Tillamook

Transportation System Plan Update

Volume 1

March 2019

City of Tillamook
The Dairylands

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The contents of this document do not necessarily reflect views or policies of the State of Oregon.

Acronyms and Abbreviations

ADA Americans with Disabilities Act

LOS Level of Service (traffic engineering term)

MPO Metropolitan Planning Organization

ODOT Oregon Department of Transportation

OHP Oregon Highway Plan

OTP Oregon Transportation Plan

PAC Project Advisory Committee

PMT Project Management Team

SRTS Safe Routes to School

STIP Statewide Transportation Improvement Program

TBCC Tillamook Bay Community College

TCTD Tillamook County Transportation District

TPR Transportation Planning Rule

TSP Transportation System Plan

UGB Urban Growth Boundary

V/C Volume/Capacity (traffic engineering term)

Executive Summary

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City of Tillamook
The Dairylands

Executive Summary

The safe and efficient movement of people and goods is vital to a healthy city. The Tillamook Transportation System Plan (TSP) is the City's long-range plan to guide investment in the City's transportation system over the next 20 years. The executive summary provides an overview of the Tillamook TSP, including plan objectives, policy context, and projects.

The Tillamook Transportation System Plan (TSP) sets a 20+ year vision for the City's transportation system for the horizon year of 2040 based on current needs, predicted growth, and public input. The plan examines current (2018) and expected future transportation conditions in the City and establishes a combination of projects, policies, and programs to address them. This plan is a periodic update to the 2003 TSP; since then, Tillamook has experienced an increase in population and employment, placing additional demand on the City's transportation facilities and services. The 2016 Hoquarton Waterfront Plan will change circulation patterns in the northwest quadrant of downtown. The US 101/OR 6 Project, currently in construction, addresses a key safety and congestion issue. New regional projects, like the Salmonberry Trail, will change how people travel to and through Tillamook.

The TSP establishes high-level goals for the transportation system and provides an analysis of current (2018) and future transportation needs. It also includes near, medium, and long-term policies, projects, and programs to address those needs, as well as a funding plan and investment strategy to implement them. All modes are considered, with special attention to making the system safer and better-connected to improve the quality of life in the City. The plan considers how the City will grow and addresses the needs of residents, businesses, and visitors alike.

ES.1 Study Area

The City of Tillamook is located in western Tillamook County, on the southeast end of Tillamook Bay and west of the Tillamook State Forest. The City is about 60 miles west of Portland and less than 10 miles from the Oregon coast. Tillamook is the largest City in Tillamook County, with a population of about 5,000 as of 2018 and is the county seat. Dairy farming, timber, fishing, and tourism are the major industries in Tillamook.

The Tillamook TSP study area includes the Tillamook Urban Growth Boundary (UGB) and all areas within the City limits.

The City's transportation network includes state, county, and City roadways, the Port of Tillamook Bay railroad, bicycle facilities, sidewalks, trails, and the Tillamook Airport. The City is bisected east-west by US-101, a state highway connecting Tillamook to the communities of Garibaldi and Bay City to the north and Lincoln City to the south. US-101 is the Main Avenue/Pacific Avenue couplet in downtown Tillamook. The City is bisected north-south by OR-6, which splits into 1st Street and Netarts Highway/OR-131 at Miller Avenue. OR-6 connects Tillamook to US-26 and Portland to the east.

AERIAL VIEW OF TILLAMOOK. SOURCE: WIKIWAND

ES.2 Goals

These goals reflect the vision for Tillamook's future based on input from the public and stakeholders. To create these goals, the project team started with the 11 transportation goals and 60 related policy objectives from the 2003 Tillamook TSP. These were updated to meet requirements of the Transportation Planning Rule (TPR), reflect state goals and policies in the Oregon Transportation Plan (OTP), the Tillamook County Transit District Transit Development Plan, and local plans. The project team then revised the draft goals and objectives based on input from the Project Management Team (PMT), ODOT, the Project Advisory Committee (PAC), and the public.

- Goal 1: Coordination
- Goal 2: Safety
- Goal 3: Livability and Economic Vitality
- Goal 4: Accessibility and Connectivity
- Goal 5: Mobility
- Goal 6: System Preservation
- Goal 7: Public Transportation
- Goal 8: Pedestrian and Bicycle Facilities
- Goal 9: Environment
- Goal 10: Funding

ES.3 Transportation System Projects

TSP projects are summarized in Table 1 below. The projects include all modes of transportation within the City and represent the transportation system plan for the City. The transportation system plan includes improvements for roadways, bicycle and pedestrian infrastructure, and public transportation. The planning process also considered the City's truck freight, rail, aviation, marine transportation, and pipeline systems. The planning process to develop the TSP projects included a review of the existing transportation system, current and future transportation needs, an evaluation of potential solutions, and the development of a funding and implementation plan to arrive at a final list of projects. Table 1

provides a general description of each project, a proposed timeline for implementation, and a planning-level cost estimate developed as part of the solutions evaluation phase. It is important to note that cost estimates are reported using current construction dollars and are not adjusted for future escalation.

The project timelines in Table 1 are designated as either short- (0 – 5 years) or long-term (5 – 20 year). Projects identified as community priorities were designated as short-term projects while lower-priority projects requiring additional refinement, analysis, or funding opportunities were designated as long-term projects. Project timelines also considered current and future available funding for capital projects and programs. The City of Tillamook is considered the lead for all projects, although projects on state or port facilities, or improvements to the City's transit system assume partnership with the Oregon Department of Transportation (ODOT), the Port of Tillamook Bay (POTB), and Tillamook County Transportation District (TCTD) unless noted otherwise.

Table 1. Transportation System Projects

Project	Timeframe	Project Cost[1]	Responsible Jurisdiction
Basic Crossing Improvements (C-1) There are 27 basic crossing improvements proposed; these improvements are evaluated and prioritized as a bundle. However, it is not expected that all crossing improvements would be constructed as part of the same project or at the same time.	Short-term	$648,000	City of Tillamook
Advanced Crossing Improvements (C-2) There are 7 advanced crossing improvements proposed; these improvements are evaluated and prioritized as a bundle. However, it is not expected that all crossing improvements would be constructed as part of the same project or at the same time. Further analysis could determine a higher level of investment of pedestrian signalization is required at a given location.	Short – Long term	$437,000	City of Tillamook
Sidewalk Infill, Construction, and Streetscaping Improvements (P-1 through P-11) There are 11 proposed sidewalk infill, construction, and streetscaping improvements, including 5 infill and streetscaping projects carried over from the Hoquarton Waterfront Plan (2016). Sidewalk connectivity is prioritized in Safe Routes to School (SRTS) zones and in East Tillamook where the greatest gaps exist. Lower priority infill projects can be implemented over time.	Short – Long term	$2,998,000	City of Tillamook

[1] Planning-level cost estimates are reported using current construction dollars and are not adjusted for future escalation.

Project	Timeframe	Project Cost[1]	Responsible Jurisdiction
Shared Roadway Improvements (B-1) The TSP recommends shared roadway improvements on 10 segments within the City. Shared roadway segments were evaluated as a single project per the TSP's methodology but may be constructed at different times or as part of other projects. Shared roadway improvements have a relatively low cost on a per mile basis and assume shared roadway markings and signage.	Short-term	$116,000	City of Tillamook
OR-131/3rd Street: **Trask River to McCormick Loop Road (B-2)** Bike Facility This project provides a continuous on-street bike facility on OR-131/3rd Street, creating a needed east-west neighborhood connection and enhanced bicycle access to Tillamook Regional Medical Center, the Hoquarton Slough multi-use boardwalk (OS-2), Tillamook Bay Community College, Tillamook Junior High School, East Elementary School, and Tillamook Seventh Day Adventist School. The project assumes traditional bike lanes.	Long-term	$419,000- $638,000[2]	City of Tillamook in partnership with ODOT
2nd Street – Birch Avenue to Main Avenue (B-4) Bike Facility This project connects to proposed shared roadway improvements on 2nd Street (B-1) and provides east-west linkages to the Tillamook Medical Center and proposed Hoquarton Slough off-street multi-use path boardwalk concept (OS-2).	Short-term	$15,000- $25,000[2]	City of Tillamook
Birch Avenue – OR-131/3rd Street to 2nd Avenue (B-5) Bike Facility This project connects the proposed bike lanes on 2nd and OR-131/3rd Streets, providing a north-south linkage to the proposed bike facilities on 2nd and 3rd Streets.	Short-term	$10,000- $17,000[2]	City of Tillamook
Front Street – Main Avenue to Stillwell Avenue (B-6) Bike Facility This project provides an on-street bike connection between the two proposed off-street connections near Sue H. Elmore Park and the Hoquarton Slough. This connection also	Short-term	$10,000- $16,000[2]	City of Tillamook

[2] The cost range associated with this project reflects a low-build scenario (paint markings, substandard bike lane width) and a full-build scenario (includes estimated cost required to widen shoulders to achieve standard bike lane width). If shoulder widening is not elected for the final project, the substandard bike lanes may need to be deployed in select locations.

Project	Timeframe	Project Cost[1]	Responsible Jurisdiction
provides east-west and north-south access through downtown Tillamook.			
Stillwell Avenue – 4th Street to Front Street (B-7) Bike Facility This project provides an on-street bicycle lane north of 4th Street, creating a north-south connection on Stillwell Avenue to Hoquarton Slough. This bike lane also connects to potential off-street improvements along the southern front of Sue H. Elmore Park and future Salmonberry Trail improvements.	Short-term	$20,000-$39,000[2]	City of Tillamook
Bicycle Plaza: Vicinity of 4th Street and Main Avenue Assumes tubular bike rack for 8-12 bicycles and overhead shelter.	Short-term	Approx. $8,000 - $12,000[3]	City of Tillamook
Hadley Fields Crossing (OS-1) Hoquarton Waterfront Park and US-101 Project provides a north-south connection from Hoquarton Park to the Wilson River adjacent to US-101. The route passes through Hadley Fields and provides increased recreational opportunities for local and touring pedestrians and cyclists. The project will ideally include a parallel pedestrian bridge across the Wilson River or include provisions for cyclists separate from traffic if the vehicle bridge on US- 101 is replaced. Cost does not include additional costs for the new bridge. The project can also enhance the City's portion of the Oregon Coastal Bike Route.	Long-term	$438,000 (bridge cost not included)	City of Tillamook
Hoquarton Slough Boardwalk (OS-2) Off-Street, Multi-Use Path along Hoquarton Slough This project provides off-street, multi-use access along the Slough north of Front Street and around the perimeter of the natural area to the northwest of the City. The project increases off-street recreational opportunities for local and touring pedestrians and cyclists.	Long-term	$762,000	City of Tillamook
Tillamook Junior High to 12th Street (OS-3) Off-street pedestrian connection from Alder Avenue to 12th Street through wetland area to the south. Includes potential Sensitive Wetland Area mitigation costs and a pedestrian bridge to minimize environmental impacts.	Long-term	$753,000	City of Tillamook

[3] Based on Staten Island Bicycle Parking Hardware Options Report (1998), published by Staten Island Bicycle Parking at Transit. Unit cost information assumes standard covered bike parking for less than 12 bicycles.

Project	Timeframe	Project Cost[1]	Responsible Jurisdiction
Twelfth Trail – 12th Street Off-Street Connection (OS-4) Tillamook High School to Pacific Avenue This project proposes an off-street extension of 12th Street through wetland area to connect Miller Avenue to US-101 NB Pacific Avenue. Includes potential Sensitive Wetland Area mitigation costs and a pedestrian ramp to minimize environmental impacts.	Long-term	$287,000	City of Tillamook
Salmonberry Trail Improvements (OS-5) This project proposes an enhanced off-street pedestrian/bicycle link along 3rd Street, Miller Avenue, and Pacific Avenue to the planned Salmonberry Trail. Project assumes no wetland impacts or right-of-way needed. The project lead is the Port of Tillamook Bay in coordination with the City of Tillamook.	Short-term	$629,000[4]	City of Tillamook in partnership with Port of Tillamook Bay
3rd Street and Evergreen Drive Intersection Improvement (R-1) – Alternative 3 Two-Way Left Turn Lane This alternative provides the greatest mobility benefit at the lowest cost.	Long-term	$307,000	City of Tillamook
3rd Street and Marolf Loop Road Intersection Improvement (R-2) – Alternative 3 Two-Way Left Turn Lane This alternative provides the greatest mobility benefit at the lowest cost.	Long-term	$289,000	City of Tillamook in partnership with Tillamook County
Hampton Lumber Company Connectivity (R-4) Consider connectivity alternatives as required by future development needs. Potential connections and street upgrades include 5th and 8th Streets from Miller Avenue to Evergreen Drive. Subject to further study, analysis, and engagement with site stakeholders.	Long-term	TBD	City of Tillamook
US-101/ Hadley Road Access Control (R-7) Consolidate driveways near intersection of US-101 and Hadley Road	Long-term	$85,000[5]	City of Tillamook in partnership with ODOT
Ocean Place Roundabout (R-9) Construct a roundabout at Ocean Place and 3rd and 4th Streets and realign approaches. Provide advanced signing and striping to provide safe operating conditions.	Long-term	$1,275,000[5]	City of Tillamook in partnership with ODOT

[4] The cost estimate for Salmonberry Trail Improvements (OS-5) was developed by City of Tillamook staff in 2018.

[5] Indexed for construction cost inflation (70% increase) for cost prepared in 2003 TSP.

Project	Timeframe	Project Cost[1]	Responsible Jurisdiction
12th Street / Tillamook River Road (R-11) 12th Street and Tillamook River Road – relocate stop bar to provide better sight distance	Long-term	$8,500[5]	City of Tillamook
Alder Lane/Dogwood Avenue (R-12) Redesign the intersection at Alder Lane and Dogwood Avenue to remove the parking area (or revise to not interfere with intersection operations), provide all-way, stop-controlled intersection. Provide shoulder along east side of intersection for pedestrians and revise crosswalk locations.	Long-term	$170,000[5]	City of Tillamook
Speed Feedback Signs on US-101/NB Pacific Avenue (R-13)[6] Speed Feedback Signs on US-101/NB Pacific Avenue	Short-term	Approx. $20,000[7]	City of Tillamook in partnership with ODOT
Intersection Safety Study at 12th Street/Miller Avenue (R-14) Conduct intersection safety study at 12th Street/Miller Avenue to identify potential safety improvements	Short-term	$25,000	City of Tillamook
Williams Avenue Extension from Hawthorne Lane to 12th Street (R-15) Construct a road extension and/or pedestrian/bicycle extension to connect Hawthorne Lane to 12th Street via Williams Avenue.	Long-term	$1,016,000	City of Tillamook
3rd Street and Stillwell Avenue Intersection Improvement (R-16) Improve intersection at OR-131/3rd Street and Stillwell Avenue to facilitate freight truck turning movements through the intersection.	Short-term	$41,000[8]	City of Tillamook in partnership with ODOT

[6] This project is not eligible for ODOT funding and would require funding by the City of Tillamook.

[7] Colorado Department of Transportation (2018). Historical Bid Data. https://www.codot.gov/business/eema/documents/2018/2018-cost-data-book/view

[8] This cost estimate was developed by the City of Tillamook.

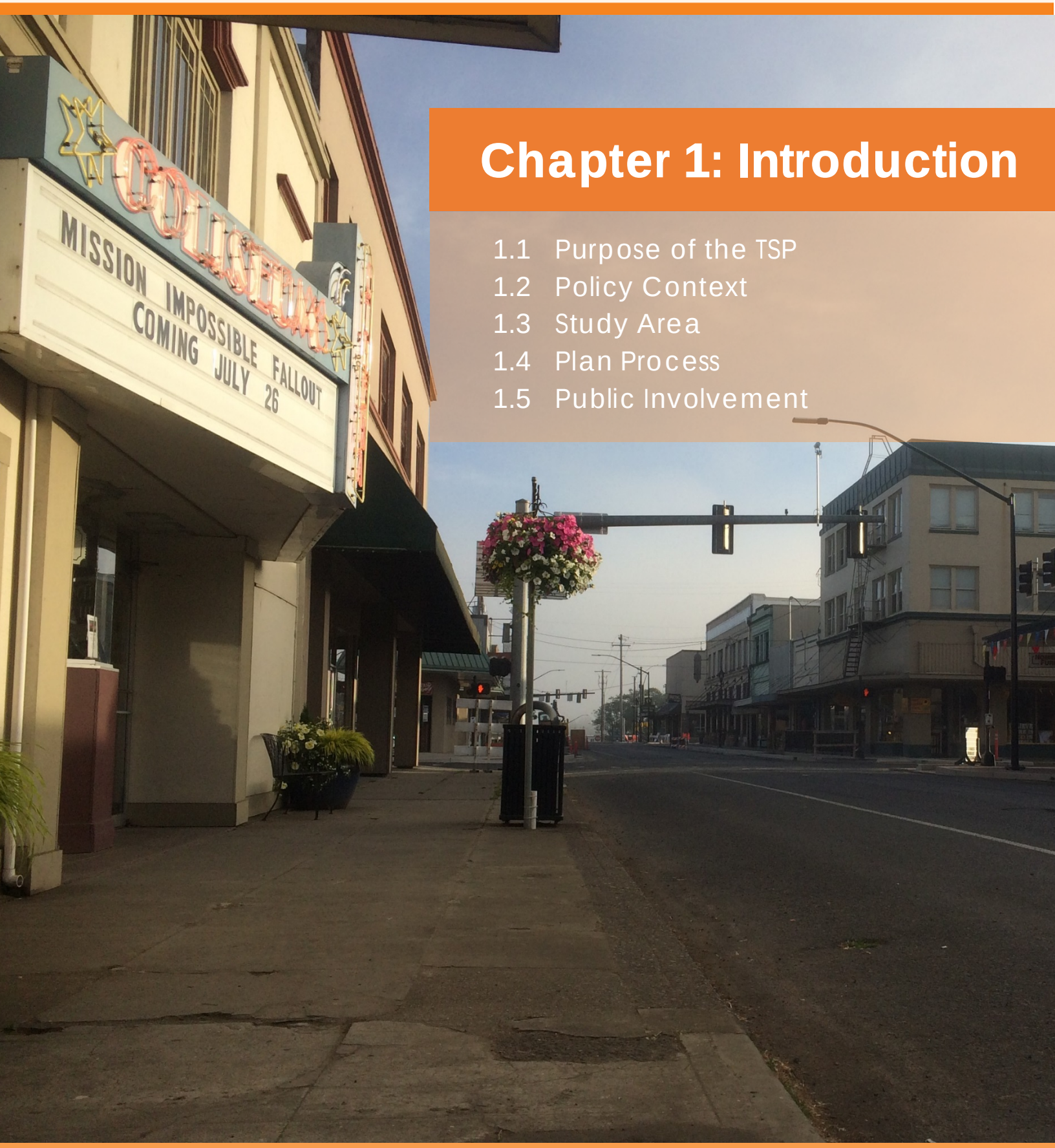
ES.4 Funding

The total cost of TSP projects is approximately $10,920,000.[9] Of this amount, $8,338,000 of projects are assumed to eligible for federal or state grant funding programs.[10] Additionally, most of the bicycle and pedestrian improvement projects, or $7,683,000, are likely eligible for Safe Routes to School program funds.[11] Approximately $2,582,000 of projects are not likely eligible for federal or state grant funding and would require local funding to complete. See Chapter 4 of the TSP to review the City's approximate local contribution needed to fund state or federally-funded projects; the exact funding sources and match requirements are subject to individual project funding and financing decisions during implementation of the TSP.

[9] Some project costs in *Appendix H: Solutions Evaluation* are presented as a range; this total cost uses the mid-range where a range of costs was given.

[10] This includes projects on state highways (US 101 and OR 6) and off-street path projects that are likely to become part of the future Salmonberry Trail project. Other projects on federally functionally classified roadways (e.g., 3rd Street) would potentially be eligible for state or federal funding programs, but it is less likely that they would be funded.

[11] Draft SRTS rules for House Bill 2017 require a 40% local match as of this writing. Previous match requirement was 12% when the SRTS program was primarily federally-funded



Chapter 1: Introduction

1.1 Purpose of the TSP
1.2 Policy Context
1.3 Study Area
1.4 Plan Process
1.5 Public Involvement

Chapter 1: Introduction

This section introduces the plan and establishes the purpose, policy context, and planning process under which the TSP Update was developed. The introduction includes a generalized review of the study area and key community characteristics, including historical growth and key economic activities and centers. This section also summarizes the public involvement activities that supported plan development.

1.1 Purpose of the TSP

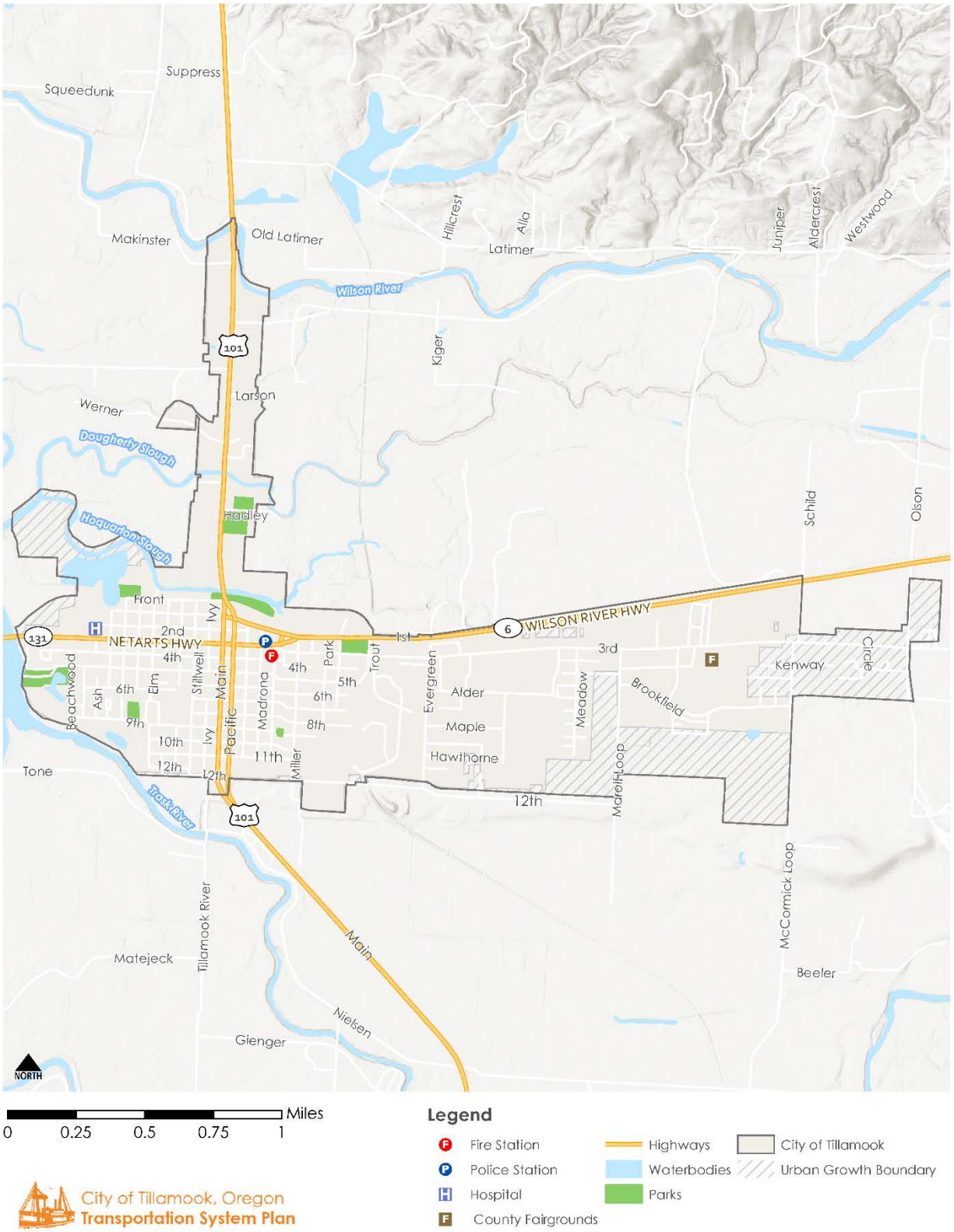
The Tillamook Transportation System Plan (TSP) sets a 20+ year vision for the City's transportation system for the horizon year of 2040. The plan examines the current (2018) and expected future transportation needs in the City and establishes a combination of projects, policies, and programs to meet them. This TSP Update considers the previous 2003 TSP and was informed by a public involvement process to ensure that plan outcomes align with the values and needs of all system users, including residents, businesses, freight, employees, and visitors. The plan considers system improvements for all modes whether travelling by foot, bike, car, bus, truck, train, or airplane. Existing land use plans, policies, and regulations that affect the transportation system are reflected in the document. The plan includes policies, a list of short- and long-term improvement projects, and an implementation plan for how and when to finance future projects.

