
PRELIMINARY DRAFT FOR REVIEW

Draft Garibaldi Transportation System Plan

Prepared for
Oregon Department of Transportation

May 2003

Prepared by
CH2MHILL



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Preface

The Garibaldi Transportation System Plan (TSP) is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Transportation Equity Act for the 21st Century (TEA-21), local government, and the State of Oregon funds. The contents of this document do not necessarily reflect views or policies of the State of Oregon. The progress of the TSP was guided by the City of Garibaldi Project Advisory Committee and the Consultant Team identified below.

Acknowledgments

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The City of Garibaldi and the Oregon Department of Transportation express their sincere appreciation to the following members of the Garibaldi TSP Advisory Committee for their participation in this project:

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Acronyms and Abbreviations

| | |
|-------|---|
| AAGR | average annual growth rate |
| ADA | Americans with Disabilities Act |
| ADT | average daily traffic |
| ATR | automated traffic recorder |
| | |
| DAR | dial-a-ride |
| DLCD | Department of Land Conservation and Development |
| DMV | Oregon Department of Motor Vehicles |
| | |
| GF | growth factor |
| | |
| HCM | Highway Capacity Manual |
| HOV | high-occupancy vehicle |
| | |
| IM | interstate maintenance |
| IOF | Immediate Opportunity Fund |
| ITS | Intelligent Transportation System |
| | |
| LCDC | Land Conservation and Development Commission |
| LOS | level of service |
| | |
| MEV | million entering vehicles |
| MP | milepost |
| MPO | metropolitan planning organization |
| mph | miles per hour |
| MUTCD | Manual on Uniform Traffic Control Devices |
| | |
| NHS | National Highway System |
| NWRC | Northwest Ride Center |
| | |
| OAR | Oregon Administrative Rule |
| OBPP | Oregon Bicycle and Pedestrian Plan |
| ODOT | Oregon Department of Transportation |
| OHP | Oregon Highway Plan |
| ORS | Oregon Revised Statute |
| OTIA | Oregon Transportation Investment Act |
| OTC | Oregon Transportation Commission |
| OTP | Oregon Transportation Plan |
| | |
| PAC | Project Advisory Committee |
| PMT | Project Management Team |
| POTB | Port of Tillamook Bay |

| | |
|------|--|
| SPIS | Safety Prioritization Index System |
| STA | Special Transportation Area |
| STIP | Statewide Transportation Improvement Program |
| TCTD | Tillamook County Transportation District |
| TDM | Transportation Demand Management |
| TPAU | Transportation Planning and Analysis Unit |
| TPR | Transportation Planning Rule |
| TSM | Transportation System Management |
| TSP | Transportation System Plan |
| UBA | urban business area |
| v/c | volume-to-capacity |

Executive Summary

To be completed

First reference to Background Document here.....

SECTION 1

Introduction

The City of Garibaldi, in conjunction with the Oregon Department of Transportation (ODOT), initiated a study of the city's transportation system in 2002. The 2003 Garibaldi Transportation System Plan (TSP) addresses ways to improve the transportation system to serve existing needs and to support anticipated growth in population and traffic during the next 20 years. The TSP considers future traffic volumes and circulation patterns in a way that emphasizes the local street network and protects the function of U.S. 101, a statewide highway that also serves as Garibaldi's main street.

The TSP establishes a system of transportation facilities and services adequate to meet the city's transportation needs to the year 2022. The TSP includes all modes of travel (rail, pedestrian, bicycle, auto, marine and public transportation), serves the entire city, and is well coordinated with the state, regional, and county transportation network. This TSP pays particular attention to the tourist and recreational aspects of the area and the transportation conditions created by the unique traffic characteristics. The Garibaldi TSP identifies planned transportation facilities and services needed to support planned land uses as identified in the Tillamook County Comprehensive Plan in a manner consistent with the Transportation Planning Rule (TPR) (Oregon Administrative Rule [OAR] 660-012) and the Oregon Transportation Plan (OTP). Preparation and adoption of a TSP for the county provide the following benefits:

- Assures adequate planned transportation facilities to support planned land uses during the next 20 years
- Provides certainty and predictability for the siting of new streets, roads, highway improvements and other planned transportation improvements
- Provides predictability for land development
- Helps reduce the cost and maximize the efficiency of public spending on transportation facilities and services by coordinating land use and transportation decisions

This TSP will guide the management and development of appropriate transportation facilities in Garibaldi, incorporating the community's vision, while remaining consistent with state, regional, and other local plans and policies. This document provides the necessary elements to be adopted as the transportation element of the city's comprehensive plan.

The contents of the Garibaldi TSP are guided by Oregon Revised Statute (ORS) 197.712 and the Department of Land Conservation and Development's (DLCD) administrative rule known as the TPR. These laws and rules require that jurisdictions develop the following:

- A road plan for a network of arterial and collector streets
- A public transit plan
- A bicycle and pedestrian plan

- An air, rail, water and pipeline plan
- A transportation financing plan
- Policies and ordinances for implementing the TSP

The TPR requires that non-automobile travel modes be given equal consideration with the automobile, and that reasonable effort be applied to the development and enhancement of these modes in providing the future transportation system. The TPR also requires that local jurisdictions adopt land use and subdivision ordinance amendments to implement the provisions of the TSP. Finally, the TPR requires that local communities coordinate their plans with applicable county, regional, and state transportation plans. As documented below, this coordination occurred throughout the preparation of the Garibaldi TSP.

Specific elements of the Garibaldi TSP include:

- A street network with connections and extensions to provide for local circulation and access off of U.S. 101
- Street standards that comply with the TPR
- Appropriate improvements along the primary city, county and state highway corridors that serve Garibaldi to support planned land uses and measures to protect the long-term function of U.S. 101
- Pedestrian and vehicle circulation improvements to reduce the need for short car trips on state highways and improve pedestrian safety throughout the planning area
- Amendments to the city's zoning, subdivision, and other land use-related ordinances; the comprehensive plan; and any relevant financing plans, such as a capital improvement plan or other similar documents

Plans and Policies

Several jurisdictions own the public roadways serving Garibaldi. ODOT, Tillamook County and Garibaldi each have jurisdiction over roads within the city limits. These jurisdictions have plans and policies that directly affect transportation planning and decisionmaking in Garibaldi. One of the first steps in the TSP process was to review the following documents, which serve as the basis for updating policies, to reflect current conditions and to achieve consistency with other local, regional and state plans. The plan and policy review is provided in the Background Document. The following plans were reviewed:

- City of Garibaldi
 - City of Garibaldi Comprehensive Plan (1990)
 - City of Garibaldi Zoning and Subdivision Ordinance (1982)
 - Oregon Downtown Development Association Plan (2000)
 - Port of Tillamook Bay Master Plan
 - Port of Garibaldi Strategic Business Plan
 - City of Garibaldi Parking Study
 - City of Garibaldi Draft Street Ordinances (April 13, 1995)
 - City of Garibaldi Adopted Street Standards

- Tillamook County
 - Tillamook County Comprehensive Plan (1982)
- State/ODOT
 - Transportation Planning Rule (OAR 660-12)
 - Oregon Transportation Plan (1992)
 - Oregon Bicycle and Pedestrian Plan (1995)
 - Draft 2001 Oregon Rail Plan
 - Oregon Transportation Safety Action Plan (1995)
 - Oregon Public Transportation Plan (1997)
 - Oregon Highway Plan (1999)
 - 2002-2005 Statewide Transportation Improvement Program
 - Executive Order No. EO-00-07, Development of a State Strategy Promoting Sustainability in Internal State Government Operations (2000)
 - Executive Order No. EO-00-23, Use of State Resources to Encourage the Development of Quality Communities (2000)
 - Access Management Rules (OAR 734-051)
 - Freight Moves the Oregon Economy (1999)
 - Proposed Oregon Coast Highway Corridor Master Plan (1995)
 - Pacific Coast Scenic Byway Corridor Management Plan for U.S. 101 in Oregon (1997)
- Federal
 - Transportation Equity Act for the 21st Century (TEA-21) and implementing regulations (23 CFR 450 and 49 CFR 613)

Public Involvement

The TSP planning process provided the citizens of Garibaldi with the opportunity to identify priorities and provide input on future transportation projects in the city. The public involvement component of the Garibaldi TSP consisted of three project advisory committee (PAC) meetings and two community open house meetings.

The PAC included city and county staff, representatives from ODOT and DLCD, and several residents with various roles and responsibilities in the community. The PAC reviewed the results of inventory and existing conditions information for the TSP and other technical analyses. As potential projects and solutions were identified, the PAC and the general public provided critical feedback regarding priorities and feasibility. At the

beginning of the planning process, the PAC reviewed the TSP goals and objectives and the evaluation criteria.

The PAC met three times during the process of developing the draft TSP, including: project kickoff and review of goals and objectives, inventory and existing conditions analysis; presentation of future conditions, potential projects and evaluation criteria; and presentation of the draft TSP.

Two community open houses were conducted as the primary public outreach tool for the TSP planning process. The open houses provided opportunities for the broader public to review TSP materials and to provide comments to the technical team preparing the TSP. The main objectives of the first open house were to gather community input for the development and evaluation of the proposed alternatives. The purpose of the second open house was to review and gather public input on the draft TSP document.

Goals and Objectives

The formulation of goals and objectives is an important component of the transportation planning process. The goals and objectives reflect the input of the PAC – which included residents, and business and agency representatives – obtained during the course of preparing the TSP. They also reflect current local, regional and state goals and policies, and are intended to support these policies.

The Garibaldi TSP goals and objectives serve two main purposes: (1) to guide the development of the Garibaldi transportation system during the next 20 years and (2) to demonstrate how the TSP relates to other county, regional, and state plans and policies. The goal statements are general statements of purpose to describe how the city through the TSP intends to address the broad elements of the transportation system. The objectives are specific steps that illustrate how each goal is to be carried out.

The TSP goals and objectives are described in Section 5 of this document.

SECTION 2

Existing Transportation Conditions

This section summarizes the state of existing transportation conditions in Garibaldi. For more detailed information, see the Background Document. The inventory of existing transportation conditions in Garibaldi will serve as a baseline for the 20-year planning horizon. The following elements of the existing transportation system are discussed in this section:

- Population and Land Use
- Roadway Inventory
- Traffic Operations Analysis
- Safety Analysis
- Public Transportation Inventory
- Pedestrian and Trail System Inventory
- Bicycle System Inventory
- Rail, Water, and Pipeline Transportation Inventory

Population and Land Use

Garibaldi is located 90 miles west of the Portland metropolitan area along the Pacific Coast on Tillamook Bay, 9 miles north of the City of Tillamook. The 2001 population was estimated at 900 by the Portland State University Population Research Center. The major industries in Garibaldi are commercial and sport fishing. U.S. 101 connects Garibaldi with the nearby communities of Rockaway Beach to the north and Bay City to the south. Garibaldi's transportation system serves a variety of transportation needs through roads, public transportation, rail, and pedestrian and bicycle facilities. The study area for this project includes all area within the city's urban growth boundary (UGB) (see Figure 2-1).

Commercial development in Garibaldi is concentrated in the downtown core along U.S. 101 (Garibaldi Avenue) between 1st and 11th Streets, where small retail shops are located. Industrial (commercial fishing) development is located south of U.S. 101 within the Port of Garibaldi area. Residential development is concentrated north of U.S. 101, between 11th Street and 1st Street, and along U.S. 101, west of 11th Street and east of 1st Street. Garibaldi has one public school, Garibaldi Elementary School, located on Cypress Avenue, west of 6th Street.

Garibaldi contains few open spaces within its boundary. Lumbermen's Park is operated by the Garibaldi Lions Club on land owned by the Port of Garibaldi, south of U.S. 101. It provides a play area and picnic area. A small picnic area also is located along the south side of Biak Avenue and a small playfield is located at Garibaldi Elementary School.

Study Area

City of

GARIBALDI



Road

Railroad

School

Park

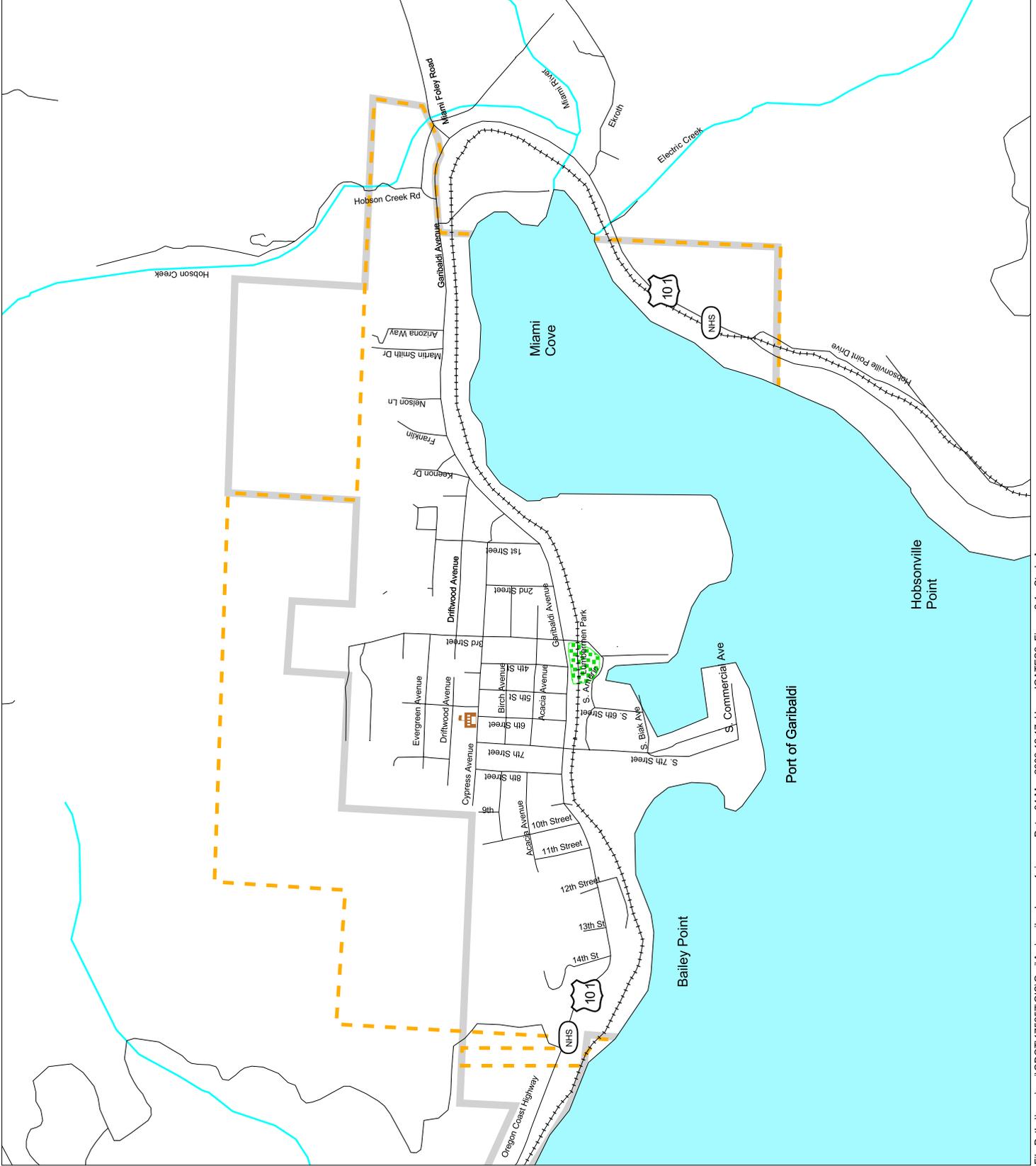
City Limit

Urban Growth Boundary



500 0 500 Feet

Figure 2.1
Transportation System Plan
Garibaldi, OR



The Garibaldi area contains many water features, including seven creeks that are interwoven into the city street network. They include Cannery, Johnson, School, Whitney, Hill, Hobson, and Lagler Creeks. Within the city's developed area, Johnson, School, and Whitney Creeks separate the city into four distinct areas. In addition, Garibaldi is located on Tillamook Bay and Miami Cove. Tillamook Bay provides commercial and sport fishing access.

Land Use and Zoning

Land in Garibaldi is divided into a relatively small number of use zones, as shown in Appendix A and described as follows.

- Commercial (C1): Garibaldi's commercial areas are concentrated along U.S. 101 and the first block adjacent to the highway, particularly in the downtown area.
- Residential (R1): The city has one residential zone that covers all residential areas in the city. The residential area is generally north of Acacia Avenue, with some exceptions at the edges of the city.
- Industrial (I1): The city has one large parcel that is zoned for industrial use. It is located at the southwest corner of U.S. 101 and 7th Street. The site is currently occupied by a lumber mill.
- Waterfront Development (WD1 and WD2): The city has two waterfront development zones located between U.S. 101 and the bay. These zones apply to much of the Port of Garibaldi area and the Old Mill site.
- Resource Open Space (RO): Land in the hills to the north and west of the residential area of the city is zoned for open space use.
- Hillside Overlay: A portion of the city includes a hillside overlay designation indicating steep slopes (20 percent or more).
- Natural Resources: There are several natural-resources-related zones including Estuary Development (ED) and Estuary Conservation (EC1 and EC2). Land with these designations is located south of U.S. 101, generally where the city meets the bay.
- Dredge Materials Disposal (DMD): One area in the Port of Garibaldi area is zoned for dredge materials disposal and is currently used for that purpose.
- Limited Land Use Overlay (LUO): This overlay zone applies to the U.S. Coast Guard rescue station in Garibaldi.

Additional information on the Garibaldi zoning code is provided in the Plan and Policy Review section of the Background Document.

Roadway Inventory

An inventory of the existing transportation system in Garibaldi was conducted in fall 2002. The following roadway characteristics were inventoried:

- Maintenance and jurisdiction
- Functional classification
- Pavement type (asphalt, concrete, gravel)
- Pavement condition (good, fair, poor)
- Number of travel lanes
- Roadway widths
- Speed limits
- Intersection control
- Access management
- Bridges
- Parking
- Lifeline routes and emergency access
- Beach access points

Maintenance and Jurisdiction

Within the vicinity of Garibaldi there is a mixture of road ownership, including roads owned by ODOT, Tillamook County, the Port of Garibaldi, and the City of Garibaldi (Figure 2-2).

ODOT maintains and has jurisdiction over the following road:

- U.S. 101

Tillamook County maintains and has jurisdiction over the following roads:

- Miami Foley Road
- Hobsonville Point Drive

The Port of Garibaldi maintains and has jurisdiction over the following roads:

- South American Avenue from 6th Street to Jerry Creasy Drive
- South Biak Avenue from 7th Street to 6th Street
- 6th Street from South Biak Avenue to American Avenue.
- South 3rd Street south of the railroad tracks

Jerry Creasy Drive and South American Avenue from 6th Street to Jerry Creasy Drive are not public or private roads, but paved areas under jurisdiction of the Port of Garibaldi. In addition, 3rd Street, south of the railroad tracks to American Avenue is an easement with a paved area owned by the Port of Garibaldi on land owned by the Old Mill.

Most other roads in the city are owned and maintained by the City of Garibaldi. Private roads can be differentiated by their name. Roadways with Drive or Lane names are private roads, and roadways with Street or Avenue names are public city streets. The one case this does not apply is Bay Lane, which is a city street.

Existing Functional Classification

ODOT has identified the functional classification of roadways in Garibaldi. The proper classification of each roadway is important to help determine the appropriate traffic control, design standards, pedestrian and bicycle facilities, and access to adjacent properties for a

Existing Roadway Jurisdiction

City of

GARIBALDI



State Facility



County Facility



Port of Garibaldi Facility



City Facility



Railroad



Park



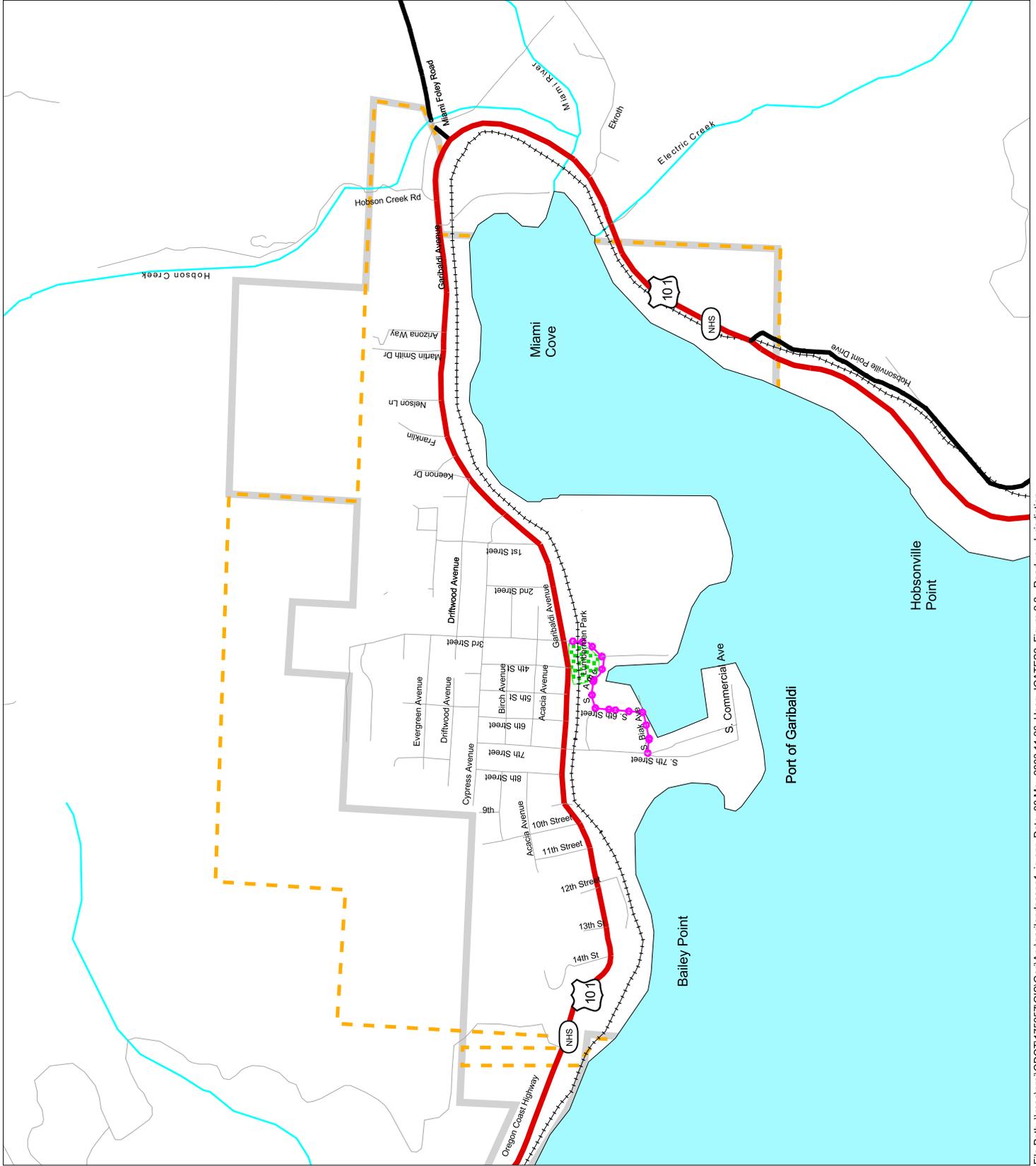
City Limit



Urban Growth Boundary



Figure 2.2
Transportation System Plan
Garibaldi, OR



roadway segment. Figure 2-3 shows the following functional classifications for roads in Garibaldi:

- **Arterial Roadways.** The primary function of an arterial roadway is to provide mobility. Therefore, arterials typically carry higher traffic volumes and allow higher travel speeds while providing limited access to adjacent properties. In Garibaldi, U.S. 101 is the only designated principal arterial. In addition, U.S. 101 is on the National Highway System (NHS) and is classified by ODOT as a statewide highway and scenic byway in the adopted 1999 Oregon Highway Plan (OHP).
- **Collector Roadways.** The function of a collector roadway is to collect traffic from local streets and provide connections to arterial roadways. Generally, collectors operate with moderate speeds and provide more access in comparison to arterials. Located outside Garibaldi's UGB, Miami Foley Road is designated as a rural major collector.
- **Local Roadways.** The primary function of a local roadway is to provide access to local traffic and to route users to collector roadways. Generally, local roadways operate with low speeds, provide limited mobility, and carry low traffic volumes in comparison to other roadway classifications. In Garibaldi, all roadways not mentioned above are designated as local roads by ODOT.

Several roadway segments classified as local roadways by ODOT were identified as potential collectors by Joe Wrabek, city administrator of Garibaldi. The following potential collectors are shown in Figure 2-3.

- Acacia Avenue; 7th Street to 3rd Street
- Cypress Avenue; 7th Street to 3rd Street
- Driftwood Avenue; 3rd Street to U.S. 101 (Garibaldi Avenue)
- 7th Street; South Commercial Avenue to Cypress Avenue
- 6th Street; U.S. 101 to Evergreen Avenue
- 3rd Street; U.S. 101 to Ginger Avenue

Pavement Type and Condition

In Garibaldi, all of the potential collector roadways identified in the Existing Functional Classification subsection have asphalt surfacing. Overall, approximately 7.5 miles of city streets are paved and 2 miles are unpaved.

A visual inspection of pavement conditions was conducted for potential collector roads under jurisdiction of the City of Garibaldi to determine which roads were in good, fair, or poor condition. Roads in good condition provided smooth driving conditions and were generally free of potholes, cracking and maintenance issues. Roads in fair condition had sections of patching and short sections that require maintenance. Roads in poor condition provided a rough driving surface, with a majority of their length requiring maintenance because of potholes and cracking. Generally, the pavement condition of unimproved local roads in Garibaldi was poor to fair. A 3-year city street levy approved by voters in 1992 was used to overlay certain roads. These roads are in good condition. Similar levies proposed in 2000 and 2002 were defeated.

Current Functional Class

City of

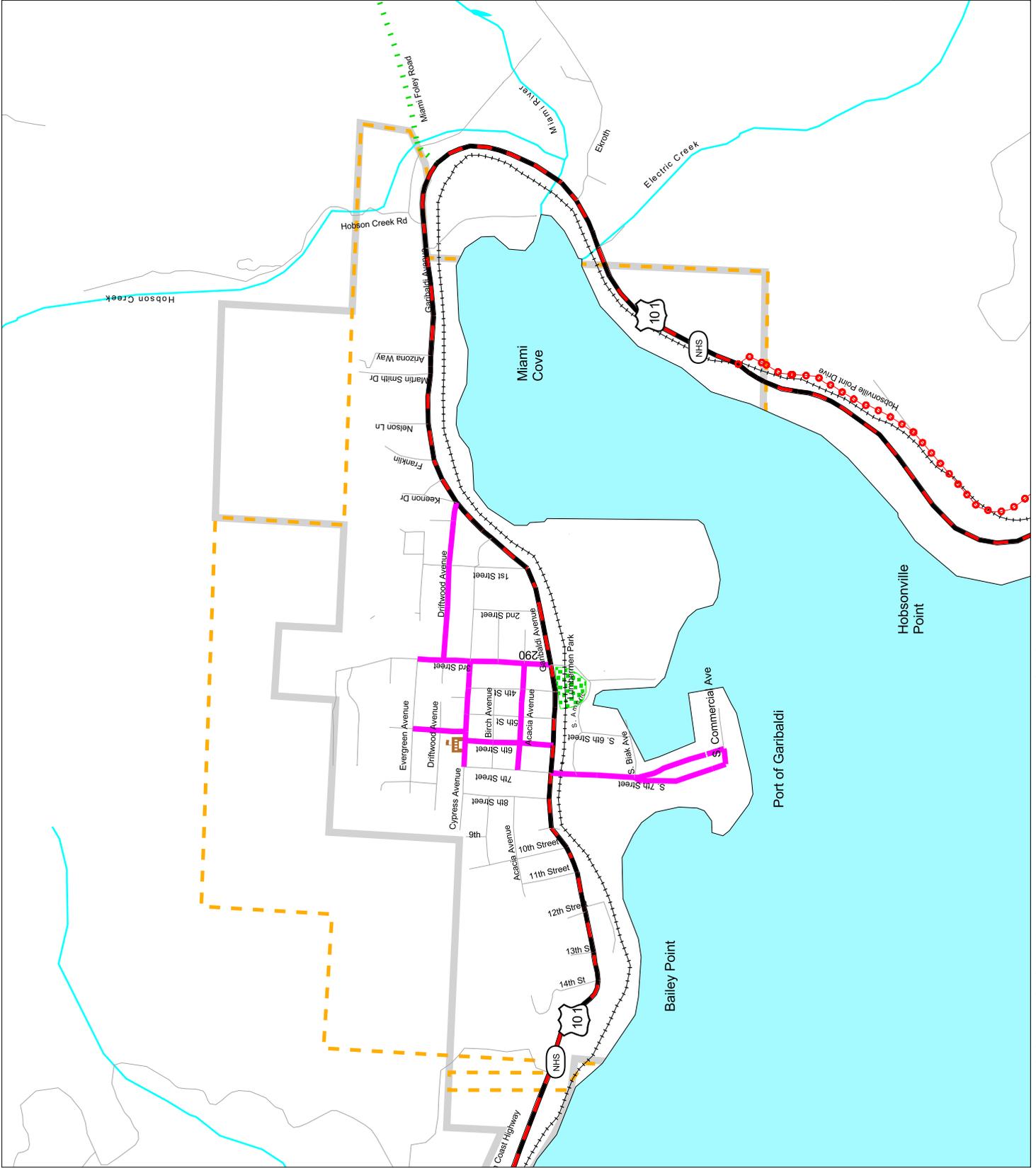
GARIBALDI



-  Potential Garibaldi Collector
-  State Collector
-  State Arterial
-  County Collector
-  Road
-  Railroad
-  School
-  Park
-  City Limit
-  Urban Growth Boundary



Figure 2.3
Transportation System Plan
Garibaldi, OR



Portions of all the local collector roads are in good condition. These segments are:

- Acacia Avenue between 7th and 6th Street
- Cypress Avenue east of 6th Street
- Driftwood Avenue between 3rd Street to 1st Street
- 7th Street from Boat Basin Road to U.S. 101.

Many of the other local roads that serve lower volumes of traffic are in poor condition and pavement improvements may be necessary. Because these roads are outside the defined study network they will not be directly addressed, instead guidelines used to identify pavement conditions are included in the TSP so the city staff can assess pavement conditions (see Appendix B).

Collector segments that are in poor condition include 7th Street from U.S. 101 to Cypress Avenue, Cypress Avenue from the western dead-end to 6th Street and 6th Street between Cypress Avenue and Evergreen Avenue. All other segments not mentioned are either in fair or good condition.

As described in the 2001 Pavement Condition Report by ODOT and the OHP, the state has a goal of maintaining a statewide pavement condition rating at 78 percent fair or better. According to the ODOT Web site, U.S. 101 is in good condition in Garibaldi.

Number of Travel Lanes

All roads in Garibaldi allow two-way traffic with one lane in each direction. 3rd Street from U.S. 101 to Acacia Avenue is the only one-lane road defined as a local collector. At U.S. 101 and 7th Street, short turn pockets are provided at the east and north approaches. At U.S. 101 and 3rd Street a short left-turn pocket is provided on the east approach.

Roadway Width

An examination of the state roadway and potential collector lane widths was conducted during field work in Garibaldi. This examination noted any roads with lane widths less than state or city standards. The current standards used by the City of Garibaldi, which are adopted from Bay City standards, classify four types of roadways with an associated lane width: residential lane (15 feet), feeder streets (11 feet), residential streets (10 feet) and arterial streets (12 feet). From a visual inspection, all of the roads examined in Garibaldi are standard lane width. U.S. 101, which is the only state facility in Garibaldi, meets ODOT design standards for roadway width.

Speed Limits

All roads in Garibaldi other than U.S. 101 have a 25 mph speed limit. U.S. 101 within the city limits is posted at various speed limits. Entering the city from the west, the speed limit on U.S. 101 is 40 mph. Before reaching the downtown area, the speed limit on U.S. 101 dips to 30 mph. At Nelson Lane, the speed limit on U.S. 101 increases to 40 mph. Immediately outside the city's eastern limits, U.S. 101 is posted at 45 mph.

Intersection Control

There are no traffic signals in Garibaldi. All intersections are either stop-controlled or provide no traffic control. All local collector cross-streets intersecting U.S. 101 (Driftwood Avenue, and 3rd, 6th and 7th Streets) are two-way stop-controlled. Along the local collector system intersection stop control is provided at the following, non-U.S. 101 locations:

- Cypress Avenue is stop-controlled at 3rd Street
- Driftwood Avenue is stop-controlled at 3rd Street and 1st Street
- Acacia Avenue is stop-controlled at 3rd Street
- 6th Street is stop-controlled at Cypress Avenue

There are no four-way, stop-controlled intersections in Garibaldi.

Access Management

According to the OHP, access management is “balancing access to developed land while ensuring movement of traffic in a safe and efficient manner.” The OHP states that the purposes of access management strategies include: ensuring safe and efficient roadways consistent with their determined function; ensuring the statewide movement of goods and services; enhancing community livability; supporting planned development patterns; and recognizing the needs of motor vehicles, transit, pedestrians and bicyclists.

The TPR requires that local governments adopt land use or subdivision ordinance regulations to protect transportation facilities for their identified functions, such as access control (OAR Section 660-12-0045(2)). Garibaldi currently does not address access control measures in its zoning or subdivision/partition ordinances. The TSP addresses the state requirement for Garibaldi access control standards (see Section 5).

Several collectors in Garibaldi have multiple vehicle access points to access local roads or private streets or driveways. An example of a roadway with frequent vehicle access points is U.S. 101. Multiple access points can lead to increased opportunities for vehicle-vehicle conflicts as well as conflicts between vehicles and bicyclists or pedestrians. During the inventory work, the following general observations were made about access management along each roadway segment:

- There are no turn restrictions or medians along U.S. 101.
- Access to businesses along U.S. 101 is limited to on-street parking or occasionally to a business parking lot provided adjacent to the business.
- Local streets provide frequent access points to private driveways.

Access to the Port of Garibaldi area is via a roadway loop system. This loop is created by the American Avenue connection between South 3rd Street and South 7th Street. Short portions of American Avenue and 3rd Street south of the railroad crossing are deficient because a short block is not consider a legal road.

Bridges

There are no bridges within the city limits of Garibaldi. One state bridge is located just outside of Garibaldi's UGB along U.S. 101 at Miami River (MP 56.99, Bridge #01226A). On the local road system there are culverts located at existing stream crossings.

Parking

In the downtown area, on-street parallel parking is allowed along U.S. 101 between 2nd Street and 11th Street. Parking is restricted to a 2-hour maximum. Angled parking is provided on 3rd Street from U.S. 101 to Acacia Avenue. Parking locations are described in Appendix C.

A parking inventory was conducted by the city planner in 2001. From this study, there are approximately 500 stalls in the downtown area (100 public parking stalls, 330 private business parking stalls and 55 city parking stalls). In the Port of Garibaldi, there are more than 300 off-street public parking stalls, 50 RV parking stalls and 75 on-street parking stalls, for a total of 430 total parking stalls. In addition, there are 75 stalls for special uses in the port area, which includes parking for the motel, ambulance and U.S. Coast Guard.

The following are public parking lots in Garibaldi:

- Two paved public parking lots on city land: one is east of 3rd Street between Bozzio's and the Parkside Deli; the other is west of the old Garibaldi Hardware building. Both lots are small, accommodate fewer than 20 vehicles each, and are on the south side of U.S. 101.
- Two other space areas along the south side of U.S. 101 are used as public parking. They are at 6th Street (at the transit shelter) and at 10th Street (between Woodard's Auto Parts and Miller's Restaurant). These lots are unpaved and accommodate approximately 25 vehicles each.
- A large public parking lot is located at the end of Bay Lane on state land managed by the Oregon Department of Fish and Wildlife (ODFW). The city and the Port of Garibaldi are responsible for maintenance under a three-party agreement with ODFW. This lot is graveled and serves primarily traffic using the public crab dock and Pier's End. It can accommodate 25 to 50 vehicles.
- The Port of Garibaldi has numerous parking areas south of Biak Avenue. In addition, on-street parking south of U.S. 101 is located along South 7th Street, South 6th Street, South Biak Avenue and on portions of South American Avenue. During the peak fishing season, parking becomes an issue when vehicles spill over into the designated gravel parking lots near the railroad tracks between 7th Street and 6th Street.
- The Garibaldi Elementary School parking lots are used for general parking during school and field events.

Some businesses provide off-street parking on their property, but it is restricted to customers only. It should be noted that the Garibaldi Zoning Ordinance requires new businesses to provide sufficient off-street parking to handle their traffic needs. However, many of the business do not have off-street parking because they pre-date the ordinance.

Garibaldi does not have sufficient on-street parking and many of the off-street lots are used regularly. Sufficient parking is available during most of the year when considering the off-street parking provided by the city, the Port of Garibaldi and local businesses. In the downtown area, on-street parking is provided for standard-sized vehicles along U.S. 101 and the immediate cross-street areas. In addition, there are two developed (paved, striped and signed) and two undeveloped city parking lots on U.S. 101, paved and gravel parking lots in the port area, as well as off-street parking lots for several downtown businesses.

The city staff has indicated that parking becomes a major problem during the peak fishing season. Parking in the Port of Garibaldi area usually spills over into the gravel lots adjacent to the railroad tracks. Many of these parked vehicles are recreational vehicles (RVs) or include boat trailers and require larger off-street parking spaces. After the gravel lots are full, the nearest parking lots are located a few blocks away along U.S. 101.

Lifeline Routes and Emergency Access

In the vicinity of Garibaldi, Miami Foley Road and U.S. 101 are designated as lifeline routes. Miami Foley Road and U.S. 101 east of the downtown area are designated as Priority 1 lifeline routes, which means they are essential for emergency responses in the first 72 hours after an incident. U.S. 101 in downtown Garibaldi and to the west is designated as a Priority 2 lifeline route, which means it is desirable for emergency responses in the first 72 hours after an incident or it is essential for economic recovery.

The city's fire station is located just north of U.S. 101 on 6th Street, while the ambulance is located south of U.S. 101 on South 7th Street. Trains sometimes block both the South 7th Street and South 3rd Street crossings, which causes access issues for emergency vehicles.

The evacuation route for a flood, landslide or tsunami is U.S. 101 to Miami Foley Road. This route is potentially not accessible during a flood event because a portion of Miami Foley Road is in the floodplain.

Beach Access Points

Public beach access points in Oregon have been inventoried and are summarized on the Inforain Web site (www.inforain.org). According to the city staff, there is one public beach in Garibaldi. It is located on Port of Garibaldi land and is accessible from the Port of Garibaldi and the land managed by ODFW.

Existing Traffic Operations Analysis

The operational analysis of existing conditions (2002) was conducted for three intersections in Garibaldi located on state, county and city facilities: U.S. 101 at 7th Street, 3rd Street and Miami Foley Road. The analysis was conducted using turn movement counts conducted in 2001 and 2002, ODOT Future Volume Tables, and automated traffic recorder (ATR) data. This subsection provides a summary of the operational analysis of existing conditions (2002). See the Background Document for further information on the methodology used to conduct the operational analysis of existing conditions.

The TSP guidelines adopted by ODOT require that volume to capacity (v/c) ratios for intersections be calculated using 30th-highest-hour traffic volumes. Within urban areas,

30th-highest-hourly traffic volumes typically occur during a weekday peak hour. In recreational areas such as the Oregon coast, 30th-highest-hour traffic volumes typically occur during the peak tourist season. Therefore, 30th-highest-hour traffic volumes in Garibaldi occur during summer months (July and August) during the peak tourist season.

Using the Future Volume Tables available on the ODOT Web site, historical annual growth rates on U.S. 101 in Garibaldi are at 2.0 percent.

Average Daily Traffic Volumes

Year 2001 average daily traffic (ADT) volumes for U.S. 101 were obtained from the Transportation Volume Tables available on the ODOT Web site (www.odot.state.or.us/tdb/traffic_monitoring/tvtable.htm). Using the ADT volumes from ODOT tables and the traffic counts conducted in 2001, ADT volumes were estimated for the three intersections. See Figure 2-4 for year 2001 ADT volumes in Garibaldi.

2002 30th-Highest-Hour Traffic Volumes

The turn movement counts for intersections in Garibaldi were conducted in September 2001 and November 2002. An analysis of the Rockaway ATR site, which is the closest ATR site to Garibaldi along U.S. 101, indicated that these counts were not representative of 30th-highest-hour conditions along U.S. 101. Seasonal factors from the Rockaway ATR site, which are available on the ODOT Web site (www.odot.state.or.us/tddtpau/DataRes.html), were used to factor counts to 30th-highest-hour conditions. Figure 2-5 presents the existing intersection lane channelization and year 2002 30th-highest-hour traffic volumes used in the operational analysis of existing conditions.

The analysis of 2002 data from the Rockaway ATR site demonstrates that traffic volumes increase by approximately 46 percent during weekends in August over average traffic volumes. Figure 2-6 demonstrates the variability in ADT volumes per month along U.S. 101 as measured by the Rockaway ATR in 2002.

State Highway Mobility Standards

All three of the intersections included in the operational analysis of existing Garibaldi conditions are unsignalized intersections along U.S. 101. The 1999 OHP designates U.S. 101 as a statewide NHS non-freight route. In Garibaldi, the speed limit on U.S. 101 is 45 mph or less. U.S. 101 is in Garibaldi's UGB in a non-metropolitan planning organization (MPO) area at the 7th Street and 3rd Street intersections. At Miami Foley Road, U.S. 101 is outside Garibaldi's UGB in a non-MPO area. Therefore, the mobility standard designated by the OHP for U.S. 101 is a v/c ratio of 0.80 where the speed limit is less than 45 mph (7th Street and 3rd Street intersections) and 0.75 where the speed limit is 45 mph (Miami Foley Road). Two of the cross-streets to U.S. 101, 7th Street and 3rd Street, are local roads with speed limits of less than 45 mph. The mobility standard for local roads intersecting a state highway is 0.85 when the intersection is inside the UGB. Miami Foley Road, which is outside the UGB, is not designated as a state facility, therefore, it is considered a local road with a mobility standard 0.80.

