May 2023

Plans that informed development of this TSP include:

- Tillamook County TSP (2005)
- Manzanita Trail Plan (2021)
- Manzanita Downtown Transportation Plan (2003)
- Manzanita Comprehensive Plan (last amended 2014)
- Nehalem Downtown Transportation Plan (2003)
- Nehalem Comprehensive Plan (last amended 2019)
- Wheeler Comprehensive Plan (last amended 2007)
- Wheeler Transportation System Plan (2001)
- Wheeler Waterfront Development Plan (revised 2008)
- Salmonberry Trail Coast Segment Planning Study (2017)





Organization of the TSP

The Nehalem Bay TSP is organized into the following Volumes:

- **Volume 1: TSP Overview & Regional Projects** provides an overview of the TSP process, including public involvement, stakeholder input, and regional recommendations and projects.
- **Volume 2: Manzanita TSP** presents the TSP developed for the City of Manzanita. This includes an overview of existing and future transportation conditions in the City, local goals and policies, networks for all modes, projects identified for Manzanita, and the 20-year funding forecast expected to be available for transportation projects.
- **Volume 3: Nehalem TSP** presents the TSP developed for the City of Nehalem. This includes an overview of existing and future transportation conditions in the City, local goals and policies networks for all modes, projects identified for Nehalem, and the 20-year funding forecast expected to be available for transportation projects.
- **Volume 4: Wheeler TSP** presents the TSP developed for the City of Wheeler. This includes an overview of existing and future transportation conditions in the City, local goals and policies networks for all modes, projects identified for Wheeler, and the 20-year funding forecast expected to be available for transportation projects.
- **Volume 5: Technical Memorandums** include the technical memoranda that were prepared in support of the Nehalem Bay TSP.





CHAPTER 2: TSP DEVELOPMENT

This chapter summarizes two key components that informed development of the TSP: public involvement and the regional goals and objectives.

Public Involvement Summary

Throughout development of the TSP, community members, business owners, and visitors were engaged to help shape the future of transportation in Nehalem Bay. The outreach conducted and key takeaways from the feedback received are summarized below.

Public input informed development of the Nehalem Bay TSP from start to finish. To ensure that the TSP reflects input from across the region, the following tools were used to gather input and feedback from community members and people with local knowledge:

- A Planning Advisory Committee (PAC) that included local representatives from each community
- Assistance and review by agency representatives from the three cities, the Oregon Department of Transportation (ODOT), and Tillamook County
- A project website
- Virtual events and online surveys
- Targeted digital and printed advertisements
- An in-person open-house
- Planning Commission and City Council briefings
- Public hearings as part of the adoption process

Outreach Activities

The events below were used to gather input from community members at key milestones in the TSP process. For a summary of input gathered for each community, see Volumes 2-4.

- **Project Website** – A project website was created to host project materials, conduct online surveys, and solicit feedback throughout the TSP process.
- **Community Event #1** - The first public event was a virtual open-house that provided an opportunity for community members to provide feedback on existing conditions findings and the Goals and Objectives. Community members also identified transportation concerns and ideas through an interactive map and an online survey.
- **Community Event #2** – The second public event included separate community conversations with members from each city. These online discussions were paired with a virtual open-house where community members could review the draft list of projects for the region and give feedback on the recommended improvements and strategies.



- **Community Event #3** – The third public event provided an opportunity for community members to review the updated project list and provide input on which projects should be identified as high priority for the region and each of the three cities. This event included an opportunity to participate in-person or by visiting the virtual open-house.

Overreaching Outreach

To guide development of the TSP, the project team relied on the PAC, which included three to five community members from each of the three cities. This group provided local background and context and vetted key pieces of the TSP throughout the process. Touchpoints with the PAC included:

- Overview of existing conditions and challenges and draft goals
- TSP objectives and evaluation criteria
- Review of the draft project list
- Review of proposed high-priority projects

The project team also provided updates to the Planning Commission for all three cities ahead of the second and third community events.

Title VI and Environmental Justice (EJ) Outreach

While Nehalem Bay does not have any one particularly prominent Title VI population, the demographic analysis completed for this project found that residents 65 years and older represent a large group and may benefit from additional outreach. Lower income populations may have also been underrepresented in previous outreach and typically experience more barriers to engaging with public involvement events due to limited availability.

Title VI and EJ Outreach for this project aimed to create opportunities for these groups to engage in the process.

- **Community Event #1**
Title VI and EJ outreach efforts focused on making sure community members, especially senior citizens, and low-income residents, were aware of the opportunity to participate.

To promote the event, the local Meals on Wheels organization was contacted and asked to distribute flyers promoting the online open-house, including instructions on how to participate, to seniors along with their meals ahead of the event.

All materials distributed to promote the event and the online open house included information on how to request materials in languages other than English as needed.

- **Community Event #2**
The second community event was also facilitated online as the project team was not able to identify a location to host in-person meetings that allowed for necessary COVID-19 precautions and ADA compliant access. All materials distributed to promote the event and the online open house included information on how to request materials in languages other than English as needed. Translators were also made available upon request to ensure that Spanish speaking community members were able to participate in the events.
- **Community Event #3**
As the timing of the third community event allowed for in-person engagement with fewer COVID-19 precautions, Title VI and EJ outreach efforts for this event, included in-person tabling.

To engage with people where they were and promote the opportunity to participate in the third community event, the project team and City staff tabled at the Manzanita Farmers Market four days before the in-person open house. This presented an opportunity to engage with people who chose not to participate in earlier online events and to share the upcoming opportunity to participate with community members from Manzanita, Nehalem, and Wheeler.



Promotional materials promoting the event also included information on how to request materials other than English and translators were made

available upon request to ensure that Spanish speaking community members were able to participate in the open-house.

Regional Goals & Objectives

This section presents the goals, objectives, and evaluation criteria that were developed to align the outcomes of this TSP with the needs, desires, and vision of the entire Nehalem Bay Region. The goals, objectives, and evaluation criteria were developed based on input from each communities’ PAC and vetted by community members. Goals, objectives, and policies for each community are presented in Volumes 2 through 4

Community Touchpoint #1 – Goals & Objectives

The first touchpoint with the community, an online open house that occurred in Summer 2021, provided an opportunity for community members to share transportation issues and barriers to traveling that the TSP should address. Input gathered during this touchpoint was used to ensure that the goals and objectives aligned with the community desires and would result in recommendations that address existing problems.

Input gathered through the first touchpoint with the communities that informed the regional goals and objectives includes:

- Consideration for the changes in quality of life that local residents experience when travel is impacted by seasonal increases in traffic and summer tourism
- A need for more options to walk and bicycle in the Nehalem Bay region; specifically, off of U.S. 101
- A desire to see existing infrastructure improved to better meet the needs of people of all ages and abilities
- Recognition that local funding for transportation is limited; therefore, solutions in the TSP should focus on leveraging funding from grants and be designed to minimize ongoing maintenance costs

Goals & Objectives

These goals build on past planning efforts and are consistent with other local and regional planning, while reflecting the changing transportation landscape as the region plans for growth. Each goal is supported by objectives which are focused and measurable ways by which the goals can be achieved.

Table 3 on the following page outlines goals and objectives.






Table 3 | Regional Goals & Objectives

Goal	Objectives
 <p>GOAL #1: QUALITY OF LIFE Create a transportation system that provides equitable multimodal access for underserved and vulnerable populations and balances the needs of local travelers and regional through-traffic.</p>	<ol style="list-style-type: none"> 1. Provide equitable access for underserved and vulnerable populations by requiring ADA compliance for new transportation infrastructure and upgrading existing infrastructure that does not meet ADA standards. 2. Increase connections to recreational opportunities by supporting the development of planned regional bicycle and pedestrian trails, including the Salmonberry Trail, Oregon Coast Trail, and Tillamook County Water Trail. 3. Create comfortable downtown spaces by identifying appropriate streetscape improvements, including landscaping, pedestrian scale lighting, benches, and street trees. 4. Reduce vehicle travel between cities by exploring options for visitors to ‘park once’, such as a regional shuttle service or water taxi.
 <p>GOAL #2: CREATE SAFE CONNECTIONS Create safer connections between the Nehalem Bay communities for people walking, biking, or using other non-auto modes and identify strategies to reduce crashes for all users when traveling on U.S. 101.</p>	<ol style="list-style-type: none"> 1. Identify key non-motorized routes between the Nehalem Bay communities and prioritize pedestrian and bicycle facilities on these routes. 2. Connect businesses and recreational destinations with neighborhoods by enhancing pedestrian and bicycle crossings on U.S. 101. 3. Improve areas with higher crash risk by improving the visibility of transportation users in constrained areas, such as on hills and blind curves. 4. Address known safety issues at locations with fatal or severe injury crashes, crashes involving a bicyclist or pedestrian, and vehicles entering and exiting U.S. 101. 5. Collaborate with ODOT to implement engineering and traffic calming strategies on U.S. 101, where appropriate, to reduce vehicle speeds.
 <p>GOAL #3: PLAN FOR THE FUTURE Collaborate with ODOT and Tillamook County to create a transportation system that is resilient to extreme weather events, able to safely accommodate evacuation and recovery efforts, and consistent with the goals and objectives of each City, Tillamook County, and the state.</p>	<ol style="list-style-type: none"> 1. Maintain local infrastructure so that facilities can withstand extreme weather events and aid in evacuation efforts. 2. Improve traffic circulation and access for fire and emergency vehicles. 3. Collaborate with ODOT to develop and implement improvements to U.S. 101 that fit the land use context and are consistent with Highway Design Manual (HDM) and other local and regional planning efforts.



Table 3 | Regional Goals & Objectives

Goal	Objectives
 <p>GOAL #4: SUPPORT FISCAL RESPONSIBILITY</p> <p>Plan for a transportation system that is financially viable with consideration for life cycle costs by identifying new funding sources to make local dollars go farther.</p>	<ol style="list-style-type: none">1. Develop transportation solutions that are cost effective.2. Identify outside funding sources for transportation projects such as grants, developer contributions, or transportation system charges.3. Prioritize investments and maximize partnerships to provide maximum benefit and return on investment for the associated cost.4. Consider future operation and maintenance costs in investment choices.





Evaluation Criteria

The evaluation criteria, presented in **Table 4**, were used to evaluate each potential project’s alignment with the TSP goals. The Evaluation criteria was vetted by the PAC to ensure that the evaluation process resulted in projects that aligned with the desired outcomes of the TSP process.