1.2 Policy Context

TSPs are developed per Oregon's Transportation Planning Rule (OAR 660-012), which implements Statewide Planning Goal 12 (Transportation), which is intended to promote the development of safe, convenient, and economic transportation systems that are designed to maximize the benefit of investment and to reduce reliance on the automobile.

This plan is an update of the 2003 Tillamook Transportation System Plan. Projects and other elements from the 2003 TSP were reviewed for inclusion in this update. The TSP is the transportation element of the Tillamook Comprehensive Plan. Adopted in 2012 and updated in 2016, the Comprehensive Plan provides a framework to guide the future growth and development of the City. This TSP is informed by relevant goals, objectives and policies found in the Comprehensive Plan. This plan was built upon prior planning efforts and developed to be consistent with plans, policies, goals, and other regulations at the state, regional, and local level. Relevant plans are outlined in Appendix B: Background Plans and Policy Review.

FIGURE 1. TILLAMOOK TSP STUDY AREA



1.3 Study Area

The City of Tillamook is located in western Tillamook County, on the southeast end of Tillamook Bay, and west of the Tillamook State Forest. The City is about 60 miles west of Portland and less than 10 miles from the Oregon coast. Tillamook is the largest City in Tillamook County with a population of about 5,000 as of 2015 and is the county seat. Dairy farming, timber, fishing, and tourism are the major industries in Tillamook. The Tillamook TSP study area includes the Tillamook Urban Growth Boundary (UGB) and all areas within the City limits.

The City's transportation network includes state, county, and City roadways, the Port of Tillamook Bay railroad, bicycle facilities, sidewalks, trails, and the Tillamook Airport. The City is bisected east-west by US-101, a state highway connecting Tillamook to the communities of Garibaldi and Bay City to the north and Lincoln City to the south. US-101 is the Main Avenue/Pacific Avenue couplet in downtown Tillamook. The City is bisected north-south by OR-6, which splits into 1st Street and Netarts Highway/OR-131 at Miller Avenue. OR-6 connects Tillamook to US-26 and Portland to the east (Figure 1)

Land Use

Land use patterns and major activity centers influence the overall movement of people and goods throughout the transportation system and the origin/destination points for trips. Most of the land in the City is zoned residential and served by two lane local roads. Much of the City's multifamily residential development is located immediately adjacent to OR-6/OR-131 (1st and 3rd Streets). Commercial development is primarily located in downtown Tillamook and north along US-101, which has numerous shops, restaurants, and community destinations. Vacant land within the City is predominately zoned Highway Commercial and is located to the north of the City, along US-101 and along OR-6/OR-131 in the east.

The Hampton Lumber Company, Tillamook Creamery, and Port of Tillamook Bay are significant community destinations and trip generators. The Hampton Lumber Company is a major industrial site that bifurcates the City into east and west sections with transportation connectivity to the north (on OR-131/3rd Street) and south (on 12th Street). The Tillamook Creamery and the Port of Tillamook Bay are major industrial sites outside of the City. The Tillamook Creamery is located north of the City and UGB and the Port of Tillamook Bay is located approximately three miles south of town. There are other industrial zones north and south of the Wilson River, as well as smaller dispersed industrial sites throughout the City, served primarily by OR-6/OR-131.

Tillamook is home to several parks, trails, and open recreational areas. The City has four main active parks. It also encompasses sensitive environmental features, including wetlands, an estuary, floodplains, agricultural lands, and undeveloped open space. Multiple rivers flow within and adjacent to the study area. The Tillamook Comprehensive Plan goals and objectives for natural resources and wetlands (2012) recognizes the importance of these natural resources and supports their preservation. Many of the wetlands in the area have been identified as "significant natural resources," requiring a high level of function in water quality, hydrologic control, fish habitat, or wildlife habitat as defined in the Oregon Freshwater Wetland Assessment Methodology. The City has also adopted a 50-foot riparian setback adjacent to significant riparian resources based on the Economic, Social, Environmental, and Energy Decision Process (ESEE). For the purposes of this plan, all waterways within the UGB (including the Trask and Wilson Rivers) are considered significant riparian resources.

Special Transportation Area

The segment of US-101 from 1st Street to 12th Street (near the southern UGB limits) is designated a special transportation area (STA). An STA is an area of compact development located on a state highway where the need for appropriate local access outweighs the considerations of highway mobility. STAs have specific objectives for access management, automobiles, pedestrian and bicycle accommodation, transit amenities, and development. This may result in lower speeds, narrower lane widths, and wider sidewalks than is otherwise required for the state highway outside of the STA.

Future Growth

Tillamook's population has been relatively stable. Between 2010 and 2015, the City grew by 136 people. As of 2018, the population within the Tillamook Urban Growth Boundary (UGB) is 5,569 based on Portland State University Population Research Center estimates (the UGB is larger than the City limits). The population of Tillamook is expected to grow by about 16 percent by 2040, yielding a population of approximately 6,500 people. This increase in population is expected to be predominately in the southeast corner of the City. There are few projections for local employment growth. Future estimates assume employment to grow proportionally with population growth, from approximately 4,100 jobs in 2017 to 4,800 jobs in 2040. More of these jobs are expected to be along US-101 in the northern portion of the City.

Tillamook Creamery

Though located outside of the Tillamook City limits, the Tillamook Creamery Visitor Center is a major tourist attraction on the Oregon coast and is a significant source of traffic on US-101 – especially during the summer. Approximately one million people visit the Tillamook Creamery Visitor Center each year, contributing to considerable vehicle traffic on US-101.[12] Site accesses to the creamery are located along US-101 and Latimer Road.

TILLAMOOK CREAMERY (2017). SOURCE: TILLAMOOK CREAMERY

[12] Oregon Tourism Commission (2003). Tillamook Community Profile.

Downtown Tillamook

The City's commercial and cultural hub is downtown Tillamook, offering numerous options for shopping, dining, and recreation. The greatest concentration of boutique storefronts, specialty services, and eateries are located along the US-101 couplet (SB Main and NB Pacific Avenues). Other destinations in the downtown vicinity include:

- Tillamook County Library
- Tillamook County Courthouse
- Tillamook City Hall
- Tillamook County Pioneer Museum
- Tillamook Coliseum Theater
- Pelican Brewery and Taproom
- Safeway
- Tillamook Town Square Transit and Visitor Center

Tillamook County Fairgrounds

The Tillamook County Fair is a multi-day event held annually at the Tillamook County Fairgrounds, located south of 3rd Street at Wilson River Loop, attracting 75,000 people in 2016. The Fair typically takes place between the 2nd and 3rd week of August, and places significant, but temporary, freight and automobile demand on the City's transportation system.

TILLAMOOK COUNTY FAIRGROUNDS (2017). SOURCE: TILLAMOOK COUNTY FAIRGROUNDS

Port of Tillamook Bay Employment Area

The Port of Tillamook Bay employment area is a major employment center in Tillamook County, comprising more than 1,600 acres of industrial-zoned land. The Port operates several commercial and industrial assets, including the Tillamook Municipal Airport, an Airport Business Park, and the Air Museum. Outside of the UGB, the Port also owns a 200-acre industrial park that hosts multiple manufacturing and development operations, including Stimson Lumber Mill, CHS Feed Mill, and Hallco Industries. Near Space Corporation, a commercial provider of high-altitude, near-space platforms and flight services for government, academic, and commercial customers, employs many within the Port employment area. Most of the Port's commercial and industrial lands are accessible via US-101.

Tillamook Bay Community College

Tillamook Bay Community College (TBCC) was founded in 1981 and enrolls about 3,500 students. The TBCC main campus is located on the corner of 3rd Street and Marolf Loop Road. In spring 2017, the Partners for Rural Innovation (PRI) Center was opened to support innovation, job readiness, and economic development in the community. The PRI Center houses several community organizations and resources, including an Oregon State University Extension Service, the TBCC Agriculture and Natural Resource degree program, the Tillamook Economic Development Council, the Tillamook Small Business Development Center, and the Visit Tillamook Coast tourism team. The TBCC area is likely to generate consistent trips throughout the day with additional peak AM and PM periods.

Schools

Tillamook currently has four public schools, Tillamook High School, Liberty Elementary School, Tillamook Junior High, and East Elementary School, as well as two private schools, Tillamook Adventist School and Pacific Christian School. These schools are likely to generate peak hour trips in the mornings and afternoons.

1.4 Plan Process

The Tillamook TSP process began in late 2016 and finished in late 2018. The process started with convening a project management team (PMT) consisting of key City, ODOT, and consultant staff. The PMT guided the process throughout the project. A Project Advisory Committee (PAC) composed of 33 stakeholders was created to guide the project team on goals, transportation issues, potential solutions, and the final TSP Update. The PAC met four times through the planning process. The PAC provided key input during different stages of the process and made recommendations to the project team. PAC members represented large employers, freight, transit, schools, active transportation, affordable housing, as well as other interests.

The first meeting introduced the planning process, the project team, and the stakeholders. In the second meeting, the PAC provided high-level thoughts on draft goals and outcomes, feedback on technical findings and preliminary solutions, and discussed transportation needs with the project staff. In the third meeting, the project team shared and solicited PAC feedback on draft transportation solutions and funding recommendations, as well as introduced issues around transportation standards.

1.5 Public Involvement

Public Involvement Goals

The City of Tillamook and ODOT committed to a public involvement approach that:

- Provides early and ongoing opportunities for stakeholders to raise issues and concerns that can be considered through equitable and constructive two-way communication between the project team and the public.
- Encourages the participation of all stakeholders regardless of race, ethnicity, age, disability, income, or primary language by offering alternative accommodations (e.g. translation services, transportation).
- Promotes fair treatment so that no group of people (racial, ethnic, or a socioeconomic group) bears a disproportionate share of the negative environmental consequences resulting from a program or policy.
- Ensures that public contributions are considered in the decision-making process and can influence the development of the TSP.

Through outreach, the project team gathered public and stakeholder feedback on the technical work around existing conditions, future conditions, and future transportation system needs. Comments on the draft TSP goals established the policy framework for TSP outcomes.

Overview of activities

The project team performed the following public involvement activities as early steps in the planning process:

- Development of a Public Involvement Plan (PIP) describing public involvement goals, key messages, and recommended outreach activities for engaging project stakeholders.
- Establishment of a Public Advisory Committee (PAC) comprised of individuals representing Tillamook residents, business owners, non-profit organizations, and affected agencies and jurisdictions. The first PAC meeting was held to Charter the group.
- Creation and launch of a project website at http://tillamooktsp.org/
- Development and periodic update of an interested parties list.
- A review of area demographics to inform the development of outreach strategies to reach low-income, minority, and limited-English proficient residents in compliance with Title VI Civil Rights Requirements.
- A project fact sheet in both English in Spanish.

Subsequent public involvement activities were organized around major project “milestones” corresponding with key points in the planning process.

Milestone #1 – Spring 2018

Public involvement activities corresponding with Milestone #1 were focused on introducing community stakeholders to the TSP planning process, sharing information related the existing conditions of the City’s transportation system, and gathering feedback on draft TSP goals and transportation needs.

Milestone #2 – Fall 2018

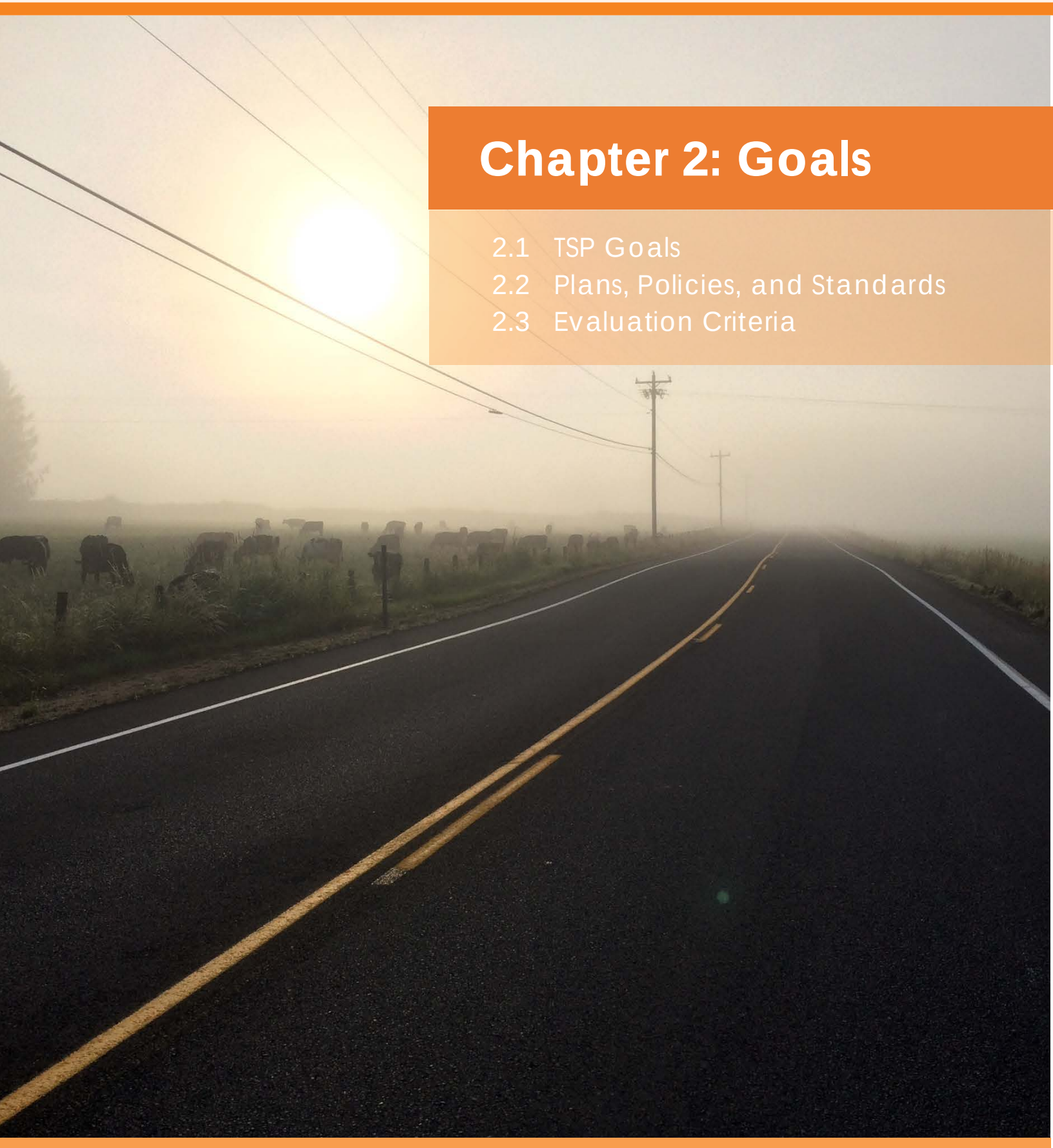
The second outreach milestone focused on sharing the Draft TSP Update with community members and gathering input on TSP policies and projects, and funding and implementation strategy.

Public engagement activities during each milestone included:

- **Project Advisory Committee (PAC) Meetings**
  The first PAC Meeting provided an introduction to the TSP Update, reviewed roles and responsibilities, and discussed TSP goals, objectives, and evaluation criteria.
  Meeting #2 gathered PAC input on plan goals and transportation needs.
  Meeting #3 asked committee members for feedback on transportation needs and draft solutions.
  Meeting #4 focused on gathering PAC feedback on Draft TSP recommendations.
- **Open House Community Events**
  The first open house was an in-person community event to introduce the TSP to the public, share the technical work completed to date, and to solicit public and stakeholder feedback on plan goals and transportation system needs. The second community event was to provide an in-person review of the Draft TSP, and to solicit public and stakeholder feedback on Draft recommendations. All meetings were held in an ADA-accessible facility with translation services offered by ODOT.
- **Online Open Houses**
  In an effort to reach a broader audience and to provide options for community members that could not attend the physical meetings, project staff developed online versions of the open house content to share on the Tillamook TSP website.
- **Advertising and Outreach Activities**
  Outreach activities to encourage broad participation in the open house events included a postcard campaign to approximately 1,500 addresses, an email blast to interested parties, press releases to local media outlets, a website update, and targeted outreach to Tillamook area residents and businesses, including Title VI communities. Materials included instruction on how to request translation services or ADA accommodations.
- **Outreach Milestone: Public and Stakeholder Feedback Summary**
  Provides a summary of public involvement activities, participation, and comments received during each outreach milestone.

A summary of all recorded comments is provided in Figure 2.

FIGURE 2. PUBLIC AND STAKEHOLDER FEEDBACK SUMMARY



Chapter 2: Goals

2.1 TSP Goals
2.2 Plans, Policies, and Standards
2.3 Evaluation Criteria

City of Tillamook
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Chapter 2: Goals and Policies

This section establishes the goals and project evaluation framework used to develop the plan, including relevant plans, policies, and standards that informed the TSP Update.

2.1 TSP Goals

These goals reflect the vision for Tillamook's future based on input from the public and stakeholders, as well as state goals, laws, and the Tillamook Comprehensive Plan These goals guided the TSP Update process and informed the selection of projects, programs, and policies contained in the plan.

Goal 1: Coordination

Maintain a Transportation System Plan that is consistent with the goals and objectives of the City of Tillamook, Tillamook County, the state, and the Tillamook County Transit District Transit Development Plan.

Goal 2: Safety

Provide a transportation system that is safe for all users.

Goal 3: Livability and Economic Vitality

Provide a transportation system that balances transportation system needs with the community desire to maintain a pleasant, economically vital City and support public health.

Goal 4: Accessibility and Connectivity

Develop an interconnected, multimodal transportation system that connects all members of the community to destinations within and beyond the City.

Goal 5: Mobility

Provide a balanced, multimodal transportation system that supports the movement of people and goods.

Goal 6: System Preservation

Maintain and preserve existing transportation infrastructure and mitigate transportation impacts from new development resulting in changes in land use to comply with state highway performance, mobility, and access management standards.

Goal 7: Public Transportation

Support cost-effective and safe public transportation through and within Tillamook.

Goal 8: Pedestrian and Bicycle Facilities

Create an interconnected system of pedestrian and bicycle facilities in Tillamook to encourage increased travel by walking or bicycling.

Goal 9: Environment

Provide a transportation system that balances travel needs with the need to protect the environment and significant natural features.

Goal 10: Funding

Develop local funding options and seek grants and financing, as appropriate, for City transportation improvements identified in the TSP.

2.2 Policies

The following policies help implement the TSP Update, support corresponding Tillamook Development Code amendments, meet the requirements of the Transportation Planning Rule (TPR), and reflect state goals and policies in the Oregon Transportation System Plan (OTP).

Goal 1: Coordination

Policies

1-1. Provide a transportation system that is consistent with other elements and objectives of the City of Tillamook City Comprehensive Plan, Oregon Transportation Plan, The Tillamook County Transit District Transit Development Plan, and other policy documents.

1-2. Coordinate with the Port of Tillamook Bay regarding the Tillamook Airport, the Port of Tillamook Bay Industrial Park and the Port of Tillamook Bay short line railroad.

1-3. Coordinate land use and transportation decisions to efficiently use public infrastructure investments to:

a. Maintain the mobility and safety of the roadway system

b. Foster compact development patterns[13]

c. Encourage the availability and use of cycling, walking and transit

d. Enhance livability and economic competitiveness

Goal 2: Safety

Policies

2-1. Work with the Port of Tillamook to improve the safety of rail crossings.

2-2. Maintain safe crossings and facilities, including street lighting, for vehicles, bicycles and pedestrians across highways and major arterials. Develop, maintain, and enhance lifeline and evacuation routes in coordination with local, regional, state and private entities.

2-3. Establish, seek funding for, maintain, and promote safe and efficient critical emergency prioritization routes, including the route north of OR 131/OR 6 and the route to the Tillamook Airport, which is a critical disaster recovery facility.

[13] This refers to leveraging TSP investments to create a responsible and efficient transportation system within the Urban Growth Boundary.

2-4. Effectively and safely manage vehicle, pedestrian, and bicycle traffic, prioritizing Safe Routes to Schools programs and projects.

2-5. Prioritize safety enhancements on US-101 Main and Pacific Streets through downtown Tillamook to improve safety for pedestrians, bicyclists, and vehicles. Consider implementing traffic calming techniques at other locations, as identified in the Transportation System Plan and as appropriate, consistent with the Neighborhood Traffic Management tools and strategies.

2-6. Consider transportation system resiliency when developing and designing transportation projects of all kinds.

Goal 3: Livability and Economic Vitality

Policies

3-1. Minimize adverse social, economic and environmental impacts created by the transportation system, including balancing the need for street connectivity and the need to minimize cut-through traffic and speeding in neighborhoods.

3-2. Preserve, protect and ensure access to the City's significant natural features and historic sites, including the Tillamook County Pioneer Museum.

3-3. Improve transportation facilities and minimize traffic congestion in the downtown commercial area without major disruption to downtown character.

3-4. Promote pedestrian-oriented design and the provision of pedestrian amenities in the downtown area, such as pedestrian-scale lighting and street trees.

3-5. Ensure adequate vehicle and bicycle parking and parking signage in the downtown commercial area, using techniques such as shared parking areas where appropriate.

3-6. Balance the needs of maintaining access to the Hampton Lumber Company site and of enhancing neighborhood livability.

3-7. Collaborate with event managers to develop plans and actions for addressing event-based traffic congestion and safety issues, including the ability for emergency vehicles to access facilities.

3-8. Implement land use compatibility and safety standards to promote air navigational safety at the Tillamook Airport, preserve airport operations, and reduce potential safety hazards for persons living, working or recreating near the airport.

3-9. Preserve and maintain designated freight routes to accommodate freight system efficiency, access, connectivity, and travel reliability for local freight haulers while maintaining the needs of other users.

3-10. As property along state highways redevelop, consider opportunities for access consolidation or shared access to reduce connections to improve access spacing.

Goal 4: Accessibility and Connectivity

Policies

4-1. Consider the needs of people who are transportation disadvantaged when developing alternatives to meet travel needs.

4-2. Continue to upgrade existing transportation facilities and work with public transportation providers to provide services that improve access for all users.

4-3. Maintain safe and direct travel routes for pedestrians, bicyclists and those using mobility devices.

4-4. Promote designated freight routes and route alternatives to ease adverse impacts (congestion, noise, safety) of commercial truck traffic in town.

4-5. Provide a network of arterials, collectors and local streets that are interconnected, appropriately spaced and reasonably direct in accordance with City and state design standards and the Transportation System Plan.

4-6. Minimize travel distances and vehicle-miles traveled by requiring connected street grids and limiting cul-de-sac developments.

4-7. Expand pedestrian, bicycle, and transit-supportive infrastructure through multi-use paths, trails, sidewalks, bikes lanes, and other facilities.

4-8. Balance local circulation, safety, and access with freight and public transportation needs.

Goal 5: Mobility

Policies

5-1. Balance the safe and efficient movement of motor vehicles, pedestrians, bicyclists, transit, trucks, and trains within and through Tillamook.

5-2. Maintain appropriate levels of service on City streets and meet state and local mobility standards.

5-3. Limit access points on highways in accordance with state standards, and on arterials using techniques such as alternative access points when possible to preserve mobility.

5-4. Maintain access management standards for new development and existing access problems to preserve the safe and efficient operation of roadways, consistent with functional classification.

5-5. Balance mobility on the state highway system with community livability.

Goal 6: System Preservation

Policies

6-1. Maintain and preserve the roadways within the City of Tillamook in a state of good repair.

6-2. Preserve locations for potential future transportation connections, as identified in the Transportation System Plan.

6-3. Develop an equitable system where developers aid in the development of the transportation system by contributing a fair and proportionate share toward on-site and off-site transportation system improvements. Where appropriate, this will include dedicating or reserving needed rights-of-way, constructing half or full street improvements and constructing off-street pedestrian, bicycle and transit facilities needed to serve new development.

6-4. Prioritize sidewalk pavement improvements for the downtown area.

6-5. Shift vehicular travel to off-peak periods by encouraging Transportation Demand Management (TDM) strategies, as identified in the adopted Transportation System Plan.

6-6. Improve travel reliability and safety with Transportation System Management strategies identified in the Transportation System Plan, including employing advanced technologies and management techniques to increase the efficiency of existing transportation infrastructure.

Goal 7: Public Transportation

Policies

7-1. Work with the public transportation providers to develop transit systems, stations, and related facilities in convenient and appropriate locations.

7-2. Improve signage and amenities at transit stops and stations.

7-3. Work with public transportation providers to expand seasonal transit service as necessary during summer months of peak travel.

7-4. Coordinate with public transportation providers to identify and address the public transportation needs of people who are transportation disadvantaged.