Existing Conditions: Two-Way ADT Traffic Volumes

City of
GARIBALDI




Year 2001
September Average
Daily Traffic (ADT)
Volumes. Source:
Year 2001 Traffic
Count

XXXX

XXXX

XXXX

Year 2001 Average
Daily Traffic (ADT)
Volumes. Source:
Volume Tables from
ODOT Website

XXXX

XXXX

Year 2002
November Average
Daily Traffic (ADT)
Volumes. Source:
Year 2002 Traffic
Count

XXXX

Road

Railroad

School

Park

City Limit

Urban Growth
Boundary

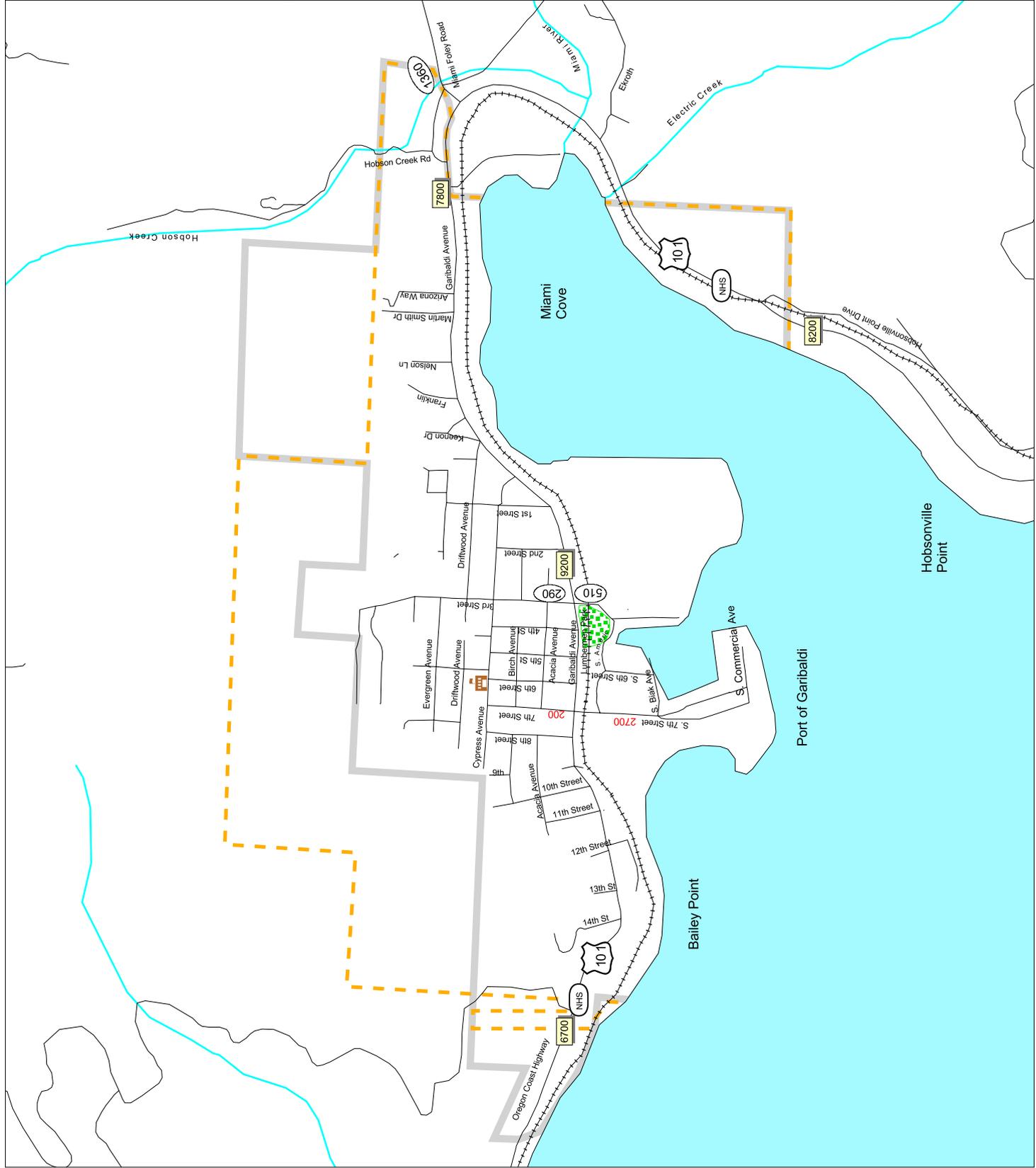
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500 0 500 Feet



Figure 2.4
Transportation
System Plan
Garibaldi, OR



**Existing Conditions (2002):
30th Highest Hour
Traffic Volumes,
Lane Configuration
and Traffic Control**

City of
GARIBALDI

CH2MHILL
ANGULO PARTNERS
CONSULTANTS

- Intersection Number
- Stop-Controlled Approach
- Road
- Railroad
- School
- Park
- City Limit
- Urban Growth Boundary

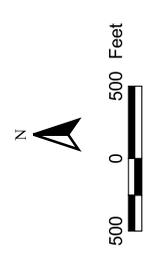
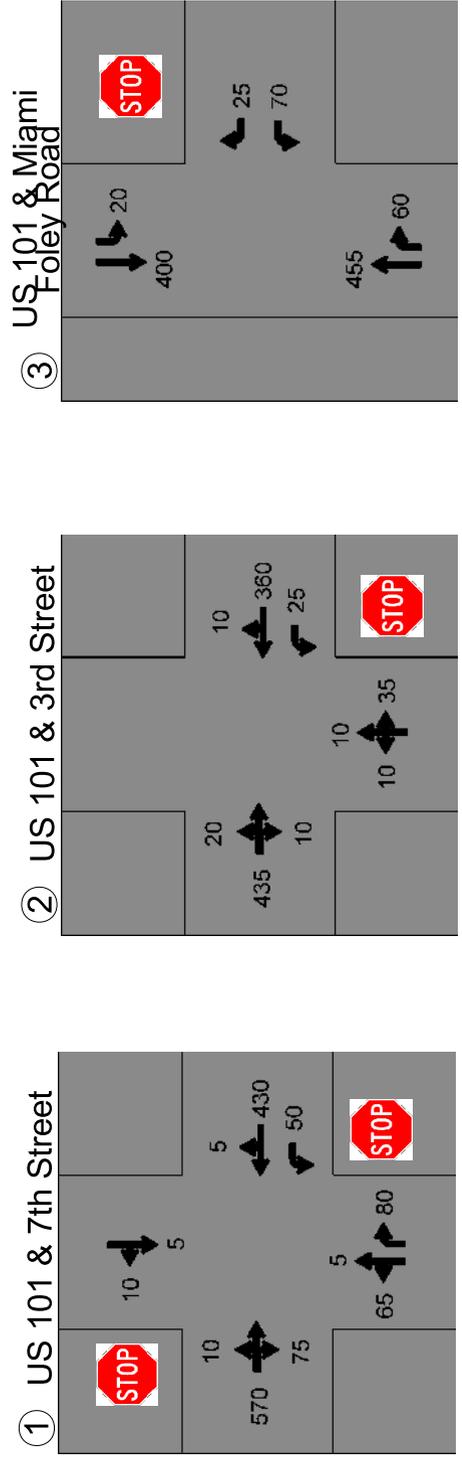
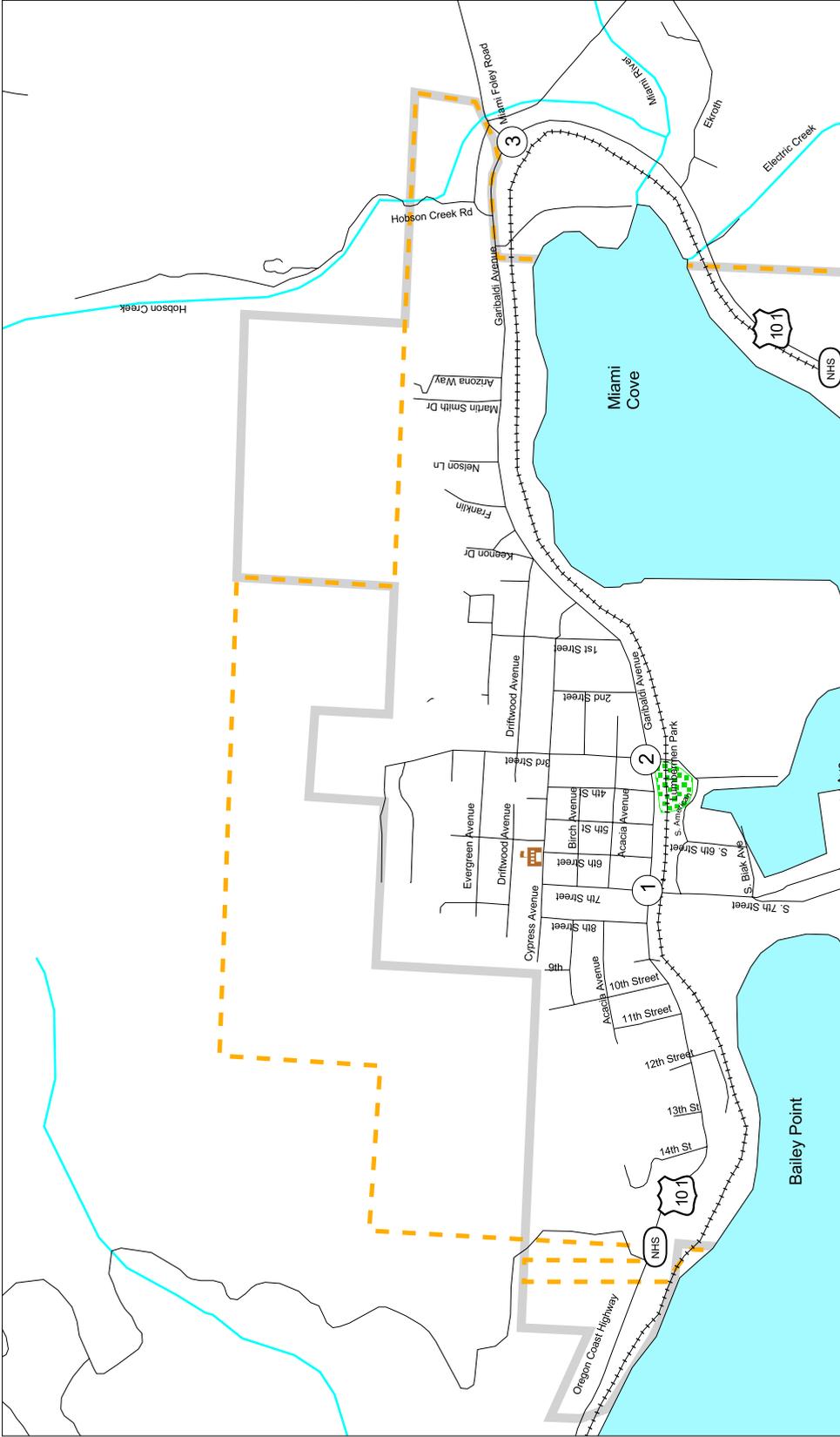


Figure 2.5
Transportation
System Plan
Garibaldi, OR



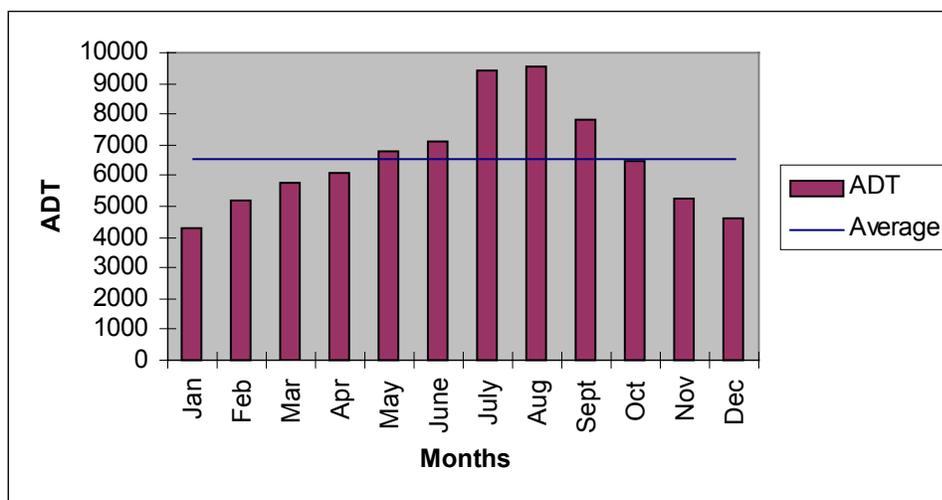


FIGURE 2-6
2002 Rockaway Automated Traffic Recorder—Average Daily Traffic Volumes

Table 2-1 displays OHP mobility standards used to analyze the existing operational performance of intersections in Garibaldi.

TABLE 2-1
Oregon Highway Plan Mobility Standards

| Highway Category | Mobility Standard (v/c ratio) |
|--|-------------------------------|
| Statewide NHS Non-Freight Routes, Non-MPO Area, Speeds Equal/Greater Than 45 mph (for example, U.S. 101) | 0.75 |
| Statewide NHS Non-Freight Routes, Non-MPO Area, Speeds Less Than 45 mph (for example, U.S. 101) | 0.80 |
| Local Road Approaches at Unsignalized Intersections (in the UGB) | 0.85 |
| Local Road Approaches at Unsignalized Intersections (outside the UGB) | 0.80 |

Notes:

Table 6 and Pages 74-79, 1999 Oregon Highway Plan.

NHS = National Highway System.

MPO = metropolitan planning organization.

UGB = urban growth boundary.

Level of Service Analysis

Level of service (LOS) is a measure of effectiveness for traffic operations at an intersection. Traffic is able to move freely at an intersection operating at LOS A, B or C. Traffic operations become progressively worse as traffic operations move toward LOS D and E. LOS F represents conditions where traffic volumes exceed capacity, resulting in long queues and delays.

LOS is based on control delay time at an intersection for unsignalized intersections. Table 2-2 summarizes the range of control delay times for each LOS at unsignalized intersections.

TABLE 2-2
LOS Control Delay Ranges

| LOS | Unsignalized Intersections (control delay in seconds) |
|------------|--|
| A | ≤ 10 |
| B | > 10 and ≤ 15 |
| C | > 15 and ≤ 25 |
| D | > 25 and ≤ 35 |
| E | > 35 and ≤ 50 |
| F | >50 |

Source: 2000 Highway Capacity Manual, Transportation Research Board.
LOS = level of service.

Analysis Methodology

For the analysis of existing conditions at the three study intersections, Synchro, Version 5 was used. This methodology is based on the Highway Capacity Manual (HCM). An analysis of existing conditions was conducted using the 30th-highest-hour traffic volumes shown on Figure 2-5 to evaluate how the existing transportation performs during the peak tourist season.

Traffic Operations at Intersections (30th-Highest-Hour Conditions)

Table 2-3 presents intersection LOS, OHP mobility standard, v/c ratio and delay currently experienced at each intersection. The three intersections analyzed are two-way, stop-controlled on the minor approaches. Therefore, Table 2-4 reports results for the movement with the worst operating performance on both the major and minor approaches at each intersection. For each intersection, Table 2-4 compares the OHP v/c mobility standard against the 30th-highest-hour operating conditions.

TABLE 2-3
Operational Analysis for Unsignalized Intersections—30th Highest Hour

| Intersection | Major Road Approaches | | | | Minor Road Approaches | | | |
|--|-----------------------|-----------|-------------------------|-------------------------------|-----------------------|-----------|-------------------------|-------------------------------|
| | LOS | V/C Ratio | Delay (seconds/vehicle) | Mobility Standard (v/c ratio) | LOS | V/C Ratio | Delay (seconds/vehicle) | Mobility Standard (v/c ratio) |
| U.S. 101 (Garibaldi Avenue) at 7th Street ¹ | A | 0.27 | 9.3 | 0.80 | F | 0.53 | 56.5 | 0.85 |
| U.S. 101 (Garibaldi Avenue) at 3rd Street ¹ | A | 0.23 | 8.5 | 0.80 | C | 0.15 | 15.6 | 0.85 |
| U.S. 101 at Miami Foley Road ¹ | A | 0.25 | 0.3 | 0.75 | C | 0.27 | 19.3 | 0.80 |

¹ Two-way, stop-controlled intersection, results are reported for the movement with the worst operating performance on both the major and minor approaches.

LOS = level of service.

v/c = volume-to-capacity.

Operational Analysis Results (30th Highest Hour)

As shown in Table 2-3, each of the three intersections in the study area meets mobility standards designated in the OHP with 30th-highest-hour volumes under existing conditions. However, concerns have been raised by the PAC about mobility across U.S. 101 during the peak tourist season at the intersection of U.S. 101 and 7th Street.

As shown in Table 2-3, the intersection of U.S. 101 at 7th Street meets the applicable OHP mobility standards with a maximum v/c ratio of 0.53. The critical minor street movement at this intersection is the northbound left turn. Even though this intersection meets mobility standards, the minor street LOS F conditions and information provided by the city staff suggest congestion along U.S. 101 severely limits cross-street mobility. Cross-street left- and through-moving vehicles usually need to turn right and then later turn left onto a cross-street and back track to go to their destination.

Safety Analysis

A safety analysis was conducted using data obtained from ODOT for intersections and roadway segments in Garibaldi. The safety analysis included intersections in Garibaldi, the top 10 percent Safety Prioritization Index System (SPIS) sites and state road segments. This subsection also includes discussion about the causes of crashes at intersections with geometric deficiencies. The safety analysis was conducted on the basis of reported crashes to ODOT. Although not all crashes are reported, the ODOT database is the best available source of crash information. More detailed information about the analysis is available in the Background Document.

Intersection Crash Analysis

A crash analysis was conducted using data obtained from ODOT for intersections in Garibaldi. A list of the seven crash sites by the total number of crashes from January 1, 1997, to December 31, 2001, was obtained from ODOT and is summarized in Table 2-4. Crash data also were obtained for the intersection of U.S. 101 and Miami Foley Road, which is outside

of the Garibaldi city limits. In addition to the U.S. 101 and 3rd Street intersection, other locations in the city had one crash during the last 5 years, but because this intersection is one of the analyzed intersections, it is included in Table 2-4.

TABLE 2-4
Crash Analysis Study Intersections (Year 1997 to 2001 Data)

| Number | Intersection | Total Number of Accidents | Property Damage Only | Injury | Fatality | Accident Rate ¹ |
|--------|--------------------------------------|---------------------------|----------------------|--------|----------|----------------------------|
| 1 | U.S. 101 and 6th Street | 6 | 4 | 2 | 0 | N/A |
| 2 | U.S. 101 and 7th Street | 7 | 6 | 1 | 0 | 0.39 |
| 3 | Acacia Avenue and 6th Street | 2 | 2 | 0 | 0 | N/A |
| 4 | U.S. 101 and 1st Street | 2 | 2 | 0 | 0 | N/A |
| 5 | U.S. 101 and Hobsonville Point Drive | 3 | 0 | 3 | 0 | N/A |
| 6 | U.S. 101 and 3rd Street | 1 | 1 | 0 | 0 | 0.06 |
| 7 | U.S. 101 and 8th Street | 2 | 1 | 1 | 0 | N/A |
| N/A | U.S. 101 and Miami Foley Road | 1 | 0 | 1 | 0 | 0.06 |

Source: ODOT crash data, years 1997 to 2001.

¹Crash rate in terms of million entering vehicle miles. N/A indicates average daily traffic volumes not available.

Crash rates were determined for each of the intersections where ADT volumes were available and are summarized in Table 2-4. A rate of greater than 1.0 crashes per million entering vehicles (MEV) generally indicates that crash causes should be further studied at an intersection. As shown in Table 2-4, crash rates lower than 1.0 crashes per MEV were calculated at all intersections with available ADT data.

At each of the three study intersections, crash types were further evaluated:

- At U.S. 101 and 3rd Street, the reported crash was caused by parallel parking.
- At U.S. 101 and Miami Foley Road, the reported crash was caused by loss of control/excessive speeds on U.S. 101.
- The intersection of U.S. 101 and 7th Street has a low crash rate of 0.39 crashes per MEV. Most of the reported crashes (86 percent) resulted in property damage only. Crashes at this intersection were caused by a variety of factors, including rear-end crashes (29 percent), improper backing not related to parking (29 percent), failure to yield right-of-way (14 percent), passing on the wrong side (14 percent) and improper turning (14 percent). In general, congestion and turning vehicles that are slowing down in a through lane are factors that lead to rear-end collisions.

Safety Priority Index System Sites

The SPIS method is used by ODOT to identify locations with safety problems that result from the crash frequency, rate and severity at the site. The top 10 percent of the SPIS sites are evaluated each year by ODOT to identify improvements that may reduce the number and severity of crashes. SPIS data were provided by ODOT for 1998 through 2001. In Garibaldi, there were no top 10 percent SPIS sites in 1998 through 2001.

Segment Crash Rates

As described in the 2000 State Highway Crash Rate Tables published by the Crash Analysis and Reporting Unit, U.S. 101 within the Garibaldi city limits is considered an urban non-freeway primary highway. Table 2-5 summarizes the year 2000 crash rate and the 5-year average crash rate (1996 to 2000) along U.S. 101 in Garibaldi.

TABLE 2-5
Crash Rates Along State Highway Segments in Garibaldi

| Section | Year 2000 Crash Rate ¹ | 2000 Statewide Average ¹ | 5-year (1996-2000) Average Crash Rate ¹ | 5-year (1996-2000) Statewide Average Crash Rate ¹ |
|----------------------------|--------------------------------------|---|---|---|
| U.S. 101—Garibaldi (Urban) | 0.40 | 2.95 | 0.73 | 3.52 |

Source: 2000 State Highway Crash Rate Table, Crash Analysis and Reporting Unit, ODOT.

Statewide rate is for urban sections of non-freeway primary highways

¹Accident rate in terms of million vehicles miles.

As shown in Table 2-5, both the year 2000 and 5-year average crash rates within the Garibaldi city limits along U.S. 101 are below statewide averages.

Along U.S. 101 in Garibaldi (MP 56.59 to 57.54), there were 10 total reported crashes during the 5-year period (7 resulted in injuries and 3 resulted in property damage only). Of the 10 total reported crashes, 4 were rear-end accidents, 3 were caused by excessive speeds, 2 were caused by drivers on the wrong side of the road, and 1 was caused by a driver making a left turn against oncoming traffic.

Intersection Geometry and Safety Deficiencies

Based on field work in Garibaldi in September 2002 and through comments received from PAC members and the city staff, the following intersections with skewed geometry, potential safety issues, or sight distance issues were noted. Deficiencies are shown in parenthesis.

- U.S. 101 and Miami Foley Road (skewed, poor visibility)
- U.S. 101 and Arizona Way (poor visibility)
- U.S. 101 and Nelson Lane (steep slope, poor visibility)
- U.S. 101 and East Driftwood Avenue and Keenon Drive (skewed intersections with poor visibility)
- U.S. 101 and 3rd Street (slope on north side, poor visibility)
- U.S. 101 and 4th Street (U.S. 101 skewed, slope, poor visibility)
- U.S. 101 and 5th Street (poor visibility)
- U.S. 101 and 1st Street (poor visibility)
- U.S. 101 and 10th Street (skewed, poor visibility)

- U.S. 101 and 11th Street (U.S. 101 skewed, poor visibility)
- U.S. 101 and 14th Street (U.S. 101 skewed, steep slopes, poor visibility)
- U.S. 101 and Hobsonville Point Drive (skewed, slope, poor visibility)
- U.S. 101 and 12th Street (severe slope, poor visibility)
- 6th Street and Cypress Avenue (6th Street is offset)

Intersections with skewed geometry or steep approaches can have poor sight distance and awkward turning angles, which can lead to safety problems. These deficiencies are based on a visual inspection relating to typical design standards, such as intersection sight distance. Potential improvements (such as restriping/channelization, turn movement restrictions, intersection rebuild/configuration) will be addressed in subsequent phases of the TSP.

Public Transportation Inventory

Tillamook County Transportation District (TCTD) provides fixed-route service between the Cities of Manzanita and Tillamook and countywide dial-a-ride (DAR) service in Garibaldi. Other public transportation services available in Garibaldi include medical appointment transportation through the Northwest Ride Center and school bus service.

Fixed-Route Service—TCTD

One TCTD route serves Garibaldi, with a transit stop at 6th Street and U.S. 101. See Figure 2-7 for a map of the transit route and the Background Document for further information.

- **Tillamook-Manzanita Route** operates Monday through Saturday and stops in Garibaldi six times (three northbound and three southbound stops) in the morning and afternoon with approximately 2- to 3-hour headways. On Saturday this route operates four times (two northbound and two southbound stops) in the morning and afternoon with 4-hour headways. The route does not operate on Sunday. Table 2-6 shows the transit schedule for Garibaldi.

TABLE 2-6
Garibaldi Transit Times

| Northbound | | Southbound | |
|------------|------------|------------|------------|
| Weekday | Weekend | Weekday | Weekend |
| 6:23 a.m. | 6:23 a.m. | 7:30 a.m. | 7:30 a.m. |
| 8:38 a.m. | 10:23 a.m. | 9:45 a.m. | 11:30 a.m. |
| 10:53 a.m. | 2:23 p.m. | 12:00 p.m. | 3:30 p.m. |
| 1:53 p.m. | 5:53 p.m. | 3:00 p.m. | 7:00 p.m. |
| 3:53 p.m. | | 5:00 p.m. | |
| 5:53 p.m. | | 7:00 p.m. | |

Existing Transit Lines and Stops

City of

GARIBALDI



Neah-Kah-Nie
Junior/Senior
High School
Bus Route

Garibaldi
Elementary
School Bus
Route

Tillamook
-Garibaldi
-Manzanita
Route

Transit
Shelter

Road

Railroad

School

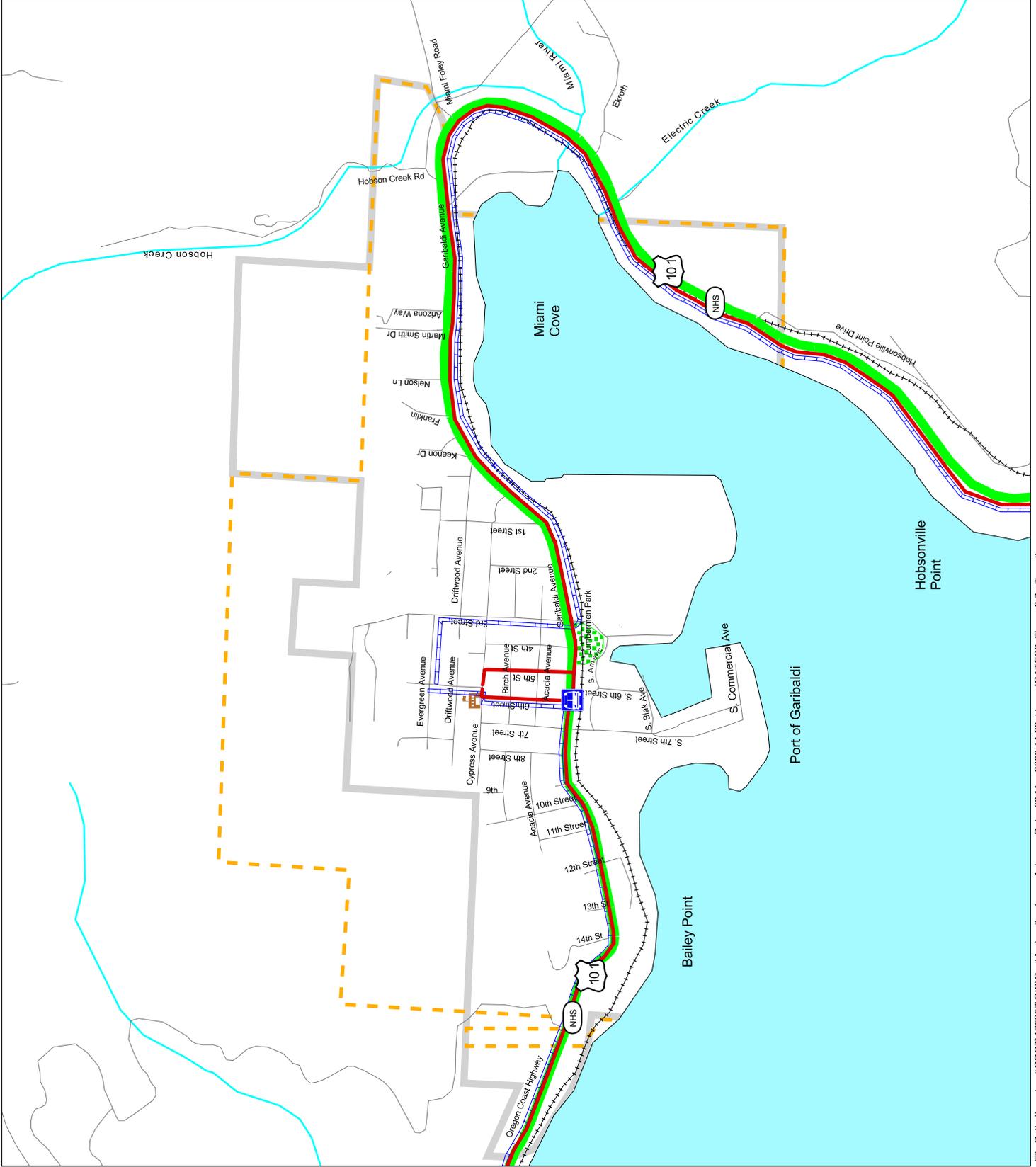
Park

City Limit

Urban Growth
Boundary



Figure 2.7
Transportation
System Plan
Garibaldi, OR



This route connects to five other transit routes, three between Tillamook and other cities (Oceanside/Netarts, Pacific City and Portland). The connection to these other routes occurs at the Tillamook transit center (2nd Street and Laurel Avenue). Within each of these other routes there are various stops at cities between the points. There is also a city-wide transit loop that operates exclusively within Tillamook city limits and a port loop from Tillamook to the Port of Tillamook Bay businesses.

In-county service is \$1 per zone for one way. There are three zones defined in Tillamook County. Garibaldi is in Zone 2. Monthly passes are available for unlimited in-county transit service. Regular price is \$35 per month. A reduced rate of \$25 per month is available for seniors, students and disabled persons.

TCTD does not provide a park-and-ride location in Garibaldi.

The transit bus is Americans with Disabilities Act (ADA) accessible and is equipped with a bike rack. Also, the bus displays the route information for easy identification. TCTD has seven vehicles for route service with a mean age of 2.62 years.

Dial-A-Ride—TCTD

DAR service is provided by TCTD in Tillamook County. TCTD currently operates DAR on the weekdays (except for holidays) between 8 a.m. and 5 p.m. These hours can be extended depending on demand and driver availability. DAR service is available to all users, with priority service to seniors and disabled passengers. Riders are asked to call 2 hours in advance to schedule a ride. Currently, the cost is \$1 per one-way trip per zone. TCTD has three vehicles for route service with a mean age of 2.72 years.

Northwest Ride Center

The Northwest Ride Center (NWRC) provides free transportation to medical appointments in Clatsop, Columbia and Tillamook Counties for passengers eligible under the Oregon Health Plan. The call center, which is stationed at the bus headquarters in the City of Warrenton, is open Monday through Friday from 8 a.m. to 5 p.m. Transportation services are scheduled through the call center and are provided 24 hours a day, 365 days per year, by reservation. Riders are asked to call at least 2 hours in advance to schedule a ride. However, NWRC will schedule rides with less notice when possible.

School Bus Routes

School bus service is provided in Garibaldi by First Student Inc., a privately owned company under contract to the Neah-Kah-Nie School District. There is one school bus route in Garibaldi for the Garibaldi Elementary School and one for the Neah-Kah-Nie Junior/Senior High School, which is located north of the City of Rockaway Beach.

In the morning, the elementary school bus route enters Garibaldi from the south along U.S. 101. It turns onto Driftwood Avenue, left onto 1st Street, right onto Cypress Avenue into the elementary school. In the afternoon this route is reversed. The Junior/Senior High School bus route is along 3rd Street, Evergreen Avenue and 6th Street from U.S. 101. See Figure 2-7 for a map of the school bus routes.

The TCTD staff outlined opportunities to improve county-wide public transportation services offered by TCTD. However, TCTD has not explicitly stated deficiencies or improvements in Garibaldi.

Pedestrian System Inventory

Pedestrian facilities are an important component of the transportation system. As the 1995 *Oregon Bicycle and Pedestrian Plan* (OBPP) explains, virtually everyone is a pedestrian at some point during the day. For example, pedestrians include children walking to and from school, people using wheelchairs or other forms of mobility assistance, people at bus stops, and people walking to and from their vehicles. Walking meets transportation needs for a significant segment of the population that does not have access to vehicle. Aside from providing a necessary mode of transportation, a community's pedestrian system also offers recreational opportunities for both local and out-of-town users.

According to the OBPP, pedestrian facilities are walkways, traffic signals, crosswalks and other amenities, such as illumination or benches. Garibaldi has several types of walkways, which are defined in the OBPP as "transportation facilities built for use by pedestrians and persons in wheelchairs," including the following:

- **Sidewalks:** Sidewalks are located along roadways, are separated from the roadway with a curb and/or planting strip, and have a hard, smooth surface, such as concrete. Examples of sidewalks in Garibaldi include the sidewalks through downtown along U.S. 101.
- **Multi-Use Paths:** Multi-use paths can be used by a variety of people, including pedestrians, cyclists, skaters and runners. Multi-use paths may be paved or unpaved, and often are wider than the average sidewalk (that is, 10 feet). Garibaldi has one multi-use path. It is located in the Port of Garibaldi area between Lumbermen's Park and Bailey Point.
- **Roadway shoulders:** Roadway shoulders often serve as pedestrian routes in many Oregon communities. On roadways that experience low volumes of traffic, roadway shoulders are often adequate for pedestrian travel. These roadways should have shoulders wide enough so that both pedestrians and bicyclists can use them.

The Garibaldi pedestrian system generally can be characterized as informal and incomplete. Except along U.S. 101 and the Port of Garibaldi area, the Garibaldi pedestrian system does not provide connectivity. This is especially noticeable in the residential area where sidewalks and/or shoulders are infrequent and where some streets are discontinuous. The sidewalk system in the downtown area and Port of Garibaldi area is used on a daily basis by residents.

Pedestrian Generators

It is important for a city's pedestrian system to connect residential areas with commercial centers, schools, community focal points and transit facilities, which are collectively referred to as pedestrian generators. The following descriptions characterize the pedestrian system near significant pedestrian generators in Garibaldi:

- **Garibaldi Elementary School.** Along Cypress Avenue, sidewalks neighbor the school from 8th Street to 6th Street. However, Cypress Avenue east of 6th Street does not have an existing sidewalk. The shoulder on Cypress Avenue is narrow and not paved. There is a bike rack on the school grounds. One crosswalk is located at the 7th Street and Cypress Avenue intersection, and three crosswalks are located at the 6th Street and Cypress Avenue intersection. However, at other nearby intersections crosswalks are not provided (such as 6th Street at Acacia Avenue and 6th Street at Evergreen Avenue). The sidewalk near the elementary school does not connect to other Garibaldi areas (for example, downtown). 6th Street, north of Acacia Avenue does not have a shoulder or sidewalk.
- **U.S. 101 Downtown Core (Garibaldi Avenue).** Pedestrian facilities along U.S. 101 are generally adequate. Sidewalks exist along both sides of U.S. 101 and, in terms of condition, vary from fair to good. Where development has recently occurred, the sidewalk was upgraded to current standards. There are numerous striped crosswalk across U.S. 101 (7th, 6th, 5th, 4th and 3rd Streets). Along the cross-streets to U.S. 101, sidewalk generally wraps around the curb radii. Sidewalk extends from U.S. 101 along 7th, 6th, 5th, 3rd and 2nd Streets, but generally ends after one block. The cross-street sidewalk condition varies from poor to good. All the existing sidewalk ramps along U.S. 101 are not ADA compliant. Even though ramps exist on most curb radii, they are only in one direction (to be ADA compliant, ramps need to be for both directions, or bi-directional). The only transit stop in the city is located at the intersection of Garibaldi Avenue (U.S. 101) and 6th Street.
- **Port of Garibaldi.** Pedestrian facilities surrounding the Port of Garibaldi are complete and provide adequate on-street connections to the downtown area. Sidewalks exist along South 7th Street, South 6th Street, South American Avenue between 7th and 6th Street, and South Biak Avenue. Crosswalks are located only at the South 7th Street and South Biak Avenue intersection. Pedestrians cross most of the intersections in the Port of Garibaldi area, so crosswalks should be considered in other locations. The pedestrian facilities in this area are in good condition and are ADA compliant.

Sidewalk Locations

Sidewalks in Garibaldi are located along U.S. 101 and the immediate adjacent streets (6th, 5th, 3rd and 2nd Streets) and the Port of Garibaldi area south of U.S. 101 (South 7th Street, South 6th Street, South American Avenue between South 7th and South 6th Street, and South Biak Avenue). In the port area, a sidewalk has not been constructed at the South 7th Street railroad crossing, which connects the downtown core with the port area. Sidewalks also are lacking at the U.S. 101 cross-streets not indicated above (that is, 7th Street to the north of U.S. 101 and 4th Street). See Appendix D for detailed maps of the existing sidewalk system in Garibaldi.

In the residential areas, sidewalks are only located on the north side of Cypress Avenue, west of 6th Street (adjacent to the elementary school) and the south side of Acacia Avenue from 7th Street to just east of 6th Street (adjacent to City Hall). There are no pedestrian connections between the elementary school and the residential and downtown areas, and between the downtown core and residential area of Garibaldi. The U.S. 101 cross-street sidewalks end one block north of U.S. 101. In addition, U.S. 101 is the only road providing

an east-west sidewalk. None of the east-west local collector roads has sidewalks, except in short sections.

Most of the low volume roads in the residential area north of U.S. 101 do not have sidewalks. These roads are considered “shared” roads, where sidewalks are not required (per current City of Garibaldi Roadway Standards adopted from City of Bay City standards). Sidewalks should be considered along residential areas near the elementary school.

Sidewalk Condition

The sidewalks on the cross-streets to U.S. 101 and on Acacia and Cypress Avenues are in fair to poor condition, with some areas, such as the sidewalk on 3rd Street, transitioning from paved sidewalk to a non-paved section a few hundred feet from U.S. 101. Sidewalks on U.S. 101 are in good to fair condition. Sidewalks in the Port of Garibaldi area are in good condition.

Americans with Disabilities Act Facilities

While numerous ramps are located along U.S. 101, the only ramp that is ADA compliant along U.S. 101 is at 5th Street. This location is compliant because of recent development at the corner property. Most of the ramps in the Port of Garibaldi are ADA compliant, because they are fairly new bi-directional ramps. The ramps along U.S. 101 that are not compliant have only have one curb cut (for the cross-street approaches). Two curb cuts (or bi-directional cuts) per corner at an intersection are required. Most of the other ramps in Garibaldi are not ADA compliant (that is, some are too steep or cracked). Refer to Appendix D for ramp locations.

Crosswalks

Striped crosswalks are located along U.S. 101 and near the elementary school. Crosswalks are located along U.S. 101 at 7th, 6th, 5th, 4th and 3rd Streets. Near the elementary school there is one crosswalk at the 7th Street and Cypress Avenue intersection and three crosswalks at the 6th Street and Cypress Avenue intersection. In the port area, crosswalks are located at the South 7th Street and South Biak Avenue intersection. In the residential areas, outside of the immediate school area, there are no crosswalks.

There are no signalized crosswalks in Garibaldi.

Trail Locations and Conditions

Bayshore Trail is the one official trail in Garibaldi. It is a paved interpretive trail between Bailey Point and Lumbermen’s Park. It traverses the Port of Garibaldi area. From Lumbermen’s Park to South 6th Street, the trail is a striped area along the south side of American Avenue. Between South American and South Biak Avenues, and on Bay Lane between 11th Street (Miller’s Restaurant) and Pier’s End the trail is not marked or signed. This is caused by the striping treatment used. Currently, the city is using paint and the striping wears off. Another type of treatment, such as thermoplastic, may be better suited for extending the life of the striping. Between American and South Biak Avenues the trail lacks signage, then west of South Biak Avenue, the trail has its own paved walkway to the

Bailey Point area. The trail is used more for recreational purposes because it is short and does not connect with other regional facilities. The Bayshore Trail is used by residents as well as tourists.

Between 7th and 3rd Streets, short walking paths are evident across the railroad tracks. These paths are used as a shortcut for access between the downtown area and the Port of Garibaldi. These paths are used year-round, but are used more frequently during the peak fishing season when the parking area near the railroad track is used as spillover parking.

Bicycle System Inventory

Bicycle travel offers commuters, children and others a significant option for transportation. Cycling is also a transportation choice for people who do not own vehicles and is an important recreational option, especially in scenic portions of the state such as the Oregon Coast.

According to the OBPP, there are several different types of bicycle facilities. Bikeways are design treatments located on roadways to accommodate bicycles, such as signage or striped shoulders. Multi-use paths are facilities separated from a roadway for use by cyclists, pedestrians, skaters, runners or others. Multi-use paths are discussed in the review of existing conditions for the Garibaldi pedestrian system. The following are different types of bikeways:

- **Bike Lane:** Bike lanes are portions of the roadway designated specifically for bicycle travel via a 6-foot-wide striped lane, and are particularly appropriate on arterials and major collectors. Bike lanes often are signed. In Garibaldi, there are no roads with striped or otherwise designated bike lanes.
- **Shared Roadway:** Shared roadways include roadways on which cyclists, motorists, and pedestrians share the same travel lane. Shared roadways are common on neighborhood streets and rural roads. All roads in Garibaldi (except a short segment of U.S. 101) are considered shared roadways with no accommodations for bicycles.
- **Shoulder Bikeway:** This is a paved roadways with striped shoulders wide enough for bicycle travel. According to the OBPP, most rural bicycle travel on state highways occurs on shoulder bikeways. Sometimes shoulder bikeways are signed as a signal to motorists to expect bicycle travel along the roadway.

