For: Monday, **September 25, 2017**, City Council Meeting

Advance Packet Information

Included in this packet is documentation to support the following Agenda items:

ORDINANCES

1. Legislative public hearing on File CP-1-15 for consideration of adopting revisions to the City of Brookings Comprehensive Plan, Goal 12, Transportation, adopting a new Transportation System Plan [Planning, Pg. 2]
   a. Comprehensive Plan, Goal 12 [Pg. 4]
   b. Transportation System Plan [Pg. 6]
   c. U.S. 101 Corridor Plan [Pg. 118]
2. Legislative public hearing in the matter of File LDC-1-17 for consideration of revisions to Chapter 17.170 Street Standards of the Brookings Municipal Code [Planning, Pg. 223]
   a. BMC Chapter 17.170 Street Standards [Pg. 224]

*Obtain Public Comment Forms and view the agenda and packet information on-line at www.brookings.or.us, or at City Hall. Return completed Public Comment Forms to the City Recorder before the start of meeting or during regular business hours.

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CITY OF BROOKINGS

COUNCIL AGENDA REPORT

Meeting Date: September 25, 2017

Originating Dept: Planning

Signature (submitted by)

City Manager Approval

Subject: A hearing on File CP-1-15 for consideration of adopting revisions to the City of Brookings Comprehensive Plan, Goal 12, Transportation, adopting a new Transportation System Plan.

Recommended Motion: Motion to approve the adoption of changes to the Brookings Comprehensive Plan, Goal 12, Transportation, and adopting the Transportation System Plan including the US 101 Corridor Plan, ODOT, 2016 hereby adopted by reference and direct staff to draft the adopting ordinance.

Financial Impact: No direct financial impact. Approximately $21.9 million may be available for transportation projects over the next 25 years using historical funding trends. Using this methodology, approximately $12.5 million of the $21.9 million can reasonably be assumed to be available for funding the TSP while the remaining $9.4 million will be needed for operations and maintenance.

Reviewed by Finance & Human Resources Director:

Background/Discussion: In 2002, the City of Brookings adopted their TSP as the Transportation Element of the City's Comprehensive Plan. The 2002 TSP established a plan for transportation facilities and services to meet local, regional, and state needs and provided direction for allocation of resources to various types of transportation projects. The update to the City of Brookings TSP is an important long-range planning tool for Brookings as it prepares for future growth in the community and region.

The City of Brookings, in conjunction with the Oregon Department of Transportation (ODOT), initiated an update of the City's Transportation System Plan in 2013. The TSP guides the management and implementation of the transportation facilities, policies, and programs within the City of Brookings Urban Growth Boundary (UGB) over the next 20 years.

The purpose of the TSP is to provide guidance for the following:

- A blueprint for transportation investment;
- A coordination tool with regional agencies and local jurisdictions;
- An important component of prudent and effective land use choices; and
- Answers to existing and future transportation needs related to bicycles, pedestrians, transit, vehicles, freight, and rail.

The U.S. 101 Corridor Plan focuses on the segment that extends from the south-end of the Chetco River Bridge in Brookings, Oregon south through unincorporated Brookings-Harbor to the Oregon/California Border. The plan examines how the highway operates both now and in the future, and identifies strategies to preserve and improve highway safety, operations and capacity consistent with a Statewide Highway classification.

The purpose of the corridor plan is to assess existing and future roadway conditions, and identify potential solutions for improving roadway deficiencies. A multi-modal approach was taken for the evaluation of corridor needs that included the motor vehicle, transit, bicycle, and pedestrian modes. Bridge conditions are also identified.

The new Transportation System Plan and U.S. 101 Corridor plan were presented to the Brookings Planning Commission at their September 5, 2017 meeting. The Brookings Planning Commission considered the Transportation System Plan and proposed revisions to Goal 12, Transportation of the Brookings Comprehensive Plan to reflect the information in the Transportation System Plan. The Brookings Planning Commission recommended approval of the Transportation System Plan and the proposed revisions to Goal 12, Transportation of the Brookings Comprehensive Plan.

Attachment(s): A. Comprehensive Plan, Goal 12.
B. Transportation System Plan.
C. U.S. 101 Corridor Plan.

Proposed new text is **bold.**
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GOAL 12 TRANSPORTATION

GOAL:

To provide and encourage safe, convenient and economic transportation system.

FINDINGS:

1. The City has adopted a Transportation Systems Plan and has amended the Land Development Code to provide for certain requirements of state law related to the Transportation System Plan.

2. U.S. Highway 101 links coastal communities and is the only through highway in Curry County. Access to commercial establishments and adjacent private property is direct from the highway.

3. Although the facilities at the airport are adequate, more service connecting Brookings with other cities is needed.

4. A 14-foot channel is currently maintained in the Chetco Estuary.

5. The City has prepared and adopted a Transportation System Plan **on September 25, 2017** that addresses the interaction of city streets with the highway and with other city streets.

~~6. A study funded by the Oregon Department of Transportation has determined that the highway couplet concept using Railroad Street as the southbound leg of the highway, is feasible. The City Council has endorsed this study.~~

POLICIES:

1. The City will develop a system of streets that provides adequate access to all property in terms of utilities and fire and police protection in residential districts.

2. All new commercial areas and new commercial development within existing commercial areas shall utilize the concepts of access management as provided in **Chapter 17.170 of the Brookings Municipal Code (BMC)** ~~Section 168 of the Land Development Code~~ and the transportation plan.

3. The City will encourage improvement to airport facilities and assure that the airport approach safety zone is protected from encroachments. The City will coordinate development in the Brookings Urban Growth Boundary with the State of Oregon and Curry County in accordance with the Brookings State Airport Master Plan and the Model

airport Safety Standards developed by the Oregon State Aeronautics Division.

4. The City will develop a traffic circulation system, which allows adequate access to industrial and commercial land pursuant to **BMC Chapter 17.170** ~~Section 168 of the Land Development Code~~ and the provision of the Transportation Systems Plan.

5. Brookings will encourage the development of additional port facilities (see Goal 16).

6. The City will make provisions for pedestrian traffic in residential areas and provide bike paths and walkways in other appropriate areas.

7. Brookings will examine the need for and the feasibility of public transit and will encourage programs which meet the needs of transportation disadvantaged.

8. On a regional level, the City of Brookings encourages reduction in the region's general isolation from the rest of Oregon, improvement of intra-regional transportation, construction of passing lanes and realignments on the entire length of Highway 101

9. The City will cooperate with the Oregon Department of Transportation in implementation of the ODOT Six-Year Highway Improvement Program and ODOT Highway Maintenance Programs.

Final Brookings Transportation System Plan

Prepared for
City of Brookings

May 2017

Prepared by
Parametrix

FINAL

Brookings Transportation System Plan

Prepared for

City of Brookings
898 Elk Drive
Brookings, OR 97415

Prepared by

Parametrix
719 2nd Avenue, Suite 200
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May 2017 | 274-2395-088

CITATION

Parametrix. 2017. Final Brookings Transportation System Plan.
Prepared by Parametrix, Seattle, WA. May 2017.

PREFACE

The Brookings Transportation System Plan (TSP) was guided by a Project Management Team (PMT), Technical Advisory Committee (TAC), and a Citizen Advisory Committee (CAC). The PMT comprised the City of Brookings staff, Oregon Department of Transportation (ODOT) staff, and Consultant staff. The TAC consisted of key stakeholder agencies, including the City of Brookings, Curry County, and ODOT. The CAC comprised local stakeholder agencies, community leaders, local business owners, and residents.

In addition to the committees, the Brookings City Council and Planning Commission provided guidance and ensured that the needs of the people of Brookings were incorporated into the TSP.

The PMT, TAC, and CAC devoted a substantial amount of time and effort to the development of this TSP, and their participation was instrumental in the development of this document. The Consultant Team and PMT believe that the City of Brookings future transportation system will be better because of their commitment.

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Member of the Public

Loree Pryce
City of Brookings

Doug Robbins
Curry County

Peter Schuytema
ODOT

Jim Watson
City of Brookings

PREFACE (CONTINUED)

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Curry Public Transit

Jordan Fanning
City of Brookings

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South Coast Lumber

Ron Griswald
Member of the Public

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ACRONYMS AND ABBREVIATIONS

ACS	American Community Survey
ADA	Americans with Disabilities Act
APM	Analysis Procedures Manual
CAC	Citizen Advisory Committee
CIP	Capital Improvement Program
City	City of Brookings
CPTI	Curry County Public Transit, Inc.
DLCD	Department of Land Conservation and Development
FBO	fixed-base operator
FY	Fiscal Year
HCM	Highway Capacity Manual
HSIP	Highway Safety Improvement Program
IOF	Immediate Opportunity Fund
LITL	Low Intensity Taxiway Lighting
LOS	level of service
LTS	Level of Traffic Stress
MEV	million entering vehicle
mph	miles per hour
MUTCD	Manual on Uniform Traffic Control Devices
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
ORS	Oregon Revised Statutes
PLOS	Pedestrian Level of Service
PMT	Project Management Team
RPZ	Runway Protection Zone
SCA	Special City Allotment
SDCs	Systems Development Charges
SOV	single-occupancy vehicle
SPIS	Statewide Priority Index System
SRTS	Safe Routes to School
STIP	Statewide Transportation Improvement Program

ACRONYMS AND ABBREVIATIONS (CONTINUED)

SWOCC	Southwestern Oregon Community College
TAC	Technical Advisory Committee
TAP	Transportation Alternatives Program
TGM	Transportation and Growth Management
TIF	Tax Increment Financing
TPAU	Transportation Planning Analysis Unit
TPR	Transportation Planning Rule
TRB	Transportation Research Board
TSP	Transportation System Plan
UGB	Urban Growth Boundary
v/c	volume-to-capacity

1. EXECUTIVE SUMMARY

The executive summary provides an overview of the key elements of the City of Brookings Transportation System Plan (TSP).

1.1 Study Area

Brookings is located on the southern coast of Oregon approximately 5 miles north of the Oregon-California border, on the north side of the Chetco River. The study area includes the city of Brookings and the Harbor unincorporated urban area of Curry County that is within the Urban Growth Boundary. US 101 is the major corridor for the movement of people, goods, and services to and from Brookings, and also serves as the city's "Main Street."

1.2 Land Use

The Brookings Urban Growth Boundary includes both incorporated and unincorporated areas. Land development and the supportive transportation system in the Brookings urban area have been heavily influenced by the location of US 101, which traverses the city from north to south. US 101 provides regional connectivity for Brookings, linking it to other nearby communities and the remainder of the state.

1.3 Functional Classification

Functional classification provides a systematic basis for determining future right-of-way and improvement needs, and can also be used to provide general guidance, as appropriate or desired, for vehicular street design characteristics. The City of Brookings' roadway functional classification system includes three categories of streets: Principal Arterial, Collector, and Local.

1.4 Street Design Standards

Street design standards support the functional and operational needs of streets such as travel volume, capacity, operating speeds, and safety. These standards are also established to accommodate pedestrian and bicycle travel modes. They are necessary to ensure that the system of streets, as it develops, will be capable of safely and efficiently serving the traveling public while also accommodating the orderly development of adjacent property. As the city develops over the next 20 years, priority should be given to creating a multimodal transportation system for all users.

1.5 Operational Performance Standards

State highway mobility targets were developed for the 1999 Oregon Highway Plan (OHP) as a method to gauge reasonable and consistent targets for traffic flow along state highways (ODOT 1999). Revised mobility targets were adopted in December 2011 as part of the OHP Policy 1F Amendments. These mobility targets consider the classification (e.g., freeway, district) and location (rural, urban) of each state highway. State highway mobility targets are based on volume-to-capacity (v/c) ratios and the Oregon Department of Transportation (ODOT) uses them to assess intersection operations. The ODOT-controlled intersections within the study area are located along US 101. **Table 1-1** summarizes the state highway mobility targets for intersections along US 101.

Table 1-1. State Mobility Targets

US 101 Segment	ODOT Classification[1]	Jurisdiction	Existing or Future No Build Mobility Targets[2]	Future Build Mobility Standard[3]
North of Ransom Street	Statewide Non-Freight Route, UBA, Non-MPO > = 45 mph	ODOT	0.80	0.70
Between north of Ransom Street and north of Pacific Avenue	Statewide Non-Freight Route, UBA, Non-MPO < = 35 mph	ODOT	0.90	0.75
Between north of Pacific Avenue and south of Alder Street	Statewide Non-Freight Route, UBA, STA	ODOT	0.95	0.90
Between south of Alder Street and south of Floral Hill Drive	Statewide Non-Freight Route, UBA, Non-MPO < = 35 mph	ODOT	0.90	0.75
South of Floral Hill Drive	Statewide Non-Freight Route, UBA, Non-MPO > = 45 mph	ODOT	0.80	0.70
All	Stopped Non-State Approach	ODOT	0.95	0.75-0.80

[1] ODOT TransGIS. https://gis.odot.state.or.us/transgis/. US 101 is not designated as a freight route, but it is a Reduction Review Route subject to Oregon Revised Statute (ORS) 366.215 regulations.

[2] ODOT OHP Policy 1F Amendments, December 2011

[3] ODOT Highway Design Manual 2012

UBA = Urban Boundary Area; MPO = Metropolitan Planning Organization; mph = miles per hour; STA = Special Transportation Area

Level of service (LOS) is another metric that describes how well an intersection operates, and is commonly used as a standard. Intersections receive an 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 Brookings and Curry County had not adopted LOS or v/c ratio standards for signalized or unsignalized intersections previously, but the City of Brookings 2002 Transportation System Plan (City of Brookings and ODOT 2002), and the Curry County 2005 Transportation System Plan (Curry County and ODOT 2005) identified a goal of LOS C. Therefore, as part of this TSP update, the City of Brookings is adopting LOS C as its standard for signalized or unsignalized intersections.

1.6 Motorized Improvement Plan

This section outlines the City of Brookings' specific roadway and intersection improvement projects for the next 20 years. A generalized timeline for implementation has been identified for each project. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather prioritizes projects to be developed within near-term (0-5 year), medium-term (5-10 year), and longer-term (10-20 year) horizons. In addition, some projects have development-driven timelines, which are not based on citywide needs but specific development needs. **Table 1-2** summarizes the motorized improvement plan.

Table 1-2. Motorized Improvement Plan—Project List

Project	Description	Reason for the Project	Priority (Timeline)	Cost
M-1: US 101 and Lone Ranch Parkway	Install two egress lanes (left-turn and right-turn lane) for Lone Ranch Parkway, install southbound left-turn and northbound right-turn pockets on US 101 for deceleration, and install a southbound acceleration lane on US 101 for Lone Ranch Parkway left-turn traffic. Lone Ranch development is responsible for this project as part of their Master Plan approval.	Improves intersection minor street operations from a v/c ratio of 1.54 to 0.75.	Development-driven	$1,840,000
M-2: US 101 and Carpenterville Road[1]	Install a two-lane roundabout or a traffic signal. The roundabout would include a mountable (traversable) central island so that trucks maintain the ability to travel through and around the intersection. Lone Ranch development is partially responsible for this project as part of their Master Plan approval. Note: Two options were selected for the project to allow for flexibility based on design and other potential impacts. It will be determined which option is best at the time of project construction.	Either option improves intersection minor street operations and reduces 95th percentile queue lengths.	Low (15-25 Years)	$1,930,000[1]
M-3: US 101 and Harris Beach State Park	Motorized Project M-3 has been modified and reclassified as Non-motorized Project N-11.			
M-4: US 101 and Parkview Drive	Install two egress lanes (left-turn and right-turn lane) for Parkview Drive, install southbound left-turn pocket on US 101 for deceleration, and install a southbound acceleration lane on US 101 for Parkview Drive left-turn traffic. Note: The City will continue to look for opportunities to study Parkview Drive and the Brookings County Airport area, including the adjacent Harris Beach State Park property. This area would benefit from special consideration, such as an area plan due to several identified deficiencies, multiple surrounding land uses, and the relatively isolated nature of Parkview Drive, which is connected to Brookings only via US 101.	Improves intersection minor street operations from a v/c ratio of 1.07 to 0.35.	Development-driven	$2,250,000

Table 1-2. Motorized Improvement Plan—Project List (continued)

Project	Description	Reason for the Project	Priority (Timeline)	Cost
M-5: US 101 and 5th Street[2]	Continue to work with ODOT to improve overall safety and operations of the intersection to meet the project need.	Improves safety and operations by reducing pedestrian/truck conflicts, and improves safety for all modes of transportation.	High (0-5 Years)	$350,000[2]
M-6: Elk Drive and 5th Street	Implement access management at driveways near intersection, construct curb bulbs to minimize crossing distances, and install continental crosswalks.	Improves safety by separating conflict areas to provide drivers adequate reaction time between the intersection and driveways.	Medium (5-15 Years)	$100,000
M-7: US 101 and Pacific Avenue	Limit Pacific Avenue to right-out only.	Improves intersection minor street operations from a v/c ratio of 0.98 to 0.34.	Medium (5-15 years)	$50,000
M-8: US 101 and Center Street	Change Center Street on the north side of US 101 to one-way northbound traffic only.	Improves safety and operations by allowing unimpeded travel on Center Street while maintaining business parking on both sides of Center Street.	Medium (5-15 Years)	$40,000
M-9: US 101 from Willow Street to Alder Street	Motorized Project M-9 has been removed because vehicle safety will be addressed within this roadway segment with Motorized Project M-10.			
M-10: US 101 and Oak Street	Add left-turn lanes on US 101 at the Oak Street intersection.	Improves safety by eliminating need for vehicles to turn left from through lanes, which currently results in rear-end collisions and angled collisions from vehicles making sudden lane changes.	Medium (5-15 Years)	$1,300,000
M-11: Railroad Street and Oak Street	Realign intersection to make Railroad Street 'T' into Oak Street. Note: At the time of project construction, consideration should be given to the turning radius and design speed to support traffic patterns.	Improves safety by reducing turning radii, which slows traffic, and improving vehicle predictability by narrowing and marking lanes.	Medium (5-15 Years)	$230,000
M-12: Memory Lane and Tanbark Road	Realign the Tanbark Road approaches at Memory Lane to bring each approach angle closer to 90 degrees.	Improves safety by improving sight distance, reducing vehicle turning speed, improving driver approach angles, and reducing crossing distance.	Medium (5-15 Years)	$90,000
M-13: Parkview Drive/Airport Road near Brookings County Airport	Rebuild Airport Road as a cut-and-cover tunnel to avoid the Runway Protection Zone (RPZ) of Brookings County Airport.	Provides safe access to the industrial area northeast of Brookings Airport.	Development-driven	$2,880,000
M-14: US 101 and Hoffeldt Lane	Motorized Project M-14 was developed as part of the US 101 Corridor Plan (ODOT 2016).			

Table 1-2. Motorized Improvement Plan—Project List (continued)

Project	Description	Reason for the Project	Priority (Timeline)	Cost
M-15: US 101 and Zimmerman Lane	Motorized Project M-15 was developed as part of the US 101 Corridor Plan (ODOT 2016).			
M-16: US 101 and Benham Lane	Motorized Project M-16 was developed as part of the US 101 Corridor Plan (ODOT 2016).			

[1]A specific improvement has not been selected for this intersection. The cost estimate provided is illustrative of one improvement option (two-lane roundabout), but the final cost could be higher or lower than this estimate depending on the specific improvement chosen by ODOT and the City of Brookings.

[2]A specific improvement has not been selected for this intersection. The cost estimate provided is illustrative of one improvement option (providing wider truck-turning radius, reconstructing channelization island, and new road markings for bicyclists and pedestrians), but the final cost could be higher or lower than this estimate depending on the specific improvement chosen by ODOT and the City of Brookings.

1.7 Non-motorized Improvement Plan

The non-motorized improvement plan presents those projects focused on facilitating pedestrian and bicycle travel. These projects were prioritized based on their proximity to schools, the underlying roadway's functional classification, and overall benefit to the transportation network. The projects listed in **Table 1-3** were identified based on the unique transportation system in Brookings that is heavily influenced by the location of US 101, and are intended to be right-sized for the city's needs and to accommodate the existing financial constraints.

Table 1-3. Non-motorized Improvement Plan—Project List

Project	Description	Reasons for the Project	Priority	Cost
N-1: Easy Street from Pioneer Road to Easy Manor Drive	Install a bike route, install sidewalk infill on north side as needed, and widen street.	Provides enhanced environment for walking, improved visibility for all users, shared lane markings and wayfinding signage, and on-street parking capacity; complements recently completed sidewalks funded by Safe Routes to School (SRTS) program grant.	Medium (5-15 Years)	$870,000
N-2: Pacific Avenue/Azalea Park Road from Old County Road to US 101	**Typical Section (Old County Road to Oak Street)** Install conventional and buffered bike lanes on both sides of the street, retain on-street parking on one side of the street, narrow the travel lanes, and add curb extensions. **Constrained Section (Oak Street to US 101)** Install bike route and sidewalk infill as needed.	**Typical Section (Old County Road to Oak Street)** Improves bicycle access and connectivity, increases separation between people driving and bicycling in one direction and creates a more comfortable bicycle facility; provides clearance when car doors are opened to minimize accident risks, and reduces vehicular speeds. **Constrained Section (Oak Street to US 101)** Establishes continuous sidewalks on both sides of the street, provides shared lane markings and wayfinding signage, and improves visibility for all users.	High (0-5 Years)	$440,000

Table 1-3. Non-motorized Improvement Plan—Project List (continued)

Project	Description	Reasons for the Project	Priority	Cost
N-3: US 101 from Southwestern Oregon Community College to Harris Beach State Park	Prepare trail feasibility study for installing trail on US 101 and to determine US 101 bicycle/pedestrian crossings.	Need to determine feasibility for providing low-stress off-street environment for bicycling and walking, and maintaining separation from fast-moving highway traffic.	Development-Driven	$80,000
N-4: Ransom Avenue from US 101 to Pioneer Road	**Typical Section** Install bike boulevard treatments, retain on-street parking, and install sidewalk infill as needed. **Constrained Section** Install bike boulevard treatments, retain on-street parking on one side, and install sidewalk infill on other side, as needed.	**Typical Section** Provides enhanced environment for bicycling and walking, improves visibility for all users, and provides lower-stress bike route to schools, swimming pool, tennis courts, and Bud Cross Park. **Constrained Section** Provides same benefits as typical section plus retains parking on one side of the street.	High (0-5 Years)	$1,470,000
N-5: US 101 from Arnold Lane to Parkview Drive	**North Section (Parkview Drive to Ransom Avenue)** Install trail segment on west side of US 101 to Harris Beach Trail and sidewalk on east side of US 101. **South Section (Ransom Avenue to Arnold Street)** Install sidewalk infill as needed on east side of US 101, and reduce shoulder width.	**North Section (Parkview Drive to Ransom Avenue)** Connects to existing multi-use path on west side; creates low-stress environment for bicycling and walking; provides dedicated sidewalk facility on east side, which enhances pedestrian access; and improves visibility for all users. **South Section (Ransom Avenue to Arnold Street)** Provides dedicated sidewalk facility on east side, which enhances pedestrian access, and improves visibility for all users.	High (0-5 Years)	$1,130,000
N-6: Oak Street from US 101 to Pacific Avenue	Install conventional bike lanes, retain on-street parking on one side, install parking buffer between parking and bike lane, and narrow the travel lanes.	Improves connectivity and rider comfort, retains on-street parking, helps people avoid riding in door zone, and calms traffic.	High (0-5 Years)	$51,000
N-7: Parkview Drive from US 101 to Welch Court	Install sidewalk infill on east side.	Improves pedestrian access, safety, and visibility for all modes.	Low (15-25 Years)	$373,000
N-8: US 101 from 5th Street to Bridge Street	**US 101—5th Street to Pacific Avenue** Retain existing northbound and southbound striped bike lanes. **US 101—Pacific Avenue to Oak Street** Install signage for southbound bike route onto Railroad Street. Remove parking on northeast side of US 101 and install northbound bike lane.	Improves bicycle access and connectivity on US 101 while maintaining two through travel lanes in each direction on US 101; improves streetscape and bicycle/pedestrian connectivity on Railroad Street (previous streetscape project was planned between Wharf Street and Oak Street), and keeps the low-stress bicycle environment.	High (0-5 Years)	$4,817,000 to $6,765,654

Table 1-3. Non-motorized Improvement Plan—Project List (continued)

Project	Description	Reasons for the Project	Priority	Cost
N-8: US 101 from 5th Street to Bridge Street (continued)	**US 101—Oak Street to Bridge Street** Retain existing northbound and southbound striped bike lanes. **Pacific Avenue—US 101 to Railroad Street** Install bike route. **Railroad Street—Pacific Avenue to Wharf Street** Install bike route. **Railroad Street—Wharf Street to Oak Street** Incorporate reconstruction project with sidewalks and bike route signage and shared lane markings. **Oak Street—Railroad Street to US 101** Install bike route with signage and shared lane markings. Note: The City will continue to look for opportunities to conduct a comprehensive study of the downtown core area to address parking, a reduction of travel lanes, and bicycle safety and pedestrian crossings.			
N-9: 5th Street from Jodee Lane to US 101	**Typical Section** Install bike route treatment and retain sidewalks and parking on both sides. **Constrained Section** Install bike route treatment and retain intermittent sidewalks.	**Typical Section** Provides shared lane markings and wayfinding signage and retains on-street parking. **Constrained Section** Provides shared lane markings and wayfinding signage.	Medium (5-15 Years)	$20,000
N-10: Lower Harbor Road and Oceanview Drive	**Lower Harbor Road** Install conventional bike lanes and sidewalks on both sides, where feasible. **Oceanview Drive** Install conventional bike lanes where right-of-way is available, and bike route where right-of-way is not available. **Intersection of Lower Harbor Road and Shopping Center Avenue** Install pedestrian and bicycle crossing improvements.	Improves connectivity and safety for people bicycling and walking in areas where there is available width for bike lanes; also improves visibility for all road users.	Medium (5-15 Years)	$1,614,000
N-11 (formerly M-3): US 101 near Ransom Avenue[1]	Continue to work with ODOT to install improved bicycle/pedestrian access across US 101 north of Arnold Street.	Improves safe crossing of US 101 for bicyclists/pedestrians to access the multi-use path on the west side of US 101.	High (0-5 Years)	$100,000[1]
Bicycle Parking	Install additional bicycle parking (Details listed below and in **Table 6-2**).	Encourages more bicycle ridership.	High (0-5 Years)	$11,000

[1]A specific improvement has not been identified for this project. The cost estimate provided is illustrative of one improvement option (providing rectangular rapid flashing beacon, crosswalk, advance pedestrian/bicycle signs, and advance stop bars), but the final cost could be higher or lower than this estimate depending on the specific improvement chosen by ODOT and the City of Brookings.

1.8 Transit Improvement Plan

The transit improvement plan will improve transit conditions with the purchase of new buses through the Statewide Transportation Improvement Program, and construction of bus stops on Railroad Street as part of an urban renewal project. In addition, Curry County Public Transit, Inc. plans to achieve the following targets by June 30, 2019:

- Place shelters and appropriate signage showing current bus stops along US 101 in Brookings.
- Conduct feasibility studies to expand the current Dial-A-Ride and Coastal Express service to include evenings, holidays, and weekends, and expand Dial-A-Ride boundaries.
- Identify and pursue grant funding for special projects, bus rehabilitations, replacements, and other projects.

2. INTRODUCTION

2.1 Overview

The City of Brookings, in conjunction with the Oregon Department of Transportation (ODOT), initiated an update of the City's Transportation System Plan (TSP) in 2013. The TSP guides the management and implementation of the transportation facilities, policies, and programs within the City of Brookings Urban Growth Boundary (UGB) over the next 20 years. This plan is reflective of the community's vision, while remaining consistent with state and local plans and policies. In addition, the plan provides ODOT and Curry County with recommendations that can be incorporated into their respective planning efforts.

The TSP was developed by:

- Reviewing state, regional, and local transportation plans and policies that the Brookings TSP must either comply with or be consistent with;
- Gathering community input through public workshops at key points in the project;
- Working with technical and citizen advisory committees to establish goals and objectives, identify and assess alternatives, and prioritize future needs;
- Using a detailed inventory of existing transportation facilities to serve as a foundation to establish needs in the near term and long term;
- Identifying and evaluating future transportation needs to support the land use vision and economic vitality of the city; and
- Prioritizing improvements and strategies that are reflective of the community's vision and fiscal realities.

In 2002, the City of Brookings adopted their TSP as the Transportation Element of the City's Comprehensive Plan (City of Brookings and ODOT 2002). The 2002 TSP established a plan for transportation facilities and services to meet local, regional, and state needs and provided direction for allocation of resources to various types of transportation projects. The update to the City of Brookings TSP is an important long-range planning tool for Brookings as it prepares for future growth in the community and region. The completion of the updated TSP is timely for several reasons:

- The 2002 TSP provided data for future facilities only through 2017, and most of the recommended street system projects have been completed or are no longer appropriate;
- Several studies and code revisions have occurred that must be incorporated into an updated TSP;
- Large-scale developments have occurred, including the Southwestern Oregon Community College campus, the Curry General Hospital medical facility, and a new Bi-Mart Store;
- Brookings has adopted a Bicycle Master Plan that outpaces the 2002 TSP;
- The City has been awarded a Safe Routes to Schools grant to construct facilities near the elementary school but many segments connecting the school to nearby residential areas are missing;
- A potential expansion of the airport may impact the intersection of Parkview Drive and US 101, which serves as the city's main street;
- US 101 currently lacks bicycle and pedestrian amenities; and
- Railroad Street has the potential to serve as a parallel alternative to US 101, which could relieve congestion and improve safety on the state facility.

The TSP ensures the vision for the transportation system, meets community needs, communicates the City's aspirations, and conforms to state and regional policies. An effective TSP will provide:

- A blueprint for transportation investment;
- A coordination tool with regional agencies and local jurisdictions;
- An important component of prudent and effective land use choices; and
- Answers to existing and future transportation needs related to bicycles, pedestrians, transit, vehicles, freight, and rail.

The Brookings TSP update will meet the state requirements for a TSP and act as a resource for staff, decision makers, and the public. It will identify the preferred multimodal transportation system, consisting of a network of facilities adequate to serve local, regional, and state transportation needs. It is intended to be the principal document for identifying the function, capacity, and location of future facilities, directing resources to transportation projects, and providing the community with the level of investment that will be needed to support anticipated development within the community.

2.2 Regulatory Context

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

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

2.3 Brookings TSP Goals and Objectives

The overarching goal and related objectives provide guidance on the types and priorities of policies, programs, studies, and projects that are included in this TSP, as detailed below.

2.3.1 Goal

To provide a balanced, multimodal, safe, convenient, economical, and efficient transportation system for Brookings.

2.3.2 Objectives

A. Develop a coordinated transportation system that facilitates the mobility and accessibility of community residents in a safe and efficient manner, and encourages alternatives to and reduced reliance upon the single-occupant automobile.

B. Promote the development and maintenance of all transportation modes including bikeways, pedestrian ways, and public transportation where appropriate to all planned land uses, while minimizing adverse environmental impacts.

C. Cooperate with and support regional public transportation planning efforts, including working with public and private agencies to promote the use of vanpools and park-and-ride facilities.

D. Promote and give high priority to bikeways and pedestrian ways in the downtown area, and in the vicinity of Kalmiopsis Elementary School and parks, including development of a Safe Routes to School Action Plan and the identification of locations where bicycle parking may be needed.

E. Protect the function of the airport facilities in the city and develop and implement strategies that minimize conflicts with other transportation modes and adjacent land uses.

F. Coordinate with ODOT and Curry County in the planning and provision of transportation services and in the implementation of the ODOT Statewide Transportation Improvement Program (STIP) and provisions of the Oregon Highway Plan (OHP).

G. Utilize the TSP for guidance in all land use planning and project development activities.

H. Develop and regularly update, prioritize, and maintain a Capital Improvements Program that identifies streets, curbs, sidewalks, bikeways, and pedestrian ways that need repair/construction.

I. Involve the public in the transportation planning process to encourage community support for the TSP.

J. Identify projects to serve as a parallel alternative to US 101, to improve safety, and to reduce congestion of both streets.

K. Participate in regional efforts to expand bicycle facilities beyond city limits to attract tourists to the downtown area.

L. Promote transportation projects that support economic development and local businesses in Brookings.

2.4 Public Involvement

The TSP planning process provided the citizens of Brookings with the opportunity to identify their vision and priorities for the future transportation system within the city. The planning process was guided by a Project Management Team (PMT), Technical Advisory Committee (TAC), and a Citizen Advisory Committee (CAC). The PMT consisted of staff members from the City of Brookings, ODOT, and the Consultant, respectively. The TAC consisted of key stakeholder agencies, including the City of Brookings,

Curry County, and ODOT. The CAC comprised local stakeholder agencies, community leaders, local business owners, and residents.

Members of the PMT, TAC, and CAC reviewed the technical aspects of the TSP. They held over 20 PMT meetings, four TAC meetings, four CAC meetings, and multiple open houses that focused on all aspects of the TSP development, including the evaluation of existing deficiencies and forecast needs; the selection of transportation options; the presentation of the draft TSP and funding plan; and the presentation of recommended ordinance amendments. Title VI and environmental justice populations were considered when developing the community outreach plan.

In addition to the established advisory committees, two community workshops were held at key junctures in the process to gather public input regarding transportation needs and priorities. This input was incorporated in the options analysis and final plan development. Finally, the draft plans were discussed with the Planning Commission and City Council at work sessions and at public hearings. Details of the public involvement process are provided in **Volume 2, Appendix H**.

2.5 Organization of the TSP

The City of Brookings TSP comprises a main document (Volume 1) and one volume of technical appendices (Volume 2).

Volume 1 is the City of Brookings TSP, which is organized into the following chapters:

- Chapter 1 – Executive Summary
- Chapter 2 – Introduction (current section)
- Chapter 3 – Existing Conditions
- Chapter 4 – Future Conditions
- Chapter 5 – Motorized Plan
- Chapter 6 – Non-motorized Improvement Plan
- Chapter 7 – Transit Plan
- Chapter 8 – Plan for Other Modes of Transportation
- Chapter 9 – Funding and Implementation Plan

Volume 2 (under separate cover) contains the technical memoranda prepared during the development of the City of Brookings TSP (**Appendices A through H**), including the detailed data and analysis that informed the TSP.

3. EXISTING CONDITIONS

This chapter provides information on the technical analysis and infrastructure inventory conducted to support the development of the Brookings TSP update. The first part of this chapter (**Section 3.1**) summarizes the existing transportation system within the Brookings UGB, providing information related to the performance of the City's transportation system, the supporting infrastructure, and population and employment. The second part of this chapter (**Section 3.2**) summarizes the existing conditions related to traffic operations.

3.1 Existing Transportation System

This section details the existing land use, population and employment, Title VI and environmental justice populations, and supporting transportation infrastructure. This information was summarized to inform the future identification of TSP alternatives by highlighting system opportunities, gaps, and the relationships that exist among these different transportation elements.

3.1.1 Land Use

The Brookings UGB includes both incorporated and unincorporated areas. Land development and the supportive transportation system in the Brookings urban area have been heavily influenced by the location of US 101, which traverses the city from north to south. US 101 provides regional connectivity for Brookings, linking it to other nearby communities and the remainder of the state.

The City of Brookings is approximately 2,257 acres, and the area within the UGB but outside the city limits is approximately 5,055 acres. The land within the Brookings city limits is subject to Brookings land use ordinances and policies, including the Brookings Comprehensive Plan. The Brookings Comprehensive Plan uses 16 designations for all lands within the city. **Figure 3-1** shows the zoning designations in the city and UGB.

Most of the land within commercial designation is adjacent to US 101 between Easy Street and Alder Street. There are small pockets of commercial land along the Chetco River on N Bank Chetco River Road, south of the Brookings County Airport, and on E Harris Heights Road to the east of US 101. Industrial land is located south of Railroad Street along Wharf Street in the southern portion of Brookings. Industrial land in Brookings is bordered by commercial land to the north and primarily multiple-family (R-3) and two-family (R-2) residential areas to the east and west. A small pocket of industrial park (I-P) land is located to the east of the Brookings County Airport. The majority of residential land in the city is single-family residential on 6,000-square-foot lots. Two-family and multiple-family residential areas border the primary commercial area along US 101. There is a large area of master planned development in the north portion of Brookings along US 101. This area is primarily the Lone Ranch master planned development.

In the UGB outside of the city limits, the majority of land uses are two-family residential (R-2), rural residential (RR-10, RR-5), light commercial (C-1), and industrial (I). The light commercial land uses are primarily located along US 101. The majority of the rural residential land use is located in the northeast and southwest area of the UGB. Two-family residential land uses primarily border the light commercial areas.

North Fork Chetco River

Pacific Ocean

South Coast Log Pond

Ferry Creek Reservoir

Chetco River

Rainbow Beach Rd

Park View Dr

Dodge Ave

Hemlock St

Easy St

1st St

Railroad St

Spruce St

Lower Harbor Rd

Hall Wy

E Hofferth

Tuttle Ln

Bay View Ln

Gibson Ln

Pelican Bay Dr

Ocean View Dr

Harbor Hills Hts

Harbor Vista

Foster Rd

Payne Rd

N Bank Chetco River Rd

S Bank Chetco Rd

City of Brookings Zoning

- Mobile Home Residential
- Single Family Residential - 20000 Sq Ft Lot
- Single Family Residential - 10000 Sq Ft Lot
- Single Family Residential - 8000 Sq Ft Lot
- Single Family Residential - 6000 Sq Ft Lot
- Single Family Residential
- Two Family Residential
- Multiple Family Residential
- Master Planned Development
- General Commercial
- Tourist Commercial
- Professional Office
- General Industrial
- Industrial Park
- Public Open Spaces

Curry County Zoning

- Rural Residential - 10000 Sq Ft Lot
- Single Family Residential - 6000 Sq Ft Lot
- Rural Residential - 5000 Sq Ft Lot
- Single Family Residential
- Two Family Residential
- Multiple Family Residential
- Rural Commercial
- Light Commercial
- Heavy Commercial
- Rural Industrial
- Industrial Park
- Public Facilities
- Conservation Areas
- Forestry-Grazing
- Exclusive Farm Use
- Agriculture
- Metropolitan Planning Area

Document Path: U:\Port\Projects\Clients\2395-ODOT\2274-2395-088 TGM\Brookings\TSP\99Svcs\GIS\mapdocs\IPH_LandUse\Brookings_Zoning11x17_05262017.mxd

Parametrix Source: City of Brookings, Oregon

0 0.375 0.75 1.5 Miles

City Limit

Urban Growth Boundary

Roadways

Functional Classification

- Principal Arterial
- Collector
- Local Road

FIGURE 3-1
CITY OF BROOKINGS ZONING DESIGNATIONS

Transportation System Plan
Brookings, Oregon

3.1.2 Population and Employment

The population in Brookings grew by 16 percent from 5,447 people in 2000 to 6,336 people in 2010 according to the 2010 US Census Bureau report. The median age in Brookings is 46.9 years. The US Census Bureau 2007 Survey of Business Owners concluded that there were 700 businesses in Brookings in 2007. Approximately 2,843 civilians 16 years or older are employed, which is approximately 45 percent of the total population according to the 2008-2012 American Community Survey (ACS) conducted by the US Census Bureau. Sales and office occupations employ the majority of the working population, followed by service occupations. Approximately 78 percent of workers 16 years and older commute by single-occupancy vehicle (SOV), approximately 9 percent of workers commute by carpool, approximately 8 percent walk to work, and 4 percent work at home (2008-2012 ACS). Only 0.1 percent of workers used public transportation. Most of the employed population, approximately 63 percent, work within Brookings.

3.1.3 Title VI and Environmental Justice Populations

Approximately 8 percent of the Brookings population are minorities and approximately 7 percent of the population is Hispanic or Latino. Environmental justice populations reside throughout Brookings. The area with the highest concentration of minority populations, between 15.1 and 30 percent, is located in the northeast part of the city in an area bounded by the Chetco River in the south and Old County Road in the north between Ferry Creek and Oak Street. This area also has the highest concentration of Hispanic or Latino residents, between 10.1 and 15 percent.

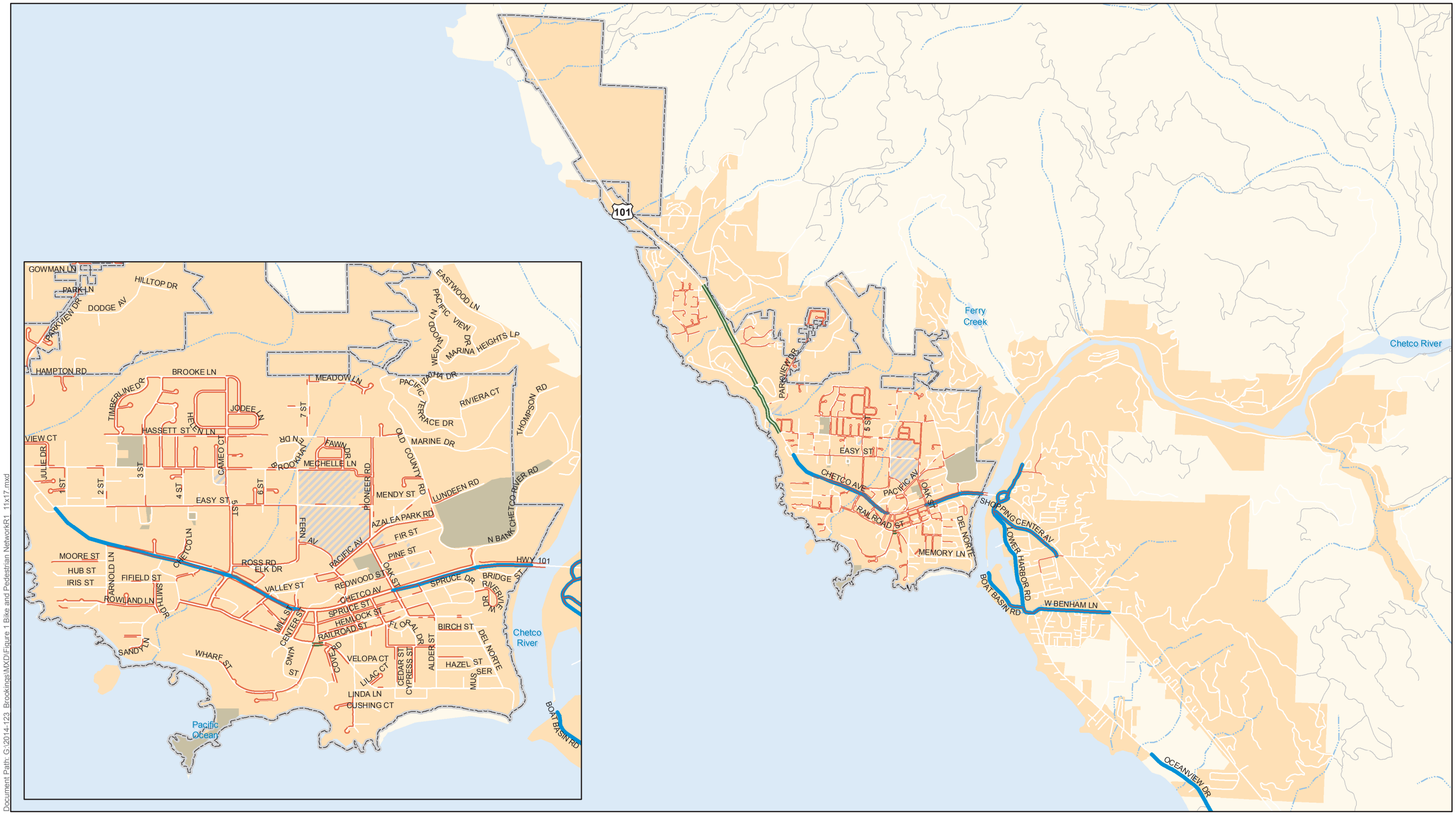
There are 1,533 persons age 65 and older living in Brookings. This is approximately 24 percent of the population. There are several areas within the city with concentrations of persons age 65 or older. Concentrations of this population are located along the coast between W Harris Heights Road to Tanbark Road in Brookings. Another concentrated area of persons 65 and older live on the east side of Chetco River along US 101.

Approximately 8 percent of the population is at or below the poverty level in Brookings. A concentration of the population at or below the poverty level is found on either side of US 101 south of the Chetco River. There is also concentrated low income populations along the Chetco River as it heads northeast in the northeast part of the UGB. For maps showing Title VI and environmental justice population data graphically, please refer to **Volume 2, Appendix B**.

3.1.4 Non-motorized Facilities

The existing non-motorized network is shown in **Figures 3-2** and **3-3**. **Figure 3-2** shows the larger study area while **Figure 3-3** focuses on the city and describes some opportunities and constraints in more detail. Additional details on existing pedestrian and bicycle facilities are summarized in **Volume 2, Appendix B**.

The existing pedestrian network is generally well served by sidewalk facilities and marked crosswalks on the majority of its larger roadways (i.e., principal arterials and major collectors). However, US 101/Chetco Avenue bisects the city north and south, presenting a challenging crossing barrier. In the commercial downtown core, where the speed limit is 25 miles per hour (mph), existing high-visibility continental-style crosswalks aid pedestrian crossings across this busy 4-lane roadway. Other segments of the highway where the speed limit is higher have few or no marked crossings available.



Document Path: G:\2014-123 Brookings\MXD\Figure 1 Bike and Pedestrian NetworkR1 11x17.mxd

Parametrix and Alta Planning + Design

Source: (Curry County, City of Brookings, US Census, Alta Planning + Design)

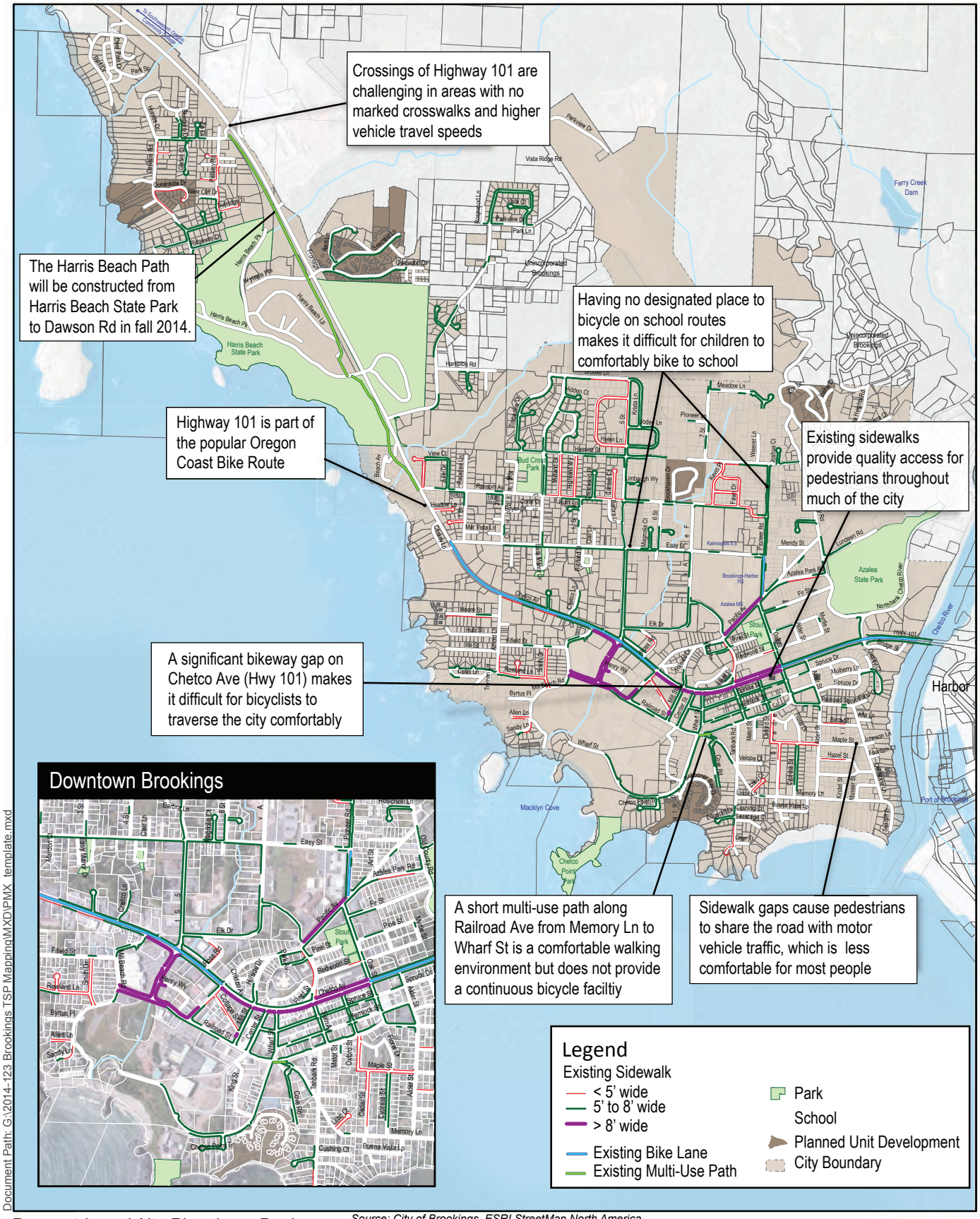
0 5,000
Scale in Feet

N

Existing Sidewalk
Existing Bike Lane
Existing Trail
Parks
Schools
Rivers
Water
City Limits
Urban Growth Boundary

FIGURE 3-2
EXISTING BICYCLE AND PEDESTRIAN NETWORK

Transportation System Plan
Brookings, Oregon



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Parametrix and Alta Planning + Design

Source: City of Brookings, ESRI StreetMap North America

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Scale in Feet

FIGURE 3-3
PEDESTRIAN AND BICYCLE NETWORK OPPORTUNITIES AND CONSTRAINTS

Transportation System Plan
Brookings, Oregon

Few designated bicycle facilities are available within the Brookings UGB. However, there are a number of low-traffic, low-speed local access streets that may already feel comfortable for users to ride their bicycles. With improvements such as wayfinding, crossing treatments, and potential traffic calming, streets within Brookings could be further enhanced to attract people of all ages and abilities to bicycle for recreation and transportation.

The Oregon Coast Bike Route is a popular cycle-touring route that draws thousands of riders every summer. The majority of this route follows US 101 down the coast. Brookings is one of the final stops in the state, and the last with a hiker-biker camp—Harris Beach State Park.

A bicycle parking inventory, summarized in **Table 3-1**, was completed by the City of Brookings in 2016.

Table 3-1. Bicycle Parking Inventory

Location	Number of Spots	Condition	Type
Easy Manor Park (Easy Manor/Easy Street)	5	excellent	wave
Kalmiopsis School (650 Easy Street)	17	good	schoolyard
Brookings-Harbor High School (625 Pioneer Road)	4	fair	schoolyard
Azalea Middle School (505 Pacific Avenue)	30	good	schoolyard
Headstart (420 Redwood Spur)	3	good	schoolyard
Azalea Park – Kidtown (640 Old County Road)	8	fair	schoolyard
Chetco Library (405 Alder Street)	8	fair	schoolyard
USPS – Post Office (711 Spruce Street)	3	good	wave
Fred Meyer (325 5th Street)	7	good	wave
Bud Cross Park – swimming pool (1130 Ransom Avenue)	14	fair	schoolyard
623 US 101	15	good	wave
Tolowa Tribe (1122 Fifield Street)	6	good	schoolyard
Ocean Winds (6577 Lucky Lane)	4	good	staple/loop
Heron Ridge (521 Fir Street)	6	good	staple/loop
Lutheran Church (1200 Easy Street)	6	fair	schoolyard
Curry Health District (500 5th Street)	30	excellent	staple/loop
Mini Pet Mart (926 US 101)	7	excellent	wave
Subway (1006 US 101)	4	fair	floor stand
Bi-Mart (248 Wharf Street)	4	excellent	staple/loop
Dollar General (1300 Easy Street)	2	good	staple/loop
Harris Beach – day use (1655 US 101)	7	fair	schoolyard
KFC/Taco Bell (350 5th Street)	2	fair	post
Rogue Credit Union (729 US 101)	5	excellent	wave
Khun Thai (925 US 101)	3	poor	schoolyard
Cielito Lindo (500 US 101)	4	good	staple/loop
La Flor de Mexican (541 US 101)	6	good	schoolyard
Mill Beach access (202 Macklyn Road)	5	good	wave
Health Shop (604 Railroad Street)	5	good	wave
US Bank (326 5th Street)	7	good	wave
Alder Medical Center (412 Alder Street)		poor	schoolyard

Table 3-1. Bicycle Parking Inventory (continued)

Location	Number of Spots	Condition	Type
VA Clinic (840 Railroad Street)	2	excellent	staple/loop
Chase Bank (898 US 101)	4	fair	wave
Southwestern Oregon Community College (SWOCC) Campus (96082 Lone Ranch)	16	excellent	post and ring
O'Holleran's (1210 US 101)	8	good	schoolyard
McDonald's (815 US 101)	7	good	wave
City Hall (898 Elk Drive)	5	good	wave
Bankus Park (5th Street and US 101)	5	good	wave
Downtown Parking Lot (US 101 and Fleet Street)	5	good	wave

Source: City of Brookings 2016

The Oregon Coast Trail provides recreational opportunities along the entire length of the Oregon Coast. Hikers cross sandy beaches, meander through forest-shaded corridors, and traverse majestic headlands. Most of the route is on the beach. Within Brookings, the trail is located on US 101. Several locations have been identified where improvements could be made to improve the experience for hikers.

3.1.5 Public Transportation

Transit service in the city of Brookings is provided by Curry County Public Transit, which operates Dial-A-Ride service, and a regional bus service called the Coastal Express. Taxi service in Brookings is provided by three companies. School bus services are provided by the Brookings-Harbor School District for all schools in Brookings.

3.1.6 Rail Facilities

There are no rail lines or rail service in Brookings.

3.1.7 Aviation

The only airport in Brookings, Brookings County Airport, is located in the northeast area of the city south of Harris Creek. The airport has been jointly developed by the State of Oregon Aeronautics Division and Curry County. The airport is classified as a public access, general aviation facility with no commercial service available. The closest available commercial air transportation services are located in Crescent City, California, and Coos Bay/North Bend, Oregon. The only access to the Brookings County Airport is Parkview Drive, which is a paved, two-lane roadway in generally good condition. For additional information refer to the Brookings Airport Report (Oregon Department of Aviation 2008).

3.1.8 Water Transportation

There are no commercial water transportation services in Brookings, but private boats use the Chetco River and the Port of Brookings.

3.1.9 Pipelines

There are currently no pipelines serving Brookings.

3.2 Existing Conditions Analysis

This section summarizes the performance of the city's existing transportation network. This section includes the study intersections, traffic volumes, peak hour intersection operations, a qualitative multimodal assessment, and a crash analysis.

3.2.1 Study Intersections

Brookings is located on the southern coast of Oregon approximately 5 miles north of the Oregon-California border, on the north side of the Chetco River. The study area includes the city of Brookings and the Harbor unincorporated urban area of Curry County that is within the UGB. **Table 3-2** lists the 17 study intersections that are evaluated and their jurisdictional ownership.

Table 3-2. Study Intersections

ID #	Intersection	Jurisdiction
1	US 101/Lone Ranch Parkway	ODOT
2	US 101/Carpenterville Road	ODOT
3	US 101/Parkview Drive	ODOT
4	US 101/Easy Street/Crissey Circle (south)	ODOT
5	5th Street/Elk Drive	Brookings
6	US 101/5th Street	ODOT
7	US 101/Pacific Avenue	ODOT
8	US 101/Center Street	ODOT
9	US 101/Fern Avenue	ODOT
10	US 101/Oak Street	ODOT
11	US 101/Alder Street	ODOT
12	US 101/N Bank Chetco River Road	ODOT
13	Lower Harbor Road/Shopping Center Avenue	Curry County
14	Hoffeldt Lane/Shopping Center Avenue	Curry County
15	US 101/Zimmerman Lane	ODOT
16	US 101/Hoffeldt Lane	ODOT
17	US 101/Benham Lane	ODOT

3.2.2 Traffic Volumes

The traffic counts for the existing 2013 peak hour turning movements were adjusted to the 30th highest hour volume according to the ODOT Transportation Planning Analysis Unit (TPAU) Analysis Procedures Manual (APM), originally published in April 2006 and updated in February 2017 (ODOT 2006). This task included determining a system peak hour for the study area and seasonally adjusting the counts. The traffic volumes were also historically adjusted to year 2012, as specified in the scope of work, to match the base year used in the Brookings travel demand model.

Traffic volumes were reviewed at all study intersections to determine the weekday 1-hour system peak hour. The system-wide weekday peak hour was determined to occur between 12:00 and 1:00 pm. In typical situations, the highest volumes occur during the evening commute period; however, Brookings is a coastal destination with a high proportion of retired people, resulting in fewer evening commute trips and more midday trips. These factors result in the peak hour of 12:00 to 1:00 pm.

The 2012 30th highest hour volumes for the study intersections are summarized in **Figure 3-4**. The pedestrian and bicycle volumes for this same midday peak period are summarized in **Figure 3-5**.