7-5. Increase north-south service frequency to heavily-trafficked areas.

7-6. Provide annual incremental route expansion as necessary to meet transit demand.

7-7. Provide transit pull-outs on City, state, and county facilities.

7-8. Add additional shelters at stops where there are none.

7-9. Advertise and promote TCTD services in the City of Tillamook.

7-10. Coordinate TCTD, ODOT, and Tillamook County efforts to explore the need for implementing TDM measures, such as carpooling and vanpooling in the County.

Goal 8: Pedestrian and Bicycle Facilities

Policies

8-1. Maintain and enhance safe, attractive and convenient pedestrian and bicycle facilities in the downtown area, accessing transit, parks, medical facilities, public open space, and with new development.

8-2. Preserve and enhance the Oregon Coast Bike Route along U.S. 101 to support bicycle tourism.

8-3. Support implementation and refinement of important regional trails, including the Salmonberry Trail, Three Capes Scenic Loop, the Oregon Coast Trail, the National Water Recreation Trail and access to Tillamook's waterways.

8-4. Work to develop safe, connected pedestrian and bicycle facilities near schools, residential and commercial districts, and complete pedestrian loops envisioned in the Parks and Recreation Master Plan.

8-5. Support the development of bicycle facilities on all highways, arterial streets, major collectors, and minor collectors.

8-6. Use unused rights-of-way for greenbelts, walking trails or bike paths where appropriate.

8-7. Encourage bicycle parking facilities in conjunction with new commercial, employment, and multi-family developments, transit stations, and schools and other institutional land uses to encourage travel by bicycle.

8-8. Implement findings from the Tillamook Wayfinding Plan.

8-9. Implement traffic calming on US-101 Main and Pacific Avenues through downtown Tillamook, building on recent crossing improvements from the US-101/OR-6 Traffic Improvement Project.

8-10. Consider seasonal parking policies to accommodate peak bicycle use during busy season without permanent parking removal.

Goal 9: Environment

Policies

9-1. Promote a transportation system that encourages energy conservation through an efficient street grid.

9-2. Encourage use of active transportation and transit and development that minimizes reliance on the automobile.

9-3. Minimize transportation impacts on coastal and inland natural resources.

9-4. Encourage improvements that minimize the impacts associated with frequent flooding.

9-5. Support the reduction of greenhouse gas emissions from transportation sources, including promoting travel options that allow individuals to reduce single-occupant vehicle trips, such as carpooling, public transit, walking, and bicycling.

Goal 10: Funding

Policies

10-1. Prioritize funding of projects that are most effective at meeting the goals and policies of the Transportation System Plan.

10-2. Develop and implement a transportation impact fee program to collect funds from new developments to be used for off-site and on-site transportation improvements.

10-3. Seek funding opportunities for a range of projects in coordination with county, state and federal agencies.

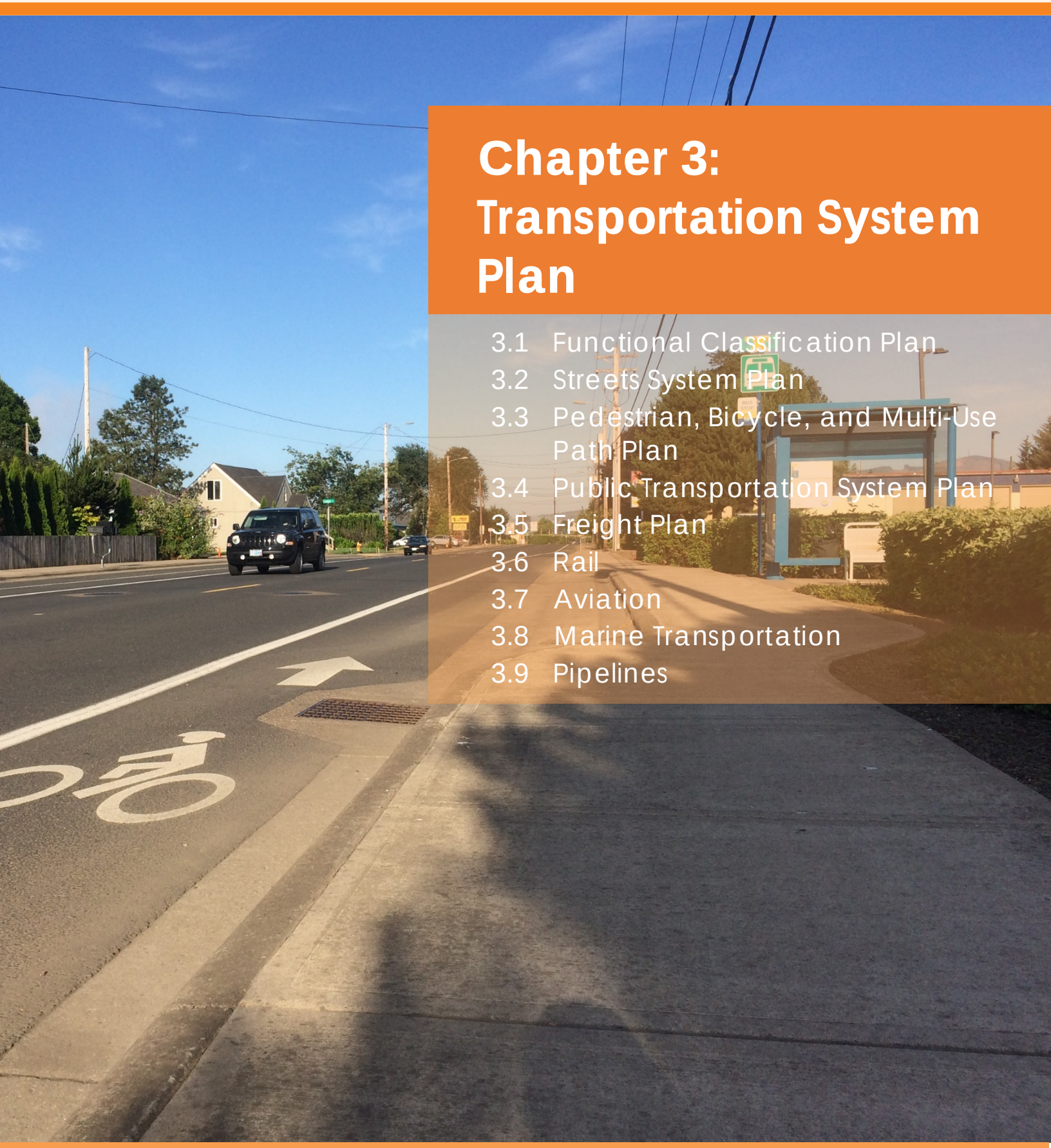
10-4. Implement improvements that meet applicable local, county, state and federal plans, standards and criteria.

2.3 Evaluation Criteria

The TSP goals provide a framework for shaping transportation policies, programs, and evaluating projects. The project team used the evaluation criteria in Table 2 below to evaluate projects for inclusion and prioritization in the TSP. These criteria measure projects' performance relative to TSP goals.

TABLE 2. TSP UPDATE EVALUATION CRITERIA

TSP Goal	Criteria
Goal 1: Coordination	• Is consistent with local, state, and federal plans and policies • Supports the City's land use vision
Goal 2: Safety	• Improves transportation safety • Improves crossing safety (rail, pedestrian, etc.) • Enhances emergency preparedness/community resiliency
Goal 3: Livability and Economic Vitality	• Improves or provides access to key destinations (e.g., parks, downtown) • Addresses parking issues in downtown
Goal 4: Accessibility and Connectivity	• Enhances the active transportation or transit network • Improves facilities for those using mobility devices
Goal 5: Mobility	• Enhances mobility for all modes • Addresses known access issues on state highways or major arterials
Goal 6: System Preservation	• Preserves or maintains existing transportation facilities
Goal 7: Public Transportation	• Enhances public transportation services (e.g., new routes, shelters) • Improves bicycle and pedestrian connections to public transportation stops
Goal 8: Bicycle and Pedestrian Facilities	• Enhances bicycle and pedestrian facilities within and to downtown • Enhances bicycle and pedestrian facilities to schools • Develops new trails or connects to trails, in accordance with local trail plans
Goal 9: Environment	• Minimizes impacts to natural resources
Goal 10: Funding	• Is cost effective • Could be eligible for multiple federal, state, or local funding or financing programs



Chapter 3: Transportation System Plan

3.1 Functional Classification Plan
3.2 Streets System Plan
3.3 Pedestrian, Bicycle, and Multi-Use Path Plan
3.4 Public Transportation System Plan
3.5 Freight Plan
3.6 Rail
3.7 Aviation
3.8 Marine Transportation
3.9 Pipelines

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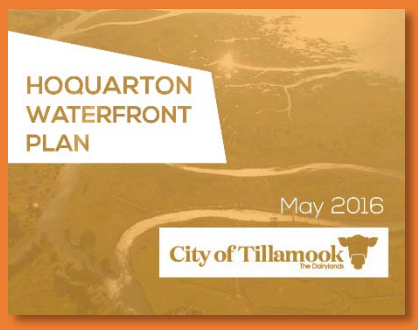
Chapter 3: Transportation System Plan

This section describes the long-range plan for Tillamook's transportation system. TSP projects are comprised of programs, policies, and capital projects that respond to current and future transportation needs and deficiencies in the City. The system plan seeks to balance priorities for all users of Tillamook's transportation system, including those travelling by car, bike, on foot, or transit and to provide a long-range investment strategy that reflects the values of Tillamook's community.

The planning process to develop the TSP projects included a review of the existing transportation system, current and future transportation needs, an evaluation of potential solutions, and the development of a funding and implementation plan to arrive at a final list of projects. The TSP is based on technical analysis performed by the project team as well as input received from City staff, the Project Advisory Committee (PAC), and community stakeholders. Some of the projects in this section were included in the original 2003 TSP; other projects are new to the TSP Update.

The 2003 Tillamook TSP identified several improvements to improve pedestrian, bicycle, and vehicle safety in the downtown area, including changes to intersections on US-101 and a recommendation for consideration as a Special Transportation Area (STA), which the Oregon Department of Transportation (ODOT) subsequently conferred. Many of the projects described in this section are derived from the 2003 TSP and the 2016 Hoquarton Waterfront Plan. The Hoquarton Waterfront Plan and subsequent amendments have been recently adopted by the City and the projects it contains will be carried forward as part of the TSP Update. The City of Tillamook is the lead for all projects unless otherwise noted.



The Hoquarton Waterfront Plan (2016) provided a blueprint for future commercial, light industrial, residential, and recreational development in the Tillamook town center. The Plan identified projects and programs in four key focus areas in the Hoquarton area. Many of these projects are incorporated into this TSP Update.

Planning level cost estimates and funding priorities are included for all projects and strategies. It's important to note that all cost estimates are reported current construction dollars and are not adjusted for future escalation. Priority is discussed in terms of implementation timeframe. Project timeframes

are designated as either short- (0 – 5 years) or long-term (5 – 20 year). Projects identified as community priorities were designated as short-term projects while lower-priority projects requiring additional refinement, analysis, or funding opportunities were designated as long-term projects. Project timelines also considered current and future available funding for capital projects and programs. The City of Tillamook is considered the lead for all projects, although projects on state or port facilities, or improvements to the City's transit system assume partnership with the Oregon Department of Transportation (ODOT), the Port of Tillamook Bay (POTB), and Tillamook County Transportation District (TCTD) unless noted otherwise. This TSP is not financially constrained.

3.1 Functional Classification Plan

The City's functional classification system describes the intended function of City streets and is an important tool for organizing and managing the roadway network. The street functional classification system recognizes that individual streets do not act independently of one another, but instead form a network that works together to serve travel needs on a local and regional level. By designating the management and design requirements for each roadway classification, the hierarchal system supports a network of streets that perform as desired. Roadways are functionally classified as Principle or Minor Arterial, Collector, or Local Roadways. Complete descriptions of each functional classification are provided in Appendix E: Existing Conditions.

2040 Functional Classification System

The existing (2018) and 2040 functional classification systems for roadways in the City of Tillamook are shown in Figures 3 and 4 below. The 2040 functional classification system includes new street extensions proposed as part of the TSP Roadway System (see section 3.2 below). Figure 4 shows changes to the existing functional classification in yellow highlighter.

Classifications shown for County roads inside the Tillamook Urban Growth Boundary reflect the City's desired function for those facilities. These classifications may not match those shown in Tillamook County's TSP. However, Tillamook County policy is to apply City standards to County facilities within the Urban Growth Boundary. Therefore, it is anticipated that Tillamook standards will be applied to County roads. Key changes to the 2018 functional classification are as follows:

- Reclassify Elm Street from 1st Street to 12th Street as a Minor Collector to provide improved north-south connectivity through the City.
- Reclassify 4th Street from a Minor Collector to a Local Street.
- Reclassify 5th Street and Birch Avenue from 5th to 3rd Streets as Minor Collectors to provide an improved future east-west connection through the City. In addition, it will also provide better spacing and separation from the designated Major Collector on 3rd Street.
- Reclassify Dogwood Avenue as a Minor Collector.

FIGURE 3. EXISTING FUNCTIONAL CLASSIFICATION (2018)

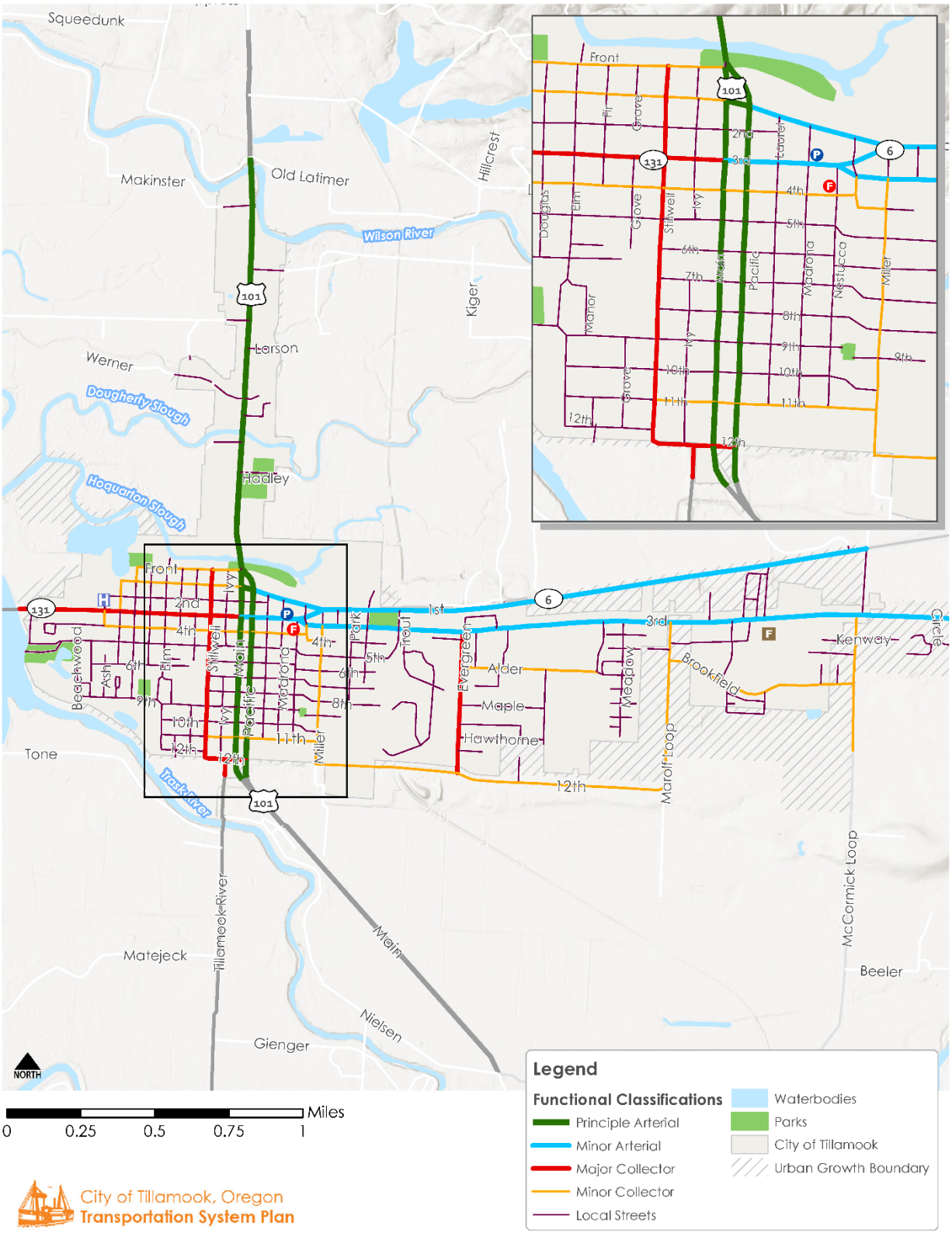
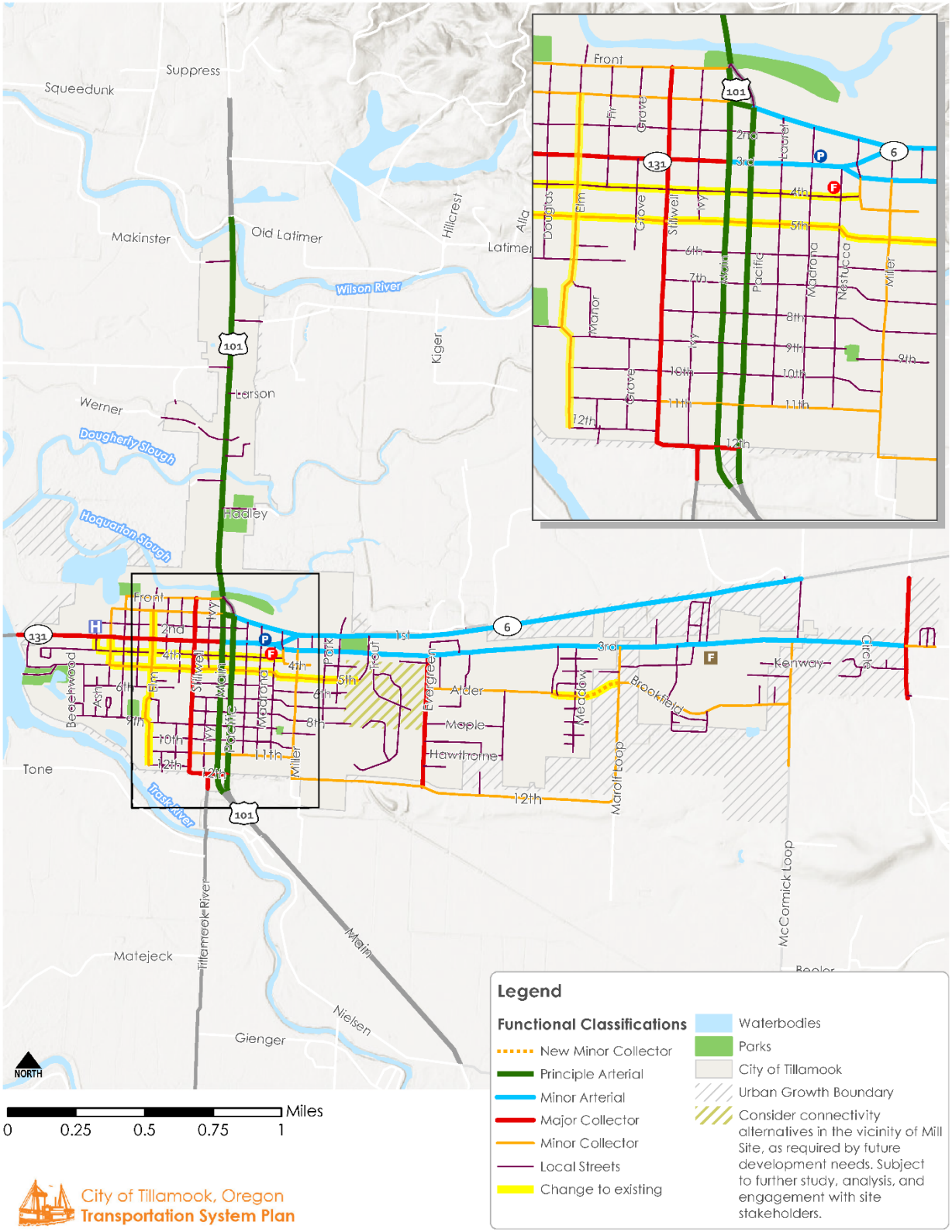


FIGURE 4. 2040 STREET CLASSIFICATION SYSTEM



City of Tillamook, Oregon
Transportation System Plan

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Local Street Connectivity

Local street connectivity is required by the state Transportation Planning Rule (OAR 660-012) and is important for Tillamook's continued development. Providing adequate connectivity can reduce the need for wider roads, traffic signals, and turn lanes. Increased connectivity can reduce a city's overall vehicle miles traveled (VMT), balance the traffic load on major facilities, encourage residents to seek out other travel modes, and reduce emergency vehicle response times. While improvement to local street connectivity is easier to implement in developing areas, retrofitting existing areas to provide greater connectivity should also be attempted.

Tillamook's existing street connectivity is constrained by highways, natural features such as streams and wetlands, and by undeveloped areas of future development. The proposed Local Street Connectivity Plan shown in Figure 5 identifies approximate locations where new local street connections should be installed as areas continue to develop. The locations identified in Figure 5 are not an exhaustive list of all future local street connections. Rather, the purpose of the maps is to ensure that new developments accommodate circulation between adjacent neighborhoods to improve connectivity for all modes of transportation. Additional connections to improve the street network grid are not shown.

These locations included in Figure 5 are general locations where new local streets could potentially be installed as nearby areas are developed or as the opportunity arises. The conceptual locations shown do not necessarily reflect developability due to topographic, environmental, or manmade constraints. Locations identified are conceptual and must still go through City review to determine the appropriate location for a local street connection in the vicinity.

The design and construction of new connecting streets should evaluate whether neighborhood traffic management strategies are necessary to protect existing neighborhoods from potential traffic impacts caused by extending stub end streets. To establish appropriate expectations, the City should require the installation of signs indicating the potential for future connectivity when development constructs stub streets.

3.2 Roadway System Plan

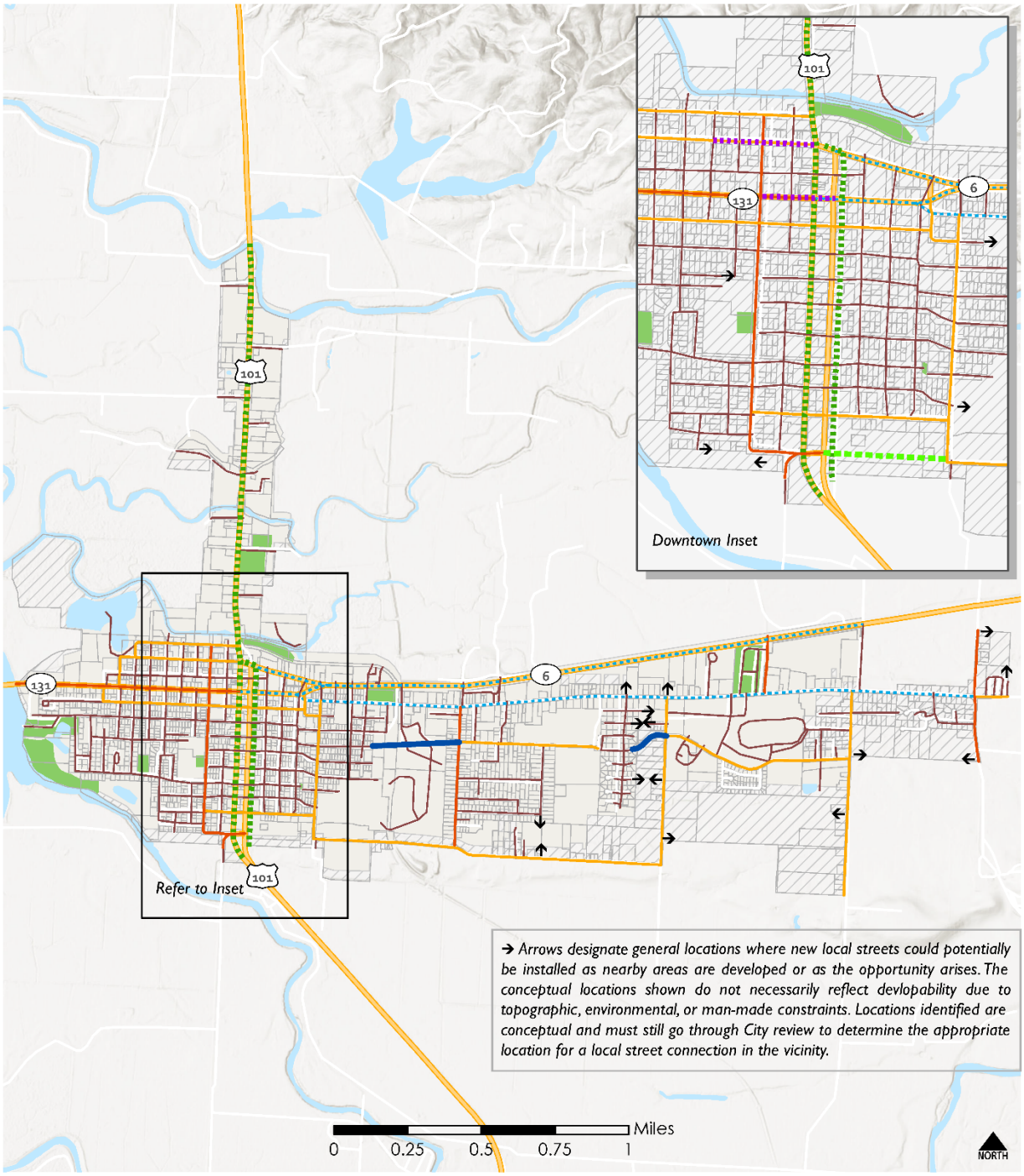
Roadway System Conditions

The following section existing conditions, needs, and deficiencies to the various roadway elements for vehicle travel in Tillamook, including intersection operations, network connectivity, roadway geometry, safety, access management, and pavement conditions.