Along U.S. 101 there are two short shoulder segments that are classified as bicycle shoulders (see Table 2-7). One section is east of the downtown commercial area. The other is west of the downtown area. The segment length is less than 1 mile in each case and the shoulder is not consistent between the left side and right side of U.S. 101. U.S. 101 is used mainly by recreational bicyclists; U.S. 101 in Garibaldi is part of the Oregon Coast Bike Route.

TABLE 2-7
U.S. 101 Shoulder Bikeway Locations

| Left Bikeway | Shoulder Width | Right Bikeway | Shoulder Width |
|----------------|----------------|----------------|----------------|
| 55.94 to 56.19 | 5 feet | 54.50 to 55.45 | 5 feet |
| | | 55.94 to 56.57 | 4 feet |

Source: http://www.odot.state.or.us/transview/highwayreports/bikeway_parms.cfm

Outside of U.S. 101, Garibaldi does not provide any bicycles lanes or designate a shoulder for bicycles.

Air System Inventory

There are no airfields near Garibaldi. The Tillamook Airport, owned and operated by the Port of Tillamook Bay, is located south of the City of Tillamook, approximately 12 miles south of Garibaldi. The airport provides no commercial air passenger service. Portland International Airport, which is approximately 90 miles east of Tillamook, is the closest commercial air passenger service provider.

Freight System Inventory

There are no existing state-designated truck routes in Garibaldi. U.S. 101 is classified as a non-freight route (1999 OHP). Because U.S. 101 is the only highway through Garibaldi, trucks do use this highway to access the Port of Garibaldi or drive through Garibaldi to other destinations. U.S. 101 serves as a connection between the Port of Garibaldi and other coastal destinations from Astoria to northern California. From U.S. 101, trucks use South 7th Street (for a short distance) to access the Port of Garibaldi and the adjacent logging mill.

In terms of roadway deficiencies, the distance along these two roads is short and, therefore, these roads do not need to be classified as freight routes. At the intersections of U.S. 101 with 3rd Street and 7th Street, the existing curb radii makes truck turning movements difficult.

Truck parking is provided in the Port of Garibaldi area, adjacent to the mill. This lot is used by Puget Sound Trucking for its semi-trailers.

Rail System Inventory

There is one Class II rail facility in Garibaldi, as shown in Figure 2-8. It is owned and operated by the Port of Tillamook Bay and is used on a daily basis by the Tillamook Lumber Company (located in the City of Tillamook) and the Port of Tillamook Bay tenants (located south of Tillamook). The southern terminus of the rail line is at the Port of Tillamook Bay. In Garibaldi the rail line parallels U.S. 101 immediately south of the highway. There are two at-grade road crossings – at 3rd Street and 7th Street. At the 7th Street crossing, flashing lights and an automatic gate warn vehicles of an oncoming train. At the 3rd Street crossing only a static railroad sign is placed on each side of the track. No other safety devices are at the 3rd

Street crossing. There is also one pedestrian trail crossing, at approximately 11th Street near Bay Lane. This crossing is marked with a static railroad sign on both sides of the track.

According to the ODOT Rail Division, one freight train per day pass through Garibaldi. In addition to the freight train, two passenger trains operate through Garibaldi. The “Fun Run Excursion Train” provides passenger service between Garibaldi and Mohler. This service is provided from spring to autumn, usually on the weekends. Another train is the Pacific Sunset Coastal Tour Train, which runs between the cities of Banks and Garibaldi. This service is provided between April and October with a train from Banks on Saturday arriving in Garibaldi and then on Sunday leaving Garibaldi to go back to Banks. The speed of the track is limited to 25 mph, with the train speed usually at a maximum of 20 mph.

The trail crossings between South 3rd and 7th Streets are not signed because they are not considered official crossings. Additional safety measures may be required at these locations.

Water System Inventory

Commercial and sport fishing operations are located in the Port of Garibaldi. There is one public boat ramp in the port area (see Figure 2-8). The cost to launch a boat from this location is \$3. In addition to this public launch site, there is a private boat launch on the Old Mill Resort property. During the peak tourist season during the late summer months, the Port of Garibaldi is overfilled with boats and vehicles. This presents numerous parking and safety issues for the city.

Many types of boats (pleasure, sport and commercial fishing) are moored at the Port of Garibaldi.

Pipeline System Inventory

The only pipelines in Garibaldi are water and sewer lines. These lines are located under city streets and along U.S. 101. They are currently being reviewed for replacement (or upgrading) as part of the city’s 2002 water master plan.

There is no cellular phone service in Garibaldi.

Existing Rail and Water Facilities

City of

GARIBALDI



Garibaldi Fishing Pier

Port

Public Boat Ramp

Road

Port of Tillamook Bay Railroad

Park

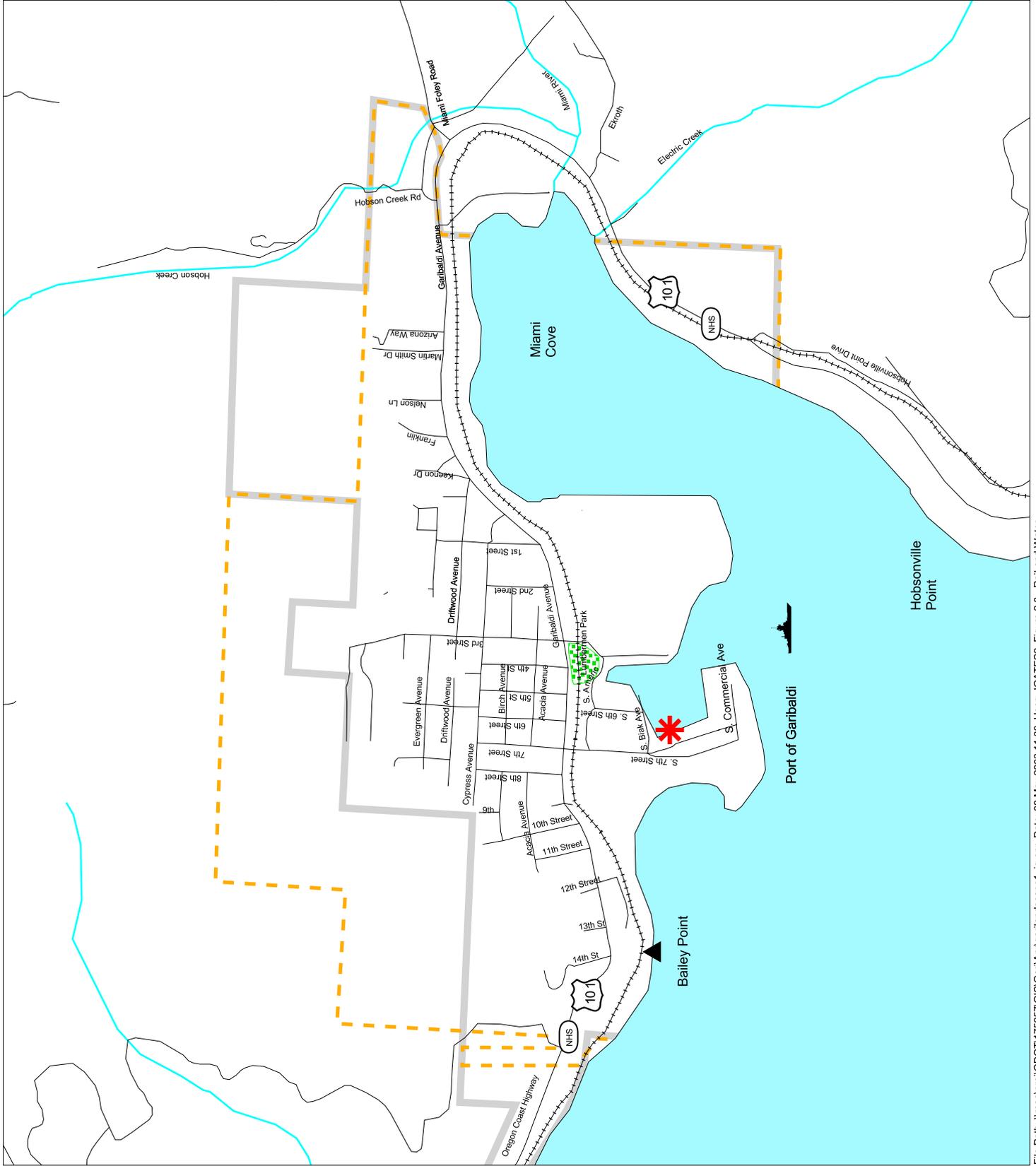
City Limit

Urban Growth Boundary



500 0 500 Feet

Figure 2.8
Transportation System Plan
Garibaldi, OR



SECTION 3

Future Transportation Conditions (2022) and Transportation System Needs

This section summarizes the methodology used to determine future travel demand and the results of the operational analysis of future, forecasted (2022), no-build, 30th-highest-hour conditions in Garibaldi. The no-build analysis of future, forecasted conditions in year 2022 assumes existing roadway geometry and traffic control. This section also summarizes the needs of the transportation system as determined through the analysis of existing and future conditions. See the Background Document for more information on the methodology used in the analysis of future, forecasted, no-build conditions.

Population Growth

Anticipated population growth and increases in traffic (including tourist traffic) are important considerations for determining the future needs of the Garibaldi transportation system. In the next 20 years, population growth is expected in Garibaldi and other incorporated communities in Tillamook County. The forecasted county population for 2020 is 41,788, corresponding to an 0.80 percent annual average between 2000 and 2020. In Garibaldi, a 1.7 percent average annual growth rate is expected between 2000 and 2020, substantially greater than the county as a whole. Table 3-1 shows the historic and projected population for Garibaldi, the incorporated areas, the unincorporated areas of the county, and the county as a whole.

TABLE 3-1
Population Data for Garibaldi and Tillamook County

| Jurisdiction | Actual ¹ | | Percent of County Population | | New Forecasts | | |
|------------------------|---------------------|--------|------------------------------|--------------|----------------------------|------------------------------|--------------------------------------|
| | 1990 | 2000 | 1990 | 2000 | 2020 Totals ^{2,3} | Percent of County Population | Average Annual Growth Rate 2000-2020 |
| Garibaldi ³ | 886 | 899 | 4.11 percent | 4.10 percent | 909 | 2.97 percent | 0.50 percent |
| Tillamook County | 21,570 | 24,262 | - | - | 30,604 | - | 1.31 percent |

¹ Center for Population Research and Census, Portland State University; U.S. Census.

² City projection based on www.upa.pdx.edu/CPRC/publications/annualorpopulation/ORpopreport02.pdf.

³ County projection from the Office of Economic Analysis, Department of Administrative Services, State of Oregon.

Future Development

Natural barriers to development (steep grade and waterways) present challenges to the city for expansion. Any commercial or industrial expansion probably would occur on the peninsula south of U.S. 101. Any residential development more than likely would occur as

infill in the area of current residential development north of U.S. 101. Expansion on Captain Gray Mountain to the north of the city is limited because of the steep mountainous grade.

The following three locations in Garibaldi were identified by the city staff as areas of potential growth and development in the future:

- The east peninsula land identified as the “Old Mill” property. Currently this land is used for an RV park.
- Biak Trailer Court, located north of Evergreen Avenue and 1st Street. Currently used for manufactured housing.
- Donnemuir/Merritt parcel lots. These two lots, located at the eastern city limits, are partially developed. Because of limiting terrain, high density development is not expected.

Future Travel Demand

Several methodologies for determining future travel demand in Garibaldi were considered, including use of the Oregon Statewide Model and historical growth rates. Through discussions with ODOT’s Transportation Planning and Analysis Unit (TPAU), historical growth rates calculated using the Future Volume Tables available on the ODOT Web site (<http://www.odot.state.or.us/tddtpau/SysAnalysis.html>) were used to determine future travel demand. This methodology is consistent with a Level 1 Trending Forecast as discussed in the ODOT TSP Guidelines. The forecasted average annual growth rate (AAGR) used in the analysis of future, forecasted, no-build conditions at study intersections along U.S. 101 in Garibaldi was 1.9 percent (1997 and 2019). Figure 3-1 presents forecasted, year 2022, 30th-highest-hour, no-build volumes.

The analysis of future, forecasted, no-build conditions assumes that the growth rates that have been observed in the past 20 years will continue through the 20-year planning horizon. If conditions change unexpectedly between existing conditions (2002) and the 20-year planning horizon (2022), the future, forecasted, traffic volumes will need to be revised.

Future, Forecasted, No-Build Conditions (2022)

For the analysis of future, forecasted, no-build conditions (2022) at the three study intersections, Synchro, Version 5 was used. This methodology is based on the HCM. For unsignalized intersections, results from the Synchro HCM Unsignalized Report are reported in this subsection.

An analysis of future, forecasted, no-build conditions was conducted using the 30th-highest-hour traffic volumes shown in Figure 3-1 to evaluate how the existing transportation will perform during the peak tourist season compared with OHP mobility standards.

Future No-Build 2022 Traffic Volumes, Lane Configuration and Traffic Control

City of

GARIBALDI



Intersection
Number



Stop-
Controlled
Approach



Road



Railroad



School



Park



City Limit



Urban Growth
Boundary

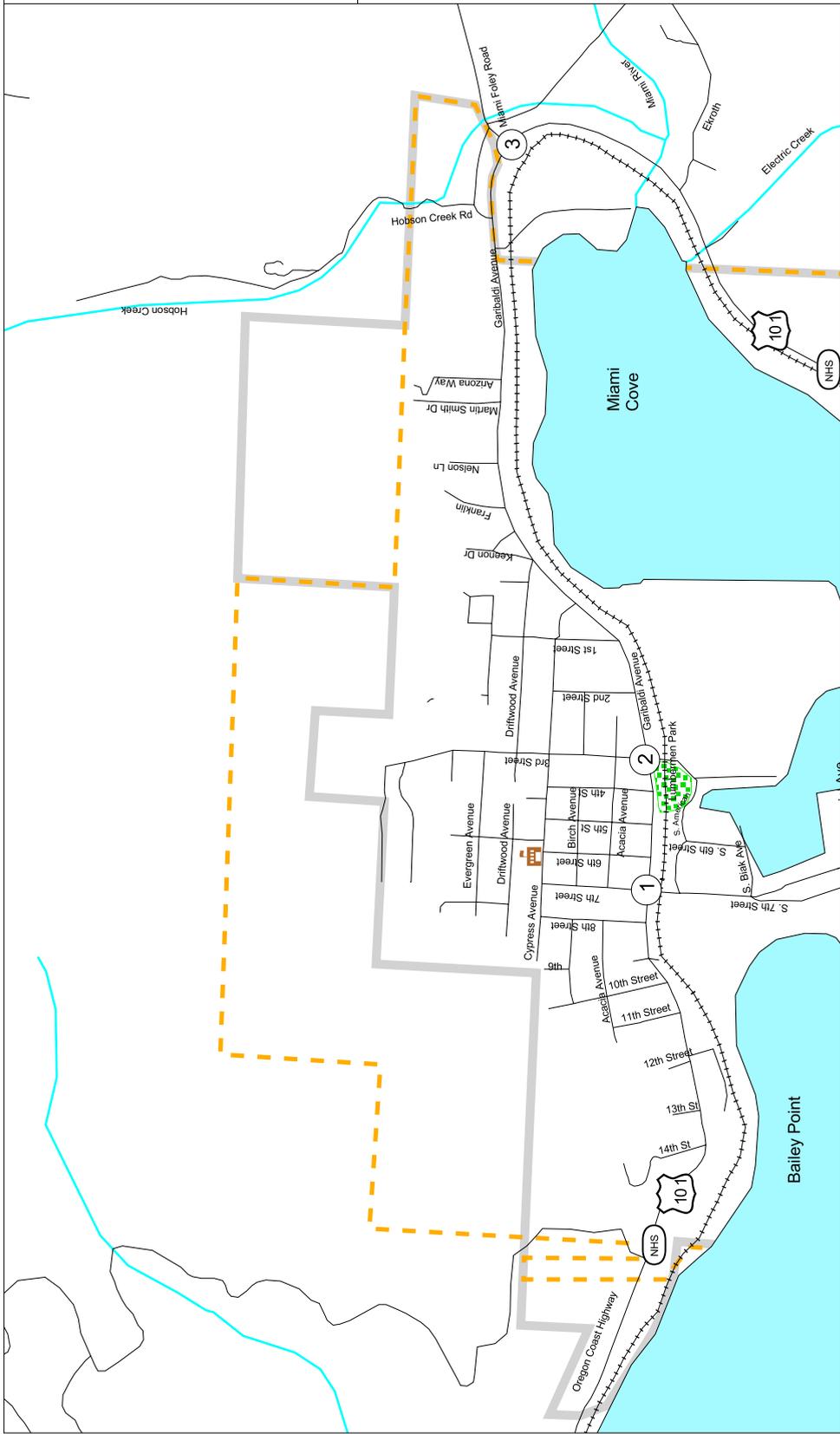


N

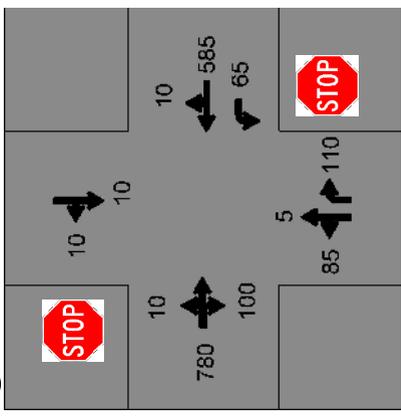


500 0 500 Feet

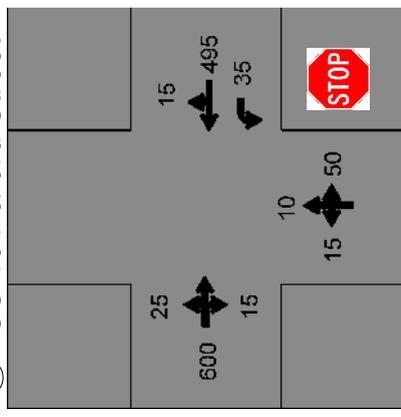
Figure 3.1
Transportation
System Plan
Garibaldi, OR



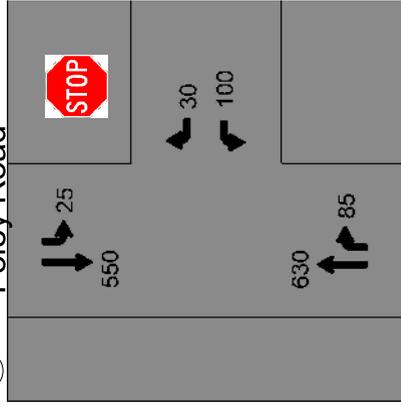
① US 101 & 7th Street



② US 101 & 3rd Street



③ US 101 & Miami Foley Road



Traffic Operations at Intersections (30th-Highest-Hour Conditions)

This analysis predicts U.S. 101 (Garibaldi Avenue) at 3rd Street and Miami Foley Road to operate within the established OHP standards under future, forecasted, no-build, 30th-highest-hour conditions. The intersection of U.S. 101 (Garibaldi Avenue) and 7th Street is not expected to meet established OHP standards with future, forecasted, 30th-highest-hour volumes under no-build 2022 conditions. During the next phase of the TSP process, alternatives will be developed and analyzed to improve the operating conditions at this intersection.

Table 3-2 presents intersection LOS, OHP mobility standards, v/c ratio and delay time for each intersection analyzed. For each intersection, the table compares the OHP v/c mobility standard against future, forecasted, no-build, 30th-highest-hour operating conditions. In Table 3-2, white, italic text on a black background indicates operating conditions that fail to meet OHP mobility standards in year 2022.

TABLE 3-2
Operational Analysis for Unsignalized Intersections—30th Highest Hour

| Intersection | Major Road Approaches | | | | Minor Road Approaches | | | |
|---|-----------------------|--------------------|-------------------------|--|-----------------------|--------------------|-------------------------|--|
| | LOS | V/C Ratio | Delay (seconds/vehicle) | Mobility Standard (v/c ratio) ² | LOS | V/C Ratio | Delay (seconds/vehicle) | Mobility Standard (v/c ratio) ² |
| <i>U.S. 101 (Garibaldi Avenue) at 7th Street¹</i> | <i>B</i> | <i>0.37</i> | <i>10.5</i> | <i>0.80</i> | <i>F</i> | <i>1.61</i> | <i>444.8</i> | <i>0.85</i> |
| U.S. 101 (Garibaldi Avenue) at 3rd Street ¹ | A | 0.31 | 9.1 | 0.80 | C | 0.32 | 25.0 | 0.85 |
| U.S. 101 at Miami Foley Road ¹ | A | 0.39 | 9.1 | 0.75 | E | 0.60 | 43.2 | 0.80 |

¹ Two-way, stop-controlled intersection, results are reported for the movement with the worst operating performance on both the major and minor approaches.

² Mobility standards identified in the 1999 OHP.

Note: Black background with white italic letters indicates intersections that fail to meet mobility standards.

Preliminary No-Build Year 2022 Traffic Signal Warrant Analysis

A preliminary traffic signal warrant analysis was conducted for the three unsignalized intersections included in the future, no-build 2022 analysis to determine if a traffic signal needs to be installed. The preliminary traffic signal warrant analysis is based on Warrant 1 (Eight-Hour Vehicular Volume), Case A and Case B, from the *Manual on Uniform Traffic Control Devices* (MUTCD). The analysis was based on forecasted, 30th-highest-hour, 2022 ADT volumes, as directed by the TPAU. To predict 2022 ADT volumes, the same percent of existing 30th-highest-hour to daily volumes was used.

Case A of Warrant 1 (Minimum Vehicular Volume) is designed to warrant the installation of traffic signals at intersections where there are high volumes of intersecting traffic on the minor street. Case B of Warrant 1 (Interruption of Continuous Traffic) is designed to warrant the installation of a traffic signal at intersections where high volumes on the major

street restrict movements to and from the minor street. A location must meet one of these two conditions to advance to a more detailed examination of the installation of a traffic signal. Even if a location meets one of the two cases it does not guarantee a signal installation. The MUTCD Millennium Edition provides more discussion on specifics of the warrant analysis.

As described in the TPAU procedure manual, the preliminary traffic signal warrant analysis can be performed under the 70 percent column “if the 85 percentile speed of major street traffic exceeds 40 mph in either an urban or rural area, or when the intersection lies within the built-up area of an isolated community having a population of less than 10,000”¹. Using the forecasted population growth rate for Tillamook County on the Portland State University Population Research Center Web site, Garibaldi is expected to have a population of less than 10,000 in year 2022. Therefore, the 70 percent column for the preliminary signal warrant analysis was used as the threshold. The MUTCD Millennium Edition provides more discussion on specifics of the warrant analysis.

As shown in Table 3-3, U.S. 101 at Miami Foley Road would meet preliminary signal warrants by year 2022. U.S. 101 at 7th Street fails to meet the minor street ADT threshold by five vehicles. The U.S. 101 at 7th Street intersection should be considered for a traffic signal because it is expected to barely fail minor street ADT requirements and it fails to meet OHP v/c standards.

TABLE 3-3
Results of Preliminary Traffic Signal Warrant Analysis (2022)—No-Build Conditions

| Intersection | Meets Preliminary Warrant Analysis (70%)? |
|---|--|
| U.S. 101 (Garibaldi Avenue) at 7th Street | No ¹ |
| U.S. 101 (Garibaldi Avenue) at 3rd Street | No |
| U.S. 101 at Miami Foley Road | Yes |

¹ Does not meet traffic signal warrant thresholds. The minor street average daily traffic is five vehicles less than thresholds.

Notes: Table 6 and Pages 74-79, 1999 Oregon Highway Plan.

As described in the TSP guidelines, an analysis was done to document when the U.S. 101 and Miami Foley Road intersection fails. The interim (from existing to 2022 planning horizon) traffic volumes were forecasted using the same growth rate methodology described in the previous section. From this analysis it was found that the intersection warrants a traffic signal in year 2008.

It should be noted that a traffic signal may not be installed at all the locations meeting the preliminary signal warrant, per the preliminary traffic signal warrant analysis worksheets. In subsequent phases of the TSP, alternatives will be developed to provide adequate mobility while minimizing the installation of additional traffic signals along U.S. 101.

¹ Based on the *Manual of Uniform Traffic Control Devices*.

Conclusions

Under existing 30th-highest-hour operating conditions (2002), all three intersections in the study area meet OHP mobility standards in Garibaldi.

Assuming continuation of historical growth trends during the next 20 years, U.S. 101 (Garibaldi Avenue) at 7th Street will not meet OHP mobility standards under forecasted, 30th-highest-hour, no-build conditions in year 2022. The intersection of U.S. 101 and Miami Foley Road is expected to meet traffic signal warrants in year 2022 under no-build conditions. The intersection of U.S. 101 and 7th Street barely fails to meet the preliminary signal warrant analysis volume requirements.

Projects will be evaluated in Section 4 of this TSP to improve operating conditions in year 2022 in Garibaldi. Projects will be developed based on goals and objectives, including preservation of the state highway system by minimizing the need for future signalization.

Transportation System Needs

This subsection describes the short- and long-term (20-year planning horizon) transportation system needs in Garibaldi. Roadway, pedestrian and bicycle, transit, rail, air and water needs were identified on the basis of analyses of existing conditions and future, forecasted, no-build conditions, and projects that have been recommended in relevant planning documents and policies. The needs identified in this subsection have not been prioritized. In Section 4, projects are developed to address the needs described in this section.

Roadway System Needs

Through the analysis of future, forecasted, no-build, 30th-highest-hour conditions, roadway capacity, safety and other deficiencies were identified for state, county and local facilities in Garibaldi.

Operational Deficiencies—30th-Highest-Hour Conditions

In the future, forecasted, no-build, 30th-highest-hour operational analysis, three study intersections are evaluated in Garibaldi. The applicable OHP mobility standards were used in the intersection analysis.

Under future (year 2022), forecasted, no-build, 30th-highest-hour conditions, traffic conditions become progressively worse than the existing conditions and there are operational deficiencies relative to OHP mobility standards at U.S. 101 and 7th Street (unsignalized).

In addition to this intersection's deficiency, members of the PAC mentioned that crossing U.S. 101 is a problem during the peak tourist season. The Neah-Kah-Nie School District also has identified this concern, because school buses currently have a difficult time crossing U.S. 101 during peak times. The PAC mentioned that emergency vehicles also have a difficulty crossing U.S. 101 during the peak times because of the high amount of through trips on U.S. 101.

Preliminary Traffic Signal Warrant Analysis

The preliminary traffic signal warrant analysis is based on future (year 2022), forecasted, 30th-highest-ADT volumes, as directed by the ODOT TPAU, and does not take into account seasonal increases in traffic on state highways resulting from tourism.

Under future, forecasted, no-build conditions, the U.S. 101 and Miami Foley Road intersection meets the preliminary traffic signal warrant. The U.S. 101 at 7th Street intersection barely fails (by five vehicles) to meet the volume requirements of the signal warrant. The U.S. 101 and 7th Street location is considered more desirable for a signal because of its location in the downtown area and concerns from the city staff, PAC members and other local agency staffs regarding the operations surrounding this area. A signal at 7th Street is expected to relieve some of the traffic issues at U.S. 101 and 3rd Street because South 3rd Street and South American Avenue create a loop system that is used as an alternate route when congestion occurs at U.S. 101 and 7th Street.

An iterative traffic volume forecasting process was conducted to identify an approximate year at which the U.S. 101 and Miami Foley Road intersection is warranted for a traffic signal. From this analysis, the intersection is warranted for a signal before year 2010.

Safety Needs

Through the analysis of existing conditions, comments from the project management team (PMT) and PAC, and recommendations in relevant planning documents, several safety-related issues were identified at numerous intersections. Improvements to the following intersections with geometric, sight distance or safety issues should be considered.

Outside of the downtown area (2nd Street to 10th Street) many of the cross-street approaches with U.S. 101 are skewed intersections that have steep slopes or poor visibility. These intersections include:

- U.S. 101 and Hobsonville Point Drive (skewed, slope, poor visibility)
- U.S. 101 and Miami Foley Road (skewed, poor visibility)
- U.S. 101 and Arizona Way (poor visibility)
- U.S. 101 and Nelson Lane (steep slope, poor visibility)
- U.S. 101 and East Driftwood Avenue and Keenon Drive (skewed intersections with poor visibility)
- U.S. 101 and 1st Street (poor visibility)
- U.S. 101 and 11th Street (U.S. 101 skewed, poor visibility)
- U.S. 101 and 12th Street (severe slope, poor visibility)
- U.S. 101 and 14th Street (U.S. 101 is skewed, steep slopes, poor visibility)

In the downtown area, there are also cross-street approaches to U.S. 101 that cause safety concerns. These deficiencies usually are caused by the lack of sight distance with the tight intersection radii and buildings abutting the streets. These intersections include:

- U.S. 101 and 3rd Street (slope on north side, poor visibility)
- U.S. 101 and 4th Street (U.S. 101 skewed, slope, poor visibility)
- U.S. 101 and 5th Street (poor visibility)
- U.S. 101 and 10th Street (skewed, poor visibility)

Other Safety Deficiencies

The South 3rd Street railroad crossing is not equipped with railroad warning, because the approach from the south is not a public roadway. Because this roadway segment is not a public facility, it is not required to meet roadway standards. The narrow travel lanes and roadway curvature near Lumbermen's Park make turning movements for large vehicles difficult.

Between South 3rd Street and South 7th Street, pedestrians cross the railroad tracks for access between the downtown area and the Port of Garibaldi. This is a safety concern especially with the Port of Tillamook Bay upgrading its railroad to a Class II facility, which potentially could allow faster train speeds.

In the PAC meetings there were comments that high vehicle speeds on U.S. 101 are an issue at the east/south end of the city limits.

Transit and school bus officials mentioned that that the railroad crossing near Hobsonville Point Drive on U.S. 101 as a hazardous location for their drivers. In Oregon, buses are required to stop at all railroad crossings without safety features across the road (such as gates/arms).

Overlay Needs

Overlay locations were recommended on the basis of the analysis of existing conditions. Only roadways that were included in the study area were analyzed. This list does not consider future pavement deficiencies. Guidelines for how to gage pavement condition will be included in the TSP to facilitate the city staff in identifying future pavement deficiencies. Overlay projects should be considered in the following locations:

- 6th Street (Cypress Avenue to Evergreen Avenue)
- Cypress Avenue (west of 6th Street)
- Driftwood Avenue (between 2nd Street and 1st Street to U.S. 101)
- South 3rd Street (railroad crossing to South American Avenue)

In addition to these local roadway maintenance projects, when U.S. 101 is overlaid the current pavement is in need of being ground down to reduce the roadway crown.

On local roads without curbs and gutters, the pavement condition is generally poor to fair. These local roads typically serve low volumes of traffic. Therefore, overlay or preservation projects may not be warranted.

Widening Needs

Road widening to provide additional vehicle capacity is not considered a need because the geographic nature of the city and the network are built out to handle the existing and future, forecasted traffic needs. However, roadway widening to accommodate alternative modes of

travel, such as pedestrians and bicyclists, is considered a need because these modes are prevalent throughout the city, but are provided minimal right-of-way in many areas of the city. The following roadway segments are recommended to be retrofitted with sidewalks/bike lanes:

- U.S. 101, widen shoulder for bicyclists outside of downtown area (east/south city limits to 2nd Street and 10th Street to north/west city limits)
- Cypress Avenue (sidewalk, shared roadway)
- 6th Street, Acacia Avenue to Evergreen Avenue (sidewalk, shared roadway)
- 3rd Street, Acacia Avenue to Evergreen Avenue (sidewalk, shared roadway)
- South 3rd Street, U.S. 101 to South American Avenue (sidewalk, shared roadway)
- South American Avenue, South 3rd Street to South 6th Street (sidewalk and bike lanes)
- South 7th Street, from U.S. 101 to railroad (sidewalk and bike lanes)

These projects also are listed in the pedestrian and bicycle needs.

Bridge Needs

Although there are numerous culverts in Garibaldi, ODOT records show there are no bridges in the city. Creating an additional east-west route to U.S. 101 to improve mobility through Garibaldi is discussed later in this report. This project may require additional culverts or bridges because of the numerous streams in Garibaldi.

Operations (Transportation System Management) Needs on State Highways

Speeding on U.S. 101 is a concern to many of the members of the PAC. Various Transportation System Management (TSM) tools could be implemented to address speeding. In addition, there is a need to provide drivers parking and roadway information especially when the Port of Garibaldi is being heavily used. An event in Garibaldi that may require advanced driver information is the Garibaldi Days parade.

Access Management Needs

As described previously, U.S. 101 in Garibaldi functions as the city's main street and includes regular access points at intersections and driveways. Although a number of potential safety issues were identified with the intersections of local streets and U.S. 101, no specific access management needs onto the highway were identified.

Policy 3A of the OHP provides classification and spacing standards for statewide highways such as U.S. 101. Because U.S. 101 in Garibaldi currently does not have any other designation, the OHP standards for "statewide highway, urban other" would apply in the downtown area and "statewide highway, rural other" would apply outside the downtown area. Strict compliance with these standards for the downtown area would require limiting access onto the highway, which is not appropriate for the downtown area. To address this, the potential for a Special Transportation Area in Garibaldi should be explored (see Section 5).

Mobility/Connectivity Needs

East-West Mobility

Because U.S. 101 (Garibaldi Avenue) is the only east-west through roadway in Garibaldi, it is desirable to complement U.S. 101 with another east-west route to divert local trips from relying on U.S. 101. In addition, during peak events or when an accidents occur on U.S. 101, this route could help mitigate congestion. If an accident occurred at certain locations along U.S. 101 in Garibaldi, there is no possible reroute available. Possible connections to improve east-west mobility include:

- Connecting Cypress Avenue with U.S. 101 east of 1st Street
- Connecting Birch Avenue between 8th and 7th Streets, and 4th and 3rd Streets
- Connecting Acacia Avenue between 8th and 7th Streets and extending it to intersect with 2nd Street
- Connecting Driftwood Avenue between 5th and 4th Streets

These connections and possibly others are assessed for feasibility, including cost, preliminary environmental impacts and effect on private properties in the evaluation process.

Garibaldi's lifeline route in the event of flooding or tsunami is east on U.S. 101 to Miami Foley Road. Currently, Miami Foley Road, near U.S. 101 is below the flood zone. This area should be considered for improvement to maintain access during all times of the year and ensure a functional lifeline route for the community. Because this area is outside the Garibaldi city limits, further evaluation of this project is referred to in the Tillamook County TSP.

Port of Garibaldi/Freight Access

Port of Garibaldi access is a need in the city because the two access locations (3rd Street and 7th Street) have deficient intersection geometry. Currently, the 3rd Street access is deficient because of roadway width, pavement condition and intersection geometry. Providing a signal at U.S. 101 and 7th Street would minimize the 3rd Street issues because some of the 3rd Street traffic would be expected to shift to 7th Street for access to and from the port area.

Port of Garibaldi access with U.S. 101 should be examined in further detail as part of a refinement study. An access study is consistent with the Draft Oregon Coast Highway Master Plan. There is mention of an additional east access near 2nd Street into the Old Mill property in the Draft Oregon Coast Highway Master Plan. This access, while it may provide some benefits, is not feasible until the Old Mill property redevelops. It is currently unknown when redevelopment will occur.

Any additional accesses onto U.S. 101 would need to be in compliance with the OHP.

Parking Needs

Under existing conditions, parking is a key issue for Garibaldi, especially parking for large vehicles, such as recreational vehicles or vehicles with trailers. Currently, there are five

public lots that provide off-street parking. Although these lots accommodate vehicles, there is a minimal amount dedicated to larger vehicles. Paving, striping and better signing improvements should be considered at the lots.

Another parking lot, located at the west end of Bay Lane on state land managed by ODFW, could be signed and used as a spillover parking lot for the Port of Garibaldi. This could be coordinated with reconstructing the Bayshore Trail between this area and the Port of Garibaldi to provide better pedestrian access between the two locations. There is an open space at the south side of the U.S. 101 and 2nd Street intersection where parking spaces could be constructed.

In addition to the public parking areas mentioned above, the gravel parking areas in the Port of Garibaldi should be paved and signed to attract port users². The potential for parking near the port offices should be investigated. This area is identified as a possible parking area in the Port of Garibaldi Strategic Business Plan.

Although currently a parking area, the parking stalls along South 7th Street in the port area should be separated from the travel lanes on South 7th Street as a safety improvement. This could be accomplished with median curbing that includes landscaping.

A parking inventory conducted by the city staff in 2001 identified 55 designated off-street RV stalls. A possible alternative to help alleviate the RV parking issues is to gain agreements with local business owners that have larger lots to designate a portion of their lot for RV parking during the summer peak months. From the parking inventory done by the city staff there are 330 private stalls in the downtown area. A parking fee could be applied to the vehicles to make it an attractive option for the businesses. The parking inventory did not include certain lots, such as the ODFW lot and Harbor View Inn RV lot; therefore, some additional RV parking may be available.

Because the parking demand and utilization rates are not computed in the TSP, a refinement study is recommended to examine the demand, amount of spillover parking and parking generators in more detail.

Pedestrian and Bicycle System Needs

Pedestrian and bicycle system improvements in Garibaldi are recommended for state and local roadways, as well as off-street pedestrian and bicycle facilities. Off-street pedestrian and bicycle facilities include the Garibaldi Bayshore Trail. The recommended projects are based on review of existing pedestrian and bicycle system conditions, deficiencies and needs, as well as a review of existing state, county and local pedestrian and bicycle plans. Pedestrian and bicycle improvements, ranging from sidewalks to widened shoulders, should be considered any time a roadway is improved, for the purposes of cost efficiency.

The recommended pedestrian and bicycle system improvements address gaps in connectivity, lack of crosswalks and other safety considerations. Regular maintenance of sidewalks and bicycle lanes/shoulders should be a priority, to ensure bicyclist and

² An Overview of Oregon's Public Ports, October 2001, Oregon Public Ports Association.

pedestrian access and safety. Access management also should be addressed with regard to pedestrian and bicyclist safety (in addition to roadway capacity preservation).

Functional Classification and Bicycle and Pedestrian Systems

The Garibaldi TSP (see Section 5) contains a functional classification system for Garibaldi as well as recommended street standards for incorporation into city code. As part of the recommended street standards, bicycle lanes and sidewalks should be provided on both sides of all new arterial and collector roadways. The following roadways should be retrofitted with bicycle and pedestrian improvements when these roadways undergo roadway maintenance or other projects:

- 3rd Street
- 6th Street
- Cypress Avenue
- South 7th Street
- South American Avenue

The street standards will help to provide a connected, safer, Garibaldi pedestrian and bicycle system as new development occurs.

Sidewalk Improvements

According to ODOT, sidewalks along U.S. 101 in Garibaldi should be added to the segments listed in Table 3-4. Between MP 55.80 (2nd Street) and MP 55.40 (10th Street), sidewalks are already available on both sides for most segments.

TABLE 3-4
ODOT Recommended State Facility Sidewalk Locations

| Roadway | Milepost | Location | Potential Improvements |
|-----------------------------|----------------|---------------------------------|---|
| U.S. 101 (Garibaldi Avenue) | 55.15 to 56.13 | 14th Street to Driftwood Avenue | Installation of sidewalks on north side |
| U.S. 101(Garibaldi Avenue) | 55.20 to 55.80 | 13th Street to 2nd Street | Installation of sidewalks on south side |

Source: Oregon Department of Transportation Bike Inventory Program, www.odot.state.or.us/transview/highway/reports/bikeway_report.cfm.

Recommended sidewalk improvements on local facilities were derived from two sources: an analysis of existing conditions and deficiencies and input from the PMT and PAC. These areas are identified because they are heavily used or provide connections between the residential areas to either schools or the downtown commercial area. Table 3-5 summarizes these improvements.

TABLE 3-5
Local Recommended Sidewalk Locations

| Roadway | Location | Potential Improvements |
|-------------------------|--------------------------------------|--|
| Cypress Avenue | 6th Street to 3rd Street | Install sidewalks on both sides |
| 6th Street | Acacia Avenue to Cypress Avenue | Install sidewalks on both sides |
| 6th Street | Cypress Avenue to Evergreen Avenue | Install sidewalk on east side at school and on both sides north of school to Evergreen Avenue. |
| 3rd Street | Acacia Avenue to Evergreen Avenue | Install sidewalks on both sides |
| 3rd Street | U.S. 101 to Acacia Avenue | Complete sidewalk system to Acacia Avenue |
| South 3rd Street | U.S. 101 to South of 3rd Street | Install sidewalk across railroad to connect with South American Avenue shoulder (Bayshore Trail) |
| South American Avenue | South 3rd Street to South 6th Street | Install sidewalk on both sides to connect with current sidewalk at South 6th Street |
| South 7th Street | U.S. 101 to railroad tracks | Connect sidewalk system with existing facilities |
| Commercial Fishing Road | South 7th Street to dead end | Construct sidewalk on both sides of road to ensure pedestrian safety |

Other Pedestrian System Improvements

Other pedestrian system improvements on local roads in Garibaldi are recommended in Table 3-6. Many local roadways in Garibaldi have low traffic volumes, and, therefore, pedestrians can safely share the roadway with motorists and bicyclists. However, improved pedestrian facilities are recommended on several roadways. The downtown Garibaldi area and Port of Garibaldi would benefit with the addition of pedestrian amenities, such as benches, drinking fountains, trash receptacles, and informational signage or historical kiosks³.

TABLE 3-6
Recommended Pedestrian System Improvements

| Roadway | Location | Potential Improvements |
|--|--|--|
| Undefined | Port of Garibaldi | Expand curbside sidewalks ¹ |
| Undefined | Port of Garibaldi | Landscaped area with decorative lighting ¹ |
| Undefined | Port of Garibaldi | Improve street signing ¹ |
| Pedestrian Gateway, near 6th Street ^{2,3} | Between downtown and Port of Garibaldi | Pedestrian walkway from South American Avenue to U.S. 101. |
| 3rd Street railroad crossing | Railroad crossing | Install visible safety measures at the crossing. This includes automatic warning gates or signs with roadway width/pavement improvements and sidewalk. |

³ Oregon Downtown Development Association, 2001.

