

UPDATED Existing Conditions Bandon TSP Update

Prepared for

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Respectfully acknowledging that Bandon is located on the land of the Coquille Indian Tribe and the Confederated Tribes of Siletz Indians. In offering this land acknowledgement, we affirm Indigenous sovereignty, history, and experiences. We commit to engaging in a respectful and successful partnership as a steward of these lands.

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ACRONYMS AND ABBREVIATIONS

AADT	average annual daily traffic
ADA	Americans with Disabilities Act
ADT	average daily traffic
APM	analysis procedures manual
ATR	automatic traffic recorder
BUD	Blueprint for Urban Design
LOS	level of service
LTS	level of traffic stress
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
TSP	transportation system plan
UGB	urban growth boundary
v/c	volume-to-capacity

1. INTRODUCTION

This memorandum reviews existing transportation conditions in the City of Bandon to identify current transportation needs. The review considers the city’s land use, population, and transportation network and facilities for use in updating the Bandon Transportation System Plan (TSP; City of Bandon 2000). The Bandon TSP considers all land within city limits and the Urban Growth Boundary (UGB). All modes of transportation are analyzed, including streets and roadways, pedestrian and bicycle facilities, and public transportation. This analysis inventories each of these systems to identify existing deficiencies to inform potential projects, programs, and policy changes for incorporation into the updated Bandon TSP.

1.1 Needs Summary

A summary of the City’s current transportation system and needs is provided below.

1.1.1 Streets/Bridges

- **Multimodal Conflicts.** U.S. 101 serves as the City’s only designated freight route and Reduction Review Route, and is the main north-south connectivity in and out of town. While U.S. 101 is an important thoroughfare in Bandon, it can act as a dividing line within the community due to the high speed and number of vehicles as well as the width of the roadway. Residential and commercial areas on opposite sides of U.S. 101 can feel disconnected due to difficult highway crossings.
- **Road Connectivity.** Few roads in Bandon connect north-south or east-west. In particular, Bandon’s “donut hole,” an area that is outside of Bandon city limits but still within the UGB, lacks roadway connections.
- **Speeding Issues.** The lane configuration on U.S. 101 widens from two travel lanes to four travel lanes at 13th Street (at the south end) and 2nd Street NE (at the north end); the four lane section facilitates passing movements, but also encourages speeding through the center of the city.
- **Pavement Condition.** Unpaved gravel roadways outside of city limits but within the UGB limit connectivity to local destinations and may limit development in these areas.
- **State Design Standards.** U.S. 101 within the Bandon UGB does not meet Oregon Department of Transportation (ODOT) *Blueprint for Urban Design* (BUD) standards in most segments:
 - The BUD recommends a pedestrian crossing spacing range of 500 to 1,000 feet within the Commercial Corridor context. With the addition of the U.S. 101 crossing at Chicago Avenue SE, crosswalk spacing from Chicago Avenue SE to Fillmore Avenue is 1,000 feet, and crosswalk spacing from Chicago Avenue SE to 9th Street SW is nearly 1,500 feet. Between OR 42S and Fillmore Avenue, crosswalk spacing is nearly 2,400 feet.
 - The BUD recommends continuous and buffered sidewalks, with space for transit stations within the Commercial Corridor context. Sidewalks along U.S. 101 generally are not separated from vehicle traffic by a landscape buffer or bike lanes.
 - The BUD recommends separated bicycle facilities within the Commercial Corridor context. No bike lanes are present on U.S. 101 from OR 42S to 13th Street.

- In the Suburban Fringe context, (2nd Street NE to north city limits and 13th Street to south city limits), U.S. 101 does not meet standards for continuous and buffered sidewalks, though separated bicycle facilities are present on the south end of town.

1.1.2 Freight

- **Multimodal Conflicts.** Currently, most freight travels on U.S. 101, a designated freight route and Reduction Review Route. Freight traffic can present potential conflicts between truck drivers and pedestrians/bicyclists crossing the street.
- **Congestion.** Freight trucks can also cause congestion on U.S. 101, as large trucks turning onto side streets often block multiple lanes of traffic.
- **Additional Connections.** Several industrial sites, located along Rosa Road/Fillmore Avenue may benefit from additional roadway connections from U.S. 101 that would allow trucks to avoid passing through the center of Bandon.
- **Loading Zones.** There are currently no designated loading zones in commercial areas, including in Old Town, an area in central Bandon along the Coquille River, which acts as Bandon's downtown area and tourism hub. Trucks will often park in the middle of the street while making deliveries to bars and restaurants in Old Town. Curb management and loading zones will need to be balanced with demand for parking.

1.1.3 Traffic Operations

- **Mobility Targets.** Roadway mobility targets are based on volume-to-capacity (v/c) ratios. Only one intersection is expected to operate with a v/c ratio that exceeds its mobility target: U.S. 101 and 1st Street/OR 42S. This intersection also operates at a level of service (LOS) D. This intersection may require additional measures to ensure it meets mobility targets in the future.
- **Queue Lengths.** None of the queue lengths exceed the storage length or the space between intersections.
- **Traffic Congestion.** City staff and community members have noted seasonal congestion from tourist traffic. Though actual measured delay is not substantial, congestion occurs during busy summer months at certain times. Perceptions of congestion are equally important to consider. During congested periods, particularly when tourism levels are high in the summer, drivers may behave in ways that compromise safety for all roadway users, and delays are especially frustrating for local residents.

1.1.4 Parking

- **On-Street Parking in Busy Areas.** Parking needs are high in and near Old Town Bandon and Beach Loop Road. On-street parking may be difficult to find in summer months when tourism is high.
- **Parking Limits and Costs.** All on-street parking in Bandon is free and allows unlimited time stays. Time-limited parking could allow higher turnover in popular areas, such as Old Town and Beach Loop Road.

- **Availability of Public Parking.** While on-street parking constraints are evident within Old Town Bandon, parking is generally available within a short walking distance. During community representative interviews, several people expressed the opinion that parking is not an issue; drivers may not be able to find parking directly near their destination and may have to walk a block or two, but parking in public off-street lots is available. Basic parking management strategies can help redirect demand into areas with surplus parking, while freeing up more convenient, centrally located stalls for higher turnover users.
- **Lack of Parking Signage.** On-street signage and wayfinding to public parking lots is virtually nonexistent. Public parking lots are available but underutilized as a result of the lack of signage.
- **Lack of Comfortable Crossings near Parking.** Several public parking lots are located on the east side of U.S. 101, requiring people to cross the highway to access Old Town. The lack of comfortable, well-marked, visible crossing locations may prevent people from using these parking lots.
- **Support for Parking Strategies.** Participants in community representative interviews generally expressed support for Old Town time-limited parking and wayfinding directing drivers to public parking lots.

1.1.5 Walking and Bicycling

- **Pedestrian Level of Traffic Stress.** Generally, streets that received a PLTS rating of good or excellent were collectors located within the core area of the city where sidewalks are present and vehicle speeds are low. Roadways with the highest stress rating for pedestrians (PLTS 4) include U.S. 101, Riverside Drive NE, Beach Loop Road, and Fillmore Avenue/Rosa Road south of 11th Street, due to a lack of sidewalks and moderate speeds.
- **Bicycle Level of Traffic Stress.** The BLTS analysis showed that generally, less stressful bikeways are located along neighborhood streets with lower speeds, regardless of the presence of designated bicycle facilities. The entire length of U.S. 101 within Bandon City limits was rated as BLTS 4 (most stressful) due to moderate to high speeds, high traffic volumes, no physical separation from traffic, and multiple travel lanes. Bicycle lanes exist along some segments of U.S. 101; they are narrow, unprotected, and disconnected. The curve on U.S. 101 near Old Town has no bike lanes or shoulders, limited sight distance, and fast-moving vehicular traffic.
- **Street Lighting.** Street lighting outside of Old Town is relatively low. Several streets in Bandon with high levels of pedestrian and cycling use may warrant additional pedestrian-scale lighting. This will have to be balanced with the value of limiting light pollution.

Crossings

- **Crossings on U.S. 101.** As indicated in the safety section, and as expressed by community members, safer crossings on U.S. 101 are critical to the city's bicycling and walking network. Many community members stated that safer crossings on U.S. 101 were their top priority.
- **Additional Crossing Locations.** There are relatively few marked and/or enhanced crossings on U.S. 101. Additional pedestrian crossings should be considered on U.S. 101.
- **Enhanced Crossing Treatments.** Enhanced treatments, including pedestrian signalization such as rectangular rapid-flashing beacons, could be considered in areas of high crossing demand,

including areas with high volumes of tourist traffic. During community representative interviews, people expressed support for improving crossing options on U.S. 101.

- **Crosswalk Visibility**
 - **Medians and Enhanced Crosswalks.** Community members expressed a desire for more visible and prominent medians and crosswalks on U.S. 101 to address the safety of residents and tourists walking to Old Town. Crosswalk visibility enhancements may include high-visibility crosswalks, lighting, and signage and pavement markings.
 - **U.S. 101 and Fillmore Avenue.** Community members stated that for drivers, there are visibility issues at the U.S. 101 and Fillmore Avenue intersection, and it can be difficult to see pedestrians trying to cross.
 - **U.S. 101 – 11th Street to Grand Avenue SE.** The roadway curvature of U.S. 101 from 11th Street to the Face Rock Creamery presents significant visibility issues. People driving at high speeds through this segment may not be able to see pedestrians trying to cross the street. Community members expressed that they felt that this is the most dangerous section of U.S. 101.

Sidewalks

- **Presence of Sidewalks.** During conversations with community representatives, participants generally expressed that sidewalks are mostly present where people want them, though some areas that see lots of pedestrian use could be improved.
- **Separation from Traffic.** With high speeds, lack of consistent bike lanes, and narrow sidewalks, U.S. 101 would benefit from improvements that separate pedestrians from traffic.
- **Local Streets Lack Sidewalks.** With the exception of neighborhoods off of Seabird Drive, most residential areas lack sidewalks entirely. The sidewalk network is largely in place on collector and arterial streets. Sidewalks are inconsistent where present; they are narrow in some places and nonexistent in others.
- **Missing Pedestrian Connections.** Missing connections for people walking or using a mobility device include:
 - **Connections to parks and natural areas.** Beach Loop Road, a scenic route that connects to several beaches, and Jetty Road, which connects to Bandon South Jetty Park, lack sidewalks, bike lanes, and shoulders. The lack of sidewalks in busy pedestrian areas, including Beach Loop Road, limits pedestrian mobility and causes conflicts between people walking, riding bicycles, and driving.
 - **11th Street SW.** Sidewalks are present along the north side of the street, but pedestrians would benefit from sidewalks on both sides of the street, as 11th Street SW is one of the few connected east-west roadways in the city. It provides access to popular community destinations such as City Park, the Bandon Community Center, the Sprague Community Theater, the Bandon Public Library on the west side of U.S. 101, and commercial areas and Southern Coos Hospital and Health Center on the east side of U.S. 101.
 - **8th Street SW.** 8th Street SW, an east-west connection from U.S. 101 to Beach Loop Road, lacks sidewalks, bike lanes, and shoulders. Destinations along 8th Street SW include Bandon High School, the Bandon Public Library, and Coquille Point Trail.

- **Oregon Avenue.** Oregon Avenue, a north-south roadway alternative to walking on U.S. 101, connects Old Town with destinations along 8th Street SW. Oregon Avenue lacks sidewalks, bike lanes, and shoulders.

Safe Routes to School

- **New Crosswalks.** The 2020 *Safe Routes to School Plan* (City of Bandon 2020) proposes installing new crosswalks at 10 locations near the middle school and high school campus area.
- **Additional Improvements.** The plan calls for curb extensions, curb ramps, and pedestrian crossing signs to facilitate safer walking connections to the schools along Franklin Avenue SW, 9th Street SW, 11th Street SW, and U.S. 101.

Bicycle Facilities

- **Limited Dedicated Bike Facilities.** There are limited dedicated bicycle facilities in Bandon, which impacts the bicycling experience and presents unmet needs for safe bicycle facilities to help residents and visitors access key destinations within the city.
- **Scenic Bikeways.** Special consideration should be given to the lack of bicycle facilities along popular scenic areas, including along Beach Loop Road and the designated Oregon Coast Bike Route.
- **Shared Bike Facilities.** Many local and collector streets in Bandon could be candidates for shared bikeways or shoulder bikeways. There may be a need to provide safe bicycle facilities connecting residential areas to commercial destinations in Bandon. Given the relatively low volume of traffic on the local and collector streets, an emphasis on “neighborhood greenways” may meet the need for a safe and comfortable interconnected bicycle network through and between Bandon’s neighborhoods.

1.1.6 Public Transportation

- **Public Transit.** Bandon’s only local public transit service is the Bandon Dial-a-Bus service. There is no fixed route transit service within Bandon. Curry Public Transit provides a fixed route service to cities along the coast.
- **Populations that may Benefit from Public Transportation.** Bandon has a high percentage of older adults, people with disabilities, and low-income households compared to the rest of the state. Access to transportation is an important factor in allowing these populations to access services and live independently.
- **Public Transportation Destinations.** Community destinations that may support additional transit frequency include multifamily housing, senior living facilities, and commercial business hubs such as Old Town Bandon.
- **Bus Amenities.** The bus stop at Ray’s Food Place that serves the intercity Coastal Express route lacks dedicated seating or benches and is largely unmarked.

Expanded Transportation Options

While Bandon Dial-a-Bus services provide flexibility for those needing transit, these services require riders to plan and schedule their trip ahead of time. Additional fixed-route transit services, shuttles, or on-demand services would provide reliability to frequent riders. Through conversations with community members, the project team learned that the following public transportation services may be desired within the community:

- **Local Shuttle Options.** Shuttles between senior living facilities, grocery stores, the library, and the senior center. Several people mentioned that it would be useful to have local transportation for seniors, kids, and tourists that is convenient, frequent, and marketed widely.
- **Information on Existing Services.** Several community representatives stated that not many people know about the Dial-a-Bus service and suggested making information more readily available and more widely promoted so community members know that the service exists and have information on how to use it.
- **Tourist Trolley.** Community members support reinstating a shuttle between public parking lots and popular destinations, including Old Town, similar to the prior trolley service.
- **Improved Intercity Services.** Because of the high demand for housing in Bandon, many local workers are employed in Bandon but live in Coos Bay and Langlois. Most of these residents rely on car ownership for transport to jobs in Bandon. Curry Public Transit currently provides limited support to workers trying to access jobs during evenings or weekends, with no service offered on Sundays. A local business owner stated that several of their workers struggle with the cost of owning a car and paying for gas to commute into town.
- **Rideshare Services.** A community representative suggested that subsidized rideshare services, such as Uber and Lyft, or other on-demand services may be more beneficial to community members and visitors rather than fixed bus routes.

1.1.7 Emergency Response

- **Tsunami Inundation Zone.** Much of Bandon, including popular community destinations and commercial areas, is within the inundation zone, based on analyses by the Oregon Department of Geology and Mineral Industries.
- **Evacuation Route Wayfinding.** Consistent wayfinding for tsunami evacuation routes may be vital in case of a seismic event. It is unclear from this analysis if existing signage is adequate. Projects included in the TSP can explore providing a more connective bicycle and pedestrian network that supports the safe and efficient movement of community members in the case of an emergency.

1.1.8 Safety Concerns and Deficiencies

- **Crash Summary.** Crash data from 2016 through 2020 show that crashes occurred most frequently on U.S. 101. During this 5-year period, 94 crashes occurred, with crash severities ranging from property damage only to fatality. Two crashes within this period resulted in fatalities.

- **Crash Severity.** Of the 94 total car crashes, 57 involved property damage only (no injury), 26 resulted in a possible injury, 7 resulted in a suspected minor injury, 2 resulted in a suspected serious injury, and 2 resulted in fatalities.
- **Crashes Involving People Walking or Biking.** Analysis focused on crashes involving people walking or cycling shows a total of three crashes; two crashes involved a person walking, while one crash involved a person cycling. One crash involving a pedestrian resulted in a suspected serious injury. The other crash involving a pedestrian occurred on a roadway curve on U.S. 101; the pedestrian was struck while crossing the highway where a crosswalk or median was not present, resulting in a fatality. The single crash involving a cyclist resulted in a possible injury to the cyclist. All crashes involving people walking or biking occurred on U.S. 101 and may have been caused by visibility issues.
- **Crash Locations.** Crashes tended to cluster along U.S. 101 between 11th Street SW and Fillmore Avenue SE. Intersections of particular concern on U.S. 101 include 11th Street SW, 9th Street SW, Elmira Avenue SE, and Fillmore Avenue SE, and the intersection of OR 42S/2nd Street E and North Avenue. At or near the intersection of U.S. 101 and Fillmore Avenue, 12 crashes occurred. On U.S. 101 between 11th Street SW and 8th Street SW, 17 crashes occurred.
- **Locations for Further Safety Review.** Safety analysis shows that the only intersection that has a crash rate over the 90th percentile crash rate is Beach Loop Road at Seabird Drive. Therefore, this intersection is flagged for safety review. Crash analysis for roadway segments shows the crash rate for OR 42S exceeds the statewide crash rate and is flagged for further safety review.

2. STUDY AREA

Bandon is located on the southern Oregon Coast approximately 141 miles southwest of Eugene and 248 miles southwest of Portland. The Bandon TSP considers all land within city limits and the UGB. Bandon's city limits extend from the Pacific Ocean to as far east as Ohio Avenue NE, while extending as far north as Ferry Road and the Coquille River and as far south as Polaris Street. UGB boundaries share these same outer limits except for the southern UGB limit, the Bandon Airport. In central Bandon, the donut hole is outside of the Bandon city limits but still in the UGB. Recorded as part of unincorporated Coos County, this area has seen less development, services, and roads due to not being located within Bandon city limits. U.S. 101 runs through the center of Bandon and forms a spine that is both an important regional connection and hub for businesses. The Bandon TSP study area is shown in Figure 2-1.

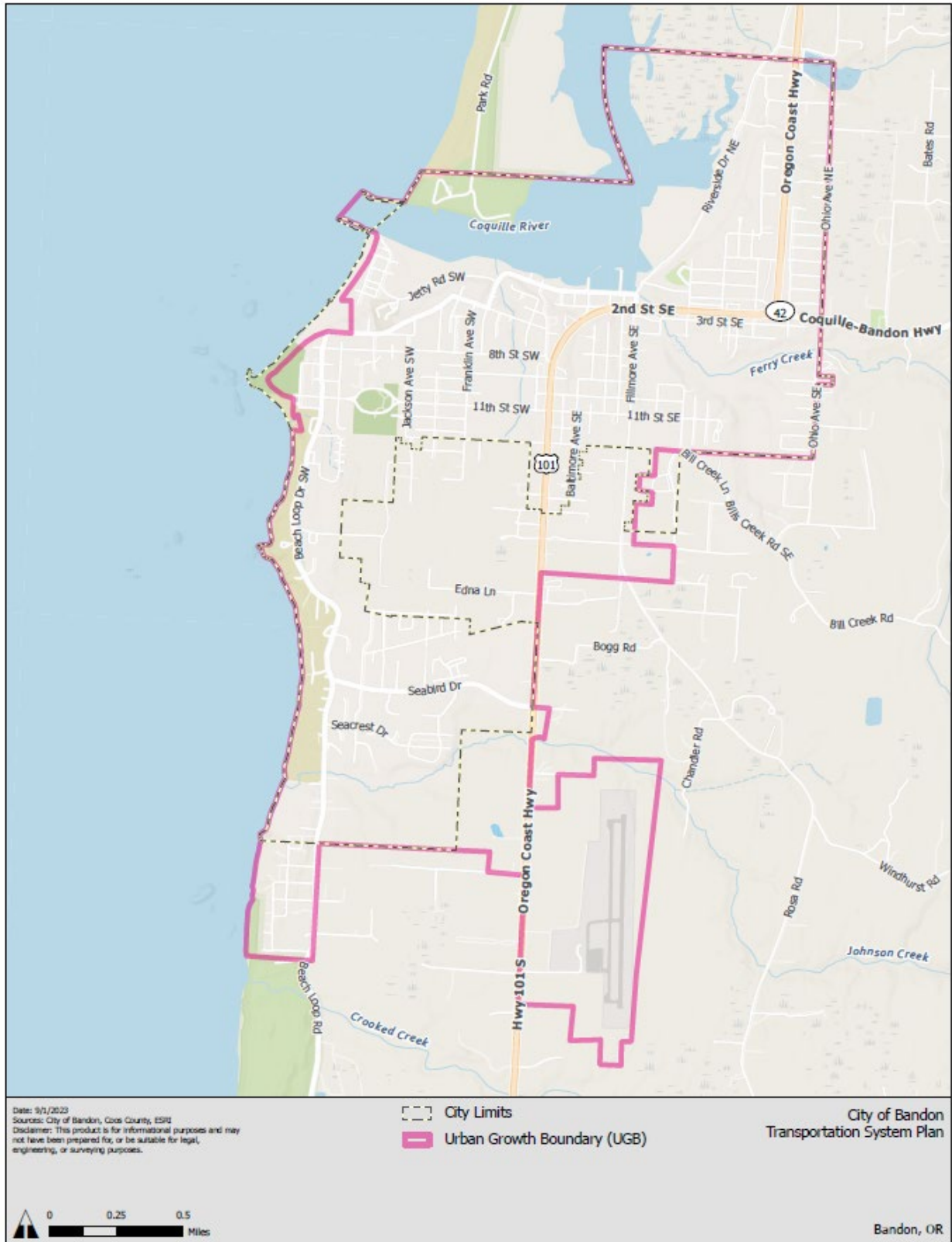


Figure 2-1. Study Area

2.1 Community Destinations

Bandon’s location on the Oregon Coast has long drawn people who wish to experience the majesty of the Pacific Ocean in a small-town setting. Prime destinations on the waterfront include Bandon Beach, Bandon South Jetty Park, Face Rock State Scenic Viewpoint, and the Coquille River Lighthouse. Many visitors flock to Bullards Beach and Bandon Dunes Golf Resort, both north of the city limits. Tourists and residents alike frequent Old Town (Figure 2-2), an area in central Bandon along the Coquille River. Old Town contains a collection of restaurants, breweries, hotels, and local businesses and acts as Bandon’s downtown area and tourism hub. Beach Loop Road provides a premiere scenic driving, walking, and biking experience along the Oregon Coast. Employment sites are loosely clustered along U.S. 101 and include the Bandon City offices near Oregon Avenue SE and a group of offices around the intersection of U.S. 101 and 11th Street SW. Other community destinations include grocery stores such as Ray’s in the Bandon Shopping Center, City Park, the Sprague Community Theater, and public services such as the Bandon Public Library. Key community destinations are listed in Table 2-1 and are shown in Figure 2-3.



Figure 2-2. Gateway Sign to Old Town Bandon at U.S. 101 and 2nd Street NE

Table 2-1. Community Destinations

Numbers correspond to locations on Figure 2-3.