Operational Deficiencies

Future (2040) PM peak hour traffic operations were evaluated at 20 study intersections for the seasonal summer peak. One intersection, Evergreen Drive and 3rd Street, has a level of service (LOS) F, which exceeds the mobility target of LOS D for a City minor approach. The critical movement at this intersection is the northbound left turn. Under existing conditions, this intersection approach operates at LOS E, with a v/c ratio of 0.58, which would increase with traffic growth projected to occur along 3rd Street. All other study intersections meet mobility targets under both existing and 2040 conditions.

FIGURE 5. LOCAL STREET CONNECTIVITY PLAN



Local Street Connectivity Plan

City of Tillamook, Oregon
Transportation System Plan

Legend

- Future Collector Extensions
- Potential Location of New Local Street Connection (Conceptual)

Functional Class

- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local

- Waterbodies
- Parks
- City of Tillamook
- Urban Growth Boundary

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Safety Needs

Multiple locations along US-101, OR-6, and 3rd Street were identified as safety focus areas based on observed crash rates and frequency of crash types. Most of these locations are less than on half mile in length and are disproportionately impacted by clusters of collisions near intersections[14]. Further investigation would be required to identify segments that would benefits from safety countermeasures.

Access Management

State highways in Tillamook generally do not meet ODOT access spacing standards as defined in the Oregon Highway Plan (Table 3). This is primarily due to business development along most of the corridors prior to implementation of current access management standards. In the downtown area, there are often multiple private driveways between blocks, which can lead to vehicular and pedestrian conflicts. The City has attempted to mitigate this by abandoning accesses on Federal Emergency Management Agency (FEMA) purchased properties with multiple driveways, as well as consolidating highway access points to adjoining parcels.

TABLE 3. ACCESS SPACING STANDARDS FOR STATE HIGHWAYS [15]

Facility	Designation	Access Spacing (feet) for the Posted Speed (mph)				
		≤25	30-35	40-45	50	≥55
US-101	Rural Statewide Highway	550	770	990	1100	1320
OR-6	Rural Regional Highway	450	600	750	830	990
OR-131	Rural District Highway	400	400	500	550	700
All	Downtown Areas [A]	City Block	270	Mid-Block	135	

[A] Minimum access management spacing for public road approaches is the existing city block spacing or the city block spacing as identified in the local comprehensive plan. Public road connections are preferred over private driveways and in STAs driveways are discouraged. However, where driveways are allowed and where land use patterns permit, the minimum access management spacing for driveways is 150 feet (46 meters) or mid-block if the current city block is less than 300 feet (91 meters).

The following highway segments currently do not meet access spacing standards:

- US-101: from Northern UGB Limits to Southern UGB Limits
- OR-6: from Del Monte Avenue to US-101 North
- OR-131 WB: from US-101 South to Grove Avenue

Neighborhood Traffic Calming

No specific neighborhood traffic calming treatments are included in the TSP. A toolbox of neighborhood traffic calming applications is provided in *Appendix G: Future Needs* of the TSP.

System Connectivity

Tillamook's existing street connectivity is constrained by highways, natural features such as streams and wetlands, and by undeveloped areas of future development. In general, arterial spacing of

[14] Oregon Department of Transportation. Analysis Procedures Manual, Version 2, Section 4.3.4 Critical Crash Rate. 2017.

[15] Oregon Department of Transportation. 1999 Oregon Highway Plan, *Appendix C: Regulatory Review*, Tables 14-16. 1999.

approximately one-mile, collector spacing of approximately half-mile, and additional connectivity provided by lower level streets provides an ideal street system for mobility and connectivity. Providing adequate connectivity can reduce the need for wider roads, traffic signals, and turn lanes. Increased connectivity can reduce a City's overall vehicle miles traveled (VMT), balance the traffic load on major facilities, encourage residents to seek out other travel modes, and reduce emergency vehicle response times. Local street connectivity is required by the state Transportation Planning Rule (OAR 660-012) and is important for Tillamook's continued development. While improvements to local street connectivity are easier to implement in developing areas, the City may also consider retrofitting existing areas.

North-south connectivity is served by several routes, including primarily US-101. East-west connectivity is limited, however, due to existing development between downtown and the eastern part of the City. Connectivity gaps are summarized below:

- **Through Route Gap:** The network southwest of downtown lacks a defined through route (minor collector). Current local through routes are 9th Street and Cedar Avenue.
- **East-West Connectivity Gap:** The network east of downtown lacks a major collector east-west route. Ideally, it should be spaced approximately within a half-mile from the nearest arterial, 3rd Street. The existing alignment of 12th Street meets the spacing threshold, but the facility is classified as a minor collector, and a gap exists between Marolf Loop Road and McCormick Loop.
- **Missing Roadway Connection:** There is a roadway connectivity gap on 12th Street between Miller Avenue and US-101 (Pacific Avenue). Such a connection would provide a direct collector connection between downtown and the east side of town. However, due to topography, wetlands, and Holden Creek, such a connection in direct alignment with 12th Street is not feasible. This location is targeted for a pedestrian connection. Alternate roadway improvements may be considered to fill this connectivity need.
- **Downtown Connectivity Gap:** There is a connectivity gap between downtown and eastern Tillamook at the mill site. There is a half-mile gap in both the north-south and east-west directions
- **East Connectivity Gap:** There is no defined north-south collector connection from OR 6 to another east-west collector on the east side of town. There are also other minor collector east-west connectivity gaps between 3rd Street and 12th Street, e.g. between Alder Lane and Brookfield Avenue.

Pavement Conditions

Pavement conditions in Tillamook vary, although most streets will require some level of maintenance and repair within 5 years of the writing of this plan. The ODOT Pavement Management System requires biennial pavement condition reports for all state mainline highways within the City. As of the writing of this plan, pavement condition survey work was last completed in the Summer of 2018, with the next report scheduled for 2020. Within City limits, pavement conditions on US-101 range from fair to poor, except where recent improvements have been made as part of the OR-6/US-101 Traffic Improvement project. Pavement conditions along OR-131/OR-6 range from good to very good, except for the segment between US-101/NB Pacific Avenue and Delmonte Avenue which was assessed to be in poor condition.

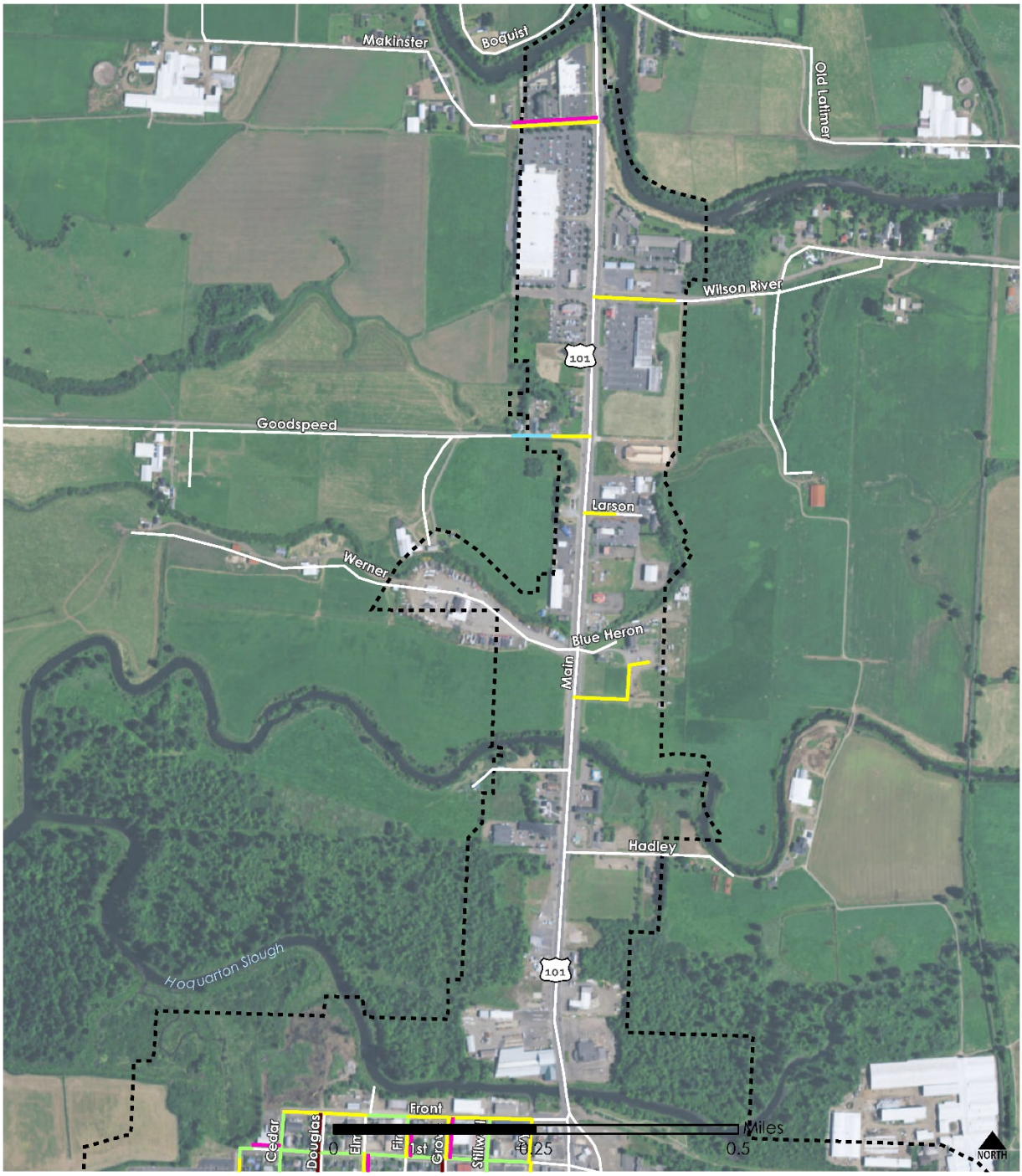
Most local streets within the City need griding/paving or chip seal within the next 5 years. Some streets, including segments of Douglas, Grove, 7th, 8th, and 9th Streets have been assessed to be in such poor condition that they need to be completely rebuilt within 5 years. Few streets, such as segments of

Nestucca, 6th, and 4th Streets currently have minimal maintenance needs such as concrete street patching and pothole infill. Generally speaking, the local street network on the east side of town is in good condition, with substantial portions of Evergreen, 12th, Alder, and OR-6/3rd Streets requiring no near-term maintenance or repair. Pavement conditions on streets near Tillamook Medical Center including segments of Beechwood, 4th, 5th, and Cedar Streets have also been assessed to be in good repair. Figures 6-8 below display pavement conditions on local streets. Figure 9 displays pavement conditions on US-101, OR-6, and OR-131.

Failure to keep roads in a state of good repair has exponentially greater costs than maintaining the system properly over time. Pavements degrade over time and must be resurfaced or rehabilitated periodically to keep them in acceptable conditions. Resurfacing on a regular cycle helps confine degradation to the pavement's surface while protecting the foundation and base layers, avoiding the need for complete replacement. If resurfacing is delayed for too long, the foundation can become damaged and complete replacement becomes necessary at much higher cost.[16] Timely maintenance and preservation by performing the right treatment to the right road at the right time is by far the most efficient way to preserve the City's investment.

[16] The typical cost to preserve pavement through resurfacing is about $200,000 for each lane mile, while reconstructing that same lane mile after it fails can reach $1.5 million. Source: ODOT Pavement Unit (2019).

FIGURE 6. PAVEMENT CONDITIONS – LOCAL STREETS - NORTH OF DOWNTOWN



Road Conditions

City of Tillamook, Oregon
Transportation System Plan

Legend

- Complete Rebuild within 5 yrs
- Overlay within 5 yrs
- Griding/Paving within 5 yrs
- Chip Seal within 5 yrs
- Concrete Street Needs Patching
- Pothole Patching to Maintain
- Nothing Needed
- City of Tillamook

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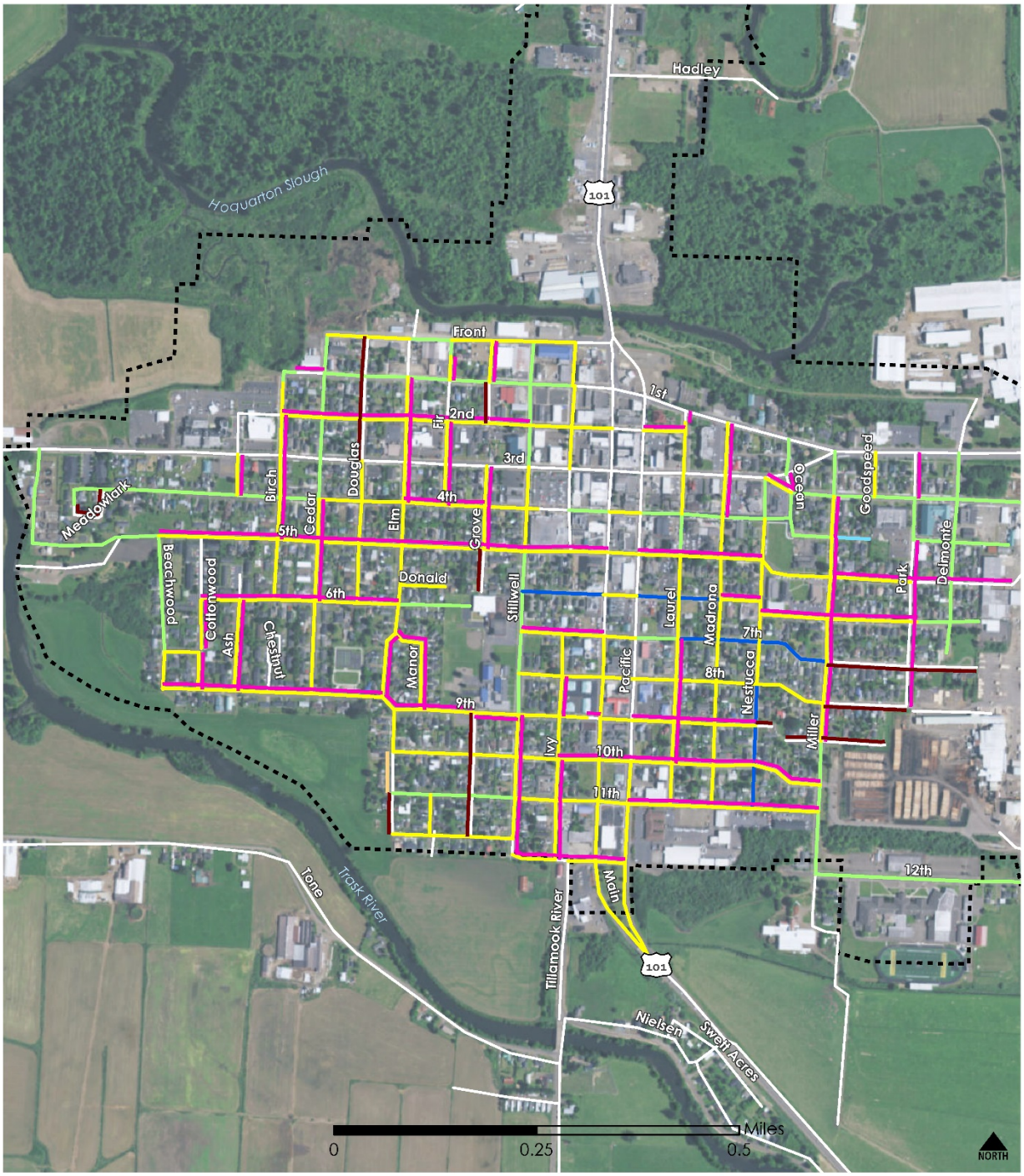
FIGURE 7. PAVEMENT CONDITIONS – LOCAL STREETS - DOWNTOWN EXTENT



Road Conditions

City of Tillamook, Oregon
Transportation System Plan

Legend

- Complete Rebuild within 5 yrs
- Overlay within 5 yrs
- Griding/Paving wtihin 5 yrs
- Chip Seal within 5 yrs
- Concrete Street Needs Patching
- Pothole Patching to Maintain
- Nothing Needed
- City of Tillamook

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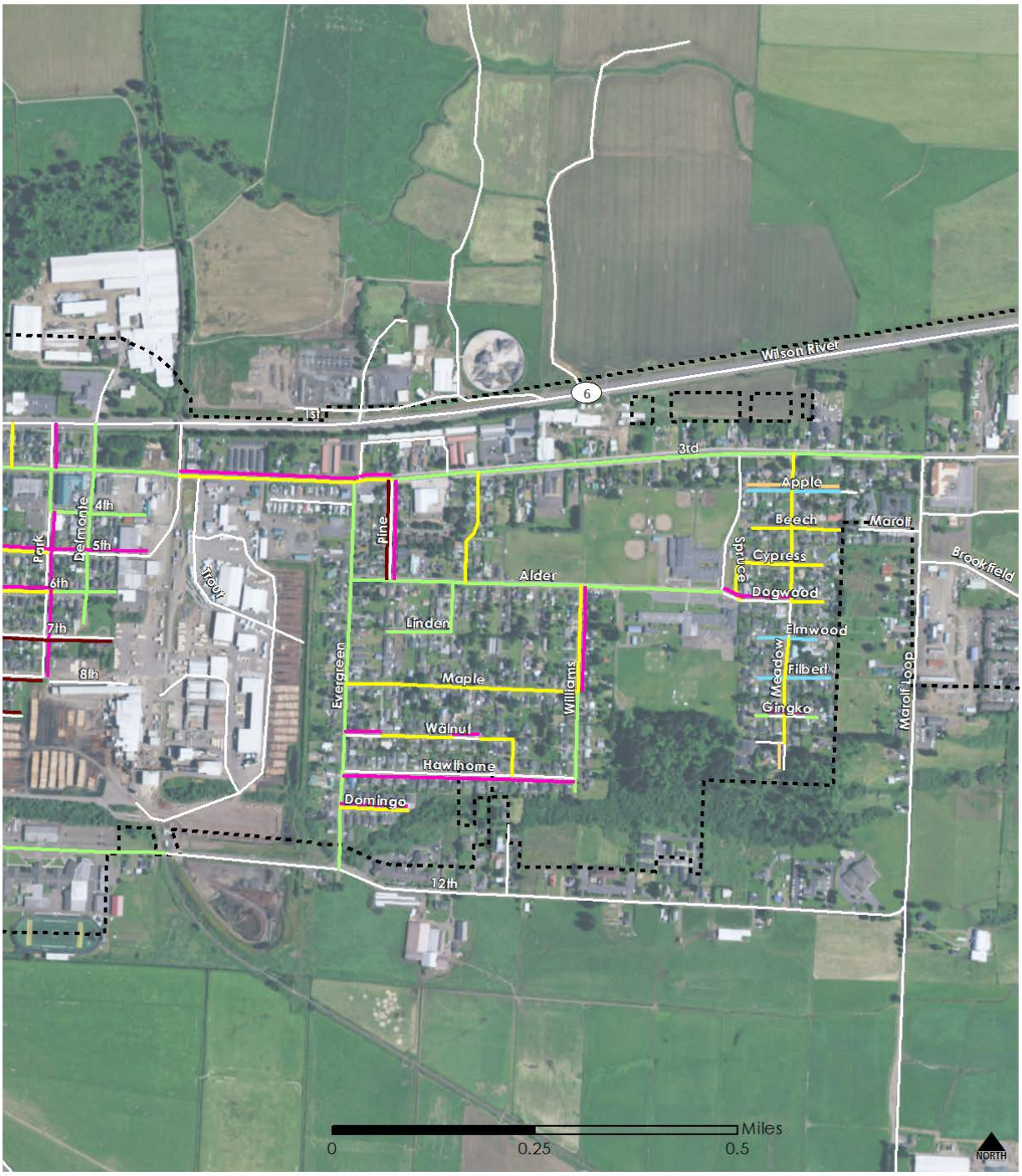
FIGURE 8. PAVEMENT CONDITIONS – LOCAL STREETS - EAST OF DOWNTOWN



Road Conditions

City of Tillamook, Oregon
Transportation System Plan

Legend

- Complete Rebuild within 5 yrs
- Overlay within 5 yrs
- Griding/Paving within 5 yrs
- Chip Seal within 5 yrs
- Concrete Street Needs Patching
- Pothole Patching to Maintain
- Nothing Needed
- City of Tillamook

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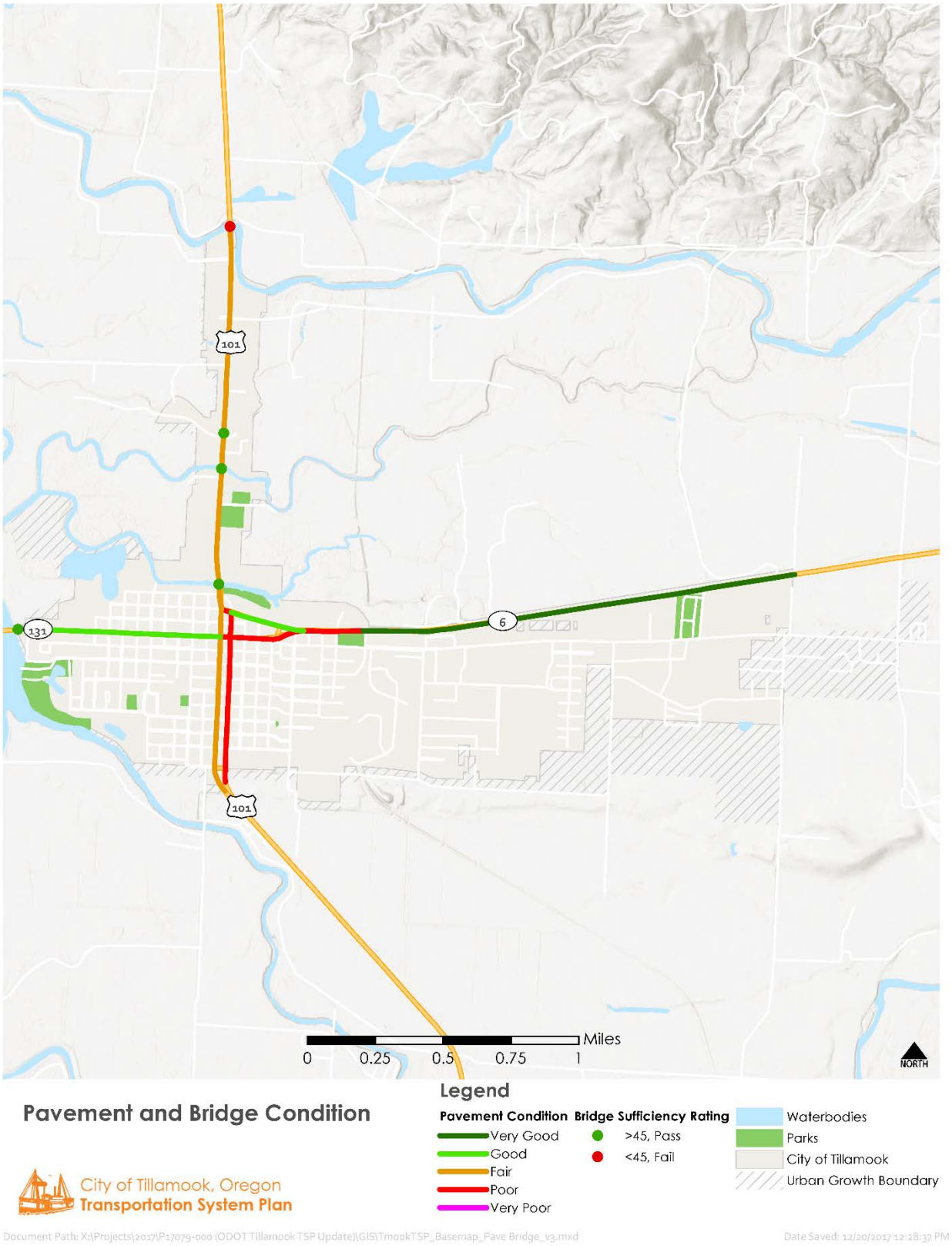
FIGURE 9. PAVEMENT CONDITIONS – US-101, OR-6, AND OR-131



Roadway System Projects

Table 4 and Figure 10 below summarize roadway, traffic, and safety projects identified as part of the TSP Update.