Table 4 | Evaluation Criteria

Goal	Evaluation criteria
 1. QUALITY OF LIFE	Project improves access for underserved or vulnerable populations.
	Project improves a route predominately used by local travelers off U.S. 101.
	Project improves the experience of people traveling through Nehalem Bay.
 2. CREATE SAFE CONNECTIONS	Project addresses a location with a history of fatal/severe injury crashes and/or bike/ped crashes.
	Project creates new connections off U.S. 101 for active transportation modes between Nehalem Bay communities.
	Project includes a traffic calming element aimed at slowing vehicle traffic to improve safety and comfort for active transportation users.
	Project addresses a location with a latent risk of crashes.
 3. PLAN FOR THE FUTURE	Project maintains or rebuilds critical infrastructure; or improves access for emergency vehicles.
	Project includes a maintenance component on local roads.
	Project improves U.S. 101 consistent with ODOT’s HDM or other regional planning efforts.
 4. SUPPORT FISCAL RESPONSIBILITY	Project builds on investments in transportation funded primarily by entities other than the cities. (state, regional, county, grants, or development impact fees).
	Project decreases future operation and/or maintenance costs.



CHAPTER 3: THE REGIONAL TRANSPORTATION SYSTEM

This chapter documents the existing land use and transportation conditions in Nehalem Bay, changes expected to occur by 2040 resulting from continued growth in the region, and recommended changes to the transportation system to accommodate expected growth.

This inventory documents the existing transportation infrastructure facilities and services within the city limits and urban growth boundaries (UGBs), and other important planning considerations, including the location of natural resources and areas where sociodemographic groups with higher transportation needs reside.

Plan Area

Located on the northern Oregon coast in Tillamook County, the Nehalem Bay planning area is composed of the cities of Manzanita, Nehalem, and Wheeler. The three cities are arranged around the bay where the Nehalem River meets the Pacific Ocean and are connected by U.S. 101, as shown on **Figure 1**. Within Nehalem Bay, visitors and part-time residents with second homes in the region, account for a large portion of trip-making, specifically during summer months. With the largest supply of housing and accommodations in Manzanita, many visitors stay in Manzanita and then travel to the other cities and key destinations in the area, creating a large number of trips between the three communities.

Manzanita has an estimated population of 617 people and has the largest land area of the three cities. It is also the only city with direct beach access, making Manzanita a popular location for second-homes and short-term rentals. U.S. 101 provides access to the City at Manzanita Avenue and Laneda Avenue, the City's main commercial corridor. The Manzanita

UGB encompasses a section of the Bayside Gardens neighborhood located between Manzanita and Nehalem in unincorporated Tillamook County.

Nehalem is located between Manzanita and Wheeler, with U.S. 101 serving as its main street. With a population of 276 people, it is bounded by the Nehalem River to the east. Nehalem's UGB encompasses a large portion of the Bayside Gardens neighborhood between Manzanita and Nehalem and stretches north and south of the City boundary along the Nehalem River.

Wheeler is the southern-most city in Nehalem Bay, and like Nehalem, U.S. 101 is the main commercial corridor. Wheeler has a population of 436 people and is bounded by the Nehalem River on the north side of the city.

Land Use and Key Destinations

Land use paired with the characteristics of the transportation network, provides a distinct experience for people who live, work, or visit a place. Moreover, the types and densities of land uses in a city are major determinants of traffic levels and travel patterns.



Figure 1 | Nehalem Bay Planning Area



- Street
- Railroad
- Urban Growth Boundary (2019)
- Park
- City
- U.S. 101



The location of key destinations such as schools, parks, and public facilities also drives both local and recreational trip making. Within Nehalem Bay, regional destinations include:

- Nehalem Elementary School (Nehalem)
- Nehalem Bay Fire & Rescue (Nehalem UGB)
- Urgent Care (Manzanita UGB)
- Grocery stores (Manzanita, Nehalem)
- Tillamook County Library (Manzanita)
- North County Recreation District (Nehalem)
- Manzanita Beach (Manzanita)
- Nehalem Bay State Park
- Nehalem River (Nehalem & Wheeler)
- Local Shops and Restaurants (Manzanita, Nehalem, and Wheeler)

Roadway System

Streets in Nehalem Bay are owned and maintained by ODOT, Tillamook County, and the Cities. They are designed to fit the purpose that they serve, from longer distance mobility on the highway to neighborhood circulation.

Functional Class

Roadways are assigned a functional classification to indicate purpose, design, and function. General descriptions of functional classes are as follows:

- **Principal arterials** carry the highest volume of traffic of any roadway type below grade-separated freeways and provide regional connections. Mobility is a priority on principal arterials and access control is important.
- **Arterials** are designed for higher volumes but carry fewer regional trips. These streets link major commercial, residential, industrial, and institutional areas.
- **Collectors** distribute trips between local streets and arterials. They serve as transition roadways between commercial and residential areas and provide a citywide circulation function. Collectors can be split into **Major** and **Minor** collectors, with major collectors generally having longer

lengths, higher speed limits, higher traffic volumes, and more travel lanes than minor collectors. Major collectors offer more mobility and minor collectors offer more access.

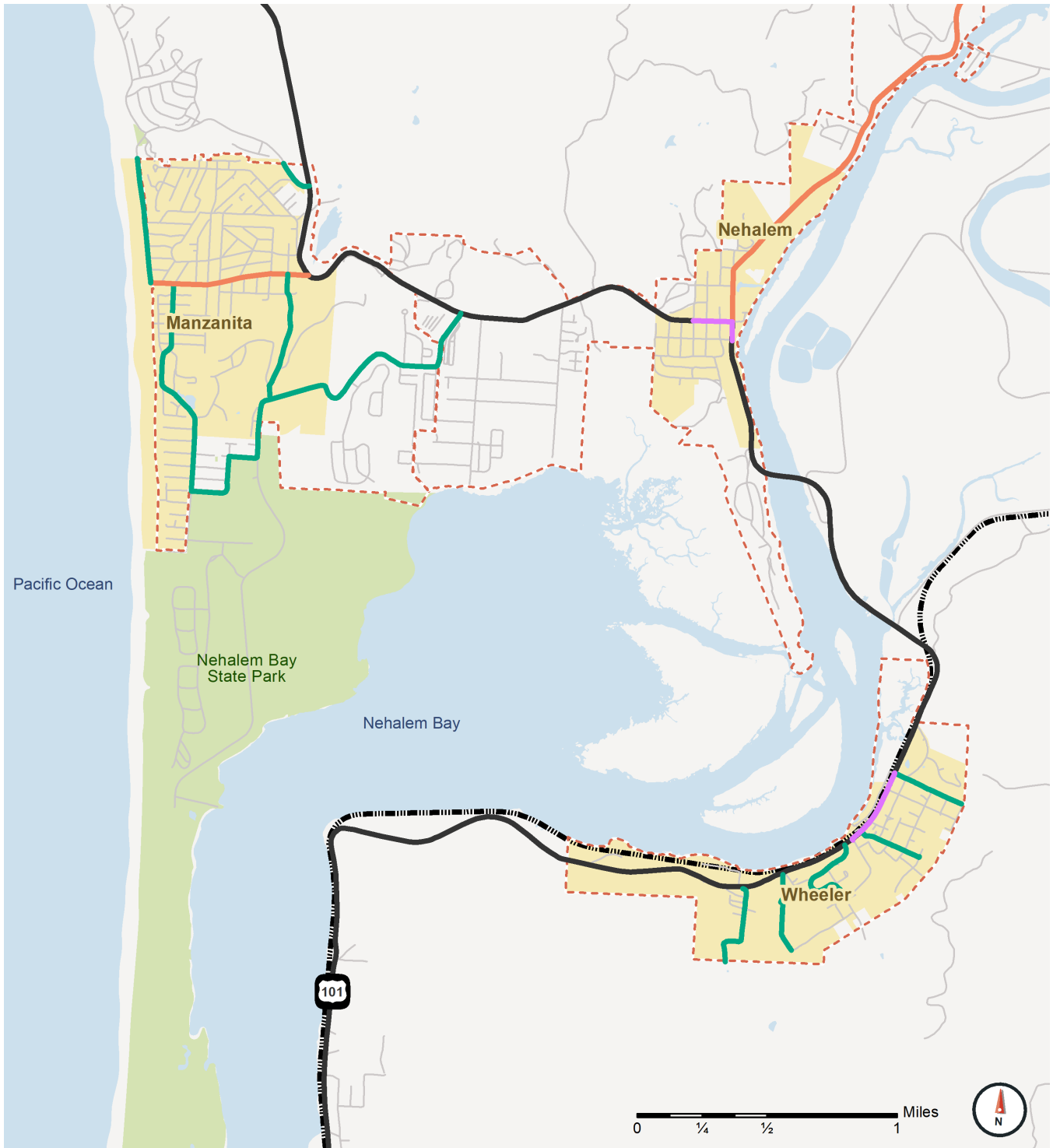
- **Local streets** are the lowest functional classification. They provide circulation within residential neighborhoods, provide access to homes and properties, and serve a slower-moving mix of modes.

Nehalem Bay’s street network contains a mix of collector and local streets as shown on **Figure 2**, which connect users to local main streets and U.S. 101. The jurisdiction and functional classification of roadways in Nehalem Bay that are classified as collectors or higher are shown in **Table 5**.





Figure 2 | Nehalem Bay Roadway Classification



- Principal Arterial
- Major Collector
- Minor Collector
- Local
- Special Transportation Area
- Urban Growth Boundary (2019)
- Railroad
- Park
- City

0 ¼ ½ 1 Miles





Table 5 | Roadway Jurisdiction and Functional Classification

STREET	Location	jurisdiction	functional classification
U.S. 101	Study Area	ODOT	Principal Arterial
Laneda Avenue	Manzanita	Manzanita and Tillamook County	Major Collector
7 th Street / North Fork Road	Nehalem	Tillamook County	Major Collector
Necarney City Road	Nehalem UGB	Tillamook County	Minor Collector
Ocean Road	Manzanita	Tillamook County	Minor Collector
Nehalem Road	Manzanita	Tillamook County	Minor Collector
Carmel Avenue/ Necarney Boulevard	Manzanita	Manzanita	Minor Collector
Classic Street	Manzanita	Manzanita	Minor Collector
Sitka Lane	Manzanita UGB	Tillamook County	Minor Collector
Sandpiper Lane	Manzanita UGB	Tillamook County	Minor Collector
Gary Street	Manzanita UGB	Tillamook County	Minor Collector
Hemlock Street	Wheeler	Wheeler	Minor Collector
Gregory Street	Wheeler	Wheeler	Minor Collector
Hospital Road	Wheeler	Wheeler	Minor Collector
Dubois Street	Wheeler	Wheeler	Minor Collector
S. Pennsylvania Avenue	Wheeler	Wheeler	Minor Collector





Both Nehalem and Wheeler have a Special Transportation Area (STA) designation for U.S. 101 through the cities. An STA is an ODOT highway segment designation for an existing downtown or planned downtown that straddles the state highway. The primary objective of an STA is to provide access to community activities and businesses to accommodate pedestrian, bicycle and transit movement. These areas must balance the need for appropriate local access with the considerations of highway mobility. Within Nehalem and Wheeler, the surrounding context is defined as Rural Community as defined in ODOT's HDM. This urban context is used to define who the road should be designed to prioritize (types of trips and users) and the space that should be allocated to each.