Medical Clinics and Hospitals	Schools
1. Southern Coos Hospital & Health Center	22. Harbor Lights Middle School
2. Southern Coos Specialty Clinic	23. Ocean Crest Elementary School
3. Family Healthcare	24. Bandon Senior High School
4. North Bend Medical Center - Bandon	25. Bandon Head Start
5. Coast Community Health Center	26. Bandon Community Preschool
	Employment Centers
Senior Centers and Assisted Living Facilities	29. Bandon City Offices
6. Westwind Court (Assisted Living Facility)	30. Bandon School Superintendent
7. Pacific View Senior Living Community	31. U.S. 101 / 11th Street Southeast
50. Pacific Pines Senior Apartments	28. Old Town Bandon
8. Bandon Senior Activity Center	
9. Mike's Place Adult Foster Home	Parks and Beach Access
	33. South Jetty Park
Grocery Stores, Convenience Stores, and Shopping Centers	34. Bandon Community Garden
10. Wilsons Market Bandon	35. Bandon City Park
11. McKay's Market	36. Oregon Islands National Wildlife Refuge
12. Fast Mart	37. Coquille Point National Wildlife Refuge
13. Highway Deli Mart	38. Face Rock State Scenic Viewpoint
14. Dollar Tree	39. Bandon State Natural Area
27. Bandon Shopping Center/Ray's Food Place	40. South Jetty Park
28. Old Town Bandon	44. Devil's Kitchen Vista Point
	45. Bandon Beach
Community Services	46. Coquille River Lighthouse
15. Bandon Community Youth Center	
20. Sprague Community Theater	Airport
18. Bandon Rural Fire District	48. Bandon State Airport
32. Bandon Chamber of Commerce	
20. Bandon Public Library	Multifamily Housing
21. Post Office	51. Grand Street Apartments
	52. Harvard Street Apartments
	53. The Colony at Bandon Cove

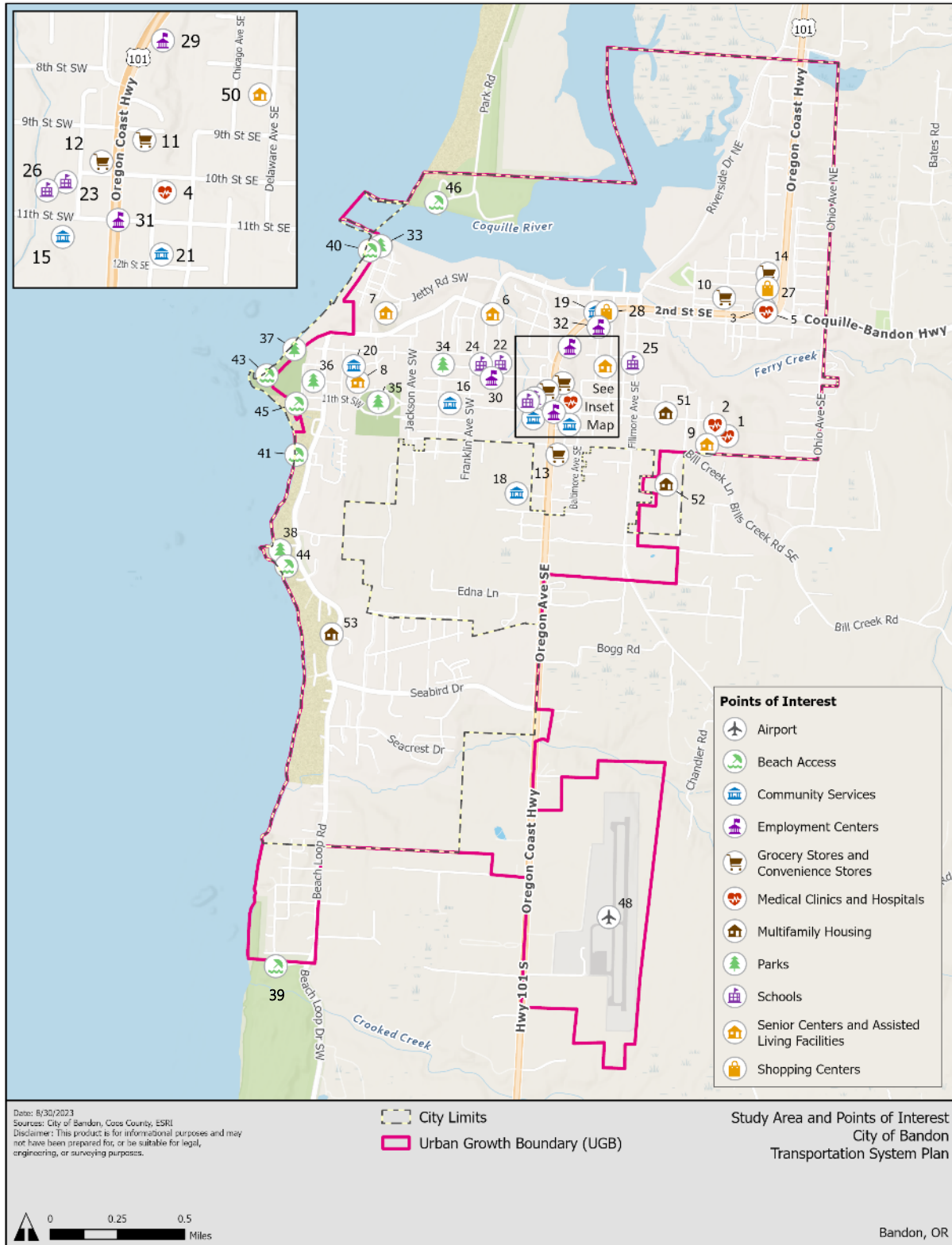


Figure 2-3. Key Community Destinations

2.2 Land Use

Bandon's land uses are primarily single-family residential, public facility, and commercial. Bandon experiences high levels of summer tourism because of its coastal location and natural features. Recreational opportunities are generally based around beach access areas and parks. Land uses within Bandon are shown in Figure 2-5.

- **Residential** land uses are most prevalent in the north, northeast, and south areas of Bandon.
- **Commercial** land uses are most prevalent along U.S. 101.
- **Industrial** land uses exist along the Coquille River, south Bandon near the airport, and the areas adjacent to Fillmore Avenue SE and 11th Street SE.
- **Public** land uses are scattered along the coastline and west Bandon.
- **Environmental** land uses primarily exist along Bandon's coastline.

Constrained and undevelopable lands in Bandon primarily result from their location near floodplains from creeks that flow to the Pacific Ocean. Steep slopes of over 25% also inhibit development and are generally located adjacent to these creeks. Floodplains and steep slopes extend from the Coquille River, Ferry Creek, and Johnson Creek. Steep slopes are also present along the majority of Bandon's coastline. Proposed transportation projects must consider the location of floodplains and steep slopes. Constrained lands within the city are displayed in Figure 2-6.

2.2.1 Bandon's "Donut Hole"

In central Bandon, the donut hole is outside of the Bandon city limits but still within the UGB. This donut hole shape formed as a result of the following factors:

- **Wetlands.** The 1997 *South Bandon Refinement Plan*¹ included a detailed wetlands identification, which indicated a high likelihood of significant wetland resources present in the donut hole area.
- **Desirable Locations for Development.** Developers and residents desired homes and properties along the coast, followed by development along Seabird Drive.
- **Utilities and Public Services.** Annexation of lands outside of city limits but within the UGB may strain City water resources. The City of Bandon currently has the capacity to only provide water for development inside of city limits. In the past, this has resulted in moratoriums on development within the city due to water limitations and lack of capacity to provide additional public services.

Previous City plans have called for an alignment of future collectors through the donut hole. There is still a desire to identify roadway connections from Beach Loop Road to U.S. 101, though further study and potential mitigation would be required. The following collectors were identified as potential connections:

¹ In 1997, the City of Bandon completed the South Bandon Refinement Plan for Bandon's "Donut Hole" area. The study identified key design constraints in the study area due to the extensive wetlands present.

- **Franklin Avenue.** Franklin Avenue has the potential to provide an additional north-south connection through town and the right-of-way is still owned by the City.
- **Face Rock Drive/20th Street SW.** This planned roadway was intended to provide a major east-west connection, but the City has vacated the public right-of-way.

Proposed additions are shown in Figure 2-4, sourced from the 2000 Bandon TSP. To illustrate the donut hole, this area has been highlighted in blue.

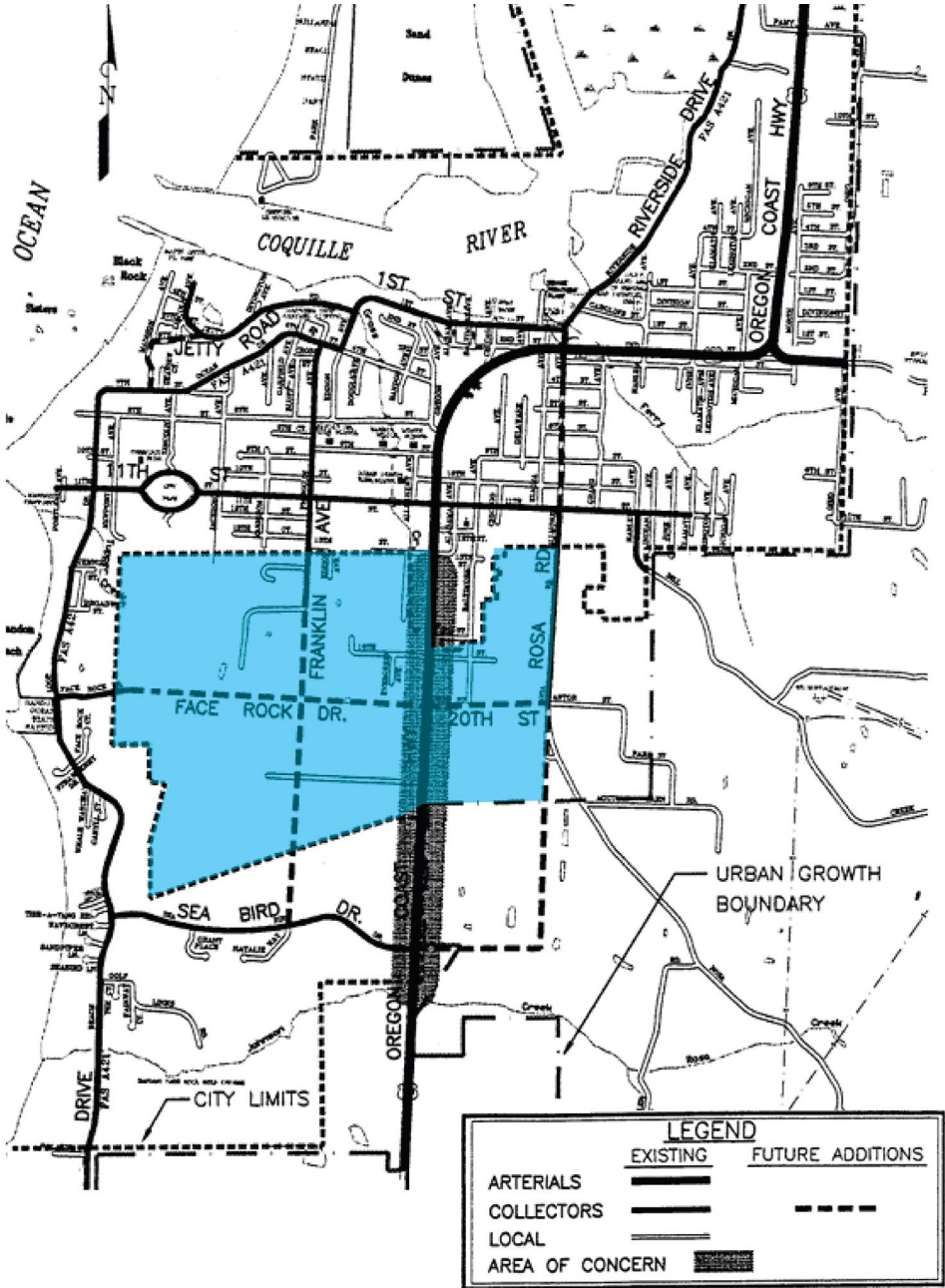


Figure 2-4. 2000 Bandon TSP Proposed Roadway Network Additions

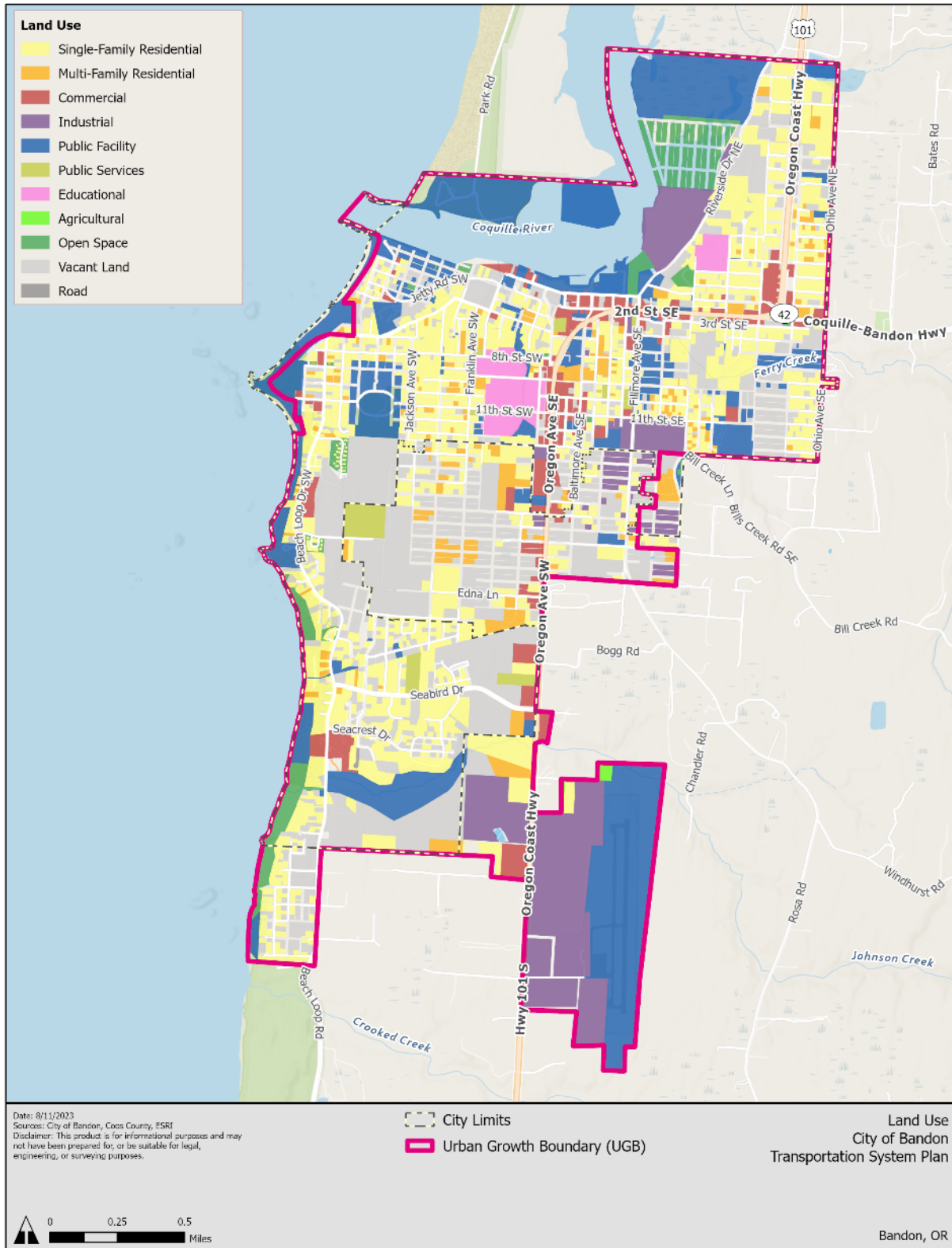


Figure 2-5. Land Use

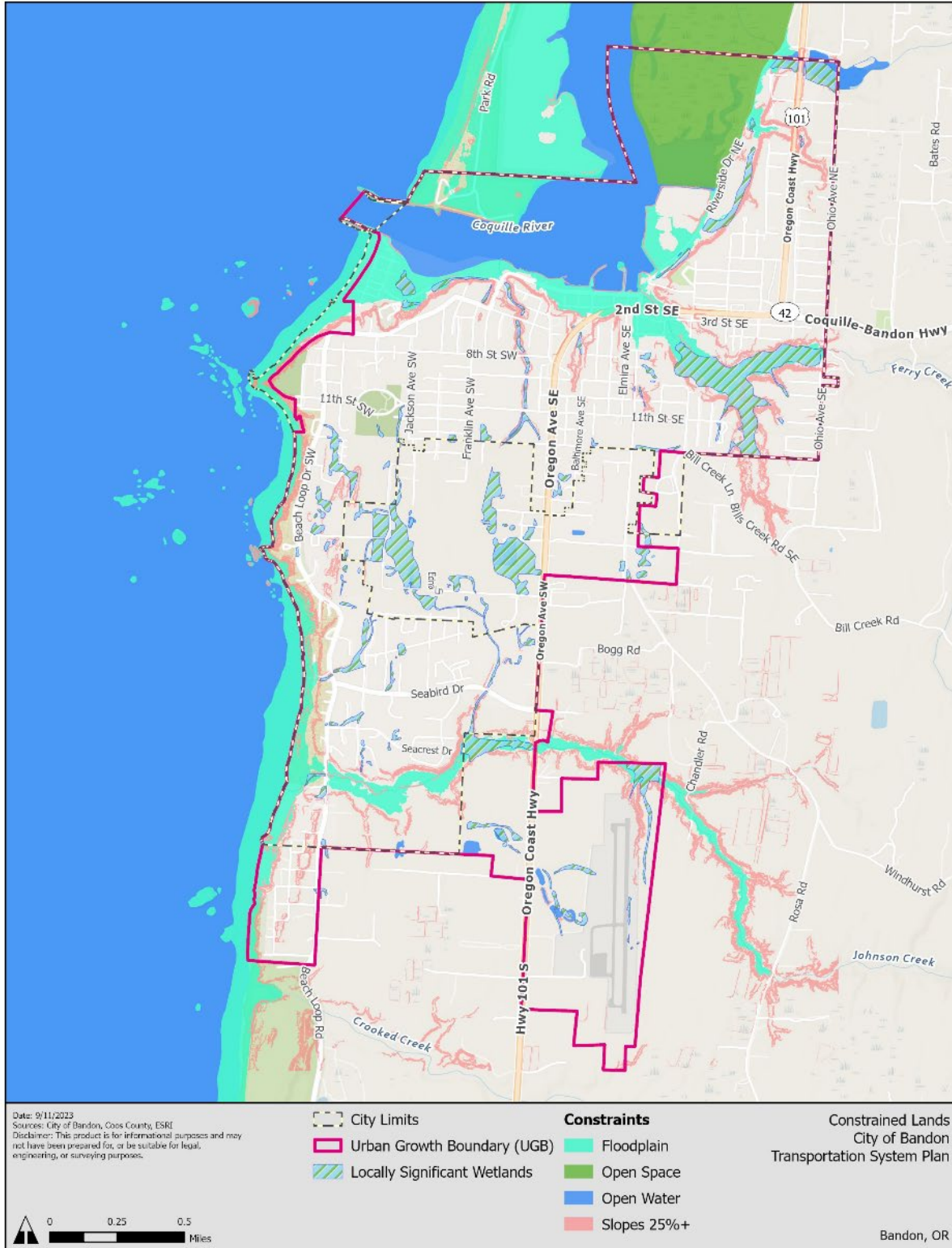


Figure 2-6. Constrained Lands

2.3 Zoning

A city's zoning heavily influences residents' transportation behavior. How far people must travel from their residences to work, learn, or recreate can be a factor in what transportation method they use. Bandon's zoning is primarily a mixture of residential and commercial zonings, with a majority of its western border zoned as a Controlled Development Zone. Bandon's zoning is displayed in Figure 2-7.

- Residential zonings are primarily situated in the north and northeast of town, with some residential pockets also present towards the southern border. The residential zonings allow a general mixture of single-family residences, duplexes, accessory dwelling units, manufactured dwellings, and multifamily dwellings. Multifamily housing is concentrated near Beach Loop Road and Three Wood Drive, Harvard Street and Harvard Street SE, 11th Street SE and Grand Avenue SE, 5th Street SE and Chicago Avenue SE, and 6th Avenue W and Jetty Road SW.
- Commercial zonings are primarily located along U.S. 101 and in Old Town, in the northwestern part of Bandon. They permit, among other uses, commercial retail sales and services, offices, recreation facilities, and automobile repair, sales, and services. Commercial zoning in Old Town is oriented towards promoting a mixture of businesses that will both serve residents and tourists, while other commercial zonings are oriented towards the general shopping needs of Bandon residents.
- Public Facility zones reserve publicly owned land for institutional uses such as parks and schools. Notable Public Facility zones include Bandon City Park and the area surrounding Bandon High School north of 13th Street SW and west of U.S. 101.
- Controlled Development zones are located along much of Bandon's coastline. They restrict development to less intensive densities to preserve the beauty and scenic nature of the oceanfront. While housing and recreational uses are permitted outright with commercial retail permitted on a conditional basis, developments must align with the character of the area and be at an appropriate scale.