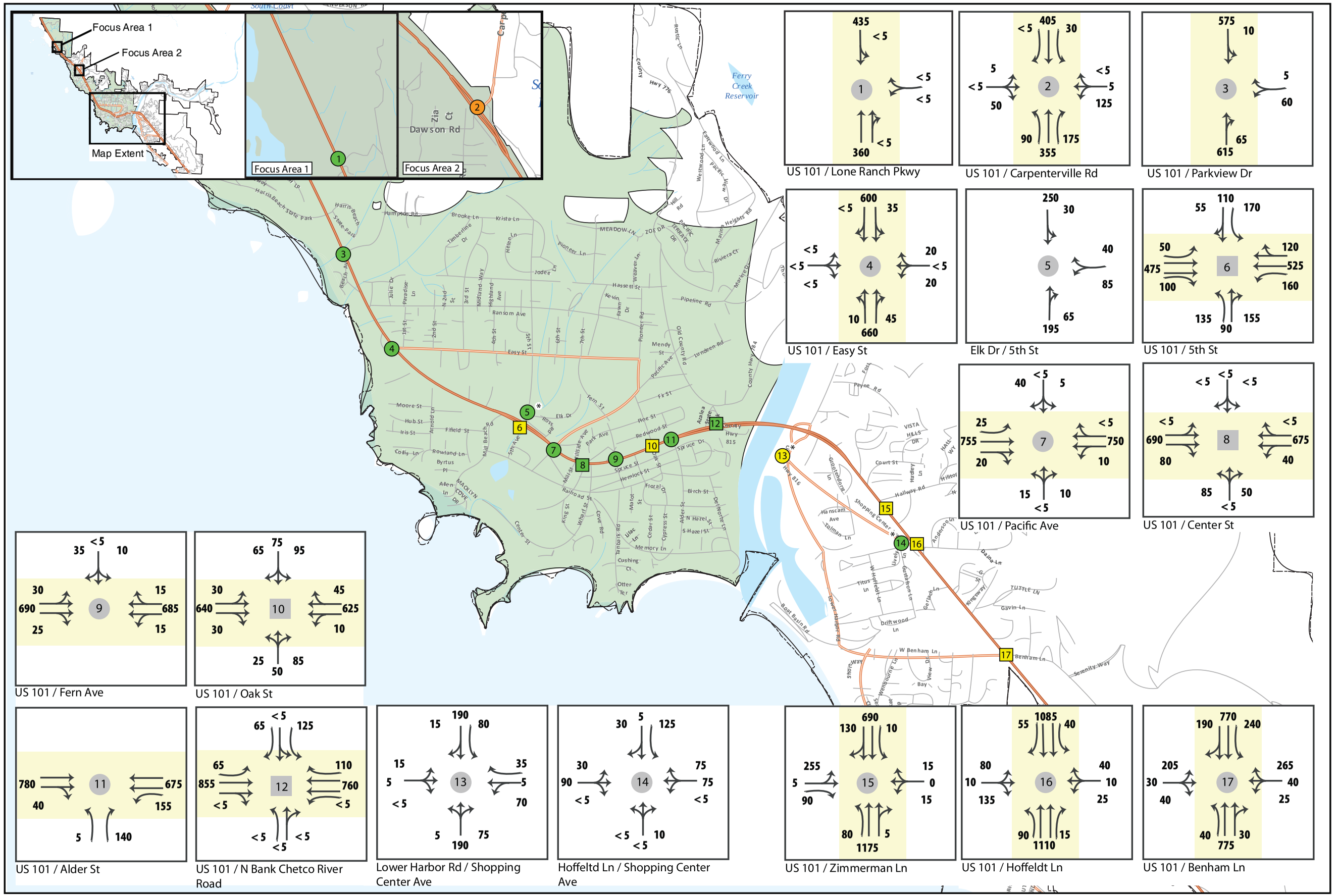


FIGURE 3-4
YEAR 2012 30TH HIGHEST HOURLY VOLUME, LANE CONFIGURATIONS, INTERSECTION CONTROL, AND LOS

Transportation System Plan
Brookings, Oregon

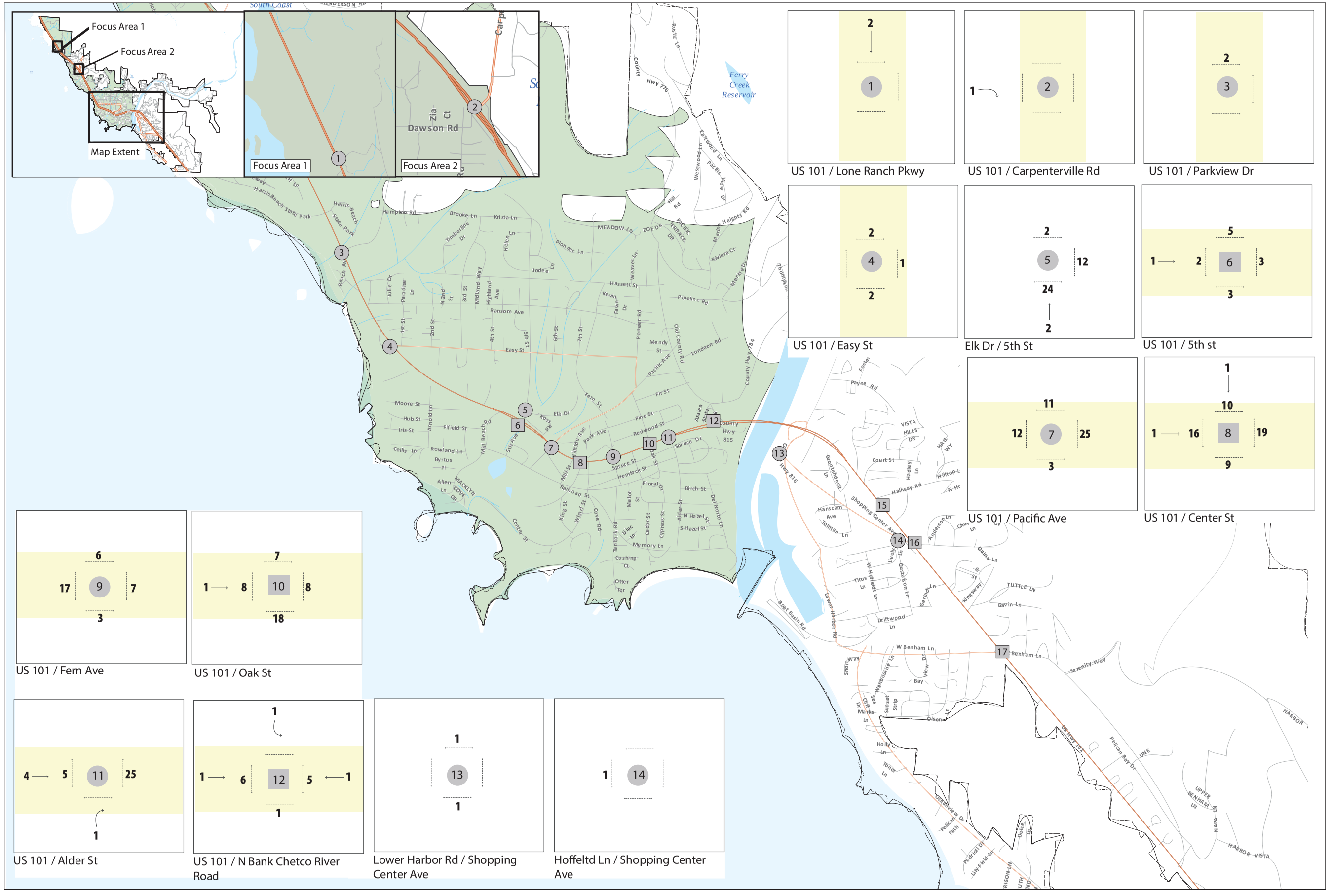


FIGURE 3-5
PEAK HOUR NONMOTORIZED VOLUMES

Transportation System Plan
Brookings, Oregon

3.2.3 Operational Performance Standards

State highway mobility targets were developed for the 1999 OHP as a method to gauge reasonable and consistent targets for traffic flow along state highways. Revised mobility targets were adopted in December 2011 as part of the OHP Policy 1F Amendments. These mobility targets consider the classification (e.g., freeway, district) and location (rural, urban) of each state highway. State highway mobility targets are based on volume-to-capacity (v/c) ratios and ODOT uses them to assess intersection operations. The ODOT-controlled intersections within the study area are located along US 101. **Table 3-3** summarizes the state highway mobility targets for intersections along US 101.

Level of service (LOS) is another metric that describes how well an intersection operates, and is commonly used as a standard. Intersections receive an 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 Brookings and Curry County had not adopted LOS or v/c ratio standards for signalized or unsignalized intersections previously, but the City of Brookings 2002 Transportation System Plan, and the Curry County 2005 Transportation System Plan identified a goal of LOS C. Therefore, as part of this TSP update, the City of Brookings is adopting LOS C as its standard for signalized or unsignalized intersections.

Table 3-3. State Mobility Targets

US 101 Segment	ODOT Classification[1]	Jurisdiction	Existing or Future No Build Mobility Targets[2]	Future Build Mobility Standard[3]
North of Ransom Street	Statewide Non-Freight Route, UBA, Non-MPO > = 45 mph	ODOT	0.80	0.70
Between north of Ransom Street and north of Pacific Avenue	Statewide Non-Freight Route, UBA, Non-MPO < = 35 mph	ODOT	0.90	0.75
Between north of Pacific Avenue and south of Alder Street	Statewide Non-Freight Route, UBA, STA	ODOT	0.95	0.90
Between south of Alder Street and south of Floral Hill Drive	Statewide Non-Freight Route, UBA, Non-MPO < = 35 mph	ODOT	0.90	0.75
South of Floral Hill Drive	Statewide Non-Freight Route, UBA, Non-MPO > = 45 mph	ODOT	0.80	0.70
All	Stopped Non-State Approach	ODOT	0.95	0.75-0.80

[1] ODOT TransGIS. https://gis.odot.state.or.us/transgis/. US 101 is not designated as a freight route, but it is a Reduction Review Route subject to ORS 366.215.

[2] ODOT OHP Policy 1F Amendments, December 2011

[3] ODOT Highway Design Manual 2012

3.2.4 Peak Hour Intersection Operations

Mobility standards, including LOS and v/c ratios, were calculated for each study intersection. Traffic analysis was conducted for the 14 study intersections in the city using Synchro software (Version 8, Build 805). Traffic analysis results from the US 101 Corridor Study are included for the three intersections on US 101 south of the Chetco River. According to the APM, the reported results for the v/c ratios at signalized intersections used the Transportation Research Board's 2000 Highway Capacity Manual (HCM) (TRB 2000), and results for unsignalized intersections used the 2010 HCM (TRB 2010). At stop-controlled intersections, critical side street operations and mainline left-turn v/c ratios and LOS are reported. The

highest v/c ratios at the stop-controlled intersections are shown in bold in **Table 3-4**, which summarizes the intersection LOS and v/c ratios. As indicated in **Table 3-4**, all study intersections under ODOT's jurisdiction meet ODOT's mobility standards, and the intersections under the City of Brookings and Curry County jurisdictional control operate at LOS C or better. Additional details on existing peak hour intersection operations are provided in **Volume 2, Appendix C**.

Table 3-4. Intersection LOS and v/c Ratio

				Overall Intersection Operations for Signals/ Side Street Operations for Stop Signs		Mainline Operations Results for Stop Signs	
	Study Intersection	Jurisdiction	Intersection Control	v/c	LOS	v/c	LOS
1	US 101/Lone Ranch Parkway	ODOT	Stop Sign	0.01	B	**0.28**	A
2	US 101/Carpenterville Road	ODOT	Stop Sign	**0.72**	F	0.08	A
3	US 101/Parkview Drive	ODOT	Stop Sign	0.34	D	**0.43**	A
4	US 101/Easy Street	ODOT	Stop Sign	0.12	C	**0.23**	A
5	5th Street/Elk Drive	Brookings	Stop Sign	**0.27**	B	0.18	A
6	US 101/5th Street	ODOT	Signal	**0.66**	C	-	-
7	US 101/Pacific Avenue	ODOT	Stop Sign	**0.34**	F	0.26	A
8	US 101/Center Street	ODOT	Signal	**0.47**	A	-	-
9	US 101/Fern Avenue	ODOT	Stop Sign	0.11	B	**0.24**	A
10	US 101/Oak Street	ODOT	Signal	**0.56**	A	-	-
11	US 101/Alder Street	ODOT	Stop Sign	**0.30**	C	0.23	B
12	US 101/N Bank Chetco River Road	ODOT	Signal	**0.46**	B	-	-
13	Lower Harbor Road/Shopping Center Avenue	Curry County	Stop Sign	**0.21**	C	0.19	A
14	Hoffeldt Lane/Shopping Center Avenue	Curry County	Stop Sign	**0.25**	B	0.11	A
15	US 101/Zimmerman Lane[1]	ODOT	Stop Sign	**0.64**	B	-	-
16	US 101/Hoffeldt Lane[1]	ODOT	Stop Sign	**0.53**	B	-	-
17	US 101/Benham Lane[1]	ODOT	Stop Sign	**0.50**	B	-	-

[1] Results from US 101 Corridor Plan (ODOT 2016)

3.2.5 Multimodal Assessment

The methodology for assessing pedestrian, bicycle, and transit LOS in the city and the Harbor unincorporated urban area is based on ODOT's Qualitative MMLOS Supplement Addendum G. The modified methodologies described below were refined from Addendum G to account for the availability of necessary data and the larger, citywide network scale of the assessment. By accounting for these factors, the analysis provides a comprehensive overview of the existing pedestrian, bicycle, and transit environment in the city of Brookings and the Harbor unincorporated urban area.

3.2.5.1 Pedestrian Level of Service

The Pedestrian Level of Service (PLOS) analysis resulted in a score of 1 to 5. PLOS 1 represents a comfortable pedestrian environment for all types of users such as a complete sidewalk network on both sides of a 2-lane or narrower street. Higher scores represent conditions with higher posted traffic speeds, lack of sidewalks, and lack of buffer space adjacent to the walking area. On all streets, a score of PLOS 5 can be considered deficient for pedestrians. In areas with vulnerable pedestrians, including students and aging adults, a PLOS 1-2 target is appropriate.

The PLOS analysis used sidewalk and roadway data from the City of Brookings to assign a relative score to each roadway segment. Many roadways in Brookings have a partial sidewalk on one or both sides of the roadway, and each of these gaps presents barriers for people with mobility impairments. Therefore, these facilities were scored to account for these gaps in the analysis. **Table 3-5** shows the scoring range and criteria.

Table 3-5. PLOS Scoring Range

	Speed Limit (mph)					
	< = 25 mph*		30 - 35 mph		> = 40 mph	
Pedestrian Space	**2 lanes**	**> 2 lanes**	**2 lanes**	**> 2 lanes**	**2 lanes**	**> 2 lanes**
Complete sidewalk on both sides next to a buffer[1]	1	1	1	2	3	4
Complete sidewalk on both sides	1	1	2	3	3	4
Complete sidewalk on one side next to a buffer[1]	2	2	2	3	3	5
Complete sidewalk on one side	2	3	3	4	4	5
No dedicated space next to a buffer[1]	2	3	3	4	5	5
No dedicated space	2	3	4	5	5	5

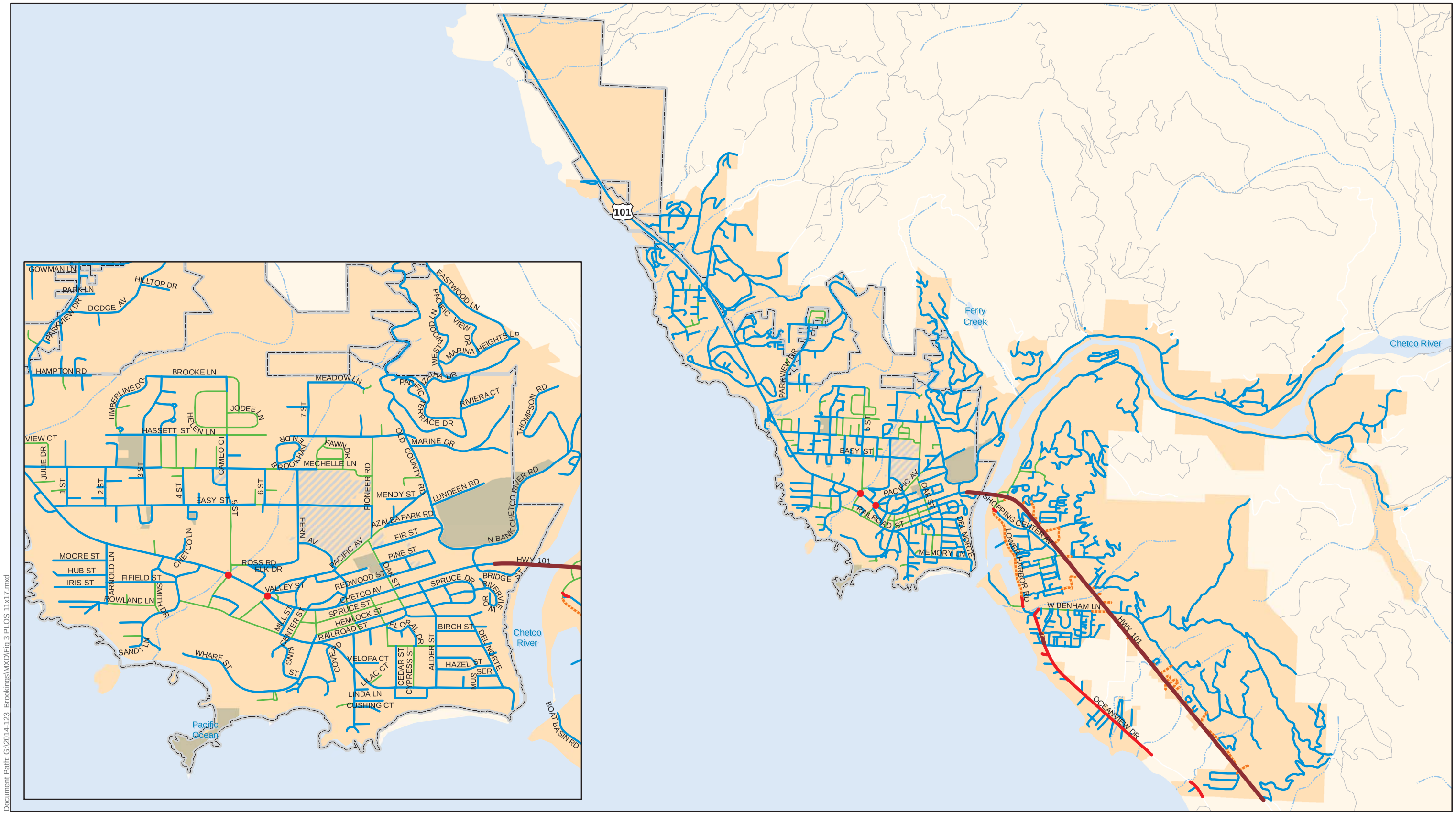
[1] Buffers include bicycle lanes and/or on-street parking

The PLOS scores on most existing city streets in Brookings reflect the low speed limits and relatively dense sidewalk network that create a good overall pedestrian environment (**Figure 3-6**). There are a few places in the city with sidewalk gaps, completely missing sidewalk, or speed limits above 25 mph. These qualities caused some streets to have a lower score.

The existing conditions in the Harbor unincorporated urban area reflect the low speed limits but fragmented sidewalk network. Although sidewalks are sparser than in Brookings, the low speeds contribute to a fair pedestrian environment. Within the Harbor unincorporated urban area, US 101 and Oceanview Drive scored low. Sidewalks are not present on Lower Harbor Road, but pedestrians are aided by the presence of bike lanes.

The PLOS scores are reflective of walkway conditions. Qualitative information about crossings was obtained from the TAC. Through them, the following intersections were described as uncomfortable:

- US 101 at 5th Street, and
- US 101 at Ransom Avenue/south end of the Harris Beach Trail.



Parametrix and Alta Planning + Design

Source: (Curry County, City of Brookings, US Census, Alta Planning + Design)

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0 5,000
Scale in Feet

N

Pedestrian Level of Service
1
2
3
4
5

Pedestrian Collision

Parks
Schools
Rivers
Water
City Limits
Urban Growth Boundary

FIGURE 3-6

PEDESTRIAN LEVEL OF SERVICE (PLOS) ANALYSIS

Transportation System Plan
Brookings, Oregon

3.2.5.2 Bicycle Level of Traffic Stress

The Bicycle Level of Traffic Stress (LTS) analysis framework adds additional roadway attributes to the ODOT method without substantially changing it and provides a general snapshot of cycling comfort. In the Bicycle LTS, road segments are classified into one of four levels of traffic stress based on the anticipated user comfort, as shown in **Table 3-6**. Bicycle LTS 1 represents streets that have low traffic stress and are suitable for all users, including cyclists 10 years old or in 5th grade. Confident and enthused riders are expected to feel safe and comfortable on a facility with an LTS of 1 or 2. LTS 3 represents moderate stress and may be uncomfortable for many adults. LTS 4 represents high stress environments, suitable only for experienced and skilled cyclists. Note that the roadway link shows the lower LTS score between the corridor and intersection analysis. To capture other situations that affect the bicycling environment, other ridership factors can be added to the analysis. Congestion, narrow travel lanes, and heavy vehicles can be factors that downgrade a segment by rendering a route less acceptable than otherwise analyzed.

Table 3-6. Levels of Traffic Stress

LTS	Description	Suitability	Traffic Speed	Intersections	Typical Locations
1	Little traffic stress and requires less attention	All cyclists (age 10 or higher)	Low	Easy to cross by children and adults	Residential local streets and separated bike paths/cycle tracks
2	Little traffic stress but requires more attention than young children can handle	Teen and adult cyclists with adequate bicycle-handling skills	Low differentials	Not difficult to cross for most teenagers and adults	Collector-level streets with bike lanes or a central business district
3	Moderate stress	Most observant adult cyclists	Moderate	Perceived to be safe by most adults	Low-speed arterials with bike lanes or moderate speed non-multi-lane roadways
4	High stress	Experienced and skilled cyclists	Moderate to high	Complex, wide, and/or high volume and speed that can be perceived as unsafe by adults, making crossings difficult	High-speed or multi-lane roadways with narrow lanes or no bike lanes

Because the methodology was developed primarily for urban areas, a separate rural methodology was created for rural highways with posted or operating speeds over 45 mph. The rural LTS considers daily volumes and paved shoulder widths.

Scores were assigned to individual roadway links using ESRI ArcGIS. Roadway data provided by the City of Brookings were enriched through review of aerial photographs. Generally speaking, in this model, cycling comfort decreases as number of lanes and posted speed increase. Cyclist comfort increases when dedicated roadway space is provided and interaction with motor vehicles is reduced (e.g., buffered bike lanes or cycle tracks). Discomfort at intersections increases with number of roadways, lanes, and speeds while decreasing with traffic calming and intersection controls.

Despite few designated on-street bikeway facilities, the city of Brookings and the Harbor unincorporated urban area sport relatively strong bicycling environments. The grid network of low-traffic, low-speed streets provides good connectivity to major destinations, especially for individuals familiar with the area and ways to avoid riding on US 101. US 101 scored the poorest on the LTS scale due to the proximity to

higher speed traffic and congestion (see **Figure 3-7**). Urban collectors with roadway centerlines, such as Oak Street and Easy Street, received slightly lower scores. Centerlines have the effect of keeping roadway users on only their half of the road, which means bicyclists tend to ride farther to the right, nearest the parking lane. In the absence of these lines, individuals are more likely to share the roadway space; moreover, bicyclists feel more comfortable riding farther into the travel lane and away from the threat of an opening car door. The Oregon Coast Bike Route runs along US 101 and diverges onto Lower Harbor Road, and is served by existing bike lanes. The roadway scored an LTS 3 because of the higher posted speed limits.

Higher order streets, such as arterials and collectors, require an increased level of physical separation to create comfortable bicycling conditions. US 101, Easy Street, Oak Street, Railroad Street, Harbor Road, W Benham Lane, Shopping Center Avenue, and other urban collectors would each benefit from the development of separated bikeway facilities, such as bike lanes or buffered bike lanes. Although local access streets have a good existing LTS score, these roads are also assessed for potential neighborhood greenway improvements.

The LTS analysis also identified areas where facilities could be improved for specific populations, particularly school students. ODOT recommends establishing a target of LTS 1 for the bikeway network within ¼ mile of an elementary school, while middle and high school students can use LTS 2 roadways without difficulty.

3.2.5.3 Transit

A qualitative assessment of the existing transit level of service was completed based on a subjective ranking of Excellent/Good/Fair/Poor. Based on the existing transit frequency, schedule, speed/travel time, bus stop amenities, and connections to a pedestrian/bicycle network, the existing transit service in and throughout Brookings is rated Poor. The local transit provider rated their service as adequate.

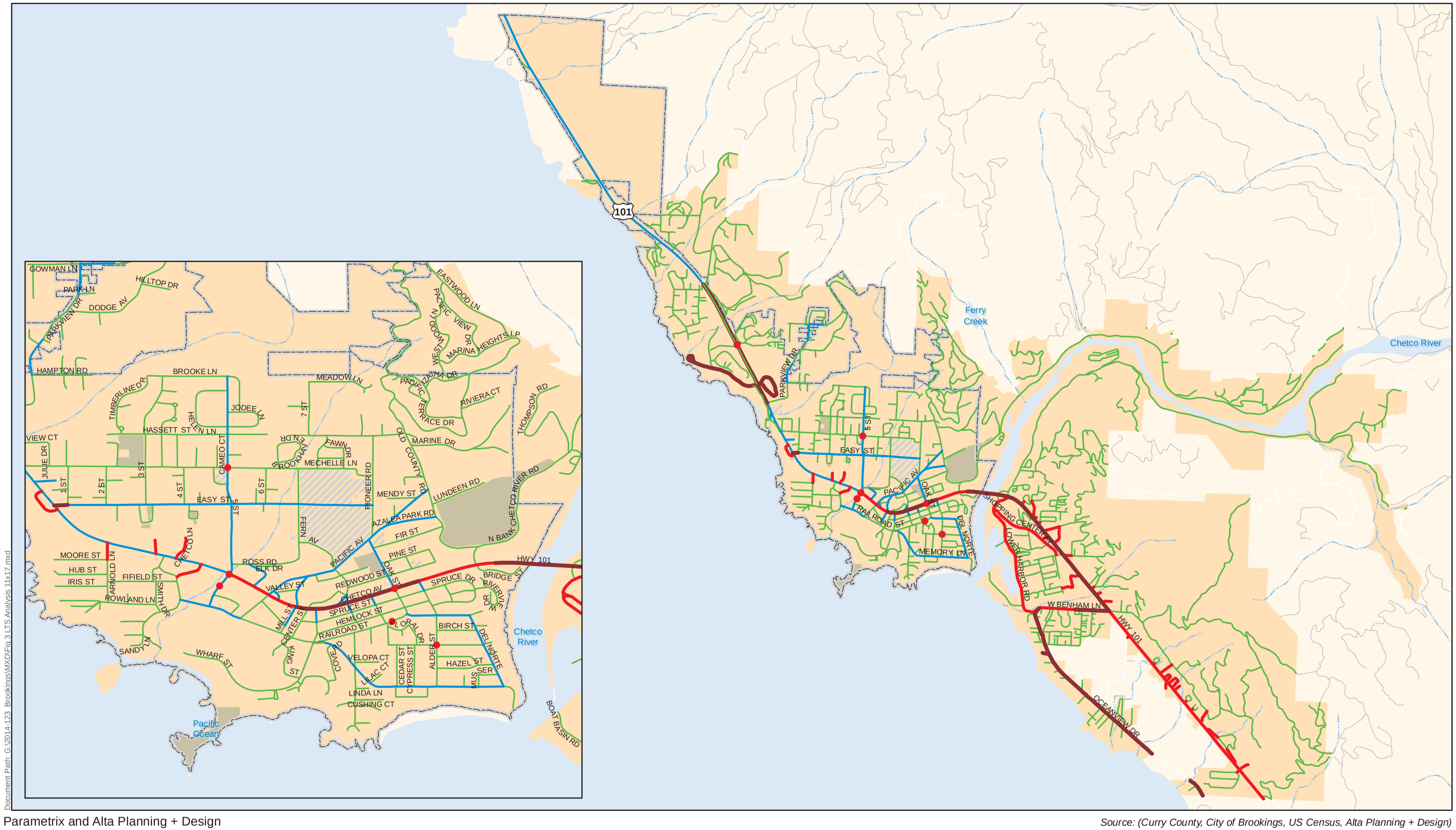
Transit in Brookings consists of a Dial-A-Ride service and a regional bus service called the Coastal Express. Both transit services provide limited frequency; the Dial-A-Ride service operates between 8:30 am and 4:00 pm on weekdays only, and the Coastal Express makes stops in Brookings three times per day on weekdays only.

3.2.6 Safety

Vehicle crashes within the Brookings Urban Growth Area were reviewed for the 5-year period between 2008 and 2012 for both state and non-state roadways to identify existing safety issues at intersections and along roadway segments. The data were provided by ODOT's Crash Data and Reporting Unit. In addition, ODOT's Statewide Priority Index System (SPIS) was reviewed to determine if ODOT had identified any hazardous locations along US 101 in Brookings based on crash frequency and severity.

3.2.6.1 Total Crash Summary

A total of 169 reported collisions occurred in Brookings from 2008 through 2012. However, on April 29, 2010, a traffic signal was installed at the intersection of N Bank Chetco River Road and US 101. In order to assess the existing conditions in 2012, only collisions that occurred after the installation of the signal at N Bank Chetco River Road were included in this analysis; as a result, 165 collisions were analyzed. Of these collisions, 1 (<1 percent) resulted in a fatal crash, 65 (40 percent) resulted in non-fatal injury-related crashes, and 99 (60 percent) resulted in property-damage only crashes. Over half of the 165 collisions (94 collisions or 57 percent) occurred at intersections, while 71 collisions (43 percent) occurred along a roadway segment.



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Parametrix and Alta Planning + Design

Source: (Curry County, City of Brookings, US Census, Alta Planning + Design)

0 5,000
Scale in Feet

N

Level of Traffic Stress
- 1 - Good
- 2
- 3
- 4 - Poor

Bicyclist Collision

Parks
Schools
Rivers
Water
City Limits
Urban Growth Boundary

FIGURE 3-7
BICYCLE LEVEL OF STRESS (LTS) ANALYSIS

Transportation System Plan
Brookings, Oregon

3.2.6.2 Critical Crash Rate Analysis

A critical crash rate analysis was completed for the study intersections. The analysis was done using ODOT's critical crash rate method as outlined in APM Version 2, Section 4. The study intersections were broken into three groups (populations): signalized, three-leg stop controlled, and four-leg stop controlled. Intersection-specific crash rates were calculated by dividing the total number of observed crashes by the million entering vehicle (MEV) volume at each intersection. An average group (population) crash rate was calculated by summing all of the observed crashes in a specific population divided by the total MEV in a specific population. In order to calculate a study area population-specific critical crash rate, at least five comparable intersections must be present. Because there were five three-leg stop controlled intersections and five four-leg stop controlled intersections, study area-specific critical crash rates were calculated for all three-leg stop controlled intersections and four-leg stop controlled intersections. Because there were only four signal-controlled intersections in the study area, the crash rates at these intersections were compared with the published statewide 90th percentile rates summarized in APM Version 2. This is the recommended methodology outlined in the APM. The critical crash rate for a specific intersection represents the rate at which the observed crash rate is significantly different from the average population crash rate with a 95 percent confidence level. **Table 3-7** summarizes the intersection crash rate and intersection critical crash rate, and indicates whether the critical crash rate was exceeded at each respective intersection.

Table 3-7. Study Intersection Crash Rates and Critical Crash Rates

Intersection	Intersection Control	Intersection Crash Rate	Calculated 95th Percentile Critical Crash Rate[1]	Exceeded Critical Crash Rate?	Published 90th Percentile Critical Crash Rate	Exceeded 90th Percentile Crash Rate?
US 101/Lone Ranch Parkway	3-leg Stop	0.00	0.37	Under	0.475	Under
US 101/Carpenterville Road	4-leg Stop	0.00	0.34	Under	1.080	Under
US 101/Parkview Drive	3-leg Stop	0.11	0.28	Under	0.475	Under
US 101/Easy Street	4-leg Stop	0.06	0.34	Under	1.080	Under
Elk Drive/5th Street	3-leg Stop	0.43	0.33	Over	0.475	Under
US 101/5th Street	Signal	0.42	na	na	0.579	Under
US 101/Pacific Avenue	4-leg Stop	0.32	0.28	Over	1.080	Under
US 101/Center Street	Signal	0.23	na	na	0.579	Under
US 101/Fern Avenue	3-leg Stop	0.03	0.24	Under	0.475	Under
US 101/Oak Street	Signal	0.48	na	na	0.579	Under
US 101/Alder Street	3-leg Stop	0.13	0.23	Under	0.475	Under
US 101/N Bank Chetco River Road	Signal	0.42	na	na	0.579	Under
Lower Harbor Road/Shopping Center Avenue	4-leg Stop	0.00	0.51	Under	1.080	Under
Hoffeldt Lane/Shopping Center Avenue	4-leg Stop	0.00	0.76	Under	1.080	Under

Source: ODOT's Crash Data and Reporting Data

[1] Critical crash rates were calculated using the methodology outlined in the Analysis Procedures Manual.
na = not applicable

As shown in **Table 3-7**, two of the study intersections have crash rates that exceeded their respective critical crash rate: Elk Drive/5th Street and US 101/Pacific Avenue. Of the five collisions that occurred at Elk Drive and 5th Street between 2008 and 2012, four (80 percent) involved cars entering at an angle. This intersection can be confusing to drivers because while it is three-leg stop controlled, there are other road and parking lot access points along 5th Street within proximity to the intersection. This likely creates confusion for drivers on 5th Street and drivers turning onto 5th Street. Of the 10 crashes that occurred at US 101 and Pacific Avenue between 2008 and 2012, six (60 percent) involved cars traveling in the same direction. These collisions were likely rear-ends due to the need for unexpected stops because vehicles moving in the northwest direction on US 101 frequently turn left out of the inside shared through lane, or vehicles need to stop for pedestrians crossing US 101.

3.2.6.3 Statewide Priority Index System

The SPIS is a method developed by ODOT for identifying hazardous locations on state highways through consideration of crash frequency and crash severity. As described in ODOT's SPIS, a roadway segment is designated as a SPIS site if a location experiences three or more crashes or one or more fatal crashes over a 3-year period. Under this method, all state highways are analyzed in 0.10-mile segments to identify SPIS sites. **Table 3-8** summarizes the top 10 percent SPIS locations from 2008 to 2012. In 2010 the US 101/Benham Lane intersection (shown in bold) was in the top 5 percent of SPIS locations. As of 2012, there are two top 10 percent SPIS sites within the study area: US 101 from Willow Street to Alder Street, and the intersection of US 101 at Hoffeldt Lane.

Table 3-8. Top 10 Percent SPIS Locations and Scores (2008 to 2012)

Location	2008	2009	2010	2011	2012
US 101 and 5th Street	44.51				
US 101 and Benham Lane		50.47	**54.83**		
US 101 from Willow Street to Alder Street			48.44	50.66	51.01
US 101 and Hoffeldt Lane					53.63

Source: ODOT's Crash Data and Reporting Data

3.2.6.4 Bicycle and Pedestrian Crash Analysis

During the same 5-year period, there have been two crashes involving motorists and pedestrians and seven crashes involving motorists and bicyclists, all non-fatal. There is little detail about the nature of these crashes; however, the majority of them are concentrated in the downtown core, with four occurring at intersections on US 101 between 5th Street and Oak Street. US 101 has four lanes in this segment with on-street parking on both sides of the street. These conditions can reduce the visibility of pedestrians either waiting to cross the street or actively crossing the street. The intersection of US 101 and 5th Street is the only location in the city that has had both a pedestrian crash and a bicyclist crash. This signalized intersection has a "pork chop island," which will be assessed in more detail in later stages of the planning process.

Anecdotally, the project team was also made aware that left-turn queuing at unsignalized intersections is historically a problem in the downtown section of US 101. When motorists are queued behind a vehicle attempting a left turn, this can create a dangerous multiple-threat situation for pedestrians trying to cross the street, where traffic approaching on the right does not have a clear view of the pedestrian in the crosswalk. A dedicated left-turn-only lane can help to ameliorate this situation.

4. FUTURE CONDITIONS

This chapter provides information on the technical analysis of the future conditions (no build) conducted to support the development of the Brookings TSP update. The chapter summarizes the future transportation operations analysis and the qualitative multimodal LOS analysis.

4.1 Future Transportation Projects

To describe the known future conditions, planned improvements were added to the transportation system from the fiscally constrained projects listed in the STIP, the City of Brookings Capital Improvement Program (CIP), and the Curry County CIP. Several projects are included in the 2014-2015 Brookings CIP, Curry County CIP, and Oregon STIP that will be constructed by the baseline year (2034) and are included in the no build analysis. **Table 4-1** summarizes future transportation projects included in the no build analysis.

Table 4-1. Future Transportation Projects

Project Name	Description	Funding Years	Included In:
ADA Program	20% of street paving funds to be used for ADA compliance	2014-2017	2014-2015 Brookings CIP
ADA Evaluation	ADA evaluation based on TSP update	2015-2017	2014-2015 Brookings CIP
Annual Street Improvement	Annual street paving project	2014-2017	2014-2015 Brookings CIP
Bike Path to SWOCC	Extend bike path along US 101 from Dawson Road to SWOCC	2016-2020	2016 Brookings CIP
Street Sweeper	Replace aged and used street sweeper	2014-2017	2014-2015 Brookings CIP
Retro-reflectivity	Inventory, test, and replace traffic signage that does not meet MUTCD requirements	2015-2017	2014-2015 Brookings CIP
Transportation System Plan	Update the City's Transportation System Plan	2014-2015	2014-2015 Brookings CIP
Bike Safety	Bike safety program contingent on receiving grant match	2014-2015	2014-2015 Brookings CIP
ODOT Right-of-Way Maintenance	ODOT reimburses the City for street sweeping and weed abatement	2014-2015	2014-2015 Brookings CIP
Safe Routes To School Kalmiopsis Match	Install sidewalks at Kalmiopsis School	2014-2015	2014-2015 Brookings CIP
Marine Drive Slide	Repair damage from slide to street and sewer main	2016-2017	2014-2015 Brookings CIP
Grant Preparation – Bike/Pedestrian	Grant preparation for bike/pedestrian projects	2014-2015	2014-2015 Brookings CIP
Bike Kiosk Grant Match	Grant match for bike kiosk	2014-2015	2014-2015 Brookings CIP
Tanbark Overlook Pedestrian Beach Accessibility	Beach accessibility project	2015-2016	2014-2015 Brookings CIP

Table 4-1. Future Transportation Projects (continued)

Project Name	Description	Funding Years	Included In:
Annual Debt Service – Storm	Annual debt service	2014-2017	2014-2015 Brookings CIP
Hemlock Street Improvements	Construct sidewalks from Fern Avenue to Willow Street on Hemlock Street	2014-2015	2014-2015 Brookings CIP
Frontage Road RV Parking Traffic Study and Design	Traffic study	2014-2015	2014-2015 Brookings CIP
Railroad Street Improvements	Construct sidewalks, bike route, medians, illumination, signage, bus stops, and streetscaping.	2016-2017	2014-2015 Brookings CIP; 2015-2018 STIP
Thompson Road	Asphalt overlay	2017	2014-2015 Curry County CIP
Curry County Replacement Vehicles	Purchase new transit vehicles	2016	2015-2018 STIP

Sources: 2015-2018 STIP, 2014-2015 STIP, 2014-2015 Curry County CIP, 2014-2015 Brookings CIP

ADA = Americans with Disabilities Act; MUTCD = Manual on Uniform Traffic Control Devices

4.2 Future Conditions Volumes

Traffic volumes for 2034 were developed using the Brookings travel demand model supplied by ODOT's TPAU. **Figure 4-1** summarizes the 2034 30th highest hour volumes for the study area intersections.

4.3 Future Conditions Intersection Operations

State highway mobility standards and local City of Brookings and Curry County standards are summarized in **Section 3.2.3**.

Mobility standards including LOS and v/c ratios were calculated for each study intersection for the baseline year (2034). Traffic analysis results from the US 101 Corridor Study are included for the three intersections on US 101 south of the Chetco River. Traffic analysis was conducted for the 14 study intersections in the city of Brookings. **Table 4-2** summarizes the v/c ratios and LOS; intersections that exceeded the jurisdictional v/c ratio or LOS standard are shown in bold and shaded. As illustrated in **Figure 4-1** and **Table 4-2**, six study intersections under ODOT's jurisdiction would not meet the agency's mobility standards in the baseline year 2034. Additional details on future conditions peak hour intersection operations are provided in **Volume 2, Appendix D**.

Table 4-2. Baseline (2034) Intersection LOS and v/c Ratio

	Study Intersection	Jurisdiction	Intersection Control	Overall for Signal/ Side Street for No Signal		Mainline for No Signal		Exceeds Jurisdictional Standard
				v/c	LOS	v/c	LOS	
1	**US 101/Lone Ranch Parkway**	**ODOT**	**Stop Sign**	**1.54**	**F**	**0.46**	**A**	**Yes**
2	**US 101/Carpenterville Road**	**ODOT**	**Stop Sign**	**>2.00**	**F**	**0.13**	**B**	**Yes**
3	**US 101/Parkview Drive**	**ODOT**	**Stop Sign**	**1.07**	**F**	**0.70**	**B**	**Yes**
4	US 101/Easy Street	ODOT	Stop Sign	0.61	F	0.43	B	No
5	5th Street/Elk Drive	Brookings	Stop Sign	0.38	C	0.25	A	No
6	US 101/5th Street	ODOT	Signal	0.79	C	-	-	No
7	**US 101/Pacific Avenue**	**ODOT**	**Stop Sign**	**0.98**	**F**	**0.36**	**B**	**Yes**
8	US 101/Center Street	ODOT	Signal	0.67	B	-	-	No
9	US 101/Fern Avenue	ODOT	Stop Sign	0.10	C	0.35	B	No
10	US 101/Oak Street	ODOT	Signal	0.67	B	-	-	No
11	US 101/Alder Street	ODOT	Stop Sign	0.31	D	0.38	C	No
12	US 101/N Bank Chetco River Road	ODOT	Signal	0.63	C	-	-	No
13	Lower Harbor Road/Shopping Center Avenue	Curry County	Stop Sign	0.34	C	0.28	A	No
14	Hoffeldt Lane/Shopping Center Avenue	Curry County	Stop Sign	0.26	B	0.11	A	No
15	**US 101/Zimmerman Lane[1]**	**ODOT**	**Signal**	**0.84**	**C**	**-**	**-**	**Yes**
16	US 101/Hoffeldt Lane[1]	ODOT	Signal	0.70	B	-	-	No
17	**US 101/Benham Lane[1]**	**ODOT**	**Signal**	**0.89**	**D**	**-**	**-**	**Yes**

[1] Results from US 101 Corridor Plan (ODOT 2016)

Bold and shade = Intersections that exceeded the jurisdictional v/c ratio or LOS standard

4.4 Future Conditions Multimodal Assessment

The assessment of the no build conditions for future multimodal transportation systems operations uses the same methodology as for the existing conditions. This analysis builds on the existing conditions by considering how currently planned improvements and baseline future conditions are likely to affect future transportation system operations.

4.4.1 Pedestrian Level of Service

Sidewalks are planned to be completed in 2017 on Railroad Street from Wharf Street to Oak Street. Sidewalks were also planned to be constructed in 2014 and 2015 on Hemlock Street from Fern Avenue to Willow Street. In addition, a multi-use path was recently completed north of Harris Beach State Park connecting to Dawson Road. Most sidewalks on residential streets in Brookings are constructed as part of development; therefore, other sidewalk projects are likely to occur, but these are not documented and could not be included in this analysis.

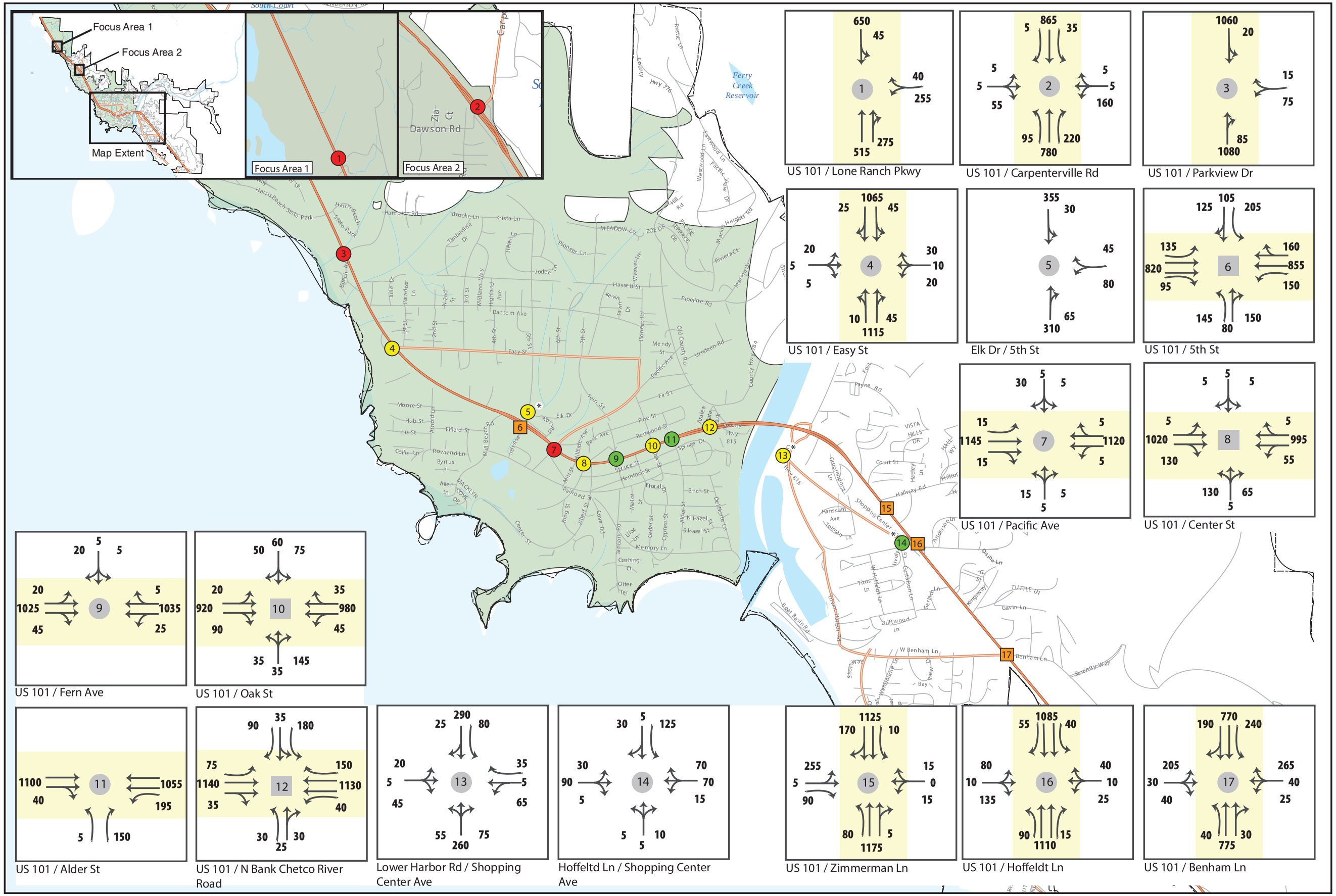


FIGURE 4-1
YEAR 2034 30TH HIGHEST HOURLY VOLUME, LANE CONFIGURATIONS, INTERSECTION CONTROL, AND LOS

Transportation System Plan
Brookings, Oregon

As shown in **Figure 4-2**, most existing city streets in Brookings continue to score well in this future no build analysis with PLOS 1 or 2. North of downtown Brookings as well as just south of the Chetco River bridge, high vehicular speed on US 101 and lack of sidewalks result in a substandard (PLOS 4) pedestrian environment near the SWOCC and through the Harbor unincorporated urban area. Lower Harbor Road and Oceanview Drive also continue to be deficient (PLOS 3 and 4), due to higher vehicular speeds and lack of dedicated pedestrian space. Vulnerable pedestrians will not feel safe or comfortable on these facilities. The multi-use trail through Harris Beach State Park provides an alternative route to US 101 from Parkview Drive to Shy Creek, resulting in a PLOS of 1.

Several additional factors affect the quality of the pedestrian environment but were not considered in this analysis; presence of curb ramps, crossing treatments, lighting, and barriers blocking the pedestrian area can significantly detract from the environment. **Appendix E** of **Volume 2** discusses these additional factors in greater detail and identify specific deficiency locations. **Table 4-3** lists the identified substandard facilities, which include corridors within the UGB that received PLOS scores of 4 or 5, as well as locations in the focus area (within a ¼ mile of schools or downtown) that received PLOS scores of 3. No segments in the focus area received scores of 3 or below.

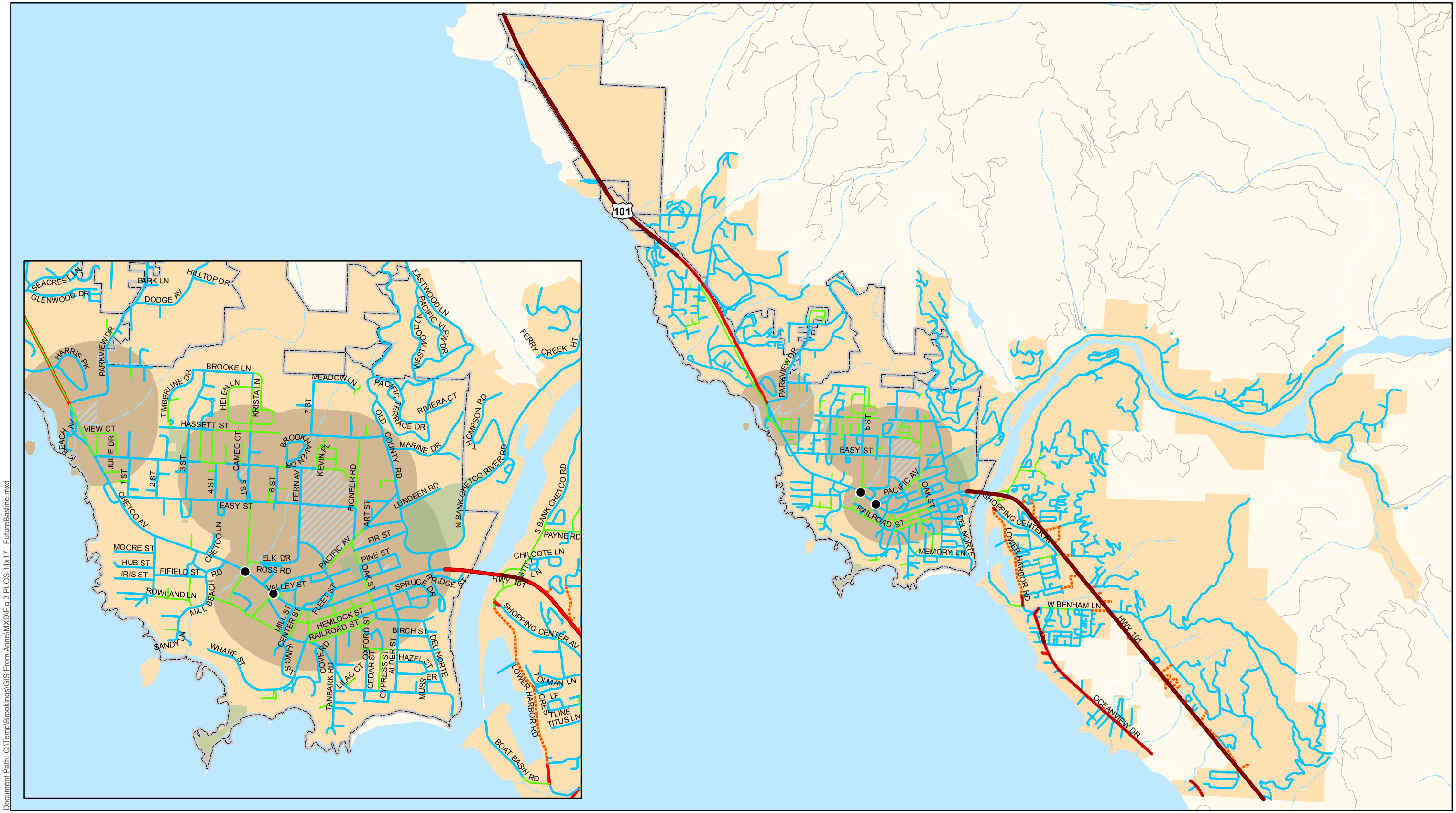
Because of the complexities of the pedestrian environment at crossings and lack of data, this analysis focuses on corridors rather than intersections. Deficient intersections are identified in **Appendix E** based on feedback from the City staff and community. Note that **Table 4-3** identifies substandard corridors based on the planning-level analysis for the entire UGB area, and does not account for data such as shoulder width, which may result in an existing facility being substandard as specified in the ODOT Highway Design Manual.

Table 4-3. Substandard Pedestrian Facilities (PLOS 4 and 5)

Street	Extent	Length (miles)	PLOS Score	In Focus Area?
US 101	UGB to Carpenterville Road	8.57	5	No
US 101	Bridge Street to Underpass	0.78	5	No
US 101	Underpass to Lower Harbor Road	0.38	5	No
US 101	Lower Harbor Road to McVay Lane	9.92	5	No
Lower Harbor Road	Driftwood Lane to Boat Basin Road	0.27	4	No
Oceanview Drive	300 feet north of Max Lane to Seagull Lane	0.50	4	No
Oceanview Drive	Oceanview Drive to Max Lane	3.66	4	No
Oceanview Drive	Marks Lane to Oceanview Drive	0.30	4	No
Oceanview Drive	Lower Harbor Road to Bathiany Lane	0.68	4	No
Oceanview Drive	Bathiany Lane to Marks Lane	0.27	5	No
Shopping Center Road	Lower Harbor Road to Shopping Center Road	0.09	4	No

4.4.2 Bicycle Level of Stress

Input variables predicting no build LTS include the existing bikeway network, future planned bikeway network, posted speeds, number of lanes per direction, shoulder width, and traffic volumes. Bike lanes are planned for Railroad Street from Wharf Street to Oak Street. The section of US 101 through the downtown area (Mill Street to Alder Street) was again downgraded into a lower LTS score due to heavy congestion and other factors that render the roadway challenging for cyclists.



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Parametrix and Alta Planning + Design

Source: (Curry County, City of Brookings, US Census, Alta Planning + Design)

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Scale in Feet

N

Pedestrian Level of Service
- 1 (Good)
- 2
- 3
- 4
- 5 (Poor)

Pedestrian Collision

Existing Trail

Focus Area (within 1/4 mi. downtown or school)

Parks

Schools

Rivers

Water

City Limits

Urban Growth Boundary

FIGURE 4-2
PEDESTRIAN LEVEL OF SERVICE (LOS) ANALYSIS - FUTURE BASELINE
Transportation System Plan
Brookings, Oregon

As shown in **Figure 4-3**, US 101 continues to provide a deficient bicycle environment in sections through downtown Brookings, north of Parkview Drive, and through unincorporated Harbor. The future planned bike route project on Railroad Street did not affect the LTS analysis because the portion of Railroad Street with a new bike route was previously assessed as LTS 1. In the downtown area, an LTS score of 2 is preferred to serve neighborhood and pedestrian-oriented commercial land uses. Another notable deficiency is the Oregon Coast Bike Route on Oceanview Drive and Lower Harbor Road, in which there are bike lanes but they have high posted speed limits that result in a score of LTS 4 and 3, respectively.

Streets near schools generally score well (LTS 1 or 2), but the key school routes of Easy Street and Pacific Avenue are challenging for students. Crossing US 101 presents significant challenges for students and other bicyclists. ODOT recommends establishing a target of LTS 1 for the bikeway network within a ¼ mile of an elementary school, while middle and high school students can make use of LTS 2 roadways without difficulty. As key elementary school routes with LTS 2, Easy Street, 5th Street, and Pacific Avenue could be considered deficient.

Based on the analysis, **Table 4-4** shows the bicycle corridors within the UGB with LTS 3 or 4, as well as corridors in focus areas (within a ¼ mile of schools or the downtown) that received an LTS score of 2. **Table 4-4** identifies substandard corridors according to the planning-level analysis for the entire UGB area, and does not account for data such as shoulder width, which may result in an existing facility being substandard as specified in the ODOT Highway Design Manual (ODOT 2012).