Freight Routes

Freight movement is essential to bring goods to residents and to move products throughout the region. In Nehalem Bay, U.S. 101 is designated by the Federal Highway Association as part of the National Highway System, which is defined as roads that are important to the nation's economy, defense, and mobility. U.S. 101 is the only designated freight route in Nehalem Bay, and must balance the needs of residents, visitors, and goods. It is also classified by ODOT as a Reduction Review Route, which are facilities that require review during any planning, project development, development review and maintenance for any potential reduction in vehicle-carrying capacity. These routes may not have any permanent reduction in the vehicle-carrying capacity unless required for safety or access considerations, or through a local exemption.

Traffic Operations

ODOT's inventory of annual average daily volume (AADT) along U.S. 101 was used to evaluate available capacity on U.S. 101 through the planning area.

Existing capacity was evaluated by calculating the volume-to-capacity (v/c) ratio. The v/c ratio is calculated by dividing the measured traffic volume by the capacity of the roadway. A v/c ratio over 0.85 indicates that a roadway is approaching capacity and a v/c ratio over 1.0 indicates that demand for the roadway exceeds available capacity. As shown in **Table 6**, the existing v/c ratio for all U.S. 101 segments is well below 1.0, indicating that there is adequate capacity to serve demand. For more detail on the existing conditions analysis, see **Technical Memorandum (TM) #5: Existing Conditions Assessment**, included in Volume 5.

To forecast future traffic volumes on U.S. 101, ODOT's Future Volume Tables (FVT) were used. These tables provide the current and forecasted AADT on ODOT facilities throughout the state. The FVT indicates that the volumes on U.S. 101 are expected to grow between 0.1 and 2.5 percent annually from 2018 to 2039.

Mobility targets for U.S. 101 are documented in the Oregon Highway Plan (OHP). The OHP sets a v/c target of 0.8 to 0.85 for U.S. 101 within the UGB and 0.70 outside the UGB. As shown in **Table 6** and **Figure 3**, all segments have a v/c ratio significantly below the targets defined in the OHP under existing and future conditions, an indication that no additional capacity is needed on U.S. 101 between now and 2040.



Table 6 | Roadway Segment 30th HV V/C

ID	Segment	v/c target ¹	existing v/c ²	2040 v/c ²
1	Manzanita City Limits to Laneda Avenue	0.80	0.31	0.37
2	Laneda Avenue to Manzanita City Limits	0.80	0.42	0.40
3	Manzanita City Limits to 7th Street	0.85	0.39	0.38
4	7 th Street to Nehalem City Limits	0.90	0.39	0.51
5	Nehalem City Limits to Necanicum Highway	0.70	0.35	0.35
6	Necanicum Highway to Wheeler City Limits	0.80	0.32	0.30
7	Hemlock Street to Wheeler City Limits	0.90	0.30	0.32

¹ v/c targets taken from the OHP Table 6 based on highway category and posted speed.
² v/c calculated using Highway Capacity Software for a two-lane highway and reported for the peak direction.





Figure 3 | U.S. 101 2040 V/C Results





Intersection operations analysis was conducted at two key intersections in Nehalem Bay: U.S. 101 & 7th Street (Nehalem) and U.S. 101 & Hemlock Street (Wheeler). Level of service (LOS) is a standard method for characterizing delay at an intersection based on delay experienced by drivers. For the study intersections, which are all-way stop-controlled (AWSC) intersections, the LOS is based on the average delay for all approaches. As shown in **Table 7**, both intersections operate at LOS C and have v/c ratios below the mobility targets identified in the OHP. Queueing was

also evaluated as part of the intersection analysis. No movements were found to exceed available storage or have queues that would impact traffic flow. It is important to note that during peak seasonal travel, driver unfamiliarity with the configuration at the U.S. 101 & 7th Street intersection has been reported to cause an increase in congestion, specifically for eastbound vehicles turning right.

Table 7 | Intersection Operations

ID	intersection	V/C Target	Existing Conditions			Future (2040) Conditions		
			Delay (seconds) / LOS	minor street v/c	major street v/c	Delay (seconds) / LOS	minor street v/c	major street v/c
1	U.S. 101/7 th Street (Nehalem)	.90	17/C ¹	0.38 ¹	0.27	18/C ¹	0.43 ¹	0.31
2	U.S. 101/Hemlock Street (Wheeler)	.90	17/C	0.03	0.10	22/C	0.23	0.10

¹Metric reported for the leg with the highest delay and v/c due to non-standard configuration. Volume data for analysis was collected in March 2021 and adjusted to account for the effects of COVID-19 and an increase in travel resulting from summer travel.





Safety

Crash data, available from ODOT, was evaluated to identify any locations where the existing design or surrounding context may be a factor in crashes occurring in the region. This evaluation analyzed crash data from a five-year period from 2014 to 2018 as this was the most recent data available at the time the analysis was completed.

Between 2014 and 2018, there were 78 crashes recorded on the roadways within the UGBs and on U.S. 101 between Manzanita and Wheeler. Most of the reported crashes (67 percent) occurred on U.S. 101 and 53 percent of all crashes occurred in unincorporated areas.

Figure 4 shows the location and severity of all crashes that occurred in Nehalem Bay over the time period analyzed. As shown, there were no fatal crashes between 2014 and 2018 and the one severe injury crash occurred on U.S. 101 just outside the Manzanita city limits but within the UGB. The only crash involving a bicyclist also occurred on U.S. 101 within the Manzanita UGB.

Each year ODOT develops a safety priority index system (SPIS) for the state system. This index is based on a systemic evaluation of safety across the state system and used to identify high priority locations where improvements are needed to address a safety issue. As of 2021, there are no top 15 percent SPIS locations in the study area.

Transit

NW Connector

Public transportation in the region is provided by Tillamook County Transportation District (TCTD), operating the NW Connector. The NW Connector Route 3 which runs daily through Nehalem Bay, with a frequency between two and three hours. The route has a total of five scheduled stops through Nehalem Bay, three in Wheeler and one each in Manzanita and Nehalem as shown on **Figure 5**.

Stop #189 in Wheeler and the stops in Nehalem and Manzanita have transit shelters for riders, benches, and schedule information. The Rinehart Clinic stop in Wheeler, located in front of the health clinic has shelter and a bench, while the stop at Hemlock Street has only a bench and no signage stating that it is a bus stop. Riders may also flag the bus anywhere along the route where it is safe to do so. Route 3 extends to the Tillamook Transit Center Northbound and Midtown Cannon Beach Southbound.

Bicycle Network

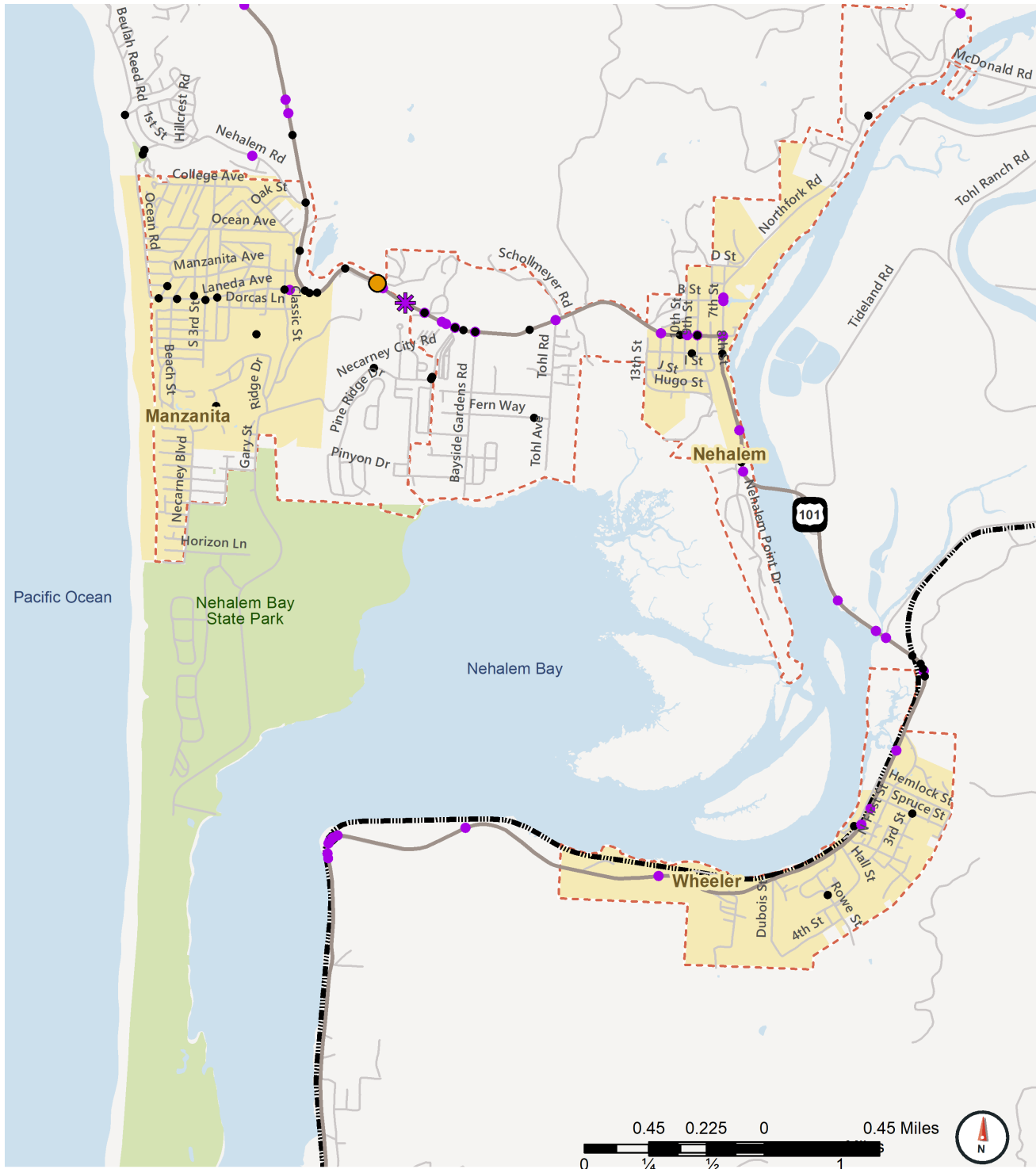
Today, there are no marked bicycle facilities connecting Manzanita, Nehalem, and Wheeler. U.S. 101 is designated as the Oregon Coast Bike Route; however, the bicycle facility is a paved shoulder with a minimum width of 3 feet, and a maximum width of 8 feet. The Statewide Active Transportation Needs Inventory identified where there are gaps in the sidewalk and bicycle networks and where existing facilities do not meet ODOT's minimum standard of six-foot wide bike lanes, eight-foot wide buffered bike lanes, or eight-foot wide shoulders depending on the highway characteristics. Only a portion of U.S. 101 between Nehalem and Necanicum Highway currently meets the standard. The existing bicycle network in Nehalem Bay is shown on **Figure 6**.