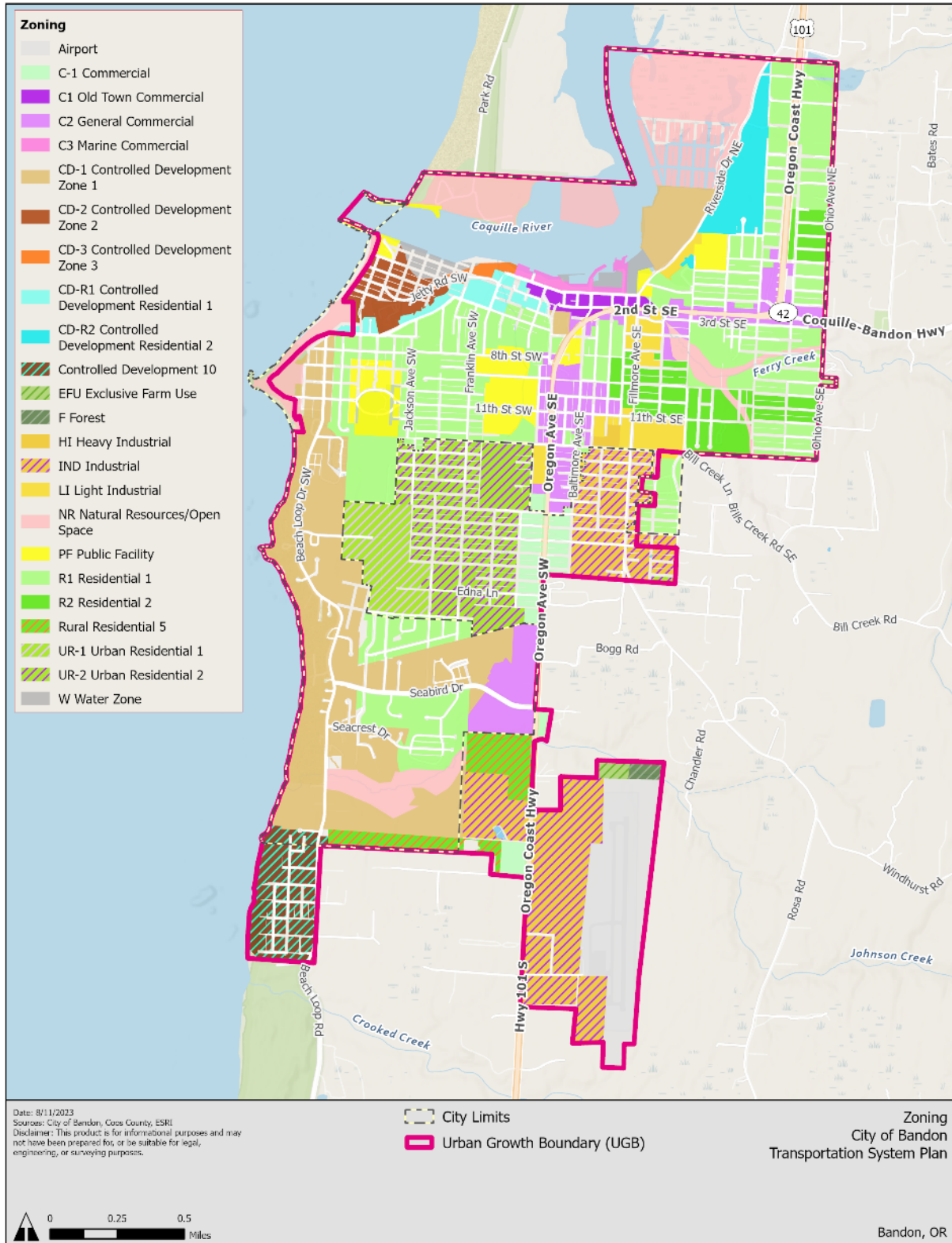


Figure 2-7. Zoning

2.4 Comprehensive Plan

Bandon's *Comprehensive Plan* (City of Bandon 2012) inventories existing conditions, identifies problems, includes goals and objectives, and includes a land use map to support achieving the desired goals and objectives. Zoning and land use maps shown above were informed by the *Comprehensive Plan*. Designations in the land use map include residential, commercial, industrial, and public/environmental areas. The designations are implemented by Bandon's zoning code, which provides directives for what can be built on each lot. Bandon's *Comprehensive Plan* was last updated in 2012.

2.5 Natural Resources and Environmental Barriers

Due to Bandon's proximity to the Oregon Coast, wetlands, creeks, and coastal habitats are located throughout the UGB, as shown in Figure 2-8. These valuable natural resources must be considered when developing transportation projects and may require mitigation strategies.

Estuary habitats are located along the Coquille River shore on the north end of Bandon. Coastal dune habitats are located along the coast on the west side of the city. Dunes are also located farther inland, south of the donut hole and north of Seabird Drive. Streams and locally significant wetlands are distributed throughout the city, with a concentration of wetlands within the donut hole.

The 1997 *South Bandon Refinement Plan* included a detailed wetlands identification, which indicated a high likelihood of significant wetland resources present in the donut hole area. Previous plans, relying on less detailed wetland inventories, called for an alignment of future collectors through the donut hole. New roadways may still be appropriate to consider connectivity in this area, though proposed routing of collectors through the donut hole must carefully consider existing wetlands and mitigate environmental impacts.

According to a Local Wetlands Inventory conducted in 2003, the Ferry Creek wetland area, located along Ferry Creek, was determined to be a wetland of special interest for protection, as it provides habitat for the listed threatened coho salmon. All other wetlands were not determined to have presence of federal or state-listed threatened, endangered, or sensitive species; critical habitat; or uncommon wetland plant communities.

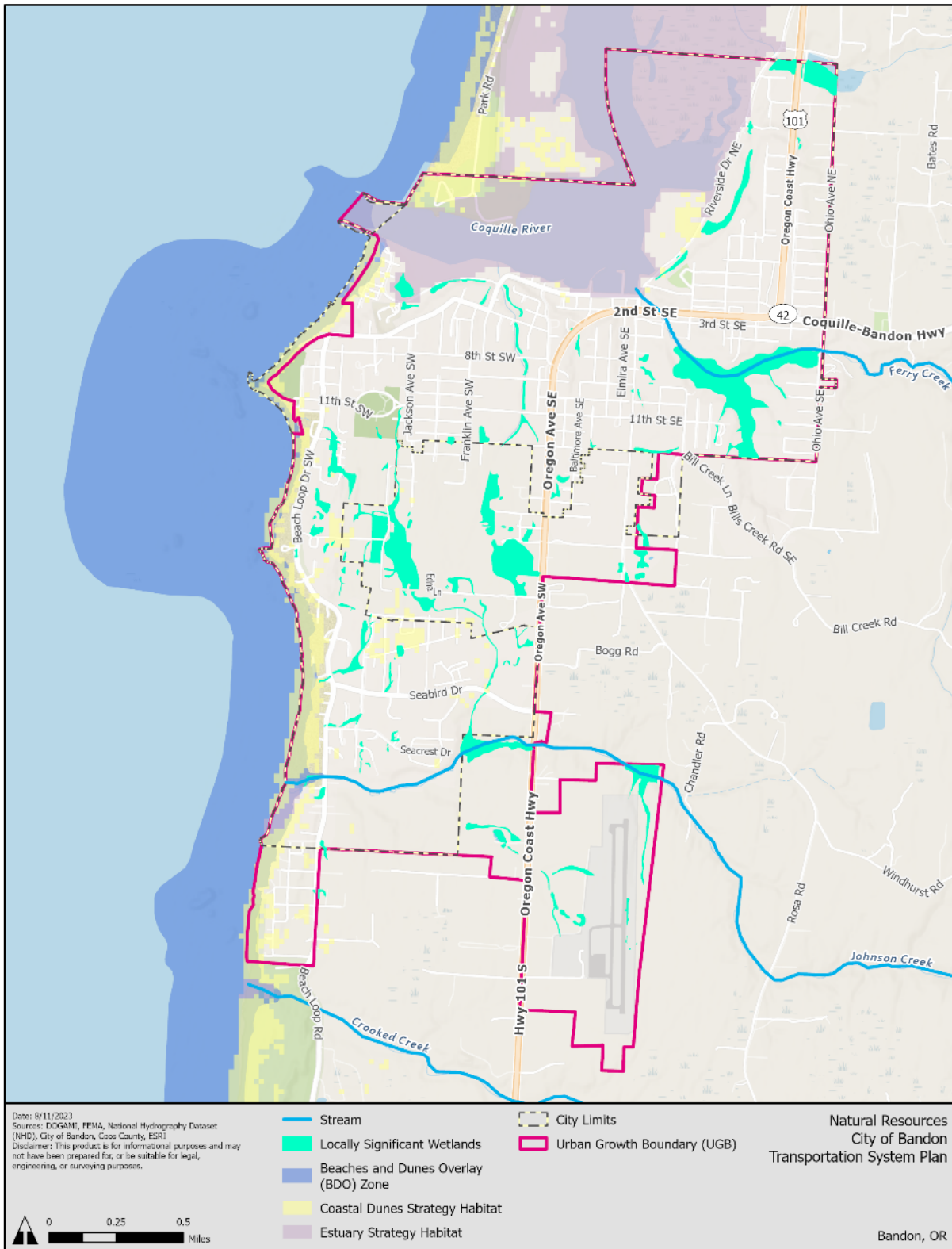


Figure 2-8. Bandon Natural Resources

2.6 Emergency Response

Bandon is a coastal town in a tsunami inundation zone and requires a coordinated emergency response to natural disasters. Figure 2-9 illustrates the scale of potential tsunami inundation throughout Bandon and how areas closest to the Pacific Ocean, such as Old Town, are susceptible to tsunamis set off by local or distant earthquakes. Tsunamis catalyzed by larger earthquakes may affect significant areas within the city, including community spaces, businesses along U.S. 101, Bandon High School, and neighborhoods in northeast and southwest Bandon.

Tsunami evacuation signs currently exist throughout Bandon, but are unclear and not consistently placed in high-traffic areas. Proper tsunami evacuation routes with adequate signage are critical to ensuring efficient evacuation in the case of a natural disaster. A robust effort to expand existing signage and create comprehensive evacuation procedures may be developed through a new emergency response plan. TSP projects can also provide opportunities to improve connections to existing and planned evacuation routes, including improved trails, paths, and bicycle and pedestrian networks. Federal Emergency Management Agency funding may also be able to be leveraged to aid projects that bolster infrastructure supporting emergency response.

2.7 Historical, Cultural, and Archaeological Sites

The land known as Bandon today is the ancestral home of the Coquille Indian Tribe and contains valuable archaeological and cultural artifacts. Bandon has a Memorandum of Understanding with the Tribe to consult with them on archaeological sites as part of the planning process and ensure that these sites are protected from disturbances. The Memorandum of Understanding may be triggered if archaeological fragments are unearthed during construction of new transportation projects.

Other cultural resources in Bandon include parks, cemeteries, and historic areas. Old Town Bandon, redeveloped in the early 1980s, offers access to local businesses for residents and tourists to enjoy. The historic Coquille River Lighthouse was built in 1891. Bandon's City Park includes the Bandon Disc Golf Course, Bandon Dog Park, and Russ Sommers Memorial Playground. Tribes have lived on the coast for thousands of years. Archaeological and cultural tribal artifacts are common along the immediate coastline of Bandon and inland as well. This cultural heritage is an important consideration when considering transportation capital investments that involve excavation and construction.

All cultural resources must be considered when planning transportation projects.

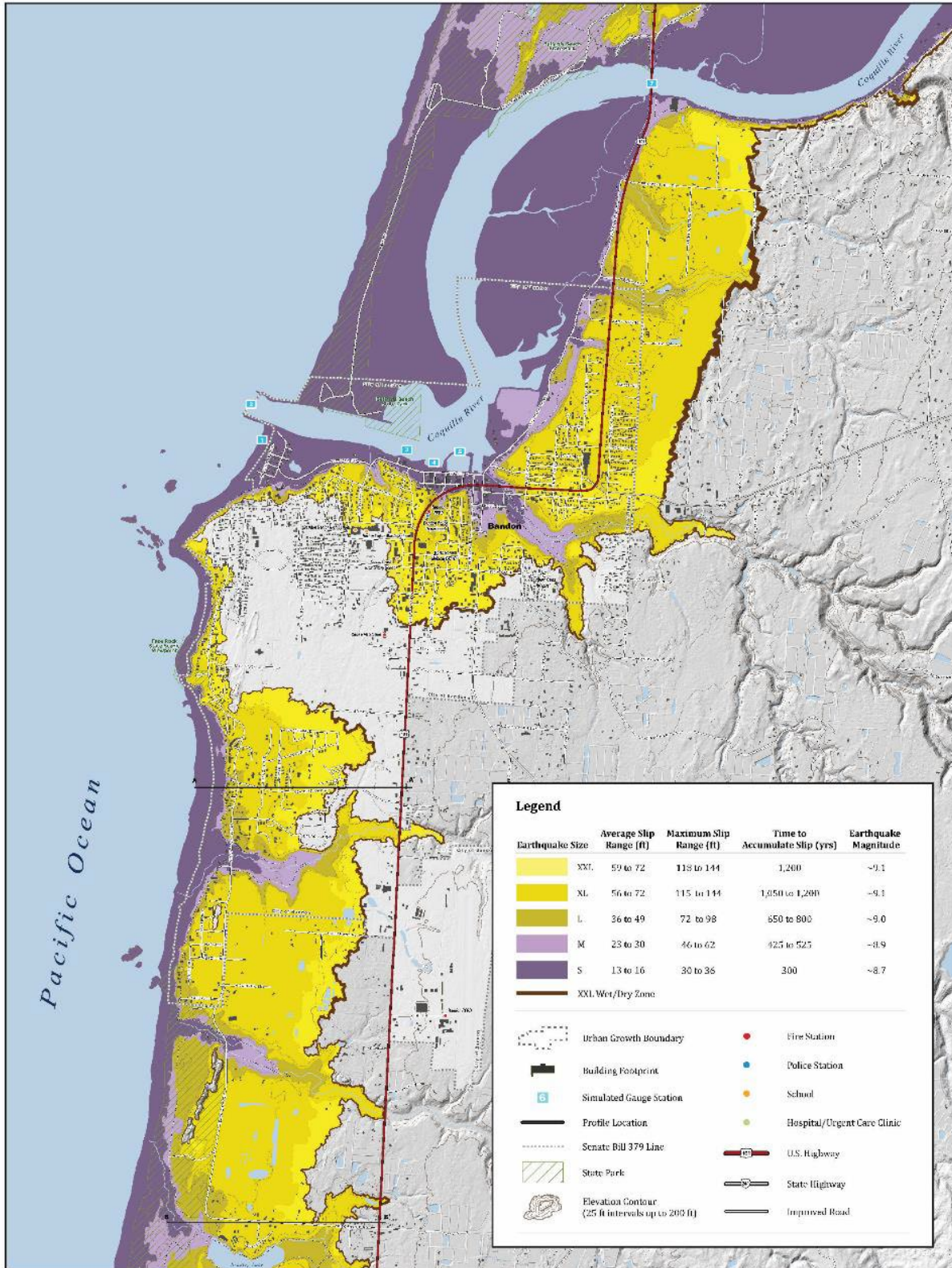


Figure 2-9. Tsunami Inundation Map for Bandon
 Source: Oregon Department of Geology and Mineral Industries

2.8 Population

Table 2-2 documents 2021 demographic estimates for Bandon, Coos County, and Oregon. According to 2021 American Community Survey 5-Year Estimates, Bandon’s population is 3,285 people. Notable demographics information includes the following:

- The population who identified as White only in Bandon is 89%.
- Older adults make up 34% of the population in the City, compared to 18% statewide.
- 23% of people in Bandon live with a disability, compared to 14% of people in Oregon.
- The portion of households with no vehicle is 17%, more than double the state level (7%).
- Bandon’s low-income population is higher than the state, at 43% compared to 29%.
- The percentage of families below the poverty level is 17%, more than double that of Oregon (8%).

For a map of these community characteristics, see the Bandon TSP Companion Map:

<https://experience.arcgis.com/experience/f6d141fa47db47eaa6b29db929e432d7/>

Table 2-2. Bandon Community Characteristics

	Bandon	Coos County	Oregon
Population	3,285	64,619	4,207,177
Race and Ethnicity			
American Indian and Alaska Native alone	0%	2%	1%
Asian alone	0%	1%	4%
Black or African American alone	0%	0%	2%
Hispanic or Latino alone	1%	7%	14%
Native Hawaiian and Other Pacific Islander alone	0%	0%	0%
White alone	89%	84%	74%
Some other race alone	0%	0%	0%
Two or more races	10%	5%	5%
Limited English-Proficiency Households	0%	0%	2%
Income Characteristics			
Low Income Population (200 percent or less of the Federal Poverty Level)	43%	36%	29%
Families Below Federal Poverty Level	17%	12%	8%
Age			
Youth (under 18)	17%	18%	21%
Older adults (65 years+)	34%	26%	18%
Persons with Disabilities	23%	23%	14%
No Vehicle Households	17%	8%	7%

Source: American Community Survey: 5-Year Estimates 2021, block group level

Red bold text indicates notable demographics percentages compared with the county or state

2.8.1 Title VI and Environmental Justice Communities

State and federal law through Title VI require the TSP to consider disadvantaged communities in the planning process, ensuring that benefits are not disproportionately distributed on the basis of race, color, or national origin.² The TSP must also address Environmental Justice populations, defined by Executive Order 12828 to include low-income and minority populations.³

Additionally, other vulnerable populations including people who have disabilities, older adults, and youth populations may be disproportionately affected by transportation deficiencies in Bandon. Bandon's growing population of older adults makes up approximately 34% of the population, compared to 26% in Coos County. In Bandon, 23% of people live with a disability, compared to 14% of people in Oregon. Bandon's low-income population is higher than the state, at 43% compared to 29%, respectively. These groups may lack the ability or desire to travel by car. People with disabilities can be negatively affected by incomplete or nonexistent sidewalks, as well as a lack of curb cuts and infrequent transit service. The specific needs of these communities must be considered in the development of future projects and programs.

2.9 Economy

Bandon has historically produced resources such as timber, produce, and cheese for export. Despite the tourist-based economy outpacing the local resource-based economy, exports of lumber and cranberries from Bandon are still substantial. The Bandon Dunes Golf Course and coastline are heavy tourist attractions where people can recreate at the beach while enjoying dining, shopping, and lodging options in Old Town Bandon. Events such as Circles in the Sand, the Port of Bandon Boardwalk Art Show, and the Bandon Cranberry Festival attract tourists and residents alike for community-building and investment in local artists and businesses. This influx of people into Bandon, notably Old Town Bandon, leads to regular booms in the economy as well as increases in traffic flows. A recent increase in the popularity of remote work has led to an increase in management and sales occupations in Bandon as of 2021 compared to 2019. Table 2-3 summarizes employment in Bandon in 2019 and 2021.

² Title VI of the Civil Rights Act of 1964 states, "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."

³ Refers to Presidential Executive Order 12828: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994) and related applicable laws and regulations. <https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf>

Table 2-3. Occupations in Bandon, Oregon (2019 and 2021)

Occupation	Estimate (2019)	Percentage (2019)	Estimate (2021)	Percentage (2021)
Management, business, science, and art	241	22%	296	26%
Service	508	45%	438	38%
Sales and office	219	20%	323	28%
Natural resources, construction, and maintenance	95	8%	85	7%
Production, transportation, and material moving	53	5%	10	1%
Total	1,116	100%	1,152	100%

Source: American Community Survey 5-Year Estimates, 2021 and 2019
 Note: Table is for civilian employed population 16 years of age and older

3. EXISTING TRANSPORTATION SYSTEM INVENTORY

This section describes a comprehensive inventory of Bandon’s existing transportation system. This analysis is organized by the major infrastructure components that make up the City’s transportation system: streets, bridges, parking, freight, pedestrian, bicycle, public transportation, aviation, marine, rail, and pipeline infrastructure.

3.1 Road System

The TSP considers the existing network and characteristics of all streets within the city’s UGB. The City’s street system provides mobility and access for the vast majority of Bandon’s transportation modes. Old Town Bandon, located off of U.S. 101, functions as the City’s downtown area and major commercial hub, while 11th Street provides access between the coast and destinations on the east end of town.

Few roads in Bandon provide continuous connections north to south or east to west. Notable north-south roadways include U.S. 101 and Beach Loop Road. Notable east-west roadways include 11th Street and Seabird Drive. General roadway characteristics of arterials and collectors in Bandon are noted in Table 3-1.

Table 3-1. Roadway Characteristics

Roadway	Functional Classification	Roadway Owner	Travel Lanes	Lane Widths	Shoulder Width
U.S. 101	Rural Principal Arterial	ODOT	4 – 13th Street SW to 4th Street NE 2 – Elsewhere in Bandon	12–18 feet	4–5 feet
OR 42s	Rural Minor Arterial	ODOT	2	13 feet	2–6 feet
Riverside Drive NE	Rural Major Collector	Coos County Highway	2	10–11 feet	2 feet
1st Street, Edison Ave SW, 4th Street SW, Ocean Drive SW, 7th Street SW	Rural Major Collector	City of Bandon	2	10–13 feet	0–5 feet
Beach Loop Road	Rural Major Collector	City of Bandon	2	10–13 feet	1–5 feet
11th Street SW	Rural Major Collector	City of Bandon	2	13 feet	0–6 feet
Face Rock Drive/ 20th Street SW	Rural Major Collector	City of Bandon; unknown	2	6–12 feet	0 feet
Seabird Drive	Rural Major Collector	Coos County Highway	2	9–10 feet	6 feet
Franklin Ave SW	Rural Major Collector	City of Bandon; Coos County Highway	2	11–15 feet	0 feet
Fillmore Ave SE	Rural Major Collector	City of Bandon	2	10–14 feet	0–7 feet
Rosa Road	Rural Major Collector	Coos County Highway	2	9–10 feet	0 feet

ODOT = Oregon Department of Transportation

3.1.1 Pavement Condition

Within the UGB but outside City limits, many streets are gravel roadways with dead ends. Many of these streets are within Bandon’s donut hole, including 18th Street SW, 19th Street SW, 20th Street SW, Jackson Road, and 24th Street SW/Edna Lane. Other gravel roadways within the UGB are found on the south end of town. This condition limits connectivity to local destinations and may limit development in these areas. All existing gravel roads are classified as local roads, with the exception of 20th Street SW/ Face Rock Drive east of Bandon Christian Fellowship, and they generally lead to residences or small lodging establishments.

As reported by the State of Oregon’s TransGIS database, pavement conditions along U.S. 101, the primary north-south thoroughfare in Bandon, vary from fair to very good. From Bandon’s southern city limits to 13th Street SW, the pavement is classified as very good. North of 13th Street SW to OR 42S, the pavement is classified as fair. From OR 42S to northern Bandon city limits, the pavement is classified as good.

3.1.2 Roadway Configuration

Besides a 950-foot section of OR 42S, U.S. 101 is the only ODOT (state-owned) facility within Bandon City limits. Its roadway width and lane configuration changes as it passes through the city. Two typical cross sections are displayed in Figure 3-1 and Figure 3-2.

From the south city limits to 13th Street, and from the north city limits to roughly 2nd Street NE, U.S. 101 has three lanes: two travel lanes and a center turn lane. From 13th Street to just north of 2nd Street NE, U.S. 101 has five lanes: four travel lanes and a center turn lane. This five-lane cross section is present through the city center and major commercial areas of Bandon. Because the lane configuration widens from two travel lanes to four travel lanes at 13th Street (at the south end) and 2nd Street NE (at the north end), this may facilitate passing and speeding through the main part of the city.