TABLE 3-6
Recommended Pedestrian System Improvements

| Roadway | Location | Potential Improvements |
|--------------------------------|---|---|
| Bayshore Trail | South American Avenue and 7th Street | Widen and restripe trail with thermoplastic. Note: Other trail improvements (off-street portion) are located in the trail section |
| South Biak Avenue ² | At South 7th Street and 6th Street intersections | Stripe crosswalks |
| Cypress Avenue and 6th Street | Intersection | Stripe crosswalks for better pedestrian access to elementary school (where missing). Connect with the sidewalk improvements. |
| U.S. 101 | Milepost 57.54 to 55.85 and Milepost 55.40 to 54.95 | Widen shoulder to 6 feet. ³ |
| U.S. 101 | Various | Bulb-out at major pedestrian intersections. This includes 7th, 6th, 5th, 4th and 3rd Streets. ⁴ |

Sources of Recommendations:

¹ An Overview of Oregon's Public Ports, October 2001, Oregon Public Ports Association.

² Port of Garibaldi Strategic Business Plan.

³ Draft Oregon Coast Highway Corridor Master Plan.

⁴ Oregon Downtown Development Association.

One proposed pedestrian improvement is to provide a pedestrian gateway between the Port of Garibaldi and the downtown area. Currently, many of the port parking areas are located between South 7th and 3rd Streets along the railroad tracks. With the downtown area across the railroad tracks, people usually cross the tracks to access either location. This is a safety concern that needs to be resolved. This area is not officially identified as a railroad crossing, therefore, no safety facilities are provided. This need is included in the Port of Garibaldi Strategic Business Plan and the Oregon Downtown Development Association report.

Americans with Disabilities Act Compliance

To be compliant with ADA standards, new sidewalks should be constructed to ADA standards, including adequate width (3 feet minimum clear area), grade and cross-slope. Existing sidewalks should be retrofitted with ADA-compliant facilities where necessary and when possible.

Garibaldi has some ADA-compliant facilities, such as a few pedestrian ramps along U.S. 101 and in the Port of Garibaldi area. Pedestrian ramps should be constructed to federal and state standards, including proper grade, landing area dimensions and pavement quality. Existing ramps should be retrofitted to be ADA compliant when possible.

The following locations are recommended to be retrofitted to ADA standards:

- **Downtown Garibaldi.** The focus in this area is U.S. 101 (Garibaldi Avenue) from 10th Street to 2nd Street. There are striped crosswalks across U.S. 101 at the 8th, 7th, 6th, 5th, 4th and 3rd Street intersections. Only the 5th Street intersection striped crosswalk on the north side has a corresponding ADA-compliant ramp that crosses U.S. 101. There are ramps at these other locations, but they are only for the cross-street approaches and not

the crosswalks across U.S. 101. To become ADA compliant, the ramps at these locations need to be reconstructed to be either bi-directional or another ramp should be constructed to accommodate the U.S. 101 crosswalks. Refer to the figures in Appendix D for exact ramp locations.

- **Port of Garibaldi.** Two ramps that are not ADA compliant are identified in this area. One is located at the northwest corner of South 6th Street and South American Avenue. At this location the sidewalk ends without a ramp. The other location is South 7th Street and South American Avenue. The northwest corner at this intersection has a ramp that does not meet the roadway pavement level.
- **Garibaldi Elementary School.** ADA ramps should be included at the 6th Street and Cypress Avenue crosswalks when sidewalks are constructed.

Garibaldi Bicycle System

Bicycle routes in Garibaldi fall into two categories:

- Shoulder Bikeways/Bike Lanes – 6-foot-wide (recommended) striped shoulders with signage/markings
- Shared Roadways (minimum Collector Road designation) – General minimum of 28 feet roadway width with signage/markings

Other unmarked and unsigned roadways may accommodate bicyclists as shared roadways, but all components of the official Garibaldi bicycle system should be signed and/or marked as bicycle routes per 1995 OBPP standards.

The current bicycle system for Garibaldi consists of two short sections of shoulder on U.S. 101 and a marked bicycle lane/paved path in the Port of Garibaldi along South American Avenue, South 7th Street and the paved interpretative Bayshore Trail. The following roadways should include the following improvements (these improvements are consistent with the proposed roadway functional classifications).

- South American Avenue – bike lane – Bayshore Trail
- South 7th Street – bike lane – Bayshore Trail
- 3rd Street – shared roadway – residential area to downtown and port access
- 6th Street – shared roadway – elementary school access
- Cypress Avenue – shared roadway – elementary school access
- U.S. 101 – shoulder bikeway – outside of the downtown area (between 2nd and 10th Streets)⁴

Bicycle System Improvements on State and County Facilities

Recommended bicycle system improvements on state and county facilities in Garibaldi were derived from:

- A review of relevant existing local, regional, and state plans and policies (including the Tillamook County TSP)

⁴ Draft Oregon Coast Highway Master Plan.

- An analysis of existing conditions and deficiencies based on a field visit to Garibaldi in fall 2002
- Input from the PMT and PAC

The only improvement to the bicycle system on state or county facilities is to widen the shoulders on U.S. 101, outside of the downtown area, and designate as a shoulder bikeway. This improvement was recommended in the Draft Oregon Coast Highway Corridor Master Plan. Bicycle improvements in the downtown area are not feasible for businesses abutting the roadway right-of-way and on-street parking, and sidewalks limiting the available width for a bicycle lane.

Bicycle System Improvements on Local Facilities

Bicycle system improvements are recommended on local facilities in Garibaldi. Many local roadways in Garibaldi have low traffic volumes and bicyclists can safely share the roadway with pedestrians and motorists. However, several local roadways are suggested for improved bicycle facilities. The improvements in Table 3-7 are consistent with the shared roadway functional classification proposed above.

TABLE 3-7
Local Bicycle System Improvements

| Roadway | Location | Facility Type |
|-----------------------|--|--|
| South American Avenue | Lumbermen's Park to South 7th Street | Widen to 6 feet wide and pave to allow for bicycle travel |
| South 7th Street | South American Avenue to Bayshore Trail | Widen to 6 feet wide and pave to allow for bicycle travel |
| Bayshore Trail | South American Avenue and South 7th Street | Restripe with thermoplastic to ensure longevity |
| Bayshore Trail | Old Mill Property ¹ | A detailed trail study is recommended to examine the possibility to extend Bayshore Trail east into the Old Marina property. |
| Bay Lane | | Stripe road for bike use as part of Bayshore Trail |
| 6th Street | U.S. 101 to Evergreen Avenue | Designate as shared roadway with adequate width (per proposed standards) for bicyclists |
| 3rd Street | Evergreen Avenue to South American Avenue | Designate as shared roadway with adequate width (per proposed standards) for bicyclists |
| Cypress Avenue | 6th Street to 3rd Street | Designate as shared roadway with adequate width (per proposed standards) for bicyclists |

¹ Source of recommendation: Draft Oregon Coast Highway Corridor Master Plan.

Further analysis of the proposed Bayshore Trail extension is recommended because it is not within the scope of the TSP to assess in detail the viability of this project. The trail could become a community asset by:

- Revitalizing the current trail with amenities such as lighting, benches and new signs

- Providing an extension to the east into the Old Mill property
- Widening South American Avenue and South 7th Street to provide a safer bicycle/pedestrian walkway
- Constructing the trail to the western city limits (to the City Pier)

These improvements would create a safe bypass for bicyclists through the downtown area of Garibaldi. Currently, there is no designated bike lane in the downtown area and the feasibility of providing a bike lane in this area is highly unlikely at this time.

Bicycle Parking

Bicycle parking in Garibaldi should comply with design standards set forth in the 1995 OBPP. Bicycle parking should be installed at the following activity centers in Garibaldi:

- Downtown Garibaldi, near the transit shelter (to serve the transit shelter, downtown businesses, offices, and government buildings)
- Port of Garibaldi, near Lumbermen's Park
- Garibaldi fishing pier (old Coast Guard dock)

These areas are considered pedestrian activity areas and would benefit from bike parking. Providing bike parking is an attractive amenity for bicycling.

Garibaldi Trail System

Garibaldi has the opportunity to improve the linkage and condition of its trail system. As the trail currently exists, it is very short with few connections to destination areas. The following trail improvements are recommended for Garibaldi. Many of these proposed improvements are documented in other sections of this report.

- Use thermoplastic striping on roads with a shoulder bicycle lane (South American Avenue and South 7th Street) to enhance the designation and provide a long-lasting marking. Place additional trail designation signs along the route.
- Widen South American Avenue and South 7th Street to provide adequate bikeway width.
- Reconstruct bicycle/pedestrian path along Bay Lane (with pedestrian railroad crossings) to the Garibaldi fishing pier. Provide safe railroad crossings without steps. Place signs at railroad restricting walking on tracks and direct across the tracks to continue on the trail.
- Examine opportunities to extend the current bicycle/pedestrian path, east toward the Old Mill property.⁵ This could create a loop trail system that would be an attractive addition to the trail.

⁵ Draft Oregon Coast Highway Master Plan.

Transit Needs

The TCTD has outlined opportunities to improve public transportation services offered by TCTD in Tillamook County. TCTD has not identified any immediate needs specific to Garibaldi. In addition, no transit issues or needs have been identified to date through the field visit and interaction with the PMT and PAC, which included a representative of TCTD.

Other related needs (documented earlier in the report) are suggested for the area, such as sidewalks, bicycle racks, and ADA ramps. These facilities would ensure the Garibaldi transit stop is accessible to all potential riders.

It was discussed earlier in this report that transit and school bus officials mentioned that the railroad crossing near Hobsonville Point Drive on U.S. 101 is a hazardous location for their drivers. In Oregon buses are required to stop at all railroad crossings without safety features across the road (such as gates/arms). Constructing turn pullouts at this location would provide a safe area for vehicles that are required to stop at this location.

Freight and Recreational Vehicles Needs

Garibaldi does not have a state-designated freight route. Although U.S. 101 carries freight traffic, it is not designated by ODOT as a statewide freight route.

There are sight distance issues along U.S. 101 at the 3rd and 7th Street intersections (the Port of Garibaldi accesses). Turning radii at the intersections of U.S. 101 with 7th Street and 3rd Street and along South 3rd Street are not to standard. These locations should be redesigned to ensure adequate design for trucks and recreational vehicles. If a signal is installed at U.S. 101 and 7th Street, freight and recreational vehicles could be restricted on South American Avenue. This would ensure no heavy vehicles along South 3rd Street, except for vehicles accessing the Old Mill property.

Parking for extended-length vehicles (such as recreational vehicles, including vehicles with other vehicles in tow) is an issue in the port area. Providing additional parking exclusively for large vehicles is considered an immediate need of the city. Proposed parking areas are discussed earlier in this report.

Air System Needs

There are no air system needs in Garibaldi.

Water System Needs

Garibaldi Boat Basin

Parking facilities at the two Garibaldi boat launches are not adequate for the peak demand. Refer to the parking section of this report for potential parking lots. In addition, improved signing is recommended at these lots.

The Port of Garibaldi is currently inactive in terms of water freight traffic (for example, barge traffic). This is apparently partly the result of gradual sedimentation in the bay, which has reduced the water depth below a point that makes such traffic feasible. Although the bay could be dredged, this project is not a priority at this time partly because of a lack of funds and regulatory issues. As a result, no projects are proposed as this time.

Rail System Needs

The South 3rd Street railroad crossing is not equipped with any automated safety features although the road is traveled almost as much as South 7th Street. Because of the similar traffic volumes, there is a need to include additional safety measures at the South 3rd Street crossing to improve safety at the crossing.

The Port of Tillamook Bay rail line through Garibaldi currently is classified as a Class I facility. There are plans to upgrade this rail line to a Class II facility. With this upgrade, trains potentially could travel at higher speeds. If trains are moving at higher speeds, the safety projects suggested at the railroad crossings become a higher priority. However, at this time the Port of Tillamook Bay has indicated it intends to continue to operate trains at slow speeds (10 mph) through Garibaldi and other developed locations.

When trains stop in Garibaldi, they sometimes block the 3rd and 7th Street crossings. According to the Port of Tillamook Bay, trains are allowed to block both crossings for up to 10 minutes, but are encouraged not to. This could become a safety issue with some of the emergency facilities/vehicles located on both sides of the railroad tracks. Changing the policy to restrict both streets being blocked simultaneous is recommended. This could become a safety concern with the emergency vehicle access.

Pipeline Needs

No major deficiencies of the existing pipelines in Garibaldi have been identified.

SECTION 4

Transportation System Plan Projects and Evaluation

The Oregon Administrative Rules direct the TSP to be based on an evaluation process to identify potential impacts of the projects. It is required that the evaluation process be consistent with TSP guidelines and the TPR, but smaller communities, such as Garibaldi, "...are advised to scale their analysis to a reasonable level based on the size of the community and the complexity of the transportation issues."⁶ Based on this recommendation, the projects developed for the Garibaldi TSP are not packaged into sets of alternatives, but are assessed individually. Creating alternatives for Garibaldi would be ineffective with the limited type and number of projects. Projects that fail to meet the city's goals and objectives for the TSP will be rejected and the remaining projects will be packaged as the preferred alternative in the TSP (see Section 5).

The projects listed below were identified through a number of sources including the assessment of needs and deficiencies described in Section 3 of this document, recommendations from existing plan and policy documents, and recommendations from project stakeholders including city and other agency staff, PAC members and the general public. To address the deficiencies and needs of the transportation system in Garibaldi, the projects are grouped into seven types (see below) and evaluated. Each project is evaluated on the basis of evaluation criteria (measures of effectiveness) that developed using the TSP goals and objectives. In some cases, multiple projects are created that resolve the same need. In these cases, the projects are evaluated relative to each other, with the most effective projects being recommended as part of the preferred alternative. The seven project types analyzed are:

- **Freight:** Projects include improvements for the movement and mobility of freight to and through Garibaldi.
- **Connectivity/Mobility:** Projects identify locations where new roadway construction should be planned to provide better access and connectivity in parts of the city, including for pedestrians and bicyclists.
- **Operational-Modernization:** Projects include improvements that increase the roadway efficiency by reducing congestion and improving safety. They include capacity improvements, traffic signals, signs, and Intelligent Transportation System (ITS) features.
- **Parking:** Projects focus on improvements to the current parking system by upgrading current parking areas (off- and on-street) or examining opportunities where off-street lots could be developed.

⁶ 2001 ODOT Transportation System Guidelines, page 34.

- **Pedestrian/Bicycle/Trail:** Projects include improvements that should be considered to better serve pedestrians and bicyclists, including the addition of striped bike lanes, shoulders, sidewalks, pedestrian crossings and ADA compliance. Projects include improvements to the current Bayshore Trail and identifying other possible trail projects.
- **Safety:** Projects include improvements to reduce identified locations that have crash rates and/or fatalities. Projects in this section also include locations where there are safety concerns.
- **Rail:** Projects include improvements to the railroad crossings or rail line in Garibaldi. Note: Rail projects are not evaluated because they are outside of the city's jurisdiction.

Projects relating to Transportation Demand Management (TDM), transit, water, pipeline and land use strategies are not included in this analysis because of the limited nature of the transportation system needs and opportunities in Garibaldi. No need for these types of projects was identified in the TSP process. These issues should be reviewed in the future as needs and conditions may change.

Evaluation Process

An evaluation process was conducted to facilitate the selection of a preferred alternative that meets the TSP goals and objectives and those of the TPR. Key steps in the evaluation process are shown in Figure 4-1 and are discussed below.

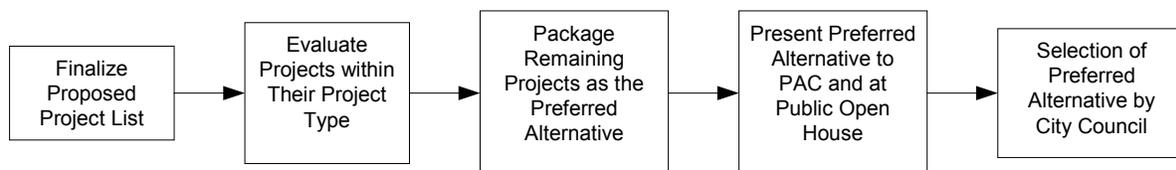


FIGURE 4-1
Evaluation Process

1. **Finalize Proposed Project List**—The project list was finalized after the March 25, 2003, PAC meeting and the April 3, 2003, public open house.
2. Projects were evaluated individually. In certain circumstances, multiple projects were created that address the same need. In these cases, the projects were evaluated relative to each other. For example, there were several mobility extension projects that addressed the lack of an east-west local road through Garibaldi, but only the projects that were most feasible and cost-effective from the group were included as part of the preferred alternative.
3. The evaluation was based on a five-level scoring system, using “++”, “+”, “0”, “-” and “--” as the scores. Any project that received a double negative (--) was considered for exclusion because it was deemed highly infeasible or created a negative impact on the transportation system. Although a project might be highly unlikely because cost or other constraints, it may be recommended for inclusion in the preferred alternative because it

exhibits significant benefits, or because the PAC or agency staff recommended doing so. This evaluation is mostly qualitative, except for any operational results from the traffic analysis.

4. The preferred alternative will be presented to the PMT and PAC. Based on the evaluation and input from the PMT and PAC, the preferred alternative will be finalized. This alternative will be presented at a public open house for comments. The preferred alternative includes short-term and long-term projects with a proposed staging and funding cycle.
5. The TSP, which will be adopted by city council and the state of Oregon, will incorporate improvements included in the preferred alternative.

Evaluation Criteria

As described above, the criteria for the project evaluation are based on a “++, +, 0, – and --” scoring system. It is expected that this evaluation will provide enough of a variance among similar projects to be able to recommend a preferred alternative. Projects with numerous negative impacts most likely will be excluded, but, in some instances, may be apart of the preferred alternative if they are considered to provide significant benefit in other scoring areas and/or PAC and other agencies strongly support including the project in the preferred alternative. Table 4-1 describes the project-level evaluation criteria.

TABLE 4-1
Project Evaluation

| Goal | Rating | Project Criterion |
|------------------------|--------|---|
| Mobility/Accessibility | ++ | Provides new transportation options or connectivity to serve different types of users (that is, bikes, pedestrians, freight, street connections) |
| | + | Improves on the current transportation options or connectivity to serve different types of users (that is, bikes, pedestrians, freight, street connections) |
| | 0 | Does not significantly change transportation options or connectivity |
| | - | Limits the transportation options or connectivity of the system |
| | -- | Significantly reduces or limits key transportation options or connectivity |
| Coordination | ++ | Included as part of other local, county, regional or state policies or plans |
| | + | Mentioned by the city staff, PAC or other relevant agencies |
| | 0 | Not specifically mentioned in other policies or plans, but not out of compliance with such plans |
| | - | Indirectly not in compliance with other plans and policies |
| | -- | Specifically identified as being not in compliance with other plans and policies |
| Non-Motorized Users | ++ | Creates or completes a bicycle and/or pedestrian link to serve commuters, transit users and/or recreational users |
| | + | Improves on the current bicycle and/or pedestrian facilities to serve commuters, transit users and/or recreational users |
| | 0 | Does not significantly change existing non-motorized facilities |
| | - | Reduces some of the connectivity, safety or aesthetics of existing non-motorized facilities |
| | -- | Removes key connectivity, safety or aesthetics of existing non-motorized facilities |

TABLE 4-1
Project Evaluation

| Goal | Rating | Project Criterion |
|---------------------------------|--------|--|
| U.S. 101 Access/ Circulation | ++ | Improves bicycle and pedestrian facilities on U.S. 101, and creates opportunities for all modes to cross U.S. 101. Improves intersection geometry at key locations |
| | + | Provides minor pedestrian and bicycle improvements on U.S. 101, crossing U.S. 101 is expected to improve slightly |
| | 0 | Does not change the bicycle and pedestrian facilities on U.S. 101 or opportunities for all modes to cross U.S. 101 |
| | - | Bicycle and pedestrian facilities along U.S. 101 become less attractive and crossing U.S. 101 becomes more difficult |
| | -- | Bicycle and pedestrian facilities on U.S. 101 are removed, and U.S. 101 crossing locations are removed. Intersections are not improved |
| Downtown Area Facilities | ++ | Improves the downtown area transportation system, promotes and provides additional parking facilities for all vehicles, and creates additional (new) pedestrian connections |
| | + | Provides some additional parking and improves current pedestrians connections |
| | 0 | Does not change the current downtown area transportation and parking facilities, and current pedestrian connections remain without any modifications |
| | - | Does not support current parking facilities, current pedestrian connections become less functional or pleasant |
| | -- | Parking and pedestrian facilities are removed and changes do not promote a safe pedestrian atmosphere |
| Feasibility | ++ | Can be done without much effort and has no obstacles (high costs, right-of-way etc.). All stakeholders generally support the project. The project is considered to not have any environmental or terrain barriers. |
| | + | Has some barriers (such as cost or public acceptance), but they are not considered significant. The project could be constructed, but with some effort. |
| | 0 | Would be costly to construct, but is still within the city's right-of-way and has a few obstacles (such as right-of-way and support). |
| | - | Is costly and would need some right-of-way takes. Other concerns, such as terrain, exist. This project could be supported by other agencies, but would need to be discussed. |
| | -- | Has high cost, has significant right-of-way impacts and the city needs joint venture from private sector. This project is likely not to be supported by other agencies. Significant terrain issues are identified. |
| Parking | ++ | Creates additional parking facilities |
| | + | Improves current parking facilities in the downtown and port area (that is, paving/signing), but does not create more than a few additional parking spaces |
| | 0 | No improvement to the current parking situation |
| | - | Removes a minimal amount of parking |
| | -- | Removes a significant amount of parking (more than 20 spaces) |
| Environment | ++ | Greatly enhances environmentally significant areas or natural or historic features |
| | + | Enhances environmentally significant areas or natural or historic features |
| | 0 | No impacts to environmentally significant areas or natural or historic features |
| | - | Some impacts to environmentally significant areas or natural or historic features |
| | -- | Significantly affects environmentally significant areas or natural or historic features |

TABLE 4-1
Project Evaluation

| Goal | Rating | Project Criterion |
|-----------------|--------|---|
| Capacity | ++ | Provides additional capacity to the system and improves the operating conditions at deficient locations |
| | + | Provides additional capacity to the system |
| | 0 | Does not significantly improve the capacity of the system |
| | - | Worsens roadway/facility capacity |
| | -- | Intersections/segments would worsen to levels above TSP guidelines |
| Safety | ++ | Improves safety for users at an identified safety location |
| | + | Improves the safety for users at locations not considered deficient |
| | 0 | Does not significantly change roadway/facility safety |
| | - | Decreases safety for users |
| | -- | The project may create an additional safety problem for users (such as more conflict points) |
| Cost | ++ | The project cost is in the lowest fifth (lowest) (\$) |
| | + | The project cost is in the middle-bottom fifth (\$\$) |
| | 0 | The project cost is in the middle (\$\$\$) |
| | - | The project cost is in the middle-top fifth (\$\$\$\$) |
| | -- | The project cost is in the top fifth (highest) (\$\$\$\$\$) |
| Lifeline Routes | ++ | Creates a key connection or improves access to the lifeline route |
| | + | Improves the quality or identification of lifeline routes |
| | 0 | Does not significantly change the quality or identification of lifeline routes |
| | - | Adversely affects the effectiveness or connectivity of lifeline routes |
| | -- | Removes key connectivity of lifeline routes |

Scoring System: ++ = Significantly Positive + = Positive, 0 = No impact, - = Negative, -- = Significantly Negative

PAC = Project Advisory Committee.

TSP = transportation system plan.

Evaluation Results and Discussion

This subsection presents a description of the major projects within each of the seven project types, a summary of major projects, the evaluation criteria (measures of effectiveness) and the evaluation results (advantages and disadvantages) of each project. All the major proposed projects in Garibaldi are identified in Figure 4-2.

Maintenance and roadway overlay projects are grouped into other projects where applicable. Specific overlay projects are not highlighted because pavement quality changes over time. An annual maintenance budget should address deficient pavement conditions. Pavement condition assessment guidelines are included in Appendix B.

Freight

Three freight projects were evaluated that focused on improving access to the Port of Garibaldi at U.S. 101 and 3rd Street, and U.S. 101 and 7th Street. Currently, neither street

provides a sufficient turning radius for vehicles turning into and out of the port. At U.S. 101 and 3rd Street, an alternative option was created to provide access at 2nd Street and U.S. 101. This location was evaluated because it could be built without some of the constraints present at 3rd Street. Refer to Table 4-2 for the evaluation of the projects.

TABLE 4-2
Freight Project Evaluation Summary

| Projects | Mobility/ Accessibility | Coordination | Non-Motorized Users | U.S. 101 Access/ Circulation | Downtown Area Facilities | Feasibility | Parking | Environment | Capacity | Safety | Cost | Lifeline Routes | Consultant Recommendation |
|---|----------------------------|--------------|------------------------|---------------------------------|-----------------------------|-------------|---------|-------------|----------|--------|------|-----------------|------------------------------|
| Port of Garibaldi Access | | | | | | | | | | | | | |
| Reconstruct U.S. 101 and 3rd Street intersection so large vehicle can adequately turn. | + | + | 0 | + | + | -- | 0 | 0 | 0 | ++ | -- | + | Reject |
| Provide new access into the port near 2nd Street. Requires agreements with future private development. Connect with South American Avenue. Close 3rd Street access. Provide safety measures at the railroad crossing. | ++ | ++ | + | + | ++ | -- | 0 | 0 | + | ++ | -- | ++ | TSP Project |
| Reconstruct U.S. 101 and 7th Street intersection to a large vehicle can adequately turn. | + | + | 0 | + | + | - | 0 | 0 | 0 | ++ | - | + | TSP Project |

TSP = transportation system plan.

Port of Garibaldi Access

Rejected Projects. The 3rd Street intersection project would require significant right-of-way acquisition that would have impacts to the adjacent buildings.

Recommended TSP Projects. The 2nd Street project, which is an alternative to the 3rd Street project, would need to acquire land near South 2nd Street. While this would be costly, it would not have impacts to existing buildings. This project could occur only when redevelopment of the Old Mill property occurs. Recently, this property underwent a management change and this could be an opportunity for the city to start discussions about this potential project.

Improvements to the intersection of U.S. 101 and 7th Street would provide more benefits than the 3rd Street project because this is the main truck and vehicle access into the port. While there are still obstacles with this project, it would not require demolishing buildings. This project could be included as part of the signal installation described in the operational-modernization project evaluation section.

City of GARIBALDI

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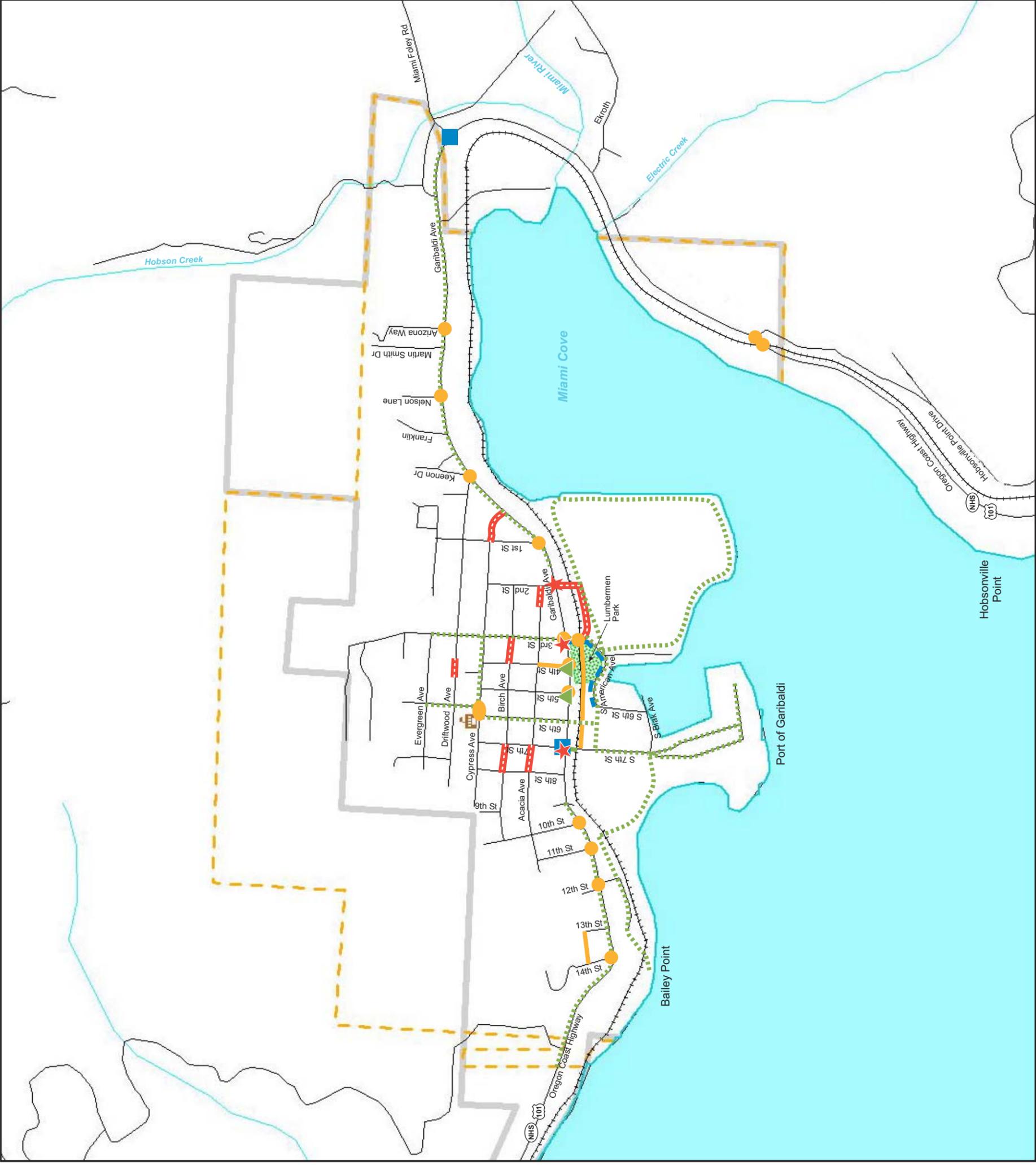
LEGEND

| | |
|--|-------------------------------|
| Project Types | Mobility/Connectivity/Freight |
| Symbol = Intersection Improvement | Roadway |
| | Ped/Bike/Trail |
| | Safety |
| | Road |
| | Railroad |
| | School |
| | Park |
| | City Limit |
| | Urban Growth Boundary |

Note: Some projects not depicted if not at a specific location or are minor improvements.



Figure 4-2
Unevaluated Project
List/Type Locations
Transportation System Plan
Garibaldi, OR



[Back](#)

Connectivity/Mobility

Because U.S. 101 (Garibaldi Avenue) is the only through east-west roadway in Garibaldi, there is a need to complement U.S. 101 with another through east-west route that can be used to divert local trips from U.S. 101. Enhancing the local street network also will improve connectivity for bicyclists and pedestrians. Through discussions with the city staff, PAC, general public at the open house and field trips, six street extensions were identified that could be constructed. Refer to Table 4-3 for the project descriptions and evaluation.

TABLE 4-3
Mobility Project Evaluation Summary

| Projects | Mobility/ Accessibility | Coordination | Non-Motorized Users | U.S. 101 Access/ Circulation | Downtown Area Facilities | Feasibility | Parking | Environment | Capacity | Safety | Cost | Lifeline Routes | Consultant Recommendation |
|--|----------------------------|--------------|------------------------|---------------------------------|-----------------------------|-------------|---------|-------------|----------|--------|------|-----------------|------------------------------|
| Driftwood Avenue between 4th and 5th Streets | ++ | + | ++ | 0 | 0 | - | 0 | -- | ++ | 0 | - | ++ | TSP Project |
| Cypress Avenue between 1st Street and U.S. 101 | ++ | + | ++ | + | 0 | -- | 0 | 0 | ++ | 0 | -- | ++ | Reject |
| Acacia Avenue between 7th and 8th Streets | ++ | + | ++ | 0 | 0 | - | 0 | - | ++ | 0 | - | ++ | TSP Project |
| Acacia Avenue between 2nd and 3rd Streets | ++ | + | ++ | 0 | 0 | -- | 0 | 0 | ++ | 0 | -- | ++ | Reject |
| Birch Avenue between 3rd and 4th Streets | ++ | + | ++ | 0 | 0 | -- | 0 | -- | ++ | 0 | -- | ++ | Reject |
| Birch Avenue between 7th and 8th Streets | ++ | + | ++ | 0 | 0 | -- | 0 | -- | ++ | 0 | - | ++ | Reject |

TSP = transportation system plan.

Rejected Projects

From this evaluation, cost, feasibility and environment were the key criteria. Projects that significantly affect two of these three criteria are considered flawed and infeasible, therefore, they were rejected. There are four such rejected projects:

- Acacia Avenue between 3rd Street and 2nd Street because it has a high cost and potentially could remove two buildings
- Cypress Avenue between 1st Street and U.S. 101 because it has a high cost – a building would need to be removed – and would be unlikely to be feasible
- Both Birch Avenue extensions (between 4th and 3rd Streets and between 8th and 7th Streets) because there are environmental concerns with high costs and building takes

Recommended TSP Projects

The two projects that are more feasible are the Driftwood Avenue extension between 4th and 5th Streets and the Acacia Avenue extension between 7th and 8th Streets.

- The Driftwood Avenue extension would not require any building takes, but requires some right-of-way to construct a road extension. It crosses a creek/ravine that potentially could make this project infeasible.
- The Acacia Avenue extension between 7th and 8th Streets is considered the most feasible of all the projects because there are no noticeable environmental constraints and no buildings would need to be removed.

Detailed environmental and design studies of both of these extensions are required. Both connections would improve the overall connectivity of the Garibaldi street grid, including providing a more direct east-west route through the city for all modes. However, because of the constraints discussed above, east-west travel through the city still would be circuitous in some instances.

Modernization-Operations

There is a need to improve the access with U.S. 101 and the Port of Garibaldi looped street system because these are critical locations for the city, especially during the peak tourist and fishing seasons. Supporting this need are other local agencies (the school district and emergency services) that have expressed concerns about long wait times at the U.S. 101 cross-streets. Because of these stated needs and the intersection operational analysis and preliminary signal warrant analysis, three signal type projects were identified to help improve the cross-street access with U.S. 101.

Lastly, the Port of Garibaldi has a deficient roadway within its looped roadway system. South 3rd Street is currently not a public roadway and, therefore, has not been required to adhere with city standards. Upgrading this segment is included in the evaluation. Refer to Table 4-4 for the project descriptions and evaluation.

TABLE 4-4
Modernization-Operations Project Evaluation Summary

| Projects | Mobility/ Accessibility | Coordination | Non-Motorized Users | U.S. 101 Access/ Circulation | Downtown Area Facilities | Feasibility | Parking | Environment | Capacity | Safety | Cost | Lifeline Routes | Consultant Recommendation |
|---|----------------------------|--------------|------------------------|---------------------------------|-----------------------------|-------------|---------|-------------|----------|--------|------|-----------------|------------------------------|
| U.S. 101 Access | | | | | | | | | | | | | |
| Install an emergency sign with activated flashing lights along U.S. 101 near 6th and 7th Streets | + | + | 0 | 0 | + | + | 0 | 0 | 0 | + | ++ | 0 | TSP Project |
| Install traffic signal at U.S. 101 and 7th Street | + | ++ | 0 | ++ | ++ | - | 0 | 0 | ++ | ++ | - | + | TSP Project |
| Install traffic signal at U.S. 101 and Miami Foley Road | 0 | - | 0 | 0 | 0 | -- | 0 | 0 | + | + | - | + | Reject |
| Port Roadway System | | | | | | | | | | | | | |
| Acquire South 3rd Street, upgrade to proposed city standards, reconstruct road to remove sharp turns. Provide for shared vehicle/bike use, construct sidewalk. Overlay roadway. | + | + | ++ | ++ | + | - | 0 | - | 0 | ++ | - | + | TSP Project |

TSP = transportation system plan.

U.S. 101 Access

Rejected Projects. Based on the evaluation, the installation of a traffic signal at U.S. 101 and Miami Foley Road is flawed because it is inconsistent with ODOT's preference not to have signals in rural areas (outside of city limits) and safety concerns because traffic controls in rural area are inconsistent with driver expectations. In addition, members of the PAC did not support this project. Although the intersection is expected to meet the preliminary signal warrant requirements, it is predicted to operate within the state's 1999 OHP mobility standards.

Recommended TSP Projects. It is recommended to stage the two U.S. 101 and 7th Street projects with the lower cost emergency activated sign being implemented as the first phase. The second phase would be installation of the traffic signal when it is warranted in the future. Based on current projections, the traffic signal would not be warranted until the mid-2020s. The traffic signal could have significant benefits to the traffic system because it would provide a protected movement across U.S. 101 and could relieve some of the traffic pressure at the other port access (U.S. 101 and 3rd Street). In the future if a traffic signal were installed at 7th Street, fire trucks likely would need to be rerouted to access the U.S. 101 at 7th Street instead of 6th Street.

Port Roadway System

Recommended TSP Projects. Improving the South 3rd Street road segment (south of the railroad tracks) is recommended in the preferred alternative. This project would improve safety in the port area and complete a public roadway system in the port area. The project also would improve circulation in the port and provide a connection with the adjacent pedestrian/bicycle facilities.

Parking

While there is a large supply of parking in Garibaldi in relation to the city's size, there is a need for parking areas for larger vehicles (such as recreational vehicles and vehicles with trailers), especially during periods of peak demand. In addition, the city expects an increase in tourism because of the expected Lewis and Clark anniversary celebration during the next several years. Therefore, promoting and improving the current parking lots is included in the evaluation. In addition, there are numerous private lots that potentially could be used for public parking at certain times if agreements were made with the private owners. These lots could provide needed relief in the peak season. Refer to Table 4-5 for the list of evaluated parking projects.

TABLE 4-5
Parking Project Evaluation Summary

| Projects | Mobility/ Accessibility | Coordination | Non-Motorized Users | U.S. 101 Access/ Circulation | Downtown Area Facilities | Feasibility | Parking | Environment | Capacity | Safety | Cost | Lifeline Routes | Consultant Recommendation |
|--|----------------------------|--------------|------------------------|---------------------------------|-----------------------------|-------------|---------|-------------|----------|--------|------|-----------------|------------------------------|
| Downtown Parking | | | | | | | | | | | | | |
| Install temporary parking advisory variable message signs | + | 0 | 0 | 0 | + | + | + | 0 | 0 | + | 0 | + | TSP Project |
| Conduct feasibility study on using business parking during peak periods | 0 | 0 | 0 | 0 | + | ++ | ++ | 0 | 0 | 0 | ++ | 0 | TSP Project |
| Pave existing city lots and install signs to increase visibility. Locations: 6th Street and U.S. 101, and 10th Street and U.S. 101 | + | + | 0 | 0 | + | + | + | 0 | 0 | 0 | 0 | 0 | TSP Project |
| Port of Garibaldi Parking | | | | | | | | | | | | | |
| Rechannelize the parking lot and provide curbing around the parking area along South 7th Street | 0 | + | 0 | 0 | 0 | + | + | 0 | 0 | + | + | 0 | TSP Project |
| Upgrade and pave current lots in the Port of Garibaldi area. Improve signing. | + | + | 0 | 0 | + | + | + | 0 | 0 | 0 | + | 0 | TSP Project |
| Use the ODFW parking lot as a spillover lot for the port, connect with the Bayshore Trail improvements. Signing is required. | + | 0 | 0 | + | 0 | + | ++ | 0 | 0 | 0 | ++ | 0 | TSP Project |

TABLE 4-5
Parking Project Evaluation Summary

| Projects | Mobility/ Accessibility | Coordination | Non-Motorized Users | U.S. 101 Access/ Circulation | Downtown Area Facilities | Feasibility | Parking | Environment | Capacity | Safety | Cost | Lifeline Routes | Consultant Recommendation |
|--|----------------------------|--------------|------------------------|---------------------------------|-----------------------------|-------------|---------|-------------|----------|--------|------|-----------------|------------------------------|
| Large Vehicle Parking | | | | | | | | | | | | | |
| Dedicate an existing parking lot exclusively for large (recreational) vehicles | 0 | + | 0 | 0 | + | + | + | 0 | 0 | 0 | + | 0 | TSP Project |

ODFW = Oregon Department of Fish and Wildlife.

TSP = transportation system plan.

Downtown Parking

Recommended TSP Projects. The three downtown parking projects would provide significant benefits to the circulation in the area and potentially would expand the current parking availability. With the parking situation anticipated to worsen in the future, these projects are proposed as short-term solutions. Paving the parking lots also could improve the aesthetics of the downtown core area.

Port of Garibaldi Parking

Recommended TSP Projects. Rechannelizing the lot along South 7th Street of the port area could add additional parking stalls and improve the parking efficiency in this area. Paving and striping the existing port parking lots near the railroad tracks also may provide additional stalls and more efficient use of the space. These two projects also would improve the image of the port, in keeping with long-term revitalization plans.

Using the existing ODFW parking area as a potential spillover lot when the port is full would accommodate larger vehicles. Also, if the Bayshore Trail were improved, this parking lot could be connected better with the port area.

Large Vehicle Parking

Recommended TSP Projects. Dedicating some of the existing parking for larger vehicles would reduce the number of existing stalls, but would provide needed space for larger-sized vehicles.

Pedestrian/Bicycle/Trail

Many of the pedestrian/bicycle and trail projects are low cost improvements that can be performed without much effort. The discussion in this section focuses on the relatively major projects that could be considered less likely to be included in the preferred alternative.

Many of these projects stem from the need to provide a connected pedestrian system in the city. Sidewalk locations are proposed where they would create logical connections between the school, and residential and downtown areas. Many of the streets in Garibaldi do not have any pedestrian amenities. Even in locations where facilities are provided, they are often deficient. Refer to Table 4-6 for the list of pedestrian projects.