Table 4-4. Substandard Bicycle Corridors

Street	Extent	Length (miles)	LTS Score	In Focus Area?
Benham Lane	Oceanview Drive to Mary's Lane	0.91	4	No
US 101	Mill Street to Alder Street	1.32	4	Yes
Easy Street	US 101 to 1st Street	0.14	4	No
Harris Beach State Park Rest Area	Entire rest area loop	1.34	4	Partial
Old US 101	US 101 to Harris Beach State Park	1.28	4	No
US 101	Bridge Street to Benham Lane	4.92	4	No
US 101	Harris Park to Parkview Drive	2.27	4	Partial
Oceanview Drive	150 feet south of Seagull Lane to Seagull Lane	0.50	4	No
Oceanview Drive	Lower Harbor Road to Oceanview Drive	1.25	4	No
Benham Lane	Mary's Lane to Highway 101	0.86	3	No
US 101	Alder Street to Bridge Street	0.81	3	Yes
US 101	5th Street to Mill Street	0.81	3	Yes
Crissey Lane	US 101 to US 101	0.43	3	No
Henderson Road	Carpenterville Road to UGB	1.73	3	No
US 101	Benham Lane to McVay Lane	6.15	3	No
Lower Harbor Road	US 101 to Oceanview Drive	3.55	3	No
Lower Harbor Road	Lower Harbor Road to US 101	0.13	3	No
Shopping Center Avenue	Lower Harbor Road to Hoffeldt Lane	2.02	3	No
Shopping Center Avenue	Lower Harbor Road to Shopping Center	0.09	3	No
5th Street	Jodee Lane to US 101	0.82	2	Yes
Alder Street	US 101 to Spruce Street	0.01	2	Yes
Azalea Park Road	Old County Road to Pacific Avenue	0.16	2	Yes
Beach Avenue	US 101 to Existing Trail	0.05	2	Yes

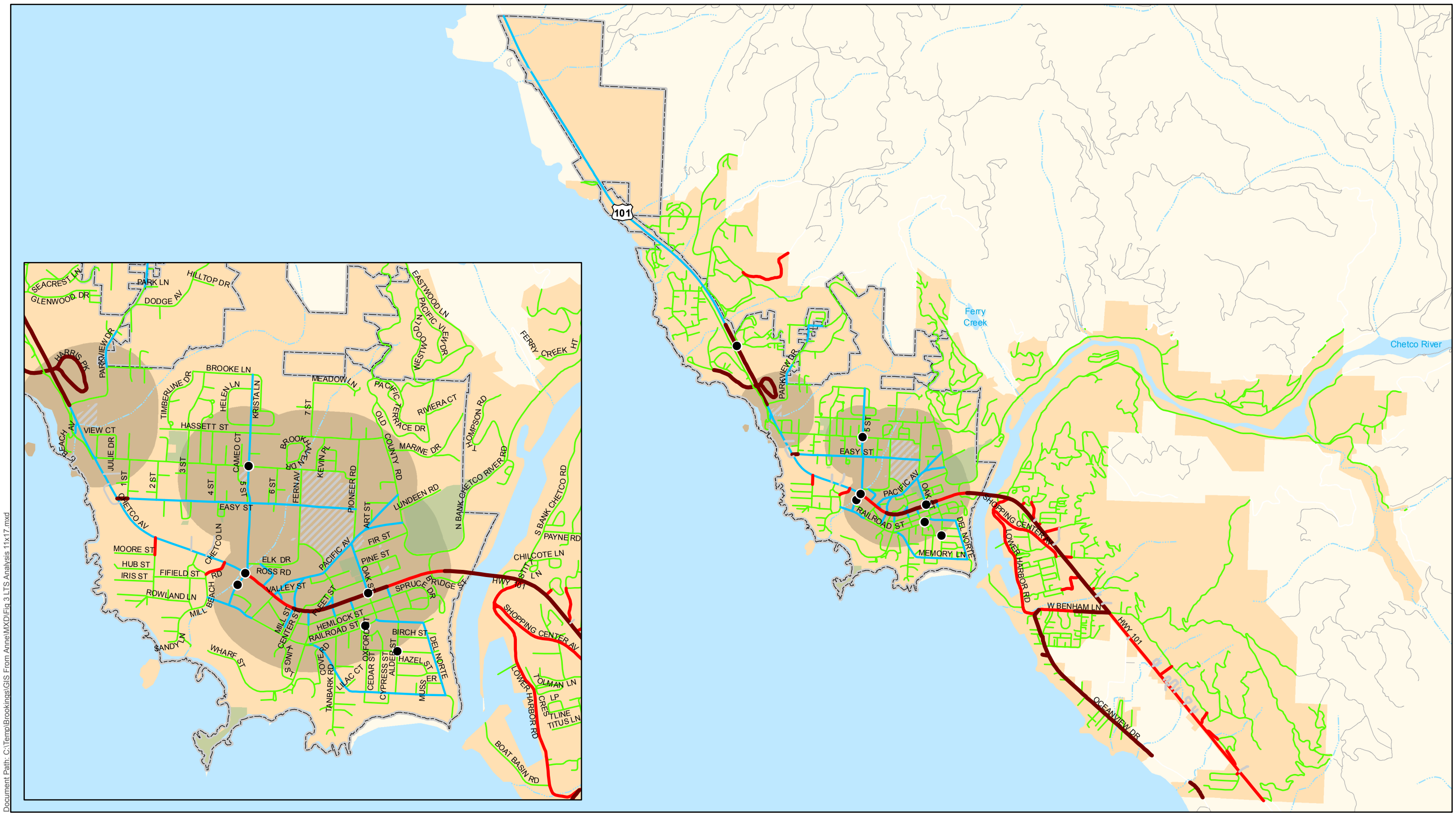
Table 4-4. Substandard Bicycle Corridors (continued)

Street	Extent	Length (miles)	LTS Score	In Focus Area?
US 101	Parkview Drive to Crissey Place	0.36	2	Yes
Easy Street	Pioneer Road to Easy Manor Drive	0.72	2	Yes
Fern Avenue	Fleet Street to Spruce Street	0.08	2	Yes
Fleet Street	Center Street to US 101	0.05	2	Yes
Frontage Road	Elk Drive to US 101	0.13	2	Yes
Hillside Drive	Pacific Avenue to US 101	0.14	2	Yes
Memory Lane	Railroad Street to Tanbark Road	0.16	2	Yes
Mill Street	US 101 to Cottage Street	0.08	2	Yes
Oak Street	Pacific Avenue to US 101	0.22	2	Yes
Pacific Avenue	Old County Road to US 101	0.67	2	Yes
Parkview Drive	West Park Court to Hampton Road	0.14	2	Yes
Railroad Street	Mill Beach Road to Pacific Avenue	0.58	2	Yes
Railroad Street	Oak Street to Del Norte Lane	0.02	2	Yes
Ransom Avenue	Homestead Road to US 101	0.01	2	Yes
Wharf Street	US 101 to Spruce Street	0.06	2	Yes
Willow Street	US 101 to Spruce Street	0.04	2	Yes

The LTS analysis identifies substandard intersections as being those with LTS scores of 3 or 4, which are typically along multi-lane roadways with high posted travel speeds and are usually unprotected. These crossings would be considered challenging for both bicyclists and pedestrians, but as previously discussed, the PLOS analysis does not evaluate pedestrian infrastructure, such as presence of sidewalks and curb ramps at intersections.

In addition, substandard intersections of concern include:

1. US 101 and Camelia Drive
2. US 101 and Museum Road
3. US 101 and Pelican Bay Drive
4. US 101 and Raymond Lane
5. US 101 and Benham Lane
6. US 101 and Floral Hill Drive
7. US 101 and Gerlach Lane
8. US 101 and Hoffeldt Lane
9. US 101 and Zimmerman Road
10. US 101 and Hall Way
11. US 101 and Court Street
12. US 101 and Sunshine Cove Lane
13. US 101 and Bishop Creek
14. US 101 and S Bank Chetco River Road
15. US 101 and Lower Harbor Road
16. US 101 and Mill Beach Road
17. US 101 and Arnold Lane
18. US 101 and Glenwood Drive
19. Lower Harbor Road and Ocean View Drive
20. Lower Harbor Road and Shopping Center Avenue



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Parametrix and Alta Planning + Design

Source: (Curry County, City of Brookings, US Census, Alta Planning + Design)

0 5,000
Scale in Feet

N

Level of Traffic Stress
- 1 - Good
- 2
- 3
- 4 - Poor

Excluded from Analysis

Bicyclist Collision

Focus Area (within 1/4 mi. downtown or school)

Parks
Schools

Rivers
Water

City Limits
Urban Growth Boundary

FIGURE 4-3
BICYCLE LEVEL OF STRESS (LTS) ANALYSIS - FUTURE BASELINE

Transportation System Plan
Brookings, Oregon

4.5 Transit Level of Service

The future no build transit facilities would be similar to existing services with the addition of new buses purchased through the STIP and bus stops constructed on Railroad Street as part of an urban renewal project.

Curry County Public Transit, Inc. (CPTI) developed a strategic action plan for the fiscal years 2014 to 2019 that includes targets for Brookings. As reported in their Strategic Transportation Plan, CPTI will achieve the following targets by June 30, 2019:

- Place shelters and appropriate signage showing current bus stops along US 101 in Brookings;
- Conduct feasibility studies to expand current Dial-A-Ride and Coastal Express service to include evenings, holidays, and weekends, and expand Dial-A-Ride boundaries;
- Identify and pursue grant funding for special projects, bus rehabilitations, bus replacements, and other projects.

With the addition of new buses, bus stops, additional wayfinding, and shelters at existing stops, transit rider comfort would improve in the baseline year (2034). Additional transit service on weekends and holidays in Brookings would also improve transit LOS in the baseline year by providing Brookings residents with additional transit options.

A similar methodology for assessing transit LOS, as described in **Volume 2 Appendix C**, was used to assess the future no build transit LOS. A qualitative assessment of the baseline year transit LOS was completed based on a subjective ranking of Excellent/Good/Fair/Poor. Based on the frequency, schedule, speed/travel time, transit stop amenities, and connections to the pedestrian/bicycle network, the baseline year transit service in and throughout Brookings would be rated as Fair. The local transit provider forecasts their service will be adequate in the future.

5. MOTORIZED PLAN

The City of Brookings' motorized plan provides guidance on how to best facilitate roadway travel over the next 20 years, as well as identifying key elements of a future vision of transportation facilities serving the Brookings UGB. The motorized plan presents projects related to intersection improvements. These projects generally improve operations and safety for general purpose automobiles and freight vehicles, but some also improve pedestrian and bicycle travel and safety.

5.1 Functional Classification

Functional classification provides a systematic basis for determining future right-of-way and improvement needs, and can also be used to provide general guidance, as appropriate or desired, for vehicular street design characteristics. The functional classification of a street is typically based on the relative priority of traffic mobility and access functions that are served by the street. At one end of the spectrum of mobility and access are freeways, which emphasize moving high volumes of traffic, and allowing only highly controlled access points. At the other end of the spectrum are residential cul-de-sac streets, which provide access only to parcels with direct frontage, but do not allow through traffic. Between the ends of this spectrum are state highways, arterials, collectors, and local streets, each with a decreasing emphasis on mobility and more emphasis on land access.

The City of Brookings' roadway functional classification system includes three categories of streets: Principal Arterial, Collector, and Local. The City's Comprehensive Plan, Transportation Element, defines these classifications as presented below.

5.1.1 Principal Arterials

Principal arterials are intra-community roadways connecting community centers with major facilities. In general, arterials service both through traffic and trips of moderate length. Access is partially controlled with infrequent access to abutting properties.

Brookings has the following designated principal arterial street:

- US 101 through the entire UGB (segment between Alder Street and Pacific Avenue classified as a Special Transportation Area). State operational and design standards, and access management rules apply to US 101.

5.1.2 Collectors

Collector streets are those connecting residential neighborhoods with smaller community centers and facilities as well as providing access to the arterial system. Property access is generally a higher priority for collectors; through-traffic movements are served as a lower priority.

Brookings has the following collector streets:

- West Benham Lane
- Lower Harbor Road
- Shopping Center Avenue
- South Bank Chetco Road
- Center Street

- North Bank Chetco River Road
- Oak Street
- Carpenterville Road
- Old County Road
- Alder Street
- Azalea Park Road
- Pioneer Road
- Easy Street
- West Hoffeldt Lane

5.1.3 Local Access Streets

Local access streets are those within the residential neighborhoods connecting the housing with the arterial system. Property access is the main priority; through-traffic movement is not encouraged.

All other streets in Brookings not listed above are local access streets.

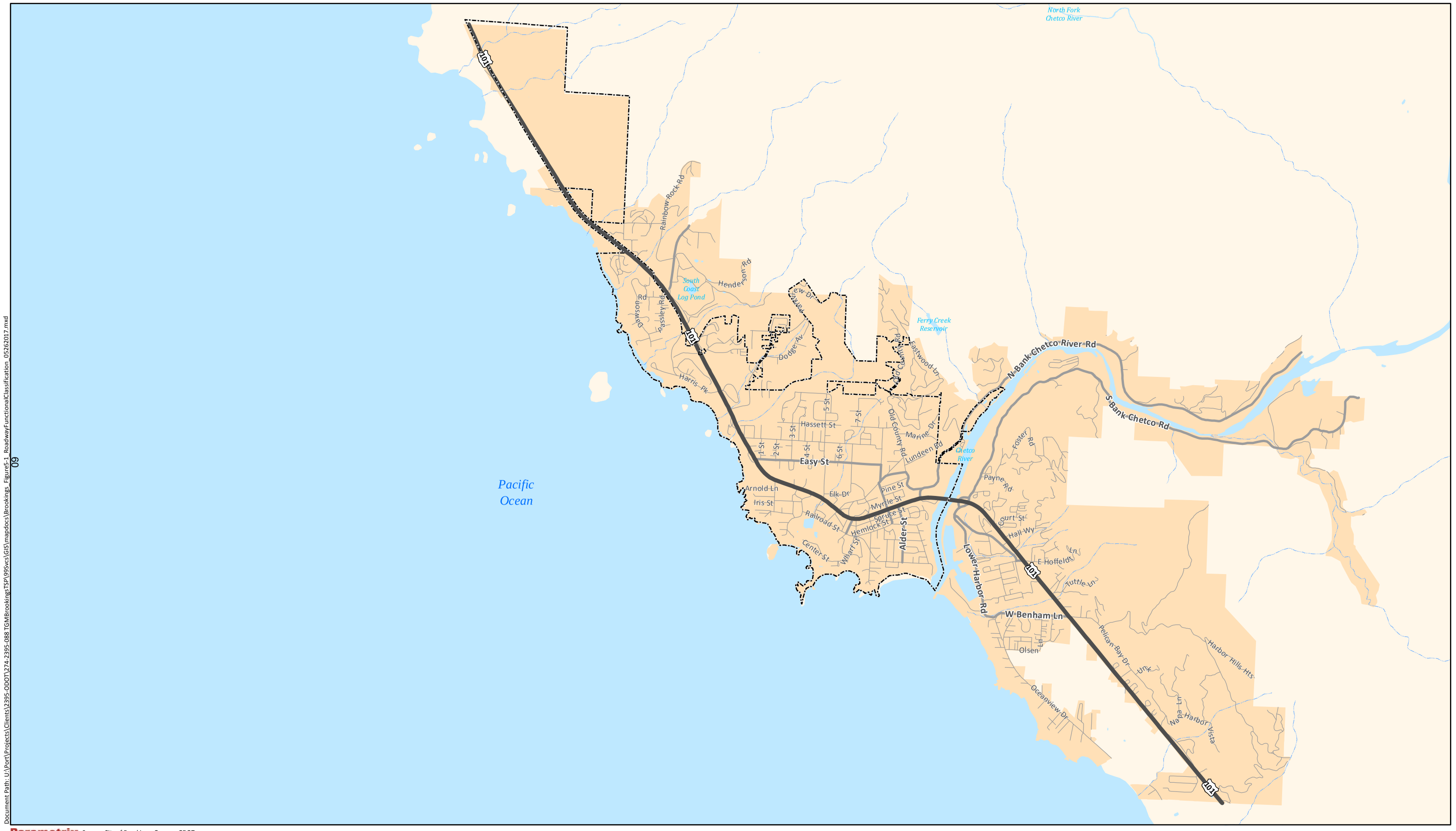
Figure 5-1 shows the planned functional classification map with these revisions.

5.2 Street Design Standards

Street design standards support the functional and operational needs of streets such as travel volume, capacity, operating speeds, and safety. These standards are also established to accommodate pedestrian and bicycle travel modes. They are necessary to ensure that the system of streets, as it develops, will be capable of safely and efficiently serving the traveling public while also accommodating the orderly development of adjacent property.

As the city develops over the next 20 years, priority should be given to creating a multimodal transportation system for all users. Existing streets will be upgraded through both public and private investment. When such upgrades are provided (or construction of new facilities takes place), the roadway construction should follow the design standards outlined in this subsection.

Minimum street design standards adopted by the City of Brookings are shown in **Table 5-1**, unless alternative standards are approved in an adopted neighborhood circulation plan or authorized by the Planning Commission. Standards for US 101 are approximations only. Highway standards are contained in the ODOT Highway Design Manual (ODOT 2012), which is revised periodically.



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Parametrix Source: City of Brookings, Oregon; ODOT

0 0.375 0.75 1.5 Miles

Urban Growth Boundary
City Limit

Roadways
Functional Classification
Principal Arterial
Collector
Local Road

FIGURE 5-1
CITY OF BROOKINGS
ROADWAY FUNCTIONAL CLASSIFICATION

Transportation System Plan
Brookings, Oregon

Table 5-1. Roadway Street Design Standards—General Classifications

Functional Classification	Minimum Right-of-Way (feet) [1]	Minimum Road Surface Width (feet)	Pedestrian Improvements	Bicycle Improvements (if appropriate)
State Highway Arterial[2]	84	70	5-12 feet, both sides	5 feet, both sides
Residential Collector	50	36	12-foot multi-use path (in lieu of bike lanes and sidewalk)	(Refer to Pedestrian Improvements)
Residential (Local)[3]	42	28	5 feet, both sides	None
Residential (Local)[3, 4] Maximum of 12 dwelling units taking access	38	24	5 feet, both sides	None
Residential (Local)[3] Maximum of 8 dwelling units taking access and on-street parking available within 400 feet of this street[5]	29	20	5 feet, one side	None
Downtown Core Area[2] (See Municipal Code Map 17.92.030-1)	50	36	5-8 feet, both sides	5 feet, both sides
Residential One-Way Street[5]	34	20	5 feet, both sides	None
Half Street[5, 6]	Half of accepted standard	Half of accepted standard	5 feet, one side	None
Access Road Turn-Around	See public works document – General Engineering Requirements and Standard Specifications	See public works document – General Engineering Requirements and Standard Specifications	To be determined based on type of turn-around	To be determined based on type of turn-around
Commercial/Industrial[2]	58	44	5-8 feet, both sides	5 feet, both sides
Commercial One-Way Street	50	36	5-8 feet, both sides	5 feet, one side
Hillside Collector Street[5,7,8,9]	27	20	4-foot paved shoulder, one side	None
Hillside Local Street[5,7,8,9] Maximum of 12 dwelling units taking access	23	20	None	None
Hillside One-Way Street[5,7,8,9,10]	23	16	4-foot paved shoulder, one side	None
Alley	20	20	None	None
Existing Residential Streets – Must be approved by the City Council in a Local Improvement District process[5,11]	30	16	Proposal by applicants	Proposal by applicants

[1] If bike lanes are proposed, an additional 10 feet of right-of-way will be needed.
[2] Sidewalks must be maximum width possible when adequate right-of-way is available and topography allows.
[3] See layout guidelines in "Neighborhood Street Design Guidelines" document. Low impact development techniques such as landscaped buffers, vegetated swales, parking pavers, etc. are encouraged.
[4] Parking on one side only.
[5] No parking on either side on pavement.
[6] Only used when easement for second half width is secured on adjacent property. Must be approved by Planning Commission.
[7] Requires documentation that topographical constraints warrant use of hillside streets. Site plan committee approval required.
[8] Alternative engineered designed standards may be considered and right-of-way width may vary depending on topography.
[9] Curbs may be required depending on City Engineer's recommendation.
[10] Paved shoulders must be constructed to meet paved roadway standards.
[11] Parking facilities to be proposed by applicant.

Sidewalk design must follow ADA requirements to accommodate all users, including adequate clear widths for people using wheelchairs, sidewalk ramps at all pedestrian crossings, and detectable warnings for the vision-impaired.

Bicycle facilities may be required within, or adjacent to, streets if they are appropriate to the extension of existing or planned bicycle routes. Bicycle facilities on arterials and collectors can be constructed as protected bike lanes, conventional bike lanes, bike routes (i.e., with shared-lane markings), or other such facilities, depending on the context. The minimum width for a bike lane is 5 feet. Multi-use paths are another option for pedestrians and bicyclists, especially in more rural areas. These paths should be designed with adequate width to accommodate bi-directional movement and passing, with a minimum width of 10 feet.

The existing streets listed in **Table 5-2** are not physically able to meet adopted collector standards as stated in **Table 5-1**. Any future improvements to these streets must meet the standards in **Table 5-2**.

Table 5-2. Roadway Street Design Standards—Specific Streets

Specific Street	Minimum Right-of-Way (feet)	Minimum Road Surface Width (feet)	Pedestrian Improvements	Bicycle Improvements (if appropriate)
Old County Road[1,2]	As needed	20 (with 4-foot paved shoulder on one side adjacent to the northbound travel lane)	None	None
Parkview Drive[1,2]	As needed	20	5-foot sidewalk on eastern side	None
North Bank Chetco River Road[2]	As needed	Future improvements to match existing pavement	None	None

[1] When applicant's engineer demonstrates that there are constraints that make this standard impracticable, the 4-foot paved shoulder or multi-use path may be eliminated. The City must review and agree with the analysis prior to Planning Commission review.

[2] Parking prohibited on paved shoulder.

5.2.1 Street Cross-Sections

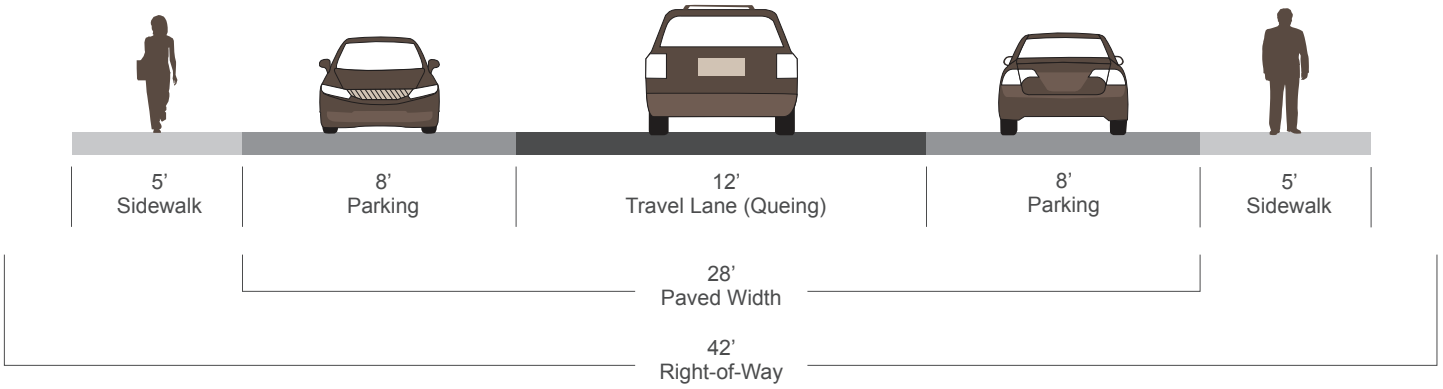
The street cross-sections in Brookings vary depending on whether they are located in downtown, residential areas, industrial areas, or rural areas. US 101, which traverses the city, is an ODOT-owned and maintained state highway. The street cross-section for US 101 will default to typical ODOT cross-sections for an urban arterial highway.

The street design standards for all other roadways within Brookings are shown as a series of cross-sections in **Figures 5-2** through **5-5** for residential, commercial, and hillside streets. The cross-sections are intended to be used for planning purposes for new road construction, as well as for those locations where it is physically and economically feasible to improve existing streets. Detailed design elements, such as cross-slopes, are not shown in the figures. Also, additional width for turn lanes may be needed at specific intersections based on an engineering investigation; these are not shown in the street design standards. The standards shown are intended to define typical cross-sections of streets between intersections.

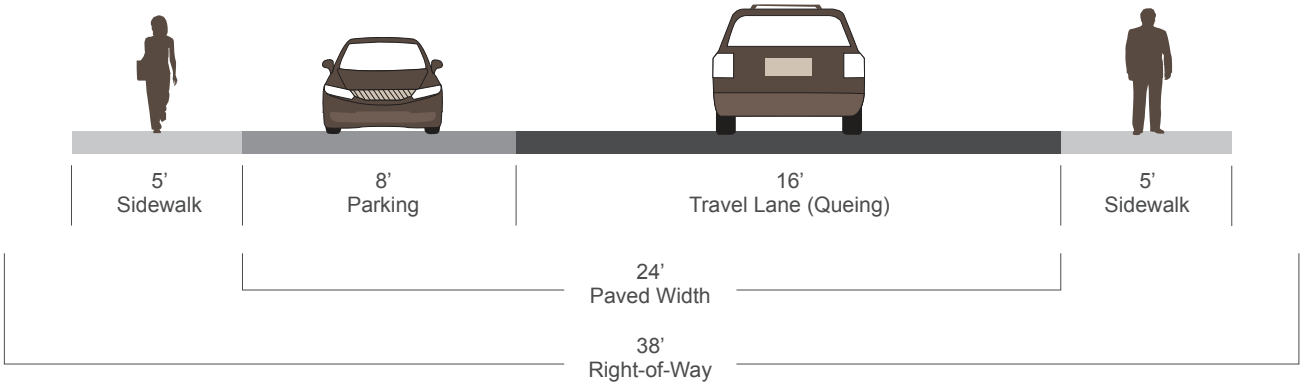
Context-specific considerations include:

- Constrained roadways in rural areas can be designed with shoulders to accommodate bicycles and pedestrians when the right-of-way is limited.
- On-street parking can be provided or not provided based on the context of the area being served.
- Curbs should be included in downtown Brookings. However, they may be optional in areas outside downtown when drainage issues warrant such consideration.

UNLIMITED DWELLINGS TAKING ACCESS



MAXIMUM OF 12 DWELLINGS TAKING ACCESS



MAXIMUM OF 8 DWELLINGS TAKING ACCESS, ON-STREET PARKING AVAILABLE WITHIN 400'

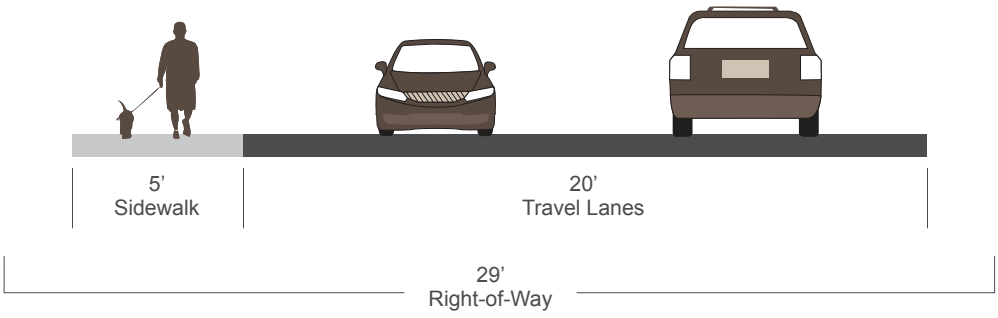
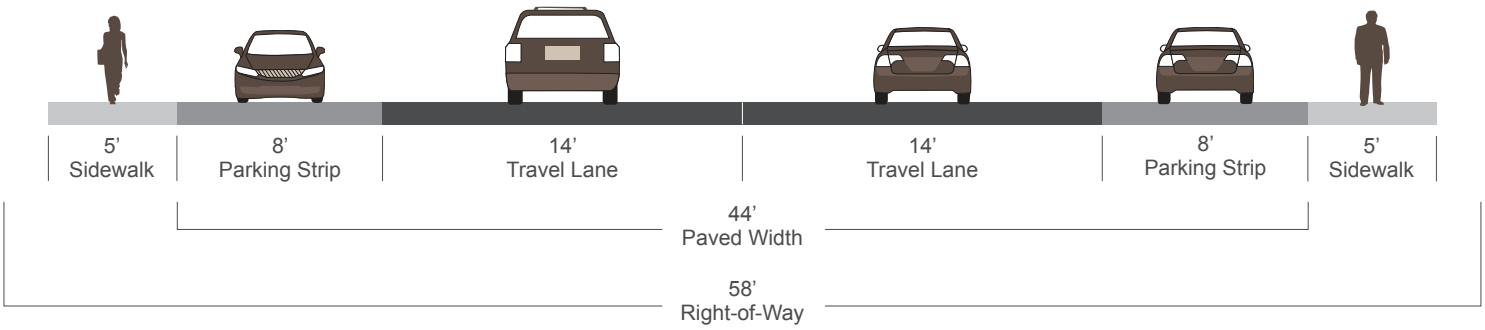


FIGURE 5-2
BROOKINGS LOCAL RESIDENTIAL STREETS MINIMUM STREET STANDARDS

COMMERCIAL/INDUSTRIAL STREETS



COMMERCIAL ONE-WAY

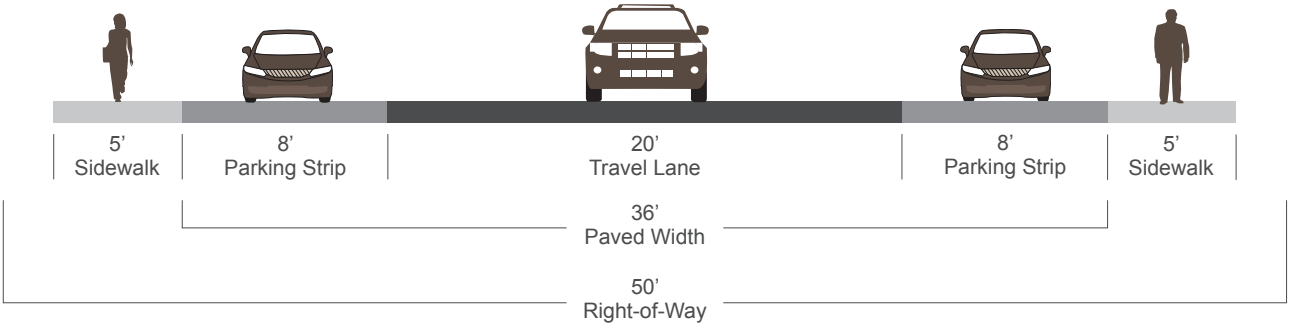
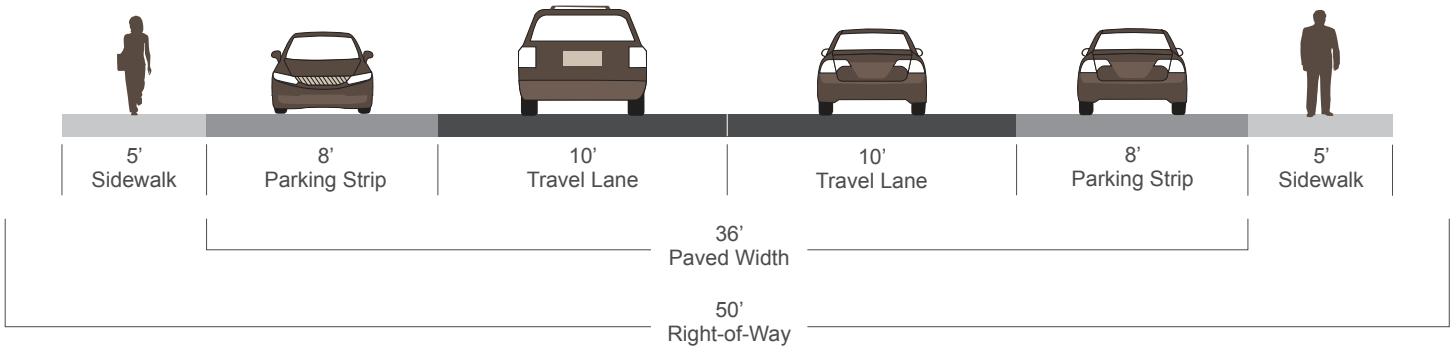


FIGURE 5-3
BROOKINGS COMMERCIAL STREETS
MINIMUM STREET STANDARDS

Transportation System Plan
Brookings, Oregon

RESIDENTIAL COLLECTOR



RESIDENTIAL ONE-WAY

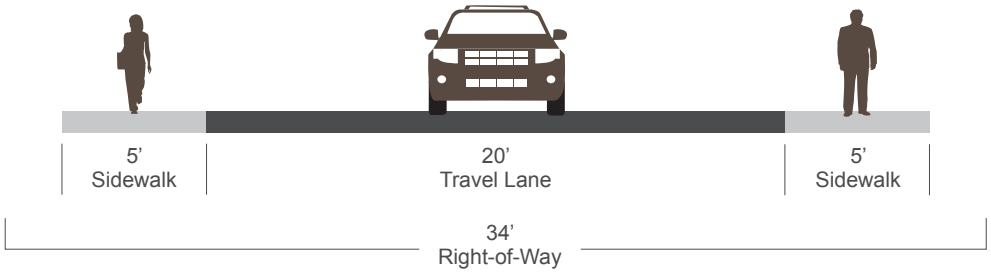
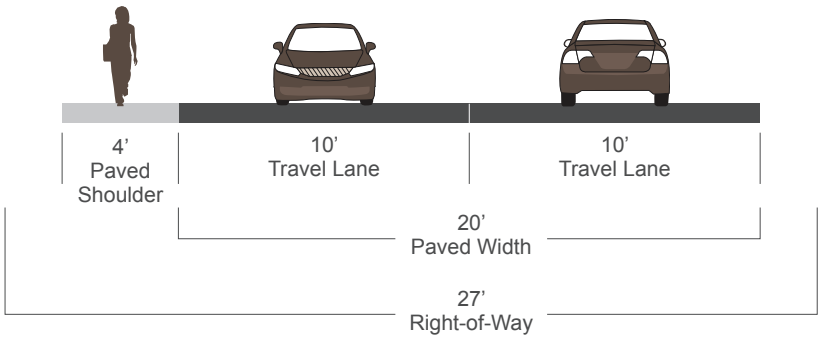


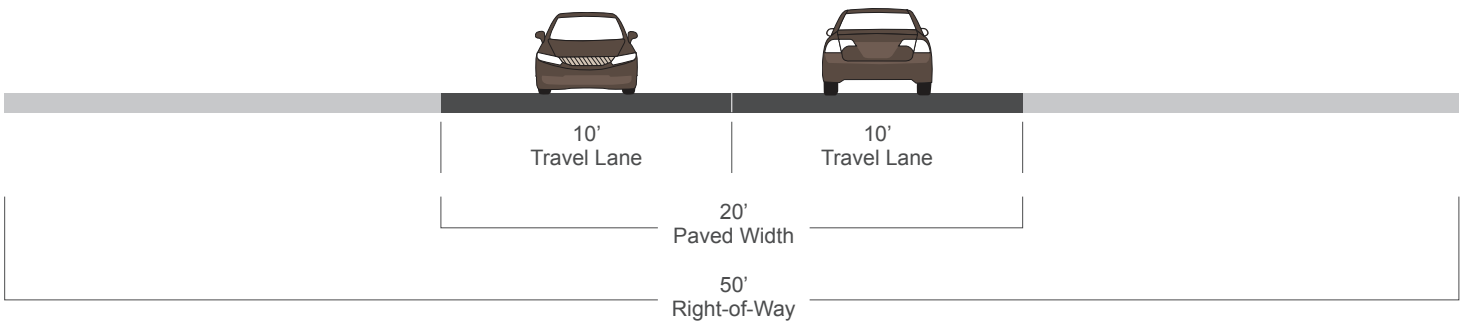
FIGURE 5-4
BROOKINGS RESIDENTIAL STREETS
MINIMUM STREET STANDARDS

Transportation System Plan
Brookings, Oregon

HILLSIDE COLLECTOR



HILLSIDE LOCAL (MAXIMUM OF 12 DWELLING UNITS TAKING ACCESS)



HILLSIDE ONE-WAY STREET

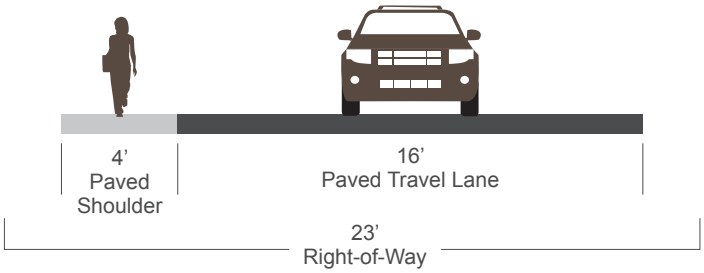


FIGURE 5-5
BROOKINGS HILLSIDE STREETS
MINIMUM STREET STANDARDS

Transportation System Plan
Brookings, Oregon

5.3 Motorized Improvement Plan

This section outlines the City of Brookings' roadway and intersection improvement projects for the next 20 years. In addition, a generalized timeline for implementation has been identified for each project. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather prioritizes projects to be developed within near-term (0-5 year), medium-term (5-10 years), and longer-term (10-20 year) horizons. In addition, some projects have development-driven timelines, which are not based on citywide needs but specific development needs. In this manner, implementation of identified system improvements has been staged to spread investment in the city's transportation infrastructure over the life of the plan. **Table 5-3** summarizes the planned motorized projects, and **Figure 5-6** illustrates the location of these projects. More detailed information for each project is included in the Prioritized Project List in **Volume 2, Appendix G** and the Motorized Prospectus Sheets that follow **Table 5-3**.

Table 5-3. Motorized Improvement Plan—Project List

Project	Description	Reason for the Project	Priority (Timeline)	Cost
M-1: US 101 and Lone Ranch Parkway	Install two egress lanes (left-turn and right-turn lane) for Lone Ranch Parkway, install southbound left-turn and northbound right-turn pockets on US 101 for deceleration, and install a southbound acceleration lane on US 101 for Lone Ranch Parkway left-turn traffic. Lone Ranch development is responsible for this project as part of their Master Plan approval.	Improves intersection minor street operations from a v/c ratio of 1.54 to 0.75.	Development-driven	$1,840,000
M-2: US 101 and Carpenterville Road[1]	Install a two-lane roundabout or a traffic signal. The roundabout would include a mountable (traversable) central island so that trucks maintain the ability to travel through and around the intersection. Lone Ranch development is partially responsible for this project as part of their Master Plan approval. Note: Two options were selected for the project to allow for flexibility based on design and other potential impacts. It will be determined which option is best at the time of project construction.	Either option improves intersection minor street operations and reduces 95th percentile queue lengths.	Low (15-25 Years)	$1,930,000[1]
M-3: US 101 and Harris Beach State Park	Motorized Project M-3 has been modified and reclassified as Non-motorized Project N-11.			

Table 5-3. Motorized Improvement Plan—Project List (continued)

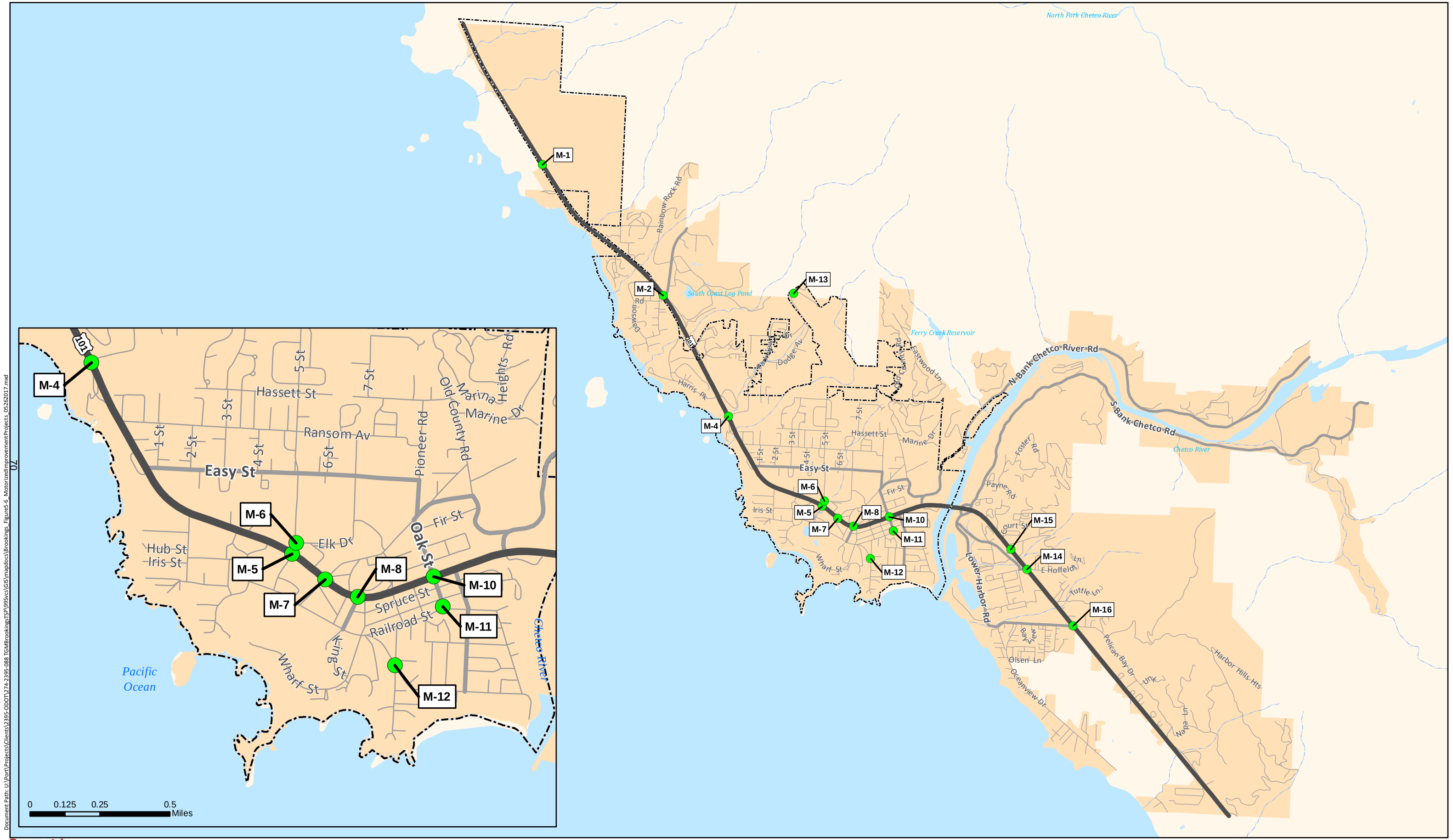
Project	Description	Reason for the Project	Priority (Timeline)	Cost
M-4: US 101 and Parkview Drive	Install two egress lanes (left-turn and right-turn lane) for Parkview Drive, install southbound left-turn pocket on US 101 for deceleration, and install a southbound acceleration lane on US 101 for Parkview Drive left-turn traffic. Note: The City will continue to look for opportunities to study Parkview Drive and the Brookings County Airport area, including the adjacent Harris Beach State Park property. This area would benefit from special consideration, such as an area plan due to several identified deficiencies, multiple surrounding land uses, and the relatively isolated nature of Parkview Drive, which is connected to Brookings only via US 101.	Improves intersection minor street operations from a v/c ratio of 1.07 to 0.35.	Development-driven	$2,250,000
M-5: US 101 and 5th Street[2]	Continue to work with ODOT to improve overall safety and operations of the intersection to meet the project need.	Improves safety and operations by reducing pedestrian/truck conflicts, and improves safety for all modes of transportation.	High (0-5 Years)	$350,000[2]
M-6: Elk Drive and 5th Street	Implement access management at driveways near intersection, construct curb bulbs to minimize crossing distances, and install continental crosswalks.	Improves safety by separating conflict areas to provide drivers adequate reaction time between the intersection and driveways.	Medium (5-15 Years)	$100,000
M-7: US 101 and Pacific Avenue	Limit Pacific Avenue to right-out only.	Improves intersection minor street operations from a v/c ratio of 0.98 to 0.34.	Medium (5-15 years)	$50,000
M-8: US 101 and Center Street	Change Center Street on the north side of US 101 to one-way northbound traffic only.	Improves safety and operations by allowing unimpeded travel on Center Street while maintaining business parking on both sides of Center Street.	Medium (5-15 Years)	$40,000
M-9: US 101 from Willow Street to Alder Street	Motorized Project M-9 has been removed because vehicle safety will be addressed within this roadway segment with Motorized Project M-10.			
M-10: US 101 and Oak Street	Add left-turn lanes on US 101 at the Oak Street intersection.	Improves safety by eliminating need for vehicles to turn left from through lanes, which currently results in rear-end collisions and angled collisions from vehicles making sudden lane changes.	Medium (5-15 Years)	$1,300,000

Table 5-3. Motorized Improvement Plan—Project List (continued)

Project	Description	Reason for the Project	Priority (Timeline)	Cost
M-11: Railroad Street and Oak Street	Realign intersection to make Railroad Street 'T' into Oak Street. Note: At the time of project construction, consideration should be given to the turning radius and design speed to support traffic patterns.	Improves safety by reducing turning radii, which slows traffic, and improving vehicle predictability by narrowing and marking lanes.	Medium (5-15 Years)	$230,000
M-12: Memory Lane and Tanbark Road	Realign the Tanbark Road approaches at Memory Lane to bring each approach angle closer to 90 degrees.	Improves safety by improving sight distance, reducing vehicle turning speed, improving driver approach angles, and reducing crossing distance.	Medium (5-15 Years)	$90,000
M-13: Parkview Drive/Airport Road near Brookings County Airport	Rebuild Airport Road as a cut-and-cover tunnel to avoid the Runway Protection Zone (RPZ) of Brookings County Airport.	Provides safe access to the industrial area northeast of Brookings Airport.	Development-driven	$2,880,000
M-14: US 101 and Hoffeldt Lane	Motorized Project M-14 was developed as part of the US 101 Corridor Plan (ODOT 2014).			
M-15: US 101 and Zimmerman Lane	Motorized Project M-15 was developed as part of the US 101 Corridor Plan (ODOT 2014).			
M-16: US 101 and Benham Lane	Motorized Project M-16 was developed as part of the US 101 Corridor Plan (ODOT 2014).			

[1]A specific improvement has not been selected for this intersection. The cost estimate provided is illustrative of one improvement option (two-lane roundabout), but the final cost could be higher or lower than this estimate depending on the specific improvement chosen by ODOT and the City of Brookings.

[2]A specific improvement has not been selected for this intersection. The cost estimate provided is illustrative of one improvement option (providing wider truck-turning radius, reconstructing channelization island, and new road markings for bicyclists and pedestrians), but the final cost could be higher or lower than this estimate depending on the specific improvement chosen by ODOT and the City of Brookings.



Parametrix Source: City of Brookings, Oregon

Motorized Improvement Project
City Limit
Urban Growth Boundary

Roadways
Functional Classification
Principal Arterial
Collector
Local Road

FIGURE 5-6
CITY OF BROOKINGS
MOTORIZED IMPROVEMENT PROJECTS
Transportation System Plan
Brookings, Oregon

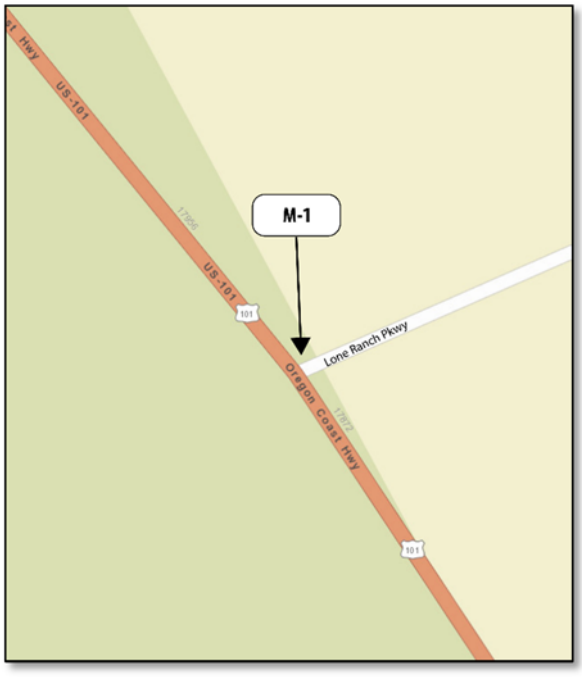
Document Path: U:\Port\Projects\Clients\2395-ODOT\274-2395-088 TGM\Brookings\TSP\99Svcs\GIS\mapdocs\Brookings_Figure5-6_MotorizedImprovementProjects_05262017.mxd

5.3.1 Motorized Prospectus Sheets

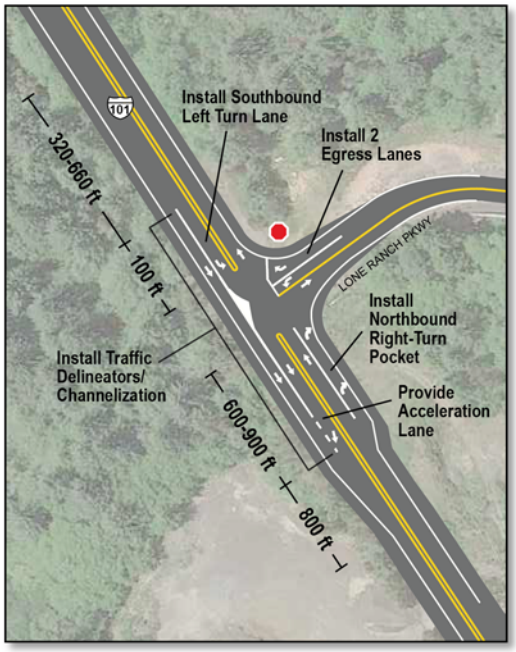
The motorized prospectus sheets summarized below were included in the Prioritized Project List (Draft) and include revisions and comments from ODOT and the City of Brookings staff. See **Appendix G** for the full Prioritized Project List (Draft) including revisions and comments from ODOT and the City of Brookings.

Project: M-1	US 101 and Lone Ranch Parkway
Need	• Mobility: Forecast 2034 intersection mobility of 1.54 v/c ratio exceeds future mobility target of v/c ratio of 0.80 or better.
Description	• Install two egress lanes (left-turn and right-turn lane) for Lone Ranch Parkway. • Install southbound left-turn and northbound right-turn pockets on US 101 for deceleration. • Install a southbound acceleration lane on US 101 for Lone Ranch Parkway left-turn traffic. • Install traffic delineators/channelization, in addition to lane markings, to provide separation between the southbound through lane and southbound acceleration lane.
Benefits	• Two egress lanes split up the minor street traffic into two lanes. • The southbound acceleration lane would significantly reduce side street delays for Lone Ranch Parkway traffic by providing a two-stage left turn for Lone Ranch Parkway traffic accessing southbound US 101.
Key Considerations/Notes	• Improves minor street intersection operations from a v/c ratio of 1.54 to 0.75. • Although this does not meet ODOT Highway Design Manual mobility target for future build conditions of 0.80 v/c ratio or better, this would significantly reduce minor street delays and would meet existing and future no build mobility targets. • Coordinate project with ODOT.
Related Projects	• N-3: US 101 from SWOCC to Harris Beach State Park
Preliminary Cost Estimate	$1,840,000
Time Frame	Development- driven

Project Location Map



Concept Design Drawing



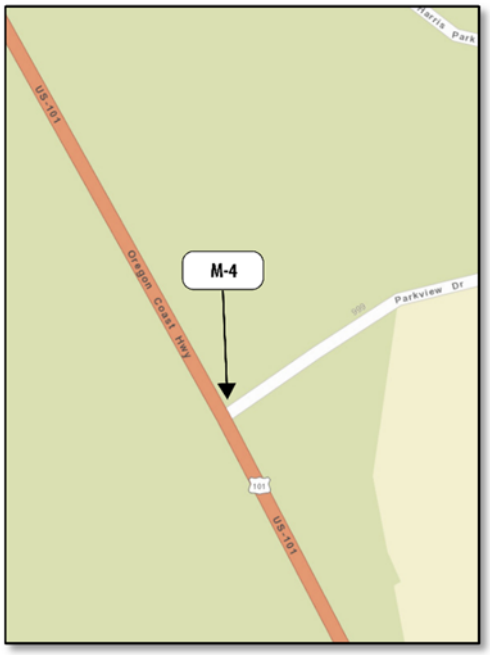
Project: M-2	US 101 and Carpenterville Road
Need	• Mobility: Forecast 2034 intersection mobility greater than 2.0 v/c ratio exceeds future mobility target of v/c ratio of 0.80 or better.
Description	• Install a two-lane roundabout or a traffic signal at the intersection. The roundabout would include a mountable (traversable) central island so that trucks maintain the ability to travel through and around the intersection. Note: Two options were selected for the project to allow for flexibility based on design and other potential impacts. It will be determined which option is best at the time of project construction.
Benefits	• Reduces side street delays for Carpenterville Road by eliminating the need for vehicles to find gaps in US 101 traffic.
Key Considerations/Notes	• Improves minor street intersection operations from a v/c ratio of greater than 2.0 to a highest entry lane v/c ratio of 0.60. • Results in a 95th percentile queue length of 4 cars in each lane for northbound and southbound approaches (4 cars in each lane, or a total of 8 cars). • Potentially results in right-of-way costs associated with installing a two-lane roundabout at this intersection. • Potential environmental mitigation required for creek impacts. • Coordinate project with ODOT.
Related Projects	• N-3: US 101 from SWOCC to Harris Beach State Park
Preliminary Cost Estimate	$1,930,000 for roundabout option
Priority	Low (15-25 Years)

Project Location Map

Project: M-3	US 101 and Harris Beach State Park
Motorized Project M-3 has been modified and reclassified as Non-motorized Project N-11.	