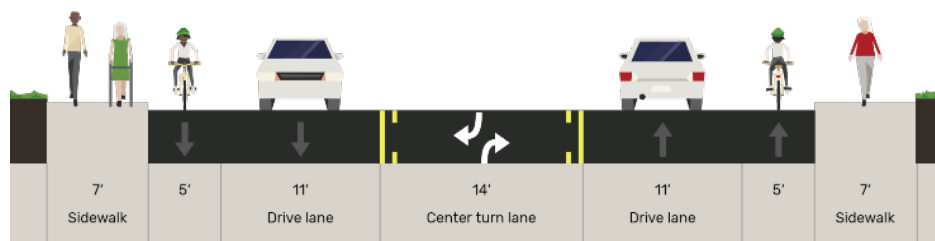


Figure 3-1. U.S. 101 Cross Section – Two Travel Lanes (60-foot right-of-way)
From south city limits to 13th Street and from north city limits to roughly 2nd Street NE

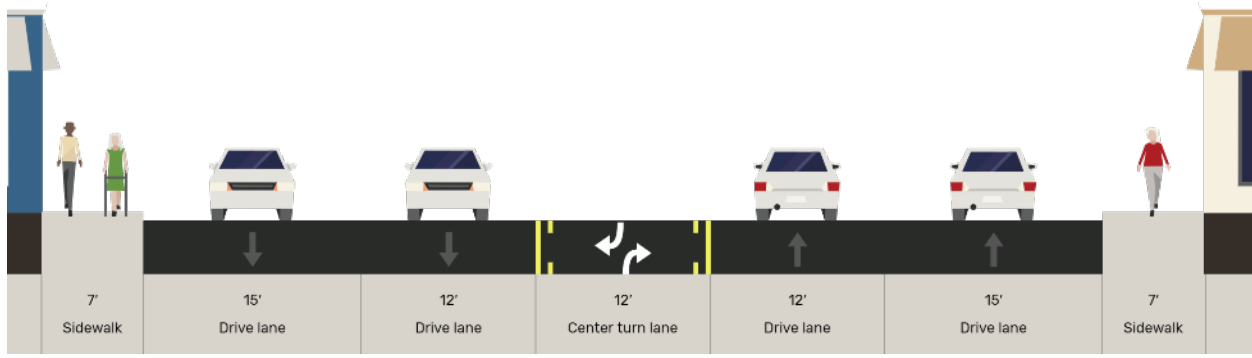


Figure 3-2. U.S. 101 Cross Section – Four Travel Lanes (80-foot right-of-way)
 From 13th Street to north of 2nd Street NE

3.1.3 Access Management

Access management balances access to developed land with ensuring movement of traffic in a safe and efficient manner. U.S. 101 is an ‘access-controlled’ highway with limited accesses to adjacent land uses to preserve unhindered vehicular traffic flow. Therefore, highway accesses (usually in the form of interchange on/off ramps or intersections) are spaced further apart than on local street systems, which must provide higher access to adjacent land uses. Access spacing standards are governed by the roadway jurisdiction, functional classification, vehicle volume, and posted speed. Access spacing standards for roads under ODOT jurisdiction are outlined in Appendix C of the *Oregon Highway Plan* and shown in Figure 3-3. The City of Bandon does not have defined access spacing standards for local streets.

U.S. 101 is classified as a statewide highway with a posted speed of 30 to 55 miles per hour (mph) within the UGB. The average annual daily traffic (AADT) ranges between 8,500 to 14,650 vehicles per day. These characteristics determine the minimum interchange and access spacing distances. The minimum access spacing for statewide highways in rural areas ranges from 770 feet (where posted speeds range from 30-35 mph) to 1,320 feet (where the posted speed is 55 mph).

Along all segments within the Bandon UGB, U.S. 101 does not meet access spacing standards for a statewide highway with an AADT greater than 5,000.

Table 14: Access Management Spacing Standards for Statewide Highways with Annual Average Daily Traffic (AADT) of More Than 5,000 Vehicles

Posted Speed (mph)*	Rural Expressway **	Rural Areas	Urban Expressway ** ***	Urban Areas ****
	Spacing (ft)			
55 or higher	5280	1320	2640	1320
50	5280	1100	2640	1100
40 & 45	5280	990	2640	800
30 & 35	-	770	-	500
25 & lower	-	550	-	350

Figure 3-3. Access Spacing Standards (ODOT)

3.1.4 Traffic Control Devices

The city contains three fully signalized traffic control devices, shown in Figure 3-4.

Fully signalized intersections occur at Highway 101 and the following cross streets:

- OR 42S
- Fillmore Avenue
- 11th Street

Other traffic control devices include:

- The U.S. 101 and 9th Street S intersection is marked with a pedestrian crosswalk and a pedestrian-activated flashing beacon.
- The U.S. 101 and Chicago Avenue intersection is marked with a pedestrian crosswalk and a pedestrian-activated flashing beacon.
- Most intersections of local streets and collector streets are controlled with stop signs. However, there are some locations which do not have traffic control devices.

3.1.5 Posted Speeds

Posted speed limits along U.S. 101 are highest on the north and south ends of Bandon, at 55 miles per hour, and lowest near Old Town Bandon at 30 miles per hour, as shown in Figure 3-4. Posted speed limits along other important roadways in Bandon are displayed in Table 3-2.

Table 3-2. Posted Speed Limits in Bandon

Road	Functional Classification	Posted Speed Limit (miles per hour)
OR 42S	Rural Minor Arterial	35
Seabird Drive	Rural Major Collector	35
Beach Loop Road	Rural Major Collector	25
11th Street SW	Rural Major Collector	25
Face Rock Drive	Rural Major Collector	25
Fillmore Avenue SE	Rural Major Collector	25
1st Street SE	Local	20
2nd Street SE	Local	20
9th Street SW	Local	20

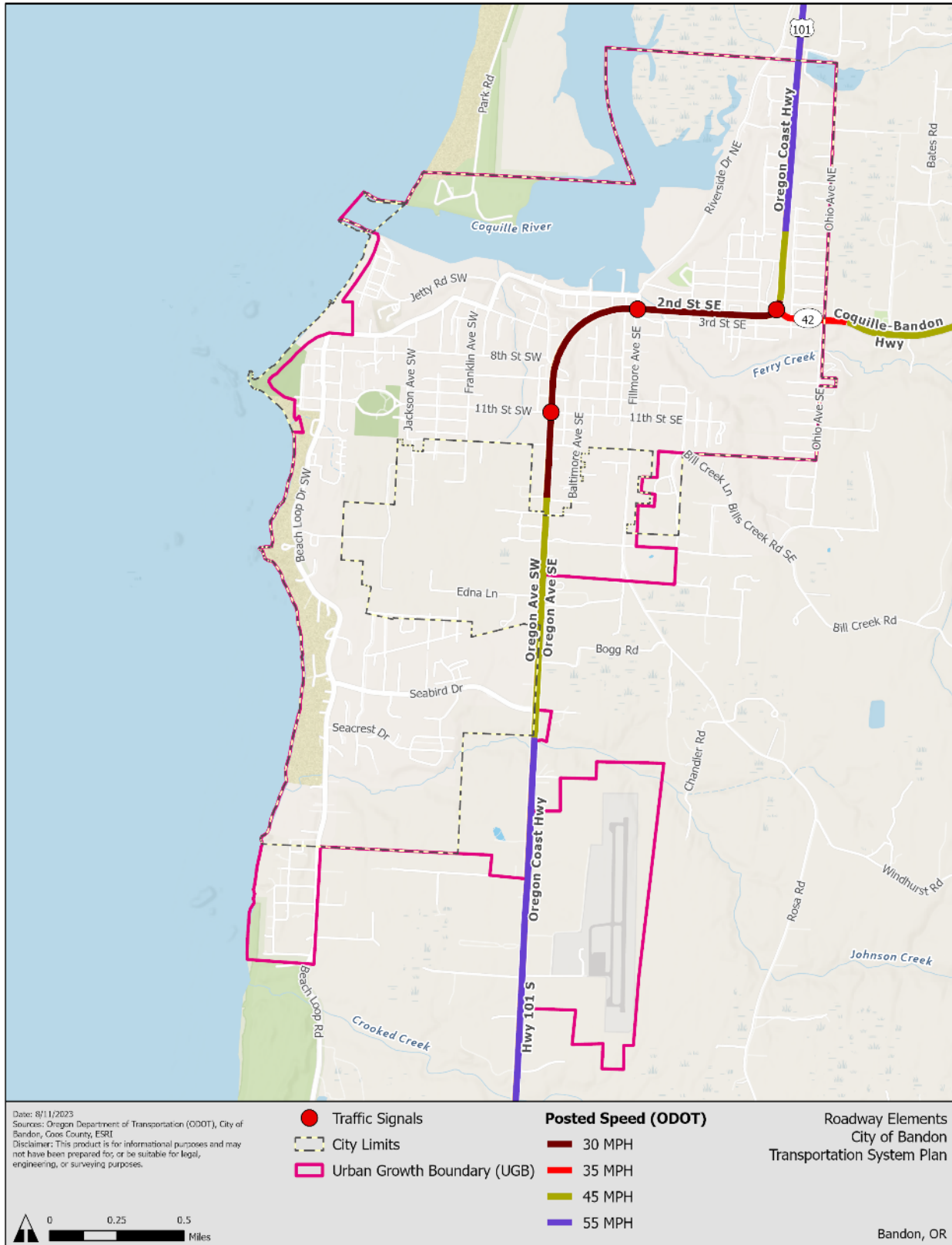


Figure 3-4. U.S. 101 Roadway Elements and Posted Speeds

3.1.6 Functional Classification

Roadway functional classifications are used to determine design standards for roads and are assigned to all public roads using federal guidelines approved by the Federal Highway Administration. Roadways are classified using arterial, collector, and local designations, depending on the intended function, type of service, amount of traffic the facility carries, and the adjacent land use needs.

The following definitions are sourced from the 2000 Bandon TSP, as Bandon's federally classified roads are based on rural area classifications:

- *Rural principal arterials* serve substantial statewide or interstate travel and connect most urban areas with populations of 25,000 or more.
- *Rural minor arterials* supplement the principal arterial system, together linking cities and towns and other traffic generators of similar magnitude. They form a network providing interstate and intercounty service.
- *Rural collector routes* generally serve travel of primarily intracounty rather than statewide importance and constitute those routes on which predominant travel distances are shorter than on arterials routes. They are subclassified as major and minor collectors.
- *Major collectors* provide service to traffic generators of intracounty importance and link them with nearby larger towns or with routes of higher classification.
- *Minor collectors* collect traffic from local roads and bring developed areas within reasonable distance of a major collector.
- *Local roads* serve primarily to provide access to adjacent land and provide service to travel over relatively short distances as compared to collectors or other higher systems.

The City of Bandon has not adopted a local functional classification system, and instead uses federal functional classifications as designated by ODOT. Figure 3 4 shows the functional classification of roadways in Bandon, as reported by the State of Oregon's TransGIS database. Roadways that are not labeled as collectors or arterials are designated as local streets.

This TSP Update could consider developing the framework for a local classification system for Bandon's roadways.

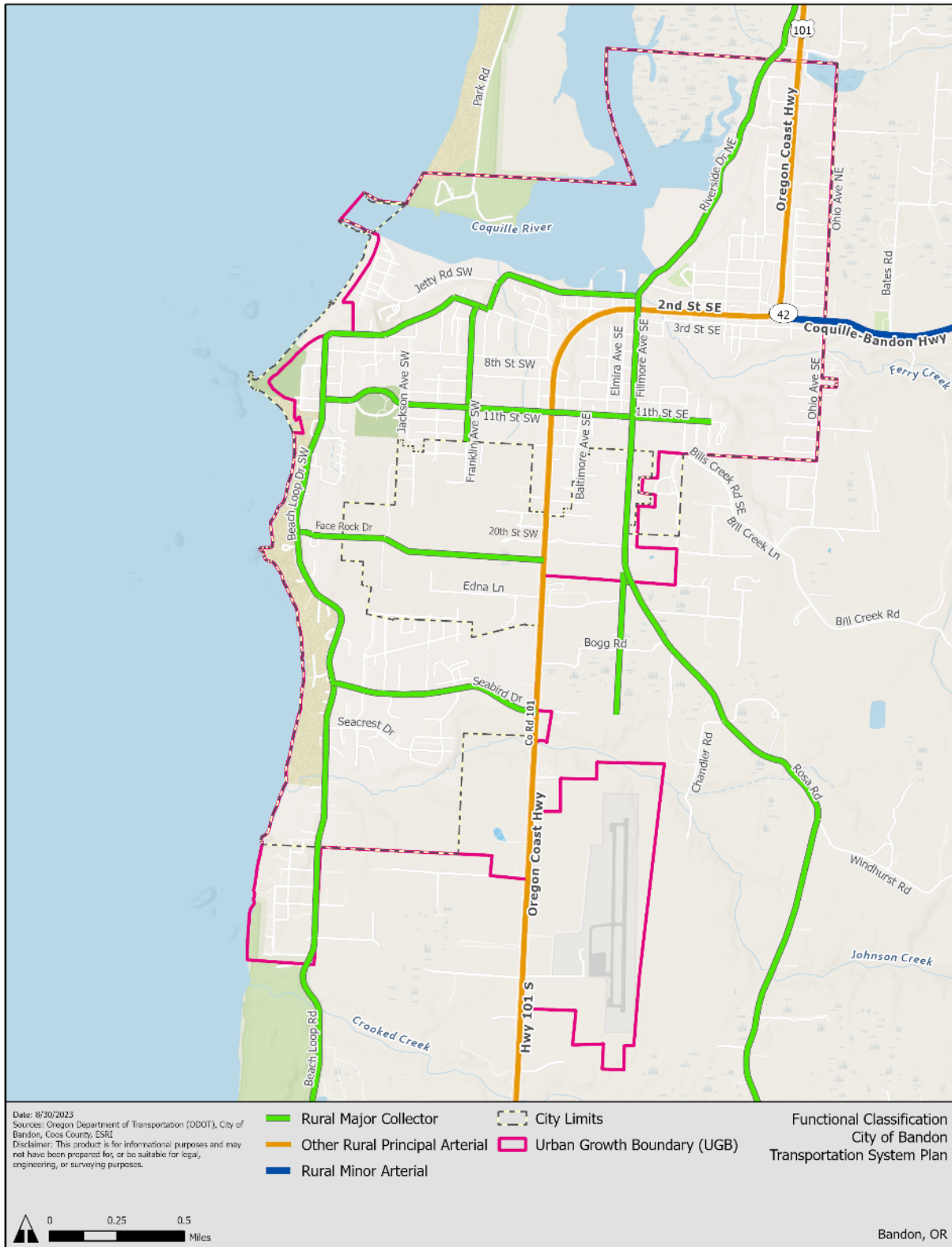


Figure 3-5. Federal Functional Classification

Note: Face Rock Drive does not connect to U.S. 101, though ODOT functional classification marks this as a rural major collector.

The following functional classification designations were proposed for future street network additions in the 2010 *Bandon Transportation Refinement Plan* (City of Bandon 2010). Proposed network additions within the *Refinement Plan* are shown in Figure 3-6.

- Face Rock Drive (collector) – Extend east to U.S. 101 at 20th Street
- 20th Street (collector) – Extend from U.S. 101 to Rosa Road
- Doberman Lane (collector) – Extend east to Fillmore Avenue and north to Rosa Road
- Franklin Avenue (collector) – Extend Salty Dog Drive north to Cascara Avenue and Franklin Avenue
- Edna Street (collector) – Extend west to Beach Loop Road
- Fillmore Avenue (collector) – Extend south to Doberman Lane
- Lincoln Way (local) – Extend north to Jackson Avenue
- Spyglass Drive (local) – Extend east to U.S. 101

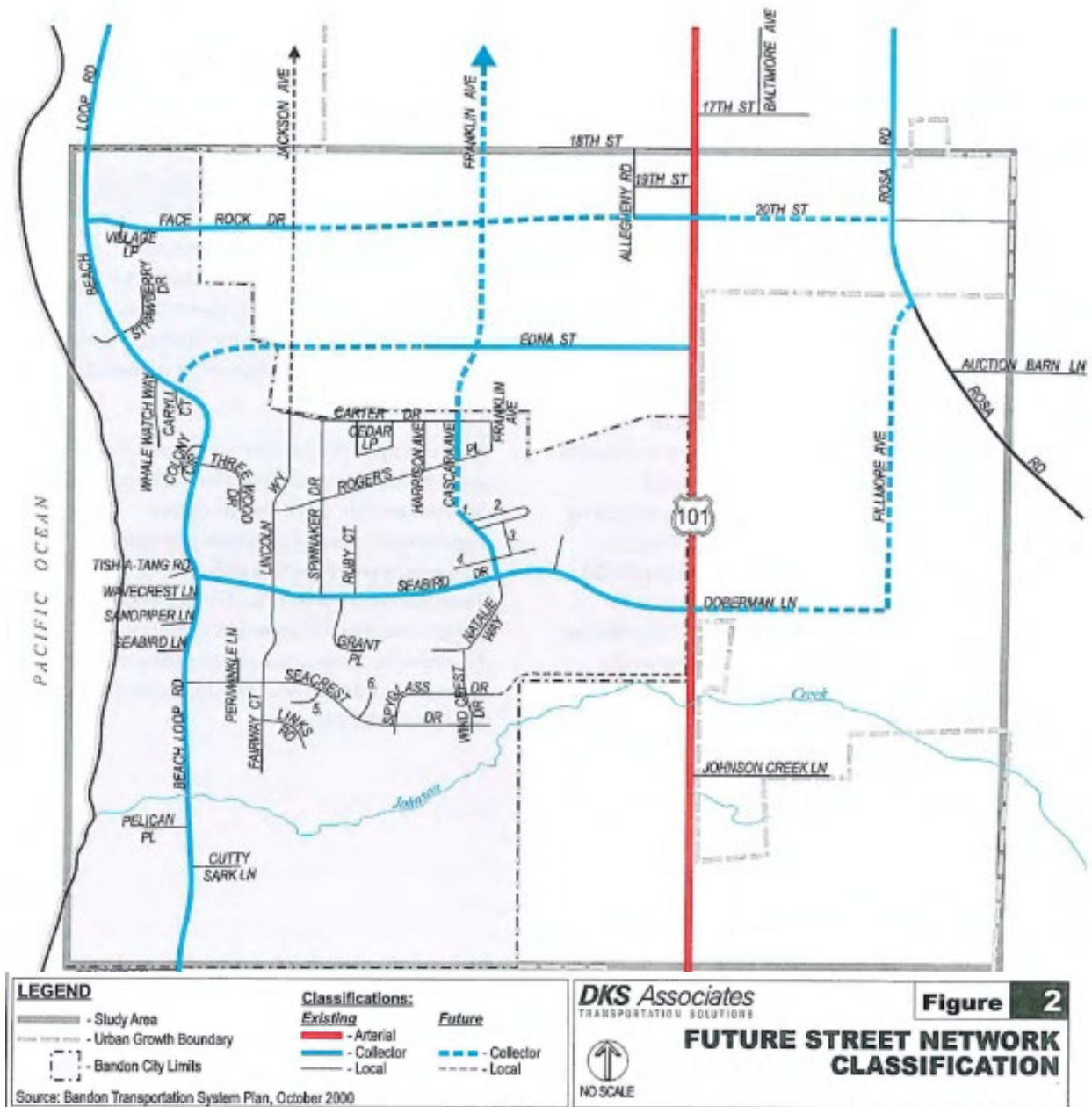


Figure 3-6. Future Street Network - 2010 Bandon Transportation Refinement Plan

3.1.7 Local Street Design Standards

Bandon’s Public Works Department has custom design standards for City-owned roadways. Table 3-3 summarizes these standards.

Table 3-3. Bandon Public Works Street Standards by Classification

Street Characteristic			Collector		Local	
	Arterial	Commercial	28 ft Wide	34 ft Wide	Continuous	Cul-de-sac
Right-of-Way	80 to 100 ft wide	60 to 80 ft	60 ft	60 ft	60 ft	60 ft plus cul-de-sac
Vehicular Travel Width	24 to 48 ft	24 ft	28 ft	24 ft	20 ft	20 ft
Travel Lanes	Two or four at 12 ft each	Two at 12 ft each	Two at 14 ft each	Two at 12 ft each	Two at 10 ft each	Two at 10 ft each
Parking	Up to both sides of the road, 8 ft	Both sides of the road 8 to 19 ft each	None	None	One side at 8 ft	One side at 8 ft
Curb and Gutter	Yes	Yes	Yes	Yes	Yes	Yes
Bike Lanes	Two at 6-ft width each	No	No	Two at 5 ft	No	No
Sidewalks	Two at 8-ft width each	Two at 6 to 8 ft	Two at 5 to 6 ft	Two at 5 to 6 ft	One at 5 ft required 1 at 5 ft optional	One at 5 ft required for full length
Pavement Width	38 to 76 ft	40 to 62 ft	28'	34'	28'	28'

Notes:

1. These standards apply to new and existing facilities. Existing, previously opened local access facilities shall be permitted to be rebuilt or improved to existing substandard width and shall not necessarily require sidewalks and bike lanes and may be permitted with drainage ditches and facilities which do not include curb and gutters, provided the street complies with the minimum pavement and base rock depths.
2. State law requires arterials and collectors to incorporate bicycle and pedestrian facilities.
3. Where average daily traffic is less than 3,000, bicycle traffic may be accommodated by 28-ft pavement width and no parking.
4. These are variable standards within street classification based on localized need. See the Bandon Transportation System Plan (City of Bandon 2000) for planned improvements to arterials and collectors.
5. Concrete may be used as a surfacing material subject to City Engineer approval.

The City has indicated their street standards need updating. Many of Bandon's roads were paved in the 1990s. Some of the improvements included sidewalks and drainage, while others provided only ribbon paving, which is not in alignment with City standards.

3.2 Bridges

Bandon has four bridges within its UGB (see Table 3-4). Two bridges are on U.S. 101 and are owned and maintained by ODOT. Bridges vary in condition from Good to Poor.

Table 3-4. Bridges

Bridge ID	Structure Name	Facility Carried	Feature Intersected	Year Built	Structure Owner	Bridge Condition	Sufficiency Rating
01308	Johnson Creek, Hwy 9 at MP 275.72	U.S. 101 (Hwy 9)	Johnson Creek	1929	ODOT	Good	39
18920	Creek, Fillmore Ave	Fillmore Ave	Ferry Creek	1960	City/Municipal Highway Agency	Poor	31.1
01236A	Ferry Creek, Hwy 9	U.S. 101 (Hwy 9)	Ferry Creek	1962	ODOT	Fair	93.4
17967	Ferry Creek, Hwy 9 right of way Rt at MP 273.80	Private Access Road	Ferry Creek	1999	ODOT	Good	84.3

Ave = avenue; Hwy = highway; ID = identification; MP = milepost; ODOT = Oregon Department of Transportation

3.3 Parking

Parking needs are most prominent in Old Town Bandon due to the high number of visitors and residents seeking shopping, recreation, and leisure opportunities. Other popular parking destinations include Oregon Islands National Wildlife Refuge, Face Rock State Scenic Viewpoint, and Devils Kitchen. According to an informal parking study conducted by the City, the current parking inventory in Old Town Bandon ensures that residents and visitors can usually find a space proximal to their destination. However, parking is regularly constrained by popular tourism activities in the summer. This results in difficulty finding parking around Bandon’s peak shopping hour, 12 p.m. Public parking lots adjacent to Old Town are currently underutilized, and there is no signage directing people to available off-street public parking lots. Prominent wayfinding can aid people in identifying available parking lots.

Generally, curb parking space on north-south streets is available on both sides of the street. East-west streets generally provide parking on the streets’ south curb, and the north side is reserved for general purpose travel or a fire lane. All parking spaces are free with no time limits. Figure 3-7 displays parking lots by ownership in Old Town Bandon. The City completed a new 60-space parking lot on the corner of Fillmore Avenue SE and 1st Street SE in 2023, shown in Figure 3-8.