Pedestrian Network

Sidewalks and marked crossings are generally present within the commercial core of each city. However, there are few sidewalks outside of the commercial cores, including along U.S. 101 between the cities and pedestrians must use the wide shoulder. Pedestrian facilities include sidewalks, crosswalks, and curb ramps. There are three marked crossings of U.S. 101 in Nehalem, two in Wheeler, and none in Manzanita. The existing pedestrian network in Nehalem Bay is shown on **Figure 7**.



Figure 4 | Nehalem Bay Crash Locations Between 2014 and 2018

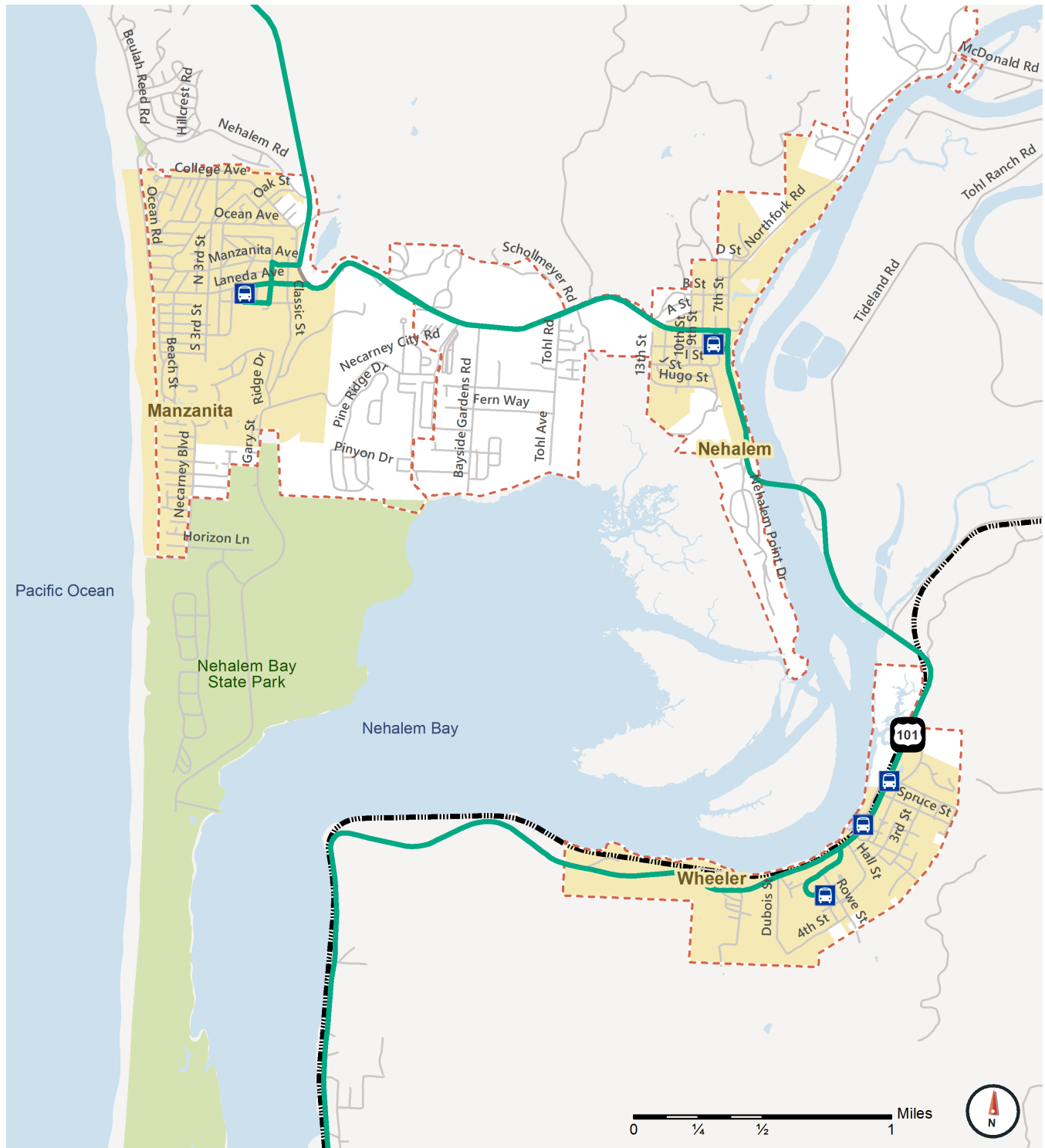


- Local Street
- Railroad
- - - Urban Growth Boundary (2019)
- Park
- City
- Suspected Serious Injury
- Minor Injury
- Fatal
- Non-Fatal Injury
- ✱ Bicyclist Injured
- Property Damage Only





Figure 5 | Transit Routes in Nehalem Bay



- NW Connector Route 3
- Bus Stop
- Urban Growth Boundary (2019)
- City
- Park
- Railroad



Figure 6 | Existing Bicycle Network in Nehalem Bay



- Shoulder > 5ft
- Shared Lane
- City
- Park
- Urban Growth Boundary (2019)
- Railroad
- U.S. 101
- Local Street



Figure 7 | Existing Pedestrian Network in Nehalem Bay



- Sidewalk Present on 2 sides
- Sidewalk Present on 1 side
- Crossings
- City
- Park
- Railroad
- U.S. 101
- Local Street



Other Modes

Aviation

The Nehalem Bay State Airport, which is located within the Nehalem Bay State Park, is a publicly owned airport open to general private aviation. The airport features one paved runway that is 2,350 feet long and offers fly-in camping.

Marine

Nehalem Bay and the Nehalem River are designated as part of the National Waterway Networks by the U.S. Army Corps of Engineers as far inland as the westernmost edge of Lazarus Island. They are also designated as a Tillamook County Water Trail, which is a waterway connected through signs, maps, and access points to provide a recreational and educational experience for non-motorized recreational users. There are many private and public docks, marinas, and boat launches in Nehalem Bay. Public docks and boat launches include the Tillamook County Boat Launch off U.S. 101 between Nehalem and Wheeler, the Nehalem Bay State Park Boat Launch in Manzanita, the Waterfront Park Dock in Wheeler, and the H Street and Tohls Street Docks in Nehalem.

Rail

A segment of the 46-mile rail line travels parallel to U.S.101 south of the intersection of U.S. 101 and OR 53 and is under lease from the Port of Tillamook Bay Railroad. There are three at-grade rail crossings in Wheeler, which are stop-controlled eastbound towards U.S. 101 and yield-controlled westbound away from U.S. 101.

Oregon Coast Scenic Railroad

The Oregon Coast Scenic Railroad is a heritage railroad that operates seasonally between Rockaway Beach and Garibaldi, with special trips to Wheeler. Tickets are round-trip and can be booked in advance. The Wheeler depot is located at U.S. 101 & Rector Street, east of Waterfront Park.

Pipeline

There are no pipelines within the study area.

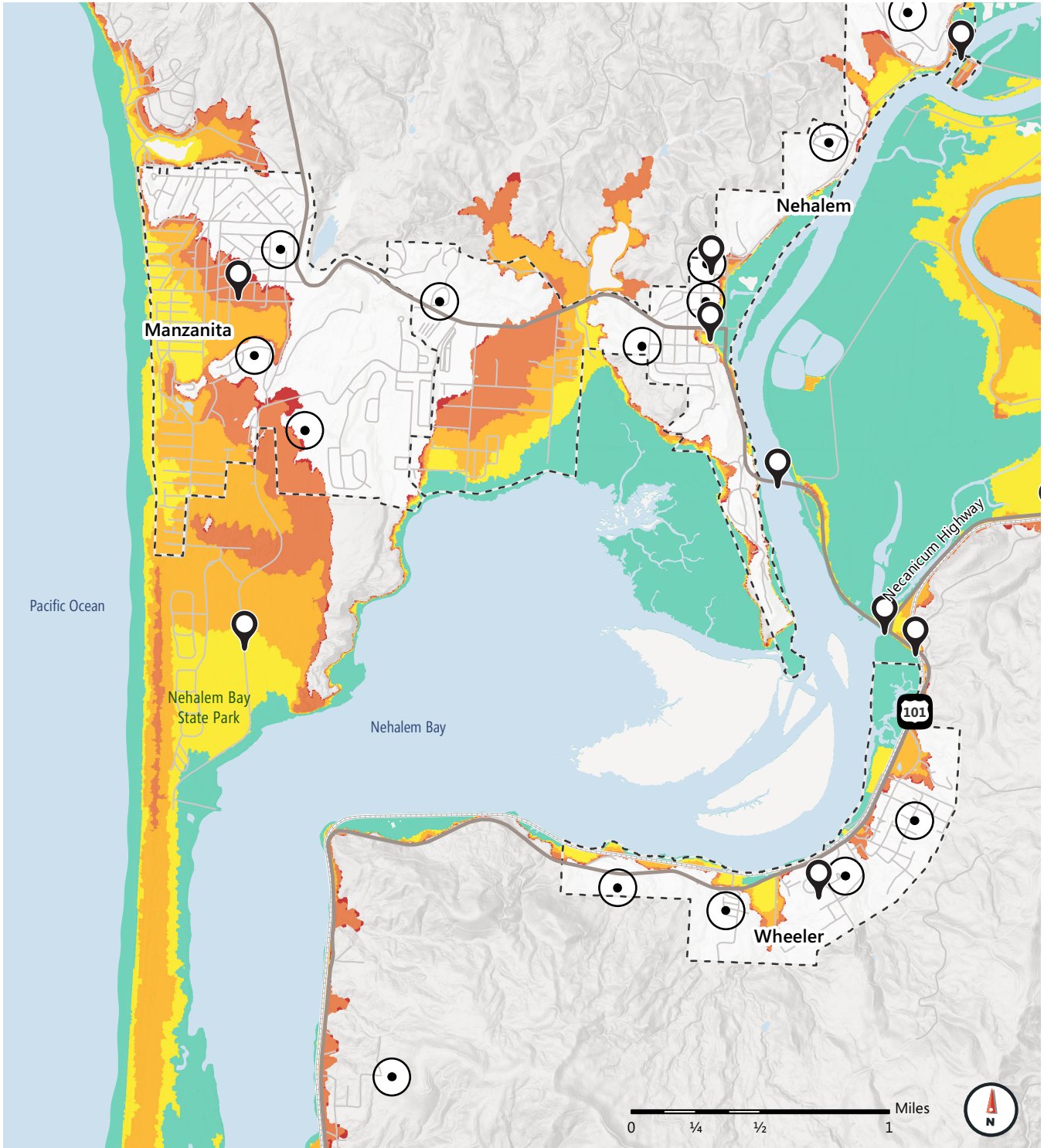
Tsunami and Hazard Evacuation

According to the Oregon Department of Geology and Mineral Industries, the Nehalem Bay area is at risk for tsunamis caused by both the Cascadia Subduction Zone (CSZ) and the Alaska-Aleutian Subduction Zone (AASZ). The smallest CSZ tsunami is projected to inundate 2.3 percent of the Nehalem Bay area, with the City of Manzanita falling outside of the inundation zone, the zone likely to be flooded in the event of a tsunami. The largest CSZ tsunami is projected to inundate 48.6 percent of the Nehalem Bay area, with a greater proportion of Manzanita falling within the inundation zone than Nehalem and Wheeler. A map of the CSZ's inundation zone in Nehalem Bay is shown in **Figure 8**. Tsunamis in Nehalem Bay caused by the AASZ are significantly smaller, with the largest possible tsunami inundating less than 1 percent of the Nehalem Bay area. The City of Manzanita does not fall in the AASZ inundation zone while Nehalem and Wheeler do.