Project: M-4	US 101 and Parkview Drive
Need	• Mobility: Forecast 2034 intersection mobility of 1.07 v/c ratio exceeds future mobility target of v/c ratio of 0.80 or better.
Description	• Install two egress lanes (left-turn and right-turn lane) for Parkview Drive. • Install southbound left-turn pocket on US 101 for deceleration. • Provide a southbound acceleration lane on US 101 for Parkview Drive left-turn traffic. • Install traffic delineators/channelization, in addition to lane markings, to provide separation between the southbound through lane and southbound acceleration lane. Note: The City will continue to look for opportunities to study Parkview Drive and the Brookings County Airport area including the adjacent Harris Beach State Park property. This area would benefit from special consideration, such as an area plan due to several identified deficiencies, multiple surrounding land uses, and the relatively isolated nature of Parkview Drive, which is connected to Brookings only via US 101.
Benefits	• Two egress lanes split up the minor street traffic into two lanes. • The southbound acceleration lane would significantly reduce side street delays for Parkview Drive traffic by providing a two-stage left turn for Parkview Drive traffic accessing southbound US 101.
Key Considerations/Notes	• Improves minor street intersection operations from a v/c ratio of 1.07 to 0.35. • Coordinate project with ODOT.
Related Projects	• N-5: US 101 from Arnold Lane to Parkview Drive • N-7: Parkview Drive from US 101 to Welch Court
Preliminary Cost Estimate	$2,250,000
Priority	Development-driven

Project Location Map

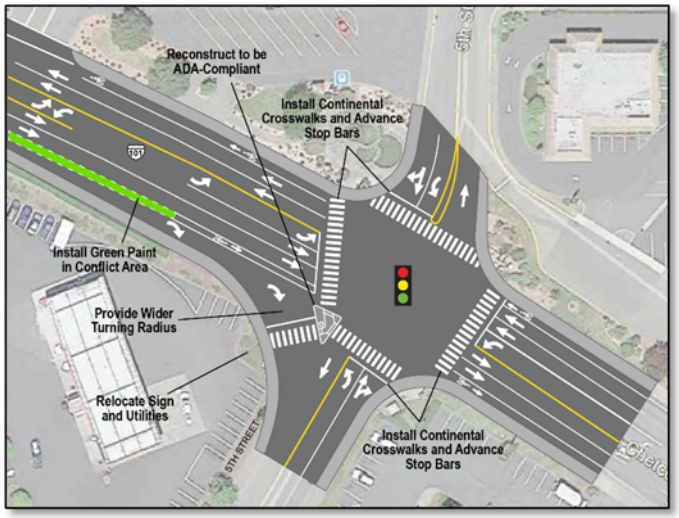


Concept Design Drawing

Project: M-5	US 101 and 5th Street
Need	• Potential Pedestrian Safety: Large trucks (WB-67) traveling eastbound on US 101 and turning southbound onto 5th Street does not have sufficient roadway space to make the turn without driving over the sidewalk or channelization island.
Description	• Continue to work with ODOT to improve overall safety and operations of the intersection to meet the project need,
Benefits	• Reduce pedestrian and truck conflicts.
Key Considerations/Notes	• Coordinate project with ODOT.
Related Projects	• N-8: US 101 from 5th Street to Bridge Street • N-9: 5th Street from Jodee Lane to US 101
Preliminary Cost Estimate	$350,000
Priority	High (0-5 Years)

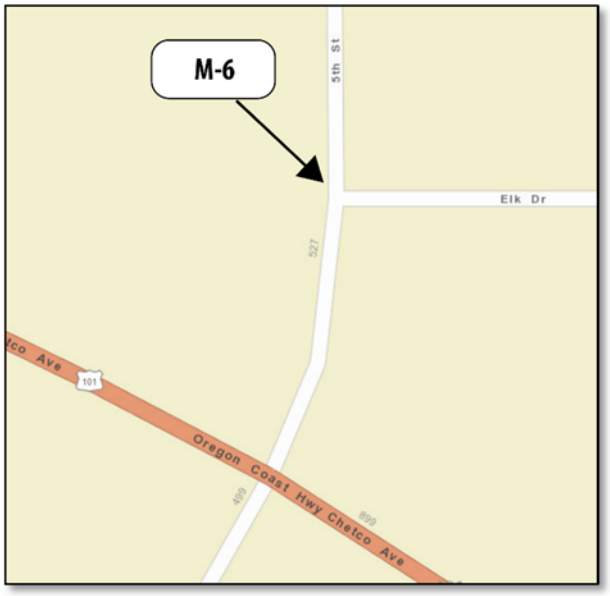
Project Location Map

Concept Design Drawing

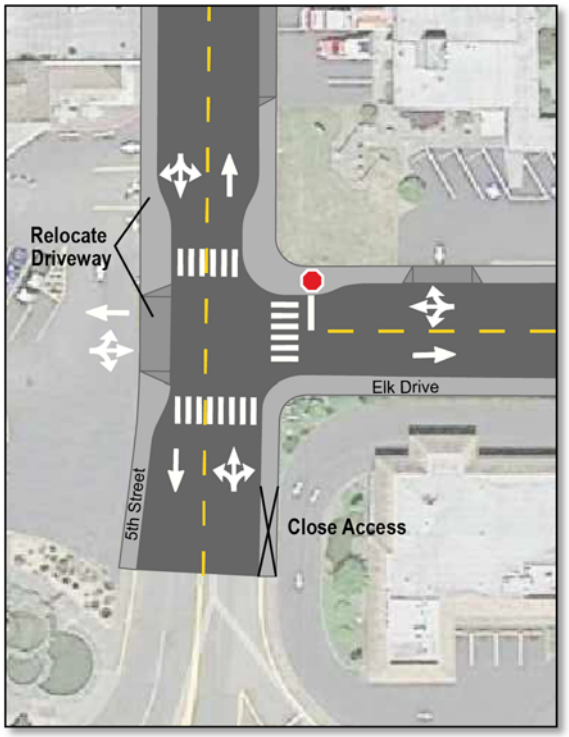


Project: M-6	Elk Drive and 5th Street
Need	• Safety: Intersection crash rate of 0.43 exceeds calculated 95th percentile critical crash rate of 0.33.
Description	• Implement access management at driveways near intersection. • Relocate the Ray's Food Place access point on 5th Street to align with Elk Drive, and close the Chase Bank driveway on 5th Street. • Construct curb bulbs to minimize crossing distances for people walking. • Install continental crosswalks.
Benefits	• Closing or moving driveways away from the intersection separates conflict areas to provide drivers adequate reaction time between the intersection and driveways. • Realigning the Ray's Food Place driveway at the intersection improves safety while maintaining business access.
Key Considerations/Notes	• Ensure that access management does not adversely affect the Bookings police or fire department operations or that curb bulbs do not adversely affect the turning ability of RVs and delivery trucks.
Related Projects	• N-9: 5th Street from Jodee Lane to US 101
Preliminary Cost Estimate	$100,000
Priority	Medium (5-15 Years)

Project Location Map

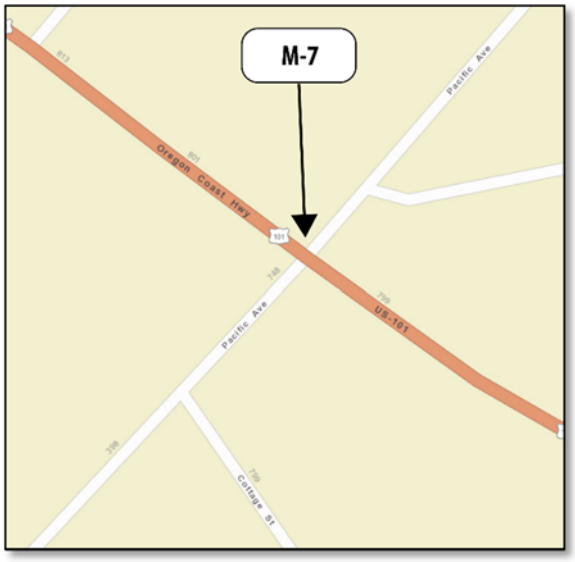


Concept Design Drawing



Project: M-7	US 101 and Pacific Avenue
Need	• Mobility: Forecast 2034 intersection mobility of 0.98 v/c ratio exceeds future mobility target of v/c ratio of 0.90 or better. • Safety: Intersection crash rate of 0.32 exceeds calculated 95th percentile critical crash rate of 0.28.
Description	• Limit Pacific Avenue to right-out only.
Benefits	• Limiting Pacific Avenue to right-out only improves minor street intersection operations.
Key Considerations/ Notes	• Improves intersection operations from a v/c ratio of 0.98 to 0.34. • Requires out-of-direction travel for restricted movements. • After reassigning through and left-turning vehicle trips from Pacific Avenue, the adjacent intersection on US 101 would continue to meet operational mobility standards for future build conditions. • Coordinate project with ODOT.
Related Projects	• N-2: Pacific Avenue/Azalea Park Road from Old Country Road to US 101 • N-8: US 101 from 5th Street to Bridge Street
Preliminary Cost Estimate	$50,000
Priority	Medium (5-15 Years)

Project Location Map



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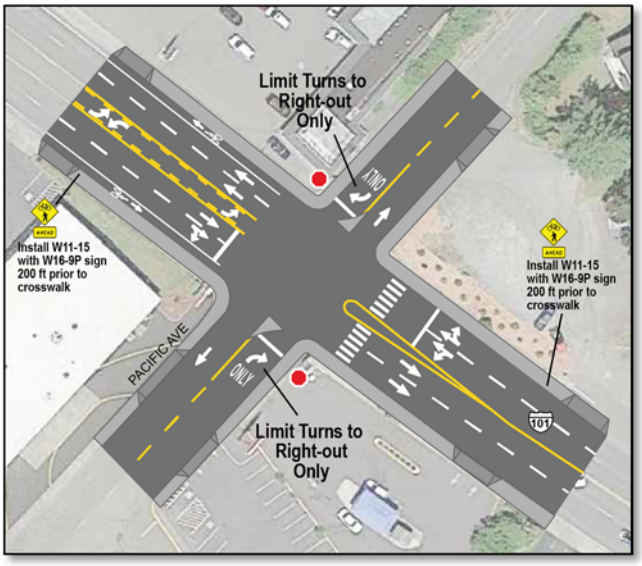
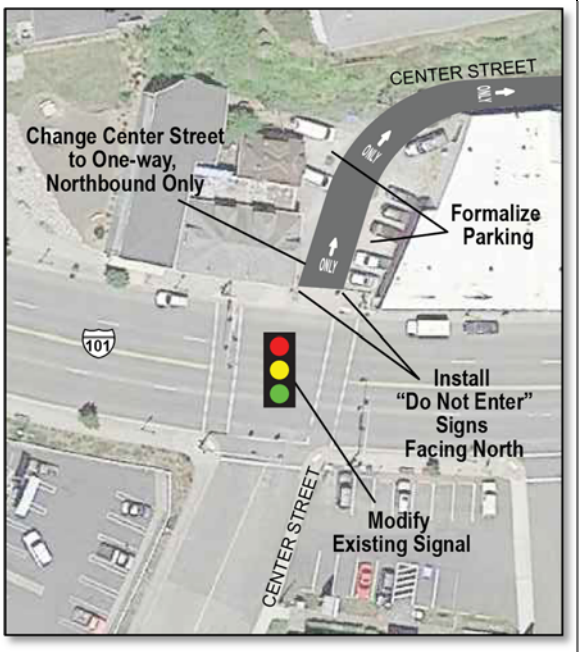


Project: M-8	US 101 and Center Street
Need	• Safety: There is insufficient right-of-way width for two-way traffic and parked vehicles on both sides of Center Street north of US 101.
Description	• Change Center Street on the north side of US 101 to one-way northbound traffic only. Currently, Center Street is a two-way street for approximately 125 feet north of US 101, and then changes to one-way southbound travel for the remainder. • Install "one-way" pavement markings and signs on Center Street north of the intersection with US 101 and along Center Street until it intersects with Fern Avenue. • Install "Do Not Enter" signs on both sides of Center Street, north of the intersection with US 101.
Benefits	• Intersection modifications would allow for maintaining business parking on both sides of Center Street just north of US 101, and allow for unimpeded travel on Center Street, improving the operations of the intersection.
Key Considerations/Notes	• Coordinate project with ODOT.
Related Projects	• N-8: US 101 from 5th Street to Bridge Street
Preliminary Cost Estimate	$40,000
Priority	Medium (5-15 Years)

Project Location Map

Concept Design Drawing

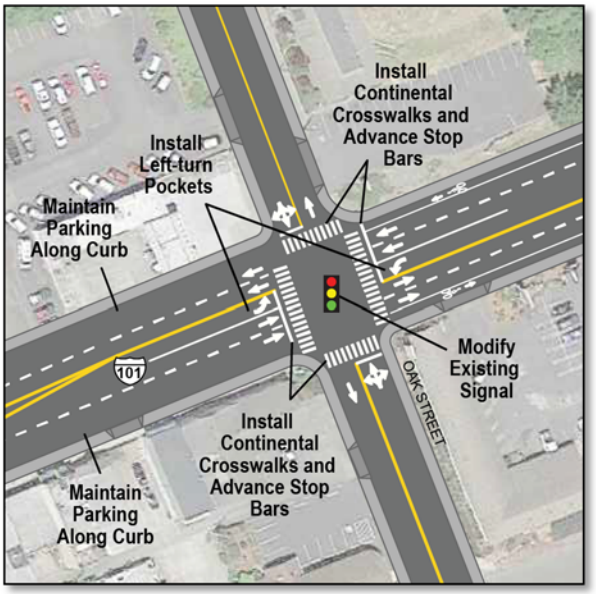


Project: M-9	US101 from Willow Street to Alder Street
Project M-9 has been removed, because vehicle safety will be addressed within this roadway segment with Motorized Project M-10.	

Project: M-10	US 101 and Oak Street
Need	• Safety: The intersection is within the segment of US 101 (Willow Street to Alder Street) that is in the top 10% of Safety Priority Index System (SPIS) locations in 2012 (51.01 SPIS score).
Description	• Add left turn lanes on US 101 at the Oak Street intersection • Modify traffic signal to include US 101 left turn phasing
Benefits	• Providing left turn lanes on US 101 at the US 101/Oak Street intersection will improve safety because vehicles will no longer have to turn left from through lanes, which currently results in rear-end collisions and angled collisions from vehicles making sudden lane changes.
Key Considerations/Notes	• This project will need to be coordinated with nonmotorized improvements for Projects N-6 and N-8. .
Related Projects	• N-6: Oak Street from US 101 to Pacific Avenue • N-8: US 101 from 5th Street to Bridge Street
Preliminary Cost Estimate	$1,300,000
Priority	Medium (5-15 Years)

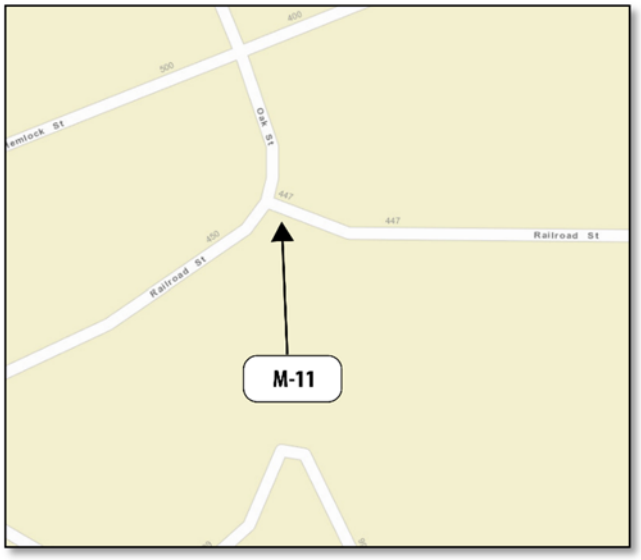
Project Location Map

Concept Design Drawing

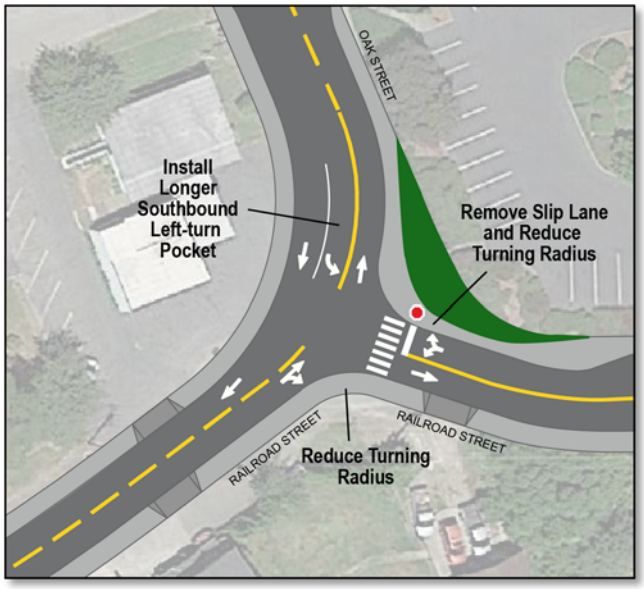


Project: M-11	Railroad Street and Oak Street
Need	• Safety: Oak Street intersects Railroad Street at a skewed intersection resulting in poor sightlines. Additionally, adequate curbs or markings to define the intersection are missing. Two of the right turns are not stop-controlled and have large turning radii, resulting in high-speed turns. Also, high speeds of travel southbound on Oak Street to the western arm of Railroad Street and vice versa make it difficult for left-turning vehicles on the eastern arm of Railroad Street to find a gap in the traffic stream.
Description	• Realign intersection to make Railroad Street 'T' into Oak Street. Note: At the time of project construction, consideration should be given to the turning radius and design speed to support traffic patterns.
Benefits	• Reduces turning radii, slowing traffic. • Improves vehicle predictability by narrowing and marking lanes.
Key Considerations/Notes	• This project will need to be coordinated with the Railroad Street Improvements project, because it will include a bike facility on Railroad Street and/or Oak Street (e.g., shared line markings, conventional bike lanes, or protected bike lanes).
Related Projects	• N-8: US 101/Chetco Avenue from 5th Street to Bridge Street • Railroad Street Improvements project (identified in 2015-2018 STIP and 2014-2015 CIP)
Preliminary Cost Estimate	$230,000
Priority	Medium (5-15 Years)

Project Location Map



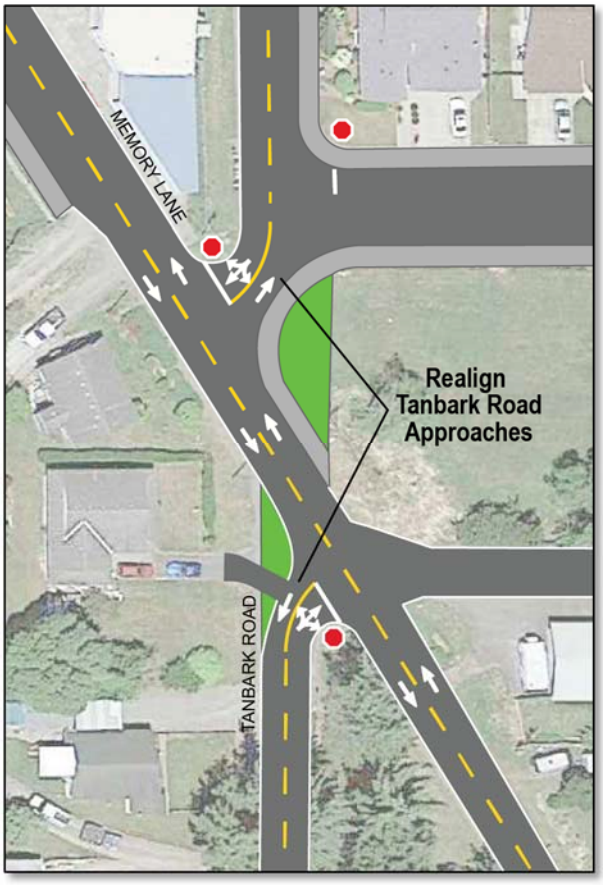
Concept Design Drawing



Project: M-12	Memory Lane and Tanbark Road
Need	• Safety: The high intersection skew angle results in poor sight distance and, combined with the uncontrolled approach on Memory Lane, makes left turns from Tanbark Road unsafe.
Description	• Realign the Tanbark Road approaches at the intersection to bring each approach angle closer to 90 degrees.
Benefits	• Improves the sight distance for vehicles turning from Tanbark Road. • Reduces the speed of vehicles turning right from Memory Lane onto Tanbark Road. • Reduces the extent to which drivers must turn their head and neck to view approaching vehicles by making the intersection closer to perpendicular. • Reduces crossing distances for people walking and vehicles, which decreases exposure to conflicts, by reducing the intersection skew angle.
Key Considerations/Notes	• There could potentially be right-of-way costs associated with realigning the roadway approaches.
Related Projects	• None
Preliminary Cost Estimate	$90,000
Priority	Medium (5-15 Years)

Project Location Map

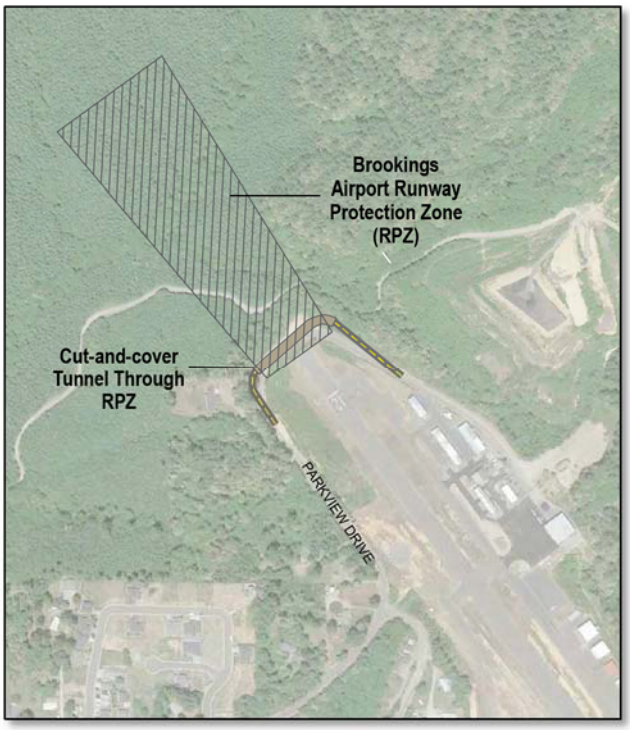
Concept Design Drawing



Project: M-13	Parkview Drive/Airport Road near Brookings County Airport
Need	• Safety/Access: The only existing access to the industrial-zoned area northeast of Brookings County Airport is via Parkview Drive, which curves around the northwest end of the airport. Parkview Drive is located within the airport's runway protection zone (RPZ), which is an area off the end of the runway end that serves to enhance the protection of people and property on the ground in the event an aircraft lands or crashes beyond the runway end. • As airport sponsor and owner, Curry County is responsible for ensuring compatible land use around to the airport to the extent possible, including disallowing activities that would hinder their ability to maintain compatibility. • Before the County could allow a project to increase traffic in areas surrounding the airport, they would need to ensure that the project did not allow for increased incompatible land use around the airport.
Description	• Rebuild Airport Road as a cut-and-cover tunnel to avoid the RPZ of Brookings Airport.
Benefits	• Provides the safe access to the industrial area northeast of Brookings County Airport.
Key Considerations/Notes	• There would be right-of-way costs associated with constructing the cut-and-cover tunnel. • Roadway construction should be coordinated with Brookings County Airport to avoid conflicts with the RPZ and airport operations. • Steep slope on northwest side of Airport Road may increase design complexity and construction costs.
Related Projects	• None
Preliminary Cost Estimate	$2,880,000
Priority	Development Driven

Project Location Map

Concept Design Drawing



5.4 Access Management

Oregon Administrative Rule 734-051 defines the state's role in managing access to highway facilities in order to maintain functional use and safety and to preserve public investment. The access management rules include spacing standards for varying types of state roadways. The regulations also list criteria for granting right of access and approach locations onto state highway facilities.

In general, local streets are intended to provide access to adjacent lands; therefore, access spacing policies for these facilities allow for the most closely spaced accesses of all the roadway classifications. Conversely, one of the primary functions of arterials (US 101 in Brookings) is to provide through-traffic mobility, which necessitates the most restrictive access spacing standards.

The provisions in the Oregon Administrative Rules apply to US 101 under Oregon State jurisdiction within the city of Brookings. Given that the speed, highway designation, and traffic control are variable along the US 101 alignment within Brookings, the access spacing targets also change. The most current ODOT classifications and guidance should be referenced when considering access modifications along the highway.

Access spacing guidelines help the City of Brookings to identify the minimum desired distance between private and public access points along major roadways. Implementing access spacing guidelines helps the City to minimize the potential for vehicular conflicts between closely spaced accesses as well as conflicts among vehicles, pedestrians, and bicyclists. Some of the driveways within Brookings are ill-defined and wide; limiting the width of driveways would help to define the conflict area involving motorists, bicyclists, and pedestrians, and to inform all types of facility users in crossing and using the access points. In addition to the spacing standards listed in Oregon Administrative Rule 734-051, the following policies also pertain to access control within the city:

- Access points onto arterials and collectors may have directional restrictions (i.e., right-in/right-out only) depending on the roadway's characteristics, including number of lanes, roadway volume, queuing at nearby intersections and driveways, locations and types of traffic control, and locations of conflicting accesses.
- Directional restrictions will be determined by the City and/or ODOT after a review of a Transportation Impact Analysis provided by a development applicant.
- Crossing of multi-use paths by driveways shall not be allowed unless there are no other access options for the site. If allowed, a driveway access crossing a multi-use path shall be constructed to provide priority and adequate visibility to path users, and should provide shared access to adjacent property, when applicable.
- Only one access is permitted per street frontage (including shared access); however, lots may have multiple street access points where minimum access spacing requirements are met.
- The centerlines of driveways are required to align across arterials and collectors to minimize conflicting turning movements and allow for adequate turn storage.
- Shared access and access easements to adjacent properties may be required to comply with these access requirements and to allow adjacent lands to also comply.

Constraints may require deviations to these access standards. Where these guidelines cannot be implemented, justification of an alternative should be prepared that demonstrates how safety for all modes will be provided, or how the change will better meet the roadway function. Self-imposed constraints are not justification for an access deviation.

5.5 Parking Plan

The Brookings Parking Plan was completed in 2006 and addresses parking needs in the downtown area of Brookings. The street design standards in **Section 5.2** address parking in other parts of the city. The Parking Plan supports planning efforts focused in the downtown area and provides information on existing parking supply and demand. The Parking Plan also makes several short-term parking recommendations. During development of the TSP, the PMT determined that no additional parking inventory and/or analysis was required, and that the Parking Plan should be incorporated into the TSP update, along with the street design standards to serve as a basis for evaluating future parking needs in the city.

6. NON-MOTORIZED PLAN

6.1 Non-motorized Improvement Plan

The non-motorized improvement plan presents those projects focused on facilitating pedestrian and bicycle travel. The projects were identified based on input received through the Alternatives Analysis process and input from the PMT, TAC, CAC, and the public. These projects were prioritized based on their proximity to schools, the underlying roadway's functional classification, and overall benefit to the transportation network. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather prioritizes projects to be developed within near-term (0-5 year), medium-term (5-10 years), and longer-term (10-20 year) horizons. The projects listed in **Table 6-1** were identified based on the unique transportation system in Brookings that is heavily influenced by the location of US 101, and are intended to be right-sized for the city's needs and to accommodate the existing financial constraints.

Table 6-1 summarizes the planned non-motorized projects, and **Figure 6-1** illustrates the location of these projects. More detailed information for each project is included in the Prioritized Project List in **Volume 2, Appendix G**. To address additional non-motorized projects, example solutions are provided as part of the non-motorized toolbox in **Volume 2, Appendix F** and the Non-motorized Prospectus Sheets that follow **Table 6-1**.

Table 6-1. Non-motorized Improvement Plan—Project List

Project	Description	Reasons for the Project	Priority	Cost
N-1: Easy Street from Pioneer Road to Easy Manor Drive	Install a bike route, install sidewalk infill on north side as needed, and widen street.	Provides enhanced environment for walking, improved visibility for all users, shared lane markings and wayfinding signage, and on-street parking capacity; complements recently completed sidewalks funded by Safe Routes to School (SRTS) program grant.	Medium (5-15 Years)	$870,000
N-2: Pacific Avenue/Azalea Park Road from Old County Road to US 101	**Typical Section (Old County Road to Oak Street)** Install conventional and buffered bike lanes on both sides of the street, retain on-street parking on one side of the street, narrow travel lanes, and add curb extensions. **Constrained Section (Oak Street to US 101)** Install bike route and install sidewalk infill as needed.	**Typical Section (Old County Road to Oak Street)** Improves bicycle access and connectivity, increases separation between people driving and bicycling in one direction, and creates a more comfortable bicycle facility; provides clearance when car doors are opened to minimize accident risks, and reduces vehicular speeds. **Constrained Section (Oak Street to US 101)** Establishes continuous sidewalks on both sides of the street, provides shared lane markings and wayfinding signage, and improves visibility for all users.	High (0-5 Years)	$440,000

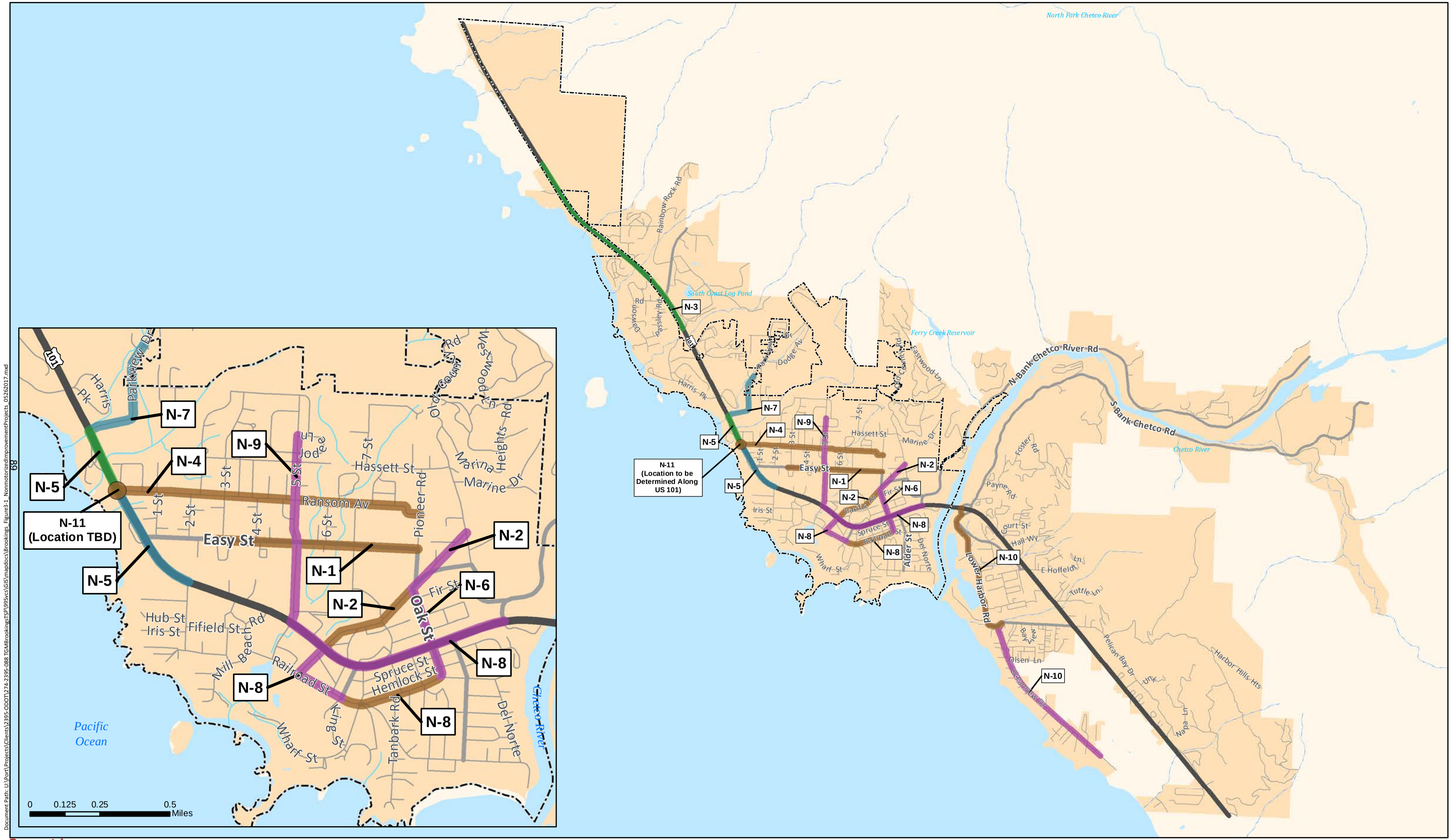
Table 6-1. Non-motorized Improvement Plan—Project List (continued)

Project	Description	Reasons for the Project	Priority	Cost
N-3: US 101 from SWOCC to Harris Beach State Park	Prepare trail feasibility study for installing trail on US 101 and to determine US 101 bicycle/pedestrian crossings.	Need to determine feasibility for providing low-stress off-street environment for bicycling and walking, and maintaining separation from fast-moving highway traffic.	Development-Driven	$80,000
N-4: Ransom Avenue from US 101 to Pioneer Road	**Typical Section** Install bike boulevard treatments, retain on-street parking, and install sidewalk infill as needed. **Constrained Section** Install bike boulevard treatments, retain on-street parking on one side, and install sidewalk infill on other side, as needed.	**Typical Section** Provides enhanced environment for bicycling and walking, improves visibility for all users, and provides lower-stress bike route to schools, swimming pool, tennis courts, and Bud Cross Park. **Constrained Section** Provides same benefits as typical section plus retains parking on one side of the street.	High (0-5 Years)	$1,470,000
N-5: US 101 from Arnold Lane to Parkview Drive	**North Section (Parkview Drive to Ransom Avenue)** Install trail segment on west side of US 101 to Harris Beach Trail and sidewalk on east side of US 101. **South Section (Ransom Avenue to Arnold Street)** Install sidewalk infill as needed on east side of US 101, and reduce shoulder width.	**North Section (Parkview Drive to Ransom Avenue)** Connects to existing multi-use path on west side, creates low-stress environment for bicycling and walking, provides dedicated sidewalk facility on east side, which enhances pedestrian access, and improves visibility for all users. **South Section (Ransom Avenue to Arnold Street)** Provides dedicated sidewalk facility on east side, which enhances pedestrian access, and improves visibility for all users.	High (0-5 Years)	$1,130,000
N-6: Oak Street from US 101 to Pacific Avenue	Install conventional bike lanes, retain on-street parking on one side, and install parking buffer between parking and bike lane, and narrow the travel lanes.	Improves connectivity and rider comfort, retains on-street parking, helps people avoid riding in door zone, and calms traffic.	High (0-5 Years)	$51,000
N-7: Parkview Drive from US 101 to Welch Court	Install sidewalk infill on east side.	Improves pedestrian access and safety and visibility for all modes.	Low (15-25 Years)	$373,000
N-8: US 101 from 5th Street to Bridge Street	**US 101—5th Street to Pacific Avenue** Retain existing northbound and southbound striped bike lanes. **US 101—Pacific Avenue to Oak Street** Install signage for southbound bike route onto Railroad Street. Remove parking on northeast side of US 101 and install northbound bike lane.	Improves bicycle access and connectivity on US 101 while maintaining two through travel lanes in each direction on US 101; improves streetscape and bicycle/pedestrian connectivity on Railroad Street (previous streetscape project was planned between Wharf Street and Oak Street), and keeps the low-stress bicycle environment.	High (0-5 Years)	$4,817,000 to $6,765,654

Table 6-1. Non-motorized Improvement Plan—Project List (continued)

Project	Description	Reasons for the Project	Priority	Cost
N-8: US 101 from 5th Street to Bridge Street (continued)	**US 101—Oak Street to Bridge Street** Retain existing northbound and southbound striped bike lanes. **Pacific Avenue—US 101 to Railroad Street** Install bike route. **Railroad Street—Pacific Avenue to Wharf Street** Install bike route. **Railroad Street—Wharf Street to Oak Street** Incorporate reconstruction project with sidewalks and bike route with signage and shared lane markings. **Oak Street—Railroad Street to US 101** Install bike route with signage and shared lane markings. Note: The City will continue to look for opportunities to conduct a comprehensive study of the downtown core area to address parking, a reduction of travel lanes, and bicycle safety and pedestrian crossings.			
N-9: 5th Street from Jodee Lane to US 101	**Typical Section** Install bike route treatment and retain sidewalks and parking on both sides. **Constrained Section** Install bike route treatment and retain intermittent sidewalks.	**Typical Section** Provides shared lane markings and wayfinding signage and retains on-street parking. **Constrained Section** Provides shared lane markings and wayfinding signage.	Medium (5-15 Years)	$20,000
N-10: Lower Harbor Road and Oceanview Drive	**Lower Harbor Road** Install conventional bike lanes and sidewalks on both sides, where feasible. **Oceanview Drive** Install conventional bike lanes where right-of-way is available and bike route where right-of-way is not available. **Intersection of Lower Harbor Road and Shopping Center Avenue** Install pedestrian and bicycle crossing improvements.	Improves connectivity and safety for people bicycling and walking in areas where there is available width for bike lanes; also improves visibility for all road users.	Medium (5-15 Years)	$1,614,000
N-11 (formerly M-3): US 101 near Ransom Avenue[1]	Continue to work with ODOT to install improved bicycle/pedestrian access across US 101 north of Arnold Street.	Improves safe crossing of US 101 for bicyclists/pedestrians to access the multi-use path on the west side of US 101.	High (0-5 Years)	$100,000[1]
Bicycle Parking	Install additional bicycle parking (Details listed below and in **Table 6-2**).	To encourage more bicycle ridership.	High (0-5 Years)	$11,000

[1] A specific improvement has not been identified for this project. The cost estimate provided is illustrative of one improvement option (providing rectangular rapid flashing beacon, crosswalk, advance pedestrian/bicycle signs, and advance stop bars), but the final cost could be higher or lower than this estimate depending on the specific improvement chosen by ODOT and the City of Brookings.



Document Path: L:\Port\Projects\Clients\2395-ODOT\274-2395-088 TGM\Brookings\SP\995\vc3\GIS\mapdocs\Brookings_Figure3-1_NonmotorizedImprovementProjects_05262017.mxd

Parametrix Source: City of Brookings, Oregon

Nonmotorized Improvement Project Type
- Multi-Use Path
- On-street Bike Project
- On-street Bike and Sidewalk Project
- Sidewalk Project

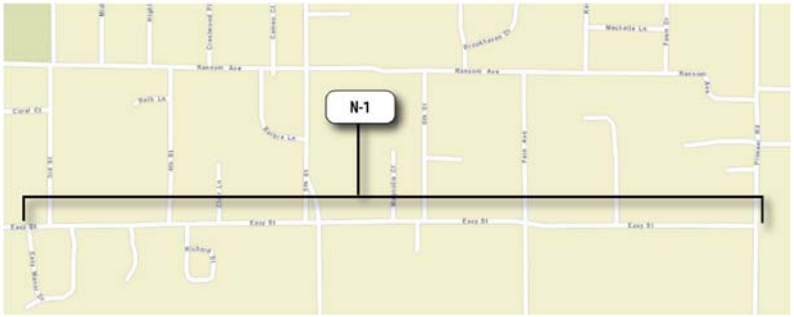
Roadways
Functional Classification
- Principal Arterial
- Collector
- Local Road

- City Limit
- Urban Growth Boundary

FIGURE 6-1
CITY OF BROOKINGS
NONMOTORIZED IMPROVEMENT PROJECTS
Transportation System Plan
Brookings, Oregon

6.1.1 Non-Motorized Prospectus Sheets

The non-motorized prospectus sheets summarized below were included in the Prioritized Project List (Draft) and include revisions and comments from ODOT and the City of Brookings staff. See **Appendix G** for the full Prioritized Project List (Draft) including revisions and comments from ODOT and the City of Brookings.

Project: N-1	**Easy Street: Pioneer Road to Easy Manor Drive**
Need	• Bicycle Level of Traffic Stress (LTS): 2 (Not suitable for children riding unaccompanied within a designated Focus Area). There are no dedicated bicycle facilities, and traffic speeds and volumes may be too high for children and less confident riders. • Pedestrian Level of Service (LOS): 2. Consistent curb-tight south sidewalk and intermittent north sidewalk.
Description	• Install a bike route (shared lane markings and signage) • Install sidewalk infill on north side as needed • Widen street footprint from 22 to 28 feet to accommodate new on-street parking on one side of the street
Benefits	• Provides enhanced environment for walking • Complements recently completed sidewalks funded by Safe Routes to School (SRTS) program grant • Provides improved visibility for all users • Provides shared lane markings and wayfinding signage • Adds on-street parking capacity • No right-of-way acquisition needed
Key Considerations/ Notes	• Would not provide dedicated facilities for people biking • Impacts adjacent residential frontage
Related Projects	• N-9: 5th Street from Jodee Lane to US 101
Preliminary Cost Estimate	$870,000
Priority	Medium (5-15 Years)
Project Location Map	
Concept Design Drawing	 (Looking West)

Project: N-2	Pacific Avenue/Azalea Park Road: Old Country Road to US 101
Need	• Bicycle LTS: 2 (Not suitable for children riding unaccompanied within a designated Focus Area). There are no dedicated bicycle facilities, and traffic speeds and volumes may be too high for children and less confident riders. • Pedestrian LOS: 1-2. Lack of any sidewalks south of Fern Avenue. Consistent sidewalks on at least one side of the street north of Fern Avenue.
Description	**Typical Section (Old Country Road to Oak Street)** • Install conventional and buffered 7- 8-foot on-street bike lanes on both sides of the street • Retain on-street parking on one side of the street • Narrow travel lanes to 10 feet • Add curb extensions for traffic calming and to improve pedestrian crossing conditions **Constrained Section (Oak Street to US 101)** • Install bike route (shared lane markings and signage) • Install sidewalk infill as needed
Benefits	**Typical Section (Old Country Road to Oak Street)** • Dedicated space for riding improves bicycle access and connectivity • Buffered bike lane in one direction increases separation between people driving and bicycling in one direction and creates a more comfortable bike facility • Conventional bike lane adjacent to parking has 2-foot buffer, which provides enough clearance for opening car doors to minimize accident risk from dooring • 10-foot traffic lanes reduce vehicular speeds **Constrained Section (Oak Street to US 101)** • Establishes continuous sidewalks on both sides of the street • Provides shared lane markings and wayfinding signage • Improves visibility for all users
Key Considerations/ Notes	**Typical Section (Old Country Road to Oak Street)** • On-street parking reduction required on one side of the street • Curb extensions may require additional removal of on-street parking spaces • Improvements serve vulnerable users accessing multiple schools **Constrained Section (Oak Street to US 101)** • Additional pavement width is not required for bike route • Does not provide a comfortable environment for bicycling compared to dedicated facilities
Related Projects	• M-7: US 101 and Pacific Avenue • N-6: Oak Street from US 101 to Pacific Avenue • N-8: US 101 from 5th Street to Bridge Street
Preliminary Cost Estimate	$440,000
Priority	High (0-5 Years)

<table>
<tr><th>Project: N-2</th><th colspan="2">Pacific Avenue/Azalea Park Road: Old Country Road to US 101</th></tr>
<tr><td>Project Location Map</td><td colspan="2"> 
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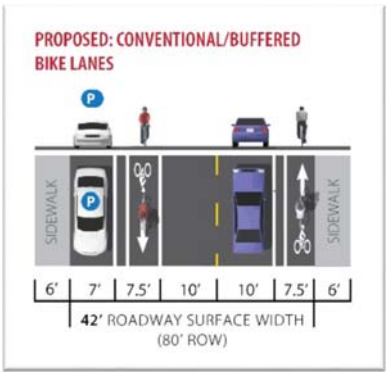
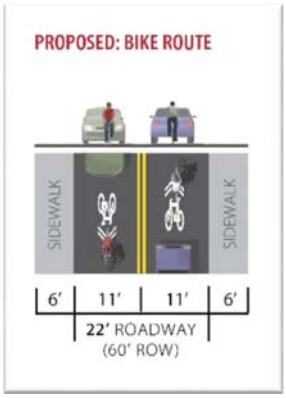
<tr><td rowspan="2">Concept Design Drawing</td><td><u>Typical Section</u>
<u>(Old Country Road to Oak Street)</u></td><td><u>Constrained Section</u>
<u>(Oak Street to US 101)</u></td></tr>
<tr><td> 

<u>(Looking Southwest)</u></td><td> 

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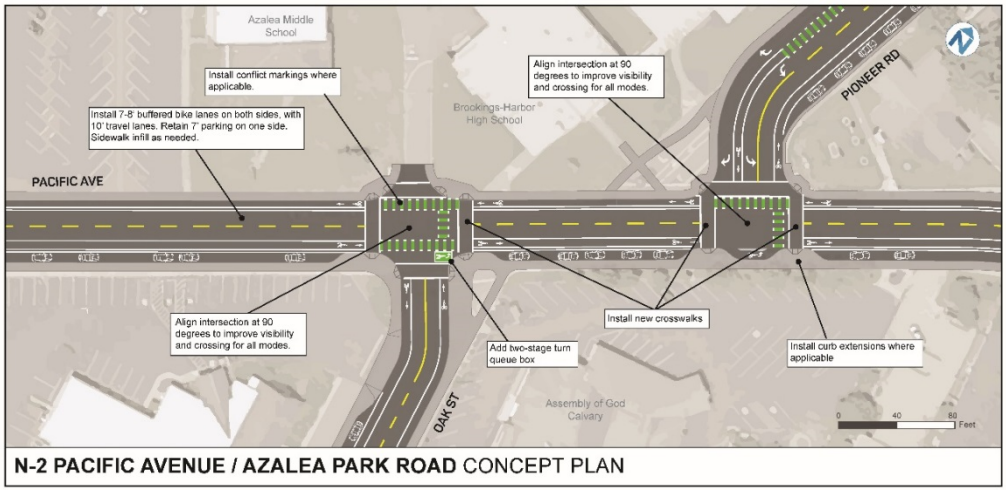
<tr><td>Intersection Detail</td><td colspan="2"> 
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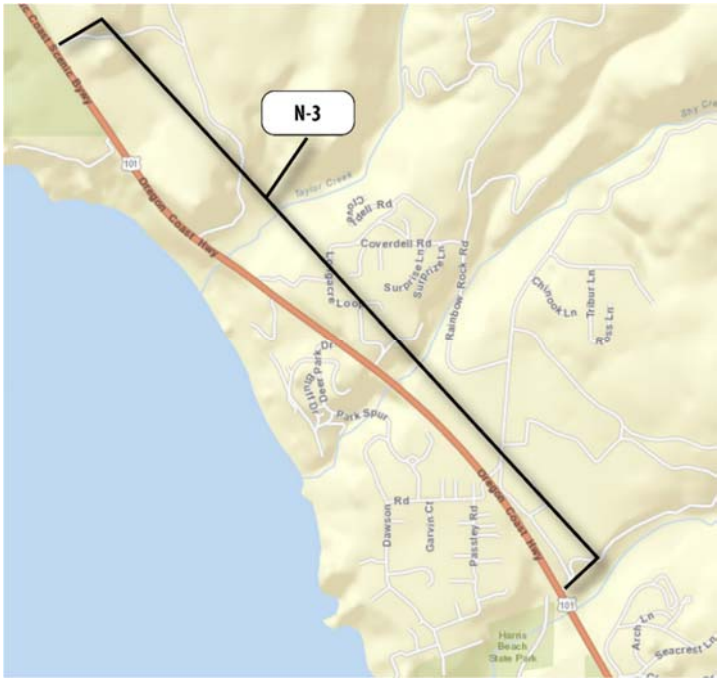
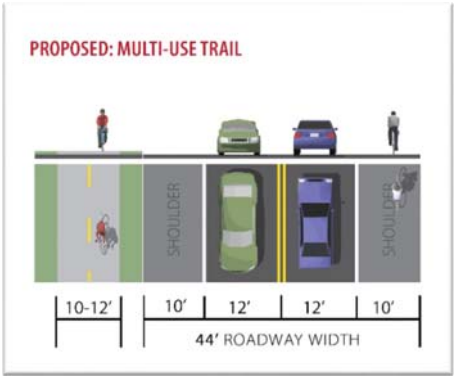
Project: N-3	US 101: Southwestern Community College to Harris Beach State Park
Need	• No existing bicycle/pedestrian connection to SWOCC. • Existing Bicycle LTS: 2 (Rural). Variable-width paved shoulders next to 35-55 mph traffic are suitable only for the strongest riders. • Existing Pedestrian LOS: 4-5. No sidewalks and lack of crossing opportunities along rural highway.
Description	• Prepare trail feasibility study for installing trail on west side of US 101 and to determine US 101 bicycle/pedestrian crossings.
Benefits	• Provides low-stress off-street environment for bicycling and walking • Maintains separation from fast-moving highway traffic
Key Considerations/ Notes	• Project continues recently completed multi-use path on south side of US 101 to Dawson Court • Does not improve bicycle/pedestrian connectivity on east side of US 101
Related Projects	• M-1: US 101 and Lone Ranch Parkway • M-2: US 101 and Carpenterville Road • Same project as bike path to SWOCC (identified in 2016 Brookings CIP)
Preliminary Cost Estimate	$80,000
Priority	Development-driven

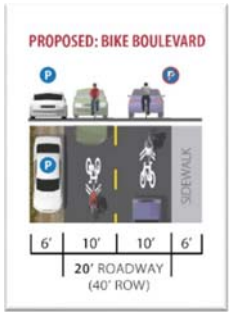
Project Location Map



Concept Design Drawing



(Looking Northwest)

Project: N-4	**Ransom Avenue: US 101 to Pioneer Road**
Need	• Existing Pedestrian LOS: 2. Discontinuous sidewalk facilities on both sides of the street; where existing, sidewalk is curb-tight. • Existing Bicycle LTS: 2. Lack of dedicated bike facilities on collector with centerline.
Description	**Typical Section** • Install bike boulevard treatments, including pavement markings and wayfinding signage • Retain on-street parking • Install sidewalk infill as needed **Constrained Section** • Install bike boulevard treatments, including pavement markings and wayfinding signage • Retain on-street parking on one side • Install sidewalk infill on other side, as needed
Benefits	**Typical Section** • Provides enhanced environment for bicycling and walking • Improves visibility for all users • Provides lower-stress biking route to schools, swimming pool, tennis courts, and Bud Cross Park **Constrained Section** • Provides enhanced environment for bicycling and walking • Improves visibility for all users • Provides lower-stress biking route to schools, swimming pool, tennis courts, and Bud Cross Park • Retains on-side parking on one side of the street
Key Considerations/ Notes	**Typical Section** • Impacts adjacent residential frontage • Mixed traffic operation on collector with centerline does not create comfortable conditions for bicycling **Constrained Section** • Impacts adjacent residential frontage • Does not include streetscape improvements on both sides of the street • Mixed traffic operation on collector with centerline does not create comfortable conditions for bicycling
Related Projects	• N-5: US 101 from Arnold Lane to Parkview Drive • N-9: 5th Street from Jodee Lane to US 101/Chetco Avenue • N-11: US 101 near Harris Beach Park • US 101 from Harris Beach State Park to Ransom Avenue (identified in 2015-2018 Oregon Amended STIP)
Preliminary Cost Estimate	$1,470,000
Priority	High (0-5 Years)
Project Location Map	
Concept Design Drawing	**Typical Section**  (Looking West)
	Constrained Section  (Looking West)

Project: N-5	US 101: Arnold Lane to Parkview Drive
Need	• Current Bicycle LTS: 2 (Rural). Variable-width paved shoulders next to 35-mph traffic north of Easy Street are suitable for more confident riders; 5- 6-foot curbside bike lane currently exists south of Easy Street. • Existing Pedestrian LOS: 4-5. No dedicated sidewalk in this section (widens from 2 to 4 lanes at Easy Street).
Description	**North Section (Parkview Drive to Ransom Avenue)** • Install trail segment on west side to Harris Beach Park Trail • Install sidewalk on east side **South Section (Ransom Avenue to Arnold Street)** • Install sidewalk infill as needed on east side • Reduce shoulder to 6 feet on east side between Ransom Avenue and Arnold Street
Benefits	**North Section (Parkview Drive to Ransom Avenue)** • Connects to existing multi-use path on west side; creates low-stress environment for bicycling and walking • Provides dedicated sidewalk facility on east side, which enhances pedestrian access • Improves visibility for all users **South Section (Ransom Avenue to Arnold Street)** • Provides dedicated sidewalk facility on east side, which enhances pedestrian access • Improves visibility for all users
Key Considerations/ Notes	**North Section (Parkview Drive to Ransom Avenue)** • Impacts adjacent residential frontage and potential right-of-way is needed for sidewalks and multi-use path • Multiple driveway conflicts for west side path • STIP Enhance Program proposal would construct approximately 2,200 feet of 6-foot paved shoulder (shoulder bikeway), curb, gutter, and 6-foot ADA-compliant sidewalks where no sidewalks currently exist on the east side of US 101 between Parkview Drive and Easy Street **South Section (Ransom Avenue to Arnold Street)** • Impacts adjacent residential frontage • Existing bike lanes between Easy Street and Arnold Lane
Related Projects	• M-4: US 101 and Parkview Drive • N-4: Ransom Avenue from US 101 to Pioneer Road • N-7: Parkview Drive from US 101 to Welch Court • N-11: US 101 near Ransom Avenue • US 101 from Harris Beach State Park to Ransom Avenue (identified in 2015-2018 Oregon Amended STIP)
Preliminary Cost Estimate	$1,130,000
Priority	High (0-5 Years)

<table>
<tr><td>Project Location Map</td><td colspan="3"> 
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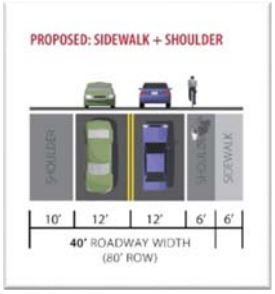
<tr><td>Concept Design Drawing</td><td><u>North Section
(Parkview Drive to Ransom Avenue)</u>
 

(Looking Northwest)</td><td><u>South Section
(Ransom Avenue to Easy Street)</u>
 

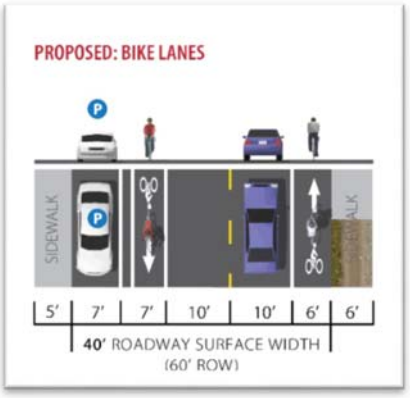
(Looking Northwest)</td><td><u>South Section
(Easy Street to Arnold Street)</u>
 

(Looking Northwest)</td></tr>
</table>

Project: N-6	Oak Street: Pacific Avenue to US 101
Need	• Existing Pedestrian LOS: 1. Complete sidewalks on both sides with no buffer. • Existing Bicycle LTS: 2. No dedicated bicycle facilities. Lower-speed 2-lane road with marked centerline.
Description	• Install striped 6- 7-foot conventional bike lanes • Retain on-street parking on one side • Install 2-foot striped buffer between parking and bike lane • Narrow travel lanes to 10 feet wide and stripe
Benefits	• Dedicated facility for people biking improves connectivity and rider comfort • On-street parking is retained • Wider bike lane facility and buffer stripe adjacent to parking helps people biking avoid riding in the door zone • No additional right-of-way required • 10-foot lanes provide traffic calming
Key Considerations/ Notes	• Sidewalks could be widened based on available right-of-way • Missing sidewalk segment on east side between Redwood and Pine Streets would not be completed • Parking would be removed on one side • Roadway narrows closer to US 101; parking may need to be prohibited between Redwood Street and US 101 on both sides of the street • Improvements serve vulnerable users accessing multiple schools
Related Projects	• M-10: US 101 and Oak Street • N-2: Pacific Avenue/Azalea Park Road from Old Country Road to US 101 • N-8: US 101 from 5th Street to Bridge Street
Preliminary Cost Estimate	$51,000
Priority	High (0-5 Years)

Project Location Map

Concept Design Drawing



(Looking Northwest)

Project: N-7	**Parkview Drive: US 101 to Welch Court**
Need	• Existing Pedestrian LOS: 1-2. Complete lack of sidewalks until just north of Hampton Road on lower-speed street. Sidewalk on one side (with no buffer between sidewalk and roadway) until Welch Court. • Existing Bicycle LTS: 2. No dedicated bicycle facilities. Lower-speed 2-lane road with marked centerline.
Description	• Install sidewalk infill on east side from US 101 to Welch Court
Benefits	• Continuous east sidewalk improves pedestrian access and safety • Improved visibility for all modes
Key Considerations/ Notes	• Impacts adjacent residential frontage needed for east sidewalk • No sidewalk improvements on west side • No bicycle improvements included in project
Related Projects	• M-4: US 101 and Parkview Drive • N-5: US 101 from Arnold Lane to Parkview Drive
Preliminary Cost Estimate	$373,000
Priority	Low (15-25 Years)
Project Location Map	
Concept Design Drawing	 (Looking East and North)

Project: N-8	US 101: 5th Street to Bridge Street
Need	• Existing Pedestrian LOS: 1-3. Complete sidewalks on both sides of the street; furnishing zone in some locations. • Existing Bicycle LTS: 3-4. Lack of bicycle facility on multi-lane road. Variable 25- to 35-mph speed limit. • Safety: Potential bicycle/pedestrian conflicts with vehicular turning movements through downtown Brookings.
Description	**US 101 from 5th Street to Pacific Avenue** • Retain existing striped bike lanes **US 101 from Pacific Avenue to Oak Street** • Install signage for bike route for southbound to Railroad • Remove on street parking from northeast side of Hwy 101 and strip conventional bike lane for northbound riders. **US 101 from Oak Street to Bridge Street** • Retain existing striped bike lanes **Mill Street from US 101 to Railroad Street** • Install bike route with signage and shared lane markings **Railroad Street from Mill Street to Wharf Street** • Install bike route with signage and shared lane markings **Railroad Street from Wharf Street to Oak Street** • Incorporates Railroad Street Improvements project with new sidewalks and bike route signage, and shared lane markings **Oak Street from Railroad Street to US 101** • Install bike route with signage and shared lane markings Note: The City will continue to look for opportunities to conduct a comprehensive study of the downtown core area to address parking, a reduction of travel lanes, and bicycle safety and pedestrian crossings.
Benefits	• Maintains two through travel lanes in each direction on US 101 • Improves streetscape and bicycle/pedestrian connectivity on Railroad Street (previous streetscape project was planned between Wharf Street and Oak Street) • Keeps the low-stress bicycle environment
Key Considerations/ Notes	• Out-of-direction travel for southbound bike traffic on Railroad Street makes it more difficult to access business district
Related Projects	• M-5: US 101 and 5th Street • M-7: US 101 and Pacific Avenue • M-8: US 101 and Center Street • M-10: US 101 and Oak Street • M-11: Railroad Street and Oak Street • N-2: Pacific Avenue/Azalea Park Road from Old Country Road to US 101 • N-6: Oak Street from US 101 to Pacific Avenue • N-9: 5th Street from Jodee Lane to US 101 • Railroad Street Improvements project (identified in 2014-2015 Brookings CIP and 2015-2018 Oregon STIP)
Preliminary Cost Estimate	Total Cost Estimate: $4,817,000 to $6,765,654 **US 101: Pacific Avenue to Oak Street** • Bike route - $7,000 **Mill Street: US 101 Railroad Street** • Bike route - $7,000 **Railroad Street: Mill Street to Wharf Street** • Bike route - $6,000 **Railroad Street: Wharf Street to Oak Street** • Railroad Street Improvements project - $4,510,00 **Oak Street: Railroad to US 101** • Bike route - $7,000
Priority	High (0-5 Years)

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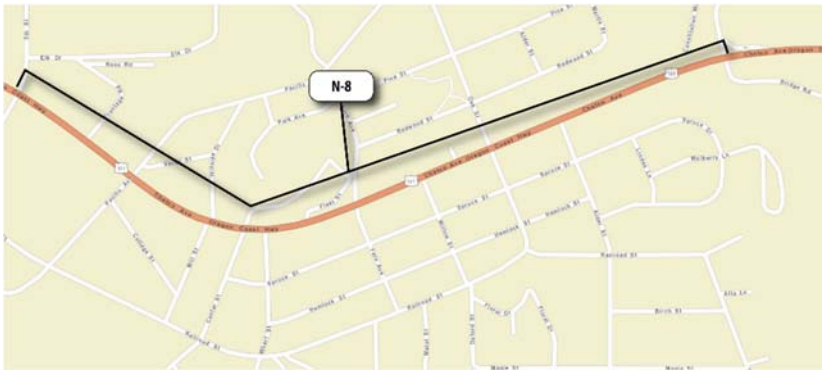
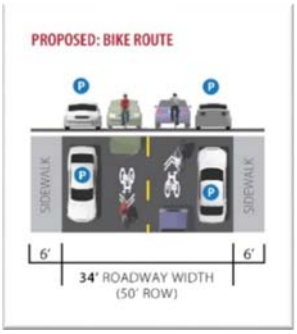
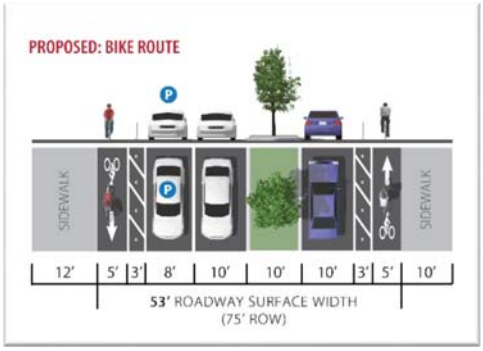
<tr><td>Project Location Map</td><td colspan="2"> 
</td></tr>
<tr><td rowspan="6">Concept Design Drawing</td><td><u>US 101: Pacific Avenue to Mill Street</u></td><td><u>US 101: Mill Street to Oak Street</u></td></tr>
<tr><td> 

(Looking Northwest)</td><td> 

(Looking West)</td></tr>
<tr><td><u>Mill Street: US 101 to Railroad Street</u></td><td><u>Railroad Street: Mill Street to Wharf Street</u></td></tr>
<tr><td> 

(Looking North)</td><td> 

(Looking West)</td></tr>
<tr><td><u>Railroad Street: Wharf Street to Oak Street</u></td><td><u>Oak Street: Railroad Street to US 101</u></td></tr>
<tr><td> 

(Looking West)</td><td> 

(Looking South)</td></tr>
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Project: N-9	**5th Street: Jodee Lane to US 101**
Need	• Existing Pedestrian LOS: 1-2. Complete sidewalks on both sides of the street, except between Hassett Street and Easy Street (sidewalks on one side); where existing, sidewalk is curb-tight. • Current Bicycle LTS: 2. Mixed traffic operation on 2-lane collector street with 25-mph speed limit and marked centerline. Relatively lower stress facility but not suitable for unaccompanied children.
Description	**Typical Section** • Install bike route treatments such as wayfinding signage and pavement markings • Retain sidewalks and parking on both sides **Constrained Section** • Install bike route treatment such as wayfinding signage and pavement markings • Retain intermittent sidewalks
Benefits	**Typical Section** • No impacts on existing on-street parking **Constrained Section** • Improved sidewalk connectivity
Key Considerations/ Notes	**Typical Section** • Does not provide bicycling facility for all ages and abilities compared to dedicated bike lanes **Constrained Section** • May impact adjacent residential frontage • Does not provide a bicycling facility for all ages and abilities compared to dedicated bike lanes
Related Projects	• M-5: US 101 and 5th Street • M-6: Elk Drive and 5th Street • N-1: Easy Street from Pioneer Road to Easy Manor Drive • N-4: Ransom Avenue from US 101 to Pioneer Road • N-8: US 101/Chetco Avenue from 5th Street to Bridge Street
Preliminary Cost Estimate	$20,000
Priority	Medium (5-15 Years)

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<tr><td>Project Location Map</td><td colspan="2"> 
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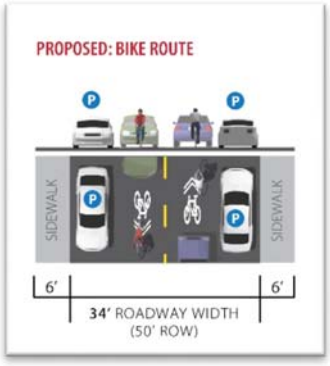
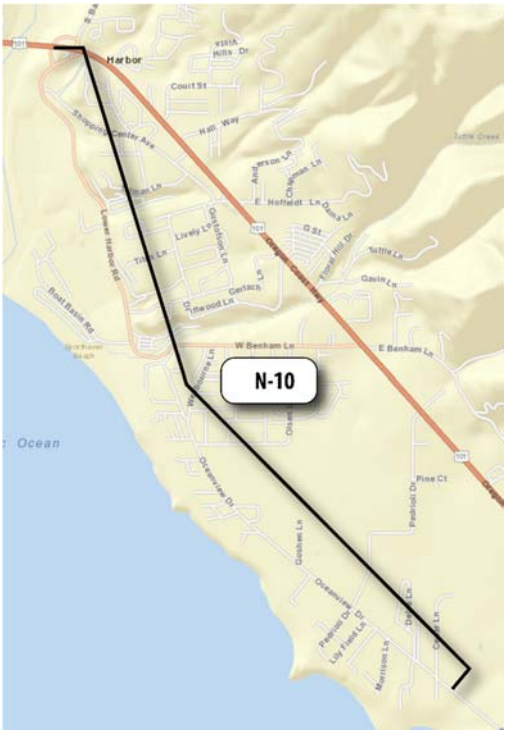
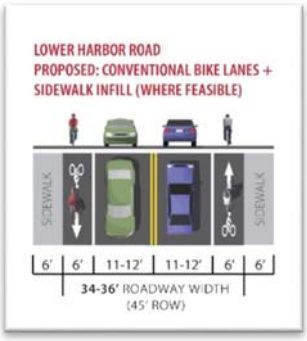
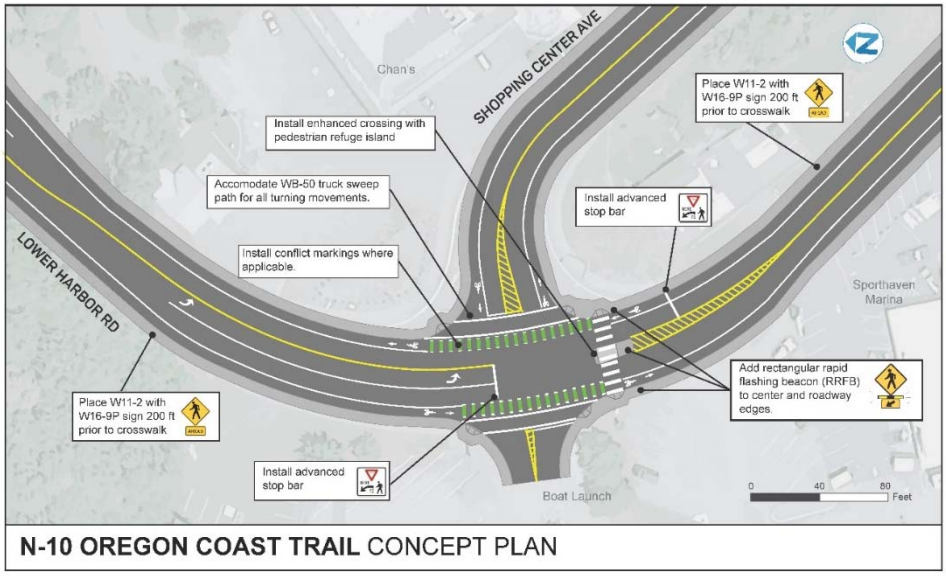
<tr><td>Concept Design Drawing</td><td><u>Typical Section</u>
 

<u>(Looking North)</u></td><td><u>Constrained Section</u>
 

(Looking North)</td></tr>
</table>

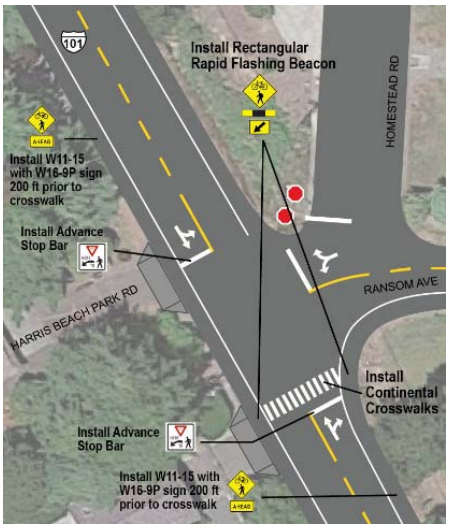
Project: N-10	Lower Harbor Road and Oceanview Drive
Need	• Existing Pedestrian LOS: 3-4. Discontinuous sidewalk on one side of the street of 2-lane road with 30- to 35-mph speed limit; where existing, sidewalk is curb-tight. • Existing Bicycle LTS: 3-4. Dedicated 5- 7-foot bike lane on 30-mph roadway (Lower Harbor Road). Discontinuous bike facilities on Oceanview Drive.
Description	**Lower Harbor Road** • Install continuous conventional bike lanes (6-foot preferred; 5-foot minimum) • Install sidewalk infill on both sides as needed, where feasible **Oceanview Drive** • Install conventional bike lanes where right-of-way is available; bike route (shared lane markings) where right-of-way is not available **Intersection of Lower Harbor Road and Shopping Center Avenue** • Install pedestrian and bicycle crossing improvements
Benefits	• Improved connectivity and safety for people bicycling and walking in areas where there is available width for bike lanes • Improved visibility for all road users
Key Considerations/ Notes	• Speed limits vary between 30 and 35 mph; Oceanview Drive is more rural in character • Lack of adequate paved surface width on Oceanview Drive in some sections, requiring transitions between dedicated bike lanes and shared lane markings • Shared lane markings would provide wayfinding and remind road users that people biking can occupy the full travel lane, but these shared lane markings would not be considered a dedicated bike facility • Supplemental 'Bikes on Roadway' signage would be beneficial along the route to increase awareness of people biking
Related Projects	• None
Preliminary Cost Estimate	$1,614,000
Priority	Medium (5-15 Years)
Project Location Map	

	Lower Harbor Road	**Oceanview Drive (Typical)**	**Oceanview Drive (Constrained)**
Concept Design Drawing	 (Looking Northwest)	 (Looking Northwest)	 (Looking Northwest)
Intersection Detail			

Project: N-11	US 101 near Ransom Avenue
Need	• Safety: There is no pedestrian infrastructure for people to travel from the east side of US 101 to the multi-use path on the west side of US 101, and there is no bicycle infrastructure for people biking in the northbound shoulder of US 101 to cross to the multi-use path on the west side of US 101.
Description	• Continue to work with ODOT to install improved bicycle/pedestrian access across US 101 north of Arnold Street.
Benefits	• Improves safe crossing of US 101 for bicyclist/pedestrians to access the multi-use path on the west side of US 101.
Key Considerations / Notes	• There is no existing pedestrian infrastructure on the east side of US 101 near Ransom Avenue and the existing multi-use path does not extend as far south as Ransom Avenue, but this project could connect other recommended nonmotorized improvement projects (see Related Projects below). • Low cost and no right-of-way impact.
Related Projects	• N-4: Ransom Avenue from US 101 to Pioneer Road • N-5: US 101 from Arnold Lane to Parkview Drive • US 101 from Harris Beach State Park to Ransom Avenue (identified in 2015-2018 Oregon Amended STIP)
Preliminary Cost Estimate	$100,000
Priority	High (0-5 Years)

Project Location Map

Concept Design Drawing



6.2 Bicycle Parking Facilities

Bicycle parking facilities will be expanded to encourage more bicycle ridership. The City has identified planned bicycle parking facilities and locations that are summarized in **Table 6-2** and **Figure 6-2**. These projects and prioritization were identified by the City of Brookings although the priority may change depending upon bicycle ridership. The proposed staple/loop and post/ring style racks support bicycles in at least two places, preventing them from falling over. Five racks cost about $1,000 plus installation costs.