Table 3-5. Parking Inventory in Old Town Bandon

Lot Type	Number of Spaces	Parking Type
Private	354	Off-street
On-Street Parking	203	On-street
Municipal	226	On-street
Total	783	N/A



Figure 3-7. Parking Lots and Ownership in Old Town Bandon



Figure 3-8. City-Owned Parking Lot on Fillmore Avenue SE and 1st Street SE

3.4 Freight

U.S. 101 is the only designated state freight route in Bandon and is the primary roadway used by freight in the city. U.S. 101 is also designated as a Reduction Review Route. Planning documents that propose features that would reduce vehicle-carrying capacity on Reduction Review Routes must be in compliance with Oregon statute ORS 366.215, which states that a reduction of vehicle-carrying capacity must be due to safety or access considerations and that freight movement must not be unreasonably impeded. Freight generators in Bandon include:

- Old Town, including restaurants, bars, and retail stores
- Grocery stores
- Bandon Concrete
- Bandon Supply (lumber)
- Bandon Shopping Center
- Hotels and motels

Many freight deliveries occur within Old Town Bandon to service restaurants, bars, and retail stores. There are no designated loading zones in Old Town. The City has previously considered adding designated loading zones, but marked loading zones have not been implemented. On Chicago Avenue and 2nd Street SE in Old Town, freight trucks will often park in the middle of the street while making deliveries, occasionally causing roadway blockages. McKay's Market, located on U.S. 101 and 9th Street SW, also experiences issues with freight access. Heavy haul trucks with trailers making turns off of U.S. 101 will often block multiple lanes of traffic on the highway in order to make tight turns onto side streets.

Planned new development in Bandon may increase the demand for freight access. New hotels, including the planned Bandon Beach Hotel at the end of 11th Street and the planned Marriott in Old Town, will require freight delivery access. The lot across the street from Wilsons Market is planned to become a residential fourplex. Trucks currently use parking in front of this lot to make deliveries to the grocery store. Freight loading may become an issue when this parking is no longer available.

3.5 Pedestrian and Bicycle System

The following section describes the existing locations, conditions, and use of pedestrian and bicycle facilities on arterial and collector roadways in Bandon. The inventory includes sidewalks, marked pedestrian crossings, and curb ramps at key intersections. This section also includes discussion of major sources of pedestrian trip demand throughout.

3.5.1 Key Pedestrian and Bicycle Destinations

Walking and biking activity is high near key community destinations, commercial areas, and beaches and parks throughout Bandon.

- Old Town Bandon
- Bandon Shopping Center
- Bandon South Jetty Park

- Bandon High School
- Southern Coos Hospital and Health Center
- Bandon Public Library
- City Park
- Bandon Beach
- Face Rock State Scenic Viewpoint

3.5.2 Existing Pedestrian Facilities

Pedestrian facilities include infrastructure to support safe and comfortable walking or use of a mobility device. Bandon’s core pedestrian destinations are located relatively close together and the City has been developed to support pedestrian travel. As a popular tourist destination, many visitors may choose to visit destinations in Old Town and along the coast by foot. However, some roads lack sidewalks or only possess them on one side of the street, which poses problems for people walking or using a mobility device. Other roads, including U.S. 101, lack frequent marked crosswalks.

Sidewalks

As shown in Figure 3-9, sidewalks are primarily present in the following locations:

- U.S. 101
- Old Town Bandon
- Ocean Drive SW
- 11th Street
- Fillmore Avenue SE
- Residential neighborhood streets in southwest Bandon
- Several disconnected segments along Beach Loop Road

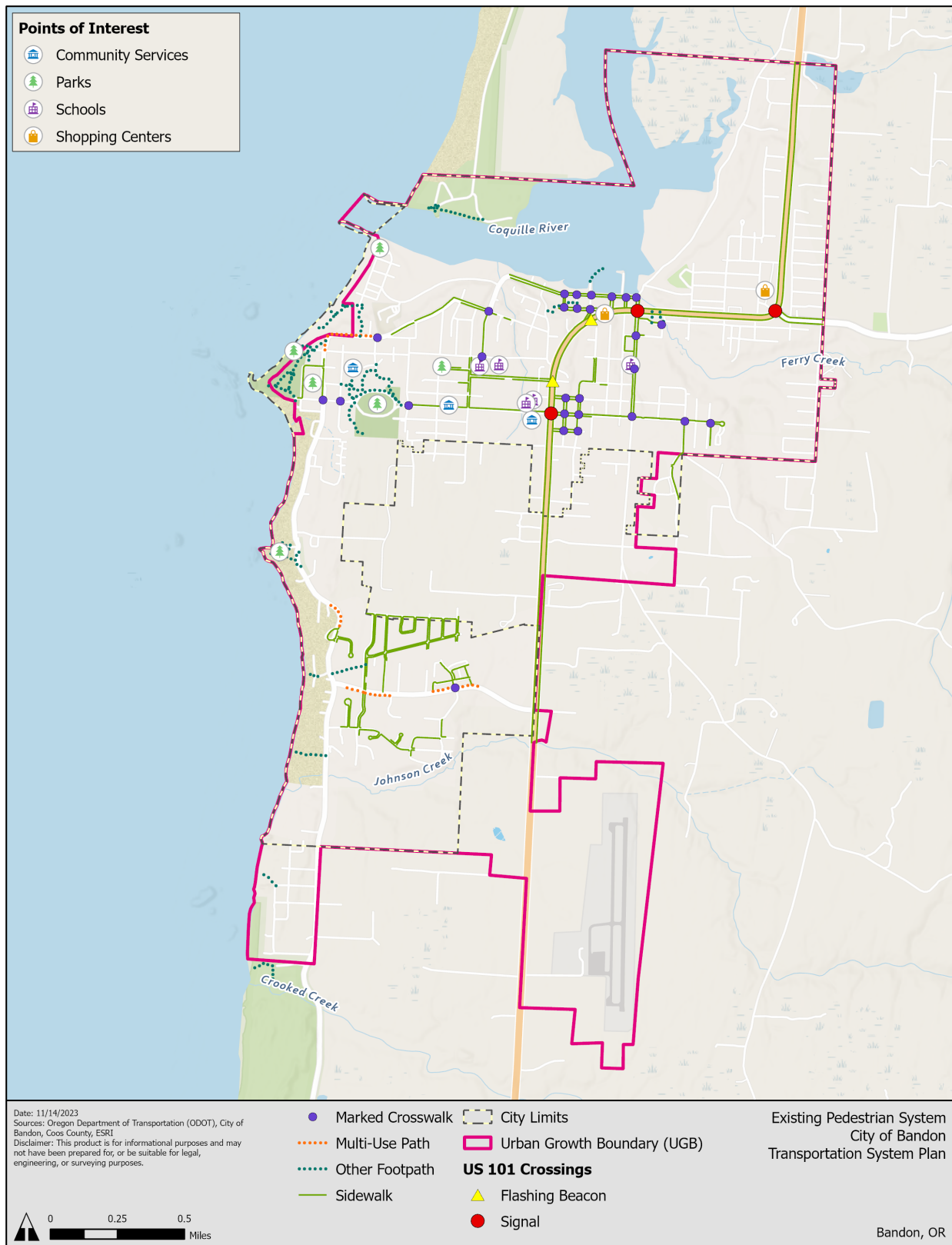


Figure 3-9. Existing Pedestrian System

Old Town. The Old Town and Uptown commercial areas are generally well served with sidewalks. Virtually all areas in Old Town are served with sidewalks on both sides of the street, and about half of the area in Uptown has sidewalks on both sides of the streets. Sidewalk widths were not individually inventoried, but are generally 8 to 10 feet wide in Old Town Bandon.

Residential Areas. In most residential areas, pedestrian facilities are not extensive or well connected. In areas where sidewalks do exist, connections are fragmented. Many sidewalks in residential areas end mid-block and do not provide ramped or continuous transitions across intersections. Sidewalks in residential areas typically range from 3 to 5 feet in width and are present in newer subdivisions on Bandon's west side.

Commercial and Tourism Areas. Sidewalks are lacking on many collector streets, including areas heavily used by tourists. Notably, Beach Loop Road, a popular road for walking, bicycling, and driving along the scenic coastline, lacks a connected system of sidewalks. In the commercial area bound by U.S. 101 on the west and Baltimore Ave SE on the east, sidewalks are generally 5 to 9 feet wide.

U.S. 101. Sidewalks along U.S. 101 generally range from 4 to 6 feet wide and do not have separation from vehicle traffic through a landscape buffer or bike lanes. Sidewalks disappear as U.S. 101 nears the north and south city limits at approximately the Dollar General and Seabird Drive, respectively. Where present, shoulders are the only buffer for sidewalks from car traffic and typically range from approximately 3 to 10 feet wide. U.S. 101 is a major north-south walking route, but according to community members, it can be unpleasant or feel unsafe. Residents have expressed a desire to improve comfort, safety, and beautification along the highway.

Sidewalk Gaps

Critical sidewalk gaps exist in the following locations:

- *Beach Loop Road.* Beach Loop Road attracts high levels of pedestrian traffic and visitors from out of town (Figure 3-10).
- *11th Street SW.* There are no sidewalks on the south side of the street.
- *8th Street SW.* Sidewalks are missing on the north side of Bandon High School and Harbor Lights Middle School.
- *Jetty Road SW.* There is no sidewalk connection from Old Town Bandon to South Jetty Park.
- *Franklin Avenue SW.* Sidewalks are notably disjointed and are of varying age and quality.
- *Oregon Ave SE.* This street connects Old Town to the school campus area and other destinations on the west side of the city.
- *Seabird Drive.* This area has seen significant residential development and would benefit from sidewalk connections to the beach and to U.S. 101.



Figure 3-10. Sidewalk Gaps along Beach Loop Road

Crossings

Marked crosswalks are generally clustered in the Old Town area, commercial areas east of U.S. 101, near the City Park, and on U.S. 101. Five intersections facilitate pedestrian crossings across U.S. 101; these are described in Table 3-6. Three are signalized crossings, while two include pedestrian signalization.

Table 3-6. U.S. 101 Existing Crossings

Location	Striping Style	Striping Condition	Crossing Features
U.S. 101 at 11th Street	Continental	Good	<ul style="list-style-type: none"> • Signalized • Pedestrian buttons
U.S. 101 at 9th Street	Continental	Good	<ul style="list-style-type: none"> • RRFB • Pedestrian buttons
U.S. 101 near Chicago Avenue SE	Continental	Excellent	<ul style="list-style-type: none"> • RRFB • Pedestrian buttons
U.S. 101 at Fillmore Avenue SE	Standard	Good	<ul style="list-style-type: none"> • Signalized • Pedestrian buttons
U.S. 101 at OR 42S	Standard	Fair	<ul style="list-style-type: none"> • Signalized • Pedestrian buttons

RRFB - Rectangular Rapid Flashing Beacon

The remaining crosswalks are primarily located on collectors, including on 11th Street, Fillmore Avenue, Baltimore Avenue, 1st Street, and 9th Street (near the school campus). Crossings on collectors are generally standard crosswalks, as shown in Figure 3-11. Crosswalks are generally absent on local roads outside of the central city.

Existing U.S. 101 Crossings

While U.S. 101 is an important thoroughfare in Bandon, it can act as a dividing line of the community due to the high speed of vehicles and relative width of the roadway. The Bandon community has long noted that safe crossings of U.S. 101 are lacking. Most crossings on U.S. 101 are continental crosswalks, consisting of hashed, white-painted pavement markings and pedestrian crossing signage.

The relatively far spacing of signalized or pedestrian-activated intersections on U.S. 101 between 9th Street SW and 42S often results in people crossing U.S. 101 without a crosswalk, along a curved segment of the highway that presents visibility issues for people driving. The City recently installed a new crosswalk on U.S. 101 near Chicago Ave SE that will include a pedestrian-activated flashing beacon. However, distances between crossings in this area still may present difficulties for people walking or biking. Distances between crossings are noted below.

- OR 42S to Fillmore Ave: ~2,400 ft (.45 miles)
- Fillmore to Chicago Ave: ~1000 ft (0.2 miles)
- Chicago Ave to 9th Street: ~1,500 ft (0.25 miles)
- 9th Street to 11th Street: ~640 ft (0.12 miles)

With increased residential development on Seabird Drive, there may be a need for an additional crossing at this intersection with U.S. 101. Due to higher vehicle speeds at this location, a pedestrian-activated traffic crosswalk signal or other enhanced crossing treatments could be considered. Figure 3-12 shows the existing intersection of U.S. 101 and Seabird Drive.

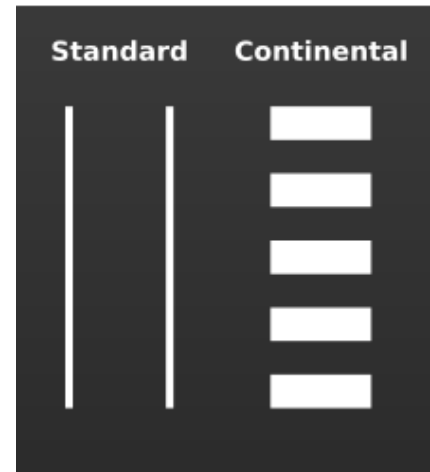


Figure 3-11. Crosswalk Striping



Figure 3-12. U.S. 101 Intersection at Seabird Drive

To improve connections for people walking, Bandon has recently made the following investments:

- Pedestrian-activated signal installed at U.S. 101 and 9th Street (Figure 3-13)
- Newly reconstructed sidewalks entering Old Town
- New sidewalk and corner reconstruction at U.S. 101 near Chicago Avenue SE
- New crossing at U.S. 101 and Chicago Avenue SE with pedestrian-activated signal (Figure 3-14)



Figure 3-13. U.S. 101 at 9th Street



Figure 3-14. U.S. 101 Crossing Near Chicago Avenue

Note: This crossing is under construction and will include a pedestrian-activated signal.

Street Lighting

Old Town is the only area of the city with consistent pedestrian-scale street lighting, as shown in Figure 3-15. Street lighting outside of Old Town is relatively low. The narrow shoulders of Beach Loop Road that are often used by people walking and biking warrant considering the value of additional pedestrian-scale street lighting. Other streets that may warrant pedestrian-scale lighting include Fillmore Avenue, 11th Street, and other streets adjacent to the school campus. This will have to be balanced with the value of limiting light pollution.



Figure 3-15. Pedestrian-Scale Lighting in Old Town Bandon

Curb Ramps

Based on Google Streetview imagery and ODOT TransGIS data, most crossings along U.S. 101 have curb ramps. While curb ramps are present, many are indicated by ODOT as poor in quality. The team did not individually assess the condition of ramps and whether they adhere to current ADA standards. In some cases where crosswalks exist to facilitate pedestrian crossings both across and parallel to U.S. 101, only a single ramp with wide flares serves both crossing directions (see Figure 3-16). Many of the curb ramps in the city also lack tactile surfaces to improve traction and visibility for pedestrians and those who use mobility devices, especially during wet, dark, or other low-visibility/traction conditions. The lack of crosswalks and curb ramps creates barriers, especially for those who use mobility devices.



Figure 3-16. Curb Ramps at U.S. 101 and 11th Street SW (left) and 42S (right)

Safe Routes to School Action Plan

The City of Bandon completed a *Safe Routes to School Plan* in 2020 to address safety and mobility concerns for students and parents traveling to and from school. Table 3-7 provides an overview of recommendations from the plan that would enhance Bandon’s active transportation network, while Figure 3-17 shows the locations of the recommended improvements.

Table 3-7. Safe Routes to School Recommended Improvements

Location	Recommended Improvements
1	Install crosswalks, curb extensions, and curb ramps.
2	Install crosswalk, curb ramps, and pedestrian crossing signs.
3	Install crosswalk, pedestrian crossing signs, and white markings on speed hump.
4	Install crosswalks, curb extensions, curb ramps, pedestrian crossing signs, and white markings on speed hump. Shift western crosswalk to the west.
5	Install crosswalk, pedestrian crossing signs, curb extensions, curb ramps, and white markings on speed hump.
6	Install crosswalk and curb ramps.
7	Fill sidewalk gap. Install curb ramp, crosswalk, and curb ramps.
8	Install crosswalks and curb ramps. Consider pedestrian refuge island or raised crosswalks.
9	Install crosswalk, curb ramps, and school crossing signs. Construct 30 feet of sidewalk.
10	Fill sidewalk gap. Consider raised platform or pedestrian bridge. Remove existing mid-block crosswalk.
11	Install crosswalks, pedestrian crossing signs, and curb ramps.
12	Install curb ramps.

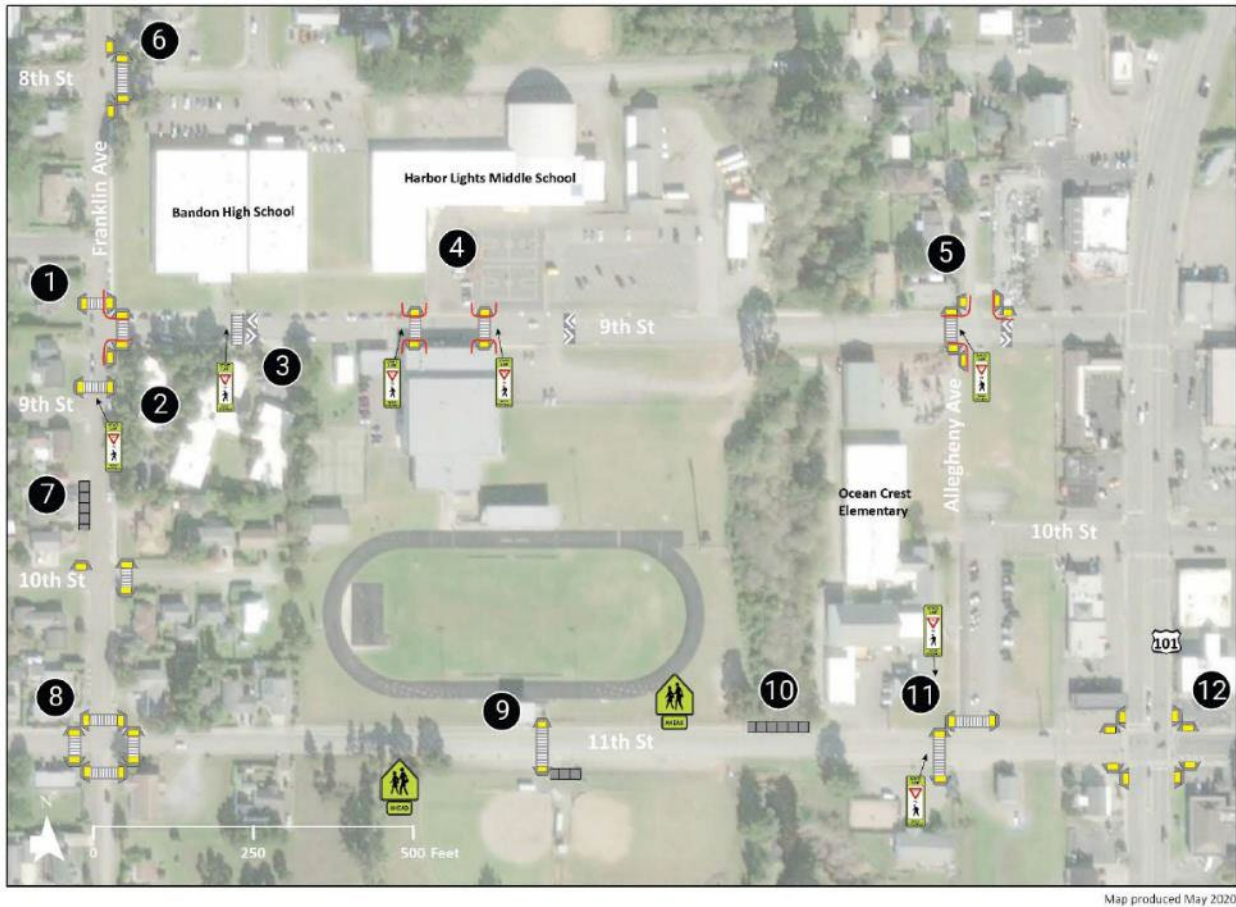


Figure 3-17. Proposed Safe Routes to School Improvements

Bandon TSP (2000) Proposed Facilities

The Pedestrian Plan element of the 2000 TSP (City of Bandon 2000) highlights critical needs and proposed improvements to Bandon’s pedestrian network. The plan states that pedestrian travel is high in Bandon and recommends strategically prioritizing pedestrian infrastructure improvements over bicycle improvements. The Pedestrian Plan notes that there are many gaps in the sidewalk network throughout the city, and recommends filling sidewalk gaps on arterial and collector streets. U.S. 101 and 11th Street were identified as the pedestrian “backbone system.” The Existing and Planned Pedestrian System from the 2000 Bandon TSP is shown in Figure 3-18.

Proposed improvements within the Pedestrian Plan include:

- **Arterials and Collectors.** Add sidewalks on both sides of all arterial and collector streets as required by the Transportation Planning Rule.⁴

⁴ Oregon Transportation Planning Rules specify what must be included in local planning efforts for transportation, and what must be addressed and included in a transportation system plan.

- **Franklin Avenue-Edison Avenue from 11th Street to 1st Street.** The Franklin-Edison route has many blocks with sidewalks, but there are interruptions. Sidewalk gaps along Franklin Avenue along the west side of the school campus area were identified as high priority. *Since completion of the 2000 TSP, sidewalks are present along Franklin Avenue near the school.*
- **Beach Loop Road.** Sidewalks are recommended for the entire length of Beach Loop Road. The Beach Loop Road section from 11th Street SW to Face Rock Drive has potentially the highest pedestrian use along Beach Loop Road. It connects two major parks which provide beach access. Beach Loop Road is heavily traveled with vehicular and pedestrian traffic in this section.
- **Fillmore Avenue/Rosa Road.** *Since completion of the 2000 TSP, sidewalks are present along Fillmore Avenue from U.S. 101 to 11th Street. Rosa Road still lacks sidewalks.*
- **Jetty Road.** Add sidewalks along the length of Jetty Road. *Bandon's planned Jetty Pathway Project will construct a pathway that connects 1st Street SW in Old Town to the Jetty. The first part of the pathway will be completed in Fall 2023.*
- **Seabird Drive.** Add sidewalks from Beach Loop Road to Rosa Road.
- **11th Street.** Add sidewalks on both sides of the street. Sidewalk gaps exist along 11th Street from Jackson Avenue to Southern Coos Hospital. Along the south side of the school campus area, adding sidewalks along 11th Street was identified as very high priority. *Since completion of the 2000 TSP, a continuous sidewalk is present along the north side of 11th Street.*
- **Residential Areas.** The 2000 TSP states that while the highest priority should remain completion of the arterial-collector pedestrian facilities, the City should pursue development of residential neighborhood pedestrian facilities.
- **Donut Hole.** Add north-south sidewalks along Franklin Avenue and east-west sidewalks connecting Face Rock Drive and 20th Street. Create a system of multiuse trails to accommodate both pedestrian and bicycle use. The location of walking trails proposed in the Pedestrian Plan is in conformance with recommendations from the 1997 *South Bandon Refinement Plan*, which identified opportunities for pedestrian trail development in connection with conservation of drainage ways and wetland areas.