There are fifteen assembly locations within the UGB study area in the event of a tsunami and hazard evacuation. Six are located in the Wheeler UGB, six in the Nehalem UGB, and three in the Manzanita UGB. There are no vertical evacuation shelters constructed or under construction in Nehalem Bay. Wheeler is especially vulnerable to a CSZ event when considering access, with U.S. 101 northbound and southbound out of Wheeler falling within the inundation zone of a small CSZ tsunami. In a large CSZ tsunami, the segment of U.S. 101 between the Alder Creek bridge and Rex Champ Field also falls within the inundation zone.



Figure 8 | Tsunami Evacuation



Statewide Tsunami Inundation Scenario

- Small
- Medium
- Large
- Extra Large
- Extra Extra Large

Critical Facility*

Assembly Area

Urban Growth Boundary (2019)

* As defined by DOGAMI, includes facilities such as schools, medical facilities, and bridges.



CHAPTER 4: REGIONAL PROJECTS

Chapter 4 begins with a summary of community input that informed development of the Regional TSP project list. This is followed by the 33 projects that have been included on the Regional TSP project list based on community input and alignment with the TSP goals. Projects included on the Regional TSP project list are those that cross jurisdictional boundaries and projects located on U.S. 101 outside the three cities. These projects will require coordination between regional agencies, such as Tillamook County and ODOT, and the local cities to implement.

The second and third touchpoints with the community informed development of the project list and identification of high-priority projects.

Community Touchpoint #2 – Draft Project List

The second community touchpoint, which took place in January and February 2022, was held online due to the ongoing COVID-19 pandemic. This touchpoint included a community listening session, which allowed community members to share feedback directly and ask questions about the proposed projects. The community conversation was followed by an online open-house where community members could review the project list and provide feedback through an online survey.

While the majority of respondents said that the proposed list of projects would advance the Region's transportation goals, additional issues and comments that informed updates to the project list include:

- A desire to see projects that primarily focus on accommodating growth by building out the transportation system for people walking and biking rather than a focus people driving
- Desire to see the proposed safety improvements on key roadways such as Classic Street, Necarney City Road, and Ocean Road expanded to include separated facilities for people walking and biking

Community Touchpoint #3 – High Priority Projects

The third community touchpoint included multiple opportunities for community members to share their feedback in-person in addition to an online open-house. These events, which occurred in June and July 2022, shared the proposed TSP project list and asked community members to provide input that was used to identify high priority projects.



Of community members that provided feedback on regional projects, nearly 75 percent of respondents agreed with the draft project list either as presented or with some changes. When asked to identify projects they viewed as high priority within the community the following projects were identified:




- Ocean Road Separated Facilities
- Classic Street Separated Facilities
- Bayside Gardens to Manzanita Bicycle Pedestrian Connection
- Nehalem Point to Nehalem Bay State Park Bicycle and Pedestrian Connection

The Projects

Based on the evaluation that was completed for alignment with the goals and feedback from the community, a set of high priority regional projects were identified. High priority projects are those that address multiple needs and are essential to moving Nehalem Bay towards its vision for a safe and connected transportation system for all users. The following pages provide more detail on the recommended projects, beginning with the high priority projects.

A timeline for implementation, shown in **Table 8**, was also identified for each of the projects. The timeline for implementation was determined based on complexity of the project, the amount of coordination required with multiple agencies for implementation, and cost.

Table 8 | Timeline for Implementation

Timeline	Description
 1. NEAR-TERM	Projects identified for near-term implementation are those that could be implemented within the next five years. These projects generally improve existing facilities or improve spot locations and are programmatic in nature.
 2. MEDIUM-TERM	Projects identified for medium-term implementation are likely to require between five and 10 years to implement based on cost and complexity. These projects may cross jurisdictional boundaries, requiring coordination between multiple agencies to implement, require more substantial upgrades to existing facilities or would require construction of off-street facilities.
 3. LONG TERM	Projects identified for long-term implementation are high-cost projects that will require more than 10 years to secure funding and design. Long-term projects are those that would construct new facilities on or parallel to U.S. 101 and would require substantial coordination with agencies and community members in the region.



May 2023

There are five categories of projects that have been identified to meet the needs and desires identified for Nehalem, including:

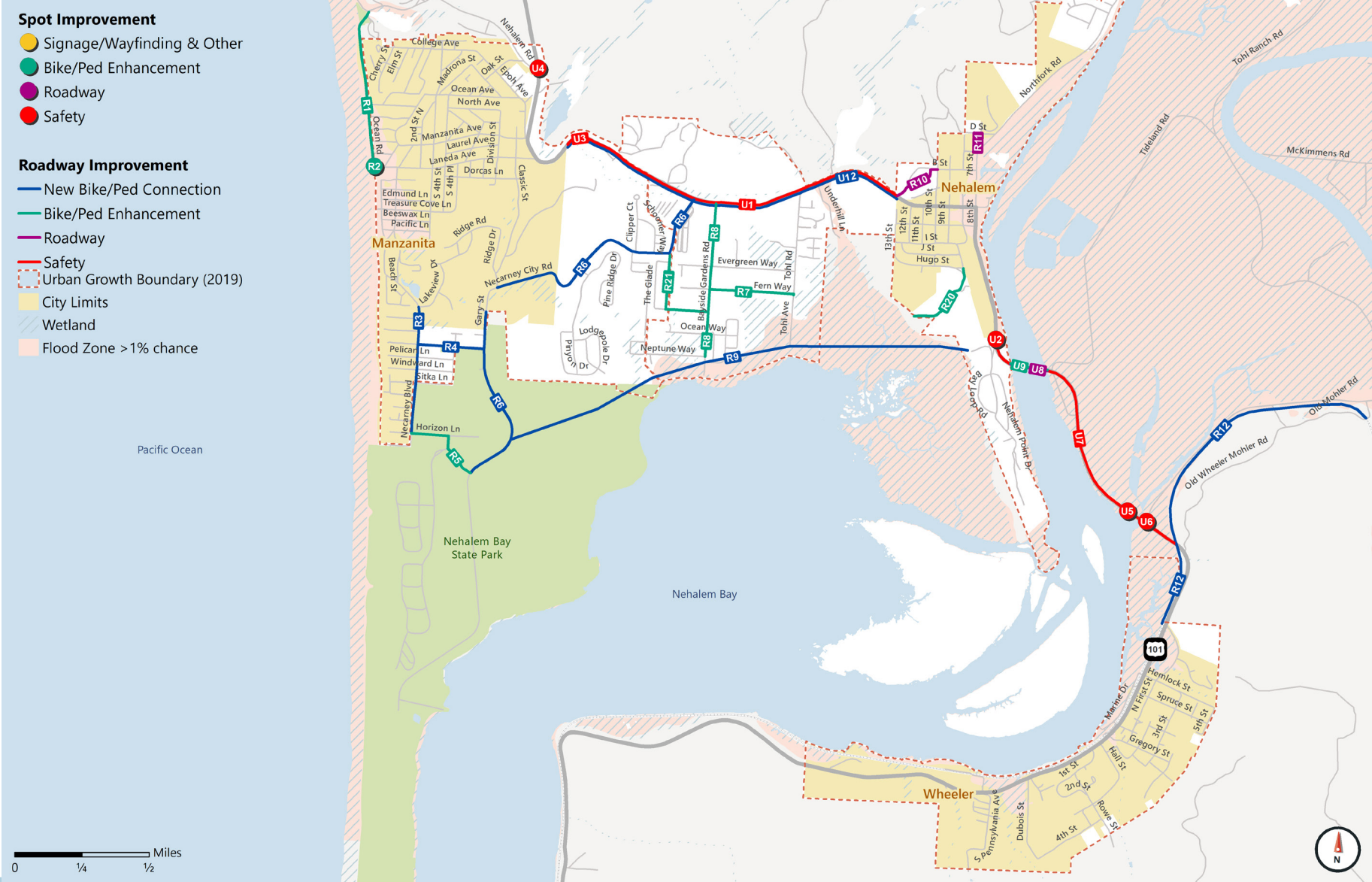
- **Signage/Wayfinding & Other:** These projects would add enhanced signage/wayfinding, primarily to connect people walking and biking to key destinations in the region without driving. Also included are projects that would create “gateways” to the Cities, alerting drivers of the change in context and helping to lower vehicle speeds.
- **Bicycle/Pedestrian Enhancements:** These projects enhance an existing facility to create dedicated space for people walking and biking within the existing Right-of-Way (ROW) or enhance existing separation of modes.
- **Roadway:** These projects address operational deficiencies or improve the quality of a roadway that is currently hazardous or challenging to navigate because of the condition of the roadway.
- **Safety:** Projects identified as safety enhancements address areas where crashes have historically occurred or where a safety concern was shared by community members.
- **New Bicycle/Pedestrian Connection:** These solutions create new facilities for people walking and biking. These solutions may provide a separated space next to an existing roadway or fill a gap between key destinations in the region by creating a new connection.

A map showing the locations of identified project, along with a description, and alignment with the TSP goals can be found on the following pages. Regional projects that are not located on U.S. 101 are identified with a “R” while projects located on U.S. 101 are identified with a “U”. This is followed by more information on the high priority projects.