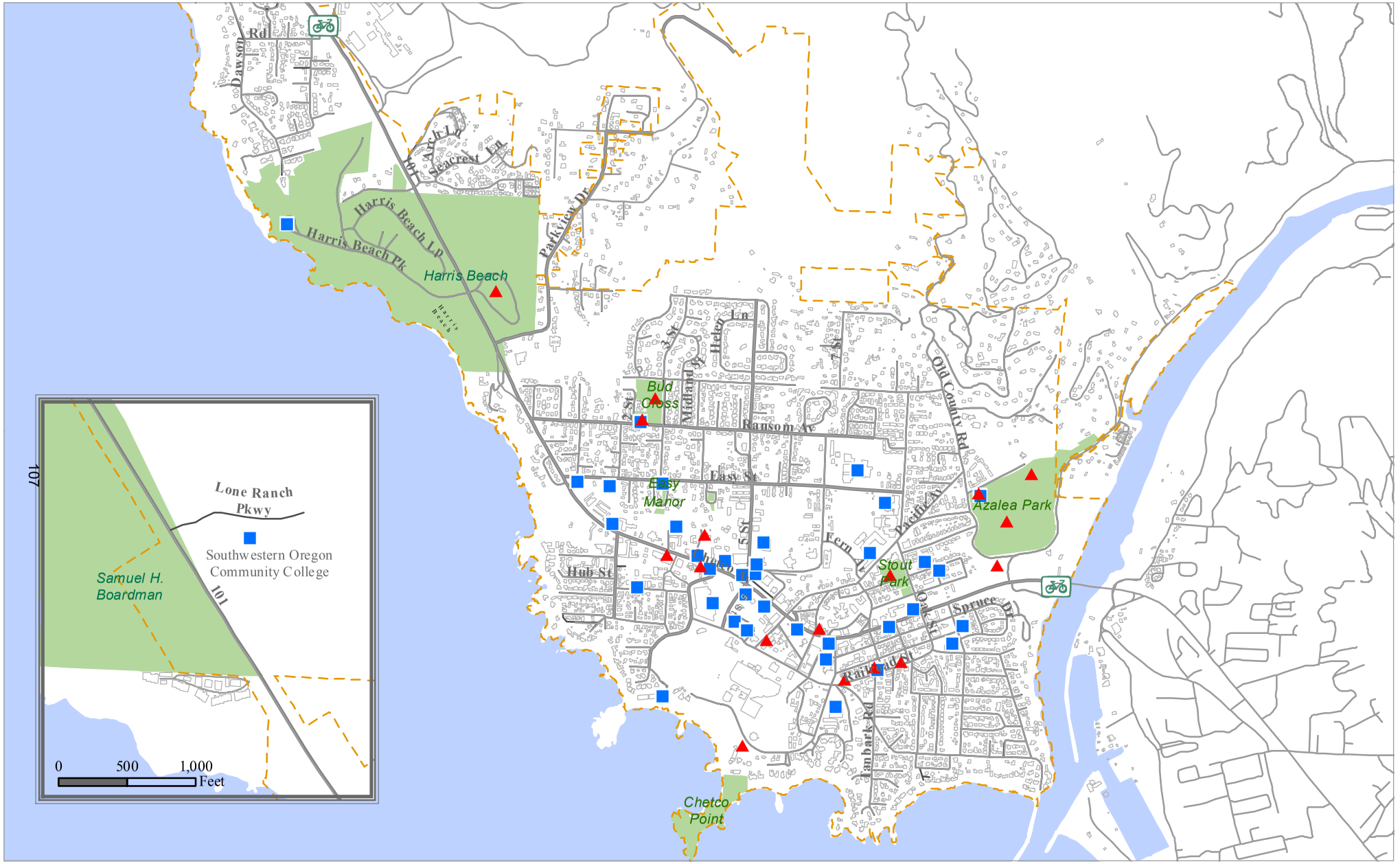
Table 6-2. Bicycle Parking Inventory

Location	Number of Bicycle Racks	Cost Estimate (without installation costs)
Azalea Park—Kidtown (640 Old County Road)	4	$800
Bud Cross Park—swimming pool (1130 Ransom Street)	6	$1,200
Harris Beach Rest Area (1654 US 101)	3	$600
Azalea Park ball fields (640 Old County Road)	6 (2 at each field)	$1,200
Stout Park (431 Oak Street)	2	$400
Azalea Park—Bandshell (640 Old County Road)	4	$800
Chetco Point Park (Wharf Street) (treatment plant)	6	$1,200
Hillside Oasis Park (400 Hillside Avenue)	2	$400
Bud Cross Park (1130 Ransom Street)	4	$800
Northgate Shopping Center (1025 US 101)	3	$600
Chetco Activity Center (550 US 101)	3	$600
Escape Hatch (644 Railroad Street)	2	$400
Pacific Center (360 Pacific Avenue)	2	$400
Botanical Garden (300 US 101)	2	$400
Century Plaza (937 US 101)	2	$400
Hemlock Building (603 Hemlock Street)	2	$400
Railroad Market and Deli (534 Railroad Street)	2	$400
Total		$11,000

Source: City of Brookings 2016.

The Travel Oregon Rural Tourism Studio developed a concept for a bike kiosk for the Wild Rivers Coast region in 2013 and 2014. The Rural Tourism Studio provided an opportunity for regionwide coordination and branding. Cities in the region developed a shared goal to install bike kiosks, of the same design, in each community.

In Brookings, two locations are proposed for the installation of bike kiosks. The first priority location is at the northern head of the Harris Beach multi-use path, at the intersection of US 101 and Dawson Road. The second priority location is at the River Overlook, west of US 101, on the north side of the Chetco River Bridge. The bike kiosks will function as rest stops for bicyclists, with bicycle parking, bench seating, and information display cabinet. Additionally, the bike kiosks will be outfitted with a bicycle repair station, consisting of a bicycle stand and pump, and cable-attached tools.



Projections: NAD83 ORSouth; Brookings GIS jf; 12/1/2016

0 850 1,700 Feet

Proposed Parking

Existing Parking

Proposed Kiosks

FIGURE 6-2
CITY OF BROOKINGS
BICYCLE PARKING PLAN

Transportation System Plan
Brookings, Oregon

7. TRANSIT PLAN

7.1 Existing Public Transportation

The existing transit level of service was assessed qualitatively based on a subjective ranking of Excellent/Good/Fair/Poor. Public transportation in Brookings consists of a Dial-A-Ride service and a regional bus service called the Coastal Express. Both transit services provide limited service; the Dial-A-Ride service operates between 8:30 am and 4:00 pm on weekdays only and the Coastal Express stops in Brookings three times per day on weekdays only. Based on the existing frequency, schedule, speed/travel time, transit stop amenities, and connections to the pedestrian/bicycle network, the existing transit service in and throughout Brookings ranks as Poor.

7.2 Future Public Transportation

In the future, public transportation would improve over existing conditions with new buses being purchased through the STIP and bus stops constructed on Railroad Street as part of an urban renewal project.

CPTI developed a plan for fiscal years 2014 to 2019 that includes targets for Brookings. As reported in its Strategic Transportation Plan, CPTI plans to achieve the following targets by June 30, 2019:

- Place shelters and appropriate signage showing current bus stops along US 101 in Brookings.
- Conduct feasibility studies to expand the current Dial-A-Ride and Coastal Express service to include evenings, holidays, and weekends, and expand Dial-A-Ride boundaries.
- Identify and pursue grant funding for special projects, bus rehabilitations, replacements, and other projects.

With the addition of new buses, bus stops, additional wayfinding, and shelters at existing stops, transit rider comfort would improve in 2034. Additional transit service on weekends and holidays in Brookings would also improve service in 2034 by providing Brookings residents with additional transit options.

The future transit level of service was qualitatively assessed based on a subjective ranking of Excellent/Good/Fair/Poor, which is similar to the assessment used for existing conditions. Based on the frequency, schedule, speed/travel time, transit stop amenities, and connections to the pedestrian/bicycle network, the future year transit level of service in and throughout Brookings would be Fair. The local transit provider forecasts their service will be adequate in the future.

8. PLAN FOR OTHER MODES OF TRANSPORTATION

8.1 Air Transportation

There is one airport in Brookings called the Brookings County Airport. It is located in the northeast area of the city south of Harris Creek. The Brookings County Airport has been jointly developed by the State of Oregon Aeronautics Division and Curry County. The airport is classified as a public access, general aviation facility with no commercial service available. The closest available commercial air transportation services are located in Crescent City, California, and Coos Bay/North Bend, Oregon.

The Del Norte County Regional Airport located just north of Crescent City, California provides commercial flights for many people traveling to and from Brookings. Flights from the Del Norte County Regional Airport also provide access for Brookings residents to non-emergency medical facilities and would provide critical access in the event of an earthquake, tsunami, or major fire.

The Brookings County Airport has one 2,900-foot asphalt runway with a wind indicator, runway lights, and a beacon, and can accommodate aircraft with approach speeds of 121 knots and a wing span up to 49 feet. Only visual flight rule approach and departure procedures apply. The only existing access to the Brookings County Airport is Parkview Drive, which is a paved, two-lane roadway in generally good condition. Currently, the airport accommodates approximately 22,600 landings and departures annually and there are 29 aircrafts based onsite. The Brookings County Airport has been classified as a Category IV – Local General Aviation airport and should provide appropriate facilities and services commensurate with its system role. The following airport facility and service needs have been identified in the Brookings Airport Report (Oregon Department of Aviation 2008).

- Install Low Intensity Taxiway Lighting (LITL), and
- Add additional fixed-base operator (FBO) services such as maintenance and 24-hour fuel.

8.2 Rail Transportation

There are no rail lines or rail service in Brookings. The nearest Class 1 railroad line that serves the majority of freight rail traffic in the state is located approximately 200 miles east of Brookings and passes through Klamath Falls traveling in a north-south direction. Non-Class 1 railroad lines, which serve local and regional distributor freight train traffic, are located approximately 140 miles to the east traveling in a north-south direction through Ashland and approximately 100 miles to the north in Coquille. The nearest passenger rail station, which serves Amtrak's Coast Starlight route, is located in Klamath Falls and served approximately 32,881 passengers in 2012, according to the Public Review Draft of the 2014 Oregon State Rail Plan (ODOT 2014).

8.3 Water Transportation

There are no commercial water transportation services in Brookings, but private boats use the Chetco River and the Port of Brookings.

8.4 Pipelines

There are currently no pipelines serving Brookings.

9. FUNDING AND IMPLEMENTATION PLAN

Financing a large contingent of motorized and non-motorized improvements is unlikely in today's constrained financial environment. However, various options are available to fund transportation improvements within Brookings. This chapter presents an overview of existing and future transportation funding estimates for Brookings and identifies potential opportunities for the City to expand its transportation funding options.

9.1 Transportation Funding in Brookings

The City of Brookings accounts for its road-related revenues and expenditures in two separate accounts: the Street Fund and the Street System Replacement Fund. The Street Fund is used to account for the City's State Highway Fund monies, grant funds, and other related revenue. Although they should not be seen as a consistent and reliable source of transportation revenue, the City of Brookings has historically benefited from outside transportation improvement grants and other miscellaneous improvements administered by ODOT and Curry County.

The Street System Replacement Fund is a special fund set up to account for materials and labor relating to specific construction projects. Its revenues were generated by a $2.50 charge on each household's water bill. It has successfully generated revenue in the amount of $127,000 to $204,000 annually for the last several years. Key funding sources that have contributed to transportation projects within the city between 2010 and 2015 are summarized below.

9.1.1 Revenue Sources

Table 9-1 displays the total revenue by source used to fund transportation projects within the city over the past 5 years.

Based on the information shown in **Table 9-1**, the City of Brookings has generated an average of approximately $736,000 per year in total revenue for transportation-related projects, including maintenance. As shown, the largest revenue sources for the City have traditionally been State Highway Revenue, Grant Revenue, and System Replacement Fees.

Table 9-1. City of Brookings Revenue Source History

Revenue Source	FY 2010-2011[a] ($)	FY 2011-2012[b] ($)	FY 2012-2013[c] ($)	FY 2013-2014[c] ($)	FY 2014-2015[c] ($)	Average Revenue ($)
Street Fund						
Net Working Capital	0	0	0	0	184,000	Not applicable
Grant Revenue	174,000	13,000	1,000	125,000	480,000	159,000
State Highway Revenue	315,000	346,000	348,000	367,000	366,000	348,000
Interest Income	0	1,000	1,000	0	0	1,000
Other Revenue	41,000	13,000	1,000	3,000	14,000	14,000
Transfer into General Fund	70,000	0	0	0	0	14,000
Subtotal	600,000	373,000	351,000	496,000	1,044,000	573,000

Table 9-1. City of Brookings Revenue Source History (continued)

Revenue Source	FY 2010-2011[a] ($)	FY 2011-2012[b] ($)	FY 2012-2013[c] ($)	FY 2013-2014[c] ($)	FY 2014-2015[c] ($)	Average Revenue ($)
Street System Replacement Fund						
Net Working Capital	0	0	0	0	15,000	Not applicable
Interest Income	4,000	3,000	1,000	1,000	0	2,000
System Replacement Fees	123,000	126,000	131,000	136,000	137,000	131,000
Local Fuel Tax	0	0	0	0	0	0
Other Revenue	0	75,000	3,000	19,000	0	19,000
Loan Proceeds	0	0	43,000	0	0	9,000
Subtotal	127,000	204,000	178,000	156,000	152,000	163,000
Total Revenue	727,000	576,000	529,000	651,000	1,196,000	736,000

FY = Fiscal Year
Note: Revenue values are rounded to the nearest $1,000.
Sources:
a City of Brookings. 2013. 2013-2014 Adopted Budget. Brookings, Oregon. http://www.brookings.or.us/index.aspx?nid=115.
b City of Brookings. 2014. 2014-2015 Adopted Budget. Brookings, Oregon. http://www.brookings.or.us/index.aspx?nid=115.
c City of Brookings. 2015. 2015-2016 Adopted Budget. Brookings, Oregon. http://www.brookings.or.us/index.aspx?nid=115.

9.2 Potential Funding Sources

It is likely that the City will have to continue to rely upon transportation improvement grants, partnerships with regional and state agencies, and other funding sources to help implement future transportation-related improvements. Lists of potential local, federal, and state funding sources are provided in **Table 9-2** and **Table 9-3**, respectively. These funding mechanisms are not all-inclusive, because the transportation funding environment is dynamic. Each of these financing tools will require additional research to ensure that it is suitable for the City, and can be closely matched with achieving the objectives of the TSP.

9.2.1 Local Funding Sources

Locally, the City can draw on a number of potential funding mechanisms to help finance the TSP. **Table 9-2** outlines potential local funding sources commonly used by Cities for funding transportation improvements that could be implemented in the future for Brookings. In general, local funding sources are more flexible than funding obtained from state or federal grant sources.

Table 9-2. Potential Local Funding Sources

Funding Source	Description	Potential Application in Brookings
User Fee	A user fee is added to a monthly utility bill or included in the annual vehicle registration to fund improvements, expansion, and maintenance of the surface street system.	Preliminary street improvements
Street Utility Fees/Road Maintenance Fee	The fee is based on the number of trips a particular land use generates and is usually collected through a regular utility bill.	System-wide transportation facilities including streets, sidewalks, bike lanes, and trails
Systems Development Charges (SDCs)	Sometimes referred to as a transportation impact fee, SDCs are fees assessed on development projects for impacts on public infrastructure. All revenue is dedicated to transportation capital improvements designed to accommodate growth.	System-wide transportation facilities including streets, sidewalks, bike lanes, and trails

Table 9-2. Potential Local Funding Sources (continued)

Funding Source	Description	Potential Application in Brookings
	The City can also offer SDC credits to developers that provide public improvements beyond the required street frontage, including those that can be constructed by the private sector at a lower cost. For example, an SDC credit might be given for providing end-of-trip bike facilities within the new development.	
Stormwater SDCs, Grants, and Loans	SDCs, grants, and loans can be obtained for making improvements to stormwater management facilities.	Primarily street improvements
Local Gas Tax	A local tax is assessed on the purchase of gasoline within the city limits. This tax is added to the cost of gasoline at the pump, along with state and federal gas taxes.	System-wide transportation facilities including streets, sidewalks, bike lanes, and trails
Optional Tax	This tax gives the taxpayer the option to pay, and can be used to fund improvements. Generally paid at the same time other taxes are collected, optional taxes are usually less controversial and easily collected because they give the taxpayer a choice whether or not to pay the additional tax.	System-wide transportation facilities including streets, sidewalks, bike lanes, trails, and transit
Parking In-lieu Fees	These fees are assessed to developers that cannot or do not want to provide parking for development.	System-wide transportation facilities including streets, sidewalks, bike lanes, trails, and transit
Public/Private Partnerships	Public/private partnerships have been used in several places in the United States to provide public transportation amenities within the public right-of-way in exchange for operational revenue from the facilities. These partnerships could be used to provide services such as charging stations, public parking lots, bicycle lockers, or car-share facilities.	System-wide transportation facilities including streets, sidewalks, bike lanes, trails, and transit
Tax Increment Financing (TIF)	TIF is a tool most Cities use to create special districts (tax increment areas) where public improvements are made to generate private-sector development. During a defined period, the tax base is frozen at the pre-development level. Property taxes for that period can be waived or paid, but taxes derived from increases in assessed values (the tax increment) resulting from new development can go into a special fund created to retire bonds issued to originate the development or leverage future improvements. A number of small-to-medium communities in Oregon have implemented, or are considering implementing, urban renewal districts that will result in a TIF revenue stream.	System-wide transportation facilities including streets, sidewalks, bike lanes, trails, and transit
Local Improvement District	A Local Improvement District is a geographic area where local property owners are assessed a fee to cover the cost of a public improvement in that area.	Improvements to the transportation system in a local area where local property owners will benefit from the improvement
Sponsorship	Sponsorship occurs when a private corporation or public interest group provides financial backing for a project as a means of enhancing its corporate image.	Multi-use trails and transit

9.2.2 Federal and State Grants

In addition to local funding sources, the City of Brookings can seek to leverage opportunities for funding from grants at the federal and state levels for specific projects. The current federal transportation bill, MAP-21, expired in September 2014, but Congress has enacted short-term reauthorizations of MAP-21, most recently through December 4, 2015. **Table 9-3** outlines those sources and their potential applications.

Table 9-3. Potential Federal and State Grants

Funding Source	Description	Potential Application in Brookings
Transportation Alternatives Program (TAP)	TAP is a federal program that provides funding for pedestrian and bicycle facilities, projects for improving public transit access, safe routes to schools, and recreational trails. Local governments, regional transportation authorities, transit agencies, school districts or schools, natural resource or public land agencies, and tribal governments are all eligible to receive TAP funds.	Bicycle and pedestrian facilities, multi-use trails
Highway Safety Improvement Program (HSIP)	HSIP is a federal program that provides funding to infrastructure and non-infrastructure projects to improve safety on all public roads. HSIP requires a data-driven approach and prioritizes projects in demonstrated problem areas.	Areas of safety concerns within the city, consistent with Oregon's Transportation Safety Action Plan
Statewide Transportation Improvement Program (STIP)	STIP is Oregon's 4-year capital improvement program for major state and regional transportation facilities. This scheduling and funding document is updated every 2 years. Projects included in the STIP are allocated into the five different ODOT regions. Capital projects are prioritized based on benefit categories, including (in the 2015-2018 STIP) benefits to state-owned facilities, mobility, accessibility, economic vitality, environmental stewardship, land use and growth management, livability, safety and security, equity, and funding and finance.	Projects on any facility that meet the benefit categories of the STIP
Transportation and Growth Management (TGM) Grants	TGM grants are administered by ODOT and awarded on an annual basis. These grants are generally awarded to projects that will lead to more livable, economically vital, transportation-efficient, sustainable, pedestrian-friendly communities. The grants are awarded in two categories: transportation system planning, and integrated land use and transportation planning.	Multi-use trails, sidewalk, and bicycle facilities
Oregon Parks and Recreation Funds	Recreational Trails Grants are national grants administered by the Oregon Parks and Recreation Department for recreational trail-related projects, such as hiking, running, cycling, off-road motorcycling, and all-terrain vehicle riding.	Multi-use trails
Immediate Opportunity Fund (IOF)	The IOF is a state discretionary fund that can be used for the construction and improvement of streets and roads that are needed to support primary economic development. Access to this fund is discretionary and the fund may only be used when other sources of financial support are unavailable or insufficient. The IOF is not a replacement or substitute for other funding sources.	Streets, sidewalks, and bike lanes
Federal Aviation Administration, Airport Improvement Program	The Airport Improvement Program provides grants to public agencies for the planning and development of public-use airports.	Improvements to the Brookings Airport

Table 9-3. Potential Federal and State Grants (continued)

Funding Source	Description	Potential Application in Brookings
ConnectOregon	ConnectOregon is a lottery bond based initiative to invest in air, rail, marine transit, and bicycle/pedestrian infrastructure. Projects are eligible for up to 80% of project costs for grants. Projects eligible for funding from state fuel tax revenues are not eligible for ConnectOregon funding.	Air, transit, and bicycle/pedestrian infrastructure

9.3 Expenditure History

Expenditures against the Street Fund are categorized as personnel, materials and services, and capital outlay. Capital outlay includes street construction and repair, vehicle payment, equipment, Special City Allotment (SCA) grants, and emergency repairs. The amount expended annually for street construction and repair in the Street Fund has ranged from $1,000 in Fiscal Year (FY) 2013-2014 to $400,000 in FY 2014-2015. These amounts do not include any street construction and repair funding through SCA grants. The expenditures against the Street System Replacement Fund are all capital outlay. Capital outlay includes construction and emergency repairs and improvements.

Table 9-4 displays the total expenditures on transportation-related projects within Brookings over the last 5 years.

Table 9-4. City of Brookings Expenditure History on Transportation Projects

Expenditures	FY 2010-2011[a] ($)	FY 2011-2012[b] ($)	FY 2012-2013[c] ($)	FY 2013-2014[c] ($)	FY 2014-2015[c] ($)	Average Expense ($)
Street Fund						
Personnel	72,000	60,000	137,000	165,000	174,000	122,000
Material and Services	158,000	157,000	133,000	169,000	182,000	160,000
Capital Outlay	139,000	50,000	136,000	102,000	561,000	198,000
Street Construction and Repair	17,000	17,000	11,000	1,000	400,000	89,000
Other	122,000	33,000	125,000	101,000	161,000	109,000
Transfers to Other Funds	95,000	95,000	25,000	27,000	26,000	53,000
Contingencies and Reserves	0	0	0	0	101,000	20,000
Subtotal	464,000	362,000	431,000	462,000	1,044,000	552,000
Street System Replacement Fund						
Capital Outlay	24,000	512,000	487,000	172,000	147,000	268,000
Transfers to Other Funds	0	0	0	5,000	5,000	2,000
Subtotal	24,000	512,000	487,000	176,000	152,000	270,000
Total Expenditures	488,000	874,000	917,000	639,000	1,196,000	823,000

Note: Expenditure values are rounded to the nearest $1,000.

Sources:

a City of Brookings. 2013. 2013-2014 Adopted Budget. Brookings, Oregon. http://www.brookings.or.us/index.aspx?nid=115.

b City of Brookings. 2014. 2014-2015 Adopted Budget. Brookings, Oregon. http://www.brookings.or.us/index.aspx?nid=115.

c City of Brookings. 2015. 2015-2016 Adopted Budget. Brookings, Oregon. http://www.brookings.or.us/index.aspx?nid=115.

Based on the information shown in **Table 9-4**, the City of Brookings has spent an average of $466,000 on capital outlay from both funds (or approximately 57 percent of available resources), and $357,000 per year on personnel, material and services, transfers to other funds, and contingencies and reserves from both funds (or approximately 43 percent of available resources).

9.4 Projected Transportation Funding

The past annual transportation revenue and expenditure information shown in **Table 9-1** and **Table 9-4** were used to project the availability of future funding for transportation improvement projects as described below. Effective July 1, 2015, the Street System Replacement Fund replaced the monthly water bill charge with a local fuel tax of 4 cents per gallon. The local fuel tax generated approximately $282,000 of revenue for FY 2015-2016 and is projected to generate an average of approximately $300,000 per year. This results in an increase in overall average annual revenue from $736,000 to approximately $875,000. **Table 9-5** provides a summary of the potential future project funding (in year 2015 dollars) over the next 5, 15, and 25 years based on an assumed average funding level of approximately $875,000 per year.

Table 9-5. Future Transportation Funding Projections

Revenue Source	Average Annual Revenue ($)	5-Year Forecast ($)	15-Year Forecast ($)	25-Year Forecast ($)
Total Revenue	$875,000	4,375,000	13,125,000	21,875,000
Revenue for Capital Improvements (57%)	500,000	2,500,000	7,500,000	12,500,000
Revenue for Personnel/Material and Services/Transfers to Other Funds/Contingencies and Reserves (43%)	375,000	1,875,000	5,625,000	9,375,000

Note: Revenue values are rounded to the nearest $5,000.

As shown in **Table 9-5**, it is anticipated that approximately $21.9 million will be available for transportation projects over the next 25 years using historical funding trends. Under this methodology, approximately $12.5 million of the $21.9 million can reasonably be assumed to be available for funding the TSP while the remaining $9.4 million will be needed for operations and maintenance.

Table 9-6 summarizes the estimated transportation improvement costs. These costs assume that Project M-1 ($1,840,000) is the responsibility of the Lone Ranch site developer. It is assumed that the developer would also provide some of the funding for Project M-2, but this amount is unknown at time of writing this TSP; therefore, the entire $1.9 million was assumed to be borne by the City to be conservative. The estimated costs also include the range of costs for Project N-8 provided in **Table 6-1**. As shown, the funding shortfall is approximately $7.7 to 9.6 million in 25 years. Based on the estimated projected funding available and the estimated costs of the transportation improvement projects included in this report, the City of Brookings will need to identify additional funding sources for transportation improvements over the next 25 years.

Table 9-6. Estimated Transportation Improvement Costs

Type	High Priority (0-5 Years) ($)	Medium Priority (5-15 Years) ($)	Low Priority (15-25 Years) ($)	Development-Driven ($)	Total ($)
Motorized Projects	350,000	1,810,000	1,930,000	5,130,000	9,220,000
Non-motorized Projects	8,008,000	2,504,000	373,000	80,000	10,965,000
Total	8,358,000 to 9,956,654	4,314,000	2,303,000	5,210,000	20,185,000 to 22,133,654
				Available	12,500,000
				Funding Shortfall	7,685,000 to 9,633,654

Note: Expenditure values are rounded to the nearest $5,000.

10. REFERENCES

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US 101 Corridor Plan

(Chetco River Bridge to Oregon/California Border)

Prepared by:

Oregon Department of Transportation, Region 3
3500 NW Stewart Parkway
Roseburg, Oregon 97470

Oregon Department of Transportation

US 101 Corridor Plan

Recommend for Approval:

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Darrin L. Neavoll		6/4/17
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Frank Reading		6.2.17
ODOT Region 3 Manager		

US 101 Corridor Plan: Chetco River Bridge to Oregon/California Border

The development of the US 101 Corridor Plan has been the collective effort of the following people:

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Terry Supahan, SC Group
Les Cohen, Chamber of Commerce
Barbara Colliers, Citizen
Tom Huxley, Citizen
Jim Metcalf, Citizen

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REFERENCE MATERIALS

Appendices (Companion Document)

Technical Memorandum #1: Review Adopted Plans, Rules, and Regulations
Technical Memorandum #2: Goals and Objectives
Technical Memorandum #3: Inventory and Existing Conditions
Technical Memorandum #4: Future Conditions
Technical Memorandum #5: Development and Analysis of Improvement Options
Comment Log – Final Corridor Plan

List Acronyms

AADT	Annual Average Daily Traffic
APM	Analysis Procedure manual
ATR	Automatic Traffic Recorder
CMF	Crash Modification Factors
EFU	Exclusive Farm Use
FHA	Federal Highway Administration
HCM	Highway Capacity Manual
HDM	Highway Design Manual
HSM	Highway Safety Manual
HV	Highest Hour Traffic Volume
ITS	Intelligent Transportation Systems
LOS	Level of Service
MEV	Million Entering Vehicles
MP	Mile Point
MUTCD	Manual on Uniform Traffic Control Devices
MVMT	Million Vehicle Miles Travelled
NHS	National Highway System
OAR	Oregon Administrative Rules
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
PDO	Property Damage Only
ROW	Right of Way
SPIS	Safety Priority Index System
STIP	Statewide Transportation Improvement Program
TDM	Transportation Demand Management
TIS	Traffic Impact Study
TSM	Transportation System Management
TSP	Transportation System Plan
UGB	Urban Growth Boundary
V/C	volume-to-capacity
VPD	Vehicles Per Day

1. INTRODUCTION

This *US 101 Corridor Plan* (Corridor Plan) focuses on the segment that extends from the south-end of the Chetco River Bridge in Brookings, Oregon south through unincorporated Brookings-Harbor to the Oregon/California Border. The plan examines how the highway operates both now and in the future, and identifies strategies to preserve and improve highway safety, operations and capacity consistent with a Statewide Highway classification.

1.1. PURPOSE

The purpose of the corridor plan is to assess existing and future roadway conditions, and identify potential solutions for improving roadway deficiencies. A multi-modal approach was taken for the evaluation of corridor needs that included the motor vehicle, transit, bicycle, and pedestrian modes. Bridge conditions are also identified.

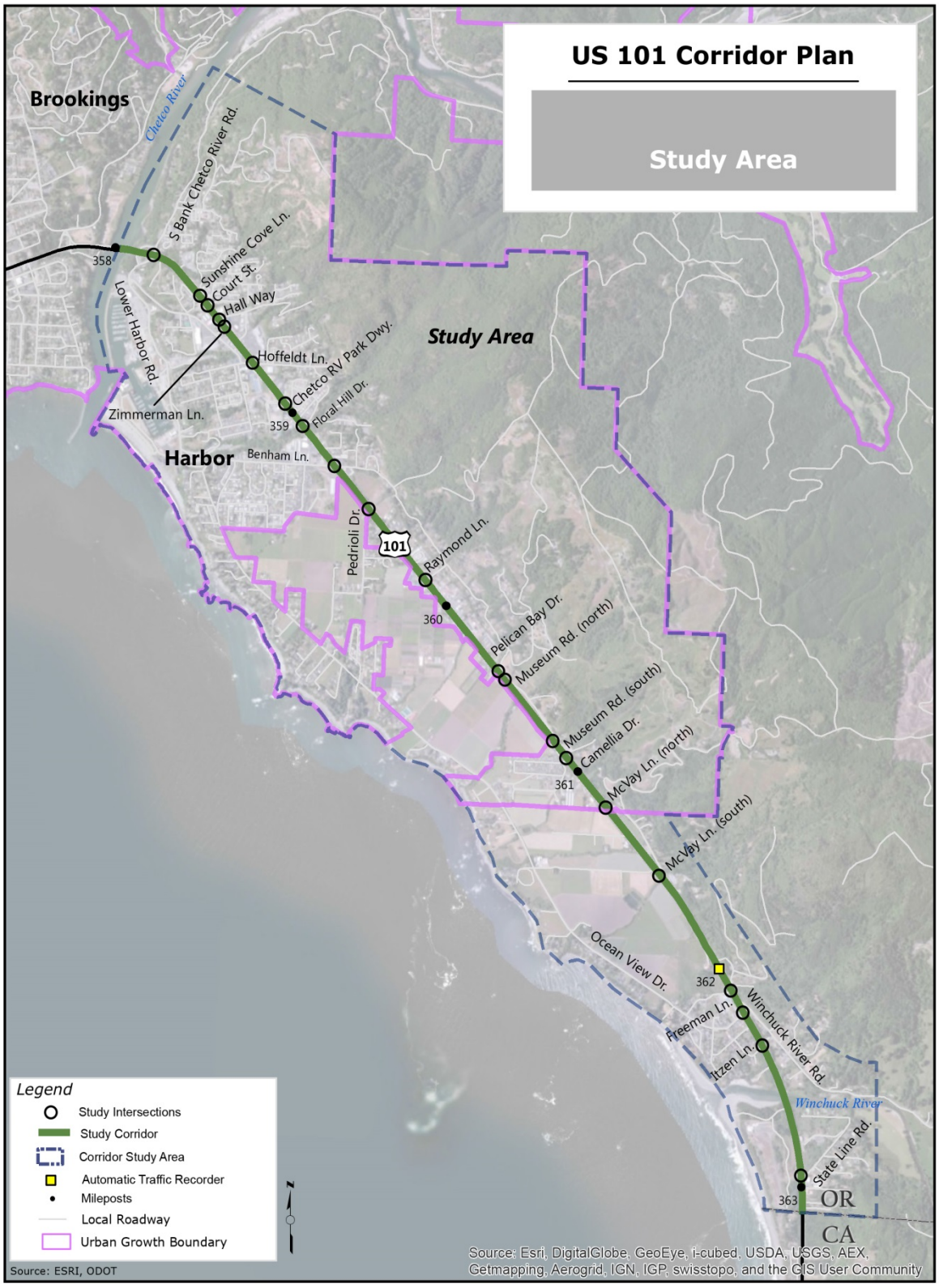
1.2. STUDY AREA

The study area extends along US 101 from the southern end of the Brookings, Oregon City Limits (Mile Point (MP) 357.98) to the Oregon/California Border (MP 363.11) (See Figure 1).

1.3. REGULATORY FRAMEWORK

State and local regulations, policies, land use plans, and transportation plans provide the legal framework for preparing the corridor plan. The language contained within these documents provides guidance to the state and local jurisdictions on how to manage transportation facilities and land uses to protect highway function, provide for safe and efficient operations, and minimize the need and expense for making major improvements to the corridor (See Appendix Technical Memorandum 1).

Figure 1


US 101 Corridor Plan
Study Area
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
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Chetco RV Park Dwy.
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Benham Ln.
Harbor
Study Area
358
359
Pedrioli Dr.
101
Raymond Ln.
360
Pelican Bay Dr.
Museum Rd. (north)
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362
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Winchuck River Rd.
Itzen Ln.
Winchuck River
State Line Rd.
363
OR
CA
Legend
Study Intersections
Study Corridor
Corridor Study Area
Automatic Traffic Recorder
Mileposts
Local Roadway
Urban Growth Boundary
Source: ESRI, ODOT
Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

OPERATIONAL STANDARDS

The Oregon Highway Plan (OHP) has several policies aimed at maintaining highway mobility. The Highway Mobility Policy (1F) establishes mobility targets for peak hour operating conditions of highways in Oregon[1]. The OHP policy also specifies that the mobility targets be maintained for the Oregon Department of Transportation (ODOT) facilities through a 20-year planning horizon. The mobility targets that apply along the study area are summarized in Table 1.

Table 1

Maximum V/C Ratio Targets for US 101 Operations		
Mile points	**Segment Description**	**Maximum V/C Ratio**
MP 358.02 to 359.32	Chetco River Road to Benham Lane	0.85
MP 359.32 to 361.16	Benham Lane to McVay Lane (North)	0.80
MP 361.16 to 363.11	McVay Lane (North) to Oregon/California border	0.70

1. OHP, Table 6, Volume-to-Capacity Ratio Targets for Peak Hour Operating Conditions

1.4. CORRIDOR GOALS AND OBJECTIVES

A set of goals, objectives, and evaluation criteria is developed to identify actions and achieve desired outcomes.

- The Goals describe the desired outcomes of future improvements in the corridor; and
- The Objectives identify specific actions to be taken to accomplish the goals.

GOAL 1: PROMOTE THE SAFETY OF TRAVEL MODES FOR ALL USERS

Objectives:

- Identify roadway improvements that potentially reduce crash rate/severity.
- Evaluate roadway improvements that improve roadway geometrics.
- Provide adequate bicycle and pedestrian Facilities.

GOAL 2: PROMOTE THE EFFICIENT OPERATIONS OF TRAVEL MODES FOR ALL USERS

Objectives:

- Identify roadway improvements that reduce traffic conflicts.
- Evaluate roadway improvements that maintain mobility and reduce congestion and delay.
- Provide access improvements that reduce the number of access points; and improve access design.

[1] Table 6: Maximum Volume to Capacity Ratio Targets for Peak Hour Operating Conditions, 1999 Oregon Highway Plan, OHP Policy 1F Revisions, Adopted December 21, 2011, Oregon Department of Transportation, website: http://www.oregon.gov/ODOT/TD/TP/docs/ohp11/policyadopted.pdf

GOAL 3: MAXIMIZE CONSTRUCTABILITY OF TRANSPORTATION IMPROVEMENTS

Objectives:

- Minimize cost by evaluating construction cost and right-of-way (ROW) requirement.
- Construct improvements in phases by evaluating number and size of project phases.
- Minimize environmental impacts by evaluating impacts by level of significance (low/medium/high) to environmentally sensitive areas, including biological, historic, cultural, and archeological resources.
- Minimize land use impacts by evaluating impacts to Exclusive Farm Use (EFU) zoned parcels (rural areas) and developed parcels (urban areas).
- Recognize related plans and policies by evaluating consistency with ODOT standards (including practical design principles) and local plans and policies.

2. EVALUATION OF BASELINE CONDITIONS

This section inventories and analyzes existing conditions for the study area. The baseline conditions include an overview of land uses, identification of potential environmental constraints, evaluation of current (Year 2012) transportation system and traffic conditions, and assessment of future (Year 2037) traffic operations and safety.

2.1. LAND USE

The study area contains lands abutting US 101 from the southern border of the City of Brookings to the Oregon/California border. While this includes lands inside the Brookings Urban Growth Boundary (UGB), the study area lies entirely outside of the city limits, and is subject to the land use planning regulations of Curry County. The unincorporated area within the UGB represents the community of Harbor (See Figure 2).

The Corridor Plan was developed consistent with existing land use conditions from the City of Brooking's and Curry County's Comprehensive Plan and Land Development Ordinance. The existing and planned land uses affect traffic patterns and the operations of highway facilities.

- The City of Brookings Comprehensive Plan Map allocates land uses to resource, residential, commercial and industrial categories. Following the general guidelines of the Comprehensive Plan, the Zoning Map designates more specific uses and densities within the general land use categories.
- The Curry County Comprehensive Plan Map allocates land uses to resource, residential, commercial and industrial categories. Following the general guidelines of the Comprehensive Plan, the Zoning Map designates more specific uses and densities within the general land use categories.

LAND USE CONDITIONS

The study area inventories and analyzes:

- Existing land uses
- Current and planned zoning
- Parks and recreation areas (Federal Section 4(f) and 6(f) resources)
- Community destinations such as schools, community centers, and commercial centers

Existing Land Uses

Existing land uses are surveyed on a field visit in September 2012. While not every existing land use was identified, those that may have a significant impact on US 101 are included here. To help identify the location of these uses, the descriptions are organized under three subareas: northern, central, and southern. These sections are generally divided by the UGB just south of the Chetco River Bridge, UGB just south of Benham Lane and the UGB that coincides with McVay Lane.

Northern Subarea - the densest, most populated, and most developed part of the study area. It lies directly south of Brookings and includes the community of Harbor. There are high concentrations of residential uses as well as clusters of commercial uses. In addition to single-family detached housing, there are two (2) RV parks abutting US 101 – (1) Sea Bird RV Park; and (2) Chetco RV Park – as well as Seaview Assisted Living to the east of US 101. Commercial uses include the Brookings Harbor Shopping Center, with a Shop Smart and Sears, and the South Coast Center, with Rite Aid, Grocery Outlet, and Dollar Tree stores. A vacant large-format retail space is located directly south of the South Coast Center. Commercial uses at the south-end of this subarea include two (2) gas stations, Gold Beach Lumber, and the Harbor Inn Hotel.

Central Subarea - split between land inside the UGB on the east-side of US 101 and land mostly outside the UGB on the west-side. Development in this subarea is characterized by a few commercial uses directly adjacent to US 101 – framing, marine supply, veterinary services, and vehicle supplies and services – and residential uses, mostly to the east-side of US 101 with some on the west-side of US 101 inside the UGB at the south-end of this subarea. Land uses west of US 101 are predominantly large-lot rural and agricultural uses, and uses on the east-side of US 101 become limited due to forest and hillsides. Of note in this subarea are institutional and social service oriented uses such as churches, the Outreach Gospel Mission, and the Advance Sleep Disorders Clinic.

Southern Subarea - all outside the UGB. Therefore, development is sparse, with the exception of the subdivisions and low-density housing at the south-end of the study area near the Pacific Ocean, Winchuck River, and Oregon/California border. Development along US 101 is minimal. Public uses include the ODOT weigh station directly adjacent to US 101 and McVay State Wayside, Crissey Field State Park, and Winchuck State Recreation Area, which are all located just off of US 101. There are a few commercial uses near the Oregon/California border, including a market and a home/farm/garden supplies store.

Current and Planned Zoning

The community of Harbor is made up of unincorporated county land inside the Brookings UGB, directly south of the Brookings city limits. Both the land inside and outside of the UGB is subject to the land use planning regulations of Curry County (See Table 2 and Figure 2).

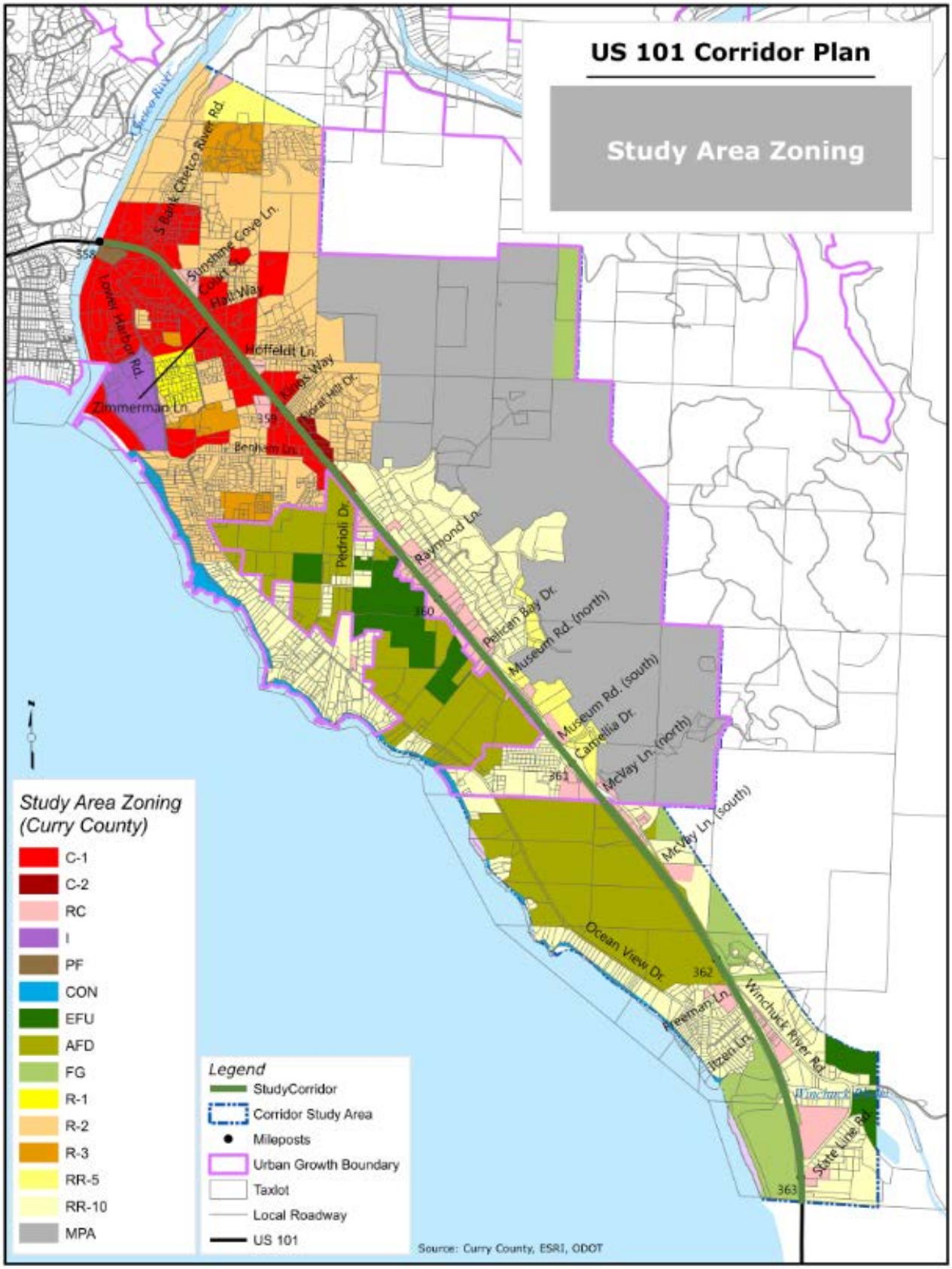
- For the northern and central subareas of the study area, there is a general pattern of commercial land use designations along US 101 (e.g., C-1, C-2, and RC zoning), with residential land use designations (e.g., R-1, R-2, R-3, and RR zoning) behind those zones.
- To the west of US 101 in the central and southern subareas – the parts of the study area outside the UGB – there is a mixture of resource and rural residential designations.

Table 2

Overview of County Zoning Year 2012			
Curry County Zoning Designation	**Permitted Uses**	**Curry County Zoning Designation**	**Permitted Uses**
Light Commercial (C-1)	• Retail & services • Multi-family housing • Church, school or community building	**Residential One (R-1)**	Single-family dwelling
Heavy Commercial (C-2)	• Retail & services • Industrial shops & services • Church, school or community building	**Residential Two (R-2)**	• Single-family dwelling • Mobile or manufactured home
Rural Commercial (RC)	• Existing single-family dwelling • Existing retail, professional or service establishments, & expansions up to 2,500 total square feet	**Residential Three (R-3)**	• Single-family dwelling • Mobile or manufactured home • Multiple-family dwelling
Industrial (I)	• Retail & services • Vehicle services, repair, and storage • Manufacturing & industrial shops	**Rural Residential, 5-acre Lot (RR-5)** **Rural Residential, 10-acre Lot (RR-10)**	• Single-family dwelling or mobile home • Farm or forestry use
Exclusive Farm Use (EFU)	• Farm and related uses • Rural & natural resource uses • Climbing & passing lanes • Reconstruction or modification of public roads & highways • Temporary public road & highway detours • Minor improvement of existing public road & highway related facilities	**Forestry Grazing (FG)**	• Forest, farm and related uses • Rural uses • Widening of roads • Climbing & passing lanes • Reconstruction or modification of public roads and highways • Temporary public road & highway detours • Minor improvements of existing public roads & highway related facilities
Agricultural Zone (AFD)	• (Same farm, rural and transportation uses as permitted outright in the EFU zone)	**Public Facility (PF)**	• Public uses, services, and parks • Transportation improvements and maintenance storage

Master Plan Area (MPA)	City of Brookings (Brookings Municipal Code, Chapter 17.70, Master Plan Development (MPD) District): All uses allowed outright and conditionally in the underlying R-1, R-2, R-3, C-1, C-2, C-3, C-4, I-P, and M-2 zones. Site plan must show any interior lots/parcels related to proposed development phases or land divisions, and residential uses shall be identified indicating the type of residential use, the number of units and resulting density Curry County (Curry County Zoning Ordinance, Article VI, Planned Unit Development): Applicants propose land uses, building locations and housing unit densities that are consistent with the objectives of the comprehensive plan or zoning provisions of the area and are substantially compatible with the land use of the surrounding area.		

Figure 2


US 101 Corridor Plan
Study Area Zoning
Study Area Zoning (Curry County)
C-1
C-2
RC
I
PF
CON
EFU
AFD
FG
R-1
R-2
R-3
RR-5
RR-10
MPA
Legend
StudyCorridor
Corridor Study Area
Mileposts
Urban Growth Boundary
Taxlot
Local Roadway
US 101
Source: Curry County, ESRI, ODOT
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Half Way
Lower Harbor Rd.
Hoffeldt Ln.
Kings Way
Coral Hill Dr.
Zimmerman Ln.
Benham Ln.
Petrioli Dr.
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
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Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Ibsen Ln.
Winchuck River Rd.
State Line Rd.
358
359
360
361
362
363

Section 4(f) and Section 6(f) Land Uses (Year 2012)

Section 4(f) of the Department of Transportation Act of 1966 prohibits the Federal Highway Administration and other transportation agencies from removing land from its protected use approving the use in publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless there is "no feasible and prudent alternative to the use of land" and the proposed use incorporates "all possible planning to minimize harm to the property resulting from use."

Section 6(f) of the Land and Water Conservation Fund Act of 1965 created a fund to assist local, state, and federal agencies in meeting the demand for outdoor recreation sites. This is done through grants for land acquisition, site amenities, and other site development costs. Once an agency has used these funds, the land or access to it can be acquired or its use changed only in coordination with the National Park Service and with mitigation.

- Potential Section 4(f) resources relevant to the study area are publicly owned parks, recreational areas, and historical sites; and
- Potential Section 6(f) resources relevant to the study area are public recreation **sites** (See Figure 3).

Northern Subarea

The following is a list of the potential Section 4(f) and 6(f) resources in the study area:

- **Sporthaven Beach** – Regional Park owned by Curry County.
- **Port of Brookings-Harbor** – recreational boating, fishing, camping, RV park, and visitor facilities; owned by the Port of Brookings-Harbor.
- **Van Pelt Indian Cemetery**

Central Subarea

- **Ocean View Pioneer Cemetery** – maintained by Southern Curry Cemetery Maintenance District.

Southern Subarea

- **McVay Rock State Recreation Site.**
- **Winchuck State Recreation Site.**
- **Crissey Field State Recreation Site.**

Figure 3

Source: City of Brookings Parks Master Plan, State of Oregon, ESRI, ODOT

2.2. ENVIRONMENTAL, COMMUNITY, AND CULTURAL RESOURCES (YEAR 2012)

Environmental features in the corridor include:

- Goal 5 - Natural Resources
- Threatened and Endangered Species
- Wildlife Crossings
- Floodplains and Floodways

Community and Cultural Resources identified in the corridor include:

- Parks and Recreation Areas
- Historic and Archaeological Resources

ENVIRONMENTAL CONDITIONS (YEAR 2012)

Information on existing environmental conditions was inventoried and mapped for use in the development and analysis of improvement alternatives to be done later in the study. The environmental data was obtained primarily through publically available publications and on-line databases.