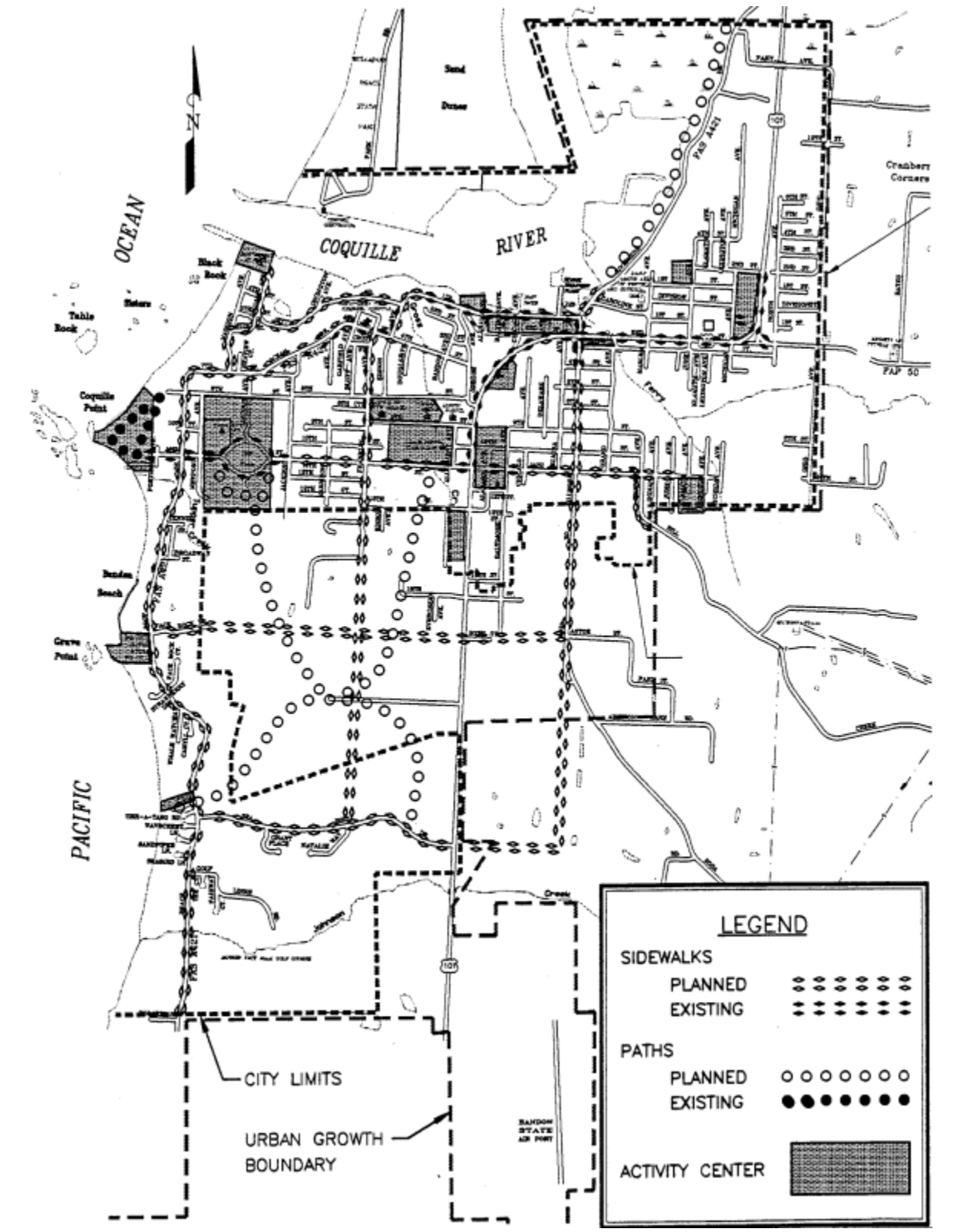


Figure 3-18. Existing and Planned Pedestrian System – 2000 Bandon TSP

3.5.3 Existing Bicycle Facilities

Designated bicycle facilities are present along several streets in Bandon, and where present, are not continuously connected. Existing bicycle facilities are shown in Figure 3-19.

Existing Facilities. Few roadways within the city include bicycle facilities. As shown in Figure 3-19, designated bike facilities in Bandon currently exist on U.S. 101, 11th Street, and Fillmore Avenue. Bike lanes along 11th Street and Fillmore Avenue are not continuously connected. All bicycle facilities are on-street bike lanes with the exception of a small segment of a multiuse path along Seabird Drive. There are no shared-lane bicycle boulevards (marked with sharrow stencils). Bicycle lanes were not individually inventoried, but are generally 4 to 5 feet wide. Along U.S. 101, the high number and concentration of driveways and accesses may make biking less safe.

Oregon Coast Bike Route. The OCBR, a popular scenic recreational route that travels the length of the Oregon Coast, passes through Bandon along U.S. 101, Riverside Drive, 1st Street SW, Ocean Drive SW, and Beach Loop Road, rejoining U.S. 101 south of town. There are no designated bike lanes along the route, though a narrow shoulder is present along some segments. According to ODOT, every year more than 6,000 people ride the OCBR. With the growth of bike tourism and the increase of all tourism traffic along U.S. 101, there is a need to increase safety, accessibility, and enjoyment for residents and visitors along the OCBR.

Bicycle Parking. Existing bike parking locations are dispersed throughout Bandon at popular destinations, including the library, City Park, Old Town, and near several grocery stores and shopping centers. The 2000 TSP includes a recommended number of bicycle parking spaces for different land uses and development types to be used as a general guide for developers.

Bicycle Facility Gaps. Bandon lacks a continuous network of designated bicycle facilities that connect to key destinations including schools, parks, Old Town, community services, and shopping centers. A network of east-west and north-south bike facilities, especially on roads with slower traffic and lower volumes of traffic, would provide safer biking connections between important community destinations. Additionally, completing gaps on roadways with existing facilities, such as U.S. 101 and 11th Street, would provide connected and continuous routes to City Park, beaches, and major employers such as Southern Coos Hospital and Health Center.

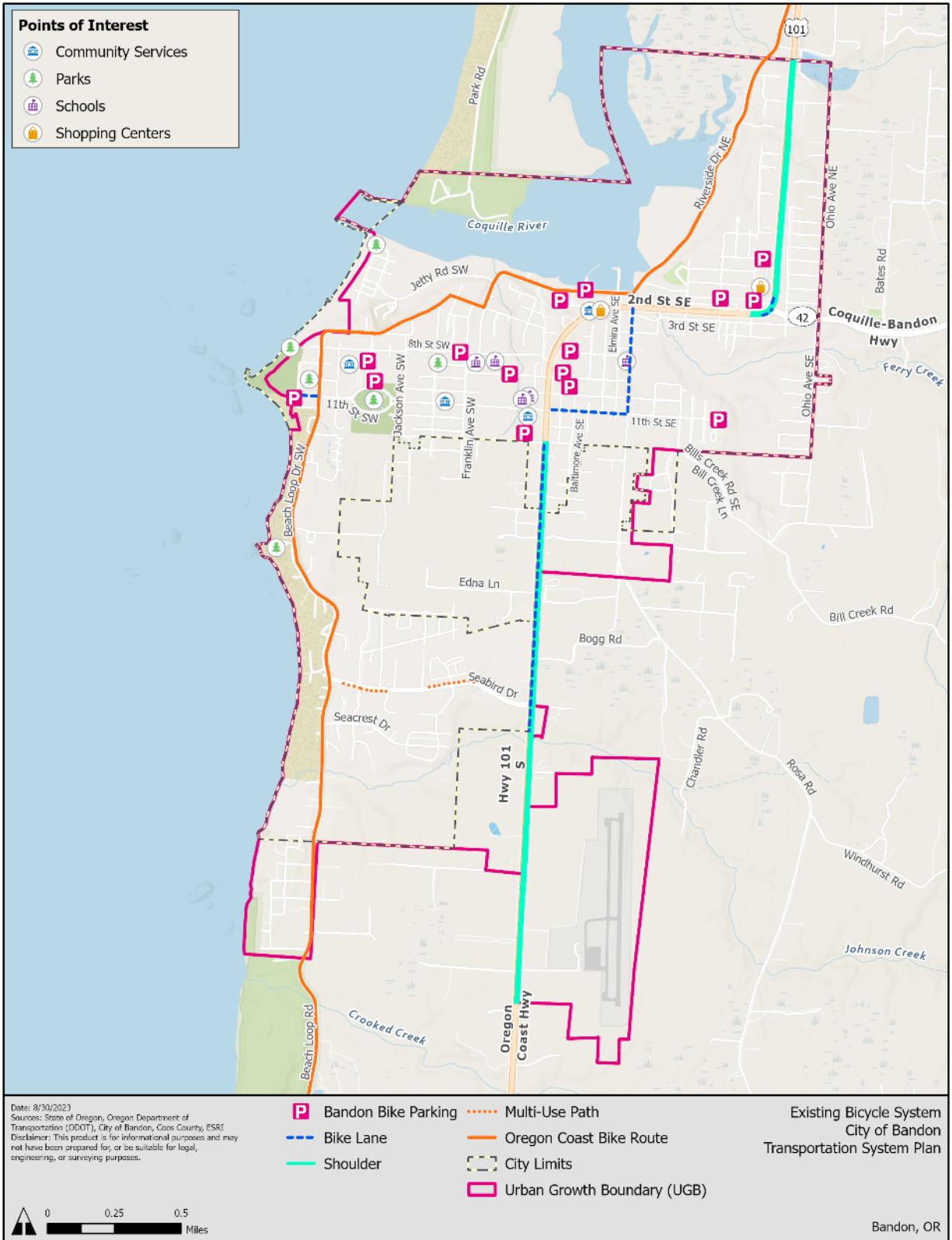


Figure 3-19. Existing Bicycle System

Bandon TSP (2000) Proposed Bike Facilities

The Bicycle Plan within the 2000 TSP (City of Bandon 2000) proposes a “backbone system” to connect identified activity centers throughout the city, including schools and scenic natural areas, and to provide a safe, dedicated space to encourage more cycling in the city. U.S. 101 and 11th Street were determined to be the most critical streets of the backbone, providing primary bicycle access to most of the significant activity centers. The Bicycle Plan prioritizes improvements along U.S. 101, Franklin Ave, and 11th Street. Planned improvements within the 2000 TSP Bicycle Plan are shown in Figure 3-20.

Bicycle lanes are proposed on the following north-south routes:

- Beach Loop Road.
- Franklin Avenue.
- U.S. 101. The highway was listed as the highest priority for bicycle improvements. In the long term, the TSP intended to provide bike lanes along the entire length of U.S. 101 within Bandon. *Since the 2000 TSP, bicycle lanes have been completed along some segments of U.S. 101.*
- Fillmore Avenue/Rosa Road.
- Riverside Drive. According to the 2000 TSP, the County Parks Department has been pursuing bicycle facility development funding on this road for several years. Development of bicycle facilities on these routes is also important to the City, and the County is encouraged to continue giving such improvements a high priority.

Bicycle lanes are proposed on the following east-west routes:

- Jetty Road. Along with Riverside Drive, the County Parks Department has been pursuing bicycle facility development on Jetty Road.
- 1st Street.
- 11th Street, Jackson Avenue to Harlem Avenue. *Since the 2000 TSP, bicycle lanes have been completed along some segments of 11th Street.*
- Face Rock Drive/20th Street.
- Seabird Drive.

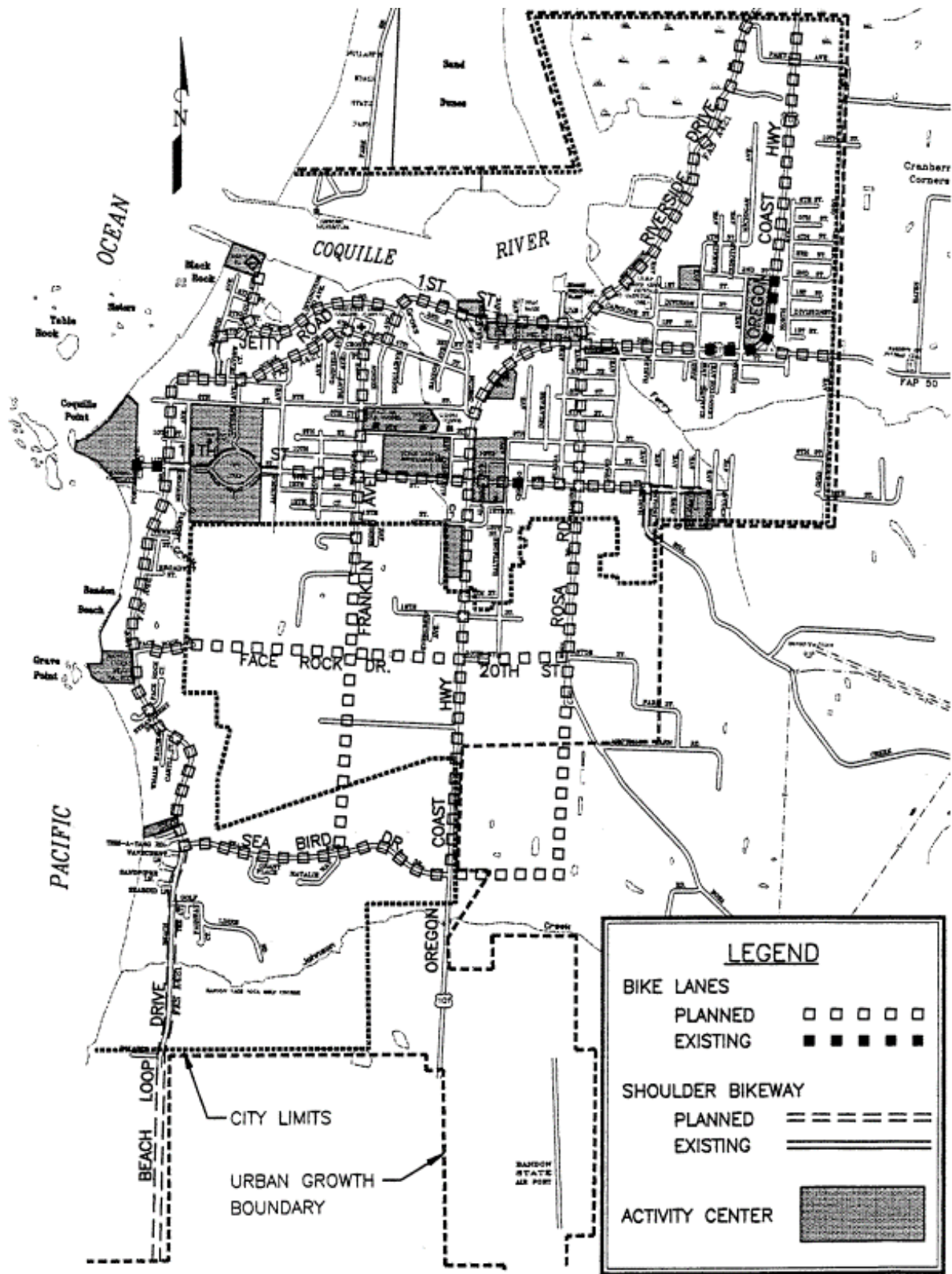


Figure 3-20. Existing and Planned Bicycle System – 2000 Bandon TSP

3.5.4 Blueprint for Urban Design

This section follows the guidance of the *Highway Design Manual* (ODOT 2023b; and the *Blueprint for Urban Design*, which has been incorporated into the *Highway Design Manual*) to identify the appropriate urban context for U.S. 101, the only state-owned highway in Bandon (besides OR 42S, which is only present within city limits for approximately 950 feet). The evaluation, which builds on the ODOT Urban Context Matrix (Table 2-2 in the BUD), considers existing land use characteristics, zoning, and expected future development. The urban context is important because it helps define where various land use elements should be present, and at what scale. Table 3-8 describes the urban context for segments of U.S. 101 through Bandon. The TSP will consider the preferred future for U.S. 101, and the urban context will guide the recommended improvements.

Table 3-8. Urban Context of U.S. 101 in Bandon

Street Boundaries	Urban Context	Land Use Elements
<ul style="list-style-type: none"> 13th Street to 2nd Street NE 	Commercial Corridor	<ul style="list-style-type: none"> Medium to large building setbacks. Sparsely spaced buildings that can be accessed from the sidewalks along a pedestrian path. Commercial, institutional, or industrial. Low building coverage. Parking is off-street/in front with parking lots. Large blocks, not well defined.
<ul style="list-style-type: none"> 2nd Street NE to north city limits 13th Street to south city limits 	Suburban Fringe	<ul style="list-style-type: none"> Varied building setbacks. Varied building orientation to sidewalk. Varied, interspersed development. Low building coverage. Varied location of parking in relation to buildings. Large blocks, not well defined.

Bicycle facilities, sidewalk facilities, and pedestrian crossing frequencies on most sections of U.S. 101 through Bandon do not meet *Blueprint for Urban Design* guidelines. Some intersections along U.S. 101 present difficult connections for travelers due to a lack of crosswalks, including between OR 42S and Fillmore Avenue SE, along the curve near Old Town, and from 11th Street to the southern limits of the city. With the addition of the U.S. 101 crossing at Chicago Ave SE, crosswalk spacing from Chicago Ave SE to Fillmore Avenue is 1000 feet, and crosswalk spacing from Chicago Ave SE to 9th Street SW is nearly 1,500 feet. Between 42S and Fillmore Avenue, crosswalk spacing is nearly 2,400 feet. Sidewalks along U.S. 101 generally do not have separation from vehicle traffic through a landscape buffer or bike lanes. These findings are highlighted in Table 3-9.

Table 3-9. Blueprint for Urban Design Standards – U.S. 101

Street Boundaries	Urban Context	BUD Crossing Spacing Standard	BUD Pedestrian Facility Standard	BUD Bicycle Facility Standard
13th Street to 2nd Street NE	Commercial Corridor	<ul style="list-style-type: none"> • 500–1,000 feet • Does not meet standard 	<ul style="list-style-type: none"> • Continuous and buffered sidewalks, with space for transit stations • Does not meet standard 	<ul style="list-style-type: none"> • Start with separated bicycle facility, consider roadway characteristics • Does not meet standard
2nd Street NE to north city limits	Suburban Fringe	<ul style="list-style-type: none"> • 750–1,500 feet • Does not meet standard 	<ul style="list-style-type: none"> • Continuous and buffered sidewalks • Does not meet standard 	<ul style="list-style-type: none"> • Start with separated bicycle facility, consider roadway characteristics • Does not meet standard – 5-foot-wide shoulder is present though no separated bike lane facility is present
13th Street to south city limits	Suburban Fringe	<ul style="list-style-type: none"> • 750–1,500 feet • Does not meet standard 	<ul style="list-style-type: none"> • Continuous and buffered sidewalks • Does not meet standard 	<ul style="list-style-type: none"> • Start with separated bicycle facility, consider roadway characteristics • Meets standard

BUD = Blueprint for Urban Design

3.6 Public Transportation System

Public transit service in Bandon includes a citywide Dial-a-Bus service and an intercity fixed-route service. Curry Public Transit provides transportation from Bandon to neighboring cities, while the Dial-a-Bus service through Coos County Area Transportation District provides flexible route arrangements for residents. When it was operating, the Bandon Trolley primarily operated as a tool to reduce individual car trips in Old Town Bandon. Table 3-10 lists public transportation options in Bandon, while Figure 3-22 shows public transit options on a map.

Table 3-10. Bandon Transit Operations

Provider/Route	Service Characteristics	Fare
Coos County Area Transportation District: Bandon Dial-a-Bus	<ul style="list-style-type: none"> • Monday–Friday, 8 a.m.–5 p.m. • Frequency varies. • Encompasses and surpasses Bandon city limits. Northern boundary is approximately Bandon Marsh National Wildlife Refuge and southern boundary is approximately Beach Loop Road. 	\$2.00 one way
Curry Public Transit System: Coastal Express	<ul style="list-style-type: none"> • Monday–Saturday, 6:15 a.m. –6:55 p.m. • Frequency varies. • Fixed stops from Brookings to North Bend. • Bandon stop located at Ray’s Food Place. 	\$4.00 per city segment

Provider/Route	Service Characteristics	Fare
City of Bandon: Bandon Trolley (no longer operating)	<ul style="list-style-type: none"> • Thursday–Sunday, 10:30 a.m.–5:30 p.m. • Frequency: 1 hour. • Fixed stops. <ul style="list-style-type: none"> ➢ Face Rock Creamery. ➢ Bandon Card and Gift Shop. ➢ Farmers Market. ➢ South Jetty Park. ➢ Art by the Sea Gallery. ➢ McKay’s. ➢ City Park/Community Center. ➢ Coquille Point. ➢ Face Rock State Park. • Seacrest Drive/Lincoln Avenue. 	Free

Trip Generators. Major trip generators in Bandon for public transit include Old Town Bandon, grocery and convenience stores, community gathering places, parks and natural areas, senior housing facilities, and multifamily housing.

Bandon Dial-a-Bus. The majority of transit activity in Bandon occurs on an impromptu basis through the Bandon Dial-a-Bus service. These services are primarily door-to-door services that are scheduled in advance. Anyone residing within the Bandon service areas is eligible to use Dial-a-Bus.

Curry Public Transit System – Coastal Express. The Coastal Express stops at Ray’s Food Place, a prominent grocery store, in between trips to other cities (Figure 3-20). The stop at Ray’s Food Place provides a wayfinding sign on U.S. 101 to direct travelers, though there are few cues or amenities such as benches to indicate boarding areas for riders.

Bandon Trolley. The Bandon Trolley was a beloved and frequently used service while it was operating. The trolley was operated through an agreement with Coos County Area Transit. When the Bandon Trolley was operating (from 2018 to 2020), community destinations included Face Rock Creamery, Old Town Bandon, the farmers market, South Jetty Park, Beach Loop Road, and Coquille Point. The Face Rock Creamery parking lot was used as a park-and-ride lot for patrons to use before boarding the Bandon Trolley. Due to ADA requirements and budget limitations, the trolley was unable to continue operating.

Connections to Transit. Sidewalks along U.S. 101 provide connections for transit riders to access the bus stop at Ray’s Food Place, though sidewalks are largely lacking in residential areas. The scarcity of bicycle infrastructure in Bandon may pose difficulties for people riding bicycles to connect to transit stops.



Figure 3-21. Curry Public Transit Map

Source: <https://currypublictransit.org/>

3.6.1 Shuttle, Carpool, and Vanpool Services

Bandon has several private transit services. Private companies such as Loop Golf Transportation, Sunshine Limo Service, and Connoisseurs Golf Transportation shuttle golfers from multiple airports to Bandon Dunes Golf Resort for premium prices. Additionally, Bandon Dunes operates its own shuttle system. Fairway Shuttle Service operates a taxi service, generally providing connections between the city and the airports. Pacific View Assisted Living and Memory Care provides residents with a community bus. Private transportation network companies such as Lyft and Uber do not operate in Bandon, though several private taxi services operate in Bandon.