Several projects were evaluated to address roadway connectivity gaps and improve the connectivity of the primary collector and arterial system in Tillamook. Connectivity projects were evaluated to determine the potential to shift traffic from the 3rd Street corridor, which is a critical east-west corridor (and is projected to carry additional future traffic as growth occurs in the eastern area of the City). While these projects were evaluated based on traffic mobility, each connection would provide full multi-modal travel. In some cases, several alignments were analyzed for a single gap. None of the connectivity projects were individually found to provide significant traffic relief to 3rd Street. Thus, the intention of these projects remains to be a focus on connectivity (providing alternate routes, reducing travel distance, etc.), rather than mobility and congestion relief.

TABLE 4. ROADWAY SYSTEM PROJECTS[17]

Project	Timeframe	Project Cost[18]	Responsible Jurisdiction
3rd Street and Evergreen Drive Intersection Improvement (R-1) – Alternative 3 Two-Way Left Turn Lane This alternative provides the greatest mobility benefit at the lowest cost.	Long-term	$307,000	City of Tillamook
3rd Street and Marolf Loop Road Intersection Improvement (R-2) – Alternative 3 Two-Way Left Turn Lane This alternative provides the greatest mobility benefit at the lowest cost.	Long-term	$289,000	City of Tillamook in partnership with Tillamook County
Hampton Lumber Company Connectivity (R-4) Consider connectivity alternatives as required by future development needs. Potential connections and street upgrades include 5th and 8th Streets from Miller Avenue to Evergreen Drive. Subject to further study, analysis, and engagement with site stakeholders.	Long-term	TBD	City of Tillamook
US-101/ Hadley Road Access Control (R-7) Consolidate driveways near intersection of US-101 and Hadley Road	Long-term	$85,000[19]	City of Tillamook in partnership with ODOT
Ocean Place Roundabout (R-9) Construct a roundabout at Ocean Place and 3rd and 4th Streets and realign approaches. Provide advanced signing and striping to provide safe operating conditions.	Long-term	$1,275,000[19]	City of Tillamook in partnership with ODOT

[17] City of Tillamook is the responsible jurisdiction for all projects unless otherwise noted.

[18] Planning-level cost estimates are reported using current construction dollars and are not adjusted for future escalation.

[19] Indexed for construction cost inflation (70% increase) for cost prepared in 2003 TSP.

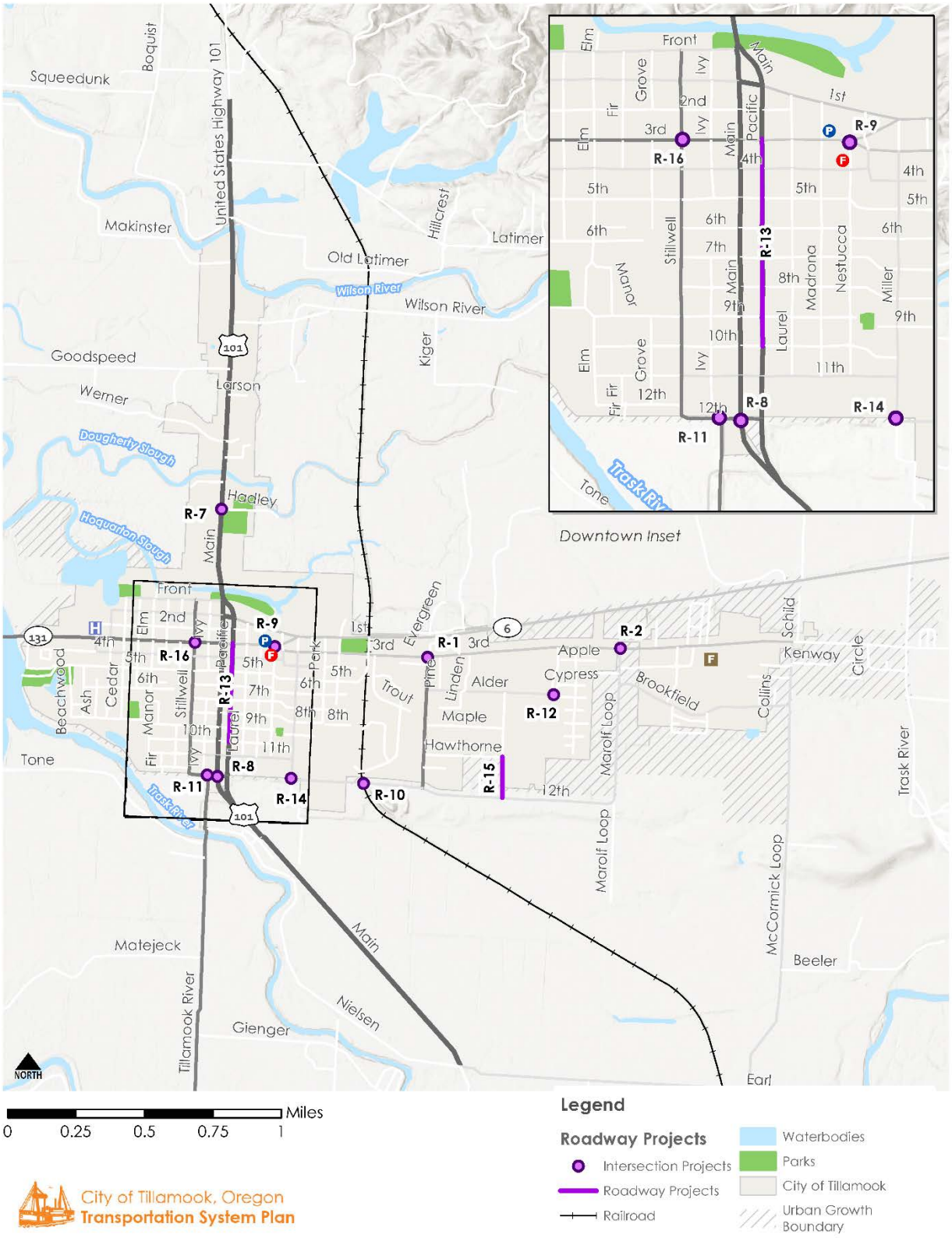
Project	Timeframe	Project Cost[18]	Responsible Jurisdiction
12th Street / Tillamook River Road (R-11) 12th Street and Tillamook River Road – relocate stop bar to provide better sight distance	Long-term	$8,500[19]	City of Tillamook
Alder Lane/Dogwood Avenue (R-12) Redesign the intersection at Alder Lane and Dogwood Avenue to remove the parking area (or revise to not interfere with intersection operations), provide all-way, stop-controlled intersection. Provide shoulder along east side of intersection for pedestrians and revise crosswalk locations.	Long-term	$170,000[19]	City of Tillamook
Speed Feedback Signs on US-101/NB Pacific Avenue (R-13)[20] Speed Feedback Signs on US-101/NB Pacific Avenue	Short-term	Approx. $20,000[21]	City of Tillamook in Partnership with ODOT
Intersection Safety Study at 12th Street/Miller Avenue (R-14) Conduct intersection safety study at 12th Street/Miller Avenue to identify potential safety improvements	Short-term	$25,000	City of Tillamook
Williams Avenue Extension from Hawthorne Lane to 12th Street (R-15) Construct a road extension and/or pedestrian/bicycle extension to connect Hawthorne Lane to 12th Street via Williams Avenue.	Long-term	$1,016,000	City of Tillamook
3rd Street and Stillwell Avenue Intersection Improvement (R-16) Improve intersection at OR-131/3rd Street and Stillwell Avenue to facilitate freight truck turning movements through the intersection.	Short-term	$41,000[22]	City of Tillamook in partnership with ODOT

[20] This project is not eligible to receive ODOT funding and would require funding by the City of Tillamook.

[21] Colorado Department of Transportation (2018). Historical Bid Data. https://www.codot.gov/business/eema/documents/2018/2018-cost-data-book/view

[22] This cost estimate was developed by the City of Tillamook.

FIGURE 10. ROADWAY SYSTEM PROJECTS



3.3 Pedestrian and Bicycle System Plan

Bicycle and Pedestrian System Conditions

Tillamook's bicycle and pedestrian system is comprised of on-street bicycle facilities, sidewalks, pedestrian crossings, curb ramps, and off-street trails for pedestrians and bicyclists. The following sections describes the conditions of the system based on an analysis of existing and future conditions, including system needs on current and planned roadway segments throughout the City. See *Appendix E* and *Appendix F* for more detailed information about bicycle and pedestrian conditions and needs in Tillamook.

Sidewalks

Tillamook's arterial and collector sidewalk network is generally well-developed in the core of the City. Outside of downtown, however, sidewalk connectivity is inconsistent on arterial and collector streets. Sidewalks are also deficient on portions of the local street network. Some neighborhoods have complete sidewalks on both sides of the street, while others do not. In more recently developed residential areas, newly constructed pedestrian facilities do not always connect to older parts of the City, resulting in a disconnected network. Where local streets are lacking sidewalks, pedestrians must walk along paved or gravel roadway shoulders. This can be adequate for roadways with low traffic volumes but is not adequate on roads with high traffic volumes where pedestrians must share the roadway with moving bicycles and vehicles.

Although sidewalk gaps affect pedestrian connectivity throughout the City, needs are greatest near significant pedestrian generators, such as schools, parks, and community destinations. Deficiencies near schools and community destinations can exist even when sidewalks are present. A sidewalk may present on only one side of the street. In some locations, a high number of driveways and private accesses create a barrier to safe and continuous pedestrian facilities.

Crossings

Marked crosswalks, pedestrian signalization, curb "bulbouts", and curb ramps facilitate the safe and efficient movement of pedestrians. Numerous marked crosswalks are located throughout the City. The current condition of crosswalk markings varies by location. At some places, crosswalks are marked on all intersection approaches, but the striping is sometimes faded and difficult to see. The City's current crosswalk policy is to apply continental hash markings at any intersection where new paint or reapplication is needed. "Advanced" crossing treatments are needed in places with greater safety concerns and/or higher traffic volumes requiring a higher level of protection for pedestrians and other vulnerable road users. Advanced crossing improvements at these locations may augment basic crossing improvements and may include pedestrian signalization, raised crossings, curb bulbouts, and curb ramp installation or reconstruction.

ADA Facilities

Most sidewalks in downtown Tillamook have been upgraded with curb ramps. Generally, ramps in front of newer development or commercial centers are ADA-compliant. However, some of the older ramps in downtown are not to ADA standard due to being too steep or cracked. Many sidewalks do not have ADA-compliant sidewalk ramps, although most sidewalks meet minimum ADA width and maximum slope standards. In other cases, curb ramps are not present on all intersection approaches. West of Stillwell Avenue, curb ramps are missing at some or all intersection approaches on Front Street, OR-

6/OR-131 1st and 3rd Streets, and 4th Street. ADA ramp improvements are needed along 5th Street at every intersection except at Madrona, Stillwell, and US-101 SB Main/NB Pacific Avenues. Curb ramps are also missing along most of OR-6/ 1st Street east of US-101 SB/ Pacific Avenue. Figure 7 above displays existing ADA curb ramps overlaid on City street functional classifications and generalized sidewalks. For information about ADA facilities on state highways, please refer to the ODOT Americans with Disabilities Act Title 11 Transition Plan Update.

East of Miller Avenue, there are currently no curb ramps along most of OR-6/OR-131 1st and 3rd Streets, 12th Street, most of Evergreen Drive, Marolf Loop Drive, Brookfield Avenue, or McCormick Loop Drive. Additional sidewalk gaps on the arterial and collector network exist on one side of the street along Front and 2nd Streets, between Birch and Stillwell Avenue.

Pedestrian Lighting

Street lights are located on most roadways within the City, although many require upgrade, relocation, or repair. On many streets, street light poles are widely spaced, creating illumination gaps for all road users. Despite their presence on many roadways, nearly all the of City's street lights are constructed to illuminate the vehicle right-of-way as opposed to illuminating the pedestrian environment. Pedestrian-scale lighting only exists in a few locations throughout the City, and mostly within recently improved parks and community centers. Pedestrian-scale lighting is needed on the arterial system within the downtown core, as well as near all schools, parks, and community centers within the City. Opportunities exist to enhance pedestrian lighting within the local street network, particularly near intersections with higher speed and/or higher volume roadway facilities. Existing and planned trails also require adequate pedestrian lighting to ensure safe and comfortable use for pedestrians and bicycle riders.

Bicycle Facilities

Tillamook has a designated bicycle network recommended as part of the 2003 TSP, though as of 2018 the City's transportation network has few dedicated bicycle facilities. As of the writing of this plan, the only bicycle facilities that have been implemented on the City's designated bicycle network are on US-101 and OR-6, which consist of shoulder bike lanes without dedicated bicycle signage or striping. Through downtown, bicyclists travelling along the US-101 couplet (Main and Pacific Avenues) are required to mix with vehicle traffic and are further limited by on-street parking. Higher traffic volumes from anticipated growth in certain areas of the City create a need to separate cyclists from motor vehicles.

Much of the designated network consists of local low-traffic streets where bicycle facilities may not be warranted. Most of the existing bicycle facilities within the City require bicyclists to mix with traffic on arterial and collector roadways. Several streets have striped shoulders that may be used by cyclists but are not designated formally as bikeways. There are no dedicated bicycle facilities on Tillamook local roads. Bicyclists are required to share the roadway with vehicle traffic and pedestrians.

Bicycle signage and markings are minimal throughout most of the City. The City recognizes that any official components of the Tillamook bicycle system should be signed and/or marked as bicycle routes per 1995 Oregon Bicycle and Pedestrian Plan standards. Many roads on the bike network need signage and markings to meet this standard.

Trails and Multi-Use Paths

The Hoquarton Interpretive Trail is the only multi-use trail owned by the City, located along the banks of the Hoquarton Slough in downtown Tillamook. Tillamook's trail and multi-use path system is considered part of Tillamook's pedestrian and bicycle system as it is shared by both pedestrians and bicyclists. City staff have identified needed off-street path and trail connections, including a planned shared-use path linking Hoquarton Interpretive Trail and Goodspeed Park, which is under construction as of this writing. Other needed trails increase recreational access in and around parks and the Hoquarton Slough.

Pedestrian and Bicycle System Projects

The TSP's bicycle and pedestrian projects for the City's arterial and collector network are summarized in the tables and figures below. Improvements to local streets were not specifically assessed as part of the TSP process, although some deficiencies on local streets were identified where warranted by multimodal access and connectivity needs. Pedestrian and bicycle system projects are summarized in Table 5 below.

TABLE 5. PEDESTRIAN AND BICYCLE SYSTEM[23]

Project	Timeframe	Project Cost[24]	Responsible Jurisdiction
Crossings			
Crossing Improvements (C-1 and C-2) There are 34 crossing improvements proposed. These are grouped into two bundles: Basic (C-1) and Advanced (C-2). However, it is not expected that all crossing improvements would be constructed as part of the same project or at the same time.	Short – Long-term	$1,085,000	City of Tillamook in partnership with ODOT
Sidewalk Infill, Construction, and Streetscaping Improvements			
Sidewalk Infill, Construction, and Streetscaping Improvements (P-1 through P-11) There are 16 proposed sidewalk infill, construction, and streetscaping improvements, including 6 infill and streetscaping projects carried over from the Hoquarton Waterfront Plan (2016). Sidewalk connectivity is prioritized in Safe Routes to School (SRTS) zones and in East Tillamook where the greatest gaps exist. Lower priority infill projects can be implemented over time.	Short – Long-term	$2,998,000	City of Tillamook
Bicycle System			
Shared Roadway Improvements (B-1) The TSP recommends shared roadway improvements on 10 segments within the City. Shared roadway segments were evaluated as a single project per the TSP's methodology but may be constructed at different times or as part of other projects.	Short-term	$116,000	City of Tillamook

[23] City of Tillamook is the responsible party for all projects unless otherwise noted.

[24] Planning-level cost estimates are reported using current construction dollars and are not adjusted for future escalation.

Project	Timeframe	Project Cost[24]	Responsible Jurisdiction
Shared roadway improvements have a relatively low cost on a per mile basis and assume shared roadway markings and signage.			
Bike Facilities (B-2 and B-4 through B-7) Five projects propose on-street bike lanes. These enhance bicycle connections throughout the City with better facilities in specific locations.	Short-term	$474,000-$735,000	City of Tillamook, in partnership with ODOT on some projects
Bicycle Plaza: Vicinity of 4th Street and Main Avenue Assumes tubular bike rack for 8-12 bicycles and overhead shelter.	Short-term	Approx. $8,000 - $12,000[25]	City of Tillamook
Path and Multi-Use Trail System			
Off-Street Path and Multi-Use Trail Improvements (OS-1 through OS-5) Five projects are proposed for improving off-street travel and recreation opportunities in the City.	Long-term	$2,869,000	City of Tillamook, in partnership with the Port of Tillamook on OS-5

[25] Based on Staten Island Bicycle Parking Hardware Options Report (1998), published by Staten Island Bicycle Parking at Transit. Unit cost information assumes standard covered bike parking for less than 12 bicycles.

Sidewalk Infill, Construction, and Streetscaping Improvements (P-1 through P-11)

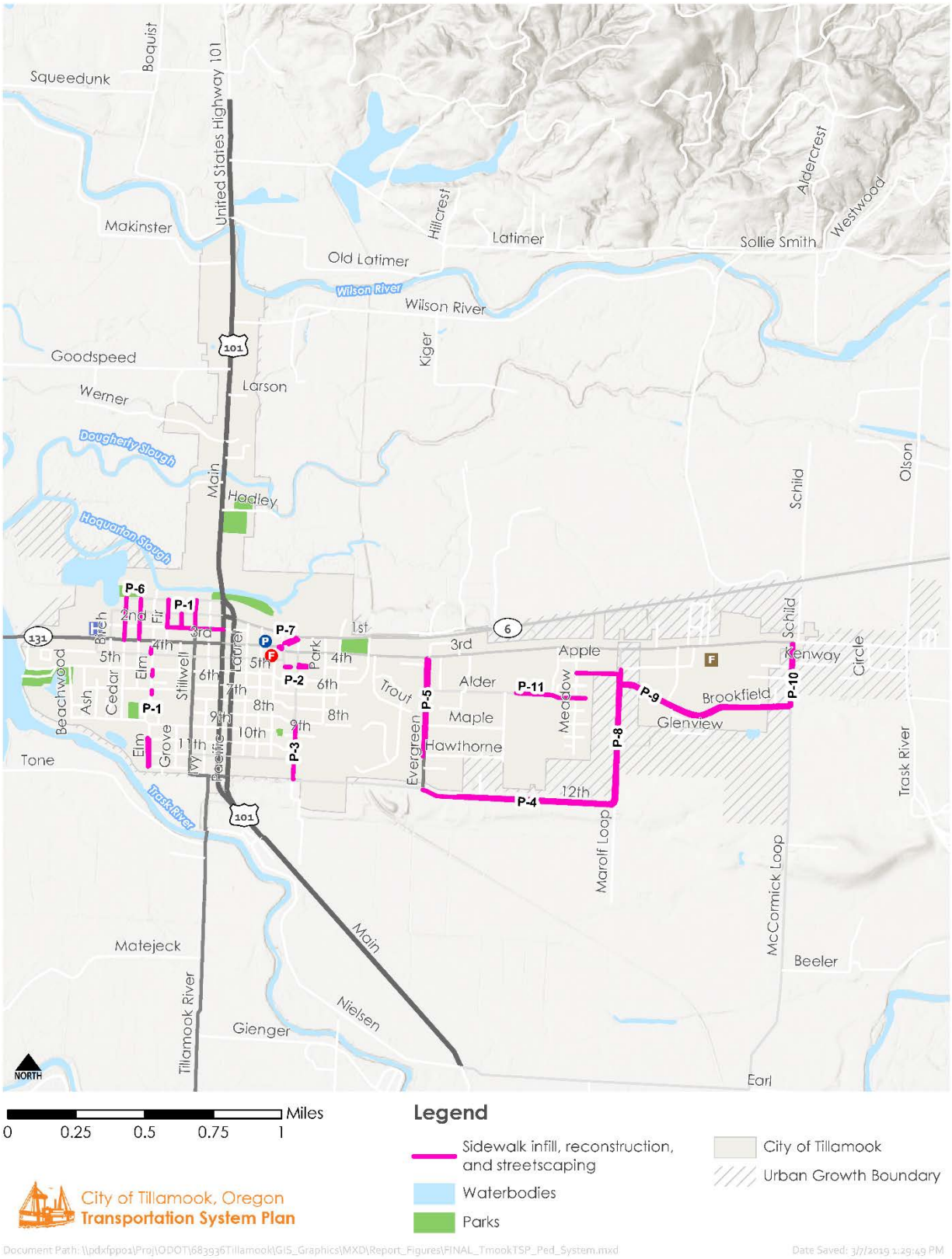
The TSP includes 16 sidewalk infill, construction, and streetscaping improvements. Six streetscaping projects carried over from the 2016 Hoquarton Waterfront Plan are enumerated with a single project ID (P-1). Sidewalk connectivity is prioritized in Safe Routes to School (SRTS) zones and in East Tillamook where the greatest gaps exist in the pedestrian network. Lower priority sidewalk projects can be implemented over time. Crossing improvements (C-1 and C-2) are summarized separately in Table 6 and Figure 11 below. Implementation timeframes for these projects ranges from short to long term, to be determined by the City based on local needs and available funding. Note that the TSP process considered the collector and arterial network for sidewalk gaps.

TABLE 6. SIDEWALK INFILL, CONSTRUCTION, AND STREETSCAPE PROJECTS - ARTERIAL AND COLLECTOR NETWORK

ID	Project	Description	Project Cost	Responsible Jurisdiction
P-1	Streetscape - 2nd Street, Fir Avenue to US-101	Streetscape: sidewalk/curb rehabilitation (600 linear feet) between US-101 and Fir Avenue to accommodate extension of one-way section; roadway striping and signage through segment	$39,000	City of Tillamook
P-1	Streetscape – Elm Street, 1st Street to 12th Street	Streetscape: sidewalk/curb rehabilitation (1,277 linear feet), pedestrian ramps, and roadway striping and signage	$142,000	City of Tillamook
P-1	Streetscape - Fir Avenue, Front Street to 2nd Street	Streetscape: sidewalk infill (875 linear feet), curb rehabilitation, pedestrian ramps, curb extensions, and roadway striping and signage.	$112,000	City of Tillamook
P-1	Streetscape - Grove Avenue, 1st Street to 2nd Street	Streetscape: sidewalk infill (500 linear feet), curb rehabilitation, pedestrian ramps, curb extensions, and roadway striping and signage.	$78,000	City of Tillamook
P-1	Streetscape - Stillwell Avenue, Front Street to 2nd Street	Streetscape: curb extensions, roadway striping and signage.	$80,000	City of Tillamook

ID	Project	Description	Project Cost	Responsible Jurisdiction
P-2	Sidewalk Infill – 4th Street, Miller Avenue to Park Avenue	Sidewalk infill needed on north and south sides of 4th Street east of Miller Avenue. West of Miller Avenue, sidewalk infill needed on south side of 4th Street to connect to recent sidewalk improvements.	$67,000	City of Tillamook
P-3	Sidewalk Infill – Miller Avenue, 9th Street to 12th Street	No sidewalk on one side of the street; There is a sidewalk gap at the Miller Avenue entrance to the Tillamook High School parking lot	$78,000	City of Tillamook
P-4	Sidewalk Infill – 12th Street, Evergreen to Marolf Loop Road	No sidewalk on both sides of the street	$617,000	City of Tillamook
P-5	Sidewalk Infill – Evergreen Drive, 12th Street to 3rd Street	No sidewalk on either side north of Hawthorne Lane	$369,000	City of Tillamook
P-6	Sidewalk Infill – 1st Street from Birch to Cedar; Cedar and Douglas Streets, from Front Street to 4th Street	Sidewalk infill needed; potentially connect to future off-street path around Hoquarton Slough	$148,000	City of Tillamook
P-7	Sidewalk Infill – 1st/3rd Streets from Ocean Place to Miller Avenue	Sidewalk infill on 1st/ 3rd Streets, and Ocean Place connecting to Miller Avenue	$111,000	City of Tillamook in partnership with ODOT
P-8	Sidewalk Infill – Marolf Loop Road, 12th Street to Brookfield Drive	No sidewalk on both sides of the street	$273,000	City of Tillamook
P-9	Sidewalk Infill – Brookfield Drive, Marolf Loop Road to McCormick Loop Drive. Marolf Place/Beech Street from Marolf Loop Road to Meadow Avenue	No sidewalk on both sides of street	$523,000	Tillamook County in partnership with City of Tillamook and Tillamook Fairgrounds
P-10	Sidewalk Infill – McCormick Loop Road, Brookfield Drive to 3rd Street	No sidewalk on both sides of the street	$208,000	Tillamook County
P-11	Sidewalk Infill – Alder Lane/Dogwood Avenue, near Tillamook Jr. High School and East Elementary School	Sidewalks are needed on Dogwood Avenue near Tillamook Jr. High School and East Elementary School	$153,000	City of Tillamook

FIGURE 11. SIDEWALK AND STREETSCAPE PROJECTS - ARTERIAL AND COLLECTOR NETWORK



Crossings (C-1 and C-2)

Crossings are grouped into two categories for cost estimation purposes, Basic and Advanced. Project cost estimates are described in Table 7. More detailed summaries for each crossing location are in Table 9 and Figure 12.