Goal 5 Resources

Statewide Planning Goal 5 requires local jurisdictions to inventory natural resources, such as riparian corridors, wetlands, wildlife habitat, and wilderness areas, and determine whether measures need to be taken to protect them from conflicting land uses.

The Curry County Comprehensive Plan identifies the following Goal 5 resource categories within the county:

- Open space lands
- Mineral and aggregate resources
- Energy recovery sites
- Fish and wildlife resource
- Ecologically and scientifically significant natural areas
- Scenic views
- Water resources
- Wilderness
- Cultural resources

There is one (1) natural area and three (3) cultural resources within the study area (See Table 3 and Figure 4).

These resources are:

Hastings Rock - located approximately one-half mile west of US 101 in the vicinity of McVay Rock State Recreation Site. It is described in the Curry County Comprehensive Plan Natural Resources Inventory as a "Pleistocene-age sea stack on elevated marine terrace" and is identified as a significant geological feature.

Chetco Indian Village – located in the area around the mouth of the Chetco River and identified by the Curry County Comprehensive Plan Natural Resources Inventory as an area of archaeological significance. This area is near the northern boundary of the study area and is not adjacent to US 101.

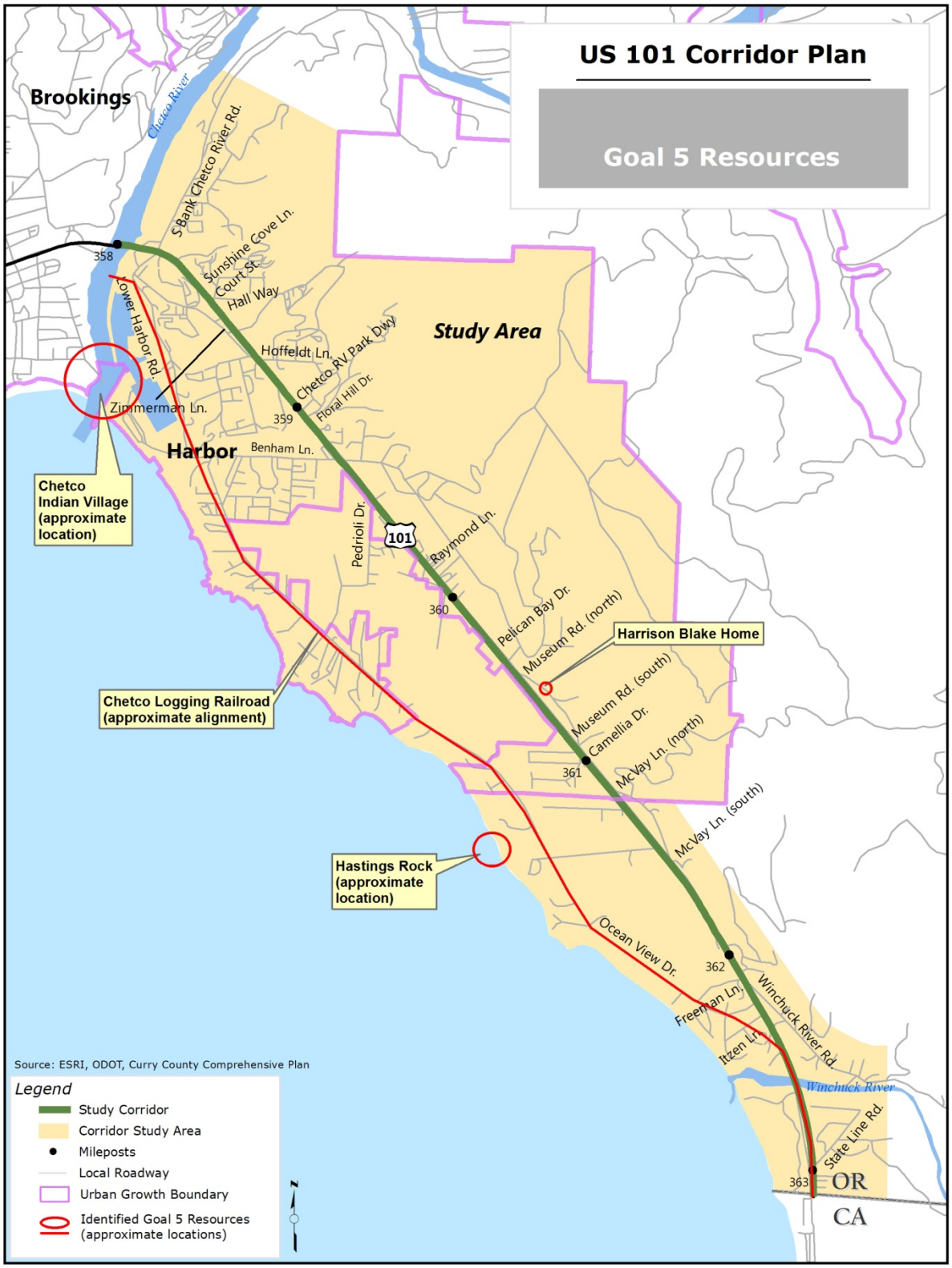
Harrison Blake Home - located approximately 300 feet east of US 101 at 15461 Museum Road, near Emigrant Hill Road. It is identified in the Curry County Comprehensive Plan Natural Resources Inventory as a cultural resource. It is also defined as historically significant in the Oregon State Historic Preservation Office's Historic Sites database. Built in 1890, the Harrison Blake Home is the oldest surviving structure between the Chetco River and the California border. It is currently in use as the Chetco Valley Historical Society Museum.

Chetco Logging Railroad - identified in the Curry County Comprehensive Plan Natural Resources Inventory as a cultural resource. No longer extant, the railroad once ran between the Brookings lumber mill and Del Norte, California. It appears that it ran along an alignment in the approximate vicinity of Oceanview Drive.

Table 3

Potential Environmental Constraints Year 2012			
Resource/ Category	**Key Points of Potential Conflict**	**Potential Further Work Required**	**Regulation and/or Permitting**
Harrison Blake Home	Between Pelican Bay Dr. and Camelia Dr., approximately M.P. 360.5 to M.P. 361	Potential to alter the setting of a historic resource.	• Section 106 consultation • Section 4(f)
Chetco Logging Railroad	From just north of the Winchuck River to the California state line, approximately M.P. 362.5 to M.P. 363	Need further exploration of the exact location of the historic railroad alignment and the implications of any highway improvements.	• Section 106 consultation • Section 4(f)
Floodplains	Near the banks of the Chetco and Winchuck Rivers, approximately M.P. 358 and M.P. 362.5 to M.P. 363	• Minimize encroachment • Finding of no net rise	• U.S. Army Corps of Engineers (USACE) • Oregon Division of State Lands (ODSL) • Federal Emergency Management Agency (FEMA) • Curry County
Wetlands	Identified wetlands near the banks of the Chetco and Winchuck Rivers, approximately M.P. 358 and M.P. 362.5 to M.P. 363. Identified wetlands near M.P. 362.Because a local wetland inventory has not been conducted, there is a high likelihood of additional wetlands in the study area that have not yet been identified.	Need to demonstrate avoidance, minimization, and mitigation.	• Section 404 Permit (USACE) • ODSL • Oregon Department of Fish and Wildlife (ODFW) • US Fish and Wildlife Service (USFWS)
Potential HazMat Sites	Potential HazMat sites identified between M.P. 358.5 and 359.5. Potential for other sites that have not yet been identified.	Due diligence is required if any of the potential HazMat sites could be disturbed as part of any highway improvements to ensure that the site is properly cleaned up.	• Resource Conservation and Recovery Act of 1976 (RCRA) • Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)

Figure 4


US 101 Corridor Plan
Goal 5 Resources
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Winchuck River
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OR
CA
358
359
360
361
362
363
Source: ESRI, ODOT, Curry County Comprehensive Plan
Legend
Study Corridor
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
Identified Goal 5 Resources (approximate locations)

Floodplains and Floodways

The study area is intersected by 100-year floodplains at the Chetco River (MP 358) and at the Winchuck River (MP 362.5 to MP 363) (See Figure 5). There are also small strips of 500 year floodplain along the western edge of the Chetco River and at MP 363, south of the Winchuck River. The 500 year floodplain on the west-side of the Chetco River is outside the study area.

Tsunami Inundations Zones

The study area crosses the Tsunami Inundation Zone at the Chetco River and the Winchuck River. At the Chetco River, it narrows and encompasses only a short segment of the study corridor. At the south-end of the study area, US 101 lies within the Tsunami Inundation Zone from north of the Winchuck River to just north of the Oregon/California border. North of this area, the corridor is also close to the Tsunami Inundation Zone between approximately MP 362 and 362.5.

Historic and Archaeological Resources

There is a high probability of archaeological resources at the mouths of the Chetco and Winchuck Rivers. These would be located near the Pacific Ocean beach and so would not be in close proximity to US 101.

Threatened and Endangered Species

The study area was evaluated for the potential presence of species designated under the Endangered Species Act (ESA) as Threatened, Endangered, or proposed for such designation. Additionally, locations are evaluated for the presence of designated critical habitat for ESA-listed species which might be present.

As shown in Table 4, only the Southern Oregon/Northern California Coast Evolutionarily Significant Unit (ESU) Coho Salmon (Oncorhynchus Kitsuch) is documented as occurring in the study area. Coho salmon are known to use both the Chetco and Winchuck Rivers for migration and rearing life stages. Both rivers are designated as critical habitat for this species. It is possible that Coho salmon also use one or more of the creeks in the study area, though no record of this is documented.

Steller sea lions (Eumetopias Jubatus) and any of the four (4) identified sea turtles may occur in the estuaries of the Chetco and Winchuck Rivers or along the beaches within the study area. However, there are no documented haul-outs, rookeries, or areas of special use.

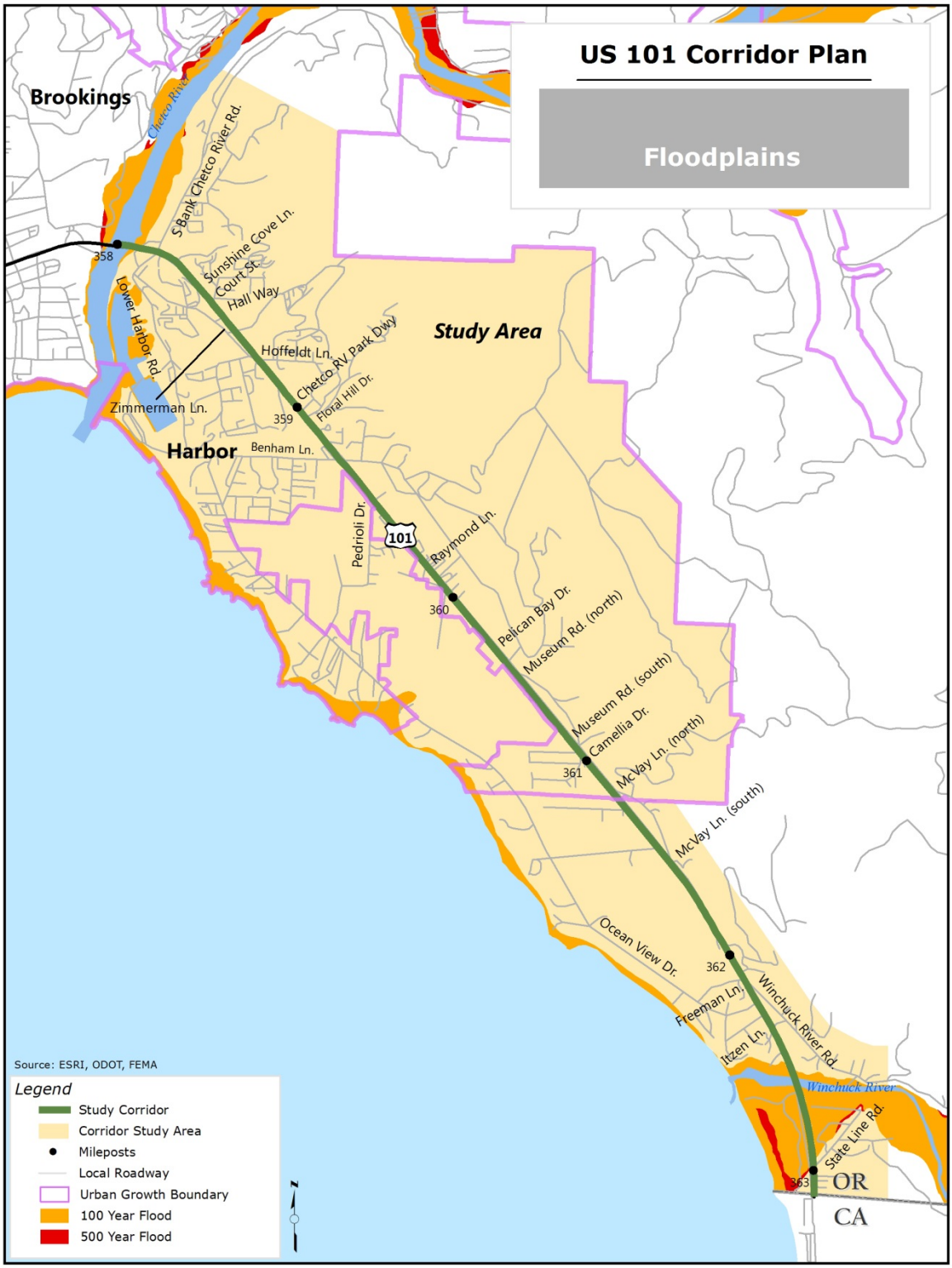
Table 4

Potential Threatened, Endangered, and Proposed Species Year 2012				
Species Common Name *(Scientific Name)* ESU*/DPS**	**Status**	**Listing Agency**	**Designated Critical Habitat within Study Area?**	**Documented Occurrence within Study Area?**
Mammals				
Steller Sea Lion (*Eumetopias jubatus*) Eastern DPS	Threatened	NMFS	No	Yes
Fish				
Coho Salmon *(Oncorhynchus kitsuch)* S. Oregon/N. California Coast ESU	Threatened	NMFS	Yes	Yes
Reptiles/Amphibians				
Loggerhead Sea Turtle *(Caretta caretta)*	Endangered	NMFS, USFWS	No	Yes
Green sea turtle *(Chelonia mydas)*	Threatened	NMFS, USFWS	No	Yes
Leatherback Sea Turtle *(Dermochelys coriacea)*	Endangered	NMFS, USFWS	No	Yes
Olive (Pacific) Ridley Sea Turtle *(Lepidochelys olivacea)*	Threatened	NMFS, USFWS	No	Yes
Birds				
Marbled Murrelet (*Brachyramphus marmoratus marmoratus*)	Threatened	USFWS	No	No
Northern Spotted Owl (*Strix occidentalis caurina*)	Threatened	USFWS	No	No
Short-Tailed Albatross (*Phoebastria albatrus*)	Endangered	USFWS	No	No
Western Snowy Plover (*Charadrius alexandrinus nivosus*)	Threatened	USFWS	No	
Plants				
McDonald's Rockcress (*Arabis macdonaldiana*)	Endangered	USFWS	No	No
Western Lily (*Lilium occidentale*)	Endangered	USFWS	No	No

* ESU = Evolutionarily Significant Unit is a distinct local population within a species that has very different behavioral and phenological traits and thus harbors enough genetic uniqueness to warrant its own management and conservation agenda. NMFS uses the ESU as the smallest management unit warranting listing under the ESA for anadromous salmonids, excluding steelhead, which employs the DPS terminology.

** DPS = Distinct Population Segment is the smallest management unit warranting listing under the ESA. Species, as defined in the ESA for listing purposes, is a taxonomic species or subspecies of plant or animal, or in the case of vertebrate species, a distinct population segment (DPS).

Figure 5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Source: ESRI, ODOT, FEMA
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Study Corridor
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
100 Year Flood
500 Year Flood

Wetlands

The most extensive area of wetlands is south of the Winchuck River, extending for approximately one-half mile between the river and MP 363 (See Figure 6). Other large wetland areas exist at MP 362 and west of US 101. It appears that this wetland is far enough from US 101 that it is not likely to be a concern.

There are smaller wetland areas close to the corridor near Museum Road (on the west-side of US 101), between Hoffeldt Lane and Kings Way (west of US 101), and stream crossings near South Bank Chetco River Road.

Hazardous Materials Sites

The research revealed seven sites with recorded incidents of hazardous material spills (Table 5 and Figure 7). Soils contaminated by hazardous materials would need to be cleaned-up if construction occurs on contaminated sites. Therefore, it is important to identify any potentially contaminated sites in the study area. Records of hazardous material contamination are available from several databases.

Table 5

Potential Hazardous Materials Sites Year 2012			
Site Name	**Location**	**Data Source**	**Status**
Port of Brookings Harbor Boat Yard	16060 Lower Harbor Road	Oregon DEQ ECSI	Contamination suspected
Tidewater Contractors, Inc.	16156 Hwy 101 S.	Oregon DEQ LUST	Diesel release from underground tank in 1992.
		EPA RCRA	Conditionally exempt small quantity generator.
Port of Brookings	Lower Harbor Road	Oregon DEQ LUST	Waste oil release from 2 underground tanks in 1999.
US Coast Guard Station – Chetco River	Boat Basin Road	Oregon DEQ LUST	Diesel release from underground tank in 1996.
Harbor Shell	16021 Hwy 101 S.	Oregon DEQ LUST	Miscellaneous gas release from underground tank in 2002.
Harbor BP & Mini Mart	16258 Hwy 101 S.	Oregon DEQ LUST	Miscellaneous gas release from underground tank in 1996.

Figure 6

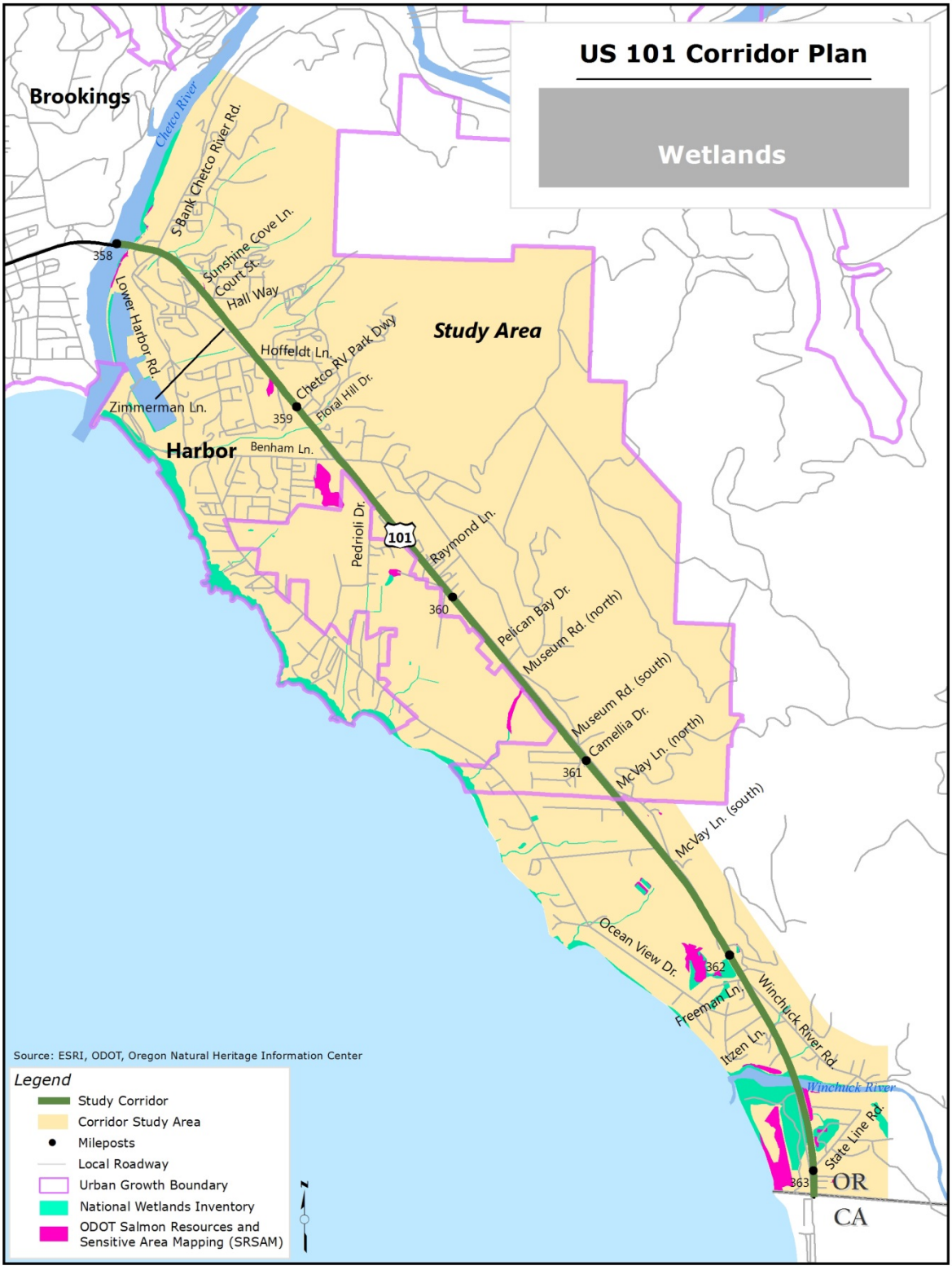
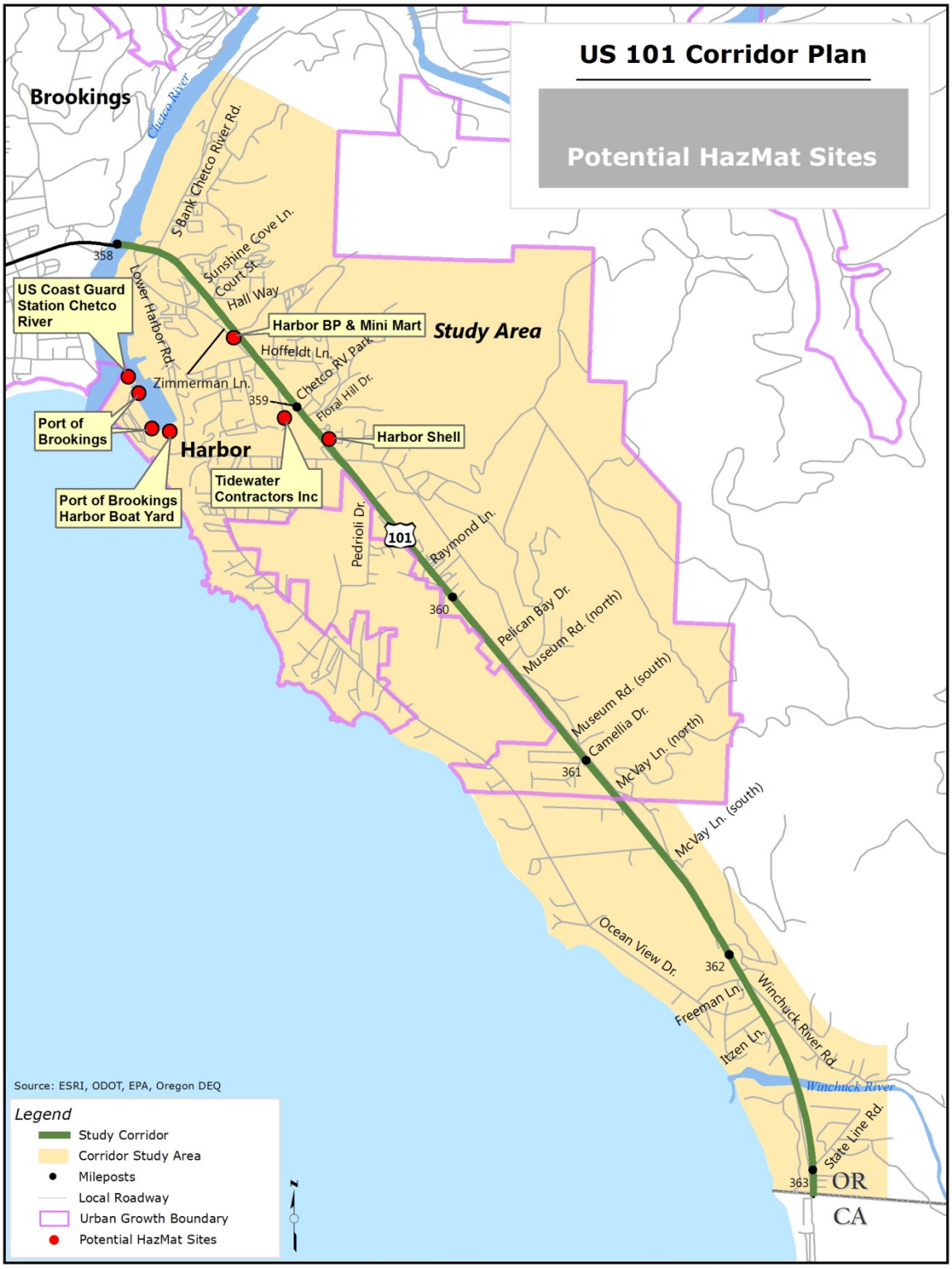

US 101 Corridor Plan
Wetlands
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Hoffeldt Ln.
Chetco RV Park Dwy
Floral Hill Dr.
Benham Ln.
Study Area
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Source: ESRI, ODOT, Oregon Natural Heritage Information Center
Legend
Study Corridor
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
National Wetlands Inventory
ODOT Salmon Resources and Sensitive Area Mapping (SRSAM)

Figure 7


US 101 Corridor Plan
Potential HazMat Sites
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
US Coast Guard Station Chetco River
Harbor BP & Mini Mart
Study Area
Hoffeldt Ln.
Chetco RV Park
Zimmerman Ln.
Floral Hill Dr.
Port of Brookings
Harbor
Harbor Shell
Tidewater Contractors Inc
Port of Brookings Harbor Boat Yard
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Source: ESRI, ODOT, EPA, Oregon DEQ
Legend
Study Corridor
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
Potential HazMat Sites

POTENTIAL DESIGN CONSTRAINTS (YEAR 2012)

Depending on the location of the preferred project, final design and construction details, there will be specific permits, regulatory requirements, or authorizations required prior to construction of the project. Additional design constraints not covered in this corridor plan could include the location of Hazardous Material sites, fish passage requirements at stream crossings, and storm water treatment requirements.

2.3 TITLE VI AND ENVIRONMENTAL JUSTICE POPULATIONS (YEAR 2012)

Economically challenged groups and protected classes are the focus of federal and state Environmental Justice and Title VI regulations and, as such, are a special focus within ODOT long-range transportation planning processes. The study area contains two (2) entire census block groups and two (2) partial groups. Title VI of the Civil Rights Act of 1964 and associated policies and regulations prohibit discrimination on the basis of race, color, national origin, gender, age, and disability. Because ODOT receives federal funding for its projects and programs, it established a Title VI program to address nondiscrimination regulations related to decisions about transportation investments. ODOT's 2002 Title VI Plan commits the agency to:

- Make special efforts to contact and involve minority and low income groups in conducting planning studies and formal hearings held on transportation improvement plans and programs.
- Collect and analyze data on the impact of plans on minority and low income populations.

These kinds of efforts and analysis are also related to the federal Executive Order on Environmental Justice. The three guiding principles for environmental justice are as follows:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.

Title VI Populations

Information related to Title VI and Environmental Justice is presented on concentrations of federally recognized populations in the study area, including minorities, low-income, and elderly people. It incorporates observations from representatives of the Curry County Public Health Department interviewed in September 2012.

In order to involve and equitably serve these target populations in the study area, they first must be identified. The mapping of 2010 Census data by census block group and input from Curry County Public Health Department staff helped identify these populations. The study area contains two entire census block groups and two partial groups. For the partial groups, the data was mapped for only those areas within the study area.

Minority Population

The highest concentration of minority populations – just over 20% of the total population – is in the northeast portion of the study area. The remainder of the study area has between 7% and 12% minority populations. Overall, roughly 87% of the study area population is non-Hispanic white. The largest minority groups are Hispanic and American Indian/Alaska Native (See Figure 8).

Representatives from the Curry County Health Department reported that trailer parks located between South Bank Chetco River Road and Hall Way have concentrations of low-income Native American, Latino, and elderly populations, as do apartment complexes and trailer parks along Benham Lane west of US 101. There is also a significant seasonal migrant population associated with the local lily industry.

Low Income Population

Concentrations of low-income residents are spread relatively evenly throughout the study area; however, slightly higher concentrations are found in the northern portion. For the census tract that encompasses the entire study area plus areas further east, more recent data indicates that the poverty rate is 15.3%, based on a five (5) year average from Years 2007-2011. This data also shows that many of those in poverty are families with young children (See Figure 9).

Most low-income residents live in the Harbor area. Concentrations of people that fall within the low-income category, as well as the minority and elderly categories, are located in the manufactured home parks between South Bank Chetco River Road and Hall Way and the apartments and manufactured home parks along Benham Lane west of US 101. It was also reported that people live in storage units at various locations in the study area, such as along Seashore Lane. Another location of low-income residents is the Union Gospel Outreach Mission along US 101 near Robin Lane, just south of Raymond Lane on US 101.

Senior Population

The highest concentrations of senior residents are found in the northwest portion of the study area. Overall, just over a third of the study area population is 65 or older. The high concentration of senior population in the northwest portion of the study area corresponds with the location of the Seaview Assisted Living facility west of US 101 near Benham Lane (See Figure 10).

Figure 8

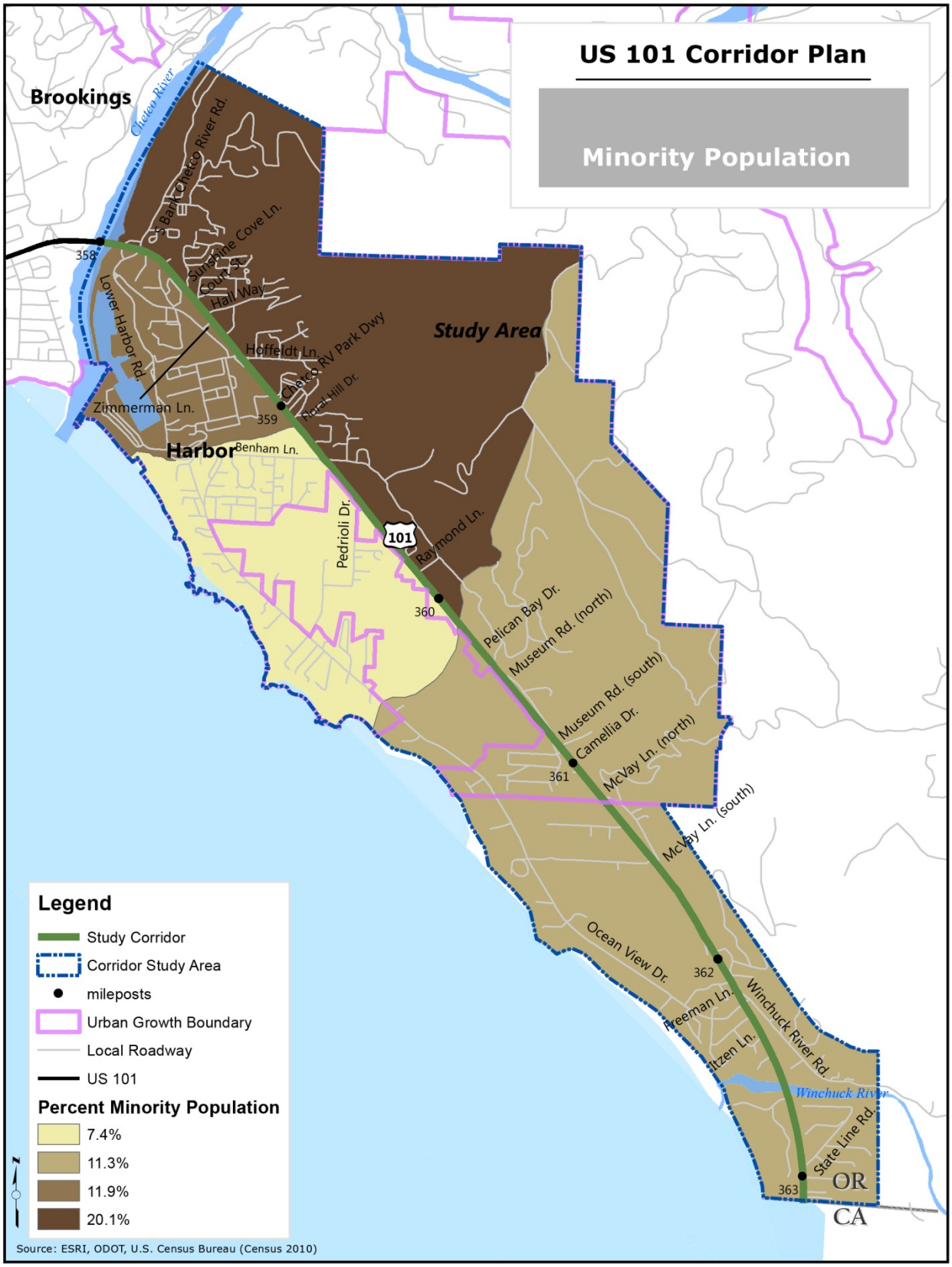

US 101 Corridor Plan
Minority Population
Brookings
Chetco River
Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Benham Ln.
Hoffeldt Ln.
Chetco RV Park Dwy
Hart Hill Dr.
Study Area
Pedrioli Dr.
Raymond Ln.
101
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Winchuck River Rd.
Ittzen Ln.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Legend
Study Corridor
Corridor Study Area
mileposts
Urban Growth Boundary
Local Roadway
US 101
Percent Minority Population
7.4%
11.3%
11.9%
20.1%
N
Source: ESRI, ODOT, U.S. Census Bureau (Census 2010)

Figure 9

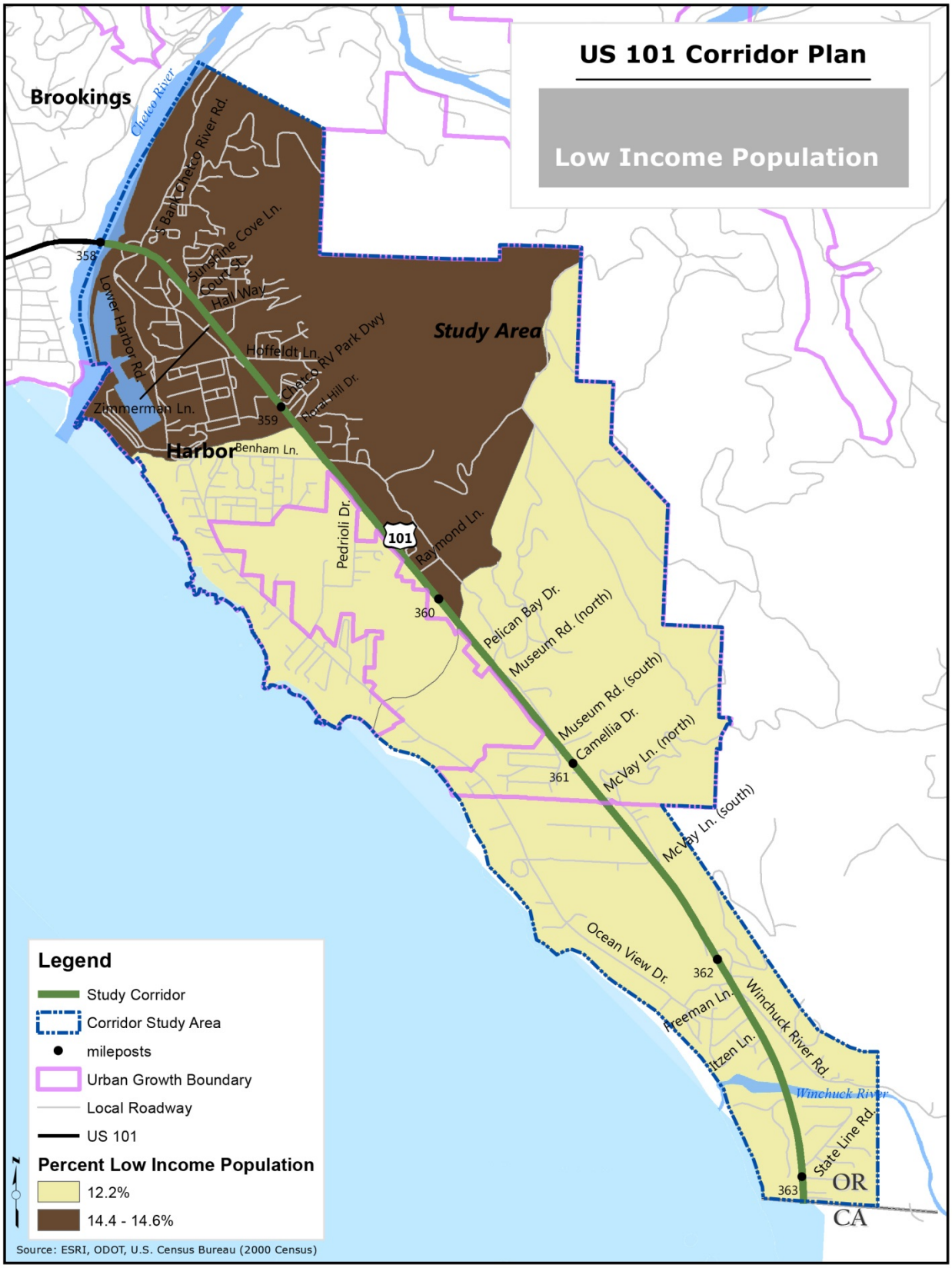
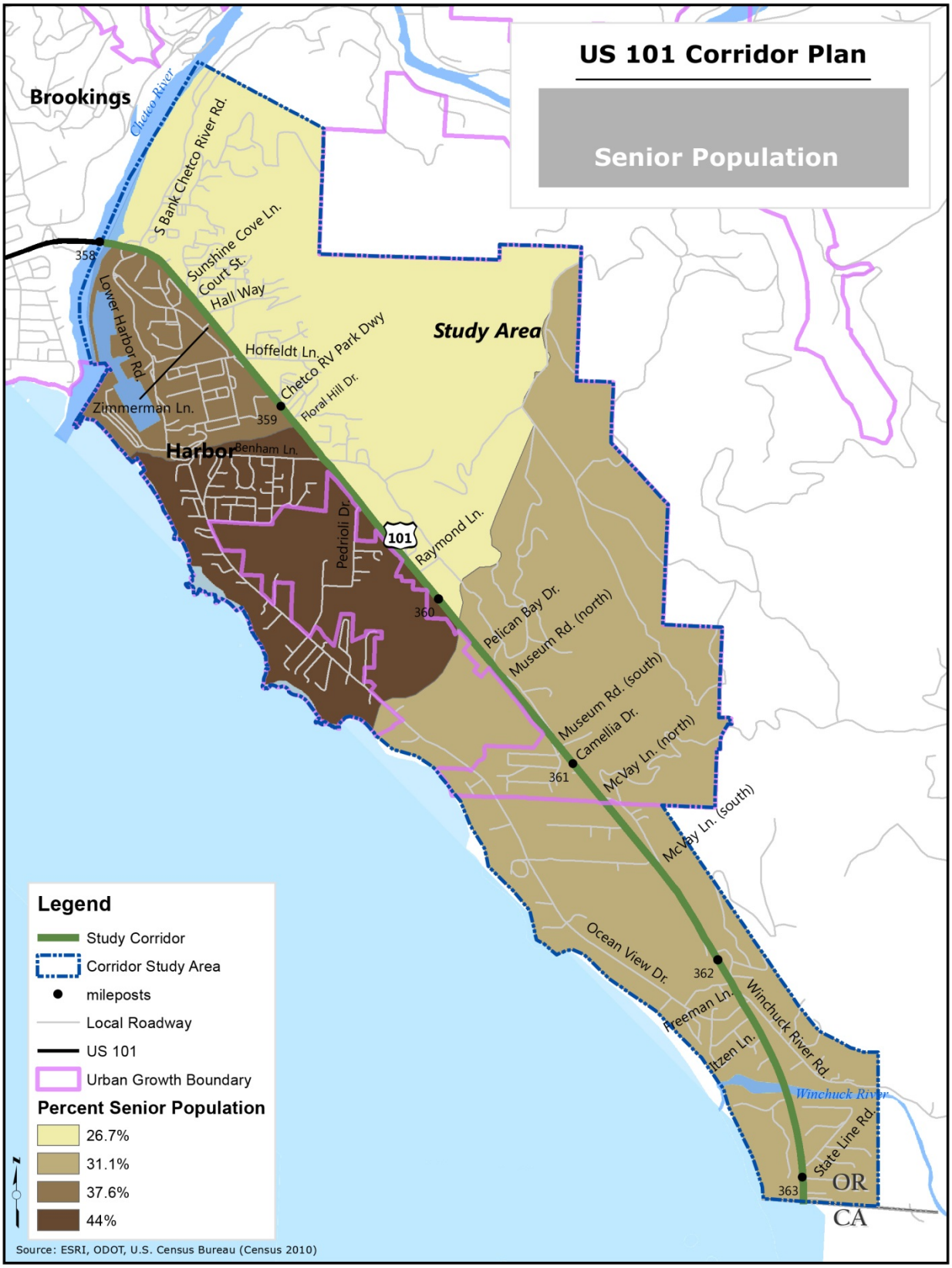

US 101 Corridor Plan
Low Income Population
Brookings
Chetco River
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Benham Ln.
Pedrioli Dr.
Hoffeldt Ln.
Chetco RV Park Dwy
Hemlock Hill Dr.
Study Area
Raymond Ln.
101
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Legend
Study Corridor
Corridor Study Area
mileposts
Urban Growth Boundary
Local Roadway
US 101
Percent Low Income Population
12.2%
14.4 - 14.6%
Source: ESRI, ODOT, U.S. Census Bureau (2000 Census)

Figure 10


US 101 Corridor Plan
Senior Population
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Hoffeldt Ln.
Chetco RV Park Dwy
Floral Hill Dr.
Study Area
Harbor
Benham Ln.
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Legend
Study Corridor
Corridor Study Area
mileposts
Local Roadway
US 101
Urban Growth Boundary
Percent Senior Population
26.7%
31.1%
37.6%
44%
Source: ESRI, ODOT, U.S. Census Bureau (Census 2010)

Transportation Barriers to Title VI Populations

Curry County Health Department staff provided feedback on the transportation needs for federally recognized populations within the study area. Many of these are also needs of the general population, but have greater significance for these groups because of their special circumstances, such as the lack of an automobile. This includes the need for safe and adequate pedestrian, bicycle and transit facilities. Specific examples of these needs are:

- The Brookings-Harbor Shopping Center and the South Coast Center are popular destinations within the study area, particularly for Title VI populations because they are close by and feature discount retailers. Non-auto access to these shopping centers is difficult, however, because of the lack of sidewalks and lighting, traffic conflicts at the driveways, and the need for improved transit service.
- For residents of the Men's Union Gospel Mission near Robin Lane, there is a lack of sidewalks and lighting in the vicinity, as well as no crosswalk to reach the new women's mission to be opened on the west-side of US 101. There are also limited transportation options for the residents to travel from the mission to the addiction treatment center in Brookings.
- There are no medical facilities in Harbor and the county health department is located in Gold Beach. Limited transportation options make it difficult for Title VI populations to access medical services at the health department, such as immunizations.
- Lack of lighting and difficult pedestrian access for the large transient population near the Chetco River Bridge.
- Poor access to the Seaview Senior Living Community to the west of US 101.

Title VI Transportation Needs

Non-auto access to the shopping centers would be improved with the addition of continuous sidewalks and street lighting within the northern subarea. Improving pedestrian crossings in multi-lane high speeds areas would also increase access to the shopping centers. Near Robin Lane, roadway lighting could be installed to serve potential future pedestrian demand between the men's mission on the east-side of the US 101 and the proposed women's mission on the west-side of the highway. Implementation of this improvement would be contingent on the opening of the women's mission. There is also a general lack of pedestrian access for the residents of the mission, particularly within the northern sub-area. This access could be significantly improved with the addition of continuous sidewalks and lighting. The poor access to the Seaview Senior Living Community to the west of US 101 could also be improved with the addition of continuous sidewalks and lighting. For the large transient population near the Chetco River Bridge, there is a lack of lighting and difficult pedestrian access at the US 101/South Bank Chetco River Road/Lower Harbor Road intersection.

2.4 TRANSPORTATION SYSTEM (YEAR 2012)

The transportation system inventory examines the highway, intersecting roadways, bridges, pavement conditions, bicycle and pedestrian facilities, transit facilities, Intelligent Transportation Systems, and rail facilities.

To serve as the basis for the existing conditions analysis, an inventory of the transportation infrastructure was conducted for Base Year (2012) conditions. The inventory included the twenty-one (21) study intersections. Transportation data including traffic volumes and roadway characteristics was collected and analyzed. The results of the analysis is compared to standards, and for locations that did not meet the standards, a need was identified.

A multi-modal approach was taken for the evaluation of corridor needs that included motor vehicle, transit, bicycle, and pedestrian modes. Bridge conditions are also identified.

US 101 (YEAR 2012)

The OHP classifies US 101 as a Statewide Highway. It is part of the National Highway System (NHS). The Curry County Transportation System Plan (TSP) defines US 101 as a Principal Arterial. It is the main transportation facility in the study area and also functions as the primary transportation facility along the entire Oregon coast. US 101 is also defined as a Scenic Byway and Priority 1 Seismic Lifeline Route by ODOT. The Scenic Byway designation recognizes the need to preserve and enhance the scenic value while accommodating critical safety and performance needs. The Priority 1 Seismic Lifeline designation means that US 101 is essential for emergency responses in the first 72 hours after incidences.

- US 101 has four (4) through lanes in the north section of the study area that transition to two (2) through lanes at the north access of McVay Lane. There is a two-way center turn lane with a standard width of 14 feet between Lower Harbor Drive-South Bank Chetco River Road and Raymond Lane, except for a short 12-foot wide section near South Bank Chetco River Road. Parking is allowed on shoulders but is not allowed on bike lanes along US 101.
- US 101 is located on a relatively straight and level alignment within the study area, with one (1) large- radius curve on the north-end of the corridor. The ROW width generally ranges between 90 and 120 feet on each side of the roadway centerline. There are a few short sections where it narrows to as little as 60 feet or widens to 300 feet (See Table 6 & Figure 11). Operationally, the speed limit changes from 45 mph on the north-end of the corridor to 55 mph just south of Benham Lane. There is no continuous roadway lighting along the corridor.
- An ODOT fixed scale weigh station is located between the north and south access points to McVay Lane on US 101.

Table 6

Existing Right-of-Way Year 2012				
From/To	Milepost	Right-of-Way (feet)		
		Minimum	Maximum	Average
Chetco River Br. -Zimmerman Ln.	358.02 – 358.57	60	300	140
Zimmerman Ln. - Hoffeldt Ln.	358.57 – 358.76	75	200	90
Hoffeldt Ln. – Benham Ln.	358.76 – 359.32	40	200	70
Benham Ln. – Raymond Ln.	359.32 – 359.94	75	115	100
Raymond Ln. – McVay Ln. (north)	359.94 – 361.16	60	250	100
McVay Ln. (north) – OR/CA Border	361.16 – 363.11	60	250	125

Other Roads

The other roads in the study area are under Curry County jurisdiction, because they are outside of the City of Brooking's city limits and are not ODOT facilities. The main county facilities include Lower Harbor Drive, South Bank Chetco River Road, Benham Lane, and Winchuck River Road, which are designated as major collectors, and Oceanview Drive, which is designated as a minor collector. The other roads within the study area are classified as local roadways. All of the county roads are two-lane facilities, providing a majority of the local access to residents living in the study area (See Figure 12).

Figure 11


US 101 Corridor Plan
Right-of-Way
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Study Area
Harbor
Benham Ln.
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
358
359
360
361
362
363
OR
CA
Source: ESRI, ODOT
Legend
Right-of-Way
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
N

Figure 12


US 101 Corridor Plan
Functional Classification
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Harbor
Zimmerman Ln.
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Benham Ln.
Study Area
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Legend
Roadway Classification
Principal Arterial
Major Collector
Minor Collector
Local
Corridor Study Area
Mileposts
Urban Growth Boundary
Source: ESRI, ODOT

Intersections

Twenty-one (21) intersections are analyzed within the study area. Right-turn and/or left-turn lanes exist at the following intersections (See Figure 13):

- US 101/Zimmerman Lane
- US 101/Hoffeldt Lane
- US 101/Benham Lane
- US 101/Oceanview Drive/Winchuck River Road
- US 101/State Line Road

Crosswalks

Marked crosswalks are available only at signalized intersections. Roadway lighting is limited to the following intersections:

- US 101/ Lower Harbor Drive-South Bank Chetco River Road
- US 101/Floral Hill Drive
- US 101/Pelican Bay Drive

Figure 13


US 101 Corridor Plan
Number of Lanes and Turn Lanes
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Study Area
Harbor
Benham Ln.
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Winchuck River Rd.
Itzen Ln.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Legend
Number of Travel Lanes
Two-Lanes
Four-Lanes
Turn Lanes
Two-Way Center Turn Lane
Left Turn Lane
Both Right and Left Turn Lanes
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
N
Source: ESRI, ODOT

2.5 BRIDGES (YEAR 2012)

There are two (2) bridges in the study area, one at the Chetco River on the north-end of the study area (M.P. 357.98) and the other on south-end at the Winchuck River (M.P. 362.61). The Chetco River Bridge (#01143D) was built in Year 1972, while the Winchuck River Bridge (#09091A) was built in Year 1965.

BRIDGE SUFFICIENCY RATING (YEAR 2012)

The sufficiency rating for bridges is determined by periodic inspections performed by ODOT. The rating is a numeric value indicative of the sufficiency of a bridge to remain in service. The Federal Highway Administration (FHA) uses this index in evaluating the nation's bridges for funding distribution and eligibility.

Those bridges with a sufficiency rating of 80 or less are eligible for rehabilitation. Bridges with a rating of 50 or less are eligible for replacement.

- The Chetco River Bridge has a sufficiency rating of 71.2 making it is eligible for rehabilitation.
- The Winchuck River Bridge received a score of 41.8 making it eligible for replacement.

Note: Sufficiency Ratings shown are valid at the time of writing but will change over time.

BRIDGE FEATURE RATINGS AND RESTRICTIONS (YEAR 2012)

The ratings for both bridges range from fair to good. There are no weight or height restrictions on either bridge. The Winchuck River Bridge width is 32 feet and has a narrow horizontal clearance, which is one of the reasons for its lower sufficiency rating (See Table 6).

Table 7

Bridge Feature Ratings and Restrictions Year 2012		
Chetco River Bridge		**Winchuck River Bridge**
Bridge Feature		
Bridge deck	6	7
Superstructure	6	5
Substructure	7	7
Bridge Restrictions		
Weight	None	None
Height	None	None

2.6 OPERATIONS AND SAFETY (YEAR 2012)

To serve as the basis for the existing conditions analysis, an inventory of the transportation infrastructure was conducted for base year (2012) conditions. The inventory included the 21 study intersections.

Transportation data including traffic volumes and roadway characteristics was collected and analyzed. The results of the analysis are compared to standards, and for locations that did not meet the standards, a need was identified.

TRAFFIC VOLUMES (YEAR 2012)

Traffic volumes are obtained from ODOT's databases and intersection turning movement counts conducted in March 2008 and June 2012. The volume data was used to identify annual average daily traffic volumes (AADTs) along US 101, as well as seasonal and hourly traffic variation. The design hour volumes used in the existing conditions analysis are also estimated based on the volume data.

Annual Average Daily Traffic

The Year 2011 AADT along US 101 ranges from more than 15,000 vehicles per day between the Chetco River Bridge and Zimmerman Lane to roughly half this volume near the Oregon/California border. The volumes are closely correlated with local development, with the highest volumes in the urbanized Harbor area to the north and the lowest volumes in the largely rural area to the south (See Figure 14).

Seasonal Volumes

The volume data was obtained from the Winchuck River Road Automatic Traffic Recorder (ATR) located on the south end of the corridor. The highest volumes occurred during the months of July and August, with traffic approaching 10,000 vehicles per day. The lowest volumes occurred in November, December, and January, with traffic dropping about 25% from the summer peak to roughly 7,500 vehicles per day. This seasonal variation is typical for a coastal route with tourist traffic in the summer months; however, it is less than at locations further north on US 101, where the difference ranges from 35-40%.

Hourly Volumes

The volumes are obtained from 16-hour traffic counts. By direction, the southbound volumes are slightly higher at all of the locations between 6:00 AM and 9:00 AM, suggesting a somewhat stronger commute travel pattern in this direction. US 101 is typical of corridors in low-density or rural areas, in which traffic is characterized by little or no morning or afternoon peaking and relatively balanced directional splits. This reflects the higher proportion of non-work trips compared to urban areas, which have pronounced work trip peak periods.

US 101/Hoffeldt Lane intersection - the highest volumes occurred between noon and 6:00 PM. The distribution is bell-shaped, with no significant peaking in the AM and PM periods. Instead, traffic tends to build consistently throughout the AM period, and then levels-off during the mid-day period before decreasing in the late afternoon.

US 101/Pedrioli Drive intersection - has a similar hourly distribution to US 101/Hoffeldt Lane, but with lower overall volumes. Also, traffic begins to decrease earlier in the afternoon, at about 4:00 PM, compared to 6:00 PM for Hoffeldt Lane.

US 101/Winchuck River Road intersection - generally has the lowest volumes. The hourly distribution of traffic is also somewhat flatter than those for the other locations.

Figure 14


US 101 Corridor Plan
Annual Average Daily Traffic
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Benham Ln.
Study Area
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
358
359
360
361
362
363
OR
CA
Legend
Annual Average Daily Traffic
< 10,000
10,000 - 15,000
> 15,000
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
N
Source: ESRI, ODOT

Design Hour Volumes

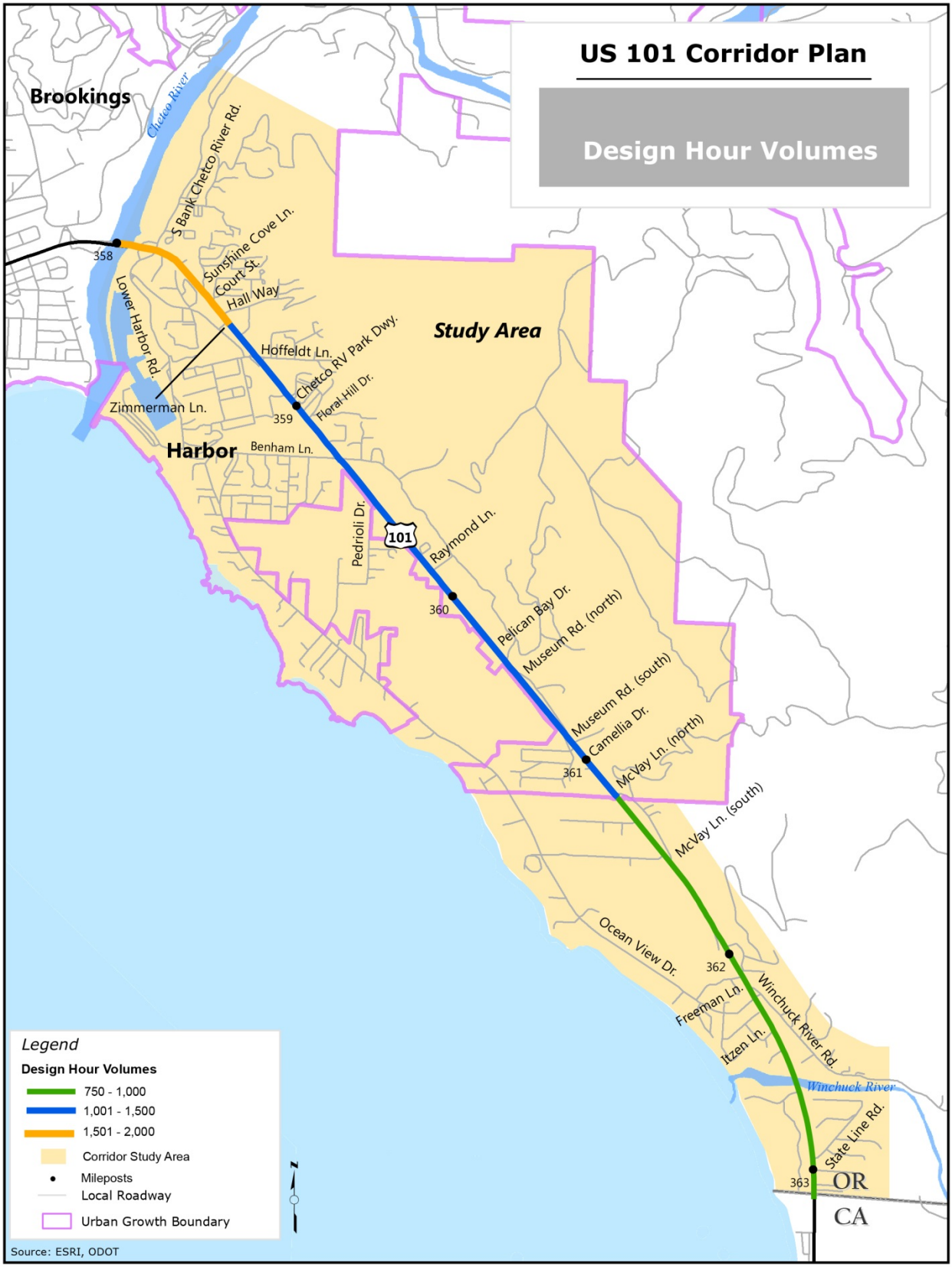
Design hour traffic volumes are used to measure system performance and are the basis for determining improvement needs. Annual 30th highest hour traffic volumes (30 HVs) are developed for the corridor analysis because it is a commonly used design period for transportation improvements and is also the basis for ODOT's mobility targets. The 30 HVs are developed for the 2012 base year using the count data and following the procedures contained in the ODOT's Analysis Procedures Manual (APM) (See Figure 15).