TABLE 4-6
Pedestrian/Bike/Trail Project Evaluation Summary

| Projects | Mobility/ Accessibility | Coordination | Non-Motorized Users | U.S. 101 Access/ Circulation | Downtown Area Facilities | Feasibility | Parking | Environment | Capacity | Safety | Cost | Lifeline Routes | Consultant Recommendation |
|--|----------------------------|--------------|------------------------|---------------------------------|-----------------------------|-------------|---------|-------------|----------|--------|------|-----------------|------------------------------|
| Pedestrian/Bicyclist Projects | | | | | | | | | | | | | |
| Provide bicycle parking at transit shelter | + | + | + | 0 | + | ++ | + | 0 | 0 | 0 | ++ | 0 | TSP Project |
| Provide bicycle parking at south end of port area | + | + | + | 0 | + | ++ | + | 0 | 0 | 0 | ++ | 0 | TSP Project |
| Provide bicycle parking at Lumbermen's Park | + | + | + | 0 | 0 | ++ | + | 0 | 0 | 0 | ++ | 0 | TSP Project |
| Provide bicycle parking at fishing pier | + | + | + | 0 | 0 | ++ | + | 0 | 0 | 0 | ++ | 0 | TSP Project |
| Widen 3rd Street between Evergreen Avenue and U.S. 101 to provide for shared vehicle/bike lane and construct sidewalk | + | + | ++ | + | + | - | 0 | 0 | 0 | + | - | 0 | TSP Project |
| Widen Cypress Avenue between 6th Street and 3rd Street to provide a shared vehicle/bike lane; construct sidewalk and ADA ramps; and stripe crosswalk approaches at Cypress Avenue and 6th Street. Overlay roadway. | + | + | ++ | 0 | 0 | - | 0 | 0 | 0 | + | - | 0 | TSP Project |
| Widen 6th Street from Evergreen Avenue to U.S. 101 to provide for shared vehicle/bike lane. Construct sidewalk. Overlay roadway. | + | + | ++ | + | + | - | 0 | 0 | 0 | + | - | 0 | TSP Project |
| Widen U.S. 101 shoulder to 6 feet outside of downtown area. Include bike lane signing and striping. | + | ++ | + | ++ | + | -- | 0 | 0 | 0 | ++ | - | 0 | TSP Project |
| Construct a pedestrian gateway between U.S. 101 and the Port of Garibaldi at 6th Street across the railroad | ++ | + | ++ | + | ++ | -- | 0 | 0 | 0 | ++ | + | 0 | TSP Project |

TABLE 4-6
Pedestrian/Bike/Trail Project Evaluation Summary

| Projects | Mobility/ Accessibility | Coordination | Non-Motorized Users | U.S. 101 Access/ Circulation | Downtown Area Facilities | Feasibility | Parking | Environment | Capacity | Safety | Cost | Lifeline Routes | Consultant Recommendation |
|--|----------------------------|--------------|------------------------|---------------------------------|-----------------------------|-------------|---------|-------------|----------|--------|------|-----------------|------------------------------|
| Construct physical barrier along railroad tracks between 7th and 3rd Streets, allow access only at pedestrian gateway. | 0 | + | + | 0 | 0 | - | 0 | 0 | 0 | + | 0 | 0 | TSP Project |
| Construct curb extensions along U.S. 101 at 5th Street and 4th Street intersections | + | ++ | + | ++ | ++ | 0 | - | 0 | 0 | ++ | + | 0 | TSP Project |
| Expand curbside sidewalks in the Port of Garibaldi | + | ++ | + | 0 | 0 | - | 0 | 0 | 0 | + | 0 | 0 | TSP Project |
| Provide additional street lighting and retrofit to a decorative style in the Port of Garibaldi area | + | ++ | + | 0 | 0 | 0 | 0 | 0 | 0 | + | 0 | 0 | TSP Project |
| Stripe crosswalks along South Biak Avenue at 7th and 6th Streets | + | + | + | 0 | 0 | ++ | 0 | 0 | 0 | + | + | 0 | TSP Project |
| Construct ADA-compliant ramps at U.S. 101 in the downtown area (8th, 7th, 6th, 5th, 4th, 3rd Streets). | + | + | + | ++ | ++ | + | 0 | 0 | 0 | + | + | 0 | TSP Project |
| Construct ADA-compliant ramps at South American Avenue and South 6th Street, and South American Avenue and South 7th Street. | + | + | + | 0 | 0 | + | 0 | 0 | 0 | + | + | 0 | TSP Project |
| Construct sidewalk along South Commercial Avenue | + | + | ++ | 0 | 0 | - | - | 0 | 0 | + | 0 | 0 | TSP Project |
| Construct sidewalk along South 7th Street, between U.S. 101 and south of railroad tracks (connect with existing sidewalk) | + | + | ++ | 0 | + | 0 | 0 | 0 | 0 | + | + | 0 | TSP Project |
| Provide crosswalks along South American Avenue at South 7th Street and at South 6th Street. | + | + | + | 0 | 0 | ++ | 0 | 0 | 0 | + | + | 0 | TSP Project |
| Construct sidewalk along U.S. 101 in the downtown area (north side where missing) | ++ | ++ | ++ | ++ | ++ | - | 0 | 0 | 0 | + | - | 0 | TSP Project |
| Construct sidewalk along U.S. 101 in the downtown area (south side where missing) | ++ | ++ | ++ | ++ | ++ | - | 0 | 0 | 0 | + | - | 0 | TSP Project |

TABLE 4-6
Pedestrian/Bike/Trail Project Evaluation Summary

| Projects | Mobility/ Accessibility | Coordination | Non-Motorized Users | U.S. 101 Access/ Circulation | Downtown Area Facilities | Feasibility | Parking | Environment | Capacity | Safety | Cost | Lifeline Routes | Consultant Recommendation |
|--|----------------------------|--------------|------------------------|---------------------------------|-----------------------------|-------------|---------|-------------|----------|--------|------|-----------------|------------------------------|
| Trail Projects | | | | | | | | | | | | | |
| Widen South 7th Street 6 feet to provide an adequate striped walkway for pedestrians/bicyclists. Use thermoplastic markings to enhance and provide longevity. | + | + | + | 0 | 0 | - | - | 0 | 0 | + | 0 | 0 | TSP Project |
| Widen South American Avenue 6 feet to provide an adequate striped walkway for pedestrians/bicyclists, construct sidewalk and provide ADA ramps at 6th and 7th Street intersections. Use thermoplastic markings to enhance and provide longevity. | + | + | + | 0 | 0 | - | - | 0 | 0 | + | 0 | 0 | TSP Project |
| Designate Bay Lane as a bike lane as part of the Bayshore Trail and provide adequate signing at the railroad crossings. Provide 6-foot-wide bike path from 10th Street (approximately trail location after railroad crossing to Bay Lane). Reconstruct crossings for continuous trail without steps. | + | + | + | 0 | 0 | ++ | 0 | 0 | 0 | + | 0 | 0 | TSP Project |
| Extend the current bike trail east into the Old Mill property. Requires additional study. | ++ | ++ | ++ | 0 | 0 | -- | 0 | 0 | 0 | 0 | - | 0 | TSP Project |

ADA = Americans with Disabilities Act.

TSP = transportation system plan.

Pedestrian/Bicyclist Projects

Recommended TSP Projects. All of the pedestrian projects are included in the preferred alternative, although some are less feasible than others (for example, installing sidewalks on both sides of 3rd Street or other residential streets). In these instances, staging a project over time is recommended and may be more feasible.

Constructing sidewalk along 3rd Street, Cypress Avenue and 6th Street would provide logical connections between the residential and downtown areas to the elementary school. Because these projects require additional right-of-way, it is suggested to initially construct sidewalks only on one side of the roadway. This would improve the feasibility of the project.

Other highlighted projects include:

- The Pedestrian Gateway between downtown and Port of Garibaldi could be costly because of right-of-way railroad impacts, but is a safety concern the city would like to address. This project has many benefits because it would provide a dedicated railroad crossing for Port of Garibaldi users.
- Curb extensions (bulb-outs) at 5th and 4th Streets on U.S. 101 would improve the pedestrian visibility and atmosphere in the downtown area. These two locations also would be highly feasible because there are no left-turn lanes at these locations. A few parking stalls may be lost.
- Many intersection corners along U.S. 101 and in the port area need to be ADA retrofitted. While crosswalks are located at numerous spots along U.S. 101, there are only a few ramps for U.S. 101 access. Ramps are provided only for the cross-street traffic. This requires a handicapped pedestrian to be within the travel lanes for an unnecessary amount of time as they maneuver around the intersection corner. This creates a safety hazard that can be addressed without many inhibitors.

Other projects are recommended, but are not discussed in detail because they do not have any concerns that need to be discussed and can be constructed without much effort. These projects are considered attractive to the city and do not create a negative situation or effect.

Trail Projects

Recommended TSP Projects. To improve the quality of the Bayshore Trail, widen the current lane along South 7th Street and South American Avenue to adequate width. At the same time, the trail also should be striped with thermoplastic tape to better designate the lane and provide longevity. While this may affect land along these two roads, it should require only right-of-way acquisition and not affect structures.

In addition, the portion of trail along Bay Lane can be widened and signed to attract users to the pier. This portion of the trail could be constructed without much impact to adjacent property and would enhance the overall aesthetics of the trail.

Extending the trail into the Old Mill property would be an attractive project for the city and community. This extension could validate the trail as a community asset. While this is infeasible until agreements with the landowners is achieved, a refinement study is recommended to investigate this opportunity further. Planning for a trail before or in conjunction with future development of this property would greatly enhance its feasibility.

Safety

Identified safety concerns can be separated into three categories: U.S. 101 outside of the downtown area, U.S. 101 inside the downtown area, and other locations. There are many safety locations outside of the downtown area because many of the intersection approaches are skewed, with minimal sight distance and/or they are built on a steep slope. Contributing to this issue are high vehicle speeds. In addition, a turn pullout or ITS advanced warning signs near the Hobsonville Point Drive railroad crossing are identified as possible projects because of the concerns about vehicles required to stop on a free-flowing highway. Within the downtown area, many of the U.S. 101 approaches have limited cross-

Also, the South 3rd Street railroad crossing is not equipped with safety equipment comparable to the South 7th Street crossing. Because traffic volumes are similar for both roads, there is a need to upgrade the safety equipment at South 3rd Street.

Overall, many projects are suggested along U.S. 101 that range from low cost solutions that restrict hazardous turn movements to closing access all together. Refer to Table 4-7 for the list of projects.

TABLE 4-7
Safety Project Evaluation Summary

| Projects | Mobility/ Accessibility | Coordination | Non-Motorized Users | U.S. 101 Access/ Circulation | Downtown Area Facilities | Feasibility | Parking | Environment | Capacity | Safety | Cost | Lifeline Routes | Consultant Recommendation |
|---|----------------------------|--------------|------------------------|---------------------------------|-----------------------------|-------------|---------|-------------|----------|--------|------|-----------------|------------------------------|
| U.S. 101 in Downtown | | | | | | | | | | | | | |
| Allow only right-out at U.S. 101 and 1st Street | - | + | 0 | + | 0 | ++ | 0 | 0 | - | ++ | + | 0 | TSP Project |
| Modify 4th Street between U.S. 101 and Acacia Avenue to one-way southbound only. Provide additional angled parking. | - | + | 0 | + | + | -- | 0 | 0 | - | ++ | ++ | 0 | Reject |
| Provide for right-out at U.S. 101 and 10th Street and possibly remove sign near intersection. | - | + | 0 | + | 0 | ++ | 0 | 0 | - | ++ | + | 0 | TSP Project |
| Realign U.S. 101 at 5th Street | 0 | + | 0 | + | 0 | - | 0 | 0 | 0 | ++ | - | 0 | TSP Project |
| Realign U.S. 101 at 3rd Street—slope on north side and poor visibility. Would be in conjunction with U.S. 101/3rd Street freight access project | + | + | 0 | + | + | -- | 0 | 0 | 0 | ++ | - | + | Reject |
| U.S. 101 Outside of Downtown | | | | | | | | | | | | | |
| Realign Driftwood Avenue to have Keenon Drive separate access with U.S. 101. Align Driftwood Avenue more perpendicular with U.S. 101 | 0 | + | 0 | + | 0 | - | 0 | 0 | 0 | ++ | - | 0 | TSP Project |
| Bridge 14th Street to 13th Street. Close 14th Street access to U.S. 101. | + | + | 0 | + | 0 | -- | 0 | - | 0 | ++ | -- | 0 | Reject |
| Realign U.S. 101 at 11th Street | 0 | + | 0 | + | 0 | - | 0 | 0 | 0 | ++ | - | 0 | TSP Project |
| Realign U.S. 101 at 12th Street because of severe slope and poor visibility | 0 | + | 0 | + | 0 | - | 0 | 0 | 0 | ++ | - | 0 | TSP Project |
| Realign skewed approach with U.S. 101 at Hobsonville Point Drive | 0 | + | 0 | + | 0 | - | 0 | 0 | 0 | ++ | - | 0 | TSP Project |

TABLE 4-7
Safety Project Evaluation Summary

| Projects | Mobility/ Accessibility | Coordination | Non-Motorized Users | U.S. 101 Access/ Circulation | Downtown Area Facilities | Feasibility | Parking | Environment | Capacity | Safety | Cost | Lifeline Routes | Consultant Recommendation |
|--|----------------------------|--------------|------------------------|---------------------------------|-----------------------------|-------------|---------|-------------|----------|--------|------|-----------------|------------------------------|
| Construct turn pullout at railroad tracks at Hobsonville Point Drive crossing for transit/school buses | 0 | + | + | 0 | 0 | - | 0 | 0 | 0 | + | 0 | 0 | Reject |
| Provide transit and school vehicles with ITS technology to activate advanced warning signs on U.S. 101 | 0 | + | + | 0 | - | + | 0 | 0 | 0 | + | + | 0 | TSP Project |
| Other Locations | | | | | | | | | | | | | |
| Provide automated safety measures at the 3rd Street railroad crossing (that is, gates or lights) | 0 | + | 0 | 0 | 0 | - | 0 | 0 | 0 | ++ | - | 0 | TSP Project |

ITS = Intelligent Transportation System.

TSP = transportation system plan.

U.S. 101 Downtown

Rejected Projects. Despite a non-standard design and the perception of safety hazards, there are no crash data to support the proposed modifications at 4th Street. Also, PAC members were concerned that this project would weaken the business opportunities along 4th Street and this would outweigh the benefits of additional diagonal parking. If crash data at a later date suggest this intersection should be modified, then this project can be reevaluated. The key problem at this location is the Dairy Queen driveway on 4th Street that goes in the opposite direction of traffic. If redevelopment occurs or an agreement with Dairy Queen occurs, this driveway should be relocated.

Recommended TSP Projects. Restricting the left turn (allowing only a right turn to U.S. 101) from 1st and 10th Streets to U.S. 101 are low cost projects that can resolve two potential safety problems with low impact. The traffic patterns are expected to slightly change with these revisions, but the volumes are considered minimal to cause any negative effects on the system.

The other project in downtown is to realign the U.S. 101 and 5th Street intersection to improve the sight distance for the cross-street approaching vehicles. This project has few physical impact, but would be costly and is considered a low priority by the city staff.

U.S. 101 Outside Downtown

Rejected Projects. Similar to 4th Street, there are no crash data to support closing 14th Street. It is noted that this intersection seems to have a limited sight distance, but the cost to build a culvert/bridge structure to 13th Street would be significant for the limited number of users

on 14th Street. A simpler solution that could be explored is to restrict access to right-in/right-out. However, because of the existing geometry and grade, and perceived limited benefits, this option was not considered further.

Providing turn pullouts near the Hobsonville Point Drive railroad crossing is expected to have some right-of-way impacts that potentially could infringe on some environmentally sensitive lands.

Recommended TSP Projects. Many of the projects outside of the downtown area consider realigning substandard cross-street approaches with U.S. 101 (Driftwood Avenue, 11th Street, 12th Street and Hobsonville Point Drive). Because there are not significant crash data to support these projects and the estimated high costs for each project, they are considered a low priority. Also, the Hobsonville Point Drive intersection is expected to have environmental impacts that could make it even less feasible.

Providing ITS technology that activates an advanced warning sign in the school and transit vehicles to alert drivers of stopped conditions ahead would be a low cost alternative to the rejected pullout project. It also would resolve a key concern for the county transit agency and the school district.

Other Safety Locations

Recommended TSP Projects. Providing additional safety features at the South 3rd Street crossing would provide an improvement over the current conditions at this railroad crossing. Because the train speeds currently are required to be less than 20 mph and no reported accidents have occurred recently, this project is not considered urgent. If the railroad were to increase train speeds or supportive data become available in the future, then this project should be advanced to an earlier time period.

Transportation System Plan

Introduction

This section comprises the actual TSP for adoption by the City of Garibaldi and the State of Oregon. The rest of the document provides background documentation for the contents of this section.

This section begins with the TSP goals and objectives and identifies how the TSP meets the goals and objectives. The remainder of this section identifies the transportation projects and policies recommended for implementation during the next 20 years in Garibaldi, along with estimated costs and timing.

TSP Goals and Objectives

As described in Section 2, goals and objectives were developed at the beginning of the TSP process. They are intended to provide a framework for the planning process, to represent the values of the city, and be consistent with and supportive of the policies of relevant agencies. The goals and objectives are implemented through the specific projects and policies identified in the TSP. These projects and policies are summarized in the “Implementation Strategies” section for each goal and are described in the subsections that follow the goals and objectives.

Goal 1: Coordination

Maintain a TSP that is consistent with the goals and objectives of the City of Garibaldi, Tillamook County, Oregon.

Objectives

1. Provide a transportation system that is consistent with other elements and objectives of the City of Garibaldi Comprehensive Plan (consistent with State Planning Goal 12 and the TPR) and other planning documents.
2. Ensure consistency with state policies, including the OTP and the OHP, regarding transportation issues related to U.S. 101.
3. Coordinate with the Port of Garibaldi on transportation-related issues.
4. 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
 - c. Encourage the availability and use of transportation alternatives
 - d. Enhance livability and economic competitiveness

5. Establish a local street master plan for the City of Garibaldi.

Implementation Strategies

The TSP process has been coordinated with the plans and policies of relevant agencies through the plan and policy review conducted at the beginning of the process and provided in the Background Document, and through meetings of the PAC. Consistency with relevant sections of the OHP and the TPR are documented throughout the TSP.

Goal 2: Circulation and Mobility

Develop an interconnected multimodal transportation system that serves the travel needs of Garibaldi.

Objectives

1. Provide a network of arterials, collectors and local streets that are interconnected, appropriately spaced and reasonably direct.
2. Balance the simultaneous needs to accommodate local traffic and through-travel while incorporating traffic calming provisions.
3. Minimize travel distances and vehicle-miles traveled.
4. Safely, efficiently and economically move motor vehicles, pedestrians, bicyclists, transit, trucks and trains to and through Garibaldi.
5. Develop and adopt design standards for local streets, collectors and arterials describing minimum right-of-way width, pavement, pedestrian service, bicycle travel and other parameters.
6. Encourage development patterns that offer connectivity and mobility options for members of the community.
7. Recognize and balance freight needs with needs for local circulation, safety and access.
8. Recognize the need for sufficient parking for commercial development.
9. Balance the need for truck, RV and boat trailer access to industrial and waterfront areas with the desire for minimization of disruptions to downtown and commercial areas.
10. Improve signage for streets, bicycle and pedestrian ways, and trails as well as directional signs to points of interest.
11. Create and implement a local travel route in Garibaldi as an alternative to traveling on U.S. 101.
12. Provide opportunities for safe pedestrian routes at railroad crossings.

Implementation Strategies

Circulation and mobility improvements and policies are found throughout the TSP, including projects to improve east-west mobility in the city and to reduce reliance on U.S. 101 for local trips; numerous improvements to the pedestrian and bicycle system and

related policies; changes to street design standards; parking improvements; pedestrian crossings of the railroad; and freight circulation.

Goal 3: Access and Circulation on U.S. 101

Provide a transportation system that balances access to U.S. 101 and the performance of U.S. 101 with the community desire to maintain a pleasant, economically viable city, consistent with the OHP.

Objectives

1. Preserve and improve the coastal bicycle route along U.S. 101.
2. Improve streetscapes along U.S. 101 by adding pedestrian improvements such as landscaping, planters and benches as feasible.
3. Improve opportunities to cross U.S. 101 by all modes, without adding new access locations.

Implementation Strategies

On U.S. 101, the plan includes specific improvements for sidewalks (including ADA-compliant ramps) and curb extensions to shorten crossing distances for pedestrians. Outside of the downtown area, widened shoulders are recommended for the coastal bike route. Several locations for bicycle parking on U.S. 101 are identified.

Goal 4: Downtown Area Transportation Facilities

Improve transportation and parking facilities to be supportive of economic development in the city's downtown.

Objectives

1. Provide for additional options for parking in the downtown area to encourage economic development of the downtown.
2. Develop design standards for transportation improvements in the downtown area to encourage pedestrian connection between the downtown area and adjacent businesses and employment areas.

Implementation Strategies

The plan includes projects to improve and increase downtown parking. New street cross sections include provisions for sidewalks to improve pedestrian circulation.

Goal 5: Livability and Economic Viability

Provide a transportation system that balances transportation system needs with the community desire to maintain a pleasant, economically viable city.

Objectives

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 neighborhood cut-through traffic.
2. Improve transportation facilities without major disruption of existing neighborhoods or downtown areas.
3. Promote pedestrian-oriented design and the provision of pedestrian amenities in the downtown area, such as pedestrian-scale lighting.
4. Ensure adequate vehicle and bicycle parking and parking signage in the downtown commercial area, using techniques such as shared parking areas where appropriate.
5. Minimize traffic congestion in the downtown commercial area.
6. Develop and implement a street tree program, with emphasis on the downtown area.
7. Discourage through-traffic and high speeds in residential areas.

Implementation Strategies

The plan preserves the existing balance between the commercial area on U.S. 101 and the adjacent residential area to the north. Changes to the transportation system are focused on improving the existing system rather than creating new routes. The east-west connectivity projects would improve connectivity for all modes. Several parking projects are included in the plan (improving exploring shared parking areas) to enhance the commercial viability of the downtown area. Traffic congestion issues are addressed through the potential future signal and/or emergency activated sign at 7th Street.

Goal 6: Pedestrian and Bicycle Facilities

Provide for an interconnected system of pedestrian and bicycle facilities in Garibaldi.

Objectives

1. Develop safe, connected pedestrian and bicycle facilities near schools, high-density residential districts, commercial districts and waterfront areas.
2. Develop bicycle lanes or shoulder bikeways on arterial streets (U.S. 101) and collectors.
3. Adopt, implement and maintain appropriate design and construction standards for pedestrian access in new subdivisions, offices, shopping centers and public building developments.
4. Ensure adequate pedestrian access on all streets in commercial zones.
5. Use unused rights-of-way for greenbelts, walking trails or bike paths where appropriate.
6. Improve public access to the waterfront and trails along the waterfront.
7. Promote multimodal connections where appropriate.
8. Support and encourage increased levels of bicycling and walking.

9. Develop safe and convenient pedestrian and bicycle systems that link all land uses, provide connections to transit facilities, and provide access to publicly owned land intended for general public use, such as the beach or park facilities.
10. Adopt and maintain development standards that support pedestrian and bicycle access to commercial and industrial development, including (but not limited to) direct pathway connections, bicycle parking facilities and signage where appropriate.

Implementation Strategies

Many improvements to the pedestrian and bicycle system are included in the plan, particularly near pedestrian generators, such as the downtown area and the school. Trail improvements also are included.

Goal 7: Accessibility

Provide a transportation system that serves the needs of all members of the community for all routes and all available modes of transportation.

Objectives

1. Consider the transportation disadvantaged when developing alternatives to meet growing transportation needs.
2. Upgrade existing transportation facilities and work with public transportation providers to provide services that improve access for all users.
3. Develop and maintain travel routes for pedestrians, bicyclists and the physically handicapped.

Implementation Strategies

No new public transportation facilities are included in the TSP. However, the many pedestrian, bicycle and trail projects will aid pedestrians, bicyclists and those who use these modes in combination with transit. Of particular note are the improvements to pedestrian ramps that bring them up to ADA guidelines.

Goal 8: Public Transportation

Work to improve cost-effective and safe public transportation through and within Garibaldi.

Objectives

1. Work with the TCTD to develop transit systems and stations, and related facilities in convenient and appropriate locations that adequately and efficiently serve Garibaldi.
2. Work to improve the signage and amenities at transit stops and stations.
3. Work with TCTD to expand transit service as necessary during summer months of peak travel.
4. Provide for the transportation disadvantaged by complying with state and federal regulations and cooperating with TCTD and other agencies.

Implementation Strategies

The TSP has been coordinated with the TCTD. While no new public transportation facilities are included in the TSP, the many pedestrian, bicycle and trail projects will aid pedestrians, bicyclists and those who use these modes in combination with transit.

Goal 9: Environment

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

Objectives

1. Allow for maintenance and repair of transportation facilities.
2. Allow for transportation facilities in estuary and shoreline zones.
3. Regulate construction of transportation facilities in estuary zones according to need, purpose, compatibility with resources, siting and alternatives available.
4. Schedule transportation facility construction to avoid effects to critical periods of coastal wildlife.
5. Design transportation facilities to take advantage of natural topography to avoid shoreline disruption.
6. Promote a transportation system that encourages energy conservation, in terms of efficiency of the roadway network and the standards developed for street improvements.
7. Encourage use of alternative modes of transportation and encourage development that minimizes reliance on the automobile.
8. Balance transportation needs with the preservation of significant natural features and viewsheds.
9. Minimize transportation impacts on coastal and inland natural resources.

Implementation Strategies

Potential adverse environmental impacts were considered and identified through the project evaluation process. Where substantial environmental impacts would result from a proposed project, these are noted. Some projects with substantial impacts were eliminated from further consideration in the evaluation process. Beneficial environmental impacts will result from the connectivity/mobility projects and from pedestrian, bicycle and trail projects that support the use of non-motorized transportation in the city.

Goal 10: System Preservation

Work to ensure that development does not preclude the construction of identified future transportation improvements and that development mitigates the transportation impacts it generates when appropriate.

Objectives

1. Require developers to aid in the development of the transportation system by dedicating or reserving needed rights-of-way, by constructing half or full street improvements needed to serve new development, and by constructing off-street pedestrian, bicycle and transit facilities when appropriate.
2. Consider transportation impacts when making land use decisions, and consider land use impacts (in terms of land use patterns, densities and designated uses) when making transportation-related decisions.
3. Ensure that development does not preclude the construction of identified future transportation improvements.

Implementation Strategies

Several changes to the Garibaldi zoning code are recommended to coordinate future development with transportation system needs and address the impacts of development.

Goal 11: Capacity

Provide a transportation system that has sufficient capacity to serve the needs of all users.

Objectives

1. Protect capacity on existing and improved roads to provide acceptable service levels to accommodate anticipated demand.
2. Limit access points on highways and major arterials, and use techniques such as alternative access points when possible to protect existing capacity.
3. Minimize direct access points on to arterial rights-of-way.
4. Update and maintain required access management standards for new development and work toward modifications of existing development to preserve the safe and efficient operation of roadways, consistent with functional classification.
5. Establish and maintain access spacing standards to protect capacity.
6. Consider acceleration/deceleration lanes and other special turning lanes for capacity maintenance where appropriate.

Implementation Strategies

Capacity needs were studied as part of the existing and future conditions analysis. In general, roadway capacity is not a concern for the Garibaldi transportation system. Access management is addressed in several areas in the TSP.

Goal 12: Safety

Provide a transportation system that maintains adequate levels of safety for all users.

Objectives

1. Undertake, as needed, special traffic studies in problem areas, especially around schools, to determine appropriate traffic controls to effectively and safely manage vehicle and pedestrian traffic.
2. Improve the safety of rail, bicycle, and pedestrian routes and crossings.
3. Identify safe connections for vehicles, bicycles and pedestrians across U.S. 101.
4. Develop lifeline and tsunami/evacuation routes with local, state and private entities.
5. Improve emergency vehicle access across U.S. 101 and the railroad tracks.

Implementation Strategies

Several safety projects are included in the plan, based on the review of existing and future conditions and input from the PAC.

Goal 13: Transportation Funding

Provide reasonable and effective funding mechanisms for city transportation improvements identified in the TSP.

Objectives

1. Develop a financing program that establishes transportation priorities and identifies funding mechanisms for implementation.
2. Develop a plan with sufficient detail to qualify for funding of engineering and construction phases.
3. Identify funding opportunities for a range of projects and coordinate with county, state and federal agencies.
4. Develop designs that meet applicable local, county, state and federal plans, standards and criteria.

Implementation Strategies

Section 6 of the TSP document includes the transportation financing plan, which addresses this goal.

Transportation System Plan

This subsection identifies the transportation improvements and policies that should be implemented in the next 20 years in Garibaldi to improve motor vehicle operations, safety, and pedestrian and bicycle travel. The plan also includes public transportation, rail and water elements. The transportation improvements and policies in this section were included on the basis of the information presented in previous sections of this document, including the analysis of existing and future, forecasted, no-build conditions; the analysis of alternatives and projects; and the selection of a preferred alternative.

The transportation system plan is divided into the following plan elements:

- State Roadway System
- Local Roadway System
- Bicycle and Pedestrian System
- Public Transportation System
- Rail System
- Water System

Figure 5-1 shows the locations of the roadway capacity and safety projects included in the TSP.

Because not all of the projects are likely to be funded under existing revenue sources, each project is given a priority in terms of years. The priorities are based on the measures of effectiveness and input from stakeholders, including the PAC. An order-of-magnitude cost also is included for most projects. The list of projects does not represent a financially constrained plan.

State Roadway System

The state roadway network in Garibaldi (U.S. 101) serves both local and through traffic. Capacity and safety improvements recommended on U.S. 101 are outlined below. In addition, recommendations are made regarding highway segment designations, planning studies, functional classifications and lifeline routes.

Capacity Improvements

Table 5-1 presents the capacity improvements that are recommended for U.S. 101 in Garibaldi. The projects are numbered and shown in Figure 5-1.

TABLE 5-1
Recommended Capacity Improvements on U.S. 101

| Project Number | Location and Description | Estimated Cost | Priority (years) |
|----------------|---|----------------|------------------|
| 1 | Install an emergency sign with activated flashing lights along U.S. 101 near 6th and 7th Streets | \$5,000 | 0-5 |
| 2 | Widen U.S. 101 shoulder to 6 feet outside of downtown area. Include bike lane signing and striping. | \$200,000 | 5-10 |
| 3 | Install traffic signal at U.S. 101 and 7th Street. Reconstruct U.S. 101 and 7th Street intersection so that a large vehicle can adequately turn | \$740,000 | 10+ |

Safety Improvements

Table 5-2 presents the safety improvements that are recommended for State facilities (U.S. 101) in Garibaldi. The projects are numbered and shown on Figure 5-1.

TABLE 5-2
Recommended Safety Improvements on U.S. 101

| Project Number | Location and Description | Estimated Cost | Priority (years) |
|----------------|--|----------------|------------------|
| 1 | Allow only right-out on U.S. 101 at 1st Street | \$15,000 | 0-5 |
| 2 | Provide for right-out on U.S. 101 at 10th Street and possibly remove sign near intersection | \$15,000 | 0-5 |
| 3 | Provide transit and school vehicles with ITS technology to activate advanced warning signs on U.S. 101 | \$50,000 | 0-5 |
| 4 | Realign U.S. 101 at 11th Street | \$250,000 | 5-10 |
| 5 | Realign U.S. 101 at 12th Street - severe slope and poor visibility | \$250,000 | 5-10 |
| 6 | Realign U.S. 101 at 5th Street | \$250,000 | 10+ |
| 7 | Realign Driftwood Avenue to have Keenon Drive separate access with U.S. 101. Align Driftwood Avenue more perpendicular with U.S. 101 | \$300,000 | 10+ |
| 8 | Realign skewed approach with U.S. 101 at Hobsonville Point Drive | \$250,000 | 10+ |

ITS = Intelligent Transportation System.

Access Management

Frequent accesses onto U.S. 101 are present in Garibaldi. One potential new access onto U.S. 101 is identified in the TSP:

- Provide new access into the port near U.S. 101 and 2nd Street. This would require an agreement with the current private development. This road would be connected to South 3rd Street and South American Avenue, allowing the 3rd Street access with U.S. 101 to be closed.

If this access change were made, it would need to comply with the access management requirements of the OHP. Because the net accesses onto the highway would be unchanged and because there are infrequent accesses to U.S. 101 on the south side of U.S. 101, it is anticipated the change would meet access management requirements. It also would improve local access and circulation.

As discussed in Section 3, Garibaldi currently does not comply with the access management standards in the OHP because the classification at Garibaldi does not specifically identify it as a downtown area. To address this, the potential for a Special Transportation Area (STA) designation in Garibaldi should be explored (see below).

City of
GARIBALDI

CH2MHILL

LEGEND

- 1 — State Capacity Improvements
- 1 ▲ State Safety Improvements
- 1 — Local Capacity Improvements
- 1 ▲ Local Safety Improvements
- Road
- +—+—+ Railroad
- 🏫 School
- 🌳 Park
- - - - - City Limit
- ▭ Urban Growth Boundary

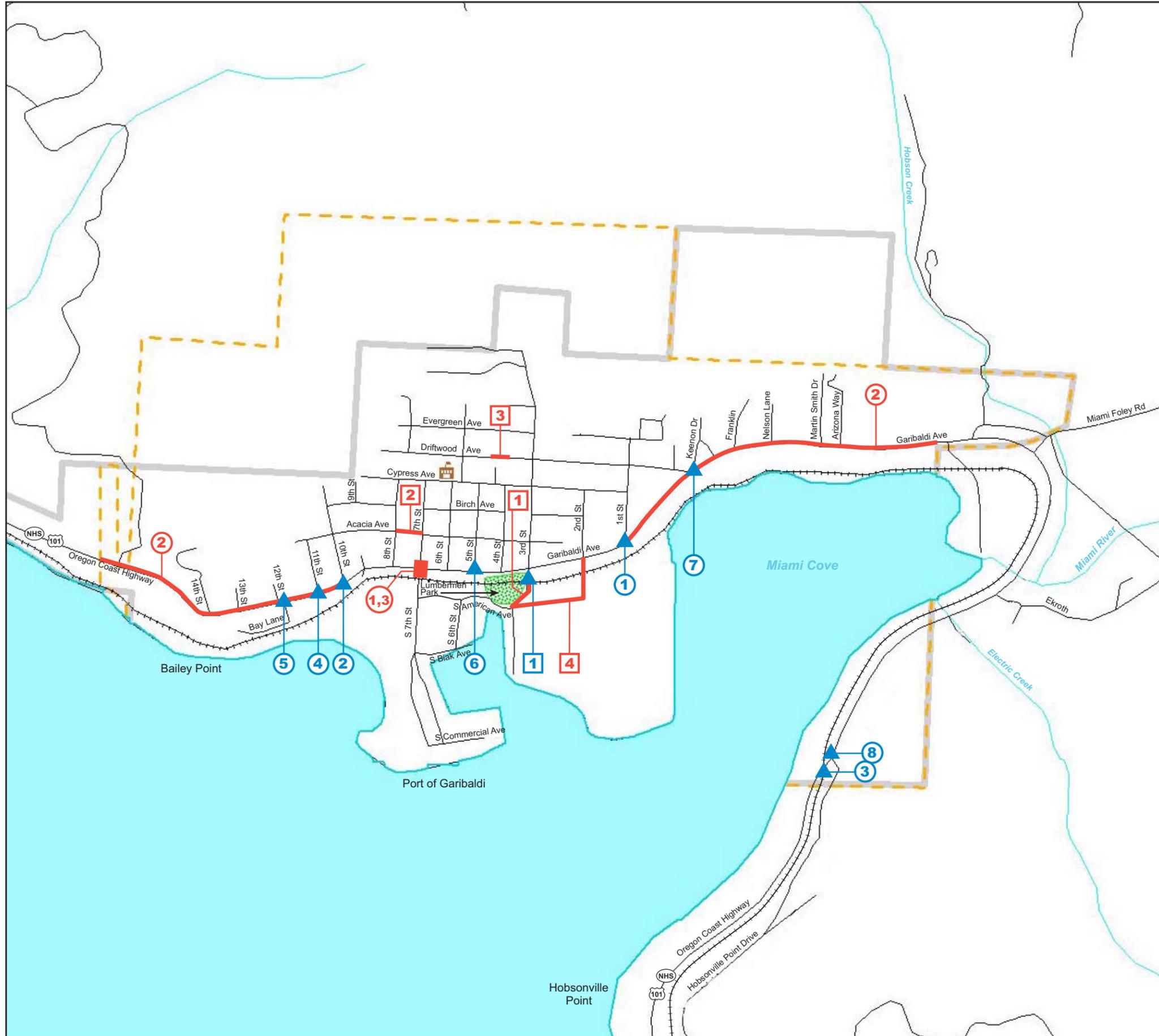
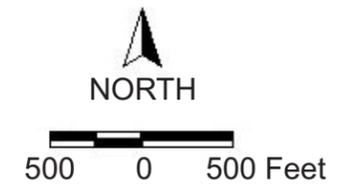


Figure 5-1
Capacity and Safety
Project Locations
Transportation System Plan
Garibaldi, OR

[Back](#)

To protect transportation facilities and to provide for safe multimodal transportation in Garibaldi, several changes have been proposed to the city's ordinances. A new section has been added to the city's Subdivision and Land Partition procedures, Section 41A, Access Management, which includes a requirement for completion of a traffic impact study, provides for the closing or consolidation of access points, and provides access spacing options to create walkable and safe pedestrian crossings. Optional language for shared driveways, vertical clearance and fire access has been included in Section 7.

Highway Segment Designation

The OHP provides for special designation of certain highway segments to guide future planning and management decisions and to balance the needs of through traffic with local traffic and development. The designations, which include STAs, commercial centers, and urban business areas, have specific objectives for access management, automobiles, pedestrian and bicycle accommodation, transit amenities and development.

Based on a preliminary review of the requirements and characteristics of an STA (see Table 5-3), this designation should be explored further by the city and ODOT. The STA designation process requires a detailed study of the existing and future highway characteristics and development of an STA management plan. ODOT previously identified Garibaldi as a potential STA location with low priority.

TABLE 5-3
Abbreviated List of STA Requirements and Characteristics

Location

Must straddle a state highway; new development to be built off of the highway or only on one side.

Cannot be located on a freeway or expressway

Area has a majority, if not all, of STA attributes, either as existing or planned uses and infrastructure through an adopted plan

STA does not apply to entire city

Traffic Characteristics

Compact area with local street network to facilitate local auto and pedestrian circulation

Convenience is focused on pedestrians, bicyclists and transit; autos are secondary

Traffic speeds are slow, generally 25 mph or less

Highway mobility standards allow for more congestion than on other urban highways

Design Characteristics

Mixed uses; buildings are close together

Sidewalks with ample width and adjacent to highway and buildings

Convenient auto and pedestrian circulation

Public road connections preferred over private driveways

On-street parking or shared parking lots behind or to side of buildings

TABLE 5-3
Abbreviated List of STA Requirements and Characteristics

Location

Streets designed for ease of crossing by pedestrians

STA Management Plan Requirements

Goals and objectives, clearly defined STA boundaries

Specify design standards to be applied to improve local access and community functions (highway mobility, street spacing, signal spacing, street treatments)

Strategies for addressing freight and through traffic including speed, possible signalization, parallel or other routes, actions elsewhere in corridor

Parking strategies (on-street, off-street, shared)

Provisions for local circulation

Analysis of regional and local traffic and safety impacts to determine the effects of STA designation; methods must be approved by ODOT

Identification of needed improvements in STA, likely funding source, time frame

Identification of maintenance and operational strategies

STA = Special Transportation area.

ODOT = Oregon Department of Transportation.

Planning Studies

Table 5-4 presents the recommended planning studies on U.S. 101 in Garibaldi.

TABLE 5-4
Recommended Planning Studies on U.S. 101

| Location and Description | Priority (years) |
|---------------------------------|------------------|
| Port Access Study with U.S. 101 | 10+ |

Note: This project should occur concurrently with redevelopment in the port area. If redevelopment occurs in less than 10 years, then this project would occur earlier.

Maintenance/Preservation/Operations

No specific maintenance, preservation and operations projects are recommended. If a roadway is recommended for other roadway improvements, maintenance may be appropriate at that time. In addition, some of the projects included in Appendix E include maintenance, preservation, or operation components that address existing deficiencies.

To provide assistance for the city staff to identify and prioritize pavement needs, pavement condition assessment guidelines are included in Appendix B.

Functional Classifications

No changes to the functional classification of U.S. 101 are recommended. U.S. 101 should continue to be classified as a principal arterial.

Lifeline Routes

Under existing conditions, U.S. 101 in Garibaldi is designated a Priority 2 lifeline route through most of the downtown area. East of the downtown area, U.S. 101 is designated a Priority 1 lifeline route. No changes are recommended to these designations.

Local Roadway System

Functional Classification and Design Standards

This section summarizes the functional classifications and associated standards for local roads in Garibaldi to meet transportation system needs in the 20-year planning horizon.

Functional Classifications

Roadway standards have been developed for Garibaldi that are consistent with current state standards and follow the proposed functional classifications in the Garibaldi TSP.

Functional classifications of local roadways in Garibaldi are defined as follows, consistent with state standards:

- **Arterial Roadways.** The primary function of an arterial roadway is to provide mobility. Therefore, arterials typically carry higher traffic volumes and allow higher travel speeds while providing limited access to adjacent properties.
- **Collector Roadways.** The function of a collector roadway is to collect traffic from local streets and provide connections to arterial roadways. Generally, collectors operate with moderate speeds and provide more access than arterials.
- **Local Roadways.** The primary function of a local roadway is to provide access to local traffic and route users to collector roadways. Generally, local roadways operate with low speeds, provide limited mobility, and carry low traffic volumes than other roadway classifications.