Figure 9 | Regional Projects



Note: Project U10, U11, R13, R14, R15, R16, R17, R18, and R19 are not shown on the map



Table 9 | Regional Project List

ID	Project Name & Description	Extents	Category	Cost ¹	Timeline
R1	OCEAN ROAD CROSSING ENHANCEMENTS: Enhance crossing Ocean Road crossing at Laneda Avenue with high-visibility markings and advance signage to alert drivers of crossing and a raised intersection.	Laneda Avenue & Ocean Road Intersection	Bike/Ped Enhancement	\$300,000	NEAR-TERM
R2	OCEAN ROAD SEPARATED FACILITIES: Construct a path, providing separated space for people walking and biking, parallel to Ocean Road. Further analysis will be required to determine the appropriate cross-section and alignment.	Laneda Avenue to Nehalem Drive	New Bike/Ped Connection	\$750,000	LONG-TERM
R3	NECARNEY BOULEVARD BICYCLE CONNECTION: Provide bicycle sharrows along with other elements aimed at speed management to connect people biking from the existing bicycle facility at Lakeview Drive to Nehalem Bay State Park and separate people walking and biking.	Lakeview Drive to Horizon Lane	Bike/Ped Enhancement	\$380,000	NEAR-TERM
R4	CLASSIC STREET TO NECARNEY BOULEVARD CONNECTION: Construct a shared use trail with wayfinding to connect people walking and biking between Necarney Boulevard and Classic Street north of Nehalem Bay State Park. The shared use trail would serve as a connection for people walking and biking in the area until development occurs connecting either Puffin Lane or Sandpiper Lane.	Gary Street to Necarney Boulevard	New Bike/Ped Connection	\$750,000	LONG-TERM
R5	HORIZON LANE BICYCLE & PEDESTRIAN ENHANCEMENTS: Enhance Horizon Lane with advisory bike lanes to identify space for people walking and biking.	Necarney Blvd to Gary Street	Bike/Ped Enhancement	\$45,000	NEAR-TERM
R6	BAYSIDE GARDENS TO NEHALEM BAY STATE PARK BICYCLE & PEDESTRIAN CONNECTION: Provide a separated path for people walking and biking between Bayside Gardens and Nehalem Bay State Park. Further analysis would be required to identify final cross-section and alignment, which is expected to follow Necarney City Road and Classic Street. This project will also require coordination with Oregon State Parks and should also include wayfinding to encourage visitors to walk and bike to the state park.	U.S. 101 to Nehalem Bay State Park	New Bike/Ped Connection	\$4,360,000	LONG-TERM
R7	FERN WAY: Enhance signing, striping, and wayfinding to create a connection from Tohl Avenue to The Promenade to create bicycle and pedestrian connections off of U.S. 101.	The Promenade to Tohl Avenue	Bike/Ped Enhancement	\$10,000	NEAR-TERM
R8	BAYSIDE GARDENS ROAD/SEAMONT WAY BICYCLE & PEDESTRIAN ENHANCEMENTS: Enhance Bayside Gardens Road with signing, striping, and wayfinding to enhance connections from Nehalem to Manzanita off of U.S. 101.	U.S. 101 to Terminus	Bike/Ped Enhancement	\$80,000	NEAR-TERM



High Priority Projects

¹ Costs shown are based on 2023 dollars.



Table 9 | Regional Project List

ID	Project Name & Description	Extents	Category	Cost ¹	Timeline
R9	NEHALEM POINT TO NEHALEM STATE PARK BICYCLE & PEDESTRIAN CONNECTION: Construct a paved or gravel trail that would connect people walking and bicycling between Manzanita and Nehalem off of U.S. 101. If possible, the trail should be wide enough to provide an additional route off of U.S. 101 in the event of a tsunami evacuation. More analysis will be required to determine the final alignment, cross-section, and recommended surface.	Nehalem Point to Nehalem State Park	New Bike/Ped Connection	\$2,250,000	LONG-TERM
R10	HAYES DRIVE IMPROVEMENTS: Improve the quality of Hayes Drive to create a more reliable connection to U.S. 101 during seasonal flooding.	10th Street to U.S. 101	Roadway	\$300,000	MEDIUM-TERM
R11	NORTHFORK ROAD IMPROVEMENTS: Improve the pavement quality of Northfork Road between C Street and D Street.	C Street to D Street	Roadway	\$250,000	MEDIUM-TERM
R12	SALMONBERRY CORRIDOR: Construct the segment of the Salmonberry Corridor from Wheeler to Mohler. The path will follow the existing railroad alignment and be a "rail-with-trail" configuration which will provide a 10 to 12 foot paved path adjacent to the railroad.	Wheeler to Mohler	New Bike/Ped Connection	\$9,000,000	LONG-TERM
R13	NORTH COUNTY FLEX ROUTE: Coordinate with TCTD to operate flex-route service between Nehalem, Manzanita, Wheeler, Nehalem Bay State Park, and Oswald West State Park.	-	Transit	\$175,000 per year	MEDIUM-TERM
R14	REGIONAL WATER TAXI: Explore options to operate a regional water taxi with stops in Nehalem, Wheeler and Nehalem Bay State Park to connect local destinations and enhance tourism.	-	Other	-	MEDIUM-TERM
R15	SEASONAL CIRCULATOR SHUTTLE: Coordinate with TCTD to operate a seasonal circulator providing service between Manzanita, Nehalem, Wheeler, and Mohler with stops at Nehalem Bay State Park and Neahkahnie Trailhead. This route could be operated with trolleys to enhance visitor experience. Shuttle would be assumed to operate from Memorial Day through Labor Day, Friday through Sunday on holiday weekends, and Saturday-Sunday on typical summer weekends with service beginning at 9AM and ending at 7PM with 30-minute headways. Additional coordination would be needed to determine the appropriate location for stops within each city.	-	Transit	\$45,000 per season	MEDIUM-TERM
R16	OREGON COAST TRAIL REALIGNMENT: Realign the Oregon Coast Trail through Manzanita as documented in the Oregon Coast Bike Route Plan with more direct access to Nehalem Bay State Park. This project should include wayfinding signage and be coordinated with other enhancements for people walking and biking in the region.	Nehalem Road to Nehalem Bay State Park	New Bike/Ped Connection	-	MEDIUM-TERM

High Priority Projects



Table 9 | Regional Project List

ID	Project Name & Description	Extents	Category	Cost ¹	Timeline
R17	ELECTRIC VEHICLE INFRASTRUCTURE: Coordinate with local businesses and developments in the region to include charging stations as part of any improvements to existing parking lots or addition of new parking.	-	Other	-	NEAR-TERM
R18	REGIONAL WAYFINDING: Coordinate within the region to deploy wayfinding, maps, and signage that connects visitors to key destinations like Nehalem Bay State Park, local downtowns, and the Nehalem River.	-	Other	\$20,000	NEAR-TERM
R19	EMERGENCY PLANNING COORDINATION: Create a coordinated emergency planning group with representatives from state, county, and local agencies and emergency services.	-	Programmatic	-	NEAR-TERM
R20	THOMPSON ROAD BICYCLE & PEDESTRIAN ENHANCEMENTS: Enhance Thompson Street with Sharrows and signage to indicate that people biking should use the vehicle travel lane and to create a connection to planned trails.	Terminus to 9th Street	Bike/Ped Enhancement	\$16,000	NEAR-TERM
R21	THE PROMENADE BICYCLE & PEDESTRIAN ENHANCEMENTS: Enhance The Promenade with advisory bike lanes to provide space for people walking and biking and improve bicycle and pedestrian connections off of U.S. 101.	Seamont Way to Necarney City Road	Bike/Ped Enhancement	\$30,000	NEAR-TERM
U1	WIDEN U.S. 101 SHOULDERS & ADD RUMBLE STRIPS: Widen shoulders on U.S. 101 to ODOT standard to support bicycle travel and add rumble strips to improve safety.	Manzanita City Limits to Nehalem City Limits	Safety	\$3,760,000	LONG-TERM
U2	U.S. 101 & NEHALEM POINT DRIVE INTERSECTION IMPROVEMENTS: Provide a two-way left-turn lane for drivers turning left onto Nehalem Point Drive and adjacent driveways to address crashes occurring at this intersection.	U.S. 101 & Nehalem Point Drive	Safety	\$300,000	MEDIUM-TERM
U3	ENHANCED CURVE DELINEATION: Provide enhanced delineation treatments such as chevron signs or delineators to the horizontal curve located between milepost 43.3 and 43.5.	East of Manzanita city limits, approximately mp 43.3 to 43.5	Safety	\$40,000	NEAR-TERM
U4	U.S. 101 & NEHALEM ROAD INTERSECTION IMPROVEMENTS: Provide a dedicated buffered turn lane for southbound drivers turning right to address turning movement crashes.	U.S. 101 & Nehalem Road	Safety	\$250,000	MEDIUM-TERM
U5	OR 53 INTERSECTION ADVANCED SIGNAGE: Improve safety at the intersection by installing advanced signage to alert drivers of upcoming intersection.	U.S. 101 & OR 53	Safety	\$10,000	NEAR-TERM
U6	OR 53 INTERSECTION ENHANCEMENTS: Review turn pockets at OR 53 & U.S. 101 intersection to confirm turn pockets meet design standards; identify improvements if needed.	U.S. 101 near SR 53	Safety	-	NEAR-TERM

High Priority Projects



Table 9 | Regional Project List

ID	Project Name & Description	Extents	Category	Cost ¹	Timeline
U7	WIDEN U.S. 101 SHOULDERS: Widen shoulders on U.S. 101 to ODOT standard to support bicycle travel.	Nehalem Point Drive to future Salmonberry Trail Crossing location east of OR 53	Safety	\$700,000	LONG-TERM
U8	U.S. 101 BRIDGE SEISMIC UPGRADES: Retrofit the U.S. 101 bridge between Nehalem and Wheeler to the most recent seismic standards.	U.S. 101 Bridge	Roadway	\$2,500,000	LONG-TERM
U9	U.S. 101 BRIDGE PEDESTRIAN ENHANCEMENTS: Retrofit the U.S. 101 bridge between Nehalem and Wheeler with separated space for bicycles and pedestrians to travel.	U.S. 101 Bridge	Bike/Ped Enhancement	\$1,500,000	LONG-TERM
U10	EXPLORE OPPORTUNITIES TO LOWER U.S. 101 SPEEDS: Explore ways to lower speeds on U.S. 101, which could include a speed study, particularly near city limits.	-	Programmatic	-	NEAR-TERM
U11	SPEED FEEDBACK SIGNS: Identify locations on U.S. 101 where speed feedback signs may be placed to alert drivers of their speeds.	Regional	Safety	\$40,00 per sign	NEAR-TERM
U12	U.S. 101 BICYCLE & PEDESTRIAN PATH: Construct a separated path for walking and biking parallel to U.S. 101 from Manzanita to Wheeler.	Regional	New Bike/Ped Connection	\$1,250,000	LONG-TERM

High Priority Projects





Ocean Road Crossing Enhancements

PROJECT R1

CATEGORY

Bicycle and Pedestrian Enhancement

COST

\$300,000

TIMELINE



Near-Term

PROJECT LOCATION

Laneda Avenue & Ocean Road Intersection

PROJECT DESCRIPTION

This crossing at Laneda Avenue is the primary connection for people walking from Manzanita’s downtown to the beach and many people shared that it feels unsafe and can be hard to see people as they wait to cross and even when crossing. This project would enhance the existing crossing with high visibility crossings, advanced signage on Ocean Road and Laneda Avenue to alert drivers that people are likely to be crossing, and adding illumination to improve visibility when it is dark.