Because some of the counts are from Year 2008, growth factors are applied to estimate equivalent Year 2012 counts. The growth rates are developed using data from ODOT's traffic volume tables for Years 2008 and 2011. A system peak hour was then selected, representing the single hour in which the highest volumes of the day occur. Along the US 101 within the study area, this was determined to be from 3:00 PM to 4:00 PM.

The counts for the system peak hour are converted to 30 HVs by applying a seasonal factor. The seasonal factors are identified using three different methods described in the APM. For the intersections south of Raymond Lane, the On-Site ATR Method was applied using data from the Winchuck ATR, since the volumes in this area fall within 10% of the ATR volume. For the US 101/Hoffeldt Lane intersection only, a seasonal factor was developed using the ATR Characteristic Table Method. Traffic volumes at this location have characteristics similar to those at the ATR near Gearhart and are within 10% of the Gearhart volumes. For the remainder of the intersections, the Seasonal Trend Table Method was used in which the Coastal Destination Trend was selected. ATRs within this trend group are located on state highways to/within larger coastal city destinations having summer peaks, as well as routes that are favorable for travel between the Willamette Valley and the Coast.

The estimated 30 HVs are balanced and then rounded to the nearest five vehicles. The balancing process considered adjacent land uses and accesses between the intersections. When balancing between intersections with different count years, priority was given to the volumes derived from the Year 2012 counts.

Figure 15


US 101 Corridor Plan
Design Hour Volumes
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Benham Ln.
Study Area
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Legend
Design Hour Volumes
750 - 1,000
1,001 - 1,500
1,501 - 2,000
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
N
Source: ESRI, ODOT

ROADWAY NEEDS (YEAR 2012)

Existing roadway needs are analyzed in the areas of mobility, traffic operations, safety, and geometrics.

SEGMENT MOBILITY NEEDS (YEAR 2012)

The segment capacity analysis was performed according to the methodologies for multi-lane and two-lane highways outlined in the 2000 Highway Capacity Manual (HCM2000) and the APM. Existing mobility needs are identified by comparing volume-to-capacity (v/c) ratio estimates for roadway segments and intersections to the applicable v/c ratio performance targets (See Figure 16). As shown in Table 7, all of the US 101 roadway segments are currently operating well within the OHP mobility performance targets of 0.85, 0.80 and 0.70 v/c.

Table 8

Mainline Analysis Year 2012							
From/To	**Milepost**	**AADT**	**Traffic Control**	**Speed Limit**	**# of Lanes**	**V/C Ratio**	**V/C Target**
Chetco River Br. - Zimmerman Ln.	358.02 – 358.57	17,600	Signal	45	4	0.28	0.85
Zimmerman Ln. - Hoffeldt Ln.	358.57 – 358.76	13,700	Signal	45	4	0.27	0.85
Hoffeldt Ln. – Benham Ln.	358.76 – 359.32	14,100	Signal	45	4	0.22	0.85
Benham Ln. – Raymond Ln.	359.32 – 359.94	10,400	--	55	4	0.15	0.80
Raymond Ln. – McVay Ln.(north)	359.94 – 361.16	10,100	--	55	4	0.12	0.80
McVay Ln. (north) – OR/CA Border	361.16 – 363.11	8,300	--	55	2	0.27	0.70

INTERSECTION MOBILITY NEEDS (YEAR 2012)

The HCM2000 methodology was applied for signalized intersections because the 2010 Highway Capacity Analysis Manual (HCM2010) procedure does not produce estimates of the v/c ratio, which is the basis of the OHP mobility targets. Mobility targets identify state highway mobility performance expectations and provide a measure by which the existing and future performance of the highway system can be evaluated. The Level of Service (LOS) for signalized intersections is based on the amount of average delay per vehicle for the intersection. A LOS of C was used as an acceptable LOS to identify state highway performance expectations. For unsignalized intersections, the HCM2010 procedure was used to calculate the v/c ratio and LOS for the worst movements on the minor road and US 101 approaches. Typically, left turn movements incur the most delay.

As shown in Table 8, current v/c ratios are less than the OHP mobility targets for all of the US 101 intersections and the current LOS is less than LOS C performance target, indicating that there are no existing mobility needs at these locations. Additionally, traffic queues do not exceed the available storage on any the US 101 or minor road approaches, indicating that there is not a queuing problem. Most of the queues are 50 feet or less.

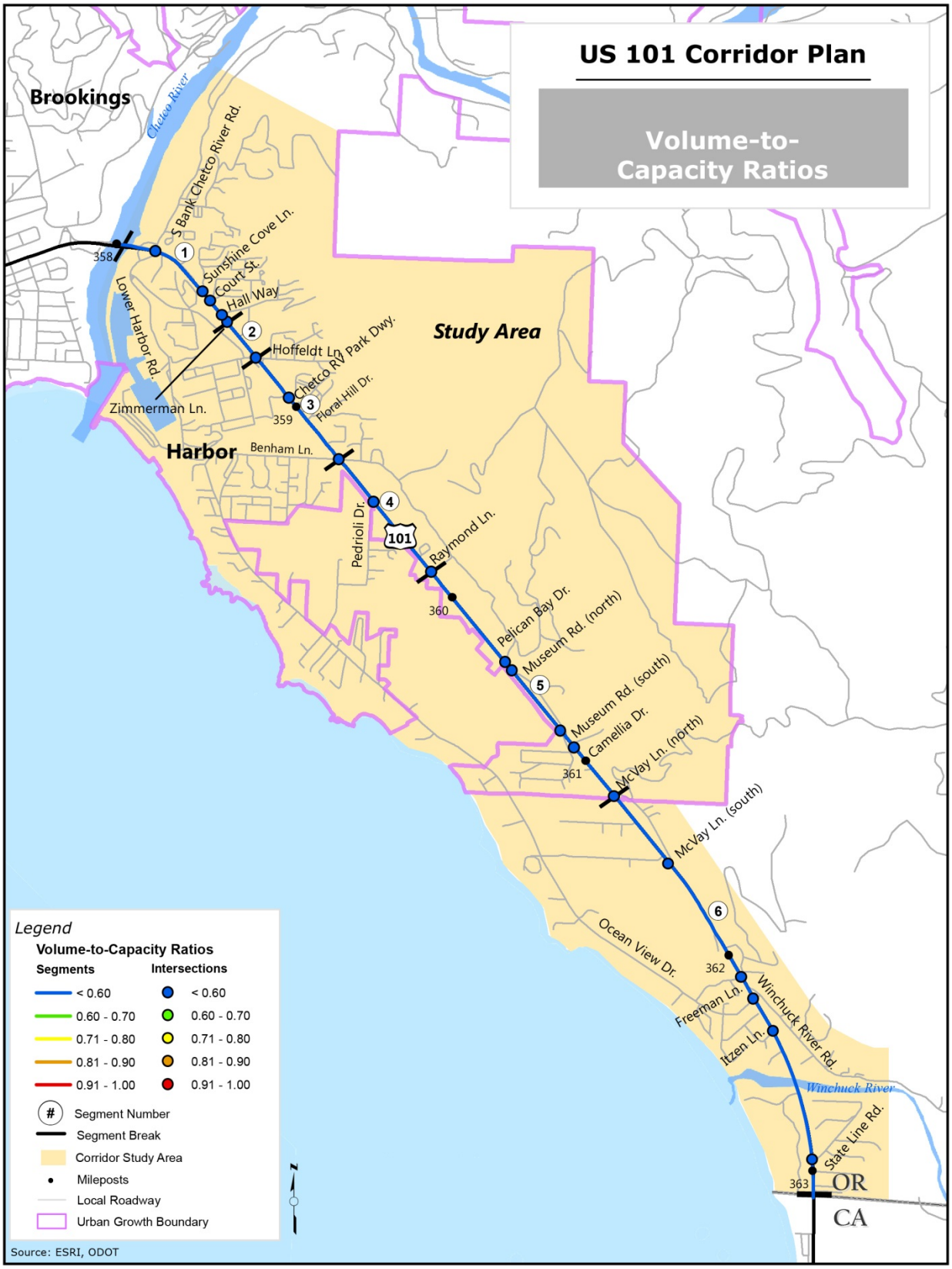
Table 9

Intersection Analysis Year 2012					
Intersection	**V/C Targets**	**US 101**		**Minor Road**	
		V/C Ratio	**LOS**	**V/C Ratio**	**LOS**
US101/Lower Harbor Dr.-S Bank Chetco River Rd.	0.85	--*	--	0.63	C
US101/Sunshine Cove Ln.	0.85	0.05	B	0.15	D
US101/Court St.	0.85	0.05	B	0.33	D
US 101/Hall Way	0.85	0.02	B	0.10	C
US101/Zimmerman Ln.	0.85	0.64	B	--**	--
US101/Hoffeldt Ln.	0.85	0.53	B	--**	--
US101/Kings Way	0.85	0.01	A	0.04	C
US101/Benham Ln	0.85	0.50	B	--**	--
US101/Pedrioli Dr.	0.80	0.01	A	0.17	C
US101/Raymond Ln.	0.80	0.01	A	0.03	B
US101/Pelican Bay Dr.	0.80	0.01	A	0.02	B
US101/Museum Rd. (North)	0.80	0.01	A	0.01	A
US101/Museum Rd. (South)	0.80	0.01	A	0.02	B
US101/Camellia Dr.	0.80	0.01	A	0.06	B
US101/McVay Ln (North)	0.80	--*	--	0.01	B
US101/McVay Ln (South)	0.70	0.01	A	0.00***	A
US101/Freeman Ln	0.70	0.01	A	0.02	C
US101/Ocean View Dr.-Winchuck River Rd	0.70	0.03	A	0.09	C
US101/Itzen Dr.	0.70	--*	--	0.02	C
US101/State Line Rd	0.70	0.01	A	0.06	B

Unsignalized intersection with no left-turn movement available on US 101 approaches.
** For signalized intersections, the V/C ratio and LOS are reported for the entire intersection.
*** Zero volume on the minor road approach.

(**Note:** The OHP mobility target for signalized and unsignalized intersections use the v/c ratios in OHP Table 6. The mobility target for minor approaches to unsignalized intersections located inside the City of Brookings UGB and within the Unincorporated Community of Brookings Harbor is the District/Local Interest Road mobility target of 0.90 v/c. The mobility target for minor approaches to unsignalized intersections located outside the Brookings UGB and within rural lands uses the District/Local Interest Road mobility target of 0.75 v/c (OHP Action 1F.1))

Figure 16


US 101 Corridor Plan
Volume-to-Capacity Ratios
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Harbor
Benham Ln.
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
Study Area
358
359
360
361
362
363
Legend
Volume-to-Capacity Ratios
Segments
Intersections
< 0.60
0.60 - 0.70
0.71 - 0.80
0.81 - 0.90
0.91 - 1.00
Segment Number
Segment Break
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
Source: ESRI, ODOT

PRELIMINARY TRAFFIC SIGNAL WARRANTS (YEAR 2012)

Preliminary traffic signal warrant analysis was conducted for all unsignalized intersections following the procedures in the APM and Manual on Uniform Traffic Control Devices (MUTCD). The results of the analysis indicated that none of the intersections currently meet the traffic signal warrant requirements. This is consistent with the results of the intersection capacity analysis, which showed low v/c ratios for all of the intersections.

TRAFFIC OPERATIONS (YEAR 2012)

Traffic operations needs are analyzed for unsignalized intersections where left-turn lanes or right-turn lanes may be needed. Left-turn lanes may be needed to reduce the possibility of rear-end collisions or improve traffic flow by preventing left-turning vehicles from blocking the flow of through traffic. Right-turn lanes may be needed to reduce the delay of through vehicles behind right-turning traffic and to ease right-turns for drivers from the higher-speed through traffic stream.

TURN LANE NEEDS (YEAR 2012)

Turn lane needs are determined using Criterion 1 – Vehicular Volume contained in the APM (See Figure 17). (**Note:** Refer to Chapter 4 Project Sheets for planned projects addressing the turn lane needs.)

As shown in Table 9, turn lane criteria are met for a:

- Northbound right-turn lane at Court Street.
- Southbound right-turn lane at Pedrioli Drive.
- Southbound left-turn lane at Sunshine Cove Lane, Court Street, Hall Way and Kings Way.
- Consider southbound approach of US 101/McVay Lane (south) intersection.
- Consider northbound approach of US 101/Freeman Lane intersection.

(Note: A two (2) way center turn lane exists at these intersections for left-turning vehicles. Left-turn lanes are still needed because the operational characteristics of a left-turn lane are different than those of a two (2) way center turn lane. Although the criteria is not met at the McVay Lane and Freeman Lane locations, consideration should be given to left-turn lanes because of the high advancing and opposing volumes.)

Table 10

Turn Lane Analysis Year 2012				
Intersection	**Northbound**		**Southbound**	
	Left Turn	**Right Turn**	**Left Turn**	**Right Turn**
Sunshine Cove Ln.	*	No	Yes	*
Court St.	*	Yes	Yes	*
Hall Way Kings Way	*	No	Yes	*
Pedrioli Dr.	*	No	Yes	*
Raymond Ln.	No	No	No	Yes
Pelican Bay Dr.	*	No	No	*
Museum Rd. (north)	*	No	No	*
Museum Rd. (south)	*	No	No	*
Camellia Dr.	*	No	No	*
McVay Ln. (north)	No	No	No	No
McVay Ln. (south)	*	No	No	*
Freeman Ln.	*	No	Consider	*No
Oceanview Dr. / Winchuck River Rd.	Consider	No	No	No
Itzen Dr.	N/A**	No	N/A	No
State Line Rd.	No	*	*	No
	N/A	No	N/A	No

* These are three-legged intersections where not all turning movements are possible.
** Turn lane already exists.

Figure 17


US 101 Corridor Plan
Turn Lane Needs
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Benham Ln.
Study Area
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Source: ESRI, ODOT
Legend
Turn Lane Needs
Northbound Right Turn and Southbound Left Turn
Southbound Left Turn
Southbound Right Turn
Study Corridor
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
N

CRASH HISTORY ANALYSIS (YEAR 2012)

Crash data for the five (5) year period between Years 2007 and 2011 was obtained from ODOT's Crash Analysis and Reporting Unit for use in analyzing existing safety conditions **(**See Figure 18). The crash database comprises crash reports filed by drivers involved in crashes that result in death, bodily injury, or vehicle damage over $1,500. **Detailed crash analysis was conducted for the following locations:**

- Intersections identified in the critical crash rate analysis.
- High-frequency crash locations within segments exceeding the statewide crash rate.
- Safety Priority Index System (SPIS) sites.

CRASH RATES (YEAR 2012)

To provide an indication of safety conditions along the corridor, crash rates are calculated as the number of crashes per million vehicle miles traveled (MVMT). The rates are compared to the statewide average crash rate for other principal arterials in rural areas. (**Note:** See Chapter 4 Project Sheets for planned projects to improve highway safety.)

SEGMENT CRASHES (YEAR 2012)

Over the five-year period, there are a total of 77 crashes along the corridor (See Figure 19). These are split almost evenly between fatal/injury-type crashes and property damage only (PDO) crashes. Turning and rear-end crashes accounted for roughly 35% each of the total number of collisions. There are no more than 10% of the crashes in any of the other categories. There are a total of five (5) pedestrian collisions occurring in the northern-end of the corridor. As shown in Table 10, US 101 segments from the Chetco River Bridge to Zimmerman Lane; from Zimmerman Lane to Hoffeldt Lane; from Hoffeldt Lane to Benham Lane; and from Raymond Lane to McVay Lane (North) exceed the Statewide Crash Rate Average of 0.69 MVMT.

Table 11

Crash Analysis Year 2012				
From/To	**Milepost**	**Crash Frequency**	**Crash Rate (MVMT)***	**Statewide Avg. Rate**
Chetco River Bridge – Zimmerman Ln.	358.02 – 358.57	17	**0.75**	0.69
Zimmerman Ln - Hoffeldt Ln.	358.57 – 358.76	19	**3.17**	0.69
Hoffeldt Ln – Benham Ln.	358.76 – 359.32	18	**1.34**	0.69
Benham Ln – Raymond Ln.	359.32 – 359.94	3	0.27	0.69
Raymond Ln – McVay Ln. (North)	359.94 – 361.16	14	**0.80**	0.69
McVay Ln (North) – OR/Calif. Border	361.16 – 363.11	6	0.24	0.69

* Values in bold exceed statewide average crash rate.

Figure 18

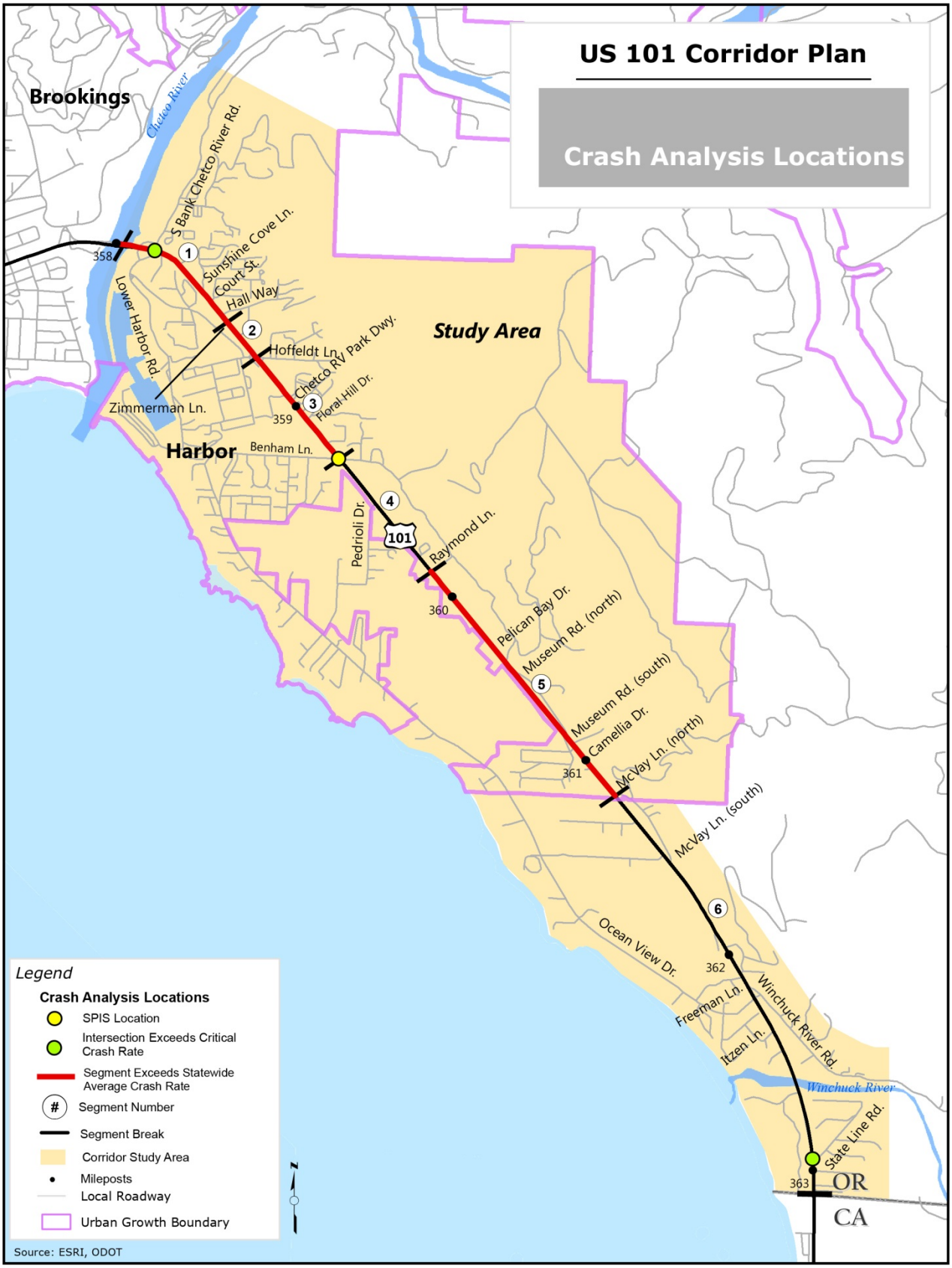
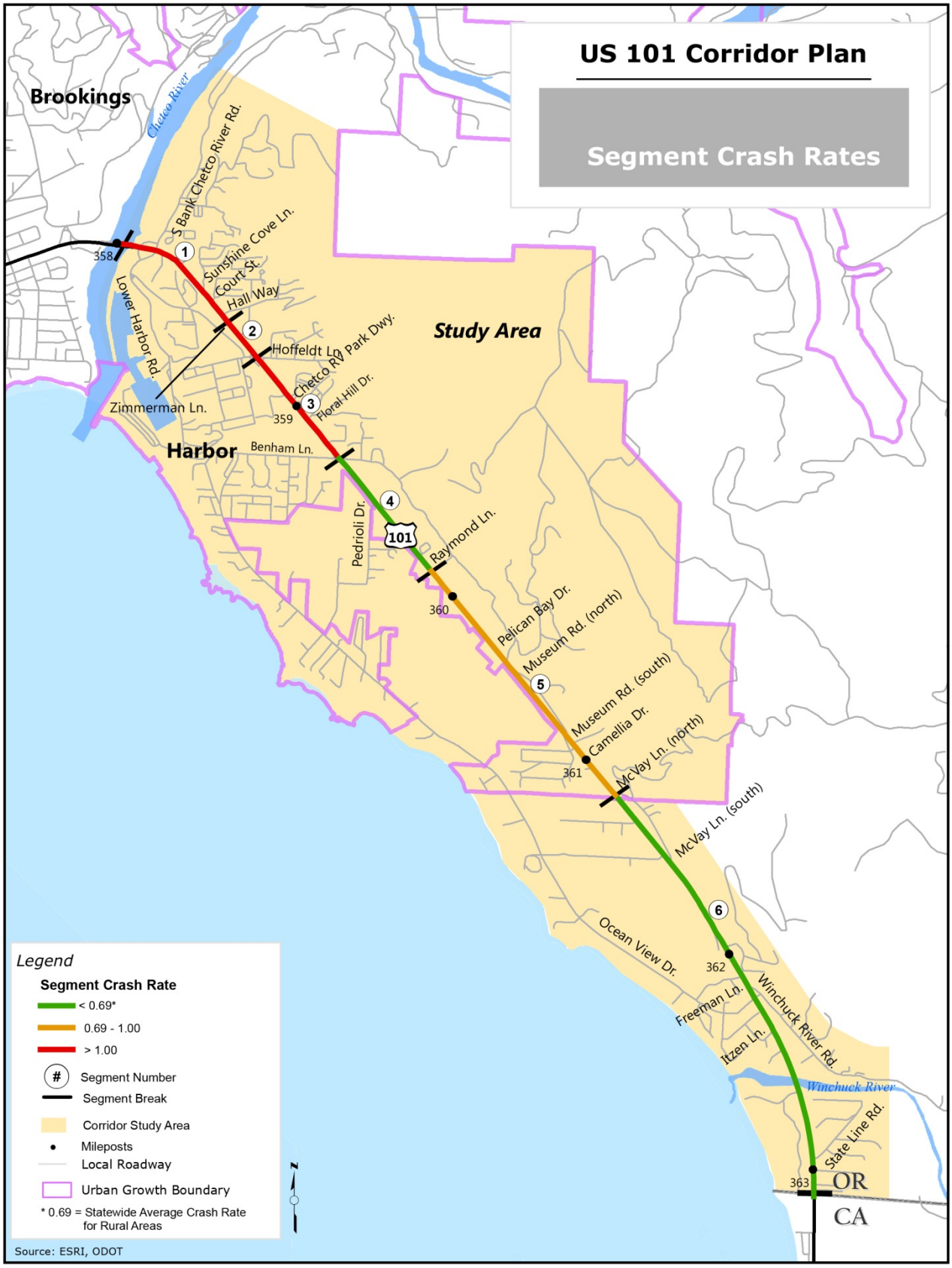

US 101 Corridor Plan
Crash Analysis Locations
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Benham Ln.
Study Area
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
1
2
3
4
5
6
Legend
Crash Analysis Locations
SPIS Location
Intersection Exceeds Critical Crash Rate
Segment Exceeds Statewide Average Crash Rate
Segment Number
Segment Break
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
N
Source: ESRI, ODOT

Figure 19


US 101 Corridor Plan
Segment Crash Rates
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Benham Ln.
Study Area
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
1
2
3
4
5
6
Legend
Segment Crash Rate
< 0.69*
0.69 - 1.00
> 1.00
Segment Number
Segment Break
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
* 0.69 = Statewide Average Crash Rate for Rural Areas
N
Source: ESRI, ODOT

INTERSECTION CRASHES (YEAR 2012)

The critical crash rate described in the Highway Safety Manual (HSM) was used as a performance measure for screening the study intersections to determine where existing safety conditions need to be investigated. Traffic volumes are calculated in terms of Million Entering Vehicles (MEV) at each intersection. Using this method, the observed crash rate at each intersection is compared to a calculated critical crash rate that is unique to each intersection. As shown in Table 11, the intersections of US 101/Lower Harbor Drive/South Bank Chetco River Road, US 101/Benham Lane and US 101/State Line Road are identified for further review.

Table 12

Intersection Crash Analysis Year 2012				
Intersection	**Crashes**	**MEV**	**Crashes/ MEV**	**Critical Crash Rate**
Lower Harbor Dr./ S. Bank Chetco River Rd*	5	43.72	0.11	0.10
Sunshine Cove Ln	0	33.26	0.00	0.11
Court St	1	34.26	0.03	0.11
Hall Way	1	33.26	0.03	0.11
Zimmerman Ln	9	35.26	0.26	0.58
Hoffeldt Ln	11	28.79	0.38	0.58
Kings Way	0	24.06	0.00	0.13
Benham Ln	12	24.14	0.50	0.58
Pedrioli Dr.	0	18.91	0.00	0.13
Raymond Ln	0	16.09	0.00	0.15
Pelican Bay Dr.	0	14.09	0.00	0.16
Museum Rd (north)	0	13.61	0.00	0.16
Museum Rd (south)	1	13.44	0.07	0.16
Camellia Dr.	1	13.44	0.07	0.16
McVay Ln (north)	1	12.79	0.08	0.16
McVay Ln (south)	0	12.79	0.00	0.16
Freeman Ln	0	12.79	0.00	0.16
Ocean View Dr./Winchuck River Rd	1	13.69	0.07	0.16
Itzen Dr.	0	12.06	0.00	0.17
Stateline Rd	2	11.98	0.17	0.17

* Identified for further review.

SPIS LOCATIONS (YEAR 2012)

ODOT maintains the SPIS for the identification and analysis of locations on the state highway system with potential safety needs. Between Years 2010 and 2012, there was one SPIS site (top 5%) located on US 101 between Sherwood Lane (M.P. 359.21) and Benham Lane (M.P. 359.32). (**Note:** SPIS locations are identified based on the three (3) previous year data and could change during the 20-year planning horizon).

In 2010, the segment between Robin Lane (M.P. 359.99) and the Stateline (M.P. 363.11) was also designated as a Safety Investment Program Category 3 segment. This designation is based on the criterion of three to five fatal or Injury A crashes occurring within the previous three years. There was also one top 10% SPIS location at the intersection of US 101/Benham Lane (M.P. 359.23 – M.P. 359.40). Eight (8) crashes occurred at this location, with two (2) fatalities in Year 2010.

The benefits of roadway lighting could be increased to reduce potential conflicts between traffic and pedestrians. The specific locations where lighting is needed are:

- Chetco River Bridge to Benham Lane Segment (both sides of highway).
- US 101/Zimmerman Lane Intersection.
- US 101/Hoffeldt Lane Intersection.
- US 101/Benham Lane intersection.
- US 101/State Line Road Intersection.

GEOMETRICS (YEAR 2012)

Geometric needs are identified for roadway segments and intersections by comparing existing geometric features to roadway standards. The standards contained in ODOT's Highway Design Manual (HDM) for the rural principal arterial – other classification are used for the comparison. The segment features analyzed are lane width and left and right shoulder widths. The intersection features included intersection angle and the approach width, approach grade, and intersection sight distance on the minor road approaches.

Segment Geometrics (Year 2012)

According to the standards for Resurfacing, Restoration, Rehabilitation (3R) rural roadway projects, the minimum travel lane width for US 101 should be 11 feet and the minimum shoulder width should be 4 feet. Existing lane widths vary between 12 feet and 20 feet, and shoulder widths vary from 5 to 15 feet. As shown in Table 12, all of the lane and shoulder widths meet the standards.

Table 13

Lane and Shoulder Widths Year 2012				
From/To	**Milepost**	**Lane Width (ft.)**	**Left Shoulder Width (ft.)**	**Right Shoulder Width (ft.)**
Standard		11	4	4
Chetco River Bridge - Zimmerman Ln	358.02 – 358.57	12	10	9
Zimmerman Ln - Hoffeldt Ln	358.57 – 358.76	12	10	9
Hoffeldt Ln – Benham Ln	358.76 – 359.32	12	10	9 – 10
Benham Ln – Raymond Ln	359.32 – 359.94	12	5 – 10	6 – 11
Raymond Ln – McVay Ln (north)	359.94 – 361.16	12	11	11
McVay Ln (north) – OR/CA Border	361.16 – 363.11	12 - 20	8 – 13	5 – 15

Intersection Geometrics

At the US 101/Hoffeldt Lane and US 101/Benham Lane intersections, the pork chop islands are difficult to see. Also, the scale of the islands is reduced by the pedestrian cut-through. The visibility could possibly be improved by repainting.

As shown in Table 13, substandard geometrics exist at the intersections of US 101/Hoffeldt Lane (M.P. 357.98) and US 101/Behnam Lane (M.P. 359.32) due to a roughly 45-degree skew angle at both locations.

Barriers exist at two (2) of the intersections to limit traffic movements. At the US 101/Lower Harbor Drive/South Bank Chetco River Road intersection, a median traffic separator restricts through movements on Lower Harbor Drive/South Bank Chetco River Road. A concrete barrier at the north intersection of US 101/McVay Lane (north) prohibits left-turns out of McVay Lane, so that the only permitted movement is right-turns onto northbound US 101.

Table 14

Intersection Geometrics Year 2012				
Intersection	**Approach Width (ft.)**	**Approach Grade Sufficient?**	**Intersection Angle ≥ 60 Degrees?**	**Intersection Sight Distance Sufficient?**
Standard	22	≤ 3%	≥ 60 Degrees	500 ft. (45 mph) 610 ft. (55 mph)
Lower Harbor Dr/S Bank Chetco River Rd	28/25*	No/Yes*	No/Yes*	Yes
Sunshine Cove Ln	43	Yes	No	Yes
Court St	60	Yes	No	Yes
Hall Way	24	No	Yes	Yes
Zimmerman Ln**	--	Yes	Yes	--
Hoffeldt Ln**	--	Yes	No	--
Chetco RV Park Dwy	30	Yes	Yes	Yes
Floral Hill Dr	35	Yes	Yes	Yes
Benham Ln**	--	Yes	No	--
Pedrioli Dr	40	Yes	Yes	Yes
Raymond Ln	**18**	Yes	Yes	Yes
Pelican Bay Dr	28	Yes	Yes	Yes
Museum Rd (North)	67	Yes	No	Yes
Museum Rd (South)	48	Yes	No	Yes
Camellia Dr	52/22	Yes	Yes	Yes
McVay Ln (North)	60	Yes	No	Yes
McVay Ln (south)	50	Yes	Yes	Yes
Freeman Ln	50/**20**	Yes	Yes	Yes
Oceanview Dr/Winchuck River Rd	42/47	Yes	No	Yes
Itzen Dr	26	Yes	Yes	Yes
Stateline Rd	76/32	Yes	Yes	No

* Westbound/eastbound.
** Approach width and intersection sight distance standards are not applicable for signalized intersections.

3. FUTURE BASELINE CONDITIONS (YEAR 2037)

The analysis of future baseline conditions (Year 2037) examines long-term highway operational and safety concerns. The Year 2037 traffic forecast estimates future traffic volumes for the portion of US 101 within the modeling area, bounded by the Chetco River Bridge and McVay Lane (north). To the south of the modeling area, future volumes are estimated using the historical traffic growth data from ODOT's future volume tables.

3.1. TRAFFIC FORECAST (YEAR 2037)

The Year 2037 traffic forecasts are developed based on a combination of historical traffic growth trend data and output from the Brookings travel demand forecasting model, developed and maintained by ODOT's Transportation Planning and Analysis Unit (TPAU). The forecast traffic volumes reflect two assumptions:

1. The Harbor Hills development includes a 700-acre master planned community to the east of US 101 above Harbor. It is bounded roughly by the area designated as Master Plan Area (MPA) in the Curry County zoning map.
2. The decrease in traffic growth between Years 2008 and 2012 is reflected by extrapolating the Year 2027 model volumes by only two (2) years rather than five (5) years to estimate the Year 2037 volumes. This was necessary because the decrease was not represented in the Year 2027 model forecast.

(**Note:** The reduction of the Year 2037 volumes using this method was recommended by ODOT TPAU staff.)

FUTURE TRAFFIC VOLUMES (YEAR 2037)

The Year 2037 Annual Average Daily Trips (AADT) volumes are expected to transition from greater than 25,000 vehicles per day (vpd) on the north-end of the corridor to less than 15,000 vpd on the south end (See Figure 20). For the southern portion of the corridor outside of the modeling area, an annual growth rate of 1.2% are calculated based on the Years 2009 and 2012 traffic volumes at the Automatic Traffic Recorder (ATR) near Winchuck River Rd. (M.P. 362.00). The volumes to the south of Benham Lane are expected to be less than 2,000 vpd.

Figure 20


US 101 Corridor Plan
2034 Annual Average Daily Traffic
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Benham Ln.
Pedrioli Dr.
Study Area
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
358
359
360
361
362
363
OR
CA
Source: ESRI, ODOT
Legend
Annual Average Daily Traffic
< 15,000
15,001 - 20,000
20,001 - 25,000
> 25,000
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary

FUTURE TRAFFIC NEEDS (YEAR 2037)

Future traffic needs are analyzed in the areas of mobility, traffic operations, safety, and geometrics. Future mobility needs are identified by comparing volume-to-capacity (v/c) ratio estimates for roadway segments and intersections to the appropriate v/c ratio standards. The future year analysis is conducted for the No-Build scenario, which is defined as the existing transportation system, plus any programmed transportation improvements.

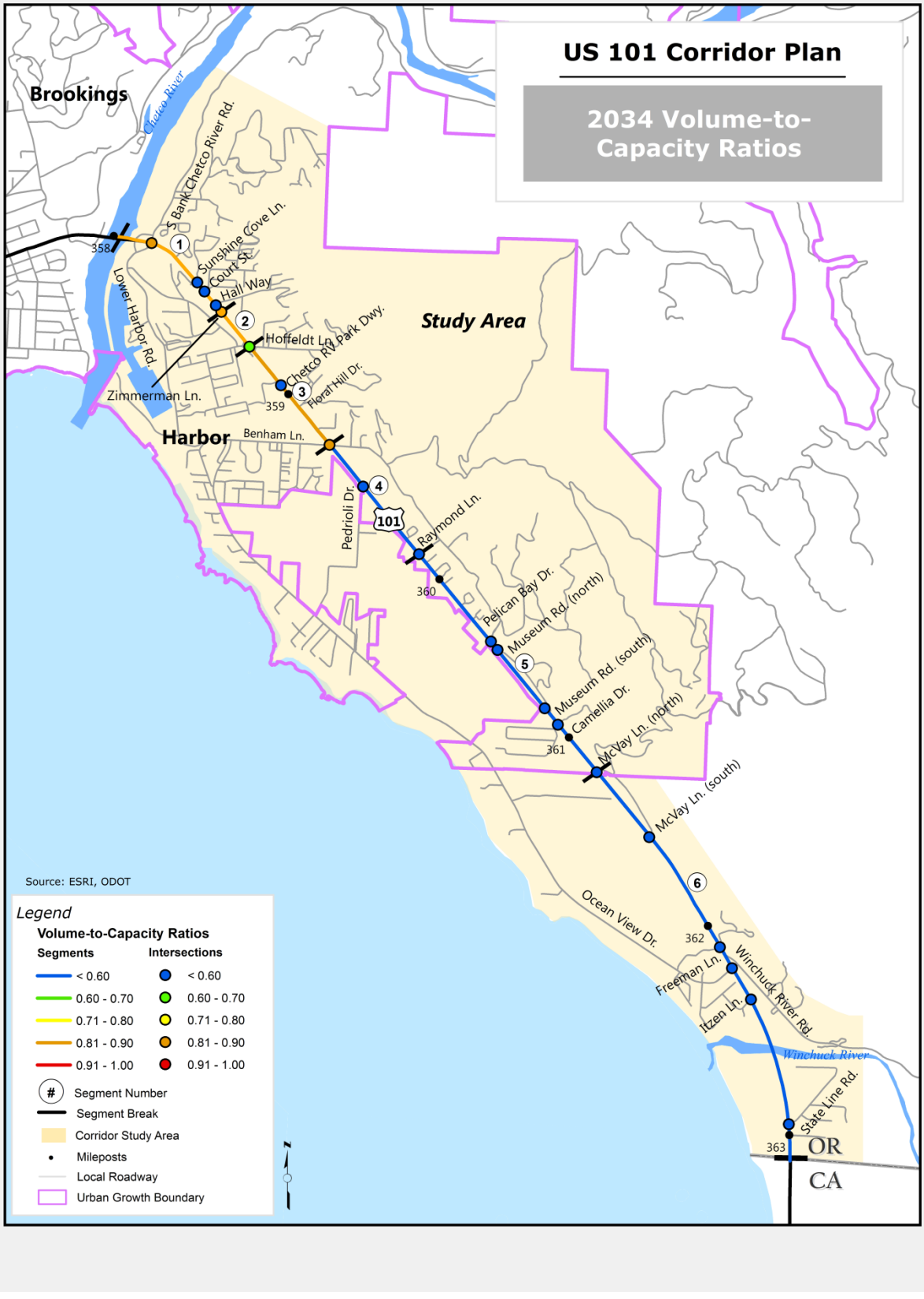
Segment Mobility (Year 2037)

As shown in Table 14, the US 101 segments between the Hoffeldt Lane and the Benham Lane intersection exceeds the OHP mobility performance target of 0.85, with v/c ratios of 0.84 or 0.89. The US 101 segments south of the Benham Lane intersection to the Oregon/California border have low v/c ratios and operate well within the OHP mobility targets (See Figure 21).

Table 15

Mobility Summary – Roadway Segments Year 2037		
From/To	**Mobility Target (V/C Ratio)**	**V/C Ratio**
Chetco River Bridge - Zimmerman Ln	0.85	0.84
Zimmerman Ln - Hoffeldt Ln	0.85	0.84
Hoffeldt Ln – Benham Ln	0.85	0.89
Benham Ln – Raymond Ln	0.80	0.22
Raymond Ln – McVay Ln (north)	0.80	0.18
McVay Ln (north) – OR/CA Border	0.70	0.34

Figure 21


US 101 Corridor Plan
2034 Volume-to-Capacity Ratios
Brookings
Chetco River
Harbor
Study Area
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Hoffeldt Ln.
Chetco River Park Dwy.
Floral Hill Dr.
Benham Ln.
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Source: ESRI, ODOT
Legend
Volume-to-Capacity Ratios
Segments
Intersections
< 0.60
0.60 - 0.70
0.71 - 0.80
0.81 - 0.90
0.91 - 1.00
Segment Number
Segment Break
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary

INTERSECTION MOBILITY (YEAR 2037)

As shown in Table 15, in Year 2037 the signalized intersection at US 101/Benham Lane is expected to be above the OHP mobility target of 0.85 v/c. The US 101/Benham Lane intersection is not expected to meet the LOS C performance target. The signalized intersection at W. Benham Lane/US 101/E. Benham Lane is not expected to meet the both the OHP mobility target of 0.85 v/c or the LOS C performance target.

Additionally, there are several locations with traffic queues that are expected to exceed the available storage on US 101 or minor road approaches. These locations include the following:

1. Southbound right turn from South Bank Chetco River Road onto US 101.
2. Westbound approach to Court Street.
3. Eastbound left turn from Zimmerman onto northbound US 101.
4. Southbound left and right turn from US 101 to Benham Lane.
5. Northbound left turn from US 101 to Benham Lane.

Table 16

Mobility Summary – Intersections Year 2037					
Intersection	**Mobility Standard**	**US 101**		**Minor Road**	
		V/C Ratio	**LOS**	**V/C Ratio**	**LOS**
Lower Harbor Dr./US 101/S Bank Chetco River Rd	0.85	-*	-	0.90	F
US 101/Sunshine Cove Ln	0.85	0.08	B	0.14	C
US 101/Court St	0.85	0.09	B	0.34	D
US 101/Hall Way	0.85	0.04	B	0.12	C
US 101/Zimmerman Ln	0.85	0.84	C	-**	-
US 101/Hoffeldt Ln	0.85	0.70	B	-**	-
US 101/Chetco RV Park Dwy.	0.85	0.02	B	0.06	C
US 101/Benham Ln	0.85	0.89	D	-**	-
US 101/Pedrioli Dr.	0.80	0.01	A	0.37	E
US 101/Raymond Ln	0.80	0.12	A	0.28	C
US 101/Pelican Bay Dr.	0.80	0.11	A	0.30	C
US 101/Museum Rd (North)	0.80	0.01	A	0.01	B
US 101/Museum Rd (South)	0.80	0.01	A	0.03	C
US 101/Camellia Dr.	0.80	0.02	A	0.20	C
US 101/McVay Ln (North)	0.80	0.02	A	0.07	B
US 101/McVay Ln (South)	0.70	0.01	A	0.03	C
US 101/Freeman Ln	0.70	0.01	A	0.02	C

US 101/Ocean View Dr.-Winchuck River Rd	0.70	0.04	A	0.14	C
US 101/Itzen Dr.	0.70	-*	-	0.02	C
US 101/State Line Rd	0.70	0.01	A	0.10	C

* Unsignalized intersection with no left-turn movement available on US 101 approaches.
** For signalized intersections, the V/C ratio and LOS are reported for the entire intersection.

(**Note:** The OHP mobility targets for signalized and unsignalized intersections use the v/c ratios in OHP Table 6. The mobility target for minor approaches to unsignalized intersections located inside the City of Brookings UGB and within the Unincorporated Community of Brookings Harbor is the District/Local Interest Road mobility target of 0.90 v/c. The mobility target for minor approaches to unsignalized intersections located outside the Brookings UGB and within rural lands uses the District/Local Interest Road mobility target of 0.75 v/c (OHP Action 1F.1))

PRELIMINARY TRAFFIC SIGNAL WARRANTS (YEAR 2037)

Preliminary traffic signal warrant analysis are conducted for all unsignalized intersections following the procedures in the APM and MUTCD. The results of the analysis indicated that none of the unsignalized intersections are expected to meet the traffic signal warrant requirements. This is consistent with the results of the intersection capacity analysis, which showed that all of the unsignalized intersections are not expected to exceed the OHP mobility targets.

3.2. FUTURE TRAFFIC OPERATIONS (YEAR 2037)

Traffic operations needs are analyzed for unsignalized intersections where left-turn lanes or right-turn lanes may be needed (See Figure 22). Turn lane needs are determined using Criterion 1 – Vehicular Volume contained in ODOT's APM.

1. Left-turn lanes may be needed to reduce the possibility of rear-end collisions or improve traffic flow by preventing left-turning vehicles from blocking the flow of through traffic.
2. Right-turn lanes may be needed to reduce the delay of through vehicles behind right-turning traffic and to ease right-turns for drivers from the higher-speed through traffic stream.

TURN LANE CRITERIA (YEAR 2037)

As shown in Table 16, the turn lanes needs are consistent with the existing conditions turn lane needs. The only difference is that the southbound left turn at McVay Lane (South) and the northbound left turn at Freeman Lane are expected to meet turn lane warrants in the future.

Table 17

Turn Lane Needs Year 2037				
Intersection	**Northbound**		**Southbound**	
	Left Turn	**Right Turn**	**Left Turn**	**Right Turn**
Sunshine Cove Ln.	*	No	Yes	*
Court St.	*	Yes	Yes	*
Hall Way	*	No	Yes	*
King Way	*	No	Yes	*
Pedrioli Dr.	No	No	No	Yes
Raymond Ln.	*	No	No	*
Pelican Bay Dr.	*	No	No	*
Museum Rd. (North)	*	No	No	*
Museum Rd. (South)	*	No	No	*
Camellia Dr.	No	No	No	No
McVay Ln. (North)	*	No	No	*
McVay Ln. (South)	*	No	Consider	*No
Freeman Ln.	Consider	No	No	No
Oceanview Dr. / Winchuck River Rd.	N/A**	No	N/A	No
Itzen Dr.	No	*	*	No
Stateline Rd.	N/A	No	N/A	No

* These are three-legged intersections where not all turning movements are possible.
** Turn lane already exists.

Figure 22


US 101 Corridor Plan
2034 Turn Lane Needs
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Benham Ln.
Study Area
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Source: ESRI, ODOT
Legend
Turn Lane Needs
Northbound Left Turn
Northbound Right Turn and Southbound Left Turn
Southbound Left Turn
Southbound Right Turn
Study Corridor
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
N

3.1 FUTURE SAFETY NEEDS (YEAR 2037)

The HSM contains Crash Modification Factors (CMFs) which can be used to estimate future crash rates. The CMFs are used to adjust estimates of average crash frequency for the effects of specific geometric design and traffic control features for local sites. Some of the CMFs are based on traffic volume.

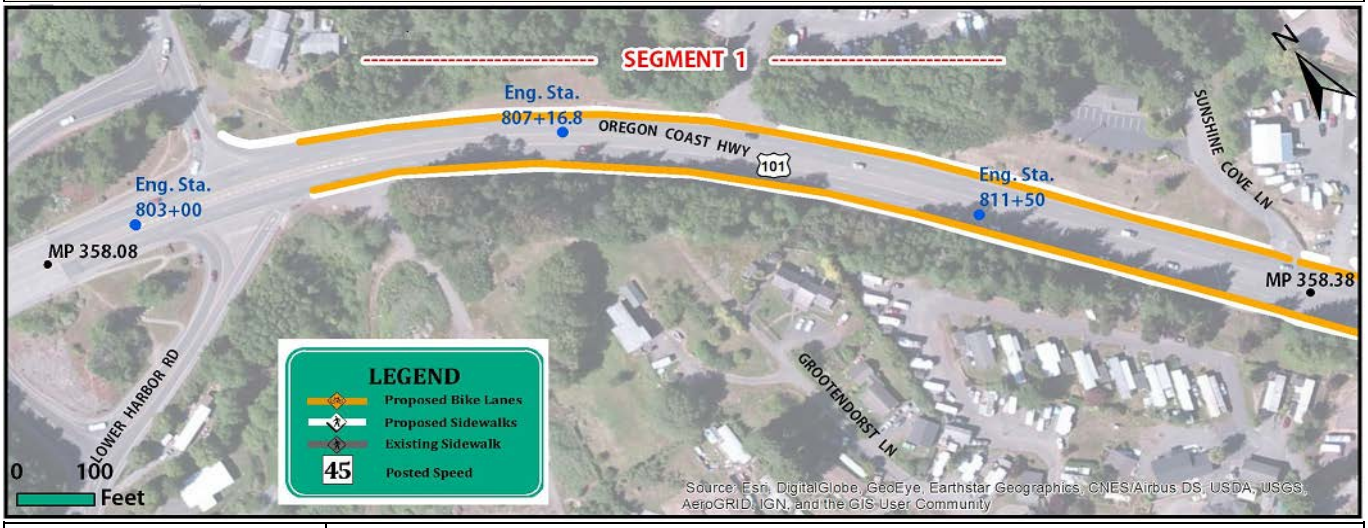
Roadway Segments - the volume-based CMFs for which data is available is the lane width CMF and shoulder width CMF. The CMF values for both of these geometric features do not vary above the 2,000 vpd level. Because the existing and future volumes for all segments are above this level, there is no difference between the base year and future year composite CMFs.

4. PROJECT SHEETS

Thirteen (13) project sheets have been prepared for each corridor plan improvement identifying:

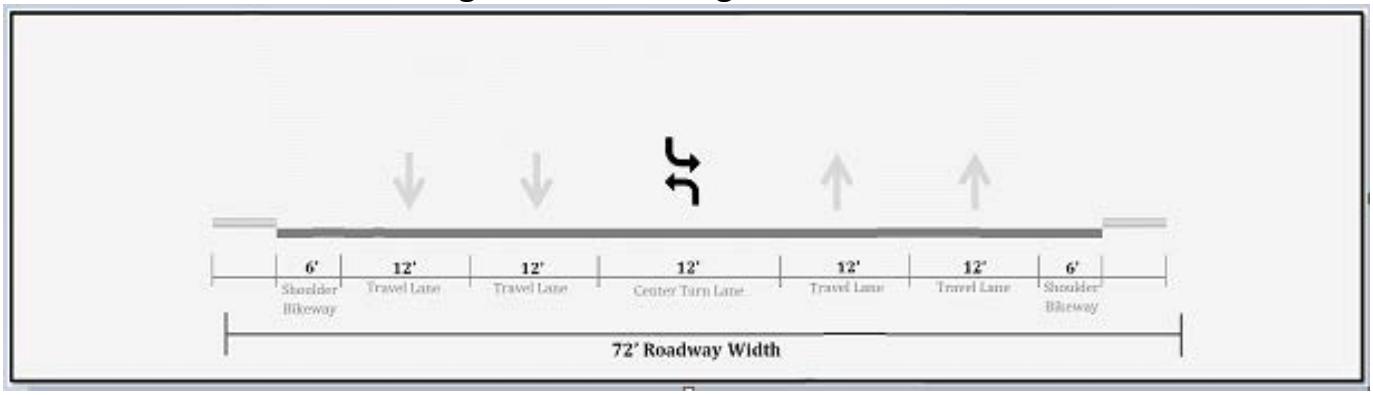
- Name
- Location
- Recommended Improvement
- Project Purpose
- Result of Improvements (i.e., how it addresses deficiencies)
- Considerations/Potential Impacts
- Cost Estimate – Does not include:
  - PE – Cost to design the project;
  - Inflation – Cost to build the project in a future year;
  - CE – Cost to oversee construction of the project;
  - R/W – Cost to acquire right of way; and
  - Utilities – Cost to install utilities.
- Implementation (priority, phasing, triggers)
- Illustration

PROJECT 1: US 101 - CHETCO RIVER BRIDGE TO SUNSHINE COVE LANE - BROOKINGS HARBOR (TRANSITION & DESIGN CONSTRAINT SEGMENT)

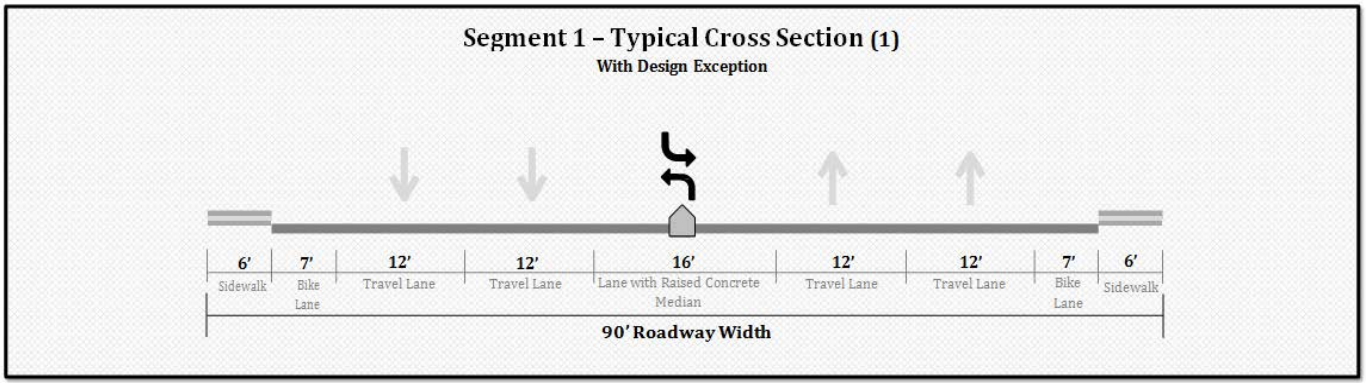


Purpose	Provide connectivity of bicycle facilities to support all transportation modes and make the highway safer.
Description	Add 7’ wide bike lanes between the Chetco River Bridge and Sunshine Cove Lane.
Mile Point	358.08 to 358.38
Roadway Characteristics	• US 101 is 4-lanes on the Chetco River Bridge and transitions to 5-lanes just south of the Lower Harbor Road/US 101/South Bank Chetco River Road intersection. • US 101 speed is 45 MPH. • US 101 transition segment has an existing raised concrete barrier between the Chetco River Bridge and just south of the Lower Harbor Road/US 101/South Bank Chetco River Road intersection. • US 101 design constraint segment has steep slopes on both sides of the highway between the end of the raised concrete median and end of the guardrail just south of the Seabird RV Park road approach.
Proposed Improvement Addresses Deficiencies	• Installing stripes and markings for designated 7’ wide bike lanes provides connectivity by filling the gaps within the existing bicycle network. • Sidewalks were added along the segment in Year 2015 and 2016.
Additional Considerations	• Upgrade ramps to ADA-compliant ramps. • A design exception is required for a 16’ wide center lane within the design constraint segment. • Remove existing on-street parking within designated bike lanes. • Coordinate Project 1 with Project 7.
Cost Option	$20,000
Implementation	Medium Term (5 to 10 years)

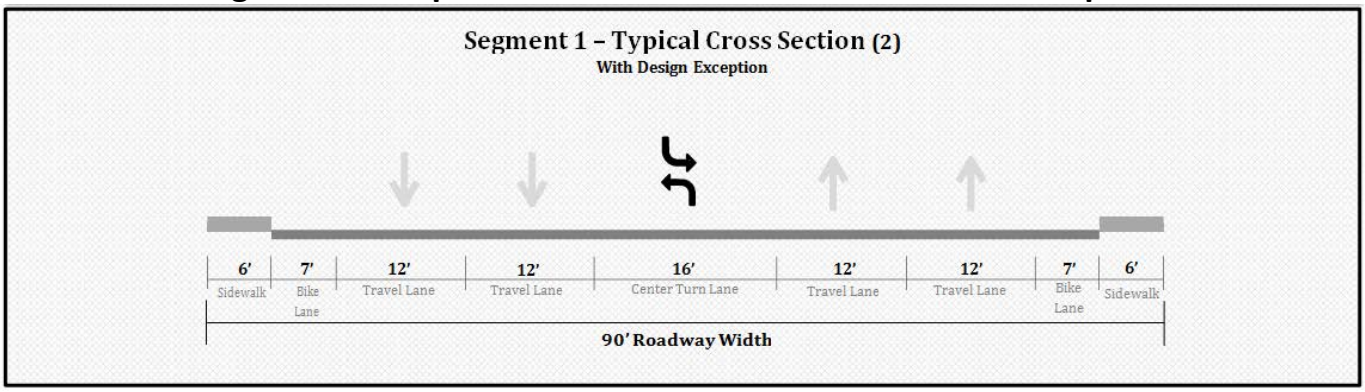
Segment 1 - Existing Cross Section



Segment 1- Proposed Cross Section - Raised Median Option



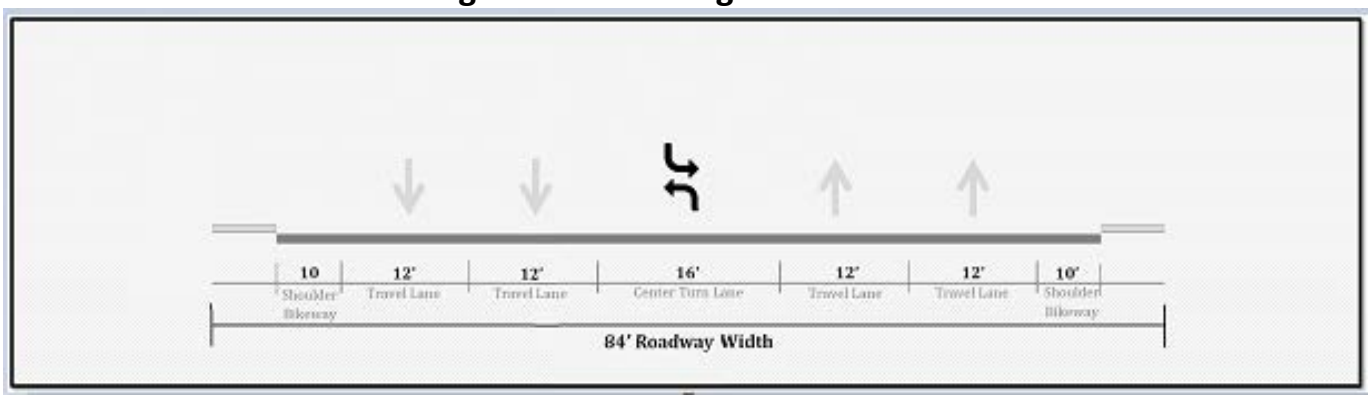
Segment 1- Proposed Cross Section - No Raised Median Option