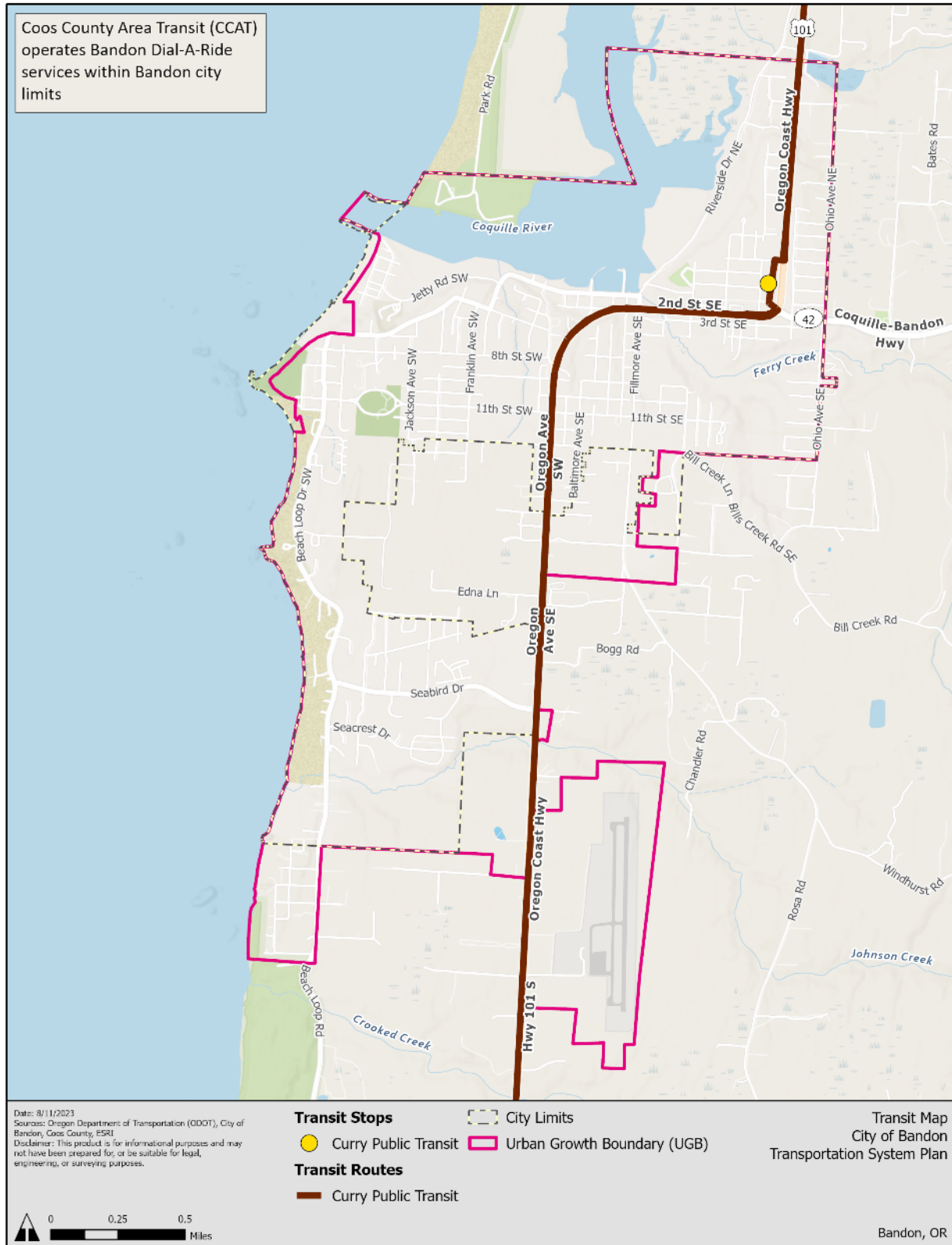


Figure 3-22. Public Transit

3.7 Airport System

General aviation service is provided at Bandon State Airport, located 2 miles south of Bandon. The airport is outside the city limits but within the UGB. Bandon State Airport is owned and operated by the Oregon Department of Transportation Aeronautics Division. Annual aircraft operations estimates from the Bandon State Airport *Airport Master Plan* (ODAV 2017) are sourced from the *FAA Airport Record Form (2012)*, which lists 38 based aircraft (an aircraft that is operational and airworthy, which is typically based on the airport for a majority of the year) and 7,100 annual aircraft operations (takeoffs and landings) for the 12 months ending February 8, 2012. Bandon State Airport does not offer commercial service. As mentioned above, several private shuttle services provide connections between the Bandon Airport and the City.

Bandon State Airport consists of approximately 132 acres located east of U.S. Highway 101. The airport has one runway that is oriented in a north-south direction. The runway is lighted and equipped to support day and night operations.

In 2017, an Airport Resiliency Workgroup was formed to identify airports that have the potential to maintain or quickly restore operational functions after a major earthquake. The workgroup arranged the airports into a tiered system to indicate the priorities for making future investments. This group recommended the Bandon Airport be designated as a Tier 3 emergency response airport. The *Oregon Aviation Plan* (ODAV 2018) lists Bandon State Airport as having the potential to maintain or quickly restore operational functions after a major earthquake. Bandon State Airport is equipped to accommodate fixed-wing and helicopter medevac flights.

Additionally, the Southwest Oregon Regional Airport, located in North Bend roughly 28 miles north of Bandon, is the nearest airport with scheduled commercial air service.

3.8 Marine

The Port of Bandon, established in 1913, bolstered an industrial economy with engineering projects that improved shipping opportunities, jetties, harbor, and the dredging of the Coquille River bar. Today, the Port's focus is on recreational, commercial, and environmental projects. Working with various federal and state grant funding partners, including the City, the Port of Bandon has developed the Coquille River waterfront area to include:

- Full marina facilities, including 84 slips with water and electricity available at each slip.
- Full-service stopover for commercial fishing and recreational vessels.
- A popular transient moorage and crab dock adjacent to bait and tackle shops and restrooms.
- A year-round boat ramp and freshwater fish cleaning station.
- A scenic riverwalk with nature pathway and observation areas.
- A boardwalk with a glass-enclosed picnic shelter and amphitheater.
- A refurbished 13,000-square-foot fish processing plant, home to Farm and Sea LLC.

3.9 Rail and Pipeline System

Bandon is not served by rail or pipeline.

4. SAFETY CONDITIONS

4.1 Citywide Safety Summary

Recent crash data (2016 through 2020) was procured from ODOT. Analysis focused on crashes involving people driving, cycling, and walking within Bandon. Table 4-1 summarizes crash characteristics, and displays a map of crashes from 2016 through 2020. Crashes occurred most frequently on U.S. 101. During this 5-year period, 94 crashes occurred, with crash severities ranging from property damage only to fatality. Two crashes within this period resulted in fatalities.

Table 4-1. Crash Summary

Category	Factor	Number
Crash Severity	Property Damage Only	57
	Possible Injury	27
	Suspected Minor Injury	7
	Suspected Serious Injury	2
	Fatality	2
Modes Involved	Driver Only	91
	Pedestrian Involved	2
	Cyclist Involved	1
Crash Location	Intersection	48
	Straight Roadway	26
	Driveway or Alley	10
	Curve (Horizontal Curve)	7
	Grade (Vertical Curve)	2
	Unknown	1
Contributing Factor	Improper Movement	25
	Failure to Yield/Disregard of Signal	20
	Other	14
	Failed to Avoid Vehicle Ahead	12
	Speed-related	8
	Inattention	8
	Followed too Closely	5
	Ill/Asleep/Drowsy	2

Analysis focused on crashes involving people walking or cycling shows a total of three crashes; two crashes involved a person walking, while one crash involved a person cycling. One crash involving a person walking occurred on U.S. 101 near Edna Lane (though not at an intersection) and resulted in a suspected serious injury. This crash may have resulted from visibility issues; the crash occurred in dark and rainy conditions without streetlights, and the person walking was not visible to the person driving.

The other crash involving a pedestrian occurred on a roadway curve at U.S. 101 near Chicago Avenue in dark conditions lit by streetlights. The pedestrian was struck while crossing the highway where a crosswalk or median was not present, resulting in a fatality. The single crash involving a cyclist occurred at the intersection of U.S. 101 and 9th Street and resulted in a possible injury to the cyclist. This crash resulted from visibility issues; the person cycling was not visible to the person driving, and the crash occurred in dark conditions lit by streetlights.

Intersections were the most common locations for crashes, comprising 51% of all crashes (48 out of 94 crashes). Of the intersection crashes, 29% resulted from turning movements, while 27% were from rear-end collisions and 23% were from angled crashes. The second most common location for crashes was on a straight roadway, which comprised 28% of all crashes.

Crashes tended to cluster along U.S. 101 between 11th Street SW and Filmore Avenue SE. Intersections of particular concern on U.S. 101 included 11th Street SW, 9th Street SW, Elmira Avenue SE, and Filmore Avenue SE, and the intersection of OR 42S/2nd Street E and North Avenue. At or near the intersection of U.S. 101 and Filmore Avenue, 12 crashes occurred. On U.S. 101 between 11th Street SW and 8th Street SW, 17 crashes occurred.

Common contributing factors included improper movement (27% of all crashes), failure to yield or disregard of a signal (21% of all crashes), and failure to avoid a vehicle ahead (13% of all crashes).

Of the 94 total car crashes, 57 involved property damage only (no injury), 26 resulted in a possible injury, 7 resulted in a suspected minor injury, 2 resulted in a suspected serious injury, and 2 resulted in fatalities. One fatal crash involved a pedestrian, as described above, and one crash involved a person driving. The driving fatality resulted from a rear-end collision at U.S. 101 and W 9th Street where an occupant fell, jumped, or was ejected from the vehicle. The crash occurred in the late morning hours in dry conditions. Drug use was a factor.

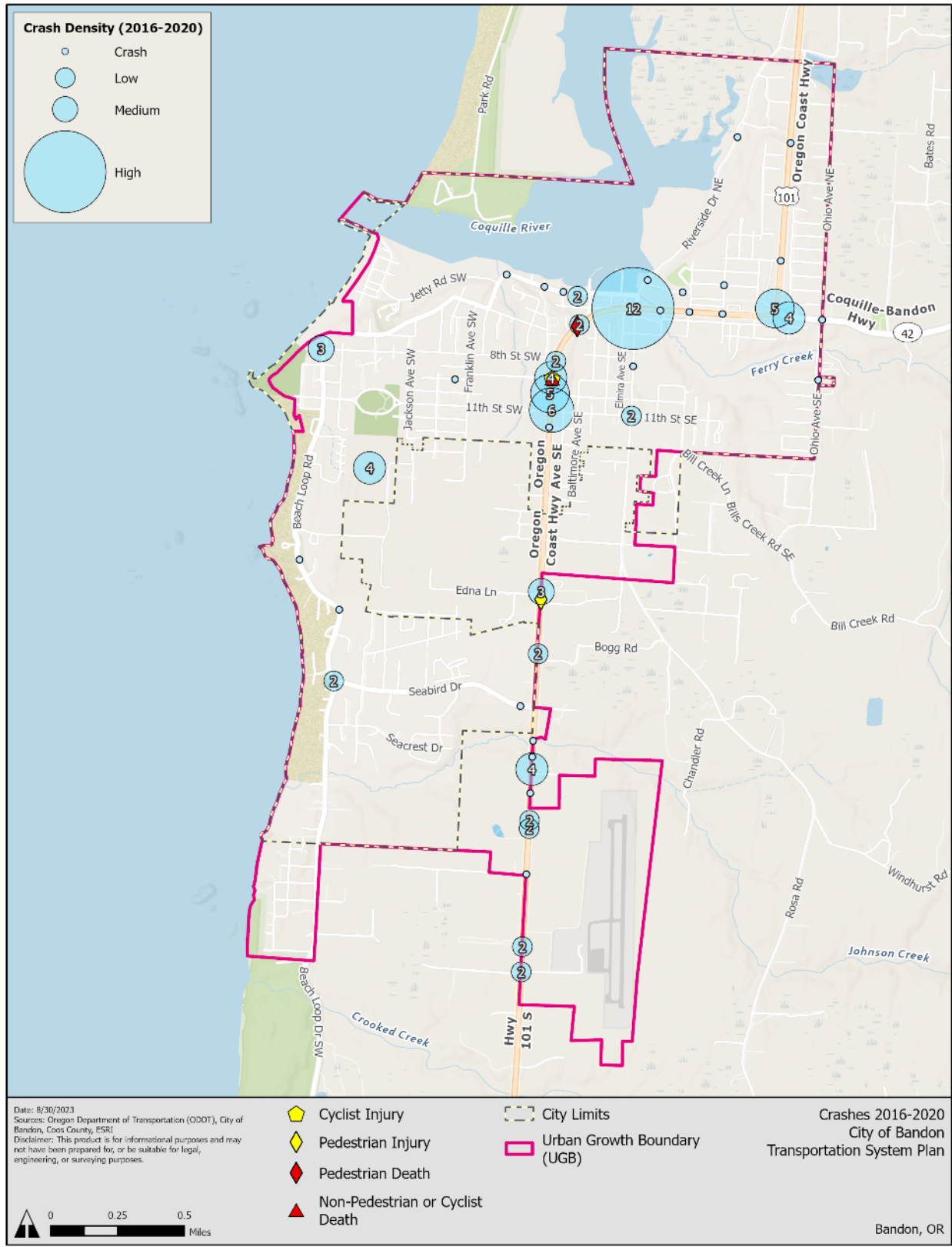


Figure 4-1. Crashes 2016 through 2020

4.2 Intersection Crash Analysis

A total of 14 intersections from the City of Bandon were analyzed. Sixteen-hour turning movement volume data was collected for 8 of the intersections, and 4-hour data was collected for other 6 intersections. ADT was estimated based on the collected turning movement volumes by using adjustment factors derived from the ratio of AADT to 16-hour counts and ratio of AADT to 4-hour counts from the Oregon DOT MS2 portal for the nearby roadways. 16-hour and 4-hour counts represent approximately 90 and 30 percent of the AADT, respectively.

Crash history data from 2016 through 2020 was used to determine intersection crash rates. A total of 32 crashes occurred at the 14 intersections analyzed, 6 intersections did not have any crashes. The remaining 8 intersections were analyzed for crash rate, critical rate, and excess proportion of specific crash types.

Out of the 32 intersection crashes, 2 of the crashes were fatal, 10 resulted in injuries, and 20 were property-damage-only crashes. These crashes are described in *Section 4.1 Citywide Safety Summary*.

None of the reference populations (i.e., 4SG, 4ST, 3SG, 3ST) have a sample size of at least five crashes, so critical crash rates could not be calculated. Instead, the 90th percentile crash rate for the reference population was used for comparison.

Table 4-2 shows the summary of the intersection crash rate calculation. Only the intersection of Beach Loop Road at Seabird Drive has a crash rate over the 90th percentile crash rate. Therefore, this intersection is flagged for safety review.

Excess proportion by specific crash type for these eight intersections were also analyzed, However, none of the intersections were flagged to have excess proportion of a specific crash type.

Table 4-2. Crash Rate Calculation for Intersections

Intersection	AADT Entering Intersection	5-year MEV	Crash Total	Population and Intersection Type	Intersection Crash Rate	90 th Percentile Crash Rate
U.S. 101 & 11th Street SW	16,229	29.6	6	Urban 4SG	0.20	0.860
U.S. 101 & Oregon Avenue SE	14,777	27.0	2	Urban 3ST	0.07	0.293
U.S. 101 & Chicago Avenue SE	13,771	25.1	2	Urban 3ST	0.08	0.293
U.S. 101 & Filmore Avenue SE	17,064	31.1	9	Urban 4SG	0.29	0.860
U.S. 101 & 1st Street SE/42S	17,601	32.1	5	Rural 4SG	0.16	0.579
U.S. 101 & 9th Street SW	14,861	27.1	4	Urban 4ST	0.15	0.408
Beach Loop Road & Seabird Drive SW	1,893	3.5	2	Urban 3ST	0.58	0.293
Fillmore Avenue & 11th Street	3,543	6.5	2	Urban 4ST	0.31	0.408

Reference Population Crash Rate - APM Exhibit 4-1

Red bold text indicates intersections that have a crash rate over the 90th percentile crash rate. These intersections are identified as safety focus locations.

Traffic control types: 3SG = three-leg signalized; 3ST = three-leg minor stop-control; 4SG = four-leg signalized; 4ST = four-leg minor stop-control

AADT = annual average daily traffic; MEV = millions of entering vehicles

4.3 Segment Crash Analysis

Crashes that did not occur at an intersection were analyzed as segment crashes. The same crash history data from 2016 through 2020 was used to analyze segment crashes. There are two state highways in the city of Bandon: U.S. 101 and OR 42S. Therefore, only these two state highways were considered for segment crash analysis. A total of 39 crashes occurred on these two highway segments.

Thirty-four crashes occurred on U.S. 101. Of these crashes, 17 crashes resulted in injury, while 17 were property-damage-only crashes. Five crashes occurred on OR 42S. Of these crashes, two resulted in injury while three were property-damage-only crashes.

As the sample size for reference population (i.e., Principal Arterial, Minor Arterial) was less than five, the critical rate could not be calculated. Instead, the crash rate was compared with the statewide crash rate for that specific highway classification.

Table 4-3 shows the comparison of crash rates for these two segments with the statewide crash rate. This comparison shows the crash rate for OR 42S exceeds the statewide crash rate and thus is flagged for further safety review.

Table 4-3. Crash Rate Calculation for Segments

Segment	No. of Crashes	AADT	Length (miles)	Crash Rate	Highway Classification	Statewide Crash Rate	Exceeds Statewide Crash Rate
U.S. 101	34	14,290	2.92	0.446	Principal Arterial	1.27	No
OR 42S	5	4,368	0.20	3.136	Minor Arterial	1.26	Yes

Red bold text indicates segments that have crash rates higher than the statewide crash rate of similar facilities. These segments are identified as safety focus locations.

5. OPERATIONS ANALYSIS

5.1 Traffic Analysis

5.1.1 Traffic Volumes

Average annual daily traffic (AADT) data is available at several locations along U.S. 101 within the study area, with the most recent data available from October 2022. Within the study area, the AADT along U.S. 101 ranges from 8,500 to 14,650, with the largest AADTs occurring between Oregon Avenue SE and 1st Street SE/OR 42S. There are no destinations with vulnerable travelers, such as schools or nursing homes, within this stretch of U.S. 101.

Existing conditions traffic operations were analyzed for the study intersections using 2022 30th highest annual hour of traffic (30 HV) conditions. Sixteen-hour traffic counts were collected at the eight study intersections along U.S. 101 and 4-hour traffic counts were collected at the remaining six study intersections. These counts were collected on weekdays in mid-July and included both vehicle and pedestrian volumes. The full traffic counts are provided in Appendix A, Traffic Counts.

Because the traffic counts may have been collected during a period when traffic volumes were lower than the 30 HV conditions, a seasonal adjustment factor was calculated as outlined in the ODOT *Analysis Procedures Manual (APM; ODOT 2023a)*.⁵ ODOT maintains automatic traffic recorder (ATR) location 06-004 near the study area along U.S. 101, 1,500 feet south of Seabird Drive, so an on-site ATR method was used to determine the seasonal adjustment factor. The percentages of weekday average daily traffic (ADT) for the count months and peak months between 2017 and 2021 were both 132 percent, so no seasonal adjustment factor was applied to the July 2022 counts when developing the 2022 30 HV intersection volumes.

An overall system peak hour of 2:45 p.m. to 3:45 p.m. was determined from the maximum hourly total intersection volumes. Additional information regarding analysis procedures is documented in Technical Memo #3: Analysis Methodology. The peak hour intersection volumes for the 14 study intersections are shown in Figure 5-1.

⁵ Analysis Procedures Manual Version 2, Oregon Department of Transportation, March 2016.

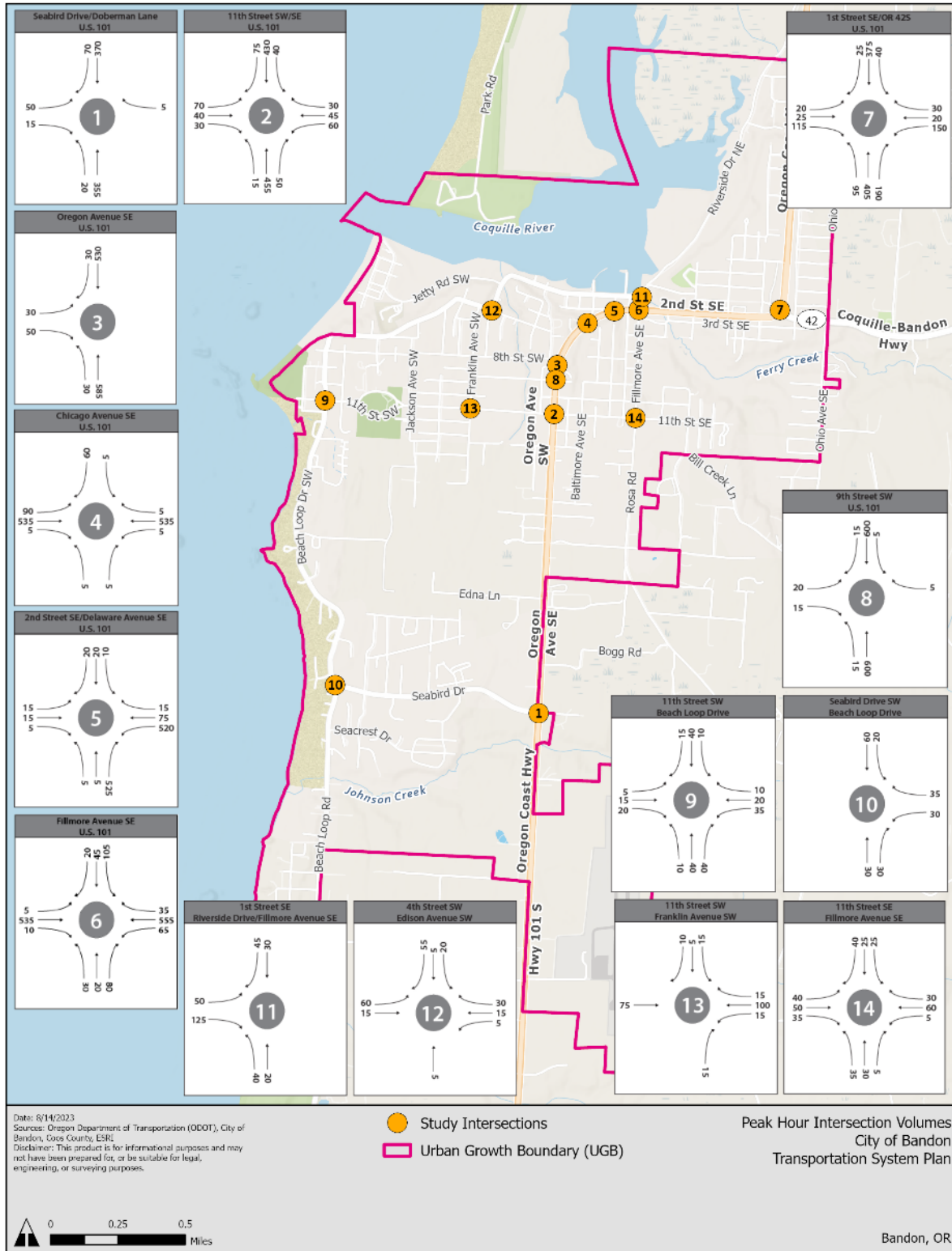


Figure 5-1. Peak Hour Intersection Volumes

5.1.2 Operational Deficiencies

State highway mobility targets were developed for the 1999 *Oregon Highway Plan* (OHP; ODOT 2023c) as a method to gauge reasonable and consistent targets for traffic flow along state highways. The mobility targets are based on volume-to-capacity (v/c) ratios and are shown in Table 5-1. Additional information regarding intersection mobility targets is documented in Tech Memo #3: Analysis Methodology.