- **Basic Crossings** describe improvements at lower vehicle traffic arterial and collector intersections. Safety concerns and/or traffic volumes are lower at these locations, and crossing improvements are likely to include restriping or completion of existing crosswalk markings, repair, or update of existing curb ramps, or signage updates. All basic crossings are enumerated with the project ID (C-1).
- **Advanced Crossings** describe improvements at key nodes within the arterial and collector network. Safety concerns and/or traffic volumes are higher at these locations, requiring a higher level of protection for pedestrians and other vulnerable road users. Crossing improvements at these locations may augment basic crossing improvements and may include pedestrian signalization, raised crossings, curb bulbouts, curb ramp installation or reconstruction, and enhanced lighting. All advanced crossings are enumerated with the project ID (C-2).

TABLE 7. US-101 BASIC AND ADVANCED CROSSING IMPROVEMENTS

Project	Timeframe	Project Cost	Responsible Jurisdiction
Basic Crossing Improvements (C-1) There are 27 basic crossing improvements proposed; these improvements are evaluated and prioritized as a bundle. However, it is not expected that all crossing improvements would be constructed as part of the same project or at the same time.	Short-term	$648,000	City of Tillamook
Advanced Crossing Improvements (C-2) There are 7 advanced crossing improvements proposed; these improvements are evaluated and prioritized as a bundle. However, it is not expected that all crossing improvements would be constructed as part of the same project or at the same time. Further analysis could determine a higher level of investment of pedestrian signalization is required at a given location.	Short- to Long-term	$437,000	City of Tillamook

US-101 Pedestrian Crossings Study

A more detailed study of pedestrian crossing needs along US-101 north and south of downtown Tillamook was completed as part of the TSP Update. The crossing study focused on the segments US-101 (NB Pacific and SB Main Streets) between 3rd and 11th Streets, as well as the segment of US-101 between Hoquarton Slough and the northern City limits near Makinster Road. The main findings of the study are provided in Table 8 and Figures 13 and 14 below.

TABLE 8. US-101 PEDESTRIAN CROSSING PROJECTS

Location	Type	Justification
US-101 SB Main and NB Pacific Avenues at 7th Street (all four intersection legs)	• Marked (continental crossing) • Advance crossing signage	Community members indicated that many use this crossing to get to the YMCA and Liberty Elementary School
US-101 SB Main and NB Pacific Avenues at 9th Street (all four intersection legs)	• Marked (continental crossing) • Advance crossing signage	Community members indicated that many use this crossing to get to the YMCA and Liberty Elementary School
11th Street at US-101 SB Main Avenue	• Marked (continental crossing) • Advance crossing signage	11th Street is the last through east-west crossing on US-101 at the south end of town. In addition, 11th Street is a designated bike route (Figure 15); it is expected that cyclists will use this crossing as well.
11th Street at US-101 NB Pacific Avenue	• Marked (continental crossing) • Advance crossing signage Rectangular Rapid Flashing Beacon (RRFB) in northbound direction	11th Street is the last through east-west crossing on US-101 at the south end of town. In addition, 11th Street is a designated bike route (Figure 15); it is expected that cyclists will use this crossing as well. RRFB is recommended due to anecdotal evidence of vehicle speeding on US-101 northbound at this location.
Hadley Road at US-101	• Advance crossing signage • Rectangular Rapid Flashing Beacon (RRFB) • Median island with pedestrian refuge • Pedestrian lighting improvements	Hadley Road serves recreation opportunities at Hadley Fields and a commercial area just north of downtown. A crossing here makes a safe connection in an area that currently has none.
US-101 near Makinster Road	• Advance crossing signage • Rectangular Rapid Flashing Beacon (RRFB)	This existing marked crossing is the northern-most crossing on US-101 within the City. It is adjacent to a Goodwill shopping center and an Ashley Inn. An RRFB is recommended to alert drivers of the presence of pedestrians in the City.

Recommended crossing improvements in Downtown Tillamook are also provided in Figure 13 below. The recommended crossing enhancements resulting from the Downtown Pedestrian Crossings Study have been incorporated into the Bicycle and Pedestrian System Plan for the City of Tillamook. The completed study is provided in Appendix K.

ADA Improvements

Complying with ADA guidelines for pedestrian facilities is necessary to allow mobility and access for people of all abilities. It is recommended that all projects and future improvements address accessibility needs by ensuring facilities meet ADA guidelines. This includes adding ramps where they are lacking or upgrading existing ramps to comply. Along freight truck routes, ADA designs should also accommodate freight turning movements, which may preclude the construction curb extensions or “bulb-outs” at crossing locations.

FIGURE 12. PEDESTRIAN CROSSING PROJECTS – ARTERIAL AND COLLECTOR NETWORK

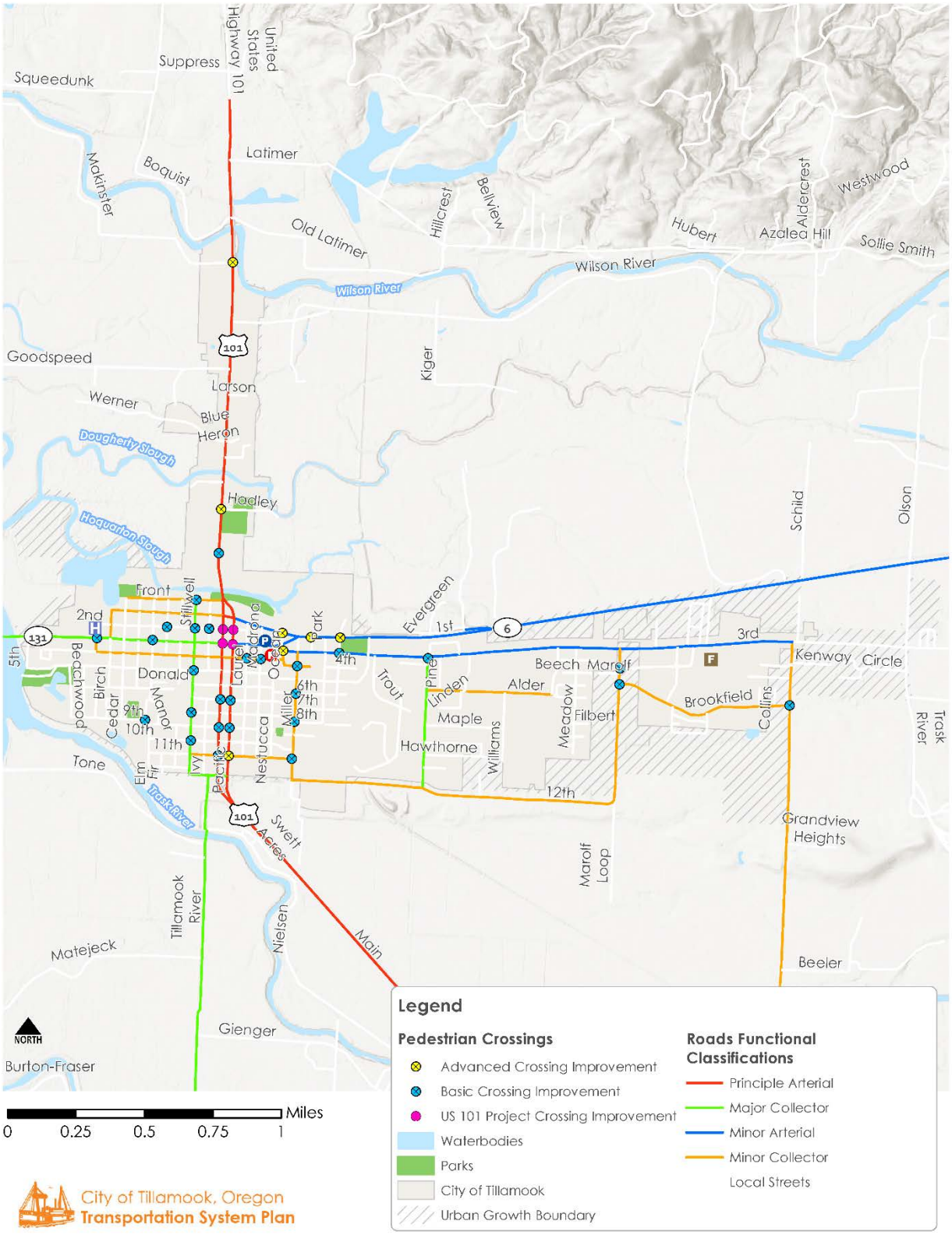


Table 9. Pedestrian Crossing Projects – Arterial and Collector Network

Corridor	Location	Description/Justification	Need (Basic/Advanced)
OR-131/3rd Street and OR-6 at 1st and 3rd Streets	OR-131/3rd Street at Ash Avenue	Medical facility on north side of OR-131	Basic Crossing Improvement
	OR-131/3rd Street at Elm Avenue	Additional marked crossing location on OR-131	Basic Crossing Improvement
	OR-6/1st Street at Goodspeed Park	Existing marked crossing; multiple lanes of vehicle traffic at this location	Advanced Crossing Improvement
	OR-6/1st Street at Delmonte Avenue	Implement marked crossing and curb bulbouts at Delmonte Avenue	Advanced Crossing Improvement
	OR-6/1st and 3rd Streets at Ocean Place	2003 TSP: Provide a raised island at Ocean Place and 4th and 3rd Streets for a safe pedestrian refuge with marked crosswalks on every approach. Designate Ocean Place between the OR-6 couplet as northbound only.	Advanced Crossing Improvement
Stillwell Avenue	Stillwell Avenue at Front Street	Hoquarton Waterfront Plan: Enhanced Crossing Improvement Location	Basic Crossing Improvement
	Stillwell Avenue at 2nd Avenue	Hoquarton Waterfront Plan: Enhanced Crossing Improvement Location	Basic Crossing Improvement
	Stillwell Avenue at 5th Street	Collector street; facilitate safe crossing to nearby school, YMCA and park	Basic Crossing Improvement
	Stillwell Avenue at 8th Street	Collector street; facilitate safe crossing to nearby school, YMCA and park	Basic Crossing Improvement
	Stillwell Avenue at 10th Street	Collector street; facilitate safe crossing to nearby school, YMCA and park	Basic Crossing Improvement
3rd Street (east of Miller Avenue)	3rd Street at Del Monte Avenue	Crossing to Goodspeed Park	Basic Crossing Improvement
	Evergreen Drive at 3rd Street	Future traffic forecasts indicate significant increases in vehicle traffic at this location	Basic Crossing Improvement
4th Street	4th Street at Laurel Avenue	Minor collector crossing	Basic Crossing Improvement
	4th Street at Madrona Avenue	Minor collector crossing	Basic Crossing Improvement
9th Street	9th Street at Elm Avenue	Improve deficient pedestrian crossing	Basic Crossing Improvement

Corridor	Location	Description/Justification	Need (Basic/Advanced)
US-101 NB Main and SB Pacific Avenues	US-101 Main Ave N at Hadley Road N	No existing marked crossings along US-101 at this location. Improve crossing environment with an RRFB.	Advanced Crossing Improvement
	US-101 Main Ave N near Makinster Road	Add an RRFB to this existing marked crossing.	Advanced Crossing Improvement
	at 7th Street	Improve deteriorated crossing with marked crossing and signage	Basic Crossing Improvement
	at 9th Street	Improve deteriorated pedestrian crossing with marked crossing and signage	Basic Crossing Improvement
	at 11th Street	Improve deteriorated pedestrian crossing with marked crossing, signage, and Rectangular Rapid Flashing Beacon	Advanced Crossing Improvement
Ivy Avenue	Ivy Avenue at 2nd Street	Hoquarton Waterfront Plan: Enhanced Crossing Improvement Location	Basic Crossing Improvement
Fir Avenue	Fir Avenue at 2nd Street	Hoquarton Waterfront Plan: Enhanced Crossing Improvement Location	Basic Crossing Improvement
Miller Avenue	Miller Avenue at 4th Street	Improve crossings in vicinity of the mill site.	Basic Crossing Improvement
	Miller Avenue at 6th Street	Improve crossings in vicinity of the mill site.	Basic Crossing Improvement
	Miller Avenue at 8th Street	Improve crossings in vicinity of the mill site.	Basic Crossing Improvement
	Miller Avenue at 11th Street	Improve crossings in vicinity of the mill site.	Basic Crossing Improvement
Marolf Loop Road	Marolf Loop Road south of 3rd Street	Future development likely to create need for improved crossings	Basic Crossing Improvement
	Marolf Loop Road at Brookfield Drive	Future development likely to create need for improved crossings	Basic Crossing Improvement

FIGURE 13. US-101 PEDESTRIAN CROSSING PROJECTS – DOWNTOWN TILLAMOOK

Feet
0 200 400 600 800

Legend
- Highways
- Parks

Existing Pedestrian Facilities
- Curb Bulbout
- Stop Sign
- Bus Stops
- Stoplight

Recommended Crossing Improvements
- RRFB
- Pedestrian Crossing Signage
- Crosswalk Improvements

City of Tillamook, Oregon
Transportation System Plan

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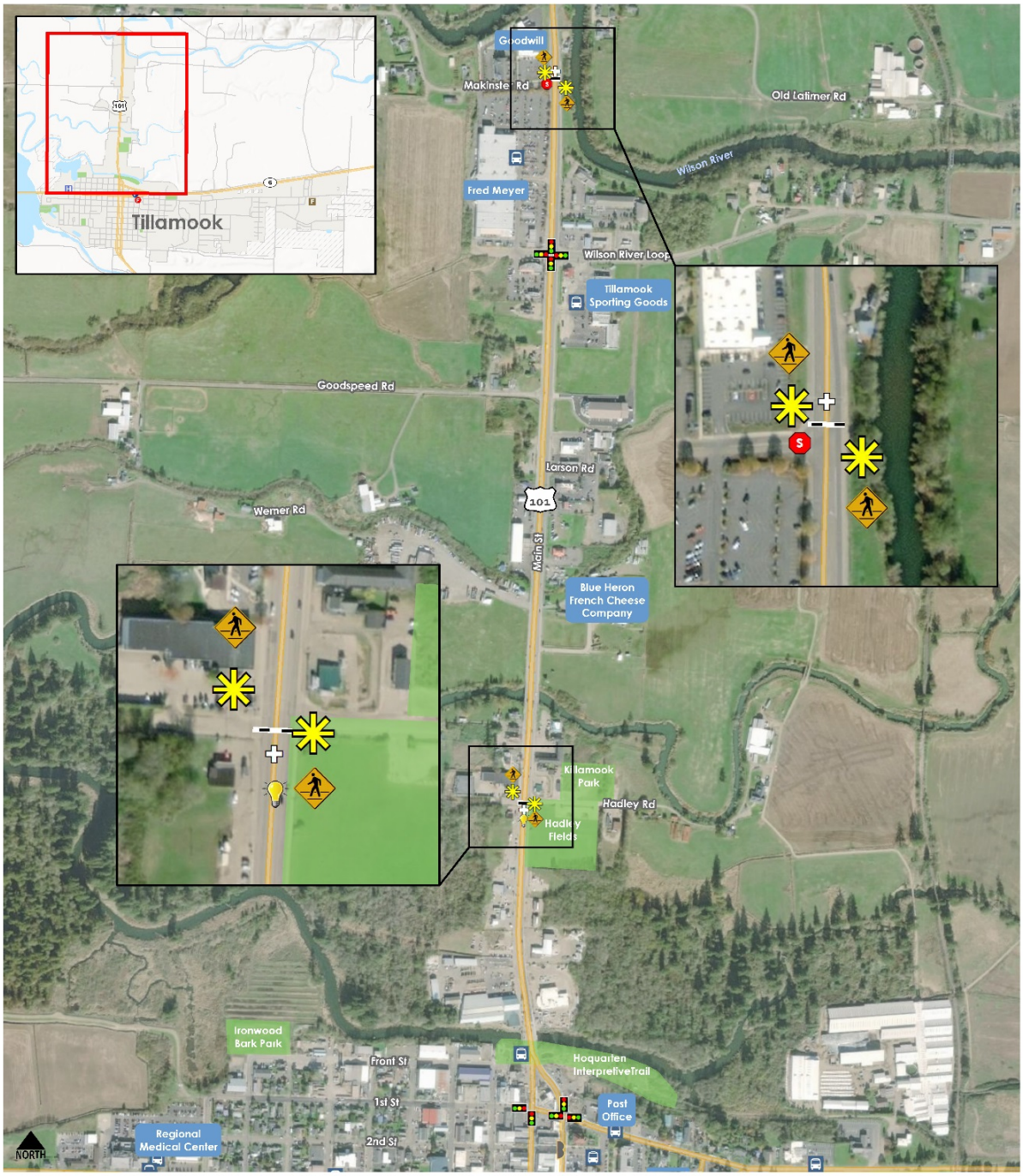
FIGURE 14. US-101 PEDESTRIAN CROSSING PROJECTS - NORTH OF DOWNTOWN



Miles
0 0.125 0.25

Legend

Highways
Parks

Existing Pedestrian Facilities
- Curb Bulbout
- Stop Sign
- Stoplight
- Median Refuge Island

Recommended Crossing Improvements
- RRFB
- Lighting Improvements
- Pedestrian Crossing Signage
- Crosswalk Improvements

City of Tillamook, Oregon
Transportation System Plan

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Bicycle System

Bicycle system projects are summarized in Table 10 and Figure 15 below. Projects on the City's arterial and collector network are comprised of segments of Tillamook's designated bicycle network (identified as part of the 2003 TSP), more recent updates to the City's bicycle network as part of the 2016 Hoquarton Waterfront planning process, and other projects identified as part of the TSP Update. Bicycle projects also reflect changes to the 2003 designated bicycle network west of US-101 and north of OR-131 per 2016 Hoquarton Waterfront Plan amendments, additional policies, projects, and programs to improve the bicycle system in the Hoquarton Area. Improvements to Tillamook's bicycle system will establish safe bicycle access and connectivity on arterial and collector roadways throughout the City, and to create a cohesive network of bicycle facilities linking together key destinations in Tillamook.

TABLE 10. BICYCLE SYSTEM – ARTERIAL AND COLLECTOR NETWORK

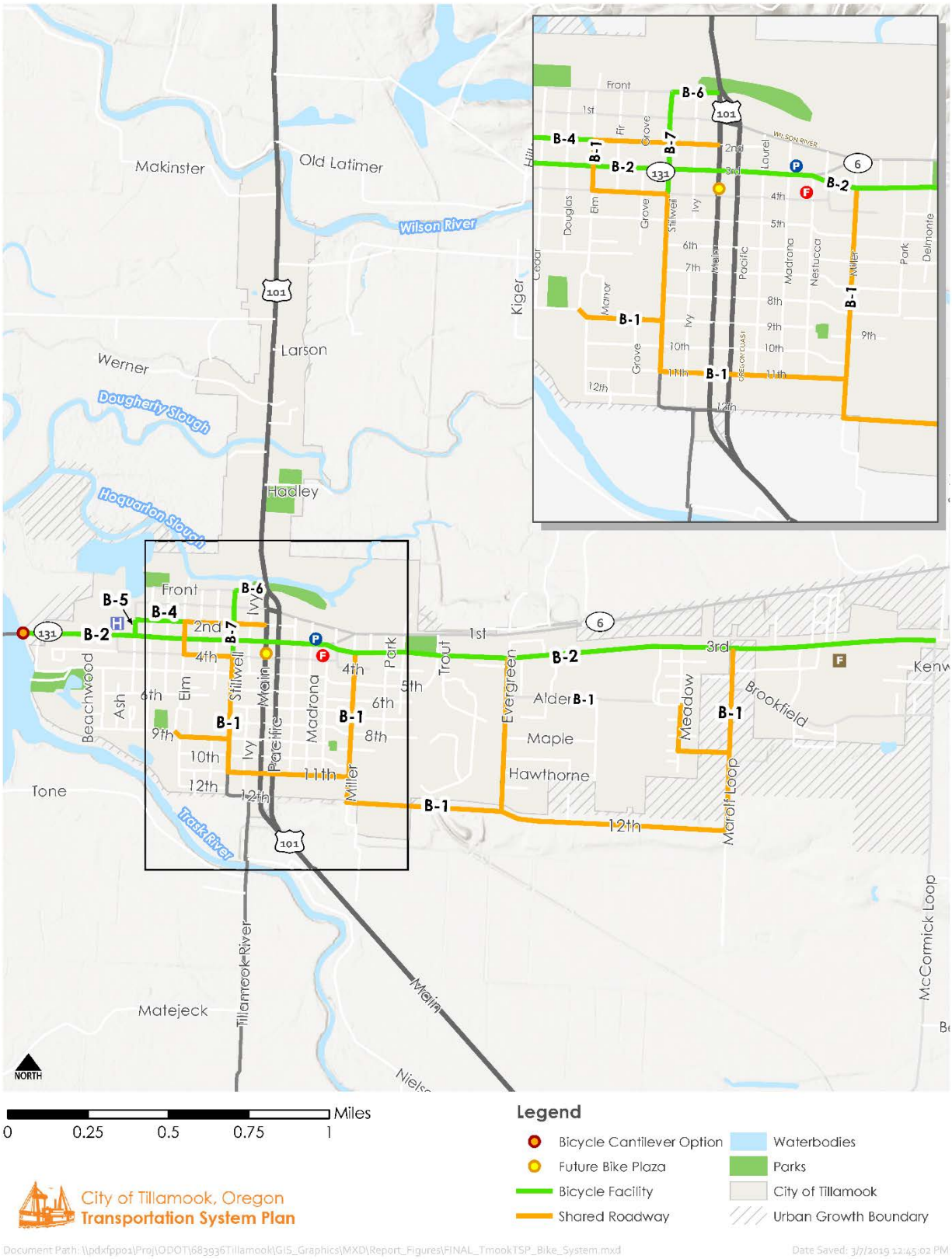
Project	Timeframe	Project Cost	Responsible Jurisdiction
Shared Roadway Improvements (B-1) The TSP includes shared roadway improvements on 10 segments within the City. Shared roadway segments were evaluated as a single project per the TSP's methodology but may be constructed at different times or as part of other projects. Shared roadway improvements have a relatively low cost on a per mile basis and assume shared roadway markings and signage. The shared roadways as part of the City's preferred bicycle network include: • 2nd Street, US-101 to Elm Avenue • Elm Avenue, 2nd Street to 4th Street • Stillwell Avenue, 4th Street to 11th Street • 9th Street, Elm Street to Stillwell Avenue • 11th Street, Stillwell Avenue to Miller Avenue • Miller Avenue, 12th Street to 3rd Street • 12th Street, Miller Avenue to Marolf Loop Road • Evergreen Drive, 12th Street to 3rd Street • Meadow Avenue to Marolf Loop Road • Marolf Loop Road, 12th Street to 3rd Street	Short-term	$116,000	City of Tillamook

Project	Timeframe	Project Cost	Responsible Jurisdiction
OR-131/3rd Street: **Trask River to McCormick Loop Road (B-2)** Bike Facility: This project provides a continuous on-street bike facility on OR-131/3rd Street, creating a needed east-west neighborhood connection and enhanced bicycle access to Tillamook Regional Medical Center, the Hoquarton Slough multi-use boardwalk (OS-2), Tillamook Bay Community College, Tillamook Junior High School, East Elementary School, and Tillamook Seventh Day Adventist School. The project assumes traditional bike lanes.	Long-term	$419,000-$638,000[26]	City of Tillamook in partnership with ODOT
2nd Street – Birch Avenue to Main Avenue (B-4) Bike Facility: This project connects to proposed shared roadway improvements on 2nd Street (B-1) and provides east-west linkages to the Tillamook Medical Center and proposed Hoquarton Slough off-street multi-use boardwalk concept (OS-2).	Short-term	$15,000 - $25,000[26]	City of Tillamook
Birch Avenue – OR-131/3rd Street to 2nd Avenue (B-5) Bike Facility: This project connects the proposed bike lanes on 2nd and OR-131/3rd Streets, providing a north-south linkage to the proposed bike facilities on 2nd and 3rd Streets.	Short-term	$10,000-$17,000[26]	City of Tillamook
Front Street – Main Avenue to Stillwell Avenue (B-6) Bike Facility: This project provides an on-street bike connection between the two proposed off-street connections near Sue H. Elmore Park and the Hoquarton Slough. This connection also provides east-west and north-south access through downtown Tillamook.	Short-term	$10,000-$16,000[26]	City of Tillamook
Stillwell Avenue – 4th Street to Front Street (B-7) Bike Facility: This project provides an on-street bicycle lane north of 4th Street, creating a north-south connection on Stillwell Avenue to Hoquarton Slough. This bike lane also connects to potential off-street improvements along the southern front of Sue H. Elmore Park and future Salmonberry Trail improvements.	Short-term	$20,000-$39,000[26]	City of Tillamook
Bicycle Plaza: Vicinity of 4th Street and Main Avenue Assumes tubular bike rack for 8-12 bicycles and overhead shelter.	Short-term	Approx. $8,000 - $12,000[27]	City of Tillamook

[26] The cost range associated with this project reflects a low-build scenario (paint markings, substandard bike lane width) and a full-build scenario (includes estimated cost required to widen shoulders to achieve standard bike lane width). If shoulder widening is not elected for the final project, the substandard bike lanes may need to be deployed in select locations.