GOALS THIS PROJECT ADVANCES



Enhance Quality of Life



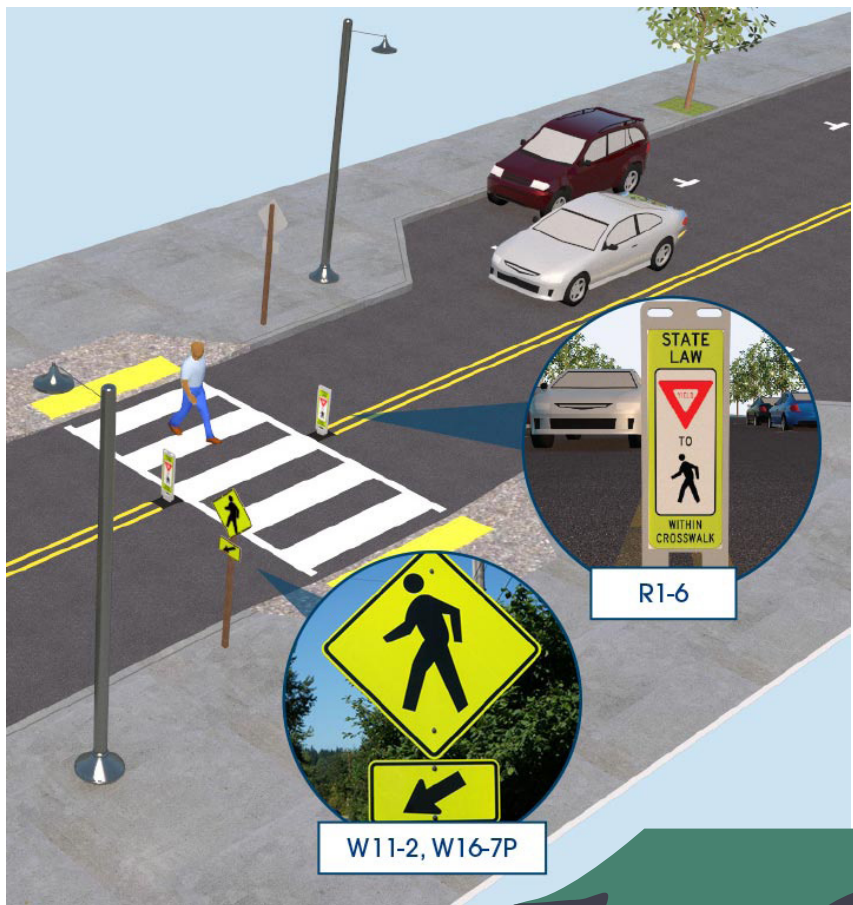
Create Safe Connections



Plan for the Future



Support Fiscal Responsibility



Example of separated shared use path adjacent to the roadway

Source: Small Town and Rural Design Guide



Ocean Road Separated Facilities

PROJECT R2

CATEGORY

New Bicycle and Pedestrian Connection

COST

\$750,000

TIMELINE



Long-Term

PROJECT LOCATION

Ocean Road from Laneda Avenue to Nehalem Drive

PROJECT DESCRIPTION

Many people use Ocean Road to park, walk, and ride their bicycle to the ocean. Many community members shared the desire to provide separated space for people walking and bicycling to eliminate conflicts between vehicles and visibility issues created by cars often parked on or near Ocean Road. This project would add dedicated space for people walking and bicycling parallel to Ocean Road. Further analysis will be required to determine the appropriate cross-section and alignment.

GOALS THIS PROJECT ADVANCES



Enhance Quality of Life



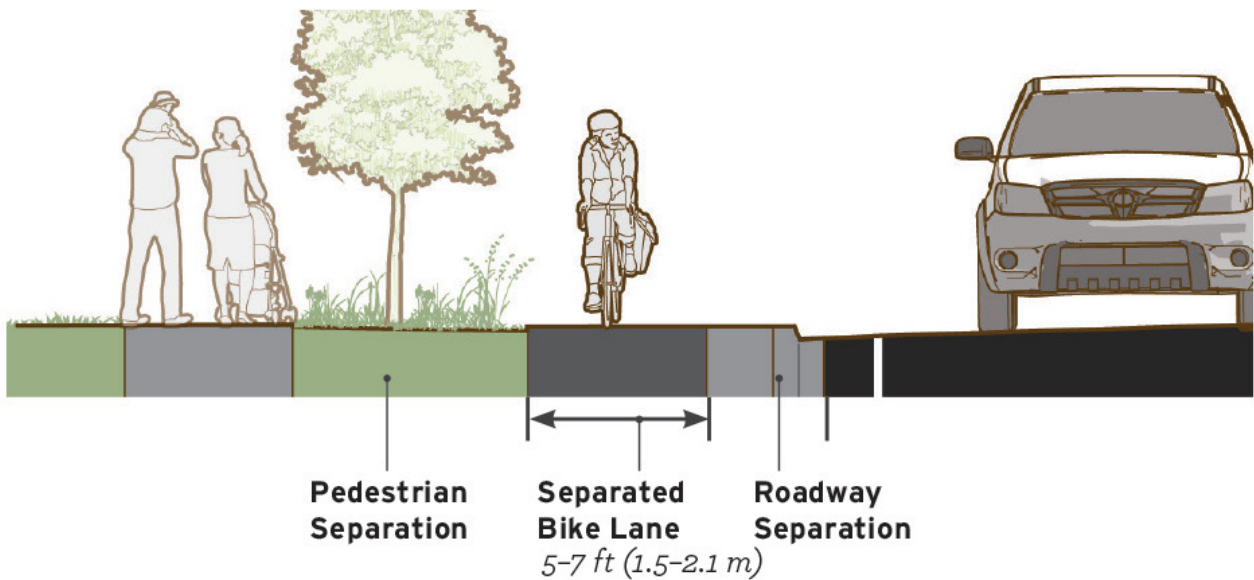
Create Safe Connections



Plan for the Future



Support Fiscal Responsibility



Example of enhanced pedestrian crossing

Source: FHWA



Classic Street to Necarney Boulevard Connection

PROJECT R4

CATEGORY

New Bicycle and Pedestrian Connection

COST

\$750,000

TIMELINE



Long-Term

PROJECT LOCATION

Gary Street to Necarney Boulevard

PROJECT DESCRIPTION

Today, there is only one connection from Necarney Boulevard to the Nehalem Bay State Park, which occurs at Horizon Lane. To increase connections to the State Park, specifically for residents on the west side of Manzanita, this project would construct a trail with wayfinding to connect people walking and bicycling from Necarney Boulevard to Classic Street. This trail could follow the Sandpiper Lane or Puffin Lane alignment. Facilities for people walking and bicycling should be included if those streets are ever connected.

GOALS THIS PROJECT ADVANCES



Enhance Quality of Life



Create Safe Connections



Plan for the Future



Support Fiscal Responsibility



Example of a trail for people walking and bicycling

Source: Sonoma County Regional Parks



Bayside Gardens to Nehalem Bay State Park Bicycle and Pedestrian Connection

PROJECT R6

CATEGORY

New Bicycle and Pedestrian Connection

COST

\$4,360,000

TIMELINE



Long-Term

PROJECT LOCATION

U.S. 101 to Nehalem Bay State Park

PROJECT DESCRIPTION

Necarney City Road is a highly traveled route for people connecting from U.S. 101 to Nehalem Bay State Park. These travelers are often driving large recreational vehicles or towing campers. This route is also the most direction connection for people who live in Bayside Gardens to walk or bicycle to Manzanita or the State Park and was consistently identified as a road where separated space is needed for people walking and bicycling. This project would provided a separated path for people walking and bicycling, creating a safer and more comfortable connection between Bayside Gardens, Manzanita, and the State Park. Further analysis will be required to determine the appropriate cross-section and alignment, which is expected to parallel Necarney City Road and Classic Street. This project will also require coordination with Oregon State Parks and should also include wayfinding signage to encourage visitors to walk and bicycle to the State Park.

GOALS THIS PROJECT ADVANCES



Enhance Quality of Life



Create Safe Connections



Plan for the Future



Support Fiscal Responsibility



Example of physically separated shared use path adjacent to the roadway

Source: Small Town and Rural Design Guide



May 2023

Nehalem Point to Nehalem State Park Bicycle and Pedestrian Connection

PROJECT R9

CATEGORY

New Bicycle and Pedestrian Connection

COST

\$2,250,000

TIMELINE



Long-Term

PROJECT LOCATION

Nehalem Point Drive to Nehalem State Park

PROJECT DESCRIPTION

A new connection for people of all ages and abilities walking and bicycling between Nehalem and Manzanita was the most identified need throughout development of the TSP. Many people would like to walk or ride a bicycle between Nehalem and Manzanita or Nehalem Bay State Park but do not feel safe and comfortable on U.S. 101. This project would construct a trail that would provide an alternate route to U.S. 101 between the communities for people walking and bicycling. If possible, the trail should be constructed to provide an alternate to U.S. 101 in the event of a tsunami evacuation. More analysis will be required to determine the final alignment, cross-section, and recommended surface.

GOALS THIS PROJECT ADVANCES



Enhance Quality of Life



Create Safe Connections



Plan for the Future



Support Fiscal Responsibility



Source: Small Town and Rural Design Guide

Example of a trail with wayfinding signage



Salmonberry Trail

PROJECT R12

CATEGORY

New Bicycle and Pedestrian Connection

COST

\$9,000,000

TIMELINE



Long-Term

PROJECT LOCATION

Wheeler to Mohler

PROJECT DESCRIPTION

Construction of the Salmonberry Trail in the Nehalem Bay region was identified as a high priority by community members in all three communities. This portion would create a new connection for people walking and bicycling between Wheeler and Mohler that would not require the use of U.S. 101 or OR 53, neither of which are accessible to users of all ages and abilities. This project would construct the portion of the Salmonberry Trail from Wheeler to Mohler. Based on the feasibility study, completed in 2017, this segment of the trail is assumed to be a “rail-with-trail” segment with the trail located to the west of the existing rail line.