Level of service (LOS) is another metric that describes how well an intersection operates. Intersections receive a LOS grade from A to F, where LOS A represents the best conditions with minimal delay at the intersection and LOS F represents the worst conditions. The City of Bandon has not adopted LOS standards.

Traffic operations for the 14 study intersections were analyzed using Synchro and SimTraffic. Volume to capacity ratios, delay, and LOS were reported using FHWA *Highway Capacity Manual* (HCM) 6th Edition (TRB 2016) reports for all intersection types: all-way stop control, two-way stop control, and signalized. For the signalized intersections that are not supported by HCM 6th Edition, HCM 2000 reports were used. For the unsignalized intersections, v/c ratios and delay were reported for the worst movement along the mainline and side street. Volume to capacity ratios for the mainlines at two-way stop-controlled intersections were calculated based on ODOT APM guidelines. For signalized intersections, the reported v/c ratios and delays represent the overall intersection operations and are not distinguished for the mainline and side street. The critical intersection v/c ratios were calculated based on ODOT APM guidelines for signalized intersections.

Intersection #5 (see Figure 5-1) has a non-HCM-compatible stop configuration and could not be analyzed using HCM methodologies. Intersection #5 has a non-standard stop sign placement since U.S. 101 turns at the intersection, meaning the northbound and westbound approaches are free while the southbound and eastbound approaches are stop-controlled. Per Exhibit 12-12 in Chapter 12 of the ODOT APM, the intersection was analyzed in an Adjusted for Analysis configuration where the approaches with the major flows are modeled as if they are opposite each other.

Volume to capacity ratios, delay, and LOS are summarized in Table 5-1. None of the intersections are expected to operate with a v/c ratio that exceeds the mobility target.

The 95th percentile queue lengths were analyzed using SimTraffic and are summarized in Table 5-2. None of the queue lengths exceed the storage length or the space between intersections. Traffic reports are available in Appendix B, Synchro and SimTraffic Reports.

Table 5-1. Existing 2022 Traffic Operations – V/C Ratio, Delay, and LOS

#	Intersection	Control	Existing Mobility Target	Mainline Operations			Side Street Operations			Exceeds Mobility Target?
				v/c ratio	Delay (sec)	LOS	v/c ratio	Delay (sec)	LOS	
1	U.S. 101 & Seabird Drive/Doberman Lane	TWSC	v/c < 0.80	0.02	8	A	0.22	20	C	No
2	U.S. 101 & 11th Street SW/SE	Signal	v/c < 0.90	0.04	22	C	0.04	22	C	No
3	U.S. 101 & Oregon Avenue SE	TWSC	v/c < 0.90	0.03	9	A	0.08	16	C	No
4	U.S. 101 & Chicago Avenue SE	TWSC	v/c < 0.90	0.32	9	A	0.12	20	C	No
5	U.S. 101 & 2nd Street SE/Delaware Avenue SE	TWSC	v/c < 0.90	0.40	9	A	0.19	42	E	No
6	U.S. 101 & Fillmore Avenue SE	Signal	v/c < 0.90	0.38	12	B	0.38	12	B	No
7	U.S. 101 & 1st Street SE/OR 42S	Signal	v/c < 0.90	0.09	38	D	0.09	38	D	No
8	U.S. 101 & 9th Street SW	TWSC	v/c < 0.90	0.02	9	A	0.15	22	C	No
9	Beach Loop Road & 11th Street SW	AWSC	v/c < 0.95	0.11	8	A	0.09	8	A	No
10	Beach Loop Road & Seabird Drive SW	TWSC	v/c < 0.95	0.06	7	A	0.08	9	A	No
11	Riverside Drive/Fillmore Avenue SE & 1st Street SE	TWSC	v/c < 0.95	0.04	8	A	0.20	10	A	No
12	Edison Avenue SW & 4th Street SW	AWSC	v/c < 0.95	0.11	8	A	0.10	7	A	No
13	Franklin Avenue SW & 11th Street SW	AWSC	v/c < 0.95	0.17	8	A	0.04	8	A	No
14	Fillmore Avenue SE & 11th Street SE	TWSC	v/c < 0.95	0.06	8	A	0.15	12	B	No

Red bold text indicates intersection that exceeds mobility target.

AWSC = all-way stop-controlled; sec = seconds; TWSC = two-way stop-controlled; v/c = volume to capacity

Table 5-2. Existing 2022 Traffic Operations – Queuing

#	Intersection/Approach	Control	Storage Length (ft)	95th Percentile Queue Length (ft)	Exceeds Storage Length?
1	U.S. 101 & Seabird Drive/Doberman Lane		TWSC		
	Eastbound approach		> 1,000	60	No
	Westbound approach		590	20	No
	Northbound approach		> 1,000	20	No
	Southbound approach		> 1,000	0	No
2	U.S. 101 & 11th Street SW/SE		Signal		
	Eastbound approach		> 1,000	140	No
	Westbound approach		200	110	No
	Northbound approach		> 1,000	160	No
	Southbound approach		260	240	No
3	U.S. 101 & Oregon Avenue SE		TWSC		
	Eastbound approach		200	50	No
	Northbound approach		240	40	No
	Southbound approach		490	0	No
4	U.S. 101 & Chicago Avenue SE		TWSC		
	Eastbound approach		900	50	No
	Westbound approach		480	10	No
	Northbound approach		200	20	No
	Southbound approach		230	50	No
5	U.S. 101 & 2nd Street SE/Delaware Avenue SE		TWSC		
	Northeastern approach		490	40	No
	Southwestern approach		440	20	No
	Eastbound approach		270	50	No
	Southbound approach		210	60	No
6	U.S. 101 & Fillmore Avenue SE		Signal		
	Eastbound approach		440	140	No
	Westbound approach		> 1,000	220	No
	Northbound approach		420	90	No
	Southbound approach		200	130	No
7	U.S. 101 & 1st Street SE/OR 42S		Signal		
	Southeastern approach		280	70	No
	Northwestern approach		240	190	No
	Northeastern approach		> 1,000	210	No
	Southwestern approach		870	220	No
8	U.S. 101 & 9th Street SW		TWSC		
	Eastbound approach		200	50	No
	Westbound approach		210	20	No
	Northbound approach		250	30	No

#	Intersection/Approach	Control	Storage Length (ft)	95th Percentile Queue Length (ft)	Exceeds Storage Length?
	Southbound approach		240	40	No
9	Beach Loop Road & 11th Street SW	AWSC			
	Eastbound approach		390	50	No
	Westbound approach		600	60	No
	Northbound approach		> 1,000	50	No
	Southbound approach		950	60	No
10	Beach Loop Road & Seabird Drive SW	TWSC			
	Westbound approach		650	50	No
	Northbound approach		910	0	No
	Southbound approach		> 1,000	10	No
11	Riverside Drive/Fillmore Avenue SE & 1st Street SE	TWSC			
	Eastbound approach		240	70	No
	Northbound approach		260	20	No
	Southbound approach		290	0	No
12	Edison Avenue SW & 4th Street SW	AWSC			
	Eastbound approach		590	60	No
	Westbound approach		900	50	No
	Northbound approach		900	20	No
	Southbound approach		530	50	No
13	Franklin Avenue SW & 11th Street SW	AWSC			
	Eastbound approach		560	60	No
	Westbound approach		> 1,000	70	No
	Northbound approach		280	40	No
	Southbound approach		> 1,000	50	No
14	Fillmore Avenue SE & 11th Street SE	TWSC			
	Eastbound approach		> 1,000	20	No
	Westbound approach		> 1,000	10	No
	Northbound approach		> 1,000	60	No
	Southbound approach		> 1,000	60	No

AWSC = all-way stop-controlled; TWSC = two-way stop-controlled

5.2 Multimodal Analysis

An assessment of level of traffic stress (LTS) was conducted for bicyclists (BLTS) and pedestrians (PLTS) within the city of Bandon based on the ODOT APM, Chapter 14. The methodology considers the quality and comfort of routes between origins and destinations to determine a generalized four-tier LTS rating including excellent, good, fair, or poor. These ratings provide a general measure of actual and perceived safety and comfort for pedestrians and bicyclists travelling along a particular street segment within the city, based on factors such as the presence and quality of bicycle/pedestrian facilities, speed limits, traffic volumes, barriers, and other measures.

Levels of traffic stress are only evaluated for arterials and collector streets within Bandon. These analysis factors were adapted to meet the local context of Bandon's existing street system and are based on available data for the city. ODOT data was the primary source of input for this analysis, though the project team also used Google aerial imagery and Google Street View to confirm speed limits and the presence of sidewalk and bike facilities at several locations. Sidewalks and bike lanes were not individually inventoried. Due to the less-than-comprehensive data available, the project team used the information available to make assumptions about the conditions of the modal factors.

5.2.1 Pedestrian Level of Traffic Stress Assessment

The PLTS analysis was based on the following factors:

Basic Factors

- Speed limit.
- Number and direction of travel lanes.
- Street Functional Classification. In some cases, this was used as a general proxy for speed limit and traffic volume information (data limited).

Modal Factors

- Presence or absence of sidewalk on either side of the street – a combination of ODOT TransGIS data and aerial imagery was used to determine the presence of facilities.
- Presence of physical buffers between sidewalks and roadways on one or both sides of the street. Width and types of buffers were considered. – a combination of ODOT TransGIS data and aerial imagery was used to determine the presence and width of facilities.
- Presence of marked pedestrian crossings, signage, and curb ramps. – a combination of ODOT TransGIS data and aerial imagery was used to determine the presence of facilities.

PLTS Classifications

PLTS 1 – Excellent

Represents low traffic stress with a generally complete network. These segments are generally safe and comfortable to people of all ages and abilities, and adjacent land uses are conducive to walking. Traffic speeds are low (20 to 25 mph), and there are adequate buffers between walkways and roadways. Sidewalks must be present on at least one side of the street. Marked crossings, signage, and curb ramps

are generally present. These segments are generally low-volume residential segments with complete pedestrian facilities.

PLTS 2 – Good

Represents low traffic stress but requires more attention and may not be suitable for all ages and abilities. Traffic speeds are slightly higher (25 to 30 mph), making crossings more stressful. Some sidewalk gaps may exist, and not all crossings are marked or feature signage and curb ramps. Adjacent land uses are conducive to walking. These segments are generally low-speed residential segments with some gaps in pedestrian facilities.

PLTS 3 – Fair

Represents moderate stress and is more suitable for adults that do not depend on mobility devices. Traffic speeds are moderate (30 to 35 mph) but fast enough to make some crossings dangerous. Substantial sidewalk gaps may exist, and marked crossings, signage, and curb ramps may be missing in most places. Adjacent land uses may not be conducive to walking.

PLTS 4 – Poor

Represents high stress for all users. Traffic speeds are moderate to high (40 to 45 mph), with segments that can include complex intersections, wide lanes, and/or high traffic volumes, making most crossings dangerous. Sidewalks may be incomplete, completely absent, or are not separated from high-speed traffic by buffers, such as landscape buffers or bicycle facilities. Marked crossings, signage, and curb ramps may be missing in most places. These segments are generally on arterial, multilane roadways and may not be conducive to walking.

Findings

Figure 5-2 below displays the results of the PLTS assessment, and the text below. Generally, streets that received a rating of good or excellent were collectors located within the core area of the city, where sidewalks are present and vehicle speeds are low.

PLTS 4 (Poor)

As shown in the figure, the roadways with the highest stress rating of PLTS 4 (poor) include segments of U.S. 101, Riverside Drive NE, Beach Loop Road, and Fillmore Avenue/Rosa Road south of 11th Street. On the north end of town, U.S. 101 was rated primarily PLTS 4 due to high speeds, minimal marked pedestrian crossings, and no shoulder or other physical buffer from traffic. The segment of U.S. 101 on the way out of town south of Seabird Drive was rated PLTS 4 given higher speeds and a lack of pedestrian facilities. Additionally, Face Rock Drive and several sections of Franklin Avenue and Seabird Drive were rated PLTS 4. The south side of 11th Street was rated PLTS 4 due to a lack of sidewalks, though the presence of sidewalks on the north side of the street raise the PLTS to 2 (good). Riverside Drive NE, Beach Loop Road, and Fillmore Avenue/Rosa Road south of 11th Street were rated PLTS 4 given moderate speeds and a lack of sidewalks and crossings.

PLTS 3 (Fair)

Only one small segment within the city was rated PLTS 3: near the intersection of U.S. 101 and 42S.

PLTS 2 (Good)

Roadway segments that rated PLTS 2 largely correlate to the presence of sidewalks along collector roads near key destinations in the City, including generally complete sidewalks on one side of the street along 11th Street and along Ocean Drive SW; two critical pedestrian routes. Other streets that were rated PLTS 2 include parts of Franklin Avenue SW and Fillmore Avenue SE—two important north-south pedestrian connections. U.S. 101 from 13th Street to Seabird Drive was rated PLTS 2 because of the presence of continuous sidewalks and bike lanes as a buffer.

PLTS 1 (Excellent)

The only streets that received a rating of PLTS 1 were segments of 1st Street SE through Old Town where the riverwalk and wide sidewalks are present, a small segment of Seabird Drive where an off-street sidewalk is present, and two segments on 11th Street SE, where sidewalks are present on both sides of the street.



Figure 5-2. Pedestrian Level of Traffic Stress

5.2.2 Bicycle Level of Traffic Stress Assessment

A BLTS assessment was conducted for the city of Bandon based on ODOT guidance. As with PLTS, BLTS provides an assessment of perceived and actual safety comfort for bicycle travel along a given arterial or collector street segment within Bandon. The BLTS assessment builds on the framework used to assess PLTS and considers the same basic analysis factors. However, some modifications and assumptions were made to the modal factors. BLTS analysis from Oregon Transportation Safety Data Explorer (OTSDE) was used to evaluate U.S. 101. For other arterials and collectors within the City, *Table 14-5: Criteria for Urban/Suburban Mixed Traffic Segment – 30 mph or less*, and *Table 14-6: Criteria for Urban/Suburban Mixed Traffic Segment – 35 mph or more* in the APM were used. For segments with an existing bike lane, additional ODOT tables were used. Where bike lines coincide with adjacent parking, *Table 14-3: BLTS Criteria for Segment with Bike Lane and Adjacent Parking Lane* was used. Additionally, areas with a bike lane but no adjacent parking refer to *Table 14-4: BLTS Criteria for Segment with Bike Lane, no Adjacent Parking Lane*.

Basic Factors

- AADT, ADT, and vehicles per hour estimates.
- Speed limit.
- Number and direction of travel lanes.
- Street Functional Classification. In some cases, this was used as a general proxy for speed limit and traffic volume information (limited data).

Modal Factors

The analysis considered the presence of dedicated bikeways, and where bike facilities do not exist, BLTS scores were calculated relative to what the study team considered reasonably safe and comfortable conditions for bicycle users traveling within Bandon today. A combination of ODOT TransGIS data and aerial imagery was used to determine the presence and width of facilities. For example, the highest possible BLTS score of 1 (excellent) was assigned to collector street segments with 20 to 25 mph posted speed limits, no more than one lane in each direction, and with low-traffic volumes (ADT assumed less than 1,500).

BLTS Classifications

BLTS 1 – Excellent

Represents low traffic stress for riding a bicycle in a travel lane or shoulder for most riders, including those with little experience. Traffic speeds are low (20 to 25 mph), and there is no more than one lane in each direction. Marked crossings exist or volumes are low enough (less than 1,500 ADT) to make it possible to safely cross intersections. Typical locations would include low-traffic residential streets.

BLTS 2 – Good

Represents low traffic stress but requires more attention to oncoming or passing traffic due to slightly higher traffic volumes, narrower roadways, or lack of adequate shoulder space for bicycle travel. The main difference compared to BLTS 1 is that volumes are slightly higher (1,500 to 3,000 ADT). Traffic

speeds are the same (20 to 25 mph), and there is also no more than one lane in each direction. These segments may be adequate for most riders with some riding experience.

BLTS 3 – Fair

Represents moderate traffic stress, making bicycle travel along these segments suitable for more experienced riders. Traffic speeds are moderate (30 to 35 mph) but fast enough to make some crossings potentially dangerous. Traffic volumes are low to moderate (1,500 to 3,000 ADT) requiring more attention to safely cross intersections. Typical locations include low-speed arterials with bicycle lanes or moderate-speed single-lane roadways.

BLTS 4 – Poor

Represents high stress environments suitable only for experienced and skilled riders. Traffic speeds are moderate to high (greater than 35 mph), and roadways have multiple lanes in both directions. Segments can include complex intersections, wide lanes, and/or high traffic volumes (greater than 3,000 ADT), which can be perceived as unsafe by adults and are difficult to cross. Typical locations include high-speed or multilane roadways with narrow or no bicycle lanes.

Findings

Figure 5-3 below displays the results of the BLTS assessment. This analysis showed that generally, less stressful bikeways are located along roadways with lower speeds, regardless of the presence of designated bicycle facilities. Given the relatively low volume of traffic on the local and collector streets, the development of “neighborhood greenways” may meet needs for a safe and comfortable interconnected bicycle network through and between Bandon’s neighborhoods.

BLTS 4 (Poor)

Several segments of U.S. 101 within Bandon City limits was rated as BLTS 4 (most stressful) due to moderate to high speeds, high traffic volumes, no physical separation from traffic, and multiple travel lanes. Bicycle lanes exist along some segments of U.S. 101; they are narrow, unprotected, and disconnected. The curve on U.S. 101 near Old Town has no bike lanes or shoulders, limited sight distance, and fast-moving vehicular traffic.

BLTS 3 (Fair)

Several segments of U.S. 101 and OR 42S were rated BLTS 3 due to the presence of a shoulder or bike lane. However, shoulders and bike lanes are narrow and unprotected.

BLTS 2 (Good)

Roadways rated BLTS 2 include Riverside Drive NE, most of 11th Street, and most of Fillmore Avenue SE. Bike lanes are present along some sections of 11th Street, though this area would likely benefit from continuously connected bike facilities. Other streets rated BLTS 2 include segments of Seabird Drive and Beach Loop Road. Riverside Drive, Seabird Drive, and Beach Loop Road do not have dedicated bike facilities, though vehicle speeds are low to moderate.

BLTS 1 (Excellent)

Streets that received a rating of BLTS 1 include 1st Street SE through Old Town, most segments along Beach Loop Road, Franklin Ave SW, and Face Rock Drive. Though dedicated bike facilities are not present along these collector roadways, vehicle speeds are generally lower. However, anecdotally, Beach Loop

Road can be challenging for people riding bikes to navigate, as people walking, driving, and parking along this scenic roadway can create confusion and a lack of delineation for the multiple modes that use it. Some segments of 11th Street and Fillmore Ave SE were also rated BLTS 1. Bicycle lanes are present along Fillmore Avenue where it is rated BLTS 1, from U.S. 101 to 11th Street SE.

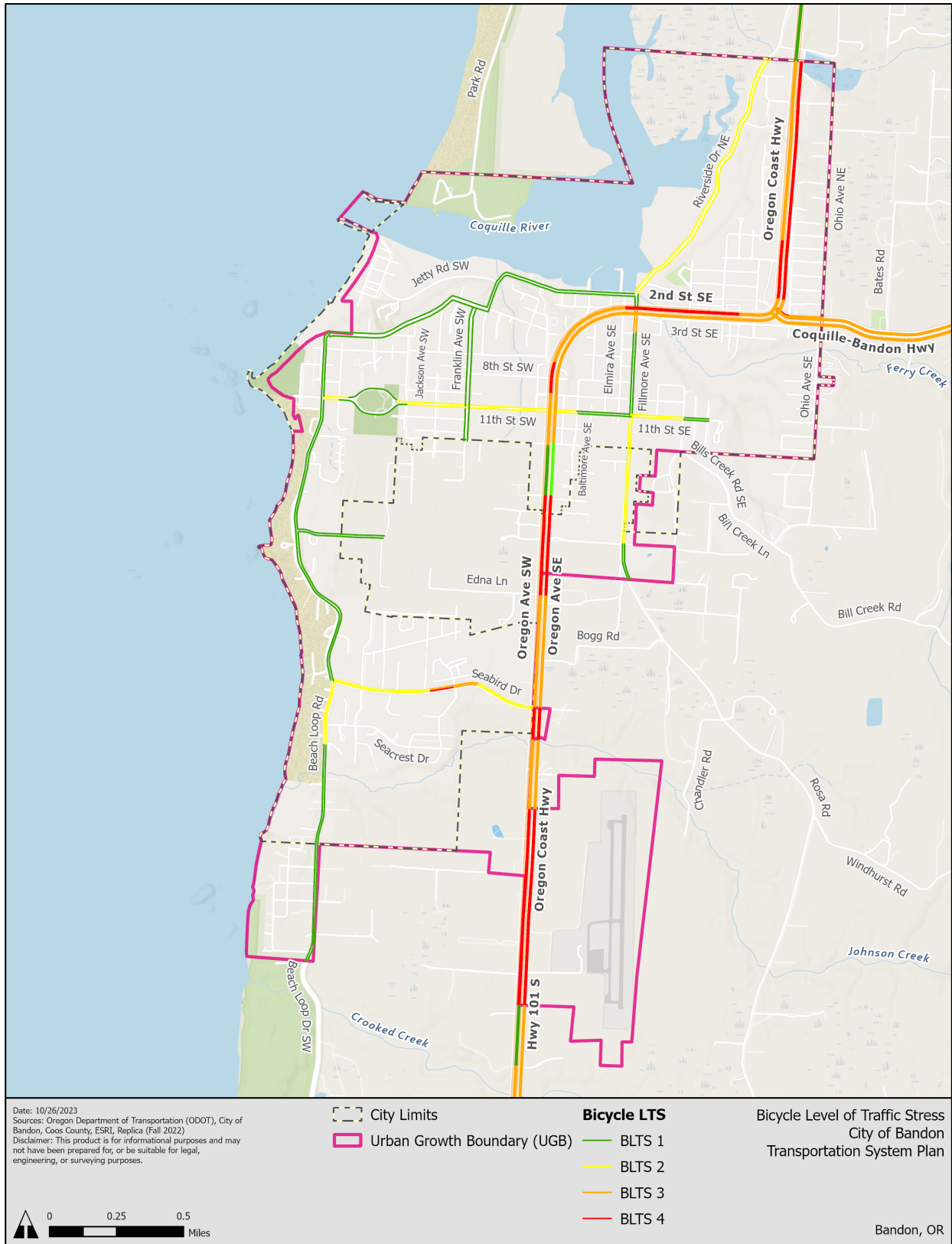


Figure 5-3. Bicycle Level of Traffic Stress

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Appendix A

Traffic Counts



Appendix B

Synchro and SimTraffic Reports



Appendix C

Crash Analysis Data