[27] Based on Staten Island Bicycle Parking Hardware Options Report (1998), published by Staten Island Bicycle Parking at Transit. Unit cost information assumes standard covered bike parking for less than 12 bicycles.

FIGURE 15. BICYCLE SYSTEM PROJECTS - ARTERIAL AND COLLECTOR NETWORK



Trail Multi-Use Path System

The TSP includes several multi-use path projects that will enhance pedestrian and bicycle connectivity, as well as user comfort and safety (Table 11). Trail and Multi-Use Path projects are also summarized in Figure 16 below.

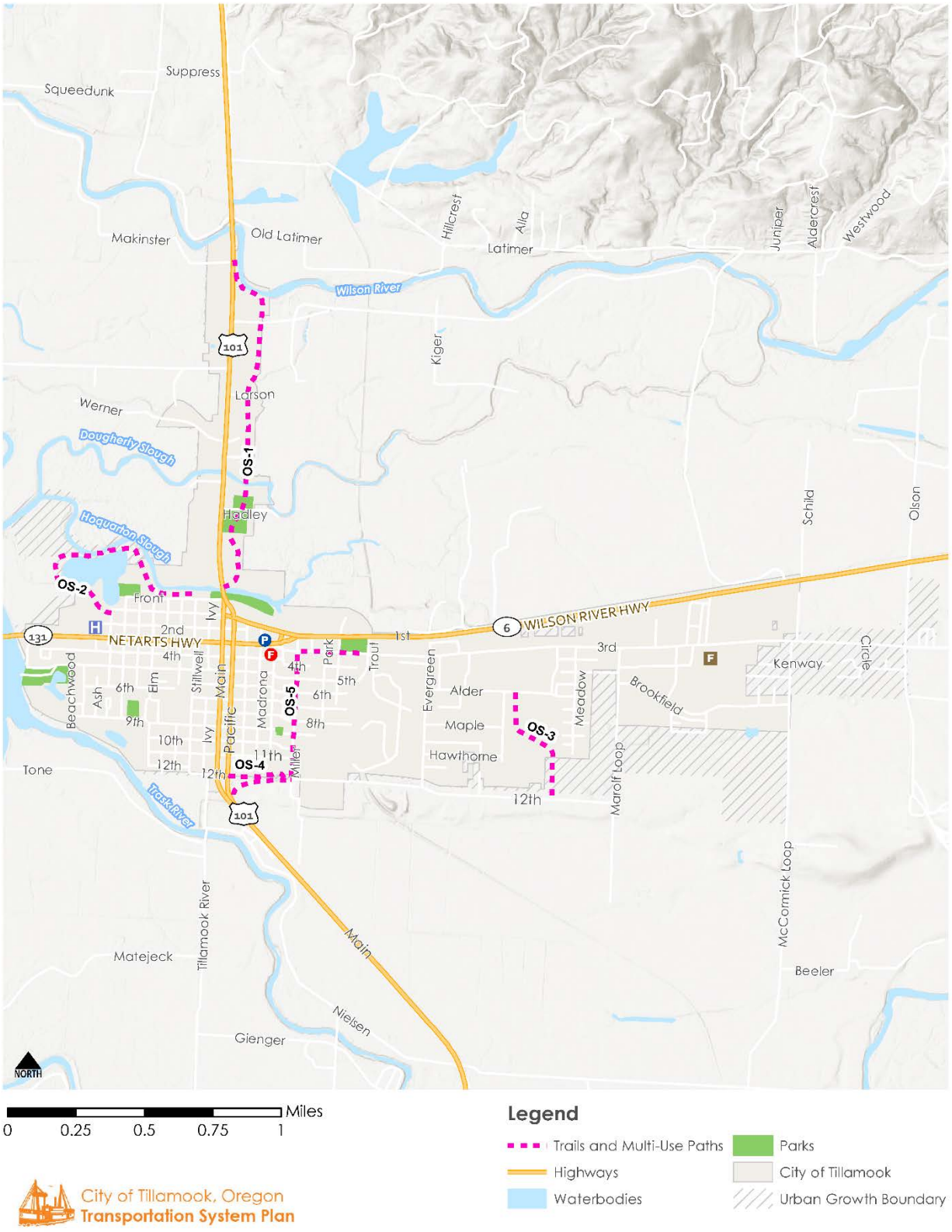
TABLE 11. TRAIL AND MULTI-USE PATH SYSTEM

Project	Timeframe	Project Cost	Responsible Jurisdiction
Hadley Fields Crossing (OS-1) Hoquarton Waterfront Park and US-101 Project provides a north-south connection from Hoquarton Park to the Wilson River adjacent to US-101. The route passes through Hadley Fields and provides increased recreational opportunities for local and touring pedestrians and cyclists. The project will ideally include a parallel pedestrian bridge across the Wilson River or include provisions for cyclists separate from traffic if the vehicle bridge on US- 101 is replaced. Cost does not include additional costs for the new bridge. The project can also enhance the City's portion of the Oregon Coastal Bike Route.	Long-term	$438,000 (bridge cost not included)	City of Tillamook
Hoquarton Slough Boardwalk (OS-2) Off-Street, Multi-Use Path along Hoquarton Slough This project provides off-street, multi-use access along the Slough north of Front Street and around the perimeter of the natural area to the northwest of the City. The project increases off-street recreational opportunities for local and touring pedestrians and cyclists.	Long-term	$762,000	City of Tillamook
Tillamook Junior High to 12th Street (OS-3) Off-street pedestrian connection from Alder Avenue to 12th Street through wetland area to the south. Includes potential Sensitive Wetland Area mitigation costs and a pedestrian bridge to minimize environmental impacts.	Long-term	$753,000	City of Tillamook

Project	Timeframe	Project Cost	Responsible Jurisdiction
Twelfth Trail – 12th Street Off-Street Connection (OS-4) Tillamook High School to Pacific Avenue This project proposes an off-street extension of 12th Street through wetland area to connect Miller Avenue to US-101 NB Pacific Avenue. Includes potential Sensitive Wetland Area mitigation costs and a pedestrian ramp to minimize environmental impacts.	Long-term	$287,000	City of Tillamook
Salmonberry Trail Improvements (OS-5) This project proposes an enhanced off-street pedestrian/bicycle link along 3rd Street, Miller Avenue, and Pacific Avenue to the planned Salmonberry Trail. Project assumes no wetland impacts or right-of-way needed. The project lead is the Port of Tillamook Bay in coordination with the City of Tillamook.	Short-term	$629,000[28]	City of Tillamook in partnership with Port of Tillamook Bay

[28] The cost estimate for Salmonberry Trail Improvements (OS-5) was developed by City of Tillamook staff in 2018.

FIGURE 16. PATH AND MULTI-USE TRAIL PROJECTS



Safe Routes to School

The Safe Routes to School (SRTS) National Partnership works to advance safe walking and bicycling to and from schools to improve the health and wellbeing of all kids.[29] With the passage of the 2017 Keep Oregon Moving Act, the Oregon Legislature has allocated an annual $10 million investment in Oregon's SRTS Fund, increasing to $15 million in 2023. Projects to construct or improve bicycle lanes, sidewalks, reductions in vehicle speeds, and crossings within 1 mile of a public school are eligible to receive state SRTS funds.

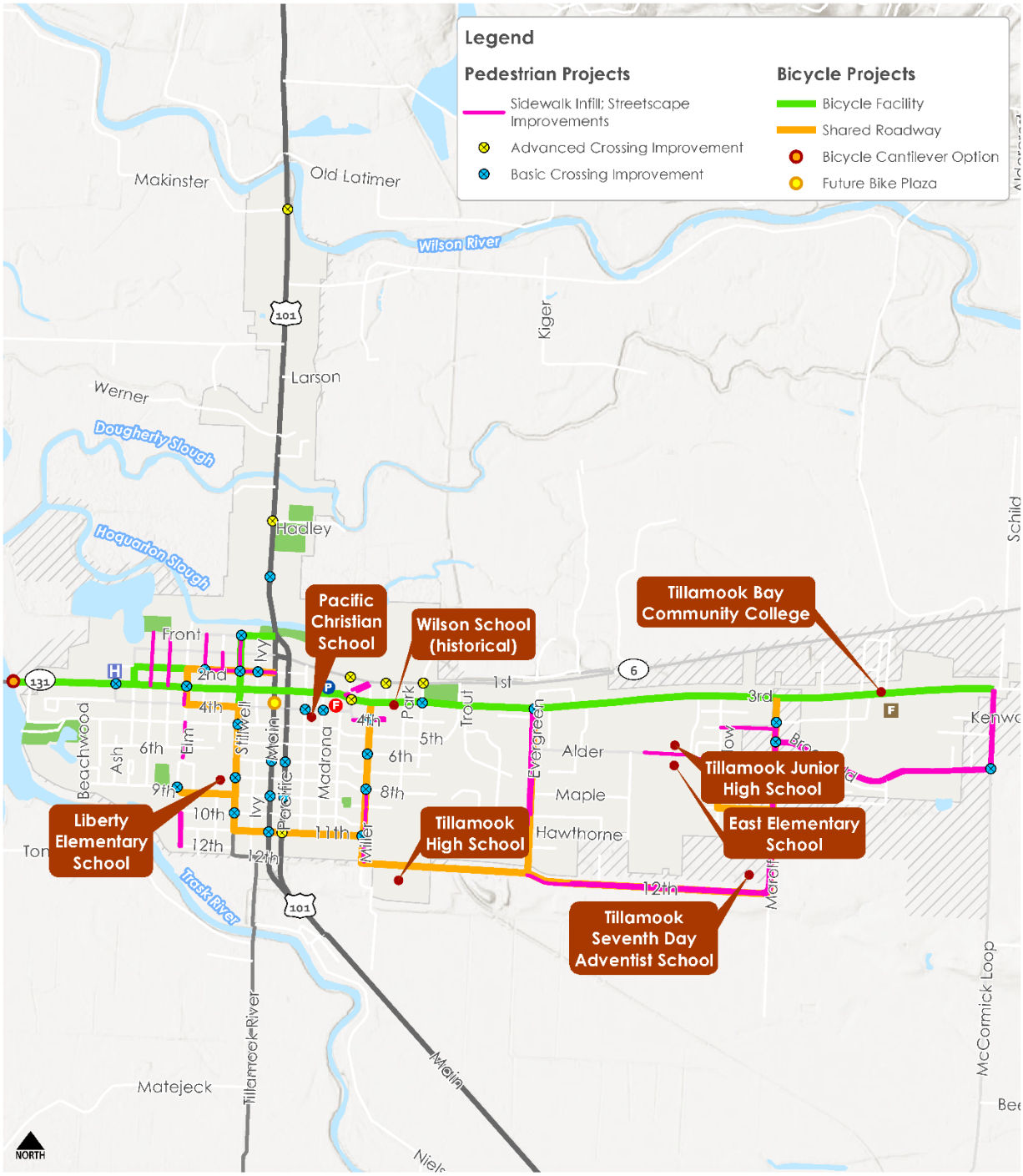
There are seven schools in the City of Tillamook; four are administered by the Tillamook School District, two are private, and the other is the Tillamook Bay Community College.[30] Improvements to the bicycle and pedestrian system within ¼ mile of any of these schools are considered as being within a school transportation zone. Although these ¼ mile "zones" are not formally designated per SRTS eligibility guidelines, acknowledgement of the transportation networks near school sites (both private and public) was a useful construct in determining transportation system needs and solutions for the City of Tillamook. Given the close distancing of schools, many of these zones clustered to form broader bicycle and pedestrian networks concentrated in Downtown Tillamook and East Tillamook.

All proposed bike and pedestrian solutions were within 1 mile of a public school and therefore potentially eligible to receive SRTS funding. SRTS-eligible projects were assigned a higher priority over all other projects to promote a safe, convenient, and accessible transportation for students travelling to and from school on foot or by bike. Figure 17 characterizes the desired transportation networks within these school transportation zones. Pursuant to ORS 195.115, it is recommended that the City of Tillamook work with Tillamook County School District to develop a Safe Routes to School Action Plan or Safe Route to Schools Infrastructure Plan (OAR 737-025-0060).

[29] Safe Routes to School National Partnership (2018). Our Mission and Vision. https://www.saferoutespartnership.org/about/mission

[30] Although college campuses are not traditionally included in Safe Routes to School efforts, improved bicycle and pedestrian connections for Tillamook Bay Community College students who access the TBCC campus are considered and prioritized as part of the TSP Update.

FIGURE 17. SAFE ROUTES TO SCHOOL-ELIGIBLE BICYCLE AND PEDESTRIAN PROJECTS



3.4 Public Transportation System Plan

Public Transportation System Conditions

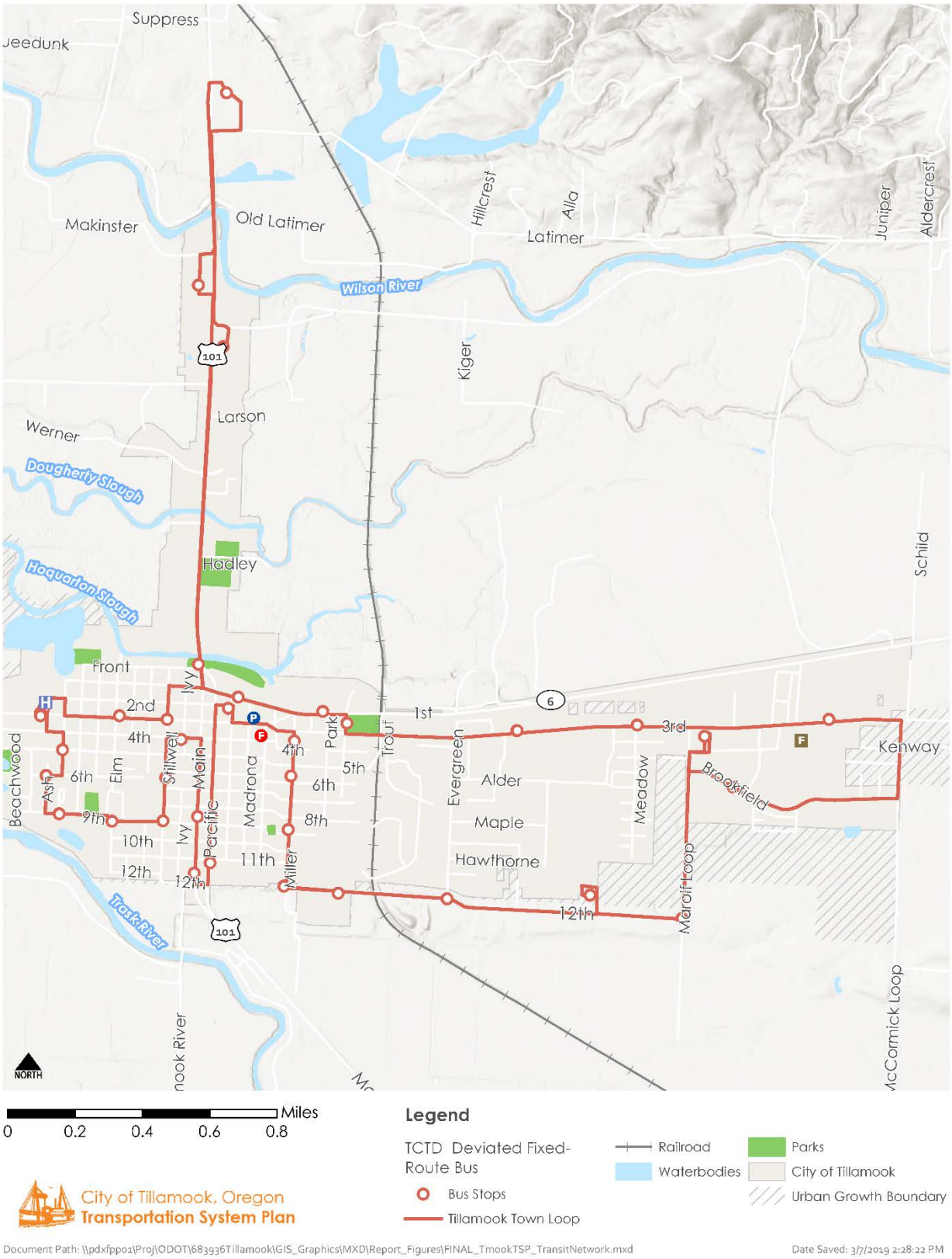
Tillamook County Transportation District (TCTD, or "the Wave") provides public transportation services to the City of Tillamook, including deviated fixed-route bus, demand response and dial-a-ride services, and intercity service to regional connections as far north as Cannon Beach, south to Lincoln City, west to Pacific City and Oceanside, and east to Portland. TCTD is a member of the Northwest Oregon Transit Alliance – a coordinated regional transit system called the Northwest Connector comprised of five county transit providers across northwest Oregon.

Local bus service in Tillamook is comprised of the Tillamook Town Loop, which is shown in Figure 18 below. The Tillamook Town Loop is considered a deviated fixed-route – a type of demand response service that has a defined route and stops, although anybody can request a deviation. Wave services to Cannon Beach, Lincoln City, and Oceanside are also categorized as deviated fixed-route services.

TCTD meets ADA requirements by providing additional demand response services such as Dial-A-Ride (DAR). Tillamook's DAR service is a public Dial-A-Ride, meaning anybody may use the service. TCTD also operates a Medicaid Transportation Brokerage called NW Rides. NW Rides is a call center that arranges Medicaid-eligible residents rides to their medical appointments. NW Rides coordinates Medicaid transportation for the Tillamook, Clatsop, and Columbia County regions.

The TCTD Long-Range Transit Development Plan (LRTDP) estimates that between 2010 and 2040, transit demand is expected to increase by at least 20 percent. The size of the TCTD fleet is determined by the service needs. The financial forecast documented in the LRTDP has indicated that TCTD has a capacity to support up to three new buses. Currently, TCTD operates a fleet of 23 vehicles, comprised of five vehicle types.

FIGURE 18. TCTD PUBLIC TRANSPORTATION SYSTEM IN TILLAMOOK



Public Transportation System Improvements

Projects, policies, and programs for the City's public transportation system are summarized in Table 12 below. Plan recommendations were developed through a combination of stakeholder input, technical analysis of current and future transit needs within Tillamook and carrying forward a suite of near and longer-term recommendations originally introduced in the TCTD Long-Range Transit Development Plan (LRTDP). Projects, policies, and programs are intended to meet current and future transit needs, grow overall ridership, support local transit development, and to support intercity bus connections in the region. The City should monitor transit needs over time and coordinate with TCTD as appropriate.

The LRTDP recommends that the fleet be standardized to two types of vehicles: medium-sized (approximately 30 to 32-foot) buses to provide fixed-route service, and mini-vans or small buses for paratransit services. Additional recommendations for the fleet include purchasing heavy-duty buses for fixed-route service, purchasing vehicles in larger batches, maintaining an average fleet age that is less than half of the average life span of the vehicles, and continuing to purchase low-floor buses, with the goal of eventually replacing all of the currently operating high-floor buses with low-floor models as part of the normal bus replacement schedule.

TABLE 12. PUBLIC TRANSPORTATION SYSTEM IMPROVEMENTS

ID	Improvement	Description	Timeframe[31]
T-1	**Service Coverage**	Add more stops in Tillamook, Nehalem, and Manzanita	Short
T-2	**Service Coverage**	Add new service to Mohler/Highway 53 and Neah-Kah-Nie	High
T-3	**Service Coverage**	Add or increase service to key community destinations, such as the Tillamook PO, YMCA, and VA Clinics	High
T-4	**Service Frequency**	Increase service frequency to heavily-trafficked areas on north-south routes	Medium
T-5	**Route expansion policy**	Provide annual incremental route expansion	High
T-6	**Connectivity/InterCity Services**	Improve connections and ongoing coordination with NW Connector System and Greyhound	High
T-7	**Transit pull-outs**	Provide transit pull-outs on state and county facilities	Medium
T-8	**Program** - Transit shelter enhancements	Add additional shelters at stops where there are none	High
T-9	**Additional services** – 2nd Street/Laurel Avenue transit center stop	Provide bike racks	Medium

[31] Table 12 timeframes are listed as "short", "medium", and "high" per LRTDP designations.

ID	Improvement	Description	Timeframe[31]
T-10	**Transit Advertising Program**	Advertise and promote TCTD Services	Medium
T-11	**Programs** – TDM Measures	Coordinate TCTD, ODOT, and Tillamook County efforts to explore the need for implementing TDM measures, such as carpooling and vanpooling in the County.	Medium
T-12	**Service Coverage** -Tillamook Town Loop	Expand local fixed route service within the City limits. Currently, Route 1 is the only City-specific route.	High
T-13	**Service Frequency** – Route 1 - Tillamook Town Loop	Provide earlier morning and later evening service	Medium
T-14	**Service Frequency** – Route 2 - Tillamook – Oceanside – Netarts	Increase frequency between PM peak travel period	Medium
T-15	**Service Frequency** – Route 3 - Tillamook – Manzanita – Cannon Beach	Increase mid-day service and extend evening hours	Medium
T-16	**Service Coverage** – Route 3 – Tillamook – Manzanita – Cannon Beach	Expanding Route 3 to include popular deviated fixed route destinations	Medium
T-17	**Service Coverage** – Route 4 – Tillamook – Lincoln City	Provide fixed-route bus service to the Port of Tillamook Bay, Woods (Route 4)	High
T-18	**Service Coverage** – Route 4 – Tillamook – Lincoln City	Expanding Route 4 to include popular deviated fixed route destinations	Medium
T-19	**Service Frequency** – Route 4 – Tillamook – Lincoln City	Provide earlier service to shelters in Hebo, Cloverdale, and Beaver	Medium
T-20	**Service Coverage** – Route 5 – Tillamook – Portland	Provide connections to Beaverton and Hillsboro (Route 5)	High
T-21	**Service Frequency** – Route 6 – Coastal Connector	Extend service hours to Lincoln City, Salem, and Grande Ronde	Medium

3.5 Truck Freight System Plan

Truck Freight System Conditions

Tillamook has designated various roads in the City as truck routes in addition to the state freight routes designated in the OHP. Tillamook's designated truck routes are the backbone for trade and commerce within the City and provide critical connections between state facilities and major freight destinations in the City, including TP Freight Lines, Hampton Lumber Company, and industrial businesses on Front Street. The City's existing designated freight routes are shown in Figure 19 below.

Truck freight conditions were reviewed and identified based on the following factors:

- Connectivity – Is the freight network defined and connected, providing for regional truck trips as well as access to industrial and commercial areas within Tillamook?
- Geometrics – Are designated truck routes modernized and built to current standards?
- Mobility – Have locations along key truck routes been identified as congestion or mobility issues?

Truck Routes and Connectivity

The intent of a truck route is to provide the most efficient transport route for goods and materials that also minimizes conflicts with other modes, and while providing adequate connections between the state and local systems. While it is preferred to separate trucks from other modes as much as possible, conflicts with other modes in some areas (such as downtown) are unavoidable due to the confluence of land uses and regional highway junctions.