ODOT previously identified the functional classifications of roadways of statewide significance in the city limits of Garibaldi. As part of the TSP process, the functional classifications of county and city roads in Garibaldi have been reviewed. Several city roadway segments currently classified as local roadways by ODOT are identified as local collectors. Based on this information, the following changes are recommended. See Figure 5-2 for the functional classification map.

Arterials. An arterial designation is not recommended for any roads in Garibaldi. Garibaldi's traffic characteristics on city facilities do not warrant arterial roadways designed to handle large traffic volumes. U.S. 101 is the only arterial in the city.

Functional Class

City of
GARIBALDI



- Garibaldi Collector
- State Collector
- State Arterial
- County Collector
- Road
- Railroad
- School
- Park
- City Limit
- Urban Growth Boundary

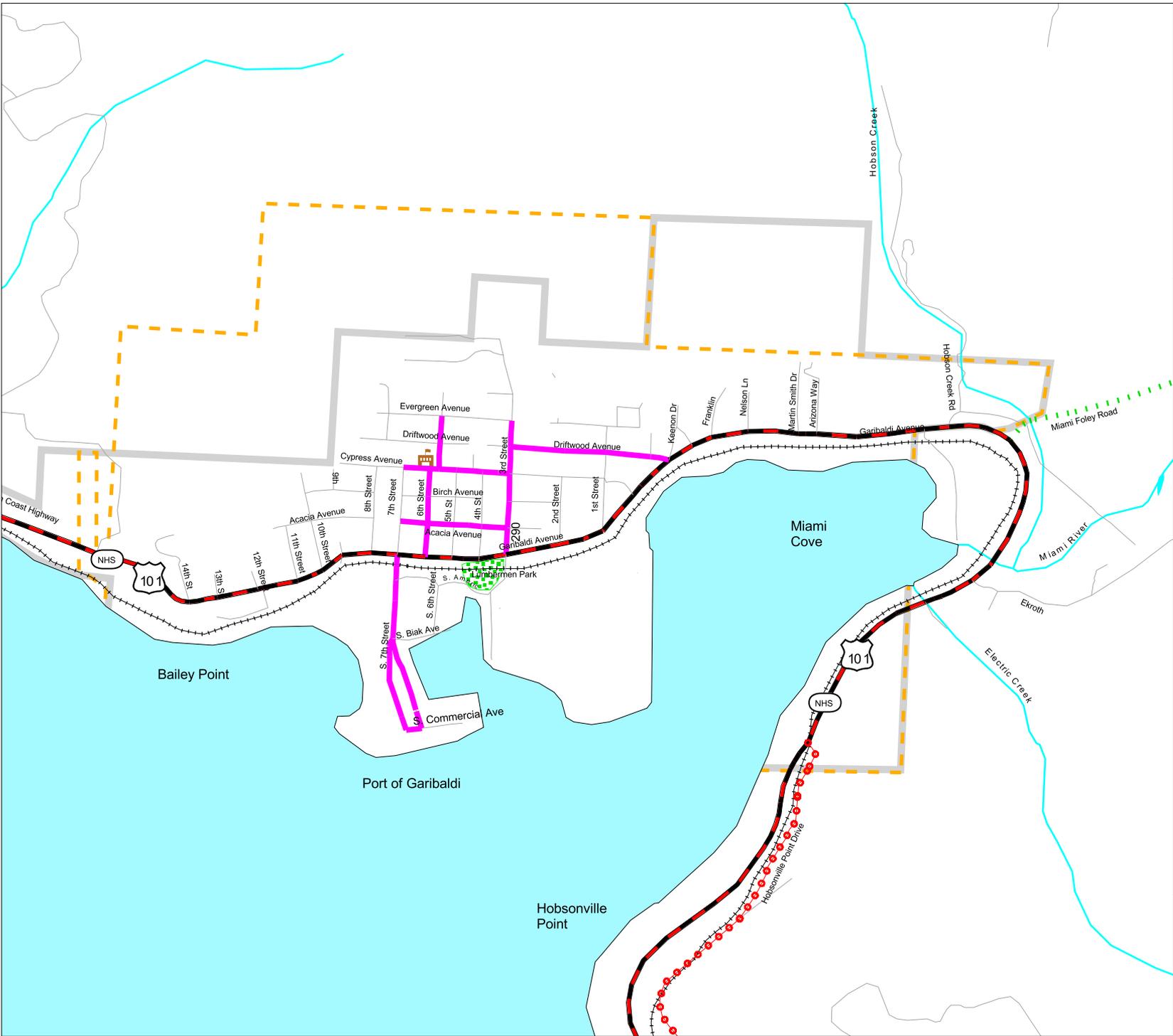
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500 0 500 Feet



Figure 5-2
Transportation
System Plan
Garibaldi, OR



Collectors. The following city facilities are recommended to be classified as collectors:

- South 7th Street – U.S. 101 to the port commercial area
- 3rd Street – South American Avenue to Evergreen Avenue (this road would be classified only as a collector road if a traffic signal is not constructed at U.S. 101 and 7th Street)
- 6th Street – U.S. 101 to Evergreen Avenue
- Acacia Avenue – 6th Street to 3rd Street
- Cypress Avenue – 6th Street to 3rd Street
- South American Avenue – South 7th Street to South 3rd Street

In addition to the roadways mentioned, if an east-west mobility project is constructed, that new segment or road should be recommended for collector designation.

Within the Garibaldi city limits there are two county roads, Miami Foley Road (on the outskirts of city limits, but not actually within city limits) and Hobsonville Point Drive. These roads are classified by the county as minor arterial and resource collector, respectively. Each classification is accurate with the facility's purpose.

Local Roads. City roads not listed above are recommended to be classified as local roads.

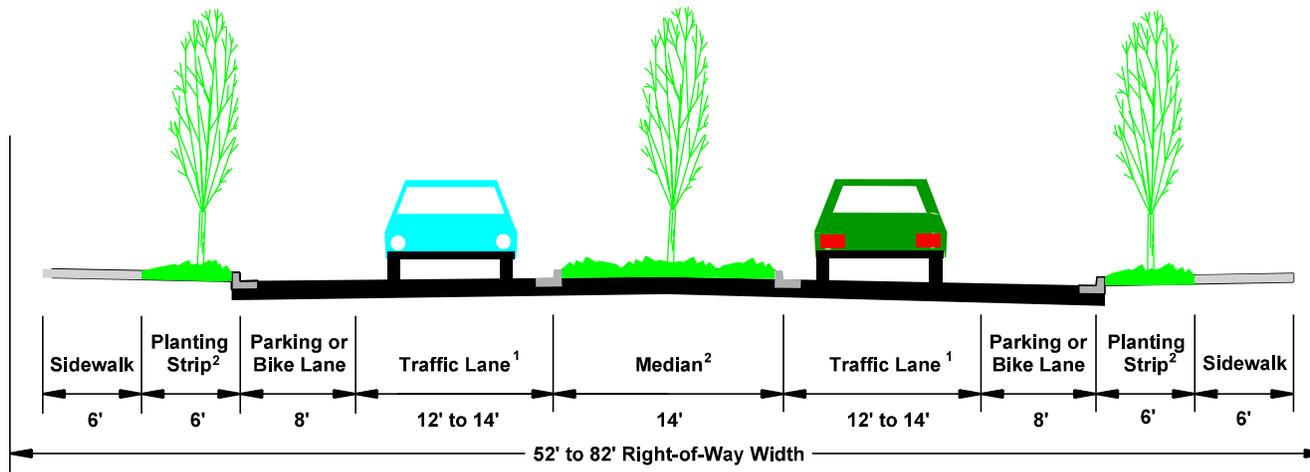
Design Standards

Roadway design standards were developed for each functional classification for local (city) facilities. Each functional classification requires different design standards based on the operating conditions (volumes, access management, speeds) and users (bicyclists, pedestrians, motorists) of the roadway segment. The design standards outlined in this report are intended for use in new roadway construction, and where feasible, reconstruction of existing roadway facilities. See Figures 5-3 and 5-4 for roadway standards on arterial, collector, and local roadways.

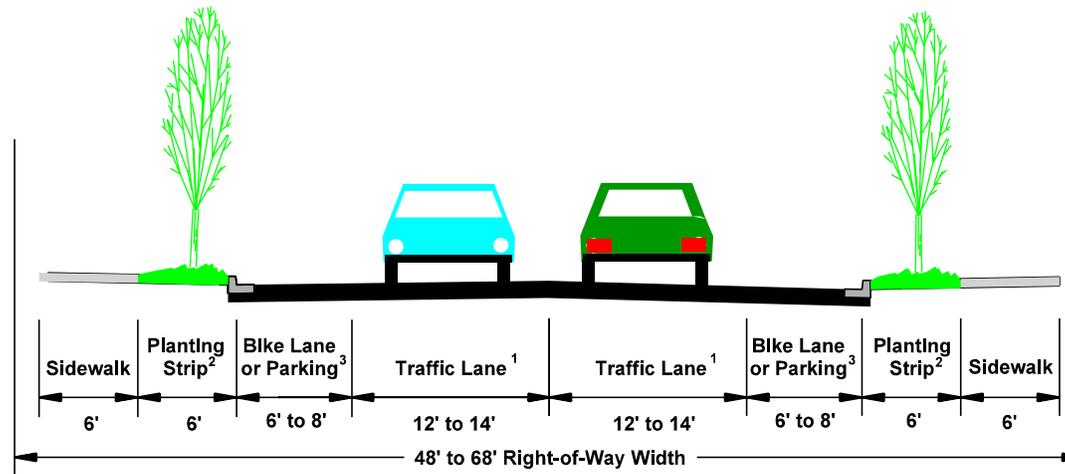
Local Capacity Improvements. Table 5-5 presents the capacity and widening improvements that are recommended for local facilities in Garibaldi. The projects are numbered and shown in Figure 5-1.

TABLE 5-5
Capacity and Widening Improvements on Local Facilities

| Project Number | Location and Description | Estimated Cost | Priority (years) |
|----------------|---|----------------|------------------|
| 1 | Acquire South 3rd Street, upgrade to amended city standards, reconstruct road to remove sharp turns. Provide for shared vehicle/bike use, construct sidewalk. Overlay roadway. | \$250,000 | 0-5 |
| 2 | Acacia Avenue between 8th and 7th Streets | \$160,000 | 5-10 |
| 3 | Driftwood Avenue between 5th and 4th Streets | \$410,000 | 10+ |
| 4 | Provide new access into the port near 2nd Street. Requires agreements with future private development. Connect with South American Avenue. Close 3rd Street access. Provide safety measures at the railroad crossing. | \$870,000 | 10+ |



2-Lane Arterial Road



Collector Road

Notes:

¹ Where parking is constructed next to a travel lane, the travel lane width shall be increased to 14' to function as a shared roadway and accommodate bikes.

² Optional Feature

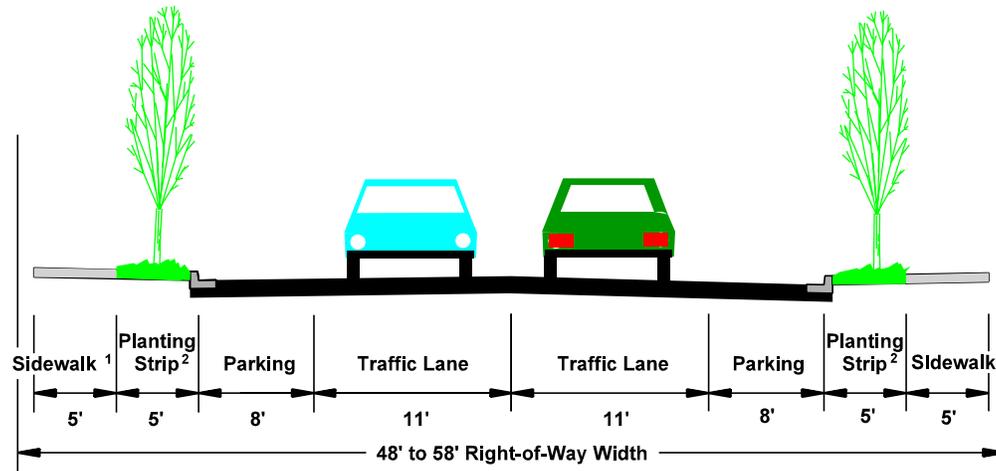
³ Width for parking shall be 8' wide. Width for bike lane shall be 6' wide.

DRAFT - Figure 5-3

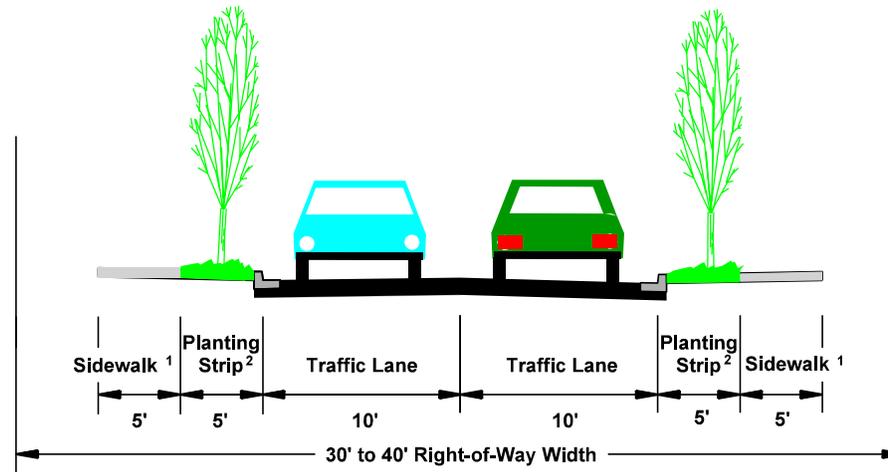
Roadway Cross Sections

Garibaldi Transportation System Plan

Coltrane/istockphoto/istockphoto



Local Road



Alternative Local Road Standard ³

Notes:

¹ If sidewalks are not provided, 5' shoulders are required.

² Optional Feature

³ The alternative local road standard may be used when approved by the City of Garibaldi. The standard is intended to apply under the following circumstances:

1. The local road will serve 18 or fewer dwelling units upon buildout of adjacent property.
2. The ADT volume of the road is less than 250 vehicles/day.
3. Significant topographical or environmental constraints are present.
4. Use of the alternative local road standard will not create gaps in connectivity or roadway standards with adjacent roadway sections (i.e. sidewalk, parking, travel lane widths).
5. The City Engineer and Emergency Service Providers have reviewed and accepted usage of the alternative local roadway standard.

DRAFT - Figure 5-4
Roadway Cross Sections
Garibaldi Transportation System Plan

Local Safety Improvements. Table 5-6 presents the safety improvements recommended for local facilities in Garibaldi. The projects are numbered and shown in Figure 5-1.

TABLE 5-6
Recommended Safety Improvements on Local Facilities

| Project Number | Location and Description | Estimated Cost | Priority (years) |
|----------------|--|----------------|------------------|
| 1 | Provide automated safety measures at the 3rd Street railroad crossing (that is, gates or lights) | \$250,000 | 0-5 |

If the 2nd Street access project listed above in the U.S. 101 access management section is advanced to an earlier year and the 3rd Street is closed to through traffic, then this project should be removed from consideration.

Parking Improvements. Table 5-7 presents the parking improvements that are recommended for Garibaldi.

TABLE 5-7
Parking Project Evaluation Summary

| Project Number | Location and Description | Estimated Cost | Priority (Years) |
|----------------|--|---------------------|------------------|
| 1 | Install temporary parking advisory variable message signs | \$75,000 | 0-5 |
| 2 | Conduct feasibility study on using business parking during peak periods | - | 0-5 |
| 3 | Pave existing city parking lots and install signs to increase visibility. Locations: 6th Street and U.S. 101, and 10th Street and U.S. 101 | \$10,000 - \$50,000 | 0-5 |
| 4 | Rechannelize the parking lot and provide curbing around the parking area along South 7th Street | \$40,000 | 0-5 |
| 5 | Upgrade and pave existing parking lots in the Port of Garibaldi area. Improve signing. | \$10,000 - \$50,000 | 0-5 |
| 6 | Use the ODFW parking lot as a spillover lot for the port, connect with the Bayshore Trail improvements. Signing is required. | \$5,000 | 0-5 |
| 7 | Dedicate an existing parking lot exclusively for large (recreational) vehicles | \$15,000 | 0-5 |

ODFW = Oregon Department of Fish and Wildlife.

Pedestrian System

Pedestrian activity in Garibaldi is generally concentrated in the downtown, the residential area north of downtown and the Port of Garibaldi area. The city's scenic character also promotes pedestrian activity around recreational features, such as the Bayshore Trail. The focus of the Pedestrian System Plan is to improve connections in the community and enhance pedestrian access to Garibaldi's recreational features.

Providing a connected network of pedestrian facilities in Garibaldi is important for:

- Serving shorter pedestrian trips from neighborhoods to area recreational and activity centers, such as schools
- Providing access to public transit
- Meeting residents' and visitors' recreational needs
- Providing circulation in the downtown

To meet specific goals and objectives identified in this TSP, the City of Garibaldi will encourage walking as a means of transportation by addressing the following:

- **Connectivity.** The city will work to develop a connected network of pedestrian facilities. Connected networks are important to provide continuity between communities and to improve safety.
- **Safety.** The city will work to provide a secure walking environment. For residents to use the pedestrian system, it must be perceived as safe.
- **Design.** The city can ensure pedestrian-oriented urban design by adopting policies and development standards that integrate pedestrian scale, facilities, access and circulation into the design of residential, commercial and industrial projects.

The Garibaldi Pedestrian System Plan identifies system and facility improvements that will contribute to a safe and well-connected pedestrian environment. As a result, it will promote walking as a viable transportation alternative.

Pedestrian Facility Improvements

The Garibaldi pedestrian system is comprehensive in relatively few areas of the city and is lacking in most of the city. Gaps in connectivity exist in the residential areas. In general, the high number of private accesses and conflict opportunities are a barrier to continuous, connected pedestrian facilities in certain areas of Garibaldi. ADA compliance is also an important component of the Garibaldi TSP.

Table 5-8 displays the recommended pedestrian facility improvements along existing streets and roads for the next 20 years. The locations of these projects are shown in Figure 5-5.

TABLE 5-8
Pedestrian System Improvements

| Project Number | Location and Description | Estimated Cost | Priority (years) |
|----------------|---|----------------|------------------|
| 1 | Widen 6th Street between Evergreen Avenue and U.S. 101 to provide for shared vehicle/bike lane, construct sidewalk, overlay roadway | \$210,000 | 0-5 |
| 2 | Construct a pedestrian gateway between U.S. 101 and the Port of Garibaldi at 6th Street across the railroad tracks | \$50,000 | 0-5 |
| 3 | Construct bulb-outs along U.S. 101 at the 5th and 4th Street intersection | \$50,000 | 0-5 |
| 4 | Stripe crosswalks along South Biak Avenue at 7th and 6th Streets | \$15,000 | 0-5 |

TABLE 5-8
Pedestrian System Improvements

| Project Number | Location and Description | Estimated Cost | Priority (years) |
|-----------------------|--|-----------------------|-------------------------|
| 5 | Construct sidewalk along South 7th Street, between U.S. 101 and south of railroad tracks (connect with existing sidewalk) | \$30,000 | 0-5 |
| 6 | Provide crosswalks along South American Avenue at South 7th Street and at South 6th Street | \$15,000 | 0-5 |
| 7 | Designate Bay Lane as a bike lane on the Bayshore Trail and provide adequate signing at the railroad crossings. Provide 6-foot-wide bike path from 10th Street (approximately trail location after railroad crossing to Bay Lane). Reconstruct crossings for continuous trail without steps. | \$75,000 | 0-5 |
| 8 | Construct physical barrier along railroad tracks at 7th and 3rd Streets, allow access only at pedestrian gateway | \$75,000 | 0-5 |
| 9 | Widen 3rd Street between Evergreen Avenue and U.S. 101 to provide shared vehicle/bike lane and construct sidewalk | \$300,000 | 5-10 |
| 10 | Widen Cypress Avenue between 6th Street and 3rd Street to provide a shared vehicle/bike lane. Construct sidewalk and ADA ramps. Stripe crosswalk approaches at Cypress Avenue and 6th Street. Overlay roadway. | \$210,000 | 5-10 |
| 11 | Construct ADA-compliant ramps on U.S. 101 in the downtown area (8th, 7th, 6th, 5th, 4th, 3rd Streets) | \$20,000 | 5-10 |
| 12 | Construct ADA-compliant ramps South American Avenue at South 6th Street and South 7th Street | \$15,000 | 5-10 |
| 13 | Widen South 7th Street 6 feet to provide an adequate striped walkway for pedestrians/bicyclists. Use thermoplastic markings to enhance and provide longevity. ¹ | \$175,000 | 5-10 |
| 14 | Widen South American Avenue 6 feet to provide an adequate striped walkway for pedestrians/bicyclists, construct sidewalk and provide ADA-compliant ramps at 6th and 7th Street intersections. Use thermoplastic markings to enhance and provide longevity. ¹ | \$100,000 | 5-10 |
| 15 | Expand curbside sidewalks in the Port of Garibaldi | \$75,000 | 10+ |
| 16 | Provide additional street lighting and retrofit to a decorative style in the Port of Garibaldi area | \$100,000 | 10+ |
| 17 | Construct sidewalk along South Commercial Avenue | \$100,000 | 10+ |
| 18 | Construct sidewalk along U.S. 101 in the downtown area (north side where missing) | \$500,000 | 10+ |
| 19 | Construct sidewalk along U.S. 101 in the downtown area (south side where missing) | \$330,000 | 10+ |
| 20 | Extend the current bike trail east into the Old Mill property. (Cost is to conduct the study.) | \$50,000 | 10+ |

¹ Project is a joint pedestrian/bicycle improvement and appears on Table 5-10, as well. The cost should only be accounted for in one table only.

Sidewalks

Existing sidewalks generally are located in the downtown area and the Port of Garibaldi area. Rather than sidewalks, many local streets have only footpaths alongside roadways that indicate pedestrian use. Sidewalk condition varies in Garibaldi with the port area exhibiting good condition while most other areas are fair to poor. In most areas, the sidewalk is intermittent and does not comply with ADA ramping and width requirements.

To provide a network of safe and connected facilities that will promote a balanced transportation system, sidewalk improvements have been identified. Particular focus is placed on increasing pedestrian safety by installing new sidewalks in areas frequently used by pedestrians. Where sidewalks do not exist and where it is not feasible to build them, shoulder widening is recommended.

Crosswalks

To assist pedestrians in crossing busy roadways and improve pedestrian safety, marked crosswalks and pedestrian warning signage should be installed at several locations, including near the elementary school, along U.S. 101 and the Port of Garibaldi area.

Signage and Other Pedestrian Facilities

To improve the safety and visibility of the Bayshore Trail, and better connect foot traffic to it, new identification signage and pedestrian facilities, such as restrooms, lighting, and trash receptacles, are recommended.

The estimated costs for sidewalk improvements is for both sides of the street. It is expected that with limited funds, the sidewalk projects may be phased over time and start with construction of sidewalks on one side only. This would reduce costs dramatically as right-of-way impacts could be significantly or altogether avoided.

Pedestrian Standards and Policies

To enhance pedestrian safety, circulation connectivity and to comply with the TPR, several changes have been proposed to the city's Planning and Zoning Ordinance. Much of the pending language for inclusion in the Planning and Zoning Ordinance that supports pedestrian safety and circulation (such as access management and access spacing) has been recommended for adoption. The proposed changes also address pedestrian access, requiring construction of pathways when street connections are not feasible. The new street cross sections, recommended for adoption into the city's Standards and Specifications Manual, reflect new street design standards, which require sidewalks along all new arterials and collectors as well as along new local streets. Optional planting strips can serve to buffer pedestrians from automobile traffic. These new standards and policies encourage pedestrian trips because they facilitate safe, direct and convenient access to local destinations. See Section 7 for detailed information on recommended amendments to the city's ordinances.

Bicycle System

Bicycle travel offers commuters, children and others a significant option for transportation and is a valid transportation choice for people who do not own vehicles. Cycling is also an important recreational option, especially in scenic areas of Oregon, such as Garibaldi.

This Bicycle System Plan establishes a network of bicycle lanes and routes throughout Garibaldi to connect trip generators and provide a safe, interconnected bicycle system. While all roadways and streets can be used as bikeways, designated routes along bicycle streets and roads and/or separated bicycle lanes on busy streets can improve safety as well as increase bicycle use.

Bicycle Facility Improvements

Figure 5-6 is a map that illustrates the recommended bicycle plan for Garibaldi. It includes shared roadways, shoulder bikeways, bicycle lanes and designated bike routes. Table 5-9 presents Garibaldi's designated bicycle routes by their corresponding project number in Figure 5-6 and labels them as city or state facilities.

TABLE 5-9
Garibaldi Designated Bicycle Routes

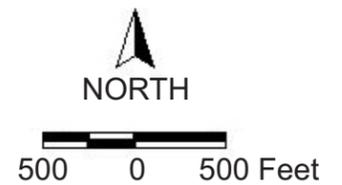
| Project Number | Bike Facility Name | Between | | Management |
|-----------------------|---------------------------|----------------------|-----------------------|-------------------------------------|
| 1 | U.S. 101 | Northern city limits | Southern city limits | Oregon Department of Transportation |
| 2 | South American Avenue | South 3rd Street | South 7th Street | City |
| 3 | South 7th Street | U.S. 101 | Bayshore Trail | City |
| 4 | 6th Street | Evergreen Avenue | U.S. 101 | City |
| 5 | 3rd Street | Evergreen Avenue | South American Avenue | City |
| 6 | Cypress Avenue | 3rd Street | 6th Street | City |
| 7 | Bay Lane | 10th Street | ODFW | City |
| 8 | Bayshore Trail | 10th Street | 7th Street | City |
| 9 | Bayshore Trail Extension | South 3rd Street | Old Mill property | City |

**City of
GARIBALDI**

CH2MHILL

LEGEND

-  Bicycle/Trail Improvements
-  Sidewalk/Shoulder Improvements (ROW Widening in Some Cases)
-  Crosswalks/Intersections Improvements
-  Road
-  Railroad
-  School
-  Park
-  City Limit
-  Urban Growth Boundary



**Figure 5-5
Pedestrian Improvements**
Transportation System Plan
Garibaldi, OR

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City of GARIBALDI

CH2MHILL

LEGEND

-  City Bicycle Route
-  State Bicycle Route
-  Road
-  Railroad
-  School
-  Park
-  City Limit
-  Urban Growth Boundary

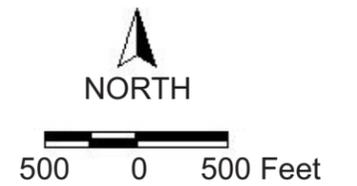
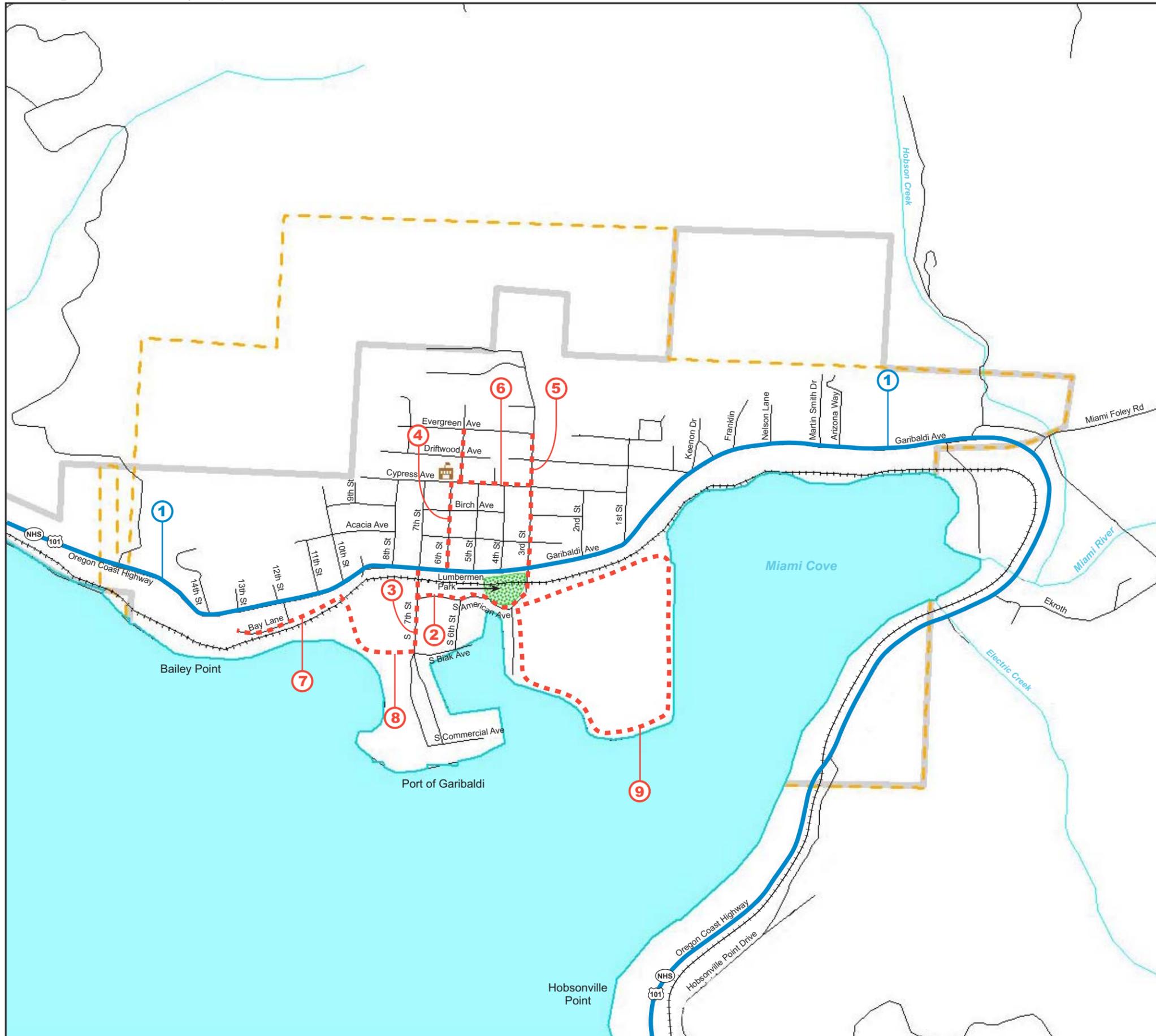


Figure 5-6
Bicycle Routes
Transportation System Plan
Garibaldi, OR



Back

The Oregon Coast Bike Route passes through Garibaldi on U.S. 101. The Oregon Coast Bike Route uses marked bike lanes or shoulders that are 3 feet wide or wider and are marked with signage.

The remainder of the Garibaldi bicycle system generally consists of either shared roadways (particularly on local roads) or shoulder bikeways and is characterized by good pavement condition. Aside from the Oregon Coast Bike Route, most bikeways are not marked with bicycle signage. The bicycle system lacks facilities in Garibaldi. The current designated roads, South American Avenue and South 7th Street, are characterized by a relatively high number of vehicle access points, small travel width and a multitude of various vehicles types, which can cause barriers or hazards for bicyclists.

Bikeway and Trail Improvements

To promote safe and convenient bicycle links between commercial, recreational and other land uses, improvements to the bicycle system have been identified. Further, to better connect bicycle traffic with popular recreational areas such as the Old Mill and Garibaldi Fishing Pier, a bicycle trail between these two points has been identified as a high priority project. This project would require a further study to investigate the feasibility of extending the Bayshore Trail into the Old Mill property.

Signage

To promote safety and awareness of bicyclists where they share facilities with pedestrian and vehicular traffic, designation signage is recommended along U.S. 101.

Bicycle Parking

To comply with the standards stated in the OBPP, bicycle parking will be installed at community activity centers, such as the transit center, Lumberman's Park, Port of Garibaldi and Garibaldi Fishing Pier.

Projects

Table 5-10 presents the recommended bicycle route improvements required during the next 20 years.

TABLE 5-10
Bicycle System Improvements

| Project Number | Location and Description | Est. Cost | Priority |
|----------------|---|-----------|----------|
| 1 | Widen 6th Street between Evergreen Avenue and U.S. 101 to provide for shared vehicle/bike lane, construct sidewalk, overlay roadway | 1 | 0-5 |
| 2 | Widen South 7th Street 6 feet to provide an adequate striped walkway for pedestrians/bicyclists. Use thermoplastic markings to enhance and provide longevity. | 1 | 5-10 |

TABLE 5-10
Bicycle System Improvements

| Project Number | Location and Description | Est. Cost | Priority |
|-----------------------|--|------------------|-----------------|
| 3 | Widen South American Avenue 6 feet to provide an adequate striped walkway for pedestrians/bicyclists, construct sidewalk and provide ADA-compliant ramps at 6th and 7th Street intersections. Use thermoplastic markings to enhance and provide longevity. | 1 | 5-10 |
| 4 | Designate Bay Lane as a bike lane on the Bayshore Trail and provide adequate signing at the railroad crossings. Provide 6-foot-wide bike path from 10th Street (approximately trail location after railroad crossing to Bay Lane). Reconstruct crossings for continuous trail without steps. | 1 | 5-10 |
| 5 | Widen 3rd Street between Evergreen Avenue and U.S. 101 to provide shared vehicle/bike lane and construct sidewalk | 1 | 5-10 |
| 6 | Widen Cypress Avenue between 6th Street and 3rd Street to provide a shared vehicle/bike lane. Construct sidewalk and ADA ramps. Stripe crosswalk approaches at Cypress Avenue and 6th Street. Overlay roadway. | 1 | 5-10 |
| 7 | Extend the current bike trail east into the Old Mill property. Requires additional study. Cost is to conduct the feasibility study. | 1 | 10+ |

¹ Project is a joint pedestrian/bicycle improvement and appears on Table 5-8. The cost should only be accounted for in one table only.

Bicycle Standards and Policies

To enhance bicycle safety, circulation, and connectivity to comply with the TPR, several changes have been proposed to the city's Planning and Zoning Ordinance. Recommendations have been made to include bicycle parking standards in the Planning and Zoning Ordinance, and to adopt new cross sections. The new street cross sections, recommended for adoption into the city's Standards and Specifications Manual, reflect new street design standards, which require bikeways on all arterials and collectors (that meet a certain traffic threshold) constructed in the city. The proposed changes also address bicycle access and circulation, requiring construction of multi-use pathways when street connections are not feasible. These new standards and policies encourage bicycle trips because they facilitate direct, safe and convenient access to local destinations. See Section 7 for detailed information on recommended amendments to the city's ordinances.

Public Transportation System

TCTD has outlined opportunities to improve public transportation services it offers in Tillamook County. However, no immediate needs specific to Garibaldi have been identified through TCTD or interaction with the PMT and PAC. The following transit issues should be addressed at a county level:

- Transit pull-outs on state and county facilities

- Coordination between TCTD, ODOT and Tillamook County to explore the need for implementing TDM measures, such as carpooling and vanpooling in the county
- Improve connections with other service providers (SETD, Greyhound)
- Construct park and ride facilities (TCTD's headquarters)
- Expand services to each of these communities: Manzanita, Bayside Gardens, Nehalem, Wheeler, Oceanside and Pacific City
- Advertise and promote TCTD services
- Form a Citizen Advisory Committee to develop a public transportation program

In addition, the following opportunities also should be explored:

- Transit amenities, including covered benches and shelters, signage, bicycle racks and concrete landing pads, should be considered for stops with high ridership in Garibaldi. These amenities would make the system more visible to potential users and possibly attract new riders. Also, as mentioned previously, all transit stops should be accessible to all potential riders per ADA standards. Improvements to existing sections of sidewalk and construction of additional sidewalk would connect the public transportation system with the pedestrian and bicycle network in Garibaldi.
- As discussed in Section 4 of this document, the railroad crossing near Hobsonville Point Drive on U.S. 101 has been identified as a hazardous location for public transportation providers. In Oregon, buses are required to stop at all railroad crossings without safety features (such as gates/arms). Constructing a bus pullout at this location was evaluated as a project in the Garibaldi TSP. Because of safety concerns, right-of-way impacts, and environmental impacts, this project is not recommended. However, a recommendation has been included in the Garibaldi TSP to investigate the potential use of ITS technology in this location as a low cost alternative to a bus pullout. ITS technology could be used to allow drivers to activate an advanced warning sign to alert drivers that a bus is stopped ahead.

Rail System

In Garibaldi, the Port of Tillamook Bay rail system parallels U.S. 101. There are two existing at-grade crossings that are used by vehicles: South 7th Street and South 3rd Street. To improve safety at the South 3rd Street crossing, safety measures (warning gates, flashers, signage and striping) are recommended in the Garibaldi TSP.

Under existing conditions, trains are allowed to block both the South 3rd Street and South 7th Street crossings for up to 10 minutes. This issue has been identified by the PAC and PMT as a safety concern in terms of emergency vehicle access. A policy change that would restrict blocking both crossings is recommended to ensure that emergency vehicles are able to cross the railroad tracks at all times.

In addition to the two vehicle crossing points along the Port of Tillamook Bay rail system, there are currently numerous pedestrian crossing points. To improve pedestrian safety and

accommodate higher travel speeds on the Port of Tillamook Bay rail system, construction of a pedestrian gateway near 6th Street is recommended. Restricting pedestrian crossings of the Port of Tillamook Bay rail system to 3rd Street, the pedestrian gateway near 6th Street and 7th Street is recommended.

Water System

Port of Garibaldi

The Port of Garibaldi currently serves the fishing industry, including both recreational and commercial fishermen. Under existing conditions, the parking facilities at the two Garibaldi boat launches are not adequate for the peak demand. The city expects an increase in tourism and demand for parking near the boat launches during the next 20 years. Therefore, Table 5-7 includes several parking projects to address parking demand and deficiencies in Garibaldi, including the Port of Garibaldi area. Projects that are included in the Garibaldi TSP for the downtown area that affect the Port of Garibaldi include the installation of variable message signs to inform drivers of parking availability and location, and additional parking capacity in the downtown area. In addition, projects are included for the Port of Garibaldi parking areas, including rechannelization of parking in the Port of Garibaldi area, upgrade of existing lots, improved signing and dedication of a truck/recreational vehicle parking lot.

The Port of Garibaldi supports improving both of the existing entries on South 7th Street and South 3rd Street. In the Garibaldi TSP, an improved entry at South 7th Street has been included as a project. Because of significant impacts to surrounding property owners, improving access at South 3rd Street is most likely not feasible. However, the Garibaldi TSP includes a project to provide improved access into the Port of Garibaldi near 2nd Street.

The Port of Garibaldi is currently inactive in terms of water freight traffic (for example, barge traffic). This is partly a result of gradual sedimentation in the bay, which has reduced the water depth below a point that makes such traffic feasible. As suggested by the Technical Advisory Committee (TAC) for the Tillamook County TSP, Tillamook County is interested in investigating the possibility of barging logs or other material to the Port of Garibaldi. Therefore, Tillamook County supports maintenance of the entry jetties and authorized navigation channel in the Port of Tillamook Bay to make such activities feasible. Maintenance activities in the Port of Tillamook Bay, including dredging the channel and maintaining the entry jetties, would have environmental impacts and require funding.

Transportation Funding Plan

This section summarizes funding sources available to City of Garibaldi to establish a transportation investment baseline for maintenance and capital improvement projects in the TSP. Existing local, state and federal funding sources are described. Potential future funding sources for projects included in the TSP also are discussed.

Existing City Funding Sources

Table 6-1 summarizes city revenues and expenditures for transportation improvements during the past 5 fiscal years, as well as the projected budgets for 2 years (1997 through 2004). As shown in Table 6-1, the city's primary source of transportation revenue is state gas tax revenue, which represents approximately 90 percent of its total transportation funds. Table 6-1 also illustrates that approximately 90 percent of local transportation funds were spent on street improvements, with the remaining 10 percent spent on equipment. Although not shown on Table 6-1, the City of Garibaldi also spends transportation funds on engineering and system replacements. As is evident from Table 6-1, transportation funding has been variable and is projected to decline up to year 2004.

State Funding Sources

In Oregon, the Statewide Transportation Improvement Program (STIP) provides funding for capital improvements on federal, state, county and city transportation systems. Within the STIP, which is updated every 2 years, funds are allocated for multimodal projects, including roadway, public transportation, bicycle and pedestrian, air, freight and bridge projects. Each STIP lists projects that are planned for construction during a 4-year period. Projects that are included in the STIP are regionally significant, because they have been given a high priority through planning efforts.