GOALS THIS PROJECT ADVANCES



Enhance Quality of Life



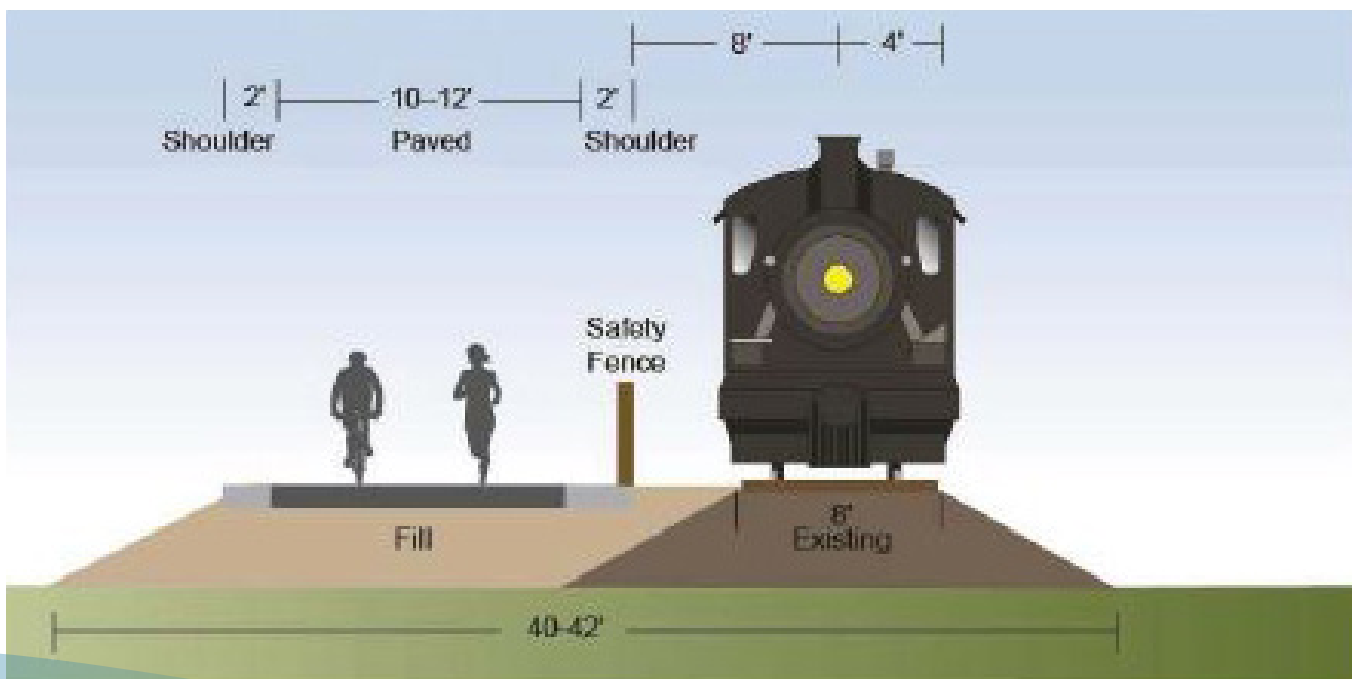
Create Safe Connections



Plan for the Future



Support Fiscal Responsibility



Source: Salmonberry Trail Coast Segment Planning Study Final Report, 2017



Seasonal Circulator Shuttle

PROJECT R15

CATEGORY

Transit

COST

\$45,000/season (dependent on operations)

TIMELINE



Medium-Term

PROJECT LOCATION

N/A

PROJECT DESCRIPTION

Today, people who would like to use public transit to travel between the three communities must use the NW Connector which operates with limited frequency. Creating the ability for visitors to park once and travel between the three communities was identified as a high priority by community members in all three communities. In coordination with TCTD, this project would implement a seasonal circulator providing service between Manzanita, Nehalem, Wheeler, and Mohler with stops at Nehalem Bay State Park and Neahkahnie Trailhead. This route could be operated with trolleys to enhance visitor experience. Shuttles would be assumed to operate from memorial Day through Labor Day, Friday through Sunday on holiday weekends and Saturday and Sunday on typical summer weekends with service beginning at 9AM and ending at 7PM with 30-minute headways. Additional coordination would be needed to determine the appropriate location for stops within each City.

GOALS THIS PROJECT ADVANCES



Enhance Quality of Life



Create Safe Connections



Plan for the Future



Support Fiscal Responsibility

Example of a trolley that could be used to operate a seasonal circulator shuttle.



Source: City of Wheeler



Widen U.S. 101 Shoulders & Add Rumble Strips

PROJECT U1

CATEGORY

Safety

COST

\$3,760,000

TIMELINE



Long-Term

PROJECT LOCATION

Manzanita City Limits to Nehalem City Limits

PROJECT DESCRIPTION

Today, people choosing to ride a bicycle or walk between the three communities are forced to use U.S. 101. There are many areas, specifically between Manzanita and Nehalem, where the shoulders are narrow and people do not feel safe using the shoulder. While other projects in the TSP include parallel connections to U.S. 101, it is expected that avid bicyclists will continue to use U.S. 101 for the direct connection and separation from people walking or bicycling at a leisurely pace. This project would widen shoulders on U.S. 101 to ODOT standards to support bicycle travel on the highway and add rumble strips to improve safety. While rumble strips can create additional noise, and are not typically installed near residential areas, these were included as a countermeasure to address several crashes in the area that involved vehicles running off the road. Community feedback indicated that residents in the area were not concerned with potential noise issues and recognized the need for safety improvements in this area.

GOALS THIS PROJECT ADVANCES



Enhance
Quality of
Life



Create Safe
Connections



Plan for
the Future



Support Fiscal
Responsibility



Source: pexco.com

Example of a widened shoulder with rumble strips.



Explore Opportunities to Lower Speeds on U.S. 101

PROJECT U10

CATEGORY

Programmatic

COST

N/A

TIMELINE



Near-Term

PROJECT LOCATION

U.S. 101 from Manzanita City Limits to Wheeler City Limits

PROJECT DESCRIPTION

High vehicle speeds on U.S. 101, specifically near city limits in Nehalem and Wheeler and between Manzanita and Nehalem was identified as an issue by most community members that participated in the TSP. This project would explore options to lower speeds in these areas, which may include a speed study potentially resulting in the lowering of speeds on U.S. 101 within the cities potentially resulting in the lowering of speeds on U.S. 101 within the Cities.. This project, paired with other projects in the TSP would help to support the “main street” context of U.S. 101 in these communities and make it a roadway that is safe and comfortable for multiple modes of travel.

GOALS THIS PROJECT ADVANCES



Enhance Quality of Life



Create Safe Connections



Plan for the Future



Support Fiscal Responsibility





Speed Feedback Signs

PROJECT U11

CATEGORY

Safety

COST

\$40,000 per sign

TIMELINE



Near-Term

PROJECT LOCATION

Dependent on further coordination with ODOT.

PROJECT DESCRIPTION

Vehicle speed, specifically as vehicles enter city limits, was identified as a concern by most community members that participated in the TSP process. One tool that can be used to slow drivers down is speed feedback signs. This project would identify locations on U.S. 101 where speed feedback signs may be placed to alert drivers of their speed. While speed feedback signs are typically owned and maintained by the local jurisdiction, coordination with ODOT is required to determine where feedback signs may be placed on the state highway. The addition of speed feedback signs is one of many tools identified in this TSP aimed at lowering vehicle speeds, which was the primary factor contributing to people feeling unsafe when walking or bicycling in the region.

GOALS THIS PROJECT ADVANCES



Enhance
Quality of
Life



Create Safe
Connections



Plan for
the Future



Support Fiscal
Responsibility



Source: GP Roadway Solutions

Example of a speed feedback sign



CHAPTER 5: IMPLEMENTATION

This chapter presents potential funding sources for regional projects and an overview of how projects identified in the TSP can be implemented over the next 20 years.

Most regional projects will require coordination between multiple agencies to implement including, Manzanita, Nehalem, Wheeler, Oregon State Parks, Tillamook County, TCTD, and ODOT.

One funding option for projects of regional significance is the **Statewide Transportation Improvement Program (STIP)**. The STIP is ODOT's capital improvement plan for state and federally funded projects. The STIP is developed by the Oregon Transportation Commission and ODOT in coordination with a wide range of stakeholders and the public. The STIP includes the following investment areas:

- Fix-it programs
- Enhance highway programs
- Safety programs
- Non-Highway programs
- Local government programs
- Other functions

Funding allocated by the STIP is typically directed to regionally important projects that will enhance safety and improve operations at the regional level. Projects that may be eligible for funding through the STIP include the U.S. 101 safety projects and improvements for the U.S. 101 bridge over the Nehalem River.

The most effective way to secure STIP funding for a project is by seeking support for project funding and implementation through the Northwest Oregon Area Commission on Transportation (NWACT). The NWACT is chartered by the Oregon Transportation Commission and is focused on addressing transportation issues in Columbia, Clatsop, Tillamook Counties, and portions of Washington County.

Grants

Grants may be a source of funding for regional projects, specifically those that enhance connections for people walking and biking.





Oregon Community Paths

The **Oregon Community Paths** program is geared towards helping communities create and maintain connections through shared use paths. Eligible projects include:

- Continuous paths made up of one or more connected segments that are primarily physically separated from the roadway
- Paths that connect two or more communities, with each community no more than 15 miles apart, or traverses a single large community with a path that is 10 miles or longer
- Paths that will serve as a connection point between communities, or is a part of an officially designated walking and bicycling route
- Paths that are endorsed by elected bodies along path alignment

Applications for this grant are on a two-year cycle with pre-applications due in the fall and applications accepted November through January. The proposed Salmonberry Trail and bicycle and pedestrian project between Nehalem and Nehalem Bay State Park projects are likely to be competitive for this grant.

Recreational Trails Program

The **Recreational Trails** Program a federally funded program, which is administered by the Oregon Parks and Recreation Department, provides funds for local agencies to develop, improve, or expand motorized and non-motorized trails and their facilities.

Eligible projects for these funds include:

- Construction of new trails
- Major rehabilitation of existing trails
- Development or improvement of trailhead or other support facilities
- Acquisition of land or easements for the purpose of trail development
- Safety and education projects

There are many different funding sources available for recreational trails. A full list of recourses is available on [**ODOT's Local Government Funding Overview**](#).

Implementation

This TSP sets the vision for Nehalem Bay's transportation system, creates a plan for enhancing the transportation system to better accommodate all modes of travel, and identifies 33 projects, that when implemented, would achieve the goals documented in the TSP.

What this TSP does not do is identify funding for the projects included in the project list. While this TSP identifies high priority projects and timelines for implementation, projects may be implemented in any

order when funding is available.

Manzanita, Nehalem, and Wheeler, in coordination with ODOT and Tillamook County, should explore the funding options above to implement the projects and bring Nehalem Bay's transportation vision to fruition.