Currently, truck routes generally provide access to the City's industrial areas. The two primary industrial areas in the City are the Hampton Lumber Company site (bordered by 3rd Street, Evergreen Drive, and 12th Street) and the downtown industrial area on Front Street and 1st Street. These areas are served by local freight routes to access the regional highways in Tillamook. A need for an east-west local truck route was identified on 12th Street. This local freight route could serve the Hampton Lumber Company site and nearby farms with large equipment transportation needs. It is important to note that freight trucks may still need to travel on non-designated truck routes. Adequate signage for the designated truck route system could reduce the amount of truck traffic using non-designated streets.

Truck Route Geometrics

Several truck routes do not meet current cross-section standards for designated truck routes:

- US-101: Hadley Road to Front Street (some of this segment will meet standards after the US-101/OR-6 project is completed)
- 3rd Street: from Schild Road to Olson Road
- Birch Avenue: 1st Street to 3rd Street
- Wilson River Loop: 3rd Street to OR-6
- Olson Road: 3rd Street to OR-6

Truck Mobility

Traffic mobility is summarized previously in the Roadway System section. None of the study intersection movements[32] located along truck routes are projected to exceed mobility standards by 2040.

Freight System Projects

Freight Routes[33]

TSP freight routes to accommodate safe and efficient freight movement in the City are summarized in Figure 19 below. Freight routes include US-101 (south of the downtown core and Main/Pacific couplet) and OR-131. As of the writing of this plan, US-101 and OR-131 are not classified as freight routes in the Oregon Highway Plan even though freight trucks currently use these state and regional facilities to access Tillamook. Freight routes also include improved connection to the east side of town, circulation to and from the US-101 couplet, and connections to other key industrial areas around the City.

Truck Access Alternatives to Hampton Lumber Company

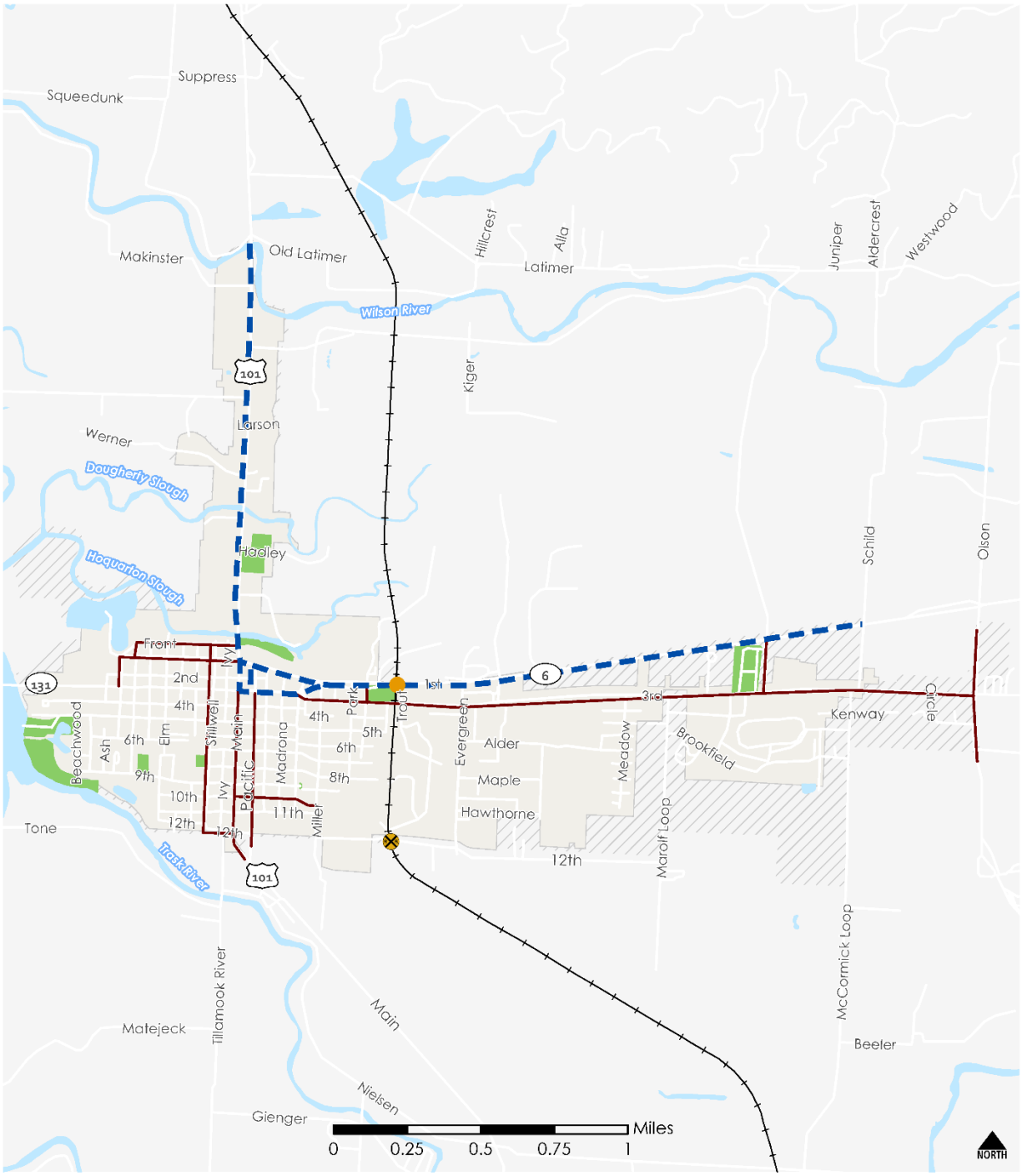
The Tillamook Transportation Refinement Plan (2006) includes recommended changes to the Hampton Lumber Company access:

- Develop 3rd Street freight access
- Site circulation changes to allow 10th Street access and 3rd Street access

[32] The northbound left turn movement on Evergreen Drive at 3rd Street exceeds the mobility standard. While 3rd Street is a truck route, the movement from Evergreen Drive is not along the truck route.

[33] Further definition around freight routes in Tillamook are pending ongoing discussions between the City and the Oregon Department of Transportation (ODOT).

FIGURE 19. FREIGHT AND RAIL FACILITIES



Freight and Rail Facilities

City of Tillamook, Oregon
Transportation System Plan

Legend

- Railroad
- Signed Crossing
- Rail Overcrossing
- State Freight Route*
- City Freight Route
- *Also designated as Reduction Review Route
- Waterbodies
- Parks
- City of Tillamook
- Urban Growth Boundary

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3.6 Rail Plan

There is one rail facility in Tillamook. The southern terminus of the rail line is at the Port of Tillamook Bay industrial site, while the north terminus is in Enright. In Tillamook, the rail line proceeds in the north-south direction between Miller Avenue and Evergreen Drive.

The Port of Tillamook Bay, which owns and operates the line, filed for abandonment of the rail line with the Surface Transportation Board (STB) in May 2016. The Oregon Coast Scenic Railroad currently has operating rights but does not operate any regular trains through Tillamook. However, they may periodically operate rail equipment through the area. Additionally, a severe storm in December 2007 badly damaged the rail line, rendering it inoperable as a freight line. Approval has been granted by the STB to establish interim trail use of the entire line. Future plans include replacing some rail sections with trails, and in other sections adding trails adjacent to the rail line[34].

There is an overcrossing which carries the rail line over OR-6 just east of Del Monte Avenue. There are two at-grade crossings – one at 3rd Street and the other at 12th Street. At the 3rd Street crossing, flashing lights and an automatic gate warn vehicles of oncoming trains. The 12th Street crossing only has static railroad signs placed on both sides of the track. At OR-6, the rail line is grade-separated above the roadway, then continues north, east of Tillamook. The designated track speed is 10 miles per hour. The TSP Update does not include any projects for Tillamook's rail system and is consistent with the rail plan adopted by the Port of Tillamook Bay.

Salmonberry Trail

The 88-mile Port of Tillamook Bay rail corridor formerly owned by Southern Pacific running from Schefflin to the Tillamook Airport once connected the Willamette Valley to the Oregon Coast through the canyon of the Salmonberry River and the Tillamook State Forest. The Port purchased the right-of-way from Southern Pacific in 1990 and owns the corridor as of the writing of this plan, which is now known as the Salmonberry Corridor. Early planning by community advocates and regional agencies have envisioned the corridor as a regional trail between existing recreational trails and parks, educational opportunities, and heritage sites. The TSP Update recommends an enhanced off-street pedestrian/bicycle link between Hoquarton Park and US-101 to facilitate future connections to the Salmonberry Trail. A concept for the Salmonberry Trail is still in the very early stages and will likely take many additional years of planning before it can be considered as a complete regional resource in the area. Future rail projects should consider potential impacts to the Salmonberry Trail.

3.7 Aviation Plan

The Tillamook Airport, owned and operated by the Port of Tillamook Bay, is located south of Tillamook, outside the City limits adjacent to US-101. The airport provides services ranging from light passenger and cargo planes to modern military aircraft, as well as experimental aircraft and airships. Currently, Tillamook Airport provides no commercial air passenger service, but the airport is suitable for most private or commercial aircraft. The Portland International Airport, which is located approximately 75 miles east of Tillamook, is the closest commercial air passenger service provider.

[34] Per email conversation with Richard Shankle and Robert Melbo at ODOT, Rail and Public Transit Division. October 2017.

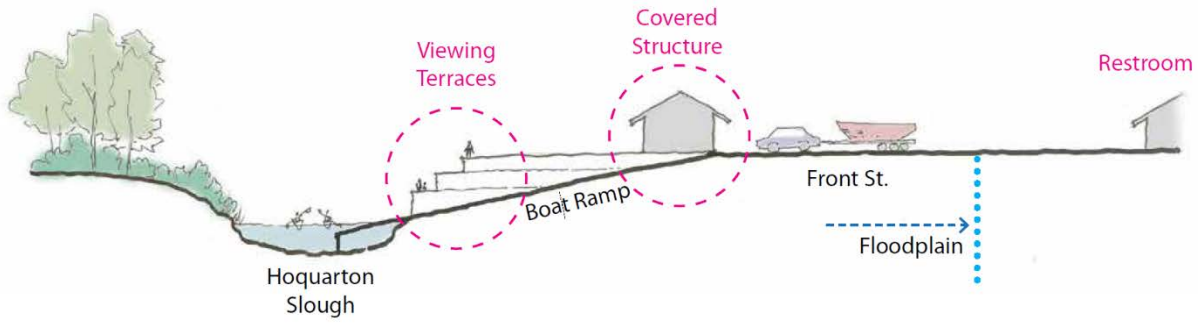
The TSP Update does not include any projects for Tillamook's aviation system. TSP projects are consistent with the Tillamook Airports Master Plan.

3.8 Marine Transportation

There are no boat moorage facilities or navigable canals in Tillamook. There are two boat ramps, one for the Trask River (at Carnahan Park) and one for the Hoquarton Slough (at Sue H Elmore Park). Hoquarton Slough is an Army Corp of Engineers-designated navigable waterway.

The Tillamook County Water Trail includes approximately 200 miles of navigable waterways in Tillamook County, in and around the City of Tillamook. The Water Trail is designated as a National Recreation Trail; the Tillamook County Water Trail Committee produces brochures and maps to support use of the system.

The TSP Update recommends future improvements to the existing boat ramp at Sue H. Elmore Park, including resurfacing and re-grading of the ramp to make it more functional for a range of users, particularly kayakers. The City should also consider seeking funds to construct additional improvements recommended in the 2016 Hoquarton Waterfront Plan.



CONCEPTUAL CROSS-SECTION OF POTENTIAL BOAT RAMP IMPROVEMENTS AT SUE H. ELMORE PARK.
SOURCE: HOQUARTON WATERFRONT PLAN (2016).

3.9 Pipelines

Based on a review of readily available public information, there are no known substantial pipelines in Tillamook. The City does not currently have natural gas service.

Chapter 4: Implementation

4.1 Funding Sources
4.2 Funding Gap and Recommendations

Chapter 4: Implementation

This section describes the funding and finance plan to carry out the TSP projects, including a summary of the City's existing and historical sources of transportation funding, as well as a funding and finance recommendation to be carried out by City leadership.

4.1 Funding Sources

The City's primary sources of transportation revenues includes the state gas tax, local fuel tax, and, recently, ODOT Special City Allotment (SCA) Grants and general fund revenues.[35] The TSP Update included a review of these and other funding sources to identify potential funding pathways that the City could pursue for implementing TSP projects. A thorough review of external funding opportunities was critical to the developing of an implementation strategy for TSP projects as local funds are currently limited. Furthermore, the TSP is a long-term plan which includes a range of short, medium, and long-term projects, policies and programs. Implementation timeframes for TSP projects will influence how these projects are funded and prioritized over the 2040 planning horizon. Note that the TSP Update is not a fiscally constrained plan. Table 13 outlines transportation revenue from various sources from fiscal years 2012 to 2017.

Share of State Gas Tax

The City's allotment of state gas tax revenue has been relatively stable over the last five years except for fiscal year 2014-15, during which the allotment increased by approximately 48 percent over the previous fiscal year. City revenue from state gas tax distributions are likely to remain steady or grow slightly, in real dollar terms, depending on action taken at the state level to increase transportation revenues.

ODOT Special City Allotment Grant

The City was granted ODOT SCA funds in fiscal years 2012-13, 2015-16, and 2016-17. The SCA program is an annual allocation of state funds for local transportation projects in cities with 5,000 or fewer residents. Eligible projects must be on City streets that are not part of a county road or the state highway system. Additionally, SCA funds can only be used on streets that are "inadequate for the capacity they serve or are in a condition detrimental to safety" (ORS 366.805). Some agencies use SCA funds as a local match for larger projects that also meet the intent of SCA. Individual project funding under the SCA program is limited to $50,000 per project. Cities can request an advance of up to one half ($25,000). The City of Tillamook may not remain eligible for SCA funds in the future given the population thresholds of the program. As of the 2018, the City had a population of 4,920.[36]

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[35] Note: General Fund revenues are not allocated for transportation unless they include traffic enforcement by Tillamook Police.

[36] Portland State University (2019). Population Research Center. Annual Population Estimates, Certified Population Estimates, July 1, 2018. https://www.pdx.edu/prc/population-reports-estimates

Local Fuel Tax

Tillamook levies a local gas tax of $0.015 per gallon of gasoline sold within the City. Other cities in Oregon typically levy local fuel taxes from between $0.02 to $0.04 per gallon. Local fuel tax revenue has marginally increased since fiscal year 2012-13 except for fiscal year 2015-16, during which revenue decreased by 9 percent over the previous fiscal year.

Streets, Storm, Drainage, and Park Fund

The City's Public Works department is largely funded through three separate funds: Water, Sewer, and the "Streets, Storm Drainage, and Park Fund." In each year, the majority of the City's street fund is used for maintenance and roadway preservation. This is a deliberate strategy to maximize the useful benefit of transportation expenditures, since preservation of existing facilities is generally far less costly than investments in large-scale rehabilitation or reconstruction.

TABLE 13. TILLAMOOK GENERALIZED TRANSPORTATION REVENUES (2012 - 2017)

	2012-13 Actual	2013-14 Actual	2014-15 Actual	2015-16 Actual	2016-17 Adopted
State Gas Tax	$179,060	$187,926	$277,679	$281,381	$281,603
ODOT Special City Allotment Grant[37]	$78,036	--	--	$50,000	$100,000*
Local Fuel Tax	$121,516	$125,799	$131,753	$120,000	$130,000
Total Transportation Revenues	$378,612	$313,725	$409,432	$451,381	$511,603
Total Streets, Storm Drainage, and Parks Fund Revenues	$797,443	$1,230,817	$1,150,446	$1,512,395	$2,308,103

Source: City of Tillamook (2017). Total Streets, Storm Drainage, and Parks Fund includes unallocated funds that can be expended on transportation projects.

The City spent approximately $1.7 million on transportation capital improvements, materials and service, and personnel between fiscal years 2012-13 and 2016-17. Most of these expenditures (88 percent) went to personnel related to transportation system maintenance, with less than 7 percent spent on capital improvements.[38]

[37] ODOT SCA funds for fiscal year 2015-16 were not expended and were subsequently combined with fiscal year 2016-17 SCA funds.

[38] It is difficult to determine a history of 'street' or other maintenance costs, since the Streets, Storm Drainage, and Parks Fund contains three different elements within its parameters. Therefore, information related to transportation expenditures is based the City's best knowledge and spending assumptions.

Between 2012 and 2017, the City's Personnel budget has increased from approximately $294,000 to $373,000. During the same period, the City's Materials and Services budget increased from approximately $294,000 to $480,000. The capital subsection of the Street fund has approximately $90,000 to fund street and sidewalk maintenance expenses but fluctuates considerably depending on grant and other external funds. Whenever possible, the City maximizes water and sewer project with accompanying street overlays. Table 14 summarizes actual reported expenditures between 2012 and 2017.

TABLE 14. TILLAMOOK GENERALIZED TRANSPORTATION EXPENDITURES (2012 - 2017)

	2012-13 Actual	2013-14 Actual	2014-15 Actual	2015-16 Actual	2016-17 Adopted
Capital Improvements	$35,311	$33,618	$0	$42,826	$5,637
Materials & Services	$4,139	$5,798	$9,920	$64,391	$4,147
Personnel	$278,858	$383,802	$290,645	$260,315	$327,514
TOTAL	**$318,308**	**$423,218**	**$300,565**	**$367,532**	**$337,299**

Source: City of Tillamook (2017).

Future Revenue Forecast

Table 15 details the estimated revenue the City is likely to have available for capital projects in the next 25 years. This section assesses funds that the City is reasonably expected to continue to accrue; it does not account for one-time capital grants such as those for Statewide Transportation Improvement Program (STIP) projects. The City currently does not have a dedicated fund to implement TSP projects and programs. However, there are other potential dedicated and one-time revenue sources the City could pursue to augment its funds for capital improvement projects and they are discussed in the *Appendix I: Finance Program.*

TABLE 15. ESTIMATED FUTURE TRANSPORTATION REVENUE (2017 DOLLARS)

Source	2017	2040	Total over 25-year life of plan	Notes
State and local gas tax revenue[39]	$41,500	$41,500	$1,037,500	The City typically expends on average 11% of its transportation revenue on capital projects. This estimate assumes that the City will continue to have approximately this amount available for capital projects.
SCA Grants	$100,000	$0	$100,000	These funds are available for capital projects. However, Tillamook will likely exceed the population threshold for this grant program and no longer be eligible for funding. This assumes that Tillamook's population will exceed 5,000 by the 2020 Census. Assuming that applicants would reasonably be granted an award every 4 years, this source of funding would no longer be available after 2018.
Total Estimated Funds Available for Capital Projects: $1,137,500				

4.2 Funding Gap and Recommendations

Funding Gap

The total cost of TSP projects is approximately $10,920,000.[40] Of this amount, $8,338,000 of projects are assumed to eligible for federal or state grant funding programs.[41] Additionally, most of the bicycle and pedestrian improvement projects, or $7,683,000, are likely eligible for Safe Routes to School program funds.[42] Approximately $2,582,000 of projects are not likely eligible for federal or state grant funding and would require local funding to complete.

[39] These amounts only report the proportion of state and local gas tax revenues that are typically expended on capital projects (11%), and not the full amount of state and local gas tax revenues that the City generates.

[40] Some project costs in *Appendix H: Solutions Evaluation* are presented as a range; this total cost uses the mid-range where a range of costs was given.

[41] This includes projects on state highways (US 101 and OR 6) and off-street path projects that are likely to become part of the future Salmonberry Trail project. Other projects on federally functionally classified roadways (e.g., 3rd Street) would potentially be eligible for state or federal funding programs, but it is less likely that they would be funded.

[42] Draft SRTS rules for House Bill 2017 require a 40% local match as of this writing. Previous match requirement was 12% when the SRTS program was primarily federally-funded

Table 16 summarizes the City's approximate local contribution needed to fund local projects; the exact funding sources and match requirements are subject to individual project funding and financing decisions during implementation of the TSP.

TABLE 16. FUNDING SUMMARY

Project cost	Primary Funding Source	Minimum Local Match Required[43]	Local Funds Required
$654,000	State and Federal Grant Programs (STIP or others)	~11% (can vary from year to year)	$72,000
$7,683,000	Safe Routes to School	40%[44]	$3,073,000
$2,582,000	Local	N/A	$2,582,000
TOTAL LOCAL FUNDS LIKELY REQUIRED:			**$5,727,000**

Funding Recommendation

The City has relied on a combination of local revenue and state and federal grants to complete transportation projects in the past. The City should continue to rely on a mix of funding sources, with enhanced local revenue to support new projects and serve as matching funds for state and federal grants.

The City will need to raise revenue to cover the funding gap described above. However, there are several promising sources of local funding that could be pursued to implement transportation improvements. Additionally, state and federal funds continue to be an important source of funding for future projects including STIP and SRTS funds. Many of these funding programs have recently received infusions from House Bill 2017 and should be monitored to identify eligible projects as rulemaking continues in 2018 and 2019. Key recommendations for the City to consider are summarized in the following sections.

Raise the Local Gas Tax

The City currently levies a local fuel tax of $0.015 per gallon of gasoline. This tax currently results in approximately $120,000 per year in revenue. Increasing the local fuel tax on to $0.03 per gallon would approximately double fuel tax revenue to $240,000 per year to support investment in the City's arterial and collector street network. The City should consider the following with respect to increasing the local fuel tax:

- Tillamook's current local tax is less than that of other cities in Oregon, which typically levy local fuel taxes from between $0.02 to $0.04 per gallon.

[43] It is important to note that in many cases projects are more competitive for grant funding when greater local match is provided in excess of the minimum match amount.

[44] Draft SRTS rules for House Bill 2017 require a 40 percent local match. Previous match requirement was 12 percent when the SRTS program was primarily federally-funded.

- A $0.015 increase in the fuel tax is unlikely to significantly increase transportation costs for residents of Tillamook; the increase would cost the average driver approximately an additional $0.15 per fill-up or $7.20 per year.[45]
- Local gas tax would also be paid by visitors and those travelling through Tillamook, whereas other forms of local revenue (like transportation maintenance fees) are typically sourced exclusively from residents and employers.
- Average fuel economy is increasing, and the number of alternative fuel vehicles is growing, meaning that the gas tax generally will become a less effective revenue instrument in the future. Revenues would likely decline over the planning period. This revenue decline could be mitigated by future increases in the local gas tax rate.
  Prior efforts to raise the local gas tax in Tillamook have not been successful. The City would need to adopt a strategy for public acceptance of an increased local gas tax. Tactics that have been successful in other communities include clearly defining the projects that increased revenue would support; articulating how the increase would affect the cost of transportation; and showing the potential transportation benefits to the community.

Implement System Development Charges

System Development Charges (SDCs) are fees levied on developers during the permitting and approval process for constructing new development. Tillamook does not currently assess transportation SDCs or other forms of utility fees. Several coastal communities in Oregon do charge SDCs. The City could leverage this type of revenue to support local street investments. The City should consider the following with respect to implementing SDCs:

- SDCs are commonly employed by jurisdictions. They primarily impact developers. However, depending on the magnitude of the fee, SDCs may increase the costs of developing, though SDCs typically represent a very small fraction of the costs of development and would likely have a negligible effect on construction costs.
- SDC revenue is not reliable from year to year and is completely dependent on the amount and type of development occurring. During economic downturns, SDC revenue may decline substantially.
- It is difficult to estimate SDC revenue, as revenue is dependent on the type of fee assessment; development of a SDC methodology and fee structure is beyond the scope of this TSP Update. However, at a hypothetical fee of $2,000 per new residential unit, Tillamook could expect to generate about $754,000 over the life of the plan in residential SDC revenue, based on a forecasted 377 additional households by 2040. For non-residential, assuming approximately 75,000 square feet of new non-residential development[46] and a low average fee of $2,000 per 1,000 square feet, the City could generate approximately $140,000 additional in non-residential fees.

[45] Based on a ten gallon fill-up and an average of 12,000 miles driven per year and 25 miles per gallon average fuel economy of the current fleet.

[46] Based on a conservative assumption of approximately 100 square feet per new anticipated employee. Approximately 700 new employees/jobs are forecast in Tillamook by the planning horizon year.

Appendices

Appendix A: Public Involvement Plan

Appendix B: Background Plans and Policies Review

Appendix C: Regulatory Review

Appendix D: Goals, Objectives, and Evaluation Criteria

Appendix E: Existing Conditions

Appendix F: Future Conditions

Appendix G: Future Needs

Appendix H: Solutions Evaluation

Appendix I: Finance Program

Appendix J: Transportation Standards

Appendix K: US-101 Pedestrian Crossings Study