Transportation projects in the STIP generally are categorized in the following manner:

Modernization Projects: Improvements to accommodate existing traffic and/or projected traffic growth. These include:

- Addition of lanes: High-occupancy vehicle (HOV) lanes, new alignments, and new facilities (bypasses)
- Highway reconstruction with major alignment improvements or major widening
- Grade separations
- Widening of bridges to add travel lanes
- Immediate Opportunity Fund (IOF) projects
- New safety rest areas

TABLE 6-1

City of Garibaldi Sources of Transportation Funds
Fiscal Years 1997/1998 to 2003/2004

| | 1997/1998 Actual | 1998/1999 Actual | 1999/2000 Actual | 2000/2001 Actual | 2001/2002 Actual | 2002/2003 Projected | 2003/2004 Projected |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|
| Beginning Cash Balance | \$55,786 | \$49,235 | \$57,930 | \$66,555 | \$75,237 | \$60,000 | \$50,000 |
| Revenue Sources | | | | | | | |
| State Gas Tax Revenue | \$41,767 | \$43,140 | \$43,285 | \$42,288 | \$37,212 | \$33,669 | \$28,618 |
| Miscellaneous Revenue | \$648 | \$1,220 | \$4,772 | \$374 | \$2,824 | \$2,825 | \$1,000 |
| Interest | \$2,818 | \$2,468 | \$3,258 | \$4,014 | \$1,266 | \$492 | \$787 |
| Total Revenue | \$45,233 | \$46,828 | \$51,315 | \$46,676 | \$41,302 | \$36,986 | \$30,405 |
| Expenditures | | | | | | | |
| Street Construction/ Reconstruction | \$11,720 | \$8,882 | \$15,164 | \$7,729 | \$5,451 | \$30,000 | \$10,000 |
| Equipment | \$5,368 | | | \$2,083 | \$637 | \$1,100 | \$1,000 |
| Total Expenditures | \$17,088 | \$8,882 | \$15,164 | \$9,812 | \$6,088 | \$31,100 | \$11,000 |

Safety Projects: An investment program focused on improvements to address priority hazardous highway locations and corridors, including the interstate, to reduce the number of fatal and serious injury crashes. Projects funded through this program meet strict benefit/cost criteria. They include:

- Capital improvements, such as passing lanes, turn lanes and wider shoulders
- Access management
- New guardrails
- Illumination, delineation or signing
- Channelization in the existing roadway at intersections
- Continuous shoulder rumble strips
- Enforcement of traffic laws
- Railroad crossing improvements (separate funding source)

Pavement Preservation: Improvements to rebuild or extend the service life of existing facilities, and rehabilitative work on roadways. Preservation projects add useful life to the road without increasing the capacity. They include:

- Pavement overlays (includes minor safety and bridge improvements)
- Interstate Maintenance (IM) Program (pavement preservation projects on the interstate system)
- Reconstruction to re-establish an existing roadway
- Resurfacing projects

Bridge Projects: Improvements to rebuild or extend the service life of existing bridges and structures beyond the scope of routine maintenance. They include:

- Rehabilitation, replacement, major repair, major maintenance
- Overpass screening
- Tunnels
- Large (more than 6-foot-wide) culverts

Operations: System management and improvements that lead to more efficient and safer traffic operations and greater system reliability. They include:

- Signals and signs, illumination, and other operational improvements
- Rockfalls and slides (chronic rockfall areas and slides; not emergency repair work)
- ITS (includes ramp metering, incident management, emergency response, traffic management operations centers, and mountain pass and urban traffic cameras)
- Slow-moving-vehicle turnouts, traffic circles or roundabouts
- TDM (includes rideshare, vanpool, and park and ride programs)

Oregon Transportation Investment Act

The Oregon Transportation Investment Act (OTIA) was passed by the 2001 Oregon legislature and is funded through bond proceeds derived from increased Department of Motor Vehicle fees. OTIA currently provides \$650 million (including \$150 million local matching funds) for 173 construction projects that will improve pavement conditions, increase lane capacity, and improve bridges throughout Oregon. Projects were selected with extensive input from local communities and other stakeholders. In 2002, the Oregon Transportation Commission allocated these funds for modernization, preservation and bridge projects throughout the State.

State-Funded Projects in Garibaldi

No projects in the 2002-2005 STIP, 2004-2007 Draft STIP or OTIA program are within the Garibaldi city limits.

Transportation System Plan Financing

Overall, the TSP contains more than \$X million in multimodal transportation improvements during the next 20 years, with the biggest improvements occurring on the primary state facilities serving the City of Garibaldi. This plan assumes that existing revenues and expenditures for transportation maintenance and capital improvements during the next 20 years will remain stable. As a result, the city likely will need a combination of state and/or federal assistance in addition to additional local revenue to address funding needs. Table 6-2 summarizes timing and costs for projects listed in Section 5 under the categories of modernization, safety and pedestrian/bicycle.

TABLE 6-2
Transportation System Plan Improvements Costs

| Type of Improvement | Priority | | | | Total |
|---------------------------|----------|------|-------|-------|-------|
| | 1-5 | 6-10 | 11-15 | 16-20 | |
| State Capacity | \$X | \$X | \$X | \$X | \$X |
| State Safety | \$X | \$X | \$X | \$X | \$X |
| Local Widening and Safety | \$X | \$X | \$X | \$X | \$X |
| State Bike and Pedestrian | \$X | \$X | \$X | \$X | \$X |
| Local Bike and Pedestrian | \$X | \$X | \$X | \$X | \$X |

Potential Future Funding Sources

U.S. Department of Transportation TEA-21 Reauthorization

The 2004 budget lays the groundwork for a \$247 billion, 6-year reauthorization proposal, compared with TEA-21's current funding level of \$218 billion. Of the proposed total, \$195 billion would fund the highway program (up from \$168 billion) for 6 years, and \$45 billion would fund the transit program (up from \$41 billion). Federal funding typically is distributed through the state.

U.S. Department of Homeland Security

Several agencies formerly under the U.S. Department of Transportation now reside in the U.S. Department of Homeland Security (DHS). Based on spending by various agencies and offices that have moved to DHS, proposed funding for the \$36 billion agency represents a 64 percent increase. The DHS's focus is on reducing the nation's vulnerability to terrorism, and minimizing the damage and recovering from attacks that may occur. Funding for projects that involve military operations and lifeline routes should be pursued through the DHS.

ODOT Bicycle and Pedestrian Program

The state-funded Bicycle and Pedestrian Program distributes approximately \$3 million. Many of the pedestrian and bicycle projects included in the TSP would be eligible for funding through this program. Therefore, the city should consider applying for these funds for pedestrian and bicycle projects included in the TSP.

System Development Charges

System Development Charges (SDC) create a mechanism for development to pay for transportation improvements necessary to support trips generated by development. SDCs are used in many cities and counties in Oregon and generally are based on the number of vehicle trips generated by the development.

Local Gas Tax

Garibaldi currently receives a portion of state gas taxes. However, the city could implement an additional local gas tax to increase revenue and fund transportation related improvements at the two local gas stations within the city limits. Local gas taxes currently are being used by several Oregon counties and cities, including the City of Tillamook, to fund transportation projects.

Road Pricing

As described in this TSP, tourism accounts for major increases in traffic volumes on state facilities in Garibaldi and Tillamook County. In coordination with the state, Tillamook County could employ some form of tolling to support transportation-related improvements.

Revenue and General Obligation Bonds

Revenue bonds are sold by government agencies and repaid by user charges. Typically, the bonds are secured by a stable revenue stream, such as a local gas tax, street utility fee, or toll.

Similarly, general obligation bonds serve the same purpose, however, they are secured by the full faith and credit of the issuing municipality. Such bonds are authorized by vote. Revenue bonds also can be issued with this backing.

Property Tax

The city could fund additional improvements through an increase in local property taxes.

Street Utility Fees

A street utility fee could be implemented by the city, which could assess a fee to businesses and households for use of streets based on the traffic generated by a particular use or charge a flat fee to each resident. Street utility fees generally are collected for maintenance purposes. Street utility fees are currently used by Oregon cities to fund transportation projects, including La Grande and Medford.

Special Assessment/Local Improvement Districts

Special assessments are fees paid by property owners to fund local neighborhood facilities or services. These types of fees generally are collected for maintenance or street paving purposes. Special assessments are justified by demonstrating that maintenance or public works services enhance the value of a property and provide benefits to the owner. Local improvement districts (LID) are established by local governments to administer or levy special assessments.

Parking Fees

Parking fees could be implemented in the downtown or Port of Garibaldi areas to generate revenue for transportation-related improvements.

Transient Room Tax

The City of Garibaldi currently receives transient room tax (TRT) from local motels and RV parks. However, the TRT funds are currently not used for transportation related improvements. The TRT ordinance for Garibaldi indicates that TRT funds can be spent on street, parking, or other public works improvements. Therefore, the City of Garibaldi could apply some of this revenue to transportation related improvements. TRT revenue varies from year to year, as it depends upon tourism.

Franchise Fees

The City of Garibaldi currently receives between \$40,000 to \$50,000 each year through franchise fees. These fees currently go the General Fund for the city and are not used for transportation related improvements. Some cities have dedicated their franchise fees to the Street Fund, on the premise that a franchise fee is paid for use of city owned right-of-way.

Serial Levy

The City of Garibaldi has proposed serial levies during two previous elections. However, both levies were defeated by voters. Serial levy taxes, a type of local option tax, can be implemented for general operations, a specific purpose, or capital projects.

SECTION 7

Transportation Planning Rule Consistency (OAR 660.012-0045)

In April 1991, the Land Conservation and Development Commission (LCDC), with the concurrence of ODOT, adopted the TPR, OAR 660 Division 12. Table 7-1 lists recommendations (designated by italics) and requirements for a TSP and how each of these are addressed in the City of Garibaldi TSP. The comparison demonstrates that the City of Garibaldi TSP is in compliance with the provision of the TPR.

INSERT TABLE NUMBERS WHERE APPROPRIATE BELOW

TABLE 7-1
TPR Requirements for a Transportation System Plan

| TPR Requirements | City of Garibaldi TSP Compliance |
|--|---|
| OAR 660-012-0015: Preparation and Coordination of the TSPs | |
| <p>(3) Preparation, adoption, and amendment of Local TSPs</p> <p>(a) Local TSPs shall establish a system of transportation facilities and services adequate to meet identified local transportation needs and shall be consistent with adopted elements of regional and state TSPs.</p> <p>(b) Coordinate the preparation of the local TSP to assure regional and state transportation needs are met.</p> <p>(4) Cities shall adopt regional and local TSPs as part of their comprehensive plan.</p> <p>(5) TSPs preparation shall be coordinated with affected state, federal, and regional agencies; local governments; special districts; and private providers of transportation services.</p> | <p>Section 2 and Section 3 document the city's existing and future local transportation needs. Section 5 contains the city's TSP and provides a system of transportation facilities and services to meet these needs. These sections have been prepared in accordance with the Oregon TPR and the Oregon Highway Plan (OHP).</p> <p>All state transportation needs were considered in the development of the City of Garibaldi TSP throughout the use of the Project Management Team (PMT) and various coordination meetings with affected organizations and agencies.</p> <p>The city will adopt this TSP as part of its comprehensive plan.</p> <p>To ensure that the City of Garibaldi TSP would be consistent with the policies, goals, and needs of affected agencies, a PMT was established at the outset of the planning process. The PMT was made up of public representatives from the city, Tillamook County, Oregon Department of Transportation and Department of Land Conservation and Development.</p> |
| OAR 660-012-0020: Elements of Transportation System Plans | |
| <p>(1) Establish a coordinated network of facilities to serve state, regional, and local transportation needs.</p> <p>(2) The TSP shall include the following elements:</p> | <p>All planned transportation facilities were coordinated with the identified needs of state and local agencies.</p> |

TABLE 7-1
TPR Requirements for a Transportation System Plan

| TPR Requirements | City of Garibaldi TSP Compliance |
|---|---|
| <p>(a) Determination of transportation needs per OAR 660-012-0030.</p> <p>(b) A road plan for a system of arterials and collectors and standards for the layout of local streets and connections.</p> <p>(c) A public transportation plan.</p> <p>(d) A bicycle and pedestrian plan consistent with ORS 365.514.</p> <p>(e) An air, rail, water, and pipeline plan that identifies public use airports, mainline and branchline railroads, port facilities, and major regional pipelines and terminals.</p> <p>(h) Policies and land use regulation for TSP implementation per OAR 660-012-0045.</p> <p>(i) or areas within an urban growth boundary containing a population of 2500 or more , a transportation financing program as provided in OAR660-12-0040</p> <p>(3) Each element identified in (2)(b)-(d) shall contain:</p> <p>(a) An inventory and assessment of existing and committed facilities and services by function, type, capacity, and condition.</p> <p>(b) A system of planned facilities, services, and major improvements.</p> <p>(c) A description of planned facilities, services, and major improvements including a map showing general location of proposed improvements, minimum and maximum right-of-way widths, and a description of facility or service.</p> <p>(d) Identification of the provider of each facility or service.</p> | <p>The City of Garibaldi’s 20-year transportation needs are documented in Section 3.</p> <p>The City of Garibaldi roadway plan is documented in Section 5.</p> <p>The City of Garibaldi public transportation plan is documented in Section 5.</p> <p>The City of Garibaldi pedestrian and bicycle plan is documented in Section 5.</p> <p>The air, rail, water and pipeline system plans are documented in Section 3 and Section 5.</p> <p>These will be part of the Ordinance Modification memorandum.</p> <p>The transportation financing program is described in Section 6.</p> <p>An inventory of Garibaldi’s existing transportation facilities is documented in Section 2.</p> <p>A system of planned facilities, services and major improvements is documented in Section 5.</p> <p>Section 5 contains a description of Garibaldi’s planned facilities, services and major improvements. A map showing the general location of the proposed improvements is included in Figure 5-1. A description of each facility type is provided in Section 5.</p> <p>The responsible agency/provider of each facility is documented in Section 5.</p> |
| <p>OAR 660-012-0025: Complying with the Goals in TSP Preparation</p> | |
| <p>(1) Adoption of a TSP shall constitute the land use decision regarding the need for transportation facilities services, and major improvements and their function, mode, and general location.</p> <p>(2) Findings of compliance with applicable statewide planning goals and comprehensive plan policies shall be developed in conjunction with adoption of the TSP.</p> | <p>Pending</p> <p>Pending</p> |
| <p>OAR 660-012-0030: Determination of Transportation Needs</p> | |
| <p>(1) The TSP shall identify transportation needs including:</p> <p>(a) State and local transportation needs;</p> | <p>State and local transportation needs are documented in Section 5.</p> |

TABLE 7-1
TPR Requirements for a Transportation System Plan

| TPR Requirements | City of Garibaldi TSP Compliance |
|---|--|
| (b) Needs of the transportation disadvantaged; | The needs of the transportation disadvantaged are documented in Section 5 . |
| (c) Needs for the movement of goods and services. | The needs for movement of goods and services are documented in Section 5 . |
| OAR 660-012-0035: Evaluation and Selection of Transportation System Alternatives | |
| <p>(1) The TSP shall be based upon evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified needs at reasonable cost. The following shall be evaluated as components of the system alternatives:</p> <p>(a) Improvements to existing facilities or services;</p> <p>(b) New facilities and services including different modes of travel;</p> <p>(c) Transportation system management measures;</p> <p>(d) Demand management measures;</p> <p>(e) A no-build system alternative required by the national EPA.</p> <p>(3) The following standards shall be used to evaluate and select alternatives:</p> <p>(a) The transportation system shall support urban and rural development by providing types and levels of facilities and services appropriate to serve the land uses identified in the acknowledged comprehensive plan;</p> <p>(b) The transportation system shall be consistent with state and federal standards for the protection of air, land and water quality;</p> <p>(c) The transportation system plan shall minimize adverse economic, social, environmental, and energy consequences;</p> <p>(d) The transportation system shall minimize conflicts and facilitate connections between modes of transportation.</p> <p>(e) The transportation system plan shall avoid principal reliance of any one mode of transportation and reduce principal reliance on the automobile.</p> | <p>Reasonable and cost effective solutions to existing facilities were evaluated before new facilities were considered.</p> <p>All new facilities were evaluated on the basis of their reasonableness and cost-effectiveness.</p> <p>Transportation system management strategies were anticipated in the development of the TSP.</p> <p>Demand management measures were addressed in the development of the preferred alternative in Section 5.</p> <p>Section 5 reviews the “no-build” scenario.</p> <p>The TSP is based on the current, acknowledged comprehensive plan for the city and provides enhancement of the integration of transportation and land use systems.</p> <p>The standards used to evaluate and select transportation alternates are documented in Section 4.</p> <p>The standards used to evaluate and select transportation alternates are documented in Section 4.</p> <p>The standards used to evaluate and select transportation alternates are documented in Section 4.</p> <p>The standards used to evaluate and select transportation alternates are documented in Section 4.</p> |

TABLE 7-1
TPR Requirements for a Transportation System Plan

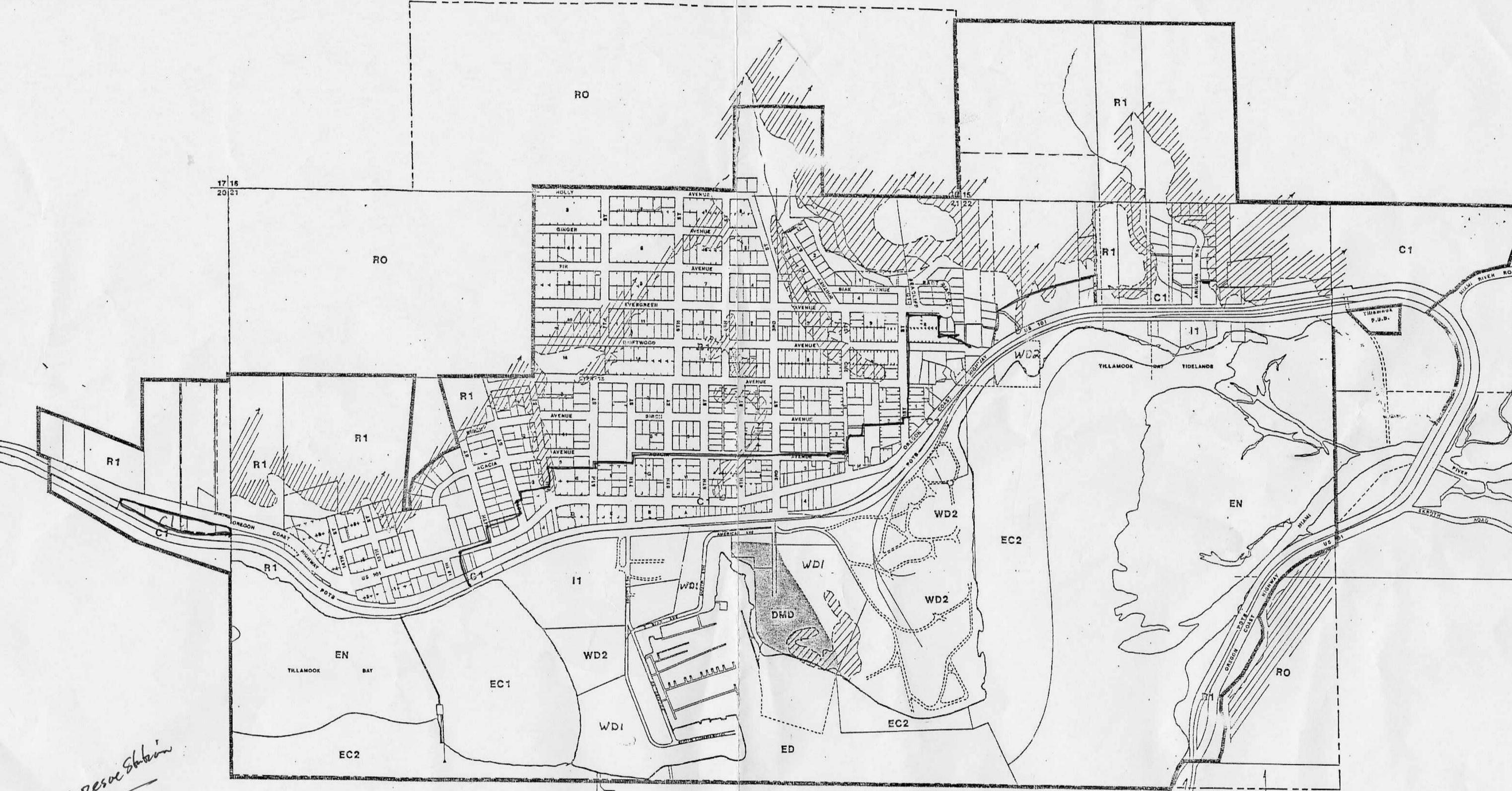
| TPR Requirements | City of Garibaldi TSP Compliance |
|--|--|
| <p>(7) Local TSPs shall include interim benchmarks to assure satisfactory progress towards meeting the requirements of this chapter at five-year intervals. Local governments shall evaluate progress in meeting interim benchmarks at five year intervals from adoption of the TSP.</p> | <p>The city will evaluate progress toward meeting the requirements of the TPR through regular review of the TSP at 5-year intervals.</p> |
| <p>OAR 660-012-0040: Transportation Financing Program</p> | |
| <p>(1) For areas within an urban growth boundary containing a population greater than 2,500 persons, the TSP shall include a transportation-financing program.</p> <p>(2) A Transportation financing program shall include the items listed in (a) – (d):</p> <p>(a) A list of planned transportation facilities and major improvements;</p> <p>(b) A general estimate of the timing for planned facilities and major improvements;</p> <p>(c) A determination of rough cost estimates for the facilities and major improvements identified in the TSP;</p> <p>(3) The financing plan shall include a discussion of the facility provider’s existing funding mechanisms to fund the development of each facility and major improvement.</p> <p>(5) The financing program shall provide for phasing of major improvements to encourage infill and redevelopment of urban lands prior to premature development of urbanizing or rural lands.</p> | <p>The city’s funding plan is included in Section 6.</p> <p>A list of planned transportation facilities and major improvements is provided in Section 3 and associated tables.</p> <p>Section 5 lists the planned transportation facilities and major improvements within the 0- to 5-, 6- to 10-, and 11- to 20-year timeline.</p> <p>Section 5 lists the rough cost estimates and major improvements within the 0- to 5-, 6- to 10-, and 11- to 20-year timeline.</p> <p>Documentation of Oregon and the City of Garibaldi’s existing funding mechanisms is included in Section 6.</p> <p>Investment in transportation improvements has been prioritized to encourage development of residential/commercial/downtown Garibaldi.</p> |

TPR = Transportation Planning Rule.
TSP = transportation system plan.

APPENDIX A

Comprehensive Land Use and Zoning

17 16
20 21



CITY OF GARIBALDI - LAND USE & ZONING MAP

----- CITY LIMITS

- | | |
|------------------------------|---------------------------------|
| WD1 Waterfront Development 1 | ☐ Dredge Material Disposal Site |
| WD2 Waterfront Development 2 | ☐ Exception Area |
| R1 Residential | ED Estuary Development |
| RO Resource Open Space | EC1 Estuary Conservation 1 |
| C1 Commercial | EC2 Estuary Conservation 2 |
| I1 Industrial | EN Estuary Natural |
| | ▤ Urban Growth Boundary |
| | ▨ Hillside Overlay |
| | SLOPE 20% AND ABOVE |

ADOPTED APRIL 15, 1982

CERTIFIED:

Dennis Welch
MAYOR

Jerl Siv/Twila Niemi
CHAIR, P.C.

AMENDED JULY 15, 1984
AMENDED AUGUST 15, 1984
AMENDED JANUARY 14, 1988
AMENDED OCTOBER 27, 1988
AMENDED NOVEMBER 18, 1987
AMENDED JUNE 13, 1988
AMENDED JUNE 27, 1989
AMENDED FEBRUARY 13, 1990

*Coast Guard Reserve Station
Limited Land Use
Overlay Zone
(LZO)*

APPENDIX B

Pavement Management Guidelines

APPENDIX C

Existing Parking Locations

Parking Restrictions Map

These are IN ADDITION TO the parking regulations that already existed--2-HOUR PARKING ON GARIBALDI AVE. between Bozzio's and 9th St, 2-HOUR PARKING in the City lot between Bozzio's & Parkside Dell, and ANGLE PARKING on the one-way block of 3RD ST. between Garibaldi Ave. & Acacia. Those existing restrictions are indicated on the map by diagonal lines. 

A BUS STOP is officially designated at 6TH & GARIBALDI AVE., in front of the bus shelter and directly across the highway. (Where the bus stops, in other words.)

HEAD-IN PARKING on the SOUTH SIDE OF CYPRESS across from the grade school. (This just "legalized" uses that had already existed for some time.)

2-HOUR PARKING, ONE SIDE ONLY on 9TH ST. north and south of Garibaldi Ave. (These pieces of 9th are only 30 feet wide, but are both dead-end.)

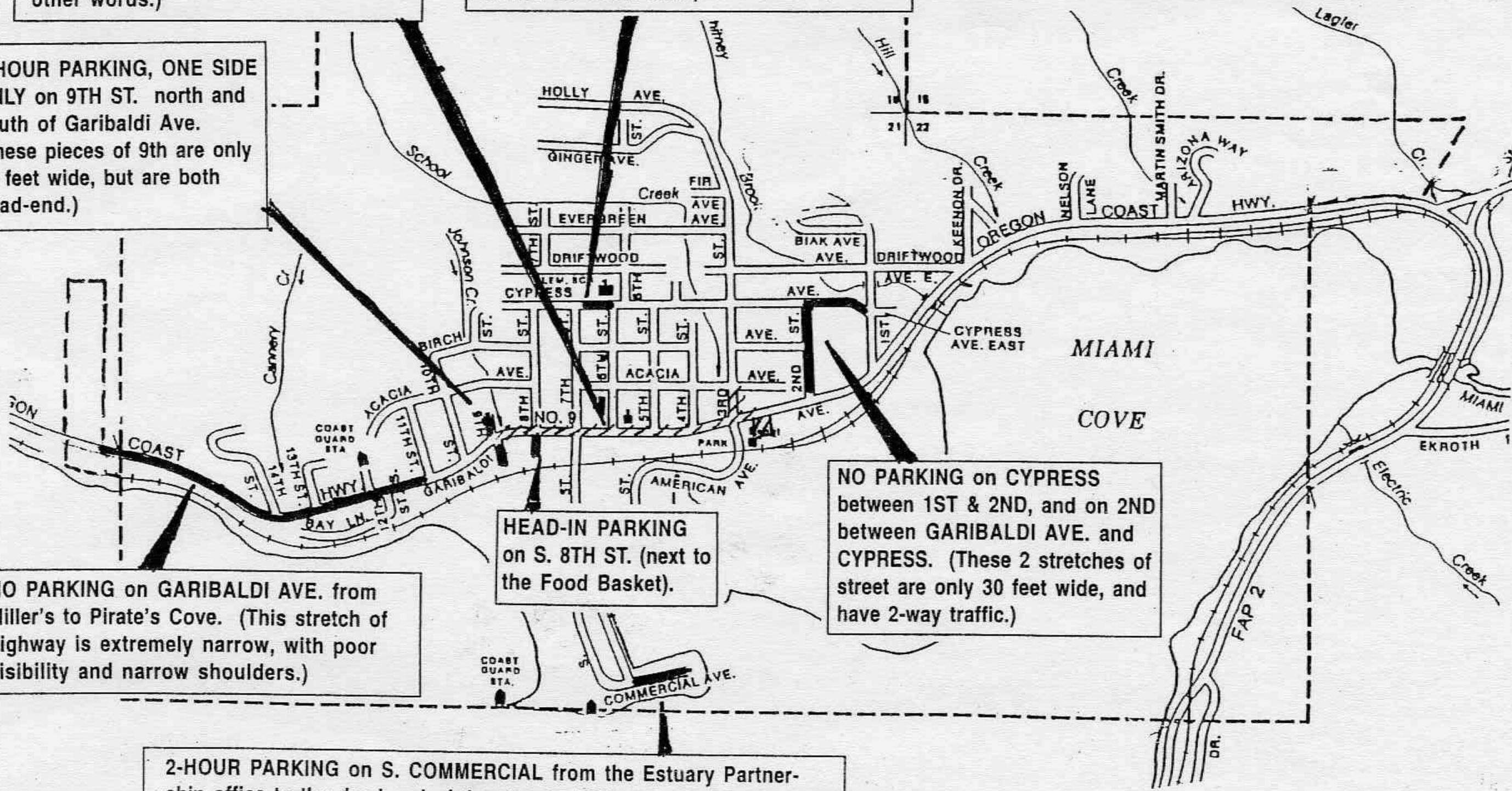
NO PARKING on GARIBALDI AVE. from Miller's to Pirate's Cove. (This stretch of highway is extremely narrow, with poor visibility and narrow shoulders.)

HEAD-IN PARKING on S. 8TH ST. (next to the Food Basket).

NO PARKING on CYPRESS between 1ST & 2ND, and on 2ND between GARIBALDI AVE. and CYPRESS. (These 2 stretches of street are only 30 feet wide, and have 2-way traffic.)

2-HOUR PARKING on S. COMMERCIAL from the Estuary Partnership office to the dead end of the street. (This short dead-end street down on the docks is one of the busiest in town.)

NO PARKING at the END OF DEAD-END STREETS, where it would interfere with access to properties at the end of the street.



CITY OF GARIBALDI PARKING SURVEY

APRIL 9, 2001

The parking survey for Garibaldi includes two commercial area. One is the commercial zone on both sides of Highway 101 between First Street and Eleventh Street. The second area surveyed is the Port of Garibaldi property.

For the Highway 101 corridor, there is a block by block narrative followed by a map.

First Street to Second Street North side:

Sundance Trading: One parking space in driveway for owner/operator.

Garibaldi Historic Museum: The parking lot is unmarked but can accommodate 30 spaces.

First Street to Second Street South side:

Gene Nice RV Sales: The entire lots is open unmarked parking. There is an area by the office that can accommodate the owner/operator and two customers.

Second Street to Third Street North side:

Professional Offices: Attorney and Denturist: Three parking spaces on east side of the building.

Going west there are two single family dwellings and a vacant lot.

Antique Store: No off street parking.

Ceramics Shop: No off street parking.

Imports Shop: No off street parking.

The City has developed 10 diagonal parking spaces on Third St.

There are 23 parking spaces on Highway 101 between 2nd and 3rd.

Second Street to Third Street South side:

Bayshore Inn: 32 off street parking spaces.

Bozzio's Restaurant: 16 off street parking spaces.

Expresso and Deli: 6 off street parking spaces.

Vacant Building corner of 3rd: 5 off street parking spaces.

Third Street to Fourth Street North side:

Bakery: No off street parking spaces.

Charter Cable TV: No off street parking spaces.

Dairy Queen: 32 off street parking spaces.

There are 6 parking spaces on Highway 101 in this block.

Third Street to Fourth Street South side:

Barber, Laundry, Hardware Store: One space in driveway.

Public Parking Lot: 14 off street parking spaces.

Vacant property to 4th Street.

There are two parking spaces on Highway 101 in this block.

Fourth Street to Fifth Street North side:

Craft assembly and storage: There is an undeveloped space at the rear of the building that could be developed into three off-street parking spaces.

M'wa Pig Shop: One space for owner/operator in driveway.

Country Store: One space for owner/operator in driveway.

Single family residence:

Antiques at Large: No off street parking spaces.

The City has developed 6 diagonal parking spaces adjoining Antiques at Large on Fifth Street.

There are 7 parking spaces on Highway 101 in this block.

Fourth Street to Fifth Street South side:

Vacant Building: No off street parking.

Ghost Hole Tavern: 14 off street parking spaces.

There are 8 parking spaces on Highway 101.

Fifth Street to Sixth Street North side:

Motel: 52 off street parking spaces.

Drug Store: 10 off street parking spaces.

Post Office: 9 off street parking spaces.

There are 7 parking spaces on Highway 101.

Fifth Street to Sixth Street South side:

Pub: 5 off street parking spaces

Gas Station: Since most of the space in a gas station is developed for maneuvering room for short terms stays, gas station parking was not included in the survey.

Sixth Street to Seventh Street North side:

Garibaldi Fire Department: 13 spaces

Single Family Dwelling

Diver's Supply: 4 spaces in driveway and garage.

Sixth Street to Seventh Street South side:

Bay Ocean Oyster: 7 off street parking spaces.

Chamber of Commerce: No off street parking.

Charter Office: 4 off street parking spaces.

Seventh Street to Eighth Street North side:

Stuff & Things: 4 off street parking spaces plus 2 in driveway

Bank: 12 off street parking spaces.

There are five parking spaces on Highway 101.

Seventh Street to Eighth Street South side:

Gas Station:

Market: 23 off street parking spaces, plus 8 in 8th Street.

Eighth Street to Ninth Street North side:

Church: 10 marked off street parking spaces plus one open lot

RV Park: Not counted since they are for RV use only.

There are 9 parking spaces on Highway 101.

Eighth Street to Ninth Street South side:

Motel: 15 off street parking spaces.

Single Family Dwelling

Ninth Street to Tenth Street North side:

Single family dwelling

Sea Shop: 4 off street parking spaces.

Ninth Street to Tenth Street South side:

Salon: 5 off street parking spaces.

Auto Parts Store: Unmarked lot, 10 off street parking spaces.

Tenth Street to Eleventh Street North side:

Diner: 8 off street parking spaces

Ortiz Signz: 3 off street parking spaces

Decker Real Estate: 4 off street parking spaces.

Tenth Street to Eleventh Street South Side:

Miller' Restaurant: Unmarked, 30 off street parking spaces.

US 101 SUMMARY:

Business provided off street parking for customers:

| | |
|--|-----------|
| Business provided staff only | 6 |
| City Public Parking Lot | 14 |
| City Fire Dept, Museum, Church (all somewhat restricted) | 53 |
| Parking developed on City Street: | 24 |
| <u>Parking on Highway 101</u> | <u>70</u> |
| Total number of spaces: | 498 |

PORT OF GARIBALDI Parking

Parking Lots on Port Property

Across S. 7th from Garibaldi Hardwoods: Employee parking lot. Not counted or included.

On S. 7th between City Shops and Harbor View Inn: 27 spaces for vehicles with trailers

Harbor View Inn: 32 spaces. (Does not include RV parking.)

Area around Tillamook Ambulance Service: 12 spaces

US Coast Guard: 30 spaces

Area between Coast Guard access road and Port Office Building: 37 spaces. 27 spaces for vehicles with trailers

Parking Lot between one way couplet:

- 5 handicapped spaces Northermost end
- 140 spaces up to restaurant property
- 9 spaces around restaurant
- 40 spaces south of restaurant

On Pier: 24 spaces off street, 29 spaces on street

Biak Avenue: 43 spaces on street

Park: 12 spaces

Restrooms and Cleaning Station: 10 spaces

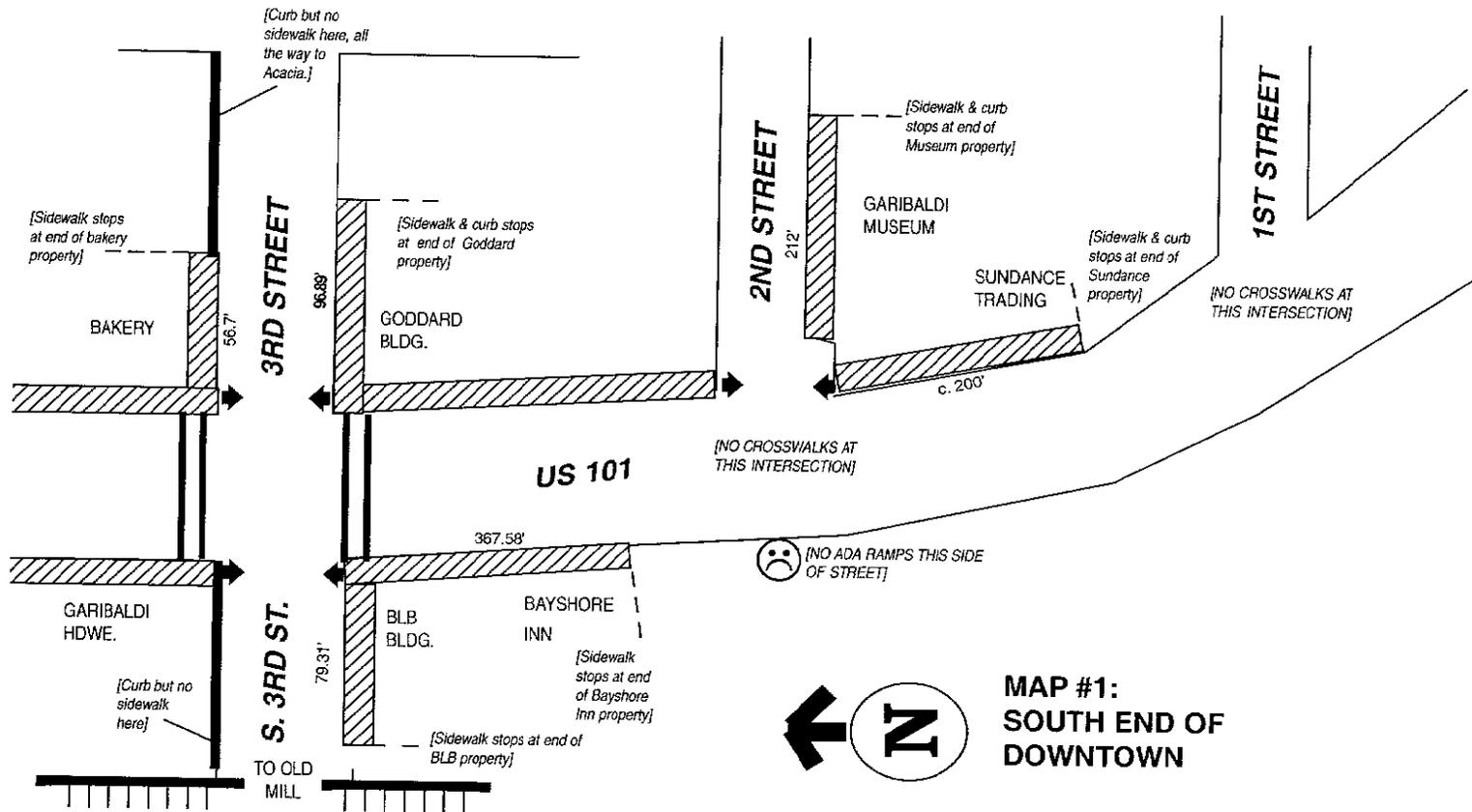
Adjoining Transient Dock: 29 spaces

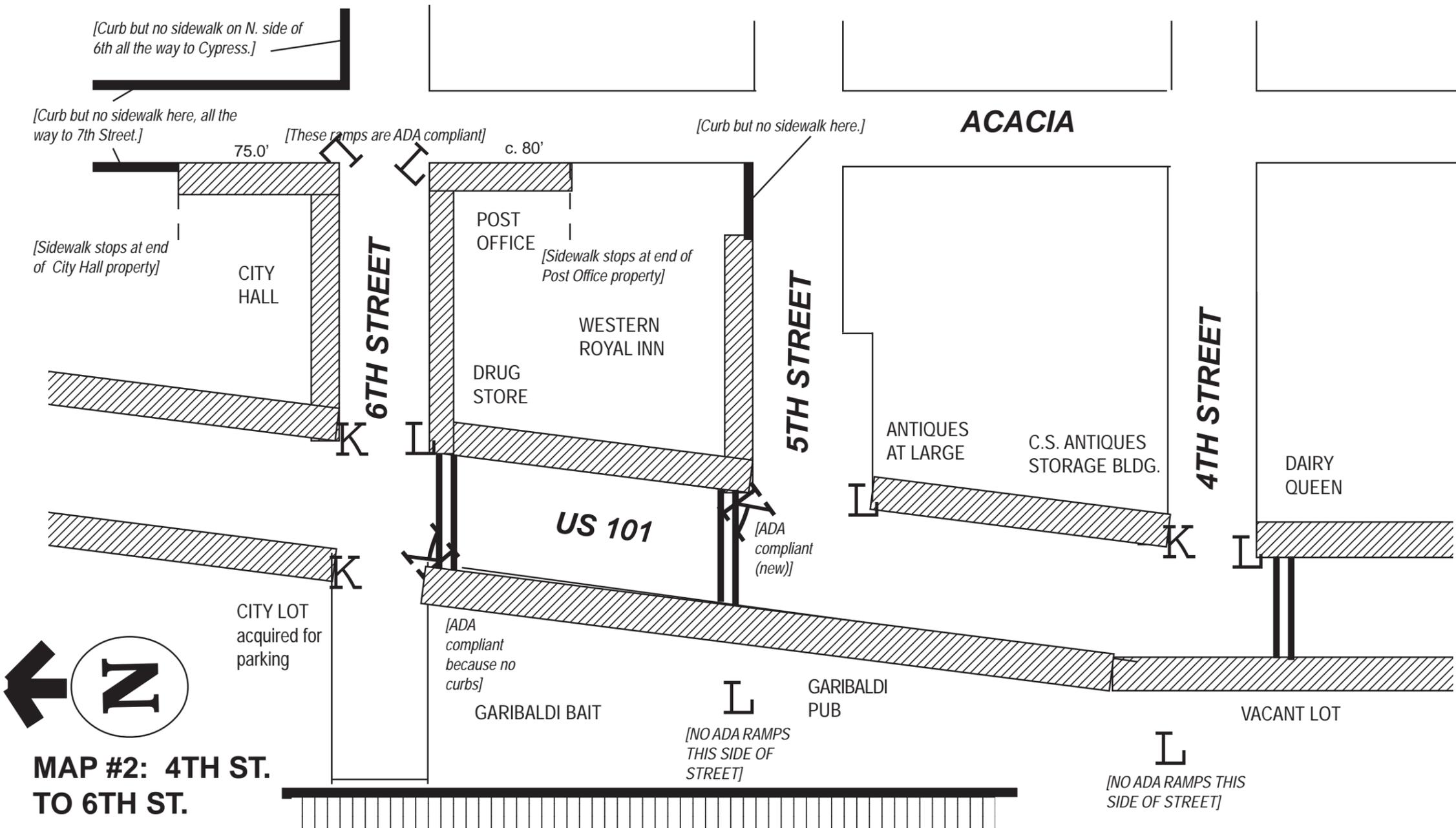
Port of Garibaldi SUMMARY:

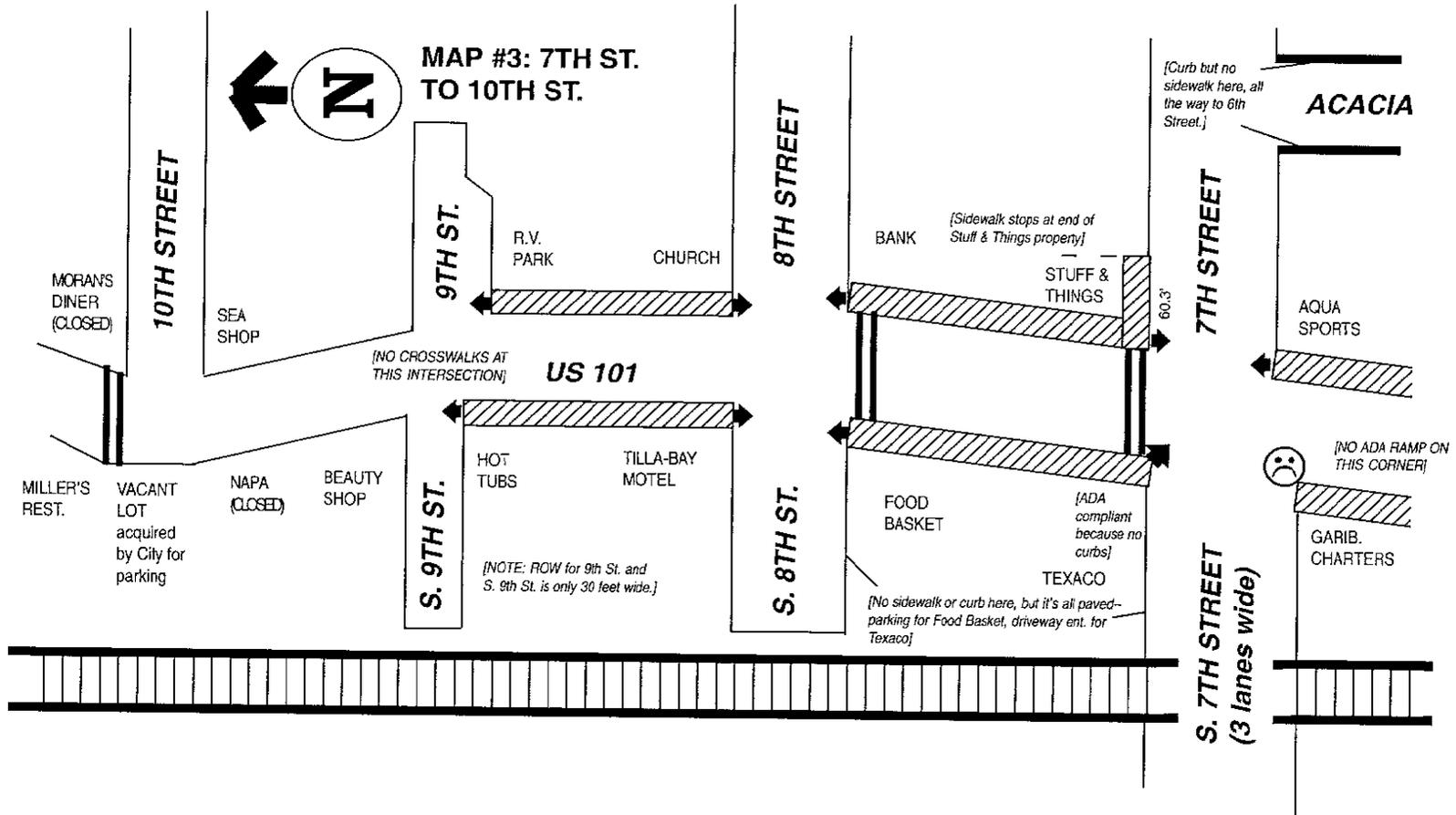
| | |
|--|-----------|
| Off street parking for visitors and customers: | 306 |
| Off street parking for vehicles with trailers: | 54 |
| <u>On street parking:</u> | <u>72</u> |
| Total public parking spaces: | 432 |
| (Special use parking, i.e. Motel, Ambulance, Coast Guard | 74) |

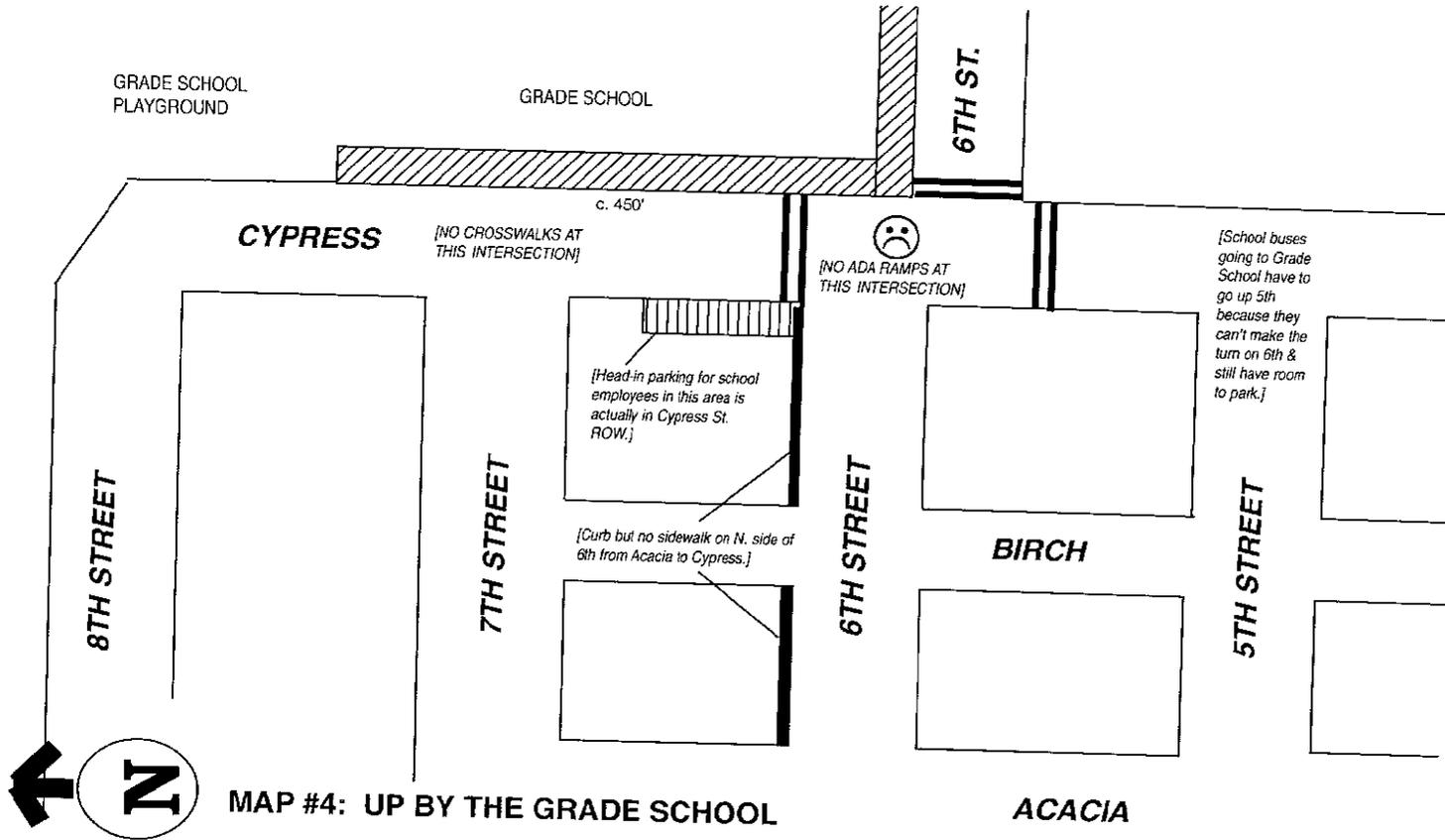
APPENDIX D

Existing Pedestrian System





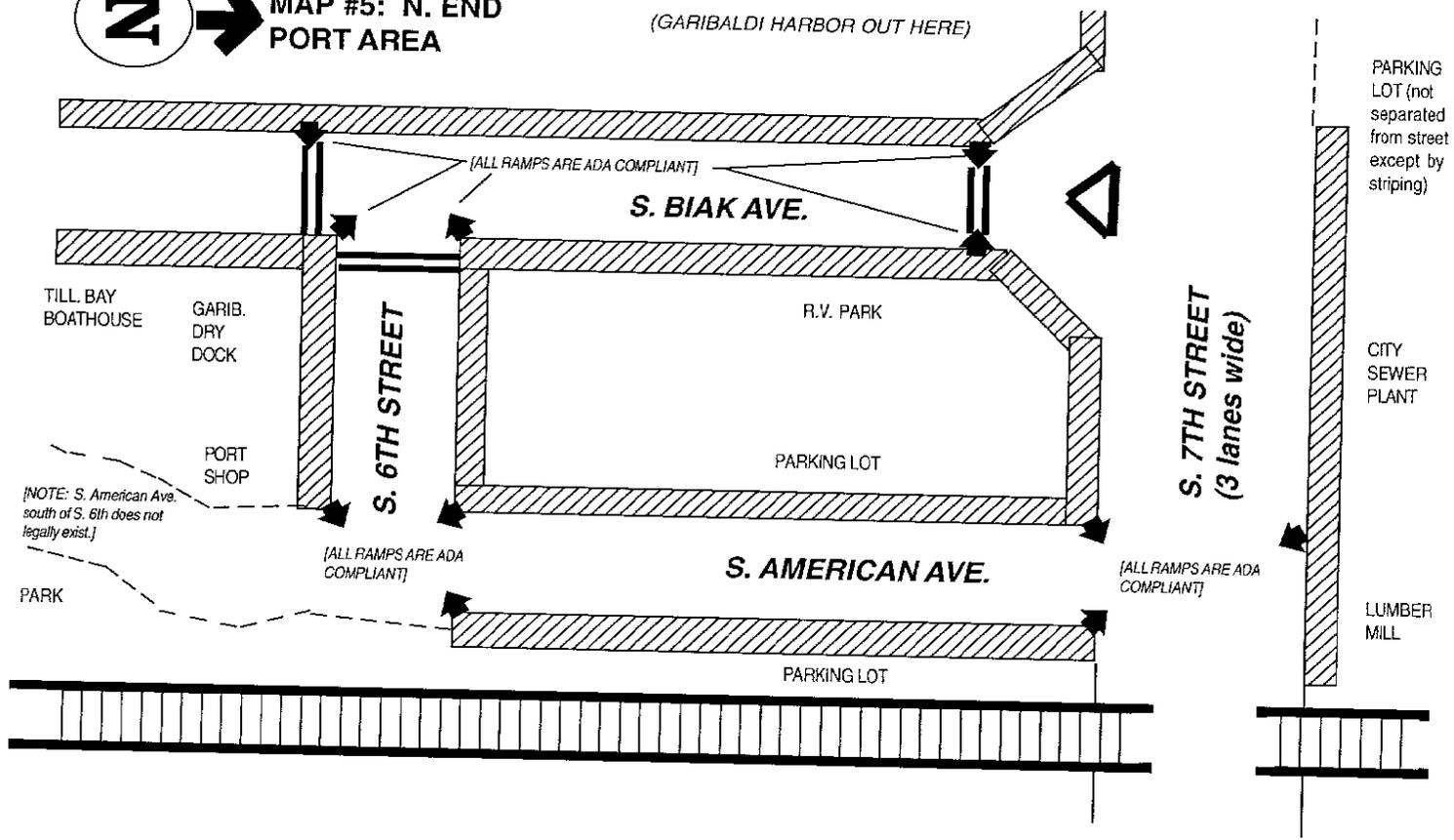






MAP #5: N. END PORT AREA

(GARIBALDI HARBOR OUT HERE)



TILL BAY BOATHOUSE
GARIB. DRY DOCK

PORT SHOP

S. 6TH STREET

S. BIAK AVE.

R.V. PARK

PARKING LOT

S. AMERICAN AVE.

PARKING LOT

**S. 7TH STREET
(3 lanes wide)**

PARKING LOT (not separated from street except by striping)

CITY SEWER PLANT

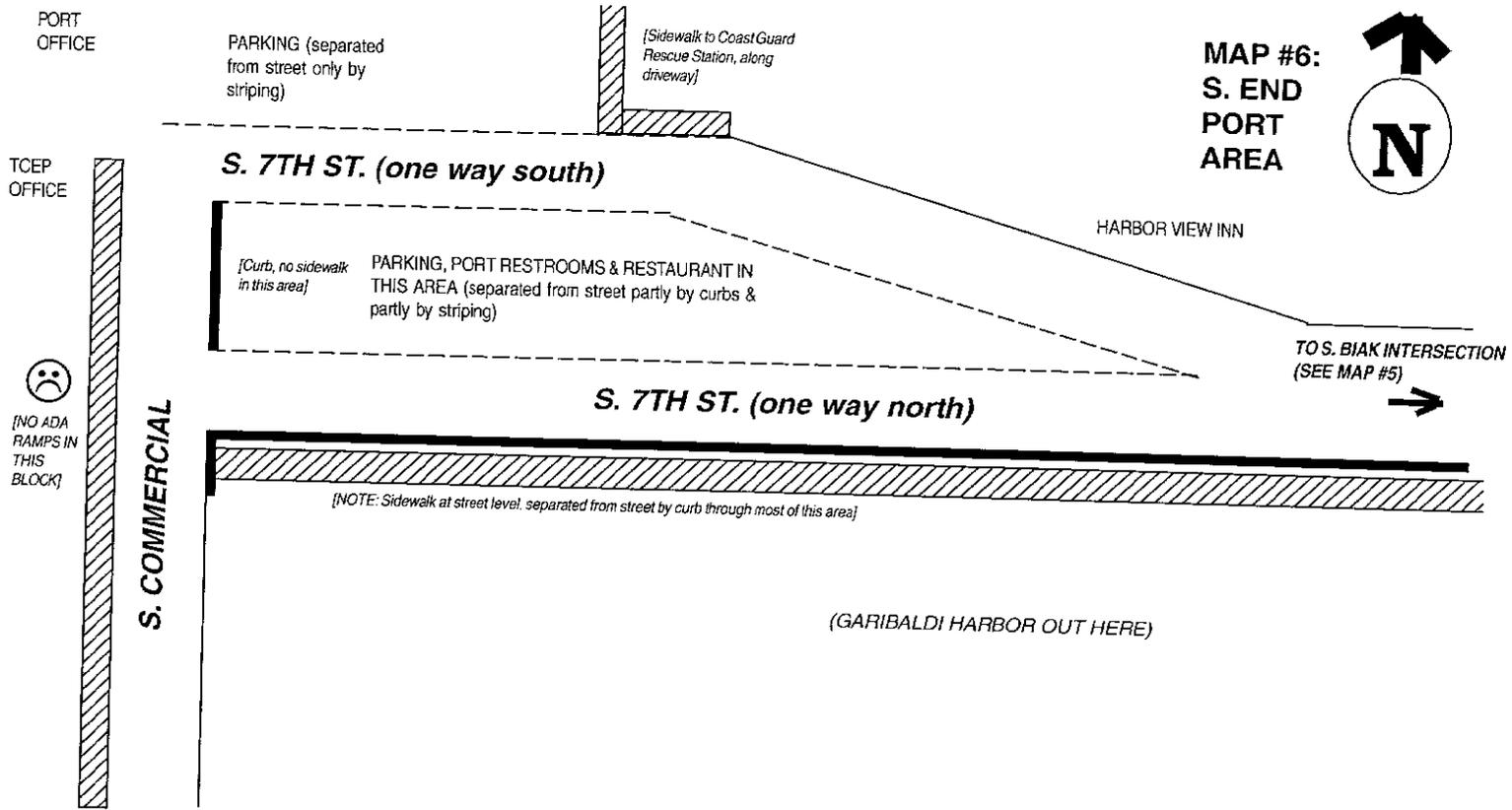
LUMBER MILL

[ALL RAMPS ARE ADA COMPLIANT]

[ALL RAMPS ARE ADA COMPLIANT]

[ALL RAMPS ARE ADA COMPLIANT]

[NOTE: S. American Ave. south of S. 6th does not legally exist.]



Additional Details to the maps:

On Map #3, on the SW corner of 7th Street and US 101, there is no ADA ramp. They have paved the sidewalk area to the roadway level as part of the property interface, but there is no ramp. The map has a note that states it is ADA compliant because there are no curbs.

On Map #4, one thing to keep in mind when developing projects is that there is no curb or sidewalk along the east side of 6th Street between Acacia and the school. Also, there are no ramps at the school as shown on the figure.

On Map #5, the ramp at the NW corner of 6th and American is not ADA compliant. The sidewalk just ends as is shown on the map and there is no ramp. The ramp at the NW corner of 7th and American has a pretty big lip (meaning the ramp is not at the pavement level, but several inches above).

APPENDIX E
Project List

Appendix

City of Garibaldi TSP - Unevaluated Project List

| Project Type | Description | Source | Facility | BEG MP | END MP |
|-----------------------------|--|---|---|--------|--------|
| Freight/RV | Reconstruct US 101 and 3rd Street intersection to adequately turn a large vehicle. This is dependent on the US 101 and 7th Street intersection improvements. | Field Work/City Staff | US 101 at 3rd Street | N/A | N/A |
| Freight/RV | Provide new access into the Port near 2nd Street. Requires agreements with private development. Connect with South American Avenue. Close 3rd Street access. Provide safety measures at the railroad crossing. | City Staff/PAC | US 101 at 2nd Street | | |
| Freight/RV | Reconstruct US 101 and 7th Street intersection to adequately turn a large vehicle | Field Work/City Staff | US 101 at 7th Street | N/A | N/A |
| Mobility/Connectivity | Provide for an east-west alternative route to US 101 to enhance local mobility. | City Staff | Proposed locations: Driftwood between 5th & 4th | N/A | N/A |
| Mobility/Connectivity | Provide for an east-west alternative route to US 101 to enhance local mobility. | City Staff | Proposed locations: Cypress between 1st and US 101 | N/A | N/A |
| Mobility/Connectivity | Provide for an east-west alternative route to US 101 to enhance local mobility. | City Staff | Proposed location is: Acacia between 8th and 7th | N/A | N/A |
| Mobility/Connectivity | Provide for an east-west alternative route to US 101 to enhance local mobility. | City Staff | Proposed location is: Acacia between 3rd and 2nd | N/A | N/A |
| Mobility/Connectivity | Provide for an east-west alternative route to US 101 to enhance local mobility. | City Staff | Proposed location is: Birch between 4th and 3rd | N/A | N/A |
| Mobility/Connectivity | Provide for an east-west alternative route to US 101 to enhance local mobility. | City Staff | Proposed location is: Birch between 8th and 7th. | N/A | N/A |
| Modernization - Operational | Install an emergency sign with flashing lights along US 101 near 6th and 7th Street to warn drivers when emergency vehicles are accessing US 101. This is a short term alternative to the signal installation (see below). | ODOT | US 101 near 6th and 7th Street | | |
| Modernization - Operational | Install traffic signal at US 101 and 7th Street - Unacceptable future No-Build LOS and traffic signal warranted. This may require modifying the fire station access to be on 7th Street. | No-Build Conditions and Signal Warrant Analysis, City Staff/PAC | US 101 at 7th Street | 55.56 | 55.56 |
| Modernization - Operational | Install traffic signal at US 101 and Miami Foley Road - traffic signal warranted | Signal Warrant Analysis | US 101 at Miami Foley Road | 56.77 | 56.77 |
| Modernization - Roadway | Upgrade South 3rd Street to proposed city standards, reconstruct road to remove sharp turns. Provide for shared vehicle/bike use and construct sidewalk. Overlay roadway. Requires public purchase. | Field Work/City Staff/PAC | South 3rd Street | N/A | N/A |
| Parking | Install Temporary Parking Advisory Variable Message Signs (also for accidents, flooding and other special events) | Field Work | Along US 101, outside downtown area | N/A | N/A |
| Parking | Conduct feasibility study on using private parking during peak periods | Field Work | Various Private Locations in City | N/A | N/A |
| Parking | Pave current City lots and install parking signs to increase driver awareness of parking options and improve the parking lot. | Field Work/City Staff | lot locations are: 6th and Garibaldi Avenue (US 101) and 10th and US 101 (near Napa Store). The 10th location might be infeasible with drainage issues. | N/A | N/A |
| Freight/RV | Dedicate a current parking lot exclusively for large (recreational) vehicles | Field Work/City Staff/PAC | Port of Garibaldi area | N/A | N/A |
| Parking | Rechannelize and provide a curb barrier with the parking area along South 7th Street in the Port of Garibaldi | Field Work and Port of Garibaldi Business Plan | South 7th Street parking area | N/A | N/A |
| Parking | Use the ODFW parking lot as a spillover lot for the Port, connect with the Bayshore Trail improvements. Signing is required. This lot would only be used during peak periods. | | ODFW Parking Lot | N/A | N/A |
| Parking | Upgrade and pave current lots in the Port of Garibaldi area. Improve signing. | Oregon Public Ports | Lots near railroad tracks | N/A | N/A |
| Ped/Bike | Provide bicycle parking | Field Work | Transit Shelter | N/A | N/A |
| Ped/Bike | Provide bicycle parking | Field Work | Lumbermen's Park | N/A | N/A |
| Ped/Bike | Provide bicycle parking | Field Work | Southend of Port of Garibaldi Area | N/A | N/A |
| Ped/Bike | Provide bicycle parking | Field Work | Garibaldi Fishing Pier (east end of Bayshore Trail) | N/A | N/A |
| Ped/Bike | Shared roadway - widen local street to provide for shared vehicle/bike use and construct sidewalk. One side of sidewalk could be constructed first as part of an implementation plan. | Field Work | 3rd Street, Evergreen Avenue to US 101 | N/A | N/A |

| Project Type | Description | Source | Facility | BEG MP | END MP |
|-----------------|---|--|---|----------------|----------------|
| Ped/Bike | Shared roadway - widen local streets to provide for shared vehicle/bike use, construct sidewalk and ADA ramps and stripe all crosswalk approaches at Cypress Avenue and 6th Street, provide roadway overlay. One side of sidewalk could be constructed first as part of an implementation plan. | Field Work | Cypress Street, 6th Street to 3rd Street | N/A | N/A |
| Ped/Bike | Shared roadway - widen local streets to provide for shared vehicle/bike use, construct sidewalk, provide roadway overlay. One side of sidewalk could be constructed first as part of an implementation plan. | Field Work | 6th Street, Evergreen Avenue to US 101 | N/A | N/A |
| Ped/Bike | Widen Shoulder to 6 feet. Include bike lane signing and striping. | DRAFT Oregon Coast Highway Master Plan | US 101 outside the downtown area | 57.54 to 55.85 | 55.40 to 54.95 |
| Ped/Bike | Construct a pedestrian gateway between US 101 and the Port of Garibaldi at 6th Street across the railroad | Port of Garibaldi Business Plan | Walkway | N/A | N/A |
| Rail/Safety/Ped | Add physical barrier along tracks to direct pedestrians to legal crossings. Between 7th and 3rd Streets | City Staff/PAC | POTB Railline, 3rd Street to 7th Street | N/A | N/A |
| Ped/Bike | Construct Bulb-Outs at US 101 Intersection approaches | ODDA Report | US 101 at 5th and 4th Street intersections | N/A | N/A |
| Ped/Bike | Expand curbside sidewalks | Oregon Public Ports | Port of Garibaldi street network | N/A | N/A |
| Ped/Bike | provide additional street lighting and retrofit to a decorative style | Oregon Public Ports | Port of Garibaldi street network | N/A | N/A |
| Ped/Bike | Stripe crosswalks along South Biak Avenue at 7th and 6th Streets | Port of Garibaldi Business Plan | South Biak Avenue at 7th and 6th Streets | N/A | N/A |
| Ped/Bike | Construct ADA compliant ramps | Field Work/City Staff | US 101 in the downtown area (8th, 7th, 6th, 5th, 4th, 3rd Streets) | N/A | N/A |
| Ped/Bike | Construct ADA compliant ramps | Field Work/City Staff | South American Avenue at South 6th Street and South 7th Street | N/A | N/A |
| Ped/Bike | Construct Sidewalk | Field Work | South Commercial Avenue | N/A | N/A |
| Ped/Bike | Construct Sidewalk | Field Work | South 7th Street, between US 101 and south of railroad (connect with existing sidewalk) | N/A | N/A |
| Ped/Bike | Provide crosswalks along South American Avenue at South 7th Street and at South 6th Street. | Field Work | South American Avenue | N/A | N/A |
| Ped/Bike | Construct Sidewalk (northside where missing) | ODOT Ped/Bike Report | US 101 | 55.15 | 56.13 |
| Ped/Bike | Construct Sidewalk (southside where missing) | ODOT Ped/Bike Report | US 101 | 55.2 | 55.8 |
| Ped/Bike/Trail | Widen road 6 feet to provide an adequate striped walkway for pedestrians/bicyclists. Use thermoplastic markings to enhance and provide longevity | Field Work | South 7th Street | N/A | N/A |
| Ped/Bike/Trail | Designate Bay Lane for a bike lane as part of the Bayshore trail and provide adequate signing at the railroad crossings. Provide 6' bike path from 10th Street (approximately trail location after railroad crossing to Bay Lane). Reconstruct crossings for continuous trail without steps. | Field Work | Bay Lane and railroad crossings | N/A | N/A |
| Ped/Bike Trail | Extend the current bike trail east into the Old Mill property. Requires additional study. | DRAFT Oregon Coast Highway Master Plan | Bayshore Trail | N/A | N/A |
| Ped/Bike/Trail | Widen road 6 feet to provide an adequate striped walkway for pedestrians/bicyclists, construct sidewalk and provide ADA ramps at 6th and 7th Street intersections. Use thermoplastic markings to enhance and provide longevity | Field Work | South American Avenue | N/A | N/A |
| Safety | Install Variable Message Signs to enforce speed limit. (also to direct vehicles to parking areas) | Field Work | Along US 101, outside downtown area | N/A | N/A |
| Safety | Realign Driftwood Avenue to have Keenon Drive separate access with US 101. Align Driftwood more perpendicular with US 101 | City Staff/Field Work | US 101 at Driftwood Avenue | N/A | N/A |
| Safety | Allow only right-in, right-out at US 101 at 1st Street - poor visibility | Field Work/City Staff | US 101 at 1st Street | 55.94 | 55.94 |
| Safety | Bridge 14th Street to 13th Street to alleviate poor access along US 101. Close 14th Street access to US 101. | Field Work/City Staff | US 101 at 14th Street | 55.14 | 55.14 |
| Safety | Construct turn pullout at railroad tracks at Hobsonville Point for Transit/School Buses to ensure the safety of vehicles required to stop at railroad crossing. | PAC and TCTD contact | US 101 at Hobsonville Point Drive | 57.52 | 57.52 |
| Safety | Include ITS devices in the transit and school vehicles that activate a flashing advanced sign to alert drivers of stopped vehicles ahead. | | US 101 Vehicles | N/A | N/A |

| Project Type | Description | Source | Facility | BEG MP | END MP |
|---------------------|--|---------------------------|-----------------------------------|---------------|---------------|
| Safety | Modify 4th Street between US 101 and Acacia Avenue to one-way southbound only. Provide additional angled parking with modification. Would be contingent on development of existing businesses. | Field Work/City Staff | US 101 at 4th Street | 55.7 | 55.7 |
| Safety | Provide for right-in, right-out to eliminate the poor visibility at US 101 at 10th Street and possibly remove sign near intersection. | Field Work/City Staff | US 101 at 10th Street | 55.4 | 55.4 |
| Safety | Realign skewed approach with US 101 at Hobsonville Point Drive | Field Work/City Staff | US 101 at Hobsonville Point Drive | 57.52 | 57.52 |
| Safety | Realign US 101 intersection at 11th Street - skewed and poor visibility | Field Work/City Staff | US 101 at 11th Street | 55.35 | 55.35 |
| Safety | Realign US 101 intersection at 12th Street - severe slope and poor visibility | Field Work/City Staff | US 101 at 12th Street | 55.29 | 55.29 |
| Safety | Realign US 101 at 3rd Street intersection - poor visibility, combine with the 3rd Street intersection freight project. | Field Work/City Staff | US 101 at 3rd Street | 55.75 | 55.75 |
| Safety | Realign US 101 intersection at 5th Street - poor visibility | Field Work/City Staff | US 101 at 5th Street | 55.65 | 55.65 |
| Safety/Ped/Rail | 3rd Street Railroad Crossing - provide automated safety measures (i.e. gates or lights). | Field Work/City Staff/PAC | South 3rd Street | N/A | N/A |
| Rail | Trains block 7th and 3rd Streets. Policy change is recommended to restrict both streets being blocked simultaneously | PAC | POTB Railline | N/A | N/A |

Garibaldi TSP
All Unit Costs are in 2002 Dollars

| Item | Notes | Unit Cost (K) or Percentage |
|---|--|-----------------------------------|
| Mobilization, Traffic Control, Removal of Structures and Obstructions, and Erosion Control | Includes 20% for mobilization, traffic control, removal of structures and obstructions, and erosion control | 20% |
| Curb, gutter, sidewalk, w/ storm system | Includes .5' curb, 1.5' gutter pan and 6' wide sidewalk on both sides of the roadway. A 18-inch concrete pipe storm system w/ 2' of cover over the top of pipe. Trenching and backfill are included. Assume a storm manhole every 500 lf and one standard catch basin every 250 lf (one on each side of the roadway). The Unit Cost is per mile. | 650 |
| Bike Boulevard | A separated bike facility. Assume 10' wide, 2-inches of asphalt over 12-inches of aggregate base. Clearing and grubbing is included. 20-foot long culverts every 400 lf. The unit of cost is per mile. | 110 |
| New Roadway | Includes clearing and grubbing, excavation or embankment, 18" culverts every 500 lf. subgrade preparation, 14-inches aggregate base, and 6-inches asphalt concrete. The unit cost is per lane-mile. | 230 |
| Overlay Existing Roadway | Includes 2-inches of asphalt concrete. Grinding 25% of existing surface. The unit of cost is per lane-mile. | 40 |
| Reconstruct Existing Roadway | Includes removing the existing roadway and rebuilding a new facility. This cost is a removal cost plus the "New Roadway" cost listed above. Assume the existing facility to be removed is 4-inches AC over 14-inches aggregate base. The unit of cost is per lane-mile. | 330 |
| Intersection Improvements | Costs of STIP projects were used to determine intersection improvement costs: \$10K to \$25K used for minor striping/signing modifications (right-in, right-out only) \$200K to \$1,000K used for realignments (depends upon difficulty) | Varies |
| Restriping Existing Roadway | Includes removing existing striping and restriping the facility. The unit of cost is per lane-mile. | 6 |
| Interconnect Signal | Includes the cost to interconnect signal system. The unit of cost is lump sum. | 35 |
| New Signal | Includes the signal and all appurtenances. (pole, wiring, detection devices...) The unit of cost is each. | 145 |
| Signal Modifications | Includes all evaluations and modifications. The unit of cost is each. | 75 |
| Street Lights | Includes the luminaire, pole, wiring, and all other appurtenances. Assume a light pole on each side of the roadway, every 200 lf. The unit of cost is per mile. | 110 |
| Landscaping | Includes all plantings, topsoil, irrigation requirements, and trees. The unit of cost is per mile. | 200 |
| Bridges | Based on estimated square footage of bridge. The unit of cost is square feet. | 0.100 |
| Building Impacts | Assumes \$250K for each building that will be significantly impacted by the project. The unit of cost is each. | 250 |
| Contingency Factor | Includes 40% Contingency | 40% |

Note: the cost estimates do not include right-of-way, engineering, wetland, or utility relocation costs.

**Project Name
Cost Estimate**

Project Description

L-Mi = Lane-Mile
SF= Square Foot
All costs are in (K).

| Project | 40% Contg. | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | COMMENTS | | |
|---|------------|------------|-----|------------|-----|------------|-----|------------|-----|------------|------------|------|------------|------------|-----|------------|------------|------|------------|------------|-----|------------|------------|------|------------|------------|-----|------------|------------|----------|---|---|
| | | Unit: Cost | QTY | Unit: Cost | Unit: Cost | QTY | Unit: Cost | Unit: Cost | QTY | Unit: Cost | Unit: Cost | QTY | Unit: Cost | Unit: Cost | QTY | Unit: Cost | Unit: Cost | QTY | Unit: Cost | Unit: Cost | QTY | Unit: Cost | Unit: Cost | | | |
| Provide for an east-west alternative route to US 101 to enhance local mobility. Driftwood between 5th & 4th. | 411 | 0.07 | 0 | 0.00 | 0 | 0.14 | 32 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | Assume new roadway from 3rd to 5th = 0.07 miles long. Assume 2-12' lanes = 0.14 lane-miles (no bike lanes) plus sidewalk and piped drainage system = 0.07 miles. Assumes no bridges (culvert only, added \$200K for culvert and slope work) |
| Provide for an east-west alternative route to US 101 to enhance local mobility. Cypress between 1st and US 101 | 716 | 0.06 | 0 | 0.00 | 0 | 0.14 | 32 | 0.00 | 0 | 0.00 | 0 | 0.14 | 1 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 14 | 1 | 250 | 0 | 0 | Assume new roadway from end to US 101 = 0.06 miles long. Assume 2-14' lanes = 0.14 lane-miles (no bike lanes) plus sidewalk and piped drainage system = 0.06 miles. Assumes no bridges or culverts. Added 25K for embankment work (Tim's email says minor) Assumes intersection work on US 101 (added 150K) |
| Provide for an east-west alternative route to US 101 to enhance local mobility. Acacia between 8th and 7th | 156 | 0.06 | 0 | 0.00 | 0 | 0.14 | 32 | 0.00 | 0 | 0.00 | 0 | 0.14 | 1 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 14 | 0 | 0 | 0 | 0 | Assume new roadway from 7th to 8th = 0.06 miles long. Assume 2-14' lanes = 0.14 lane-miles (no bike lanes) plus sidewalk and piped drainage system = 0.06 miles. Assumes no bridges or culverts. Added 25K to cover big trees. |
| Provide for an east-west alternative route to US 101 to enhance local mobility. Acacia between 3rd and 2nd | 783 | 0.04 | 0 | 0.00 | 0 | 0.10 | 25 | 0.00 | 0 | 0.00 | 0 | 0.10 | 1 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 10 | 2 | 500 | 0 | 0 | Assume new roadway from 2nd to 3rd = 0.04 miles long. Assume 2-14' lanes = 0.10 lane-miles (no bike lanes) plus sidewalk and piped drainage system = 0.04 miles. Assumes no bridges or culverts. Assumes 2 buildings. |
| Provide for an east-west alternative route to US 101 to enhance local mobility. Birch between 4th and 3rd | 573 | 0.04 | 0 | 0.00 | 0 | 0.10 | 25 | 0.00 | 0 | 0.00 | 0 | 0.10 | 1 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 10 | 1 | 250 | 0 | 0 | Assume new roadway from 3rd to 4th = 0.04 miles long. Assume 2-14' lanes = 0.10 lane-miles (no bike lanes) plus sidewalk and piped drainage system = 0.04 miles. Assumes no bridges (culvert only, added \$100K for culvert and to cover slope work). Assumes 1 buildings. |
| Provide for an east-west alternative route to US 101 to enhance local mobility. Birch between 8th and 7th. | 485 | 0.06 | 0 | 0.00 | 0 | 0.14 | 32 | 0.00 | 0 | 0.00 | 0 | 0.14 | 1 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 14 | 1 | 250 | 0 | 0 | Assume new roadway from 7th to 8th = 0.06 miles long. Assume 2-14' lanes = 0.14 lane-miles (no bike lanes) plus sidewalk and piped drainage system = 0.06 miles. Assumes 1 building. Added 10K to cover trees. |
| Install traffic signal at US 101 and 7th Street | 244 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 1.00 | 145 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | |
| Install traffic signal at US 101 and Miami Foley Road | 244 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 1.00 | 145 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | |
| Upgrade South 3rd Street to proposed city standards, reconstruct road to remove sharp turns. Provide for shared vehicle/bike use and construct sidewalk. Overlay roadway. Requires public purchase. | 380 | 0.14 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.41 | 135 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 45 | 0 | 0 | 0 | 0 | Assume recon roadway from US 101 to S. 6th = 0.14 miles long. Assume 2-12' lanes, 2-6' bike lanes = 0.41 lane-miles plus sidewalk and piped drainage system = 0.14 miles. |
| Shared roadway - pave gravel parking areas and construct sidewalk. One side of sidewalk could be constructed first as part of an implementation plan. 3rd Street, Evergreen Avenue to US 101 | 294 | 0.22 | 0 | 0.00 | 0 | 0.00 | 0 | 0.74 | 30 | 0.00 | 0 | 0.44 | 2 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 35 | 0 | 0 | 0 | 0 | Assume new roadway from US 101 to Evergreen = 1150 feet long (pave 16' both sides) = 0.30 lane-miles plus sidewalk and piped drainage system = 0.22 miles. Assumes overlay entire length = 0.44 lane-miles. |

Project Name
Cost Estimate

Project Description

L-Mi = Lane-Mile
SF= Square Foot
All costs are in (K).

| Project | 40% Contig. | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | COMMENTS |
|--|-------------|-----------------|-----|-----------------|-----|-----------------|-----|----------------|-----|-----------------|-----|-----------------|-----|----------------|-----|-----------------|-----|----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-------------------|--|---|
| | | Unit: Cost: 650 | QTY | Unit: Cost: 110 | QTY | Unit: Cost: 230 | QTY | Unit: Cost: 40 | QTY | Unit: Cost: 330 | QTY | Unit: Cost: 6.0 | QTY | Unit: Cost: 35 | QTY | Unit: Cost: 145 | QTY | Unit: Cost: 75 | QTY | Unit: Cost: 110 | QTY | Unit: Cost: 200 | QTY | Unit: Cost: 0.2 | QTY | Unit: Cost: 250 | QTY | Unit: Cost: 0.100 | | |
| Shared roadway - widen local streets to provide for shared vehicle/bike use, construct sidewalk and ADA ramps and stripe all crosswalk approaches at Cypress Avenue and 6th Street, provide roadway overlay. One side of sidewalk could be constructed first as part of an implementation plan. Cypress Street, 6th Street to 3rd Street | 207 | 0.14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assume new roadway from 6th to 3rd = 720 feet long (widen from 12 to 14 each side) = 0.05 lane-miles plus sidewalk and piped drainage system = 0.14 miles. Assumes overlay entire length = 0.28 lane-miles plus 16' parking area = 0.18 lane-miles (Total 0.47 lane-miles). |
| Shared roadway - widen local streets to provide for shared vehicle/bike use, construct sidewalk, provide roadway overlay. One side of sidewalk could be constructed first as part of an implementation plan. 6th Street, Evergreen Avenue to US 101 | 194 | 0.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assume roadway from Evergreen to US 101 = 790 feet long = 0.05 lane-miles plus sidewalk and piped drainage system = 0.15 miles. Assumes overlay entire length = 0.30 lane-miles plus 8' parking (0.10 lane-miles) = 0.4 lane-miles total. |
| Widen Shoulder to 6 feet. Include bike lane signing and striping. | 194 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assume widening from 4' to 6' from 57.54 to 57.17, 56.60 to 55.95, and 55.4 to 54.95 = 1.47 miles = 0.49 lane miles of widening. |
| provide additional street lighting and retrofit to a decorative style (Port of Garibaldi street network) | 74 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Length is 1800' approx = 0.4 miles. |
| Construct Sidewalk (South Commercial Avenue) | 109 | 0.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Length is 500' = 0.1 miles. |
| Construct Sidewalk (South 7th Street, between US 101 and south of railroad (connect with existing sidewalk) | 33 | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Length is 150' = 0.03 miles. |
| Construct Sidewalk (northside where missing, US 101, MP 55.15 to MP 56.13) | 546 | 0.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 Mile long, one side of street = 0.5 miles. |
| Construct Sidewalk (southside where missing, US 101, 55.2 to 55.8) | 328 | 0.30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0.6 miles long, one side of street = 0.3 miles. |
| Widen trail to 6 feet to provide for adequate width for bicyclists (South 7th Street) | 12 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assume widening from 2' to 6' for 430' = 0.08 miles = 0.03 lane-miles. |
| Widen trail to 6 feet to provide for adequate width for bicyclists, construct sidewalk and provide ADA ramps at 6th and 7th Street intersections (South American Avenue) | 23 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assume widening from 2' to 6' for 900' = 0.17 miles = 0.06 lane-miles. Assume sidewalk improvements 20K. |
| Bridge 14th Street to 13th Street to alleviate poor access along US 101. Close 14th Street access to US 101. | 907 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assume bridge is 150' long - 12, 12, 6, 6 = 36' wide. |
| Construct turn pullout at railroad tracks at Hobsonville Point for Transit/School Buses to ensure the safety of vehicles required to stop at railroad crossing. | 17 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Provide new access into the Port near 2nd Street. Requires agreements with private development. Connect with South American Avenue. Close 3rd Street access. Provide safety measures at the railroad crossing. | 870 | 0.20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assume 1000 feet of new roadway, 36' wide = 0.6 lane-miles. Plus \$300K for railroad crossing, and 0.2 miles of sidewalk. |

Project Name
Cost Estimate

Project Description

L-Mi = Lane-Mile
SF= Square Foot
All costs are in (K).

| Project | 40% Contig. | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | COMMENTS |
|--|-------------|-----------------|-----|-----------------|-----|-----------------|-----|----------------|-----|-----------------|-----|-----------------|-----|----------------|-----|-----------------|-----|----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-------------------|--|--|
| | | Unit: Cost: 650 | QTY | Unit: Cost: 110 | QTY | Unit: Cost: 230 | QTY | Unit: Cost: 40 | QTY | Unit: Cost: 330 | QTY | Unit: Cost: 6.0 | QTY | Unit: Cost: 35 | QTY | Unit: Cost: 145 | QTY | Unit: Cost: 75 | QTY | Unit: Cost: 110 | QTY | Unit: Cost: 200 | QTY | Unit: Cost: 0.2 | QTY | Unit: Cost: 250 | QTY | Unit: Cost: 0.100 | | |
| Upgrade South 3rd Street to proposed city standards, reconstruct road to remove sharp turns. Provide for shared vehicle/bike use and construct sidewalk. Overlay roadway. Requires public purchase. | 226 | 0.08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assumes 400 feet long, recon roadway (0.08 miles) long, 0.25 lane-miles. |
| Widen road S. American 6 feet to provide an adequate striped walkway for pedestrians/bicyclists. Use thermoplastic markings to enhance and provide longevity | 109 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assumes 700 feet long, (0.13 miles, 0.07 lane-miles of recon). Assumes 50K for thermoplastic striping. |
| Widen road S. 7th 6 feet to provide an adequate striped walkway for pedestrians/bicyclists. Use thermoplastic markings to enhance and provide longevity | 175 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assumes 2000 feet long (0.37 miles, 0.19 lane-miles of recon). Assumes 50K for striping. |
| Designate Bay Lane as a bike lane as part of the Bayshore Trail and provide adequate signing at the railroad crossings. Pave a 6-foot-wide bike path from the railroad crossing (Approximately 10th Street behind Miller's Restaurant) to 12th Street. Reconstruct crossings for continuous trail without steps. | 17 | 0.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assume 500' long. |

Note: the cost estimates do not include right-of-way, engineering, wetland, or utility relocation costs.