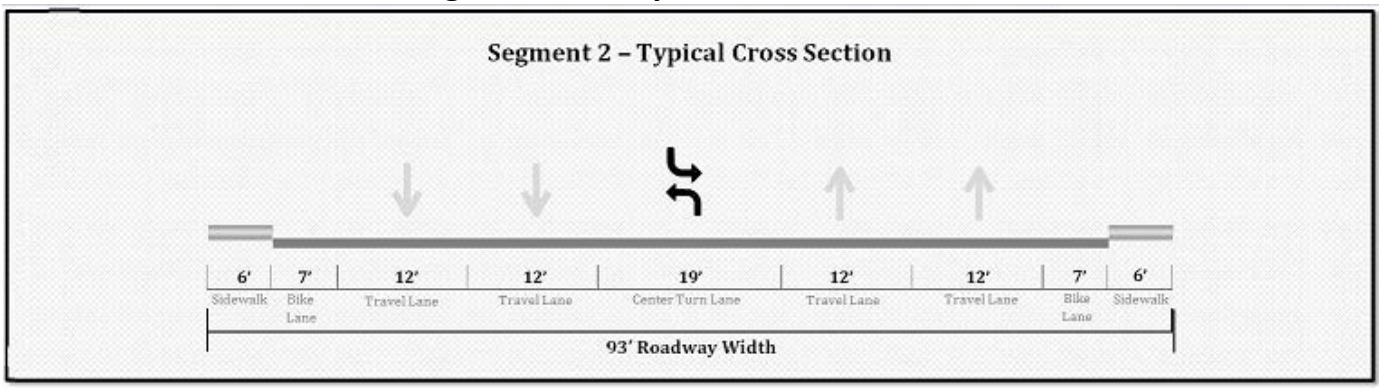
PROJECT 2: US 101 - SUNSHINE COVE LANE TO BENHAM LANE (BROOKINGS-HARBOR) BIKE LANE AND SIDEWALK IMPROVEMENTS

Purpose	Provide connectivity of bicycle and pedestrian facilities to support all transportation modes and make the highway safer.
Description	Add 6’ wide sidewalks and add 7’ wide bike lanes to improve bike and pedestrian connectivity between Sunshine Cove Lane and Benham Lane.
Mile Point	358.38 to 359.32
Roadway Characteristics	• US 101 is 5-lanes within the Brookings-Harbor area. • US 101 speed is 45 MPH. • Roadway widths range from 92’ to 124’ along this segment.
Proposed Improvement Addresses Deficiencies	• Installing 6’ wide sidewalks with ADA-compliant ramps provides connectivity by filling in sidewalk gaps within the existing pedestrian network. • Installing stripes and markings for designated 7’ wide bike lanes and ADA-complaint curb ramps provides connectivity by filling in bike lane gaps within in the existing bicycle network.
Additional Considerations	• Access management should be considered to modify, consolidate, close and/or relocate existing accesses as part of delivery of a project. • Landscape buffers can be provided through an IGA between ODOT and City/County for landscape maintenance. • Street lighting must comply with ODOT lighting policy and be provided through an IGA between ODOT and City/County. • Remove existing vehicular parking within designated bike lanes. • Coordinate Project 2 with Projects 8, 9 and 10.
Cost Option	$385,000 for sidewalk and driveway improvements (excludes lighting and/or landscape maintenance)
Implementation	Medium Term (5 to 10 years)

Segment 2 - Existing Cross Section



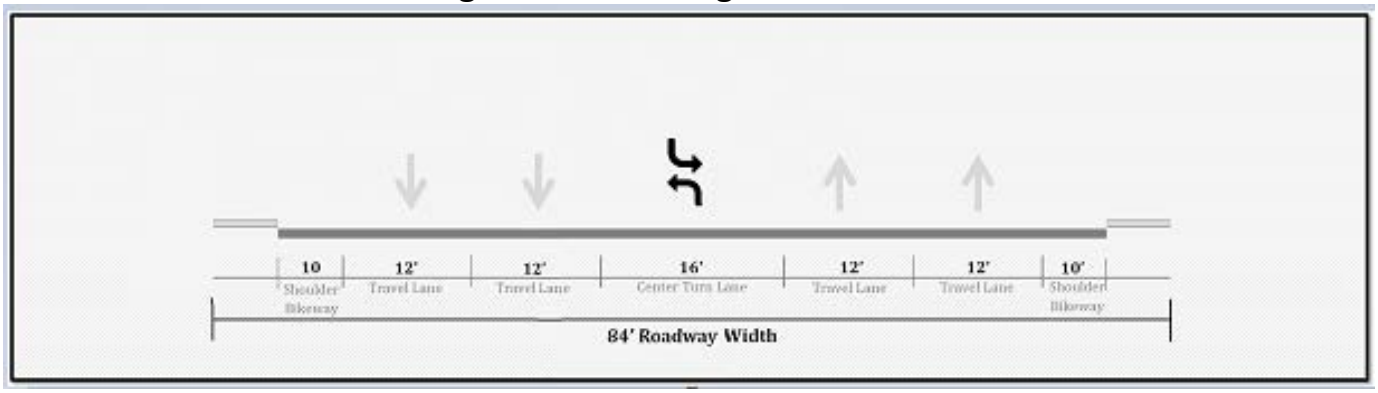
Segment 2 - Proposed Cross Section



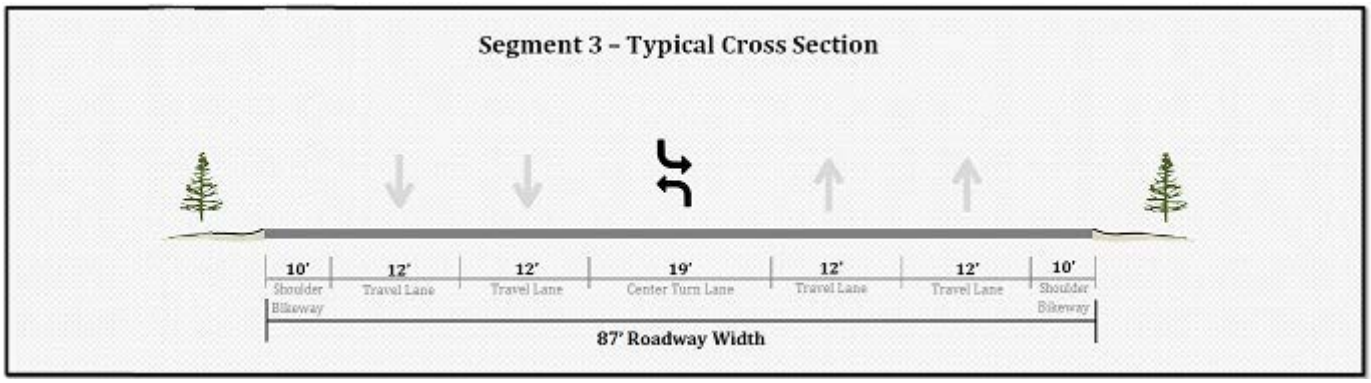
PROJECT 3: US 101 - BENHAM LANE TO NORTH MCVAY LANE (BROOKINGS UGB) CENTER TURN LANE AND SHOULDER IMPROVEMENTS

Purpose	Provide safe and accessible travel options for bicyclists, pedestrians, and vehicles to make the highway safer.
Description	Add a 19’ wide center lane between Raymond Lane and McVay Lane (North); and Upgrade and rebuild deficient shoulders to 10’ wide paved shoulder bikeway between Benham Lane and McVay Lane (North).
Mile Point	359.32 to 361.16
Roadway Characteristics	• US 101 is 5-lanes with paved shoulders. • US 101 speed is 55 MPH. • Roadway widths range from 74’ to 85’ along this segment.
Proposed Improvement Addresses Deficiencies	• Installing a 19’ wide center lane between Raymond Lane and McVay Lane (North) provides greater separation between the opposing traffic flows than the existing 16’ center turn lane with 4-foot wide painted median. • Upgrading and rebuilding deficient shoulders to 10’ wide paved shoulder bikeway provides adequate separation for pedestrian and bicycle facilities from travel lanes within a high speed rural area.
Additional Considerations	• Consider restriping US 101 to two (2) southbound lanes and one (1) northbound lane with a center lane as an interim fix; or • Consider restriping US 101 to five (5) lanes with shoulder rebuilds as an interim fix. • Access management should be considered to modify, consolidate, close and/or relocate existing accesses as part of delivery of a project. • Driver feedback signs could be placed in the northbound direction to reduce speeds and improve safety. • Coordinate Project 3 with Projects 10 and 11.
Cost Option	$3,800,000
Implementation	Long Term (10 to 20 years)

Segment 3 - Existing Cross Section



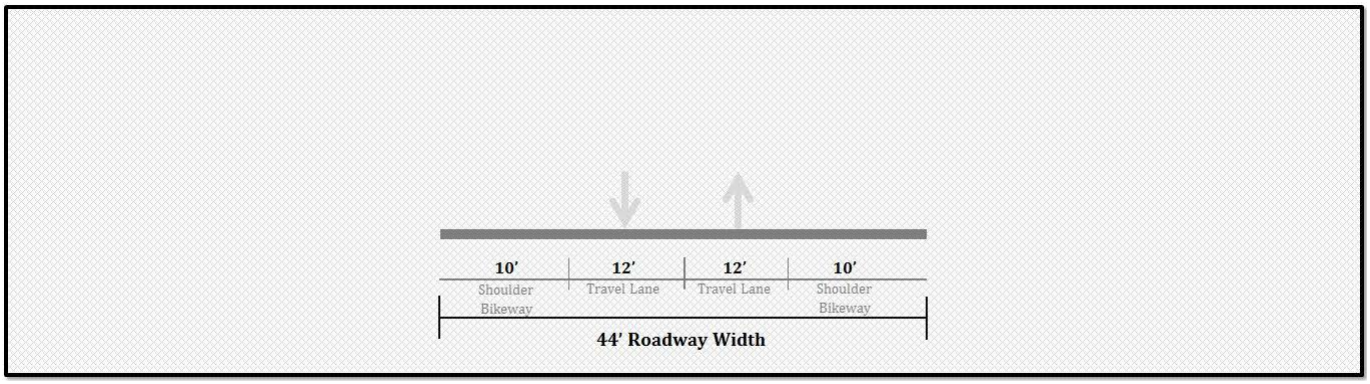
Segment 3 - Proposed Cross Section



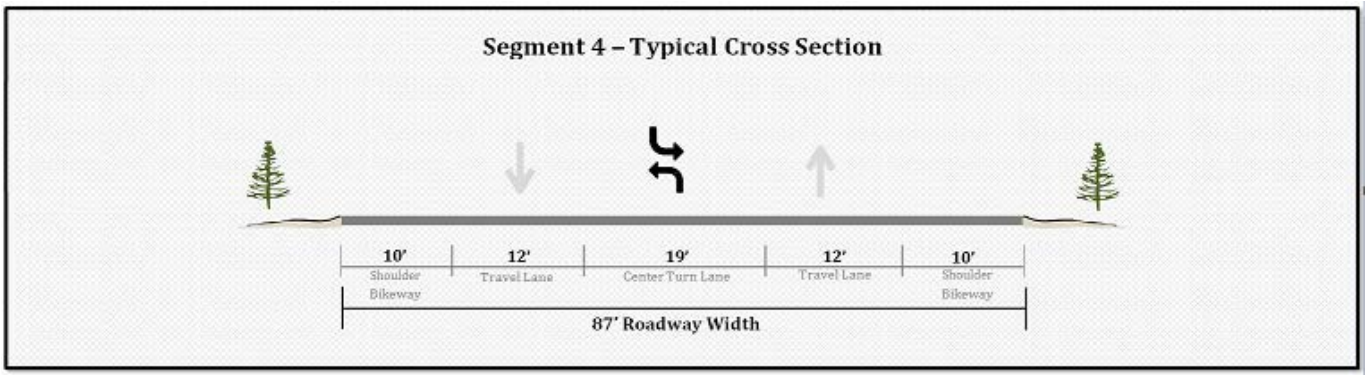
PROJECT 4: US 101 – NORTH MCVAY LANE TO APPLE HILL RV PARK (RURAL) CENTER TURN LANE AND SHOULDER IMPROVEMENTS

Purpose	Provide safe and accessible transportation facilities for vehicular, bicycle and pedestrian travel modes within a transition area to make the highway safer.
Description	Add a 19’ wide center lane; upgrade and rebuild deficient shoulders to 10’ wide paved shoulder bikeway; and add lane reduction pavement arrows to facilitate a transition area from 4-lanes to 2-lanes between McVay Lane (North) and the Apple Hill RV Park.
Mile Point	361.16 to 361.58
Roadway Characteristics	• US 101 transitions from 4-lanes to 2-lanes within this segment. • Southbound US 101 is 4-lanes, approximately 1,000 feet north of McVay Lane (North) intersection. • Southbound US 101 is 2-lanes at the Apple RV Park, just south of McVay Lane (South) intersection. • US 101 speed is 55 MPH. • Roadway widths range from 45’ to 54’ along this segment.
Proposed Improvement Addresses Deficiencies	• Installing a 19’ wide center lane provides greater separation from opposing traffic travel lane and provides a refuge for vehicles turning onto McVay Lane (South). • Upgrading and rebuilding deficient shoulders to 10’ wide paved shoulder bikeway provides adequate separation for pedestrian and bicycle facilities from travel lanes within a high speed rural area. • Installing lane reduction pavement arrows before left lane end signs warn drivers of narrowing roadway.
Additional Considerations	Evaluate effects on weigh station operations, and identify appropriate tapers for the transition area.
Cost Option	$1,500,000
Implementation	Long Term (15 to 20 years)

Segment 4 - Existing Cross Section



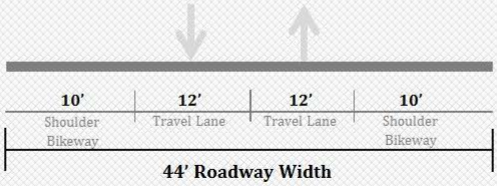
Segment 4 - Proposed Cross Section



PROJECT 5: US 101 - APPLE HILL RV PARK TO STATELINE ROAD (RURAL) NO IMPROVEMENTS

Purpose	Provide safe and accessible bicycle and pedestrian facilities within a high speed rural area to make the highway safer.
Description	Maintain the existing 2-lane rural cross section with 12'wide travel lanes and 10' wide paved shoulder bikeway between the Apple Hill RV Park and Stateline Road.
Mile Point	361.58 to 362.95
Roadway Characteristics	• US 101 is 2-lanes with paved shoulders. • US 101 speed is 55 MPH • Roadway widths range from 45' to 64' along this segment.
Proposed Improvement Addresses Deficiencies	• Maintain safe and accessible bicycle and pedestrian facilities within a high speed rural area.
Additional Considerations	• Need to address the bicycle and pedestrian facilities on the Winchuck Bridge. The existing bridge surface does not have 10' wide paved shoulders bikeways. • Future bridge work will need to match the corridor plan's 2-lane rural cross section for this segment. • Coordinate Project 5 with Project 12.
Cost Option	$2,800,000
Implementation	Long Term (10 to 20 years)

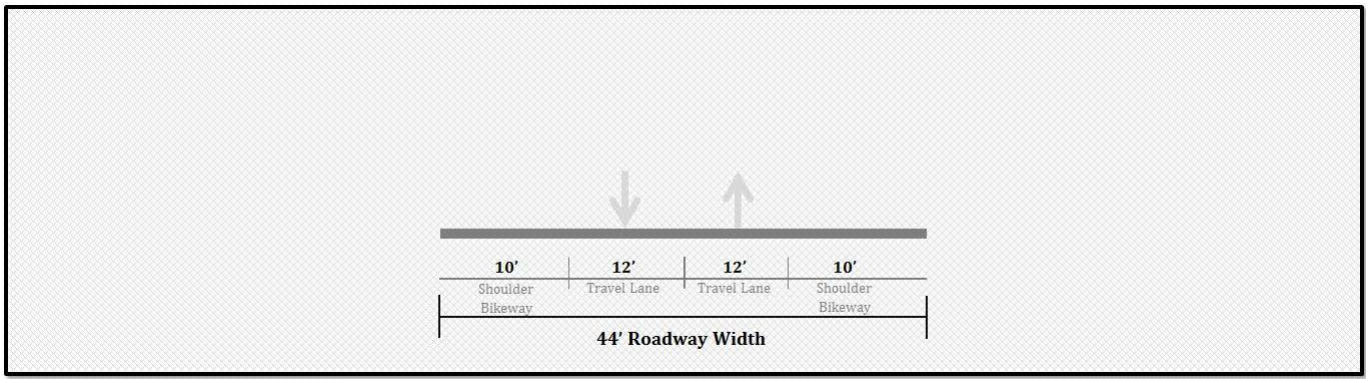
Segment 5 - Existing Cross Section



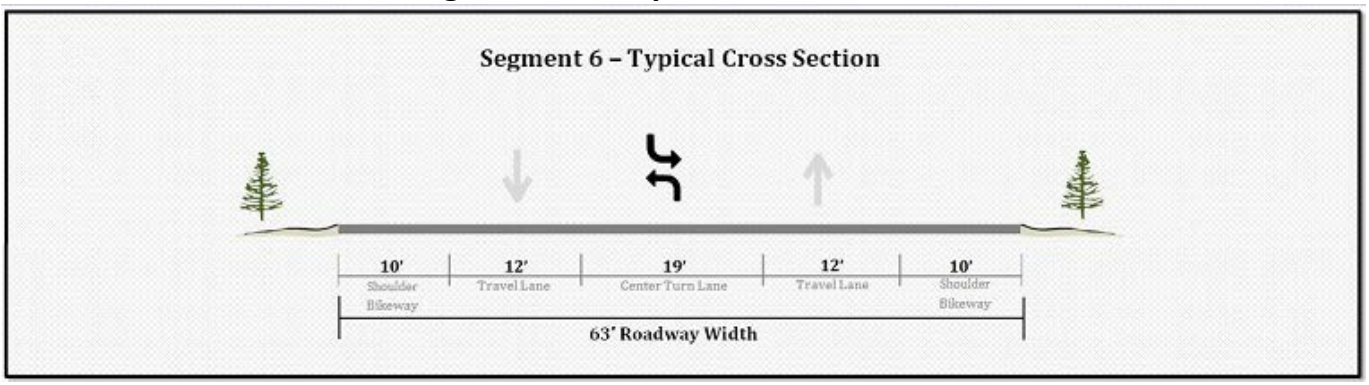
PROJECT 6: US 101 - STATELINE ROAD TO OREGON-CALIFORNIA BORDER – RURAL CENTER TURN LANE AND SHOULDER IMPROVEMENTS

Purpose	Provide safe and accessible transportation facilities for vehicular, bicycle and pedestrian travel modes within a highway speed rural area to make the highway safer.
Description	Add a 19’ wide center lane; and upgrade and rebuild deficient shoulders to 10’ wide paved shoulder bikeway between Stateline Road and the Oregon/California border.
Mile Point	362.95 to 363.11
Roadway Characteristics	• US 101 is 2-Lanes with paved shoulders. • US 101 speed is 55 MPH. • Roadway width ranges from 52’ to 61’ along this segment.
Proposed Improvement Addresses Deficiencies	• Installing 19’ wide center lane provides greater separation from opposing traffic travel lane. Matches future 3-lane cross section for US 101 in California. • Upgrading and rebuilding deficient shoulders to 10’ wide paved shoulder bikeway provides adequate separation of pedestrian and bicycle facilities from travel lanes in high speed rural areas.
Additional Considerations	• Access management improvements for the Del Cur Supply store. • Sight distance restriction caused by guardrail limits vehicles on the Crissey Field State Park access road to see approaching traffic on northbound US 101. • Coordinate Project 6 with Project 13 and Caltrans.
Cost Option	$650,000
Implementation	Long Term (10 to 20 years)

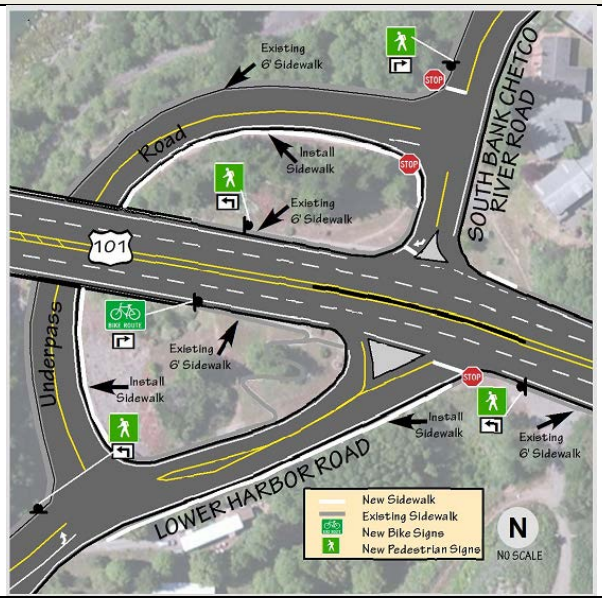
Segment 6 - Existing Cross Section



Segment 6 - Proposed Cross Section

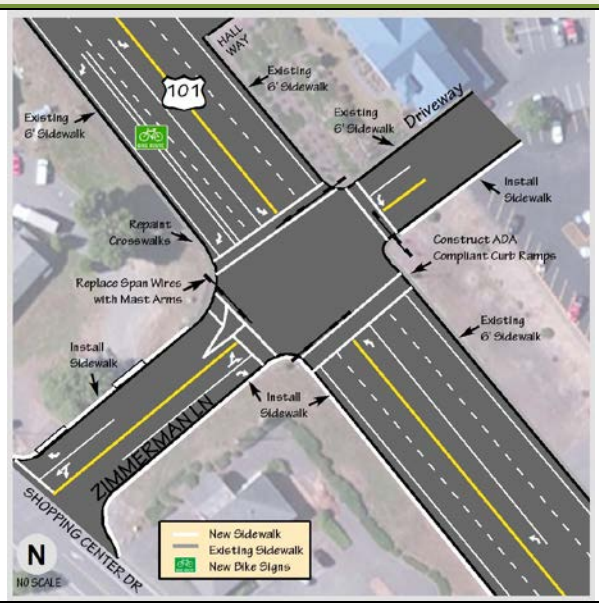


PROJECT 7: LOWER HARBOR RD/US 101/S. BANK CHETCO RIVER RD INTERSECTION SIDEWALK IMPROVEMENTS



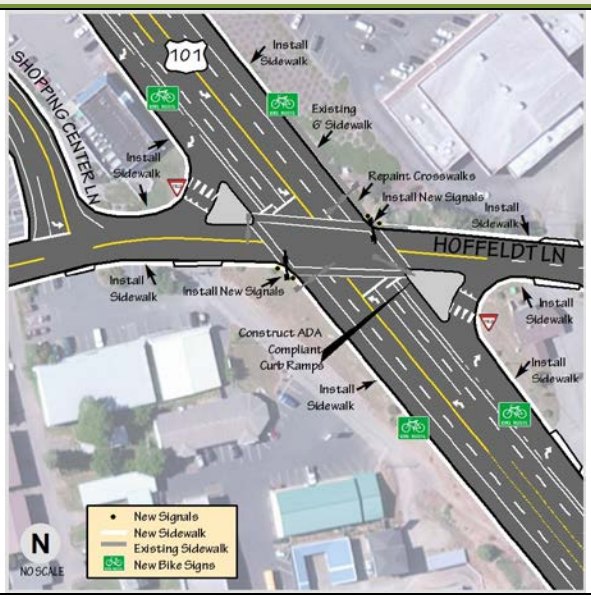
Purpose	Provide safe and accessible bicycle and pedestrian facilities crossing US 101 to make the highway safer.
Description	• Add 6' wide sidewalks on the southside of Underpass Road and Lower Harbor Road to provide connectivity to existing sidewalks on US 101.
Mile Point	358.14
Proposed Improvement Addresses Deficiencies	• Installing 6' wide sidewalks on the southside of Underpass Road and Lower Harbor Road to fill in sidewalk gaps and connect to existing sidewalks on US 101.
Additional Considerations	• There are two (2) driveways near this intersection. One driveway is just south of the Lower Harbor Road intersection, and the other is at Seabird RV Park. • Landscape buffers can be provided through an IGA between ODOT and City/County for landscape maintenance. Street lighting must comply with ODOT lighting policy and be provided through an IGA between ODOT and City/County. • Coordinate Project 7 with Project 1.
Cost Option	$25,000
Implementation	Long Term (10 to 20 years)

PROJECT 8: US 101/ZIMMERMAN LANE INTERSECTION TURN LANE, BIKE LANE AND SIDEWALK IMPROVEMENTS



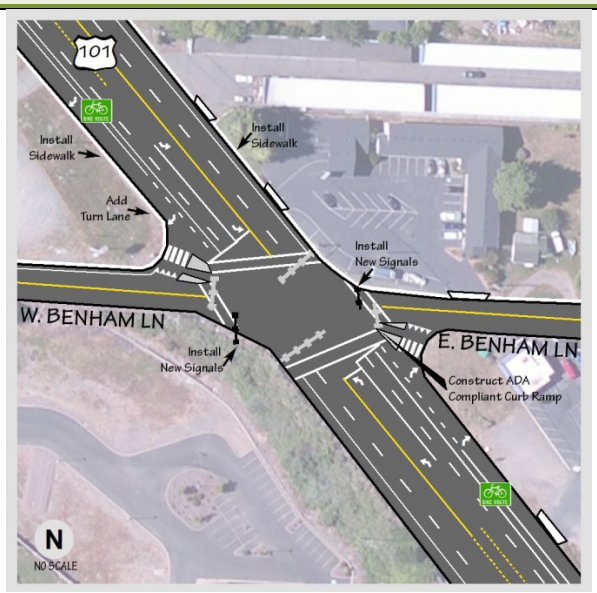
Purpose	Provide safe and accessible transportation facilities for vehicular, bicycle and pedestrian travel modes.
Description	• Install southbound right turn lane on US 101. • Install additional sidewalk on Zimmerman Lane and US 101. • Install ADA-compliant curb ramps on all intersection approaches and pedestrian facilities. • Continue US 101 bike lanes through the intersection
Mile Point	358.57
Proposed Improvement Addresses Deficiencies	• Right turn vehicles use existing shoulder on US 101 to turn onto Zimmerman Lane.
Additional Considerations	• Consider installing LED signal heads, placing reflective tape around the border of the signal back-plates and replacing signal head span wires with mast arms. • Consider signal modification to advance pedestrian interval, and installing a left turn lane on Zimmerman Lane with protected phasing to protect pedestrians crossing the intersection. • Consider shortening the NB left turn lane and extending the center turn lane at the north entrance to the South Coast Center to reduce turning conflicts and improve safety. • Consider making the north entrance to the South Coast Center a Right In/Right Out to reduce turning conflicts and improve safety. • Landscape buffers can be provided through an IGA between ODOT and City/County for landscape maintenance. Street lighting must comply with ODOT lighting policy and be provided through an IGA between ODOT and City/County. • Coordinate Project 8 with Project 2.
Cost Option	$650,000
Implementation	Short Term (1-5 years)

PROJECT 9: US 101/HOFFELDT LANE INTERSECTION SIGNAL, BIKE LANE AND SIDEWALK IMPROVEMENTS



Purpose	Offer safe and accessible travel options for bicyclists, vehicles and pedestrians near intersection.
Description	• Make improvements to Hoffeldt Lane to signal drivers of upcoming intersection including a new signal on mast arms with heads closer to the stop bar • Install new sidewalk south of the intersection on both sides of US 101. • Install ADA-compliant curb ramps on all approaches to the intersection. • Continue US 101 bike lanes through the intersection. • Update right turn channelization to current design standard and ADA standard.
Mile Point	358.76
Proposed Improvement Addresses Deficiencies	Improve entrances to intersection to help drivers identify crossings sooner.
Additional Considerations	• Consider installing LED signal heads and placing reflective tape around the border of the signal back-plates. • Landscape buffers can be provided through an IGA between ODOT and City/County for landscape maintenance. Street lighting must comply with ODOT lighting policy and be provided through an IGA between ODOT and City/County. • Coordinate Project 9 with Project 2.
Cost Option	$750,000
Implementation	Medium Term (5-10 years)

PROJECT 10: W. BENHAM LANE/US 101/E. BENHAM LANE INTERSECTION SIGNAL, TURN LANE, BIKE LANE AND SIDEWALK IMPROVEMENTS

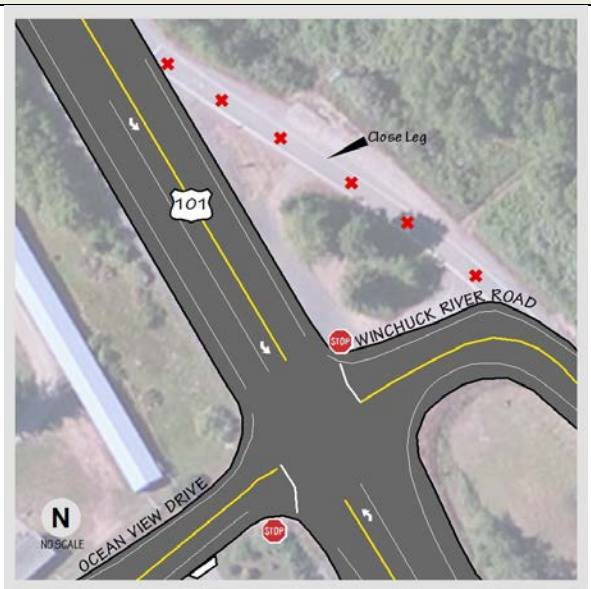


Purpose	Provide safe and accessible transportation facilities for vehicular, bicycle and pedestrian travel modes.
Description	• Make improvements to Benham Lane to signal drivers of upcoming intersection including a new signal on mast arms with heads closer to the stop bar. • Install new sidewalk on US 101 and Benham Lane. • Install ADA-compliant ramps on all approaches to the intersection. • Install southbound right-turn lane on US 101 at intersection. • Update right turn channelization to current design standard and ADA standard. • Continue US 101 bike lanes through the intersection.
Mile Point	359.32
Proposed Improvement Addresses Deficiencies	• Helps driver identify “pork chop” islands on NW and SW corners of intersection. • The skew angle problem would be partially addressed with the installation of a new signal closer to the stop bar. • The southbound right-turn lane at the intersection improves mobility. • Sidewalks and bike lanes improve bicycle and pedestrian accessibility. • Landscape buffers can be provided through an IGA between ODOT and City/County for landscape maintenance. Street lighting must comply with ODOT lighting policy and be provided through an IGA between ODOT and City/County.
Additional Considerations	• Coordinate Project 10 with Project 3. • Coordinate Project 10 with Development Review mitigation.
Cost Option	$700,000
Implementation	Long Term (10 to 20 years)

PROJECT 11: US 101/PEDRIOLI DRIVE INTERSECTION ACCESS AND TURN LANE IMPROVEMENTS

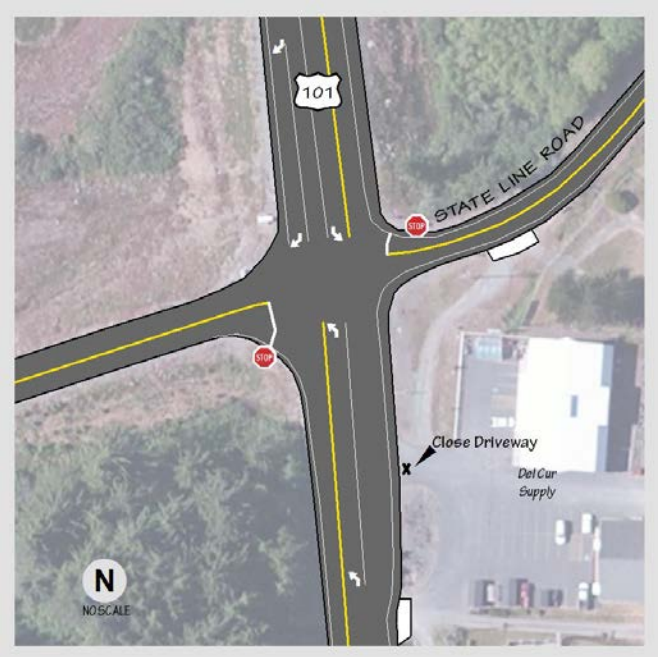
Purpose	Provide safe and accessible transportation operations.
Description	• Relocate the north driveway on the eastside of US 101 further north to serve future commercial development. • Install a southbound right turn lane to improve traffic operations and safety.
Mile Point	359.57
Proposed Improvement Addresses Deficiencies	• Relocating the north access improves traffic safety to better serve future commercial development on the property. • The turn lane provides storage for vehicles turning right onto Pedrioli Drive.
Additional Considerations	• Access management considerations to close, consolidate and/or relocate existing driveways within the turn lane design standard. • Coordinate Project 11 with Project 3.
Cost Option	$235,000
Implementation	Long Term (10 to 20 years)

PROJECT 12: OCEANVIEW DR./US 101/WINCHUCK RIVER RD. INTERSECTION ACCESS IMPROVEMENTS



Purpose	Provide safe and accessible transportation facilities.
Description	Close the northbound leg of Winchuck River Road.
Mile Point	362.22
Proposed Improvement Addresses Deficiencies	• Close the northbound leg of the US 101/Winchuck River Road intersection because all traffic movements to/from Winchuck River Road can be served via the Oceanview Drive/Winchuck River Road intersection. • Existing right turns from Winchuck River Road onto US 101 would be routed through the Oceanview Drive/Winchuck River Road intersection, improving traffic operations and the safety of right-turn movements.
Additional Considerations	• Coordinate Project 12 with Project 5.
Cost Option	$25,000
Implementation	Long Term (15 to 20 years)

PROJECT 13: US 101/STATELINE ROAD INTERSECTION ACCESS AND GUARDRAIL IMPROVEMENTS



Purpose	Provide safe and accessible transportation facilities for vehicular and bicycle travel modes.
Description	• Make the north access on the Del-Cur Supply property Right In/Right Out and improve site access to Stateline Road. • Relocate guardrail on the southwest corner of intersection further away from the highway.
Mile Point	362.95
Proposed Improvement Addresses Deficiencies	• Restricting the driveway closest to the intersection to Right In/Right Out reduces turning conflicts and improves safety at the intersection. • Relocating the guardrail improves sight distance for vehicles on Crissey Field State Park access road to see approaching traffic on northbound US 101.
Additional Considerations	• Consider turning impacts at northbound left turn lane and 2nd driveway to Del Cur Supply • Coordinate Project 13 with Project 6.
Cost Option	$250,000
Implementation	Short Term (1 to 5 years)

5. ACCESS MANAGEMENT

The US 101 Access Management Strategy governs ODOT's decisions of all future road approaches connecting to US 101 from the Chetco River Bridge (MP 358.02) to the Oregon/California border (MP 363.11). The standards applicable to the US 101 Corridor Plan are based on roadway OHP standards, statewide highway classification, Oregon Administrative Rule (OAR) 734-051 and long-range estimates of traffic demand. The Access Management Strategy represents actions that may be triggered as land use changes occur (new development or redevelopment), as future highway improvements are implemented, or as highway safety and operational issues arise.

5.1 ACCESS MANAGEMENT STANDARDS

The standards applicable to the US 101 corridor from the Chetco River Bridge to the Oregon/California Border are summarized in Table 17. Ideally, a highway improvement project includes provisions by which access can be made fully compliant with the access spacing standards. In many instances, access needed for existing development will not allow these standards to be met. When the requirements and standards cannot be met, progress toward meeting the applicable access standards must be demonstrated or a deviation must be justified and approved by the ODOT Region Access Management Engineer.

Table 18

Minimum Access Spacing Standards for US 101[1]			
Mile points	**Segment Description**	**Posted Speed**	**Minimum Spacing[1]**
Within Brookings UGB (Urban and Urbanizable Lands)			
MP 358.02 to 361.16	Chetco River Bridge to McVay Lane (North)	45 mph 55 mph	800 ft. 1,320 ft.
Outside Brookings UGB (Rural Lands)[2]			
MP 361.16 to 363.11	McVay Lane (North) to Oregon/California Border	55 mph	1,320 ft.

Notes:

1. Future modifications of the adopted access standards will require OTC's amendment of the US 101 Corridor Plan
2. Standards in the OHP are less restrictive inside urban boundaries than in rural area

(**Note:** The OHP addresses access management with the most recent revisions adopted in June 2014. More detailed requirements, action definitions, and the access management standards for state highways are specified in OAR 734-051 (Division 51): Highway Approaches, Access Control, Spacing Standards, and Medians etc.)

5.2 ACCESS MANAGEMENT KEY PRINCIPLES AND METHODOLOGY

ODOT Facility Plans are required to develop and approve Key Principles and a Methodology for making access related decisions during the planning process. Requirement include notifying adjoining real property owners, and where possible, business owners or lessees of potential access changes, how they can participate in the planning process and opportunities to challenge the Key Principles and Methodology approved during development of the plan.

On November 1, 2017, ODOT Region 3 sent a notification letter to inform all properties abutting US 101 within the study area of the upcoming US 101 Corridor Plan and listing the Key Principles and Methodology that will be used to make access decisions during the planning project, and information regarding an abutting property owner's right to challenge the Key Principles and Methodology through a collaborative discussion or dispute resolution board. On November 21, 2016, we approved the Key Principles and Methodology for use in the US 101 Corridor Plan.

On December 1, 2016, ODOT Region 3 sent notification letters to affected properties abutting US 101 within the study area upon determining that certain road approaches will need to be modified or closed, indicating that the plan is calling for a change to their current access configuration, and notify the property owner that they may challenge the Key Principles and Methodology that were used in making the decision through a collaborative process or dispute resolution board. Affected property owners were also invited to discuss proposed projects with ODOT staff and attend a Public Open House on December 14, 2016. (**Note:** The Key Principles and Methodology may be challenged up to the date that the plan is adopted.)

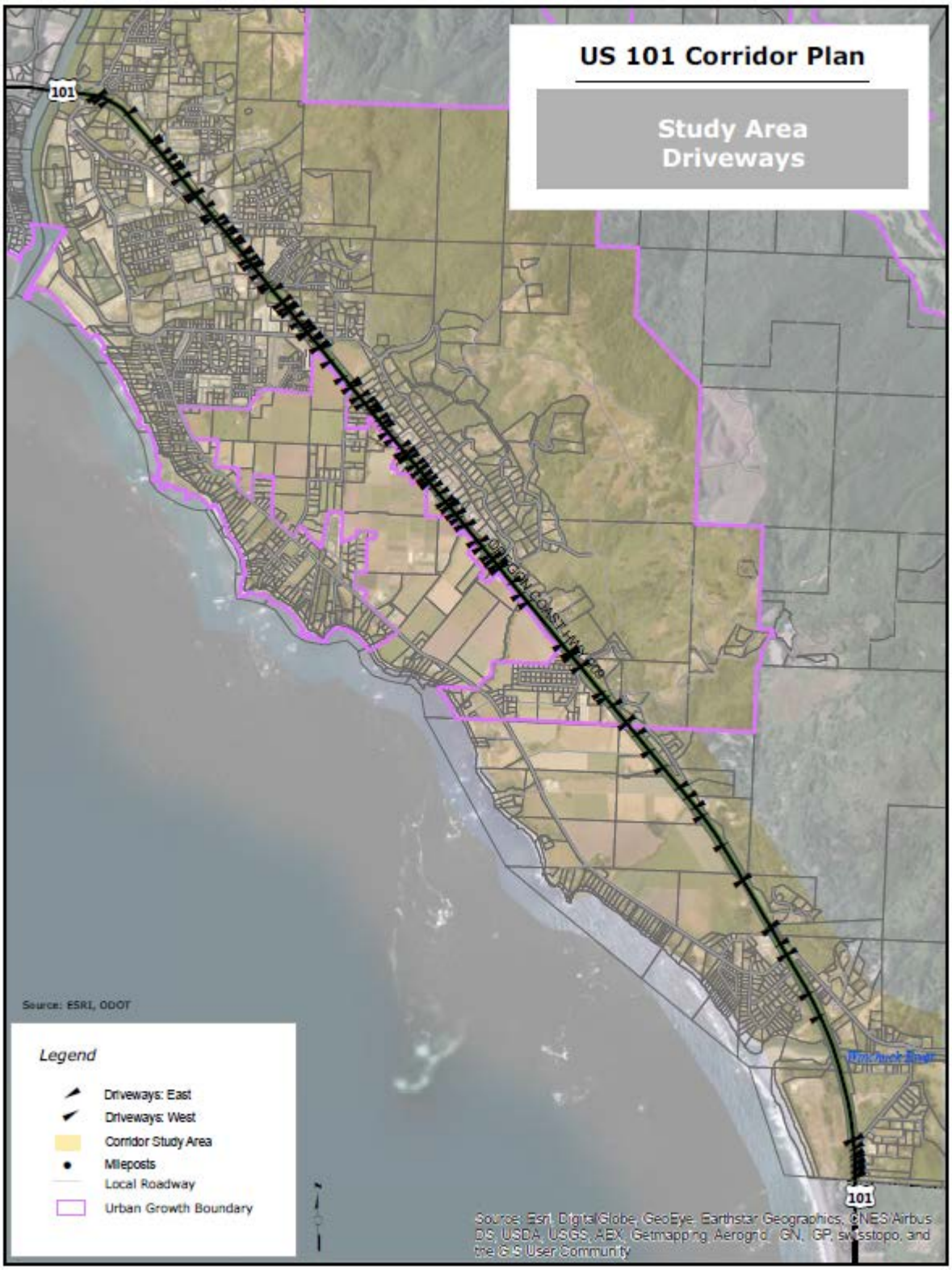
5.3 ACCESS DENSITY (YEAR 2012)

As shown in Table 18, the existing access spacing exceeds the ODOT standard along the entire corridor, with the highest densities (driveways per mile) in the area to the north of the weigh station at M.P. 360.48 (See Figure 23).

Table 19

Access Density Year 2012								
Segment		ADDT	Speed Limit	West Side		East Side		Met ODOT Std.
Beginning	Ending			Dwys.	Density	Dwys.	Density	
Chetco River Bridge MP 358.02	Hoffeldt Ln. MP 358.73	15,850	45	8	14	11	18	5
Hoffeldt Ln. MP 358.73	Benham Ln. MP 359.32	14,200	45	9	18	16	32	5
Benham Ln. MP 359.32	Weigh Station MP 361.20	10,800	45/55	26	32	22	28	4
Weigh Station MP 361.20	Stateline MP 363.11	10,200	55	21	17	8	6	4

Figure 23


US 101 Corridor Plan
Study Area
Driveways
101
OREGON COAST HWY 101
Source: ESRI, ODOT
Legend
Driveways: East
Driveways: West
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

5.4 ACCESS MANAGEMENT ACTIONS

The goal of Access Management is to improve the safety for the travelling public, including vehicles, pedestrians, and bicyclists. Balance access with the economic development of the adjoining parcels while ensuring travel on the highway occurs in a safe and efficient manner is our priority.

(**Note:** Access management techniques shall be applied with the intent of moving in the direction of improving the spacing between driveways.)

DEVELOPMENT REVIEW ACTIONS

ODOT's Development Review Program works with local governments, landowners, and developers through the local land use process by leveraging conditions of approval to mitigate development impacts on state highway facilities. Access management techniques applied to the roadways and adjacent land use characteristics could be implemented through this program. Access management actions could include:

1. Possible consolidate, modify and/or close driveways when properties develop or redevelop and when reasonable access can be provided with a single access point or via a local street.
2. Install left-turn and right-turn lanes when properties develop or redevelop and are expected to generate traffic volumes sufficient to meet the ODOT turn lane guidelines for installation.
3. Possible consolidate or relocated driveways when properties develop or redevelop and when not always able to meet the spacing standard, the goal is to move in the direction of improving the spacing between driveways.
4. Ensure the relocated, reconstructed or consolidated driveways are adequate to serve the existing use(s) on the associated properties.

HIGHWAY IMPROVEMENTS ACTIONS

ODOT's Project Delivery Program shall work with local governments, landowners and business owners to consolidate/close driveways in an effort to move towards achieving applicable access management standards. Access management triggers could include:

1. Consolidate and/or close driveways when the 3-lane improvements are constructed on US 101.
2. Install right-turn deceleration lanes when the 3-lane improvements are constructed at US 101 intersections.
3. Consolidate and/or close driveways when the left-turn and right-turn lanes are constructed at US 101 intersections.

(**Note:** This access management strategy does not address acquiring access control along US 101. ODOT should consider purchasing access control from properties abutting US 101 when widening US 101 at intersections and/or installing turn lanes at intersections so that driveways do not conflict with turn lane queues and movements. Access control research will need to be completed along with the actual delivery of a highway project.)

SAFETY/OPERATIONAL ACTIONS

ODOT's Safety/Operations Program could work with local governments, landowners and business owners to consolidate/close/modify driveways in an effort to move towards achieving applicable access management standards. Access management triggers could include:

1. Consolidate and/or close driveways when the annual crash rate is twenty (20) percent greater than the statewide rate for similar roadways or a section has an ODOT SPIS rating in the top ten (10) percent.
2. Install left-turn and right-turn deceleration lanes at high-volume intersections and driveways.
3. Install left-turn and right-turn deceleration lanes when the annual crash rate is twenty (20) percent greater than the statewide rate for similar roadways or a section has an ODOT SPIS rating in the top ten (10) percent.

SOUTH COAST CENTER ACCESS

The two (2) South Coast Center driveways are located 300 and 600 feet north of Hoffeldt Lane on the east-side of US 101. There have been nine (9) crashes over the past five (5) years in this vicinity. Six (6) of these occurred at the driveways in the northbound direction, two (2) are pedestrian collisions (one fatal), and the remaining crash was a rear-end crash that may or may not have been related to the driveways.

The safety needs analysis determined the crashes at the driveways could be related, in part, to the proximity of driveways to the US 101/Hoffeldt Lane intersection. Northbound drivers on US 101 may not anticipate vehicles turning into the shopping center immediately north of the intersection and drivers at the driveways may have difficulty judging gaps in the traffic platoons formed by the intersection.

Access management could consider:

1. Driveway Consolidation or Relocation.
2. Restriction of the turning movements to right- in/right out. The south driveway would be converted to right-in/right-out access only, with full access retained at the north driveway.
3. Rerouting of the shopping center traffic to the Hoffeldt Road driveway.

(**Note:** The driveway modification must be designed to accommodate buses that enter the shopping center to pick up and drop off riders.)

OCEANVIEW DRIVE/WINCHUCK RIVER ROAD INTERSECTIONS

The US 101/Winchuck River Road intersection is skewed and located roughly 300 feet from the Oceanview Drive/Winchuck Road intersection. All traffic movements to/from Winchuck River Road can be served via the Oceanview Drive/Winchuck Rd. intersection. Modifying the intersection could improve traffic operations and the safety of right-turn movements.

Access modifications could include:

1. Closing the US 101/Winchuck River Road intersection.
2. Rerouting existing right turns from Winchuck River Road onto US 101 through the Oceanview Drive/Winchuck Rd. intersection.

DEL-CUR SUPPLY ACCESS

Currently, there are two (2) driveways for the Del-Cur Supply store on the northbound approach located closely to intersection of Stateline Road and US 101. There have been two rear-end crashes at this location that may have been related to drivers slowing to turn into the driveways.

Access modifications could include:

1. Convert the north driveway of the Del-Cur Supply store closest to the intersection to a Right In/Right Out driveway; and improve site access to Stateline Road.
2. Improve full site access through the second driveway to the south.

OREGON ADMINISTRATIVE RULES - CHAPTER 734, DIVISION 51

Oregon Administrative Rule (OAR) Division 51 establishes procedures, standards, and approval criteria used by the department to govern highway approach permitting and access management consistent with Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), statewide planning goals, acknowledged comprehensive plans, and the Oregon Highway Plan (OHP). The intent of Division 51 is to provide a highway access management system based on objective standards that balances the economic development objectives of properties abutting state highways with the transportation safety and access management objectives of state highways in a manner consistent with local transportation system plans and the land uses permitted in applicable local comprehensive plan(s) acknowledged under ORS Chapter 197.

Section 7010 - Access Management in Highway Facility Plans

The passage of SB408 changed the way in which facility plans document highway access decisions and sets requirements for notification to adjoining real property owners abutting the highway. As a result of the legislation, ODOT Facility Plans are required to develop and approve Key Principles and a Methodology for making access related decisions during the planning process. Requirement include notifying adjoining real property owners, and where possible, business owners or lessees of potential access changes, how they can participate in the planning process and opportunities to challenge the Key Principles and Methodology approved during the development of the plan.

To comply with both the spirit and letter of the law, ODOT Region 3 uses a two-stage notification process. The first stage occurs at the beginning of the project and includes information that a planning effort is underway, a listing of the Key Principles and Methodology that will be used to make access decisions during the planning project, and information regarding an abutting property owner right to challenge the Key Principles and Methodology through a collaborative discussion or dispute resolution board. It also informs people of how they may become involved in the project and provide comment.

Upon determining that certain road approaches will need to be modified or closed, a second notice is sent to the affected property owner and where possible, business owner/lessee, indicating that the plan is calling for a change to their current access configuration. The notice includes an invitation to meet with ODOT and a copy of the approved Key Principles and Methodology that were used in making that determination. The notice also informs the property owner that they may challenge the Key Principles and Methodology that were used in making the decision through a collaborative process or dispute resolution board.

6 BICYCLE/PEDESTRIAN (YEAR 2012)

The Bicycle and Pedestrian System in the study area consists of shoulder bikeways, sidewalks, and crosswalks (See Figure 24). The existing facilities and volumes are inventoried. Bicycle and pedestrian needs are analyzed based on a comparison of the facility characteristics to the standards. The addition of improved bicycle and pedestrian facilities improves connectivity for these travel modes and can reduce traffic demand on the highway.

Bicycle and Pedestrian Facilities (Year 2012)

The shoulders on US 101 are used by bicyclists as shoulder bikeways. The existing shoulder widths in this study corridor range from five (5) to fifteen (15) feet. There are six (6) foot wide sidewalks within certain areas of the northern part of the corridor, but none available to the south of Benham Lane. All of the striped crosswalks of this segment of US 101 are located at the signalized intersections at Zimmerman Lane, Hoffeldt Lane, and Benham Lane (See Figure 25). Every intersection is technically a crosswalk, but crossing at the unsignalized intersections in this corridor would be dangerous and difficult because of the traffic speeds.

Bicycle and Pedestrian Volumes (Year 2012)

As shown in Table 19, current pedestrian and bicycle volumes are highest near Lower Harbor Drive and South Bank Chetco River Road, just south of the Chetco River Bridge. This area is nearest to the Brookings City Limit and has bicyclist/pedestrian characteristics more similar to those of an urban area than the rest of the study area, which is more rural.

Table 20

16-Hour Bicycle and Pedestrian Volumes
Year 2012

Intersection	Pedestrians	Bicyclists
Lower Harbor Dr./Underpass Rd.	42	21
South Bank Chetco River Rd/Underpass Rd.	34	2
Hoffeldt Ln./US 101	25	4
Benham Ln./US 101*	--	19
Pedrioli Dr./US 101	7	11

* Pedestrians are not counted at this location.

Note: Bicycle/pedestrian counts are not conducted at the other 16-hour count locations.

Figure 24


US 101 Corridor Plan
Bicycle and Pedestrian Network
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Hoffeldt Ln.
Kings Way
Floral Hill Dr.
Zimmerman Ln.
Benham Ln.
Harbor
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
358
359
360
361
362
363
OR
CA
Source: ESRI, ODOT
Legend
Bicycle & Pedestrian Facilities
Existing Bike Lane
Existing Sidewalk
Existing Bike Lane & Sidewalk
Proposed Bike Lane & Sidewalk
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary

Figure 25

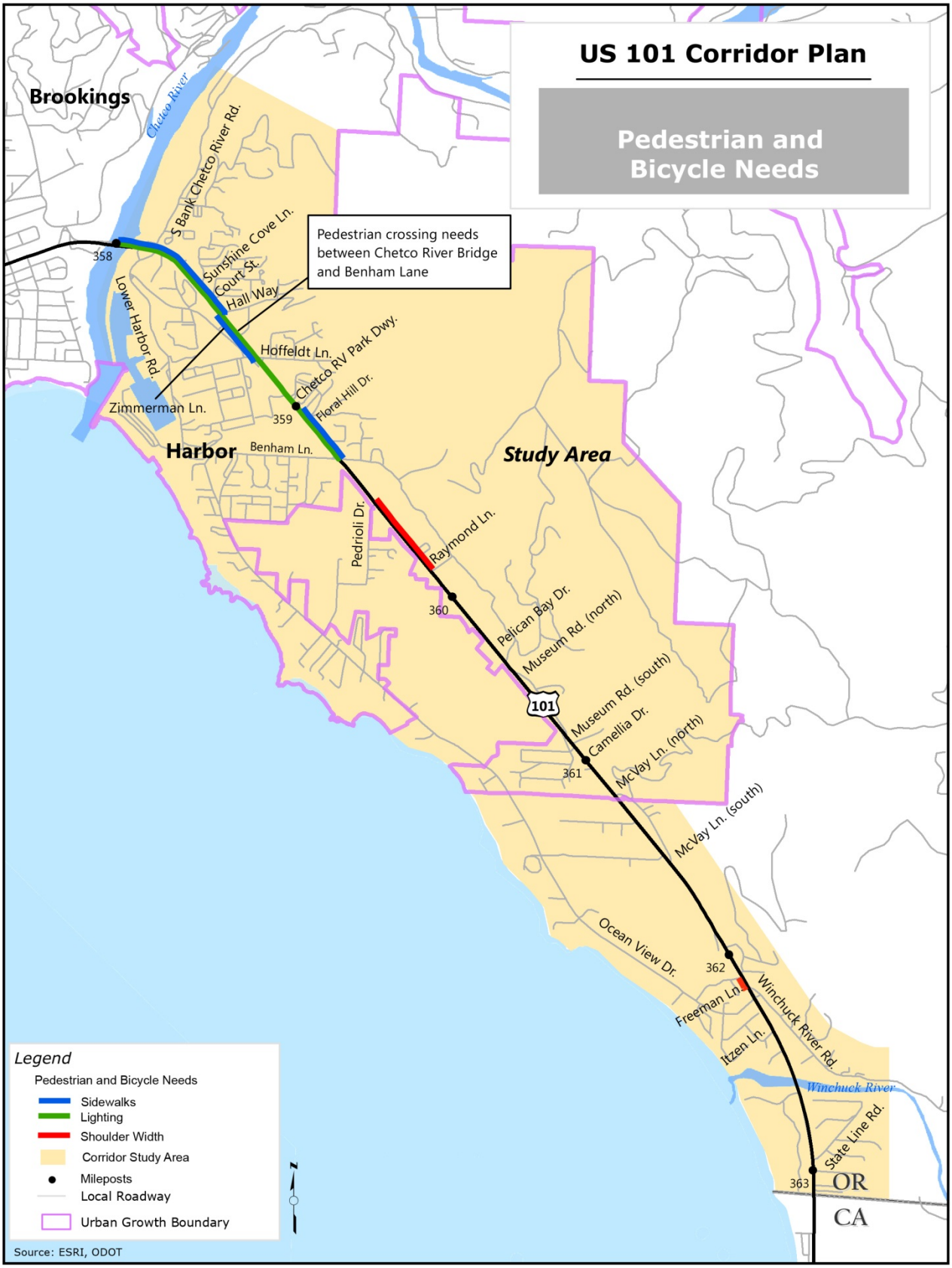

US 101 Corridor Plan
Bicycle and Pedestrian Facilities
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Zimmerman Ln.
Harbor
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Benham Ln.
Study Area
Pedrioli Dr.
101
Raymond Ln.
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
Camellia Dr.
McVay Ln. (north)
McVay Ln. (south)
Ocean View Dr.
Freeman Ln.
Itzen Ln.
Winchuck River Rd.
Winchuck River
State Line Rd.
OR
CA
358
359
360
361
362
363
Legend
Bicycle and Pedestrian Facilities
Crosswalk
Sidewalk
Shoulder Bikeway
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
N
Source: ESRI, ODOT

Bicycle and Pedestrian Needs

The Oregon Bicycle and Pedestrian Design Guide indicate that for rural facilities, shoulders should be provided that are wide enough (minimum six (8) feet) to accommodate pedestrian and bicycle traffic. According to this guideline, the only portion of the corridor that is not adequate for bicycle and pedestrian travel is the section of US 101 between Pedrioli Lane and Raymond Lane, where shoulder widths are five (5) feet.

The bicycle and pedestrian facilities along US 101 are limited throughout the study area. Corridor-long deficiencies are the lack of sidewalks and ADA-compliant curb ramps (See Figure 26). The southern portion of the Corridor is rural in nature and sidewalks are not appropriate or necessary.

Figure 26


US 101 Corridor Plan
Pedestrian and Bicycle Needs
Brookings
Chetco River
S Bank Chetco River Rd.
Sunshine Cove Ln.
Court St.
Hall Way
Lower Harbor Rd.
Pedestrian crossing needs between Chetco River Bridge and Benham Lane
358
Hoffeldt Ln.
Chetco RV Park Dwy.
Floral Hill Dr.
Zimmerman Ln.
359
Harbor
Benham Ln.
Study Area
Pedrioli Dr.
Raymond Ln.
360
Pelican Bay Dr.
Museum Rd. (north)
Museum Rd. (south)
101
Camellia Dr.
McVay Ln. (north)
361
McVay Ln. (south)
Ocean View Dr.
362
Freeman Ln.
Winchuck River Rd.
Itzen Ln.
Winchuck River
State Line Rd.
363
OR
CA
Legend
Pedestrian and Bicycle Needs
Sidewalks
Lighting
Shoulder Width
Corridor Study Area
Mileposts
Local Roadway
Urban Growth Boundary
Source: ESRI, ODOT

Oregon Coast Bike Route

For the most part, the Oregon Coast Bike Route follows US 101 as a shoulder bikeway. In several areas, the route departs from the main highway and follows county roads and/or city streets. In Brookings-Harbor, the bike route diverts off US 101 to Lower Harbor Road then connects to Oceanview Drive south of Benham Lane, then connects back to US 101 just north of the Winchuck River.

1. **Lower Harbor Road** has a bike lane on both sides of the road beginning at US 101 near the Chetco River Bridge and continuing to Boat Basin Road at which point the road turns into W. Benham Lane. The bike lane continues on both sides of W. Benham Lane connecting back to US 101.
2. **Oceanview Drive** from MP 0.00 to MP 1.497 does not have bike lanes on either side of the road. This segment would be very difficult to obtain additional right of way to add bike lanes through the agricultural/private lands. There is minimal shoulder throughout this segment and would not be economically feasible to construct bike lanes.

ODOT Region 3 recommends - the Oregon Coast Bike Plan consider removing the Oregon Coast Bike Route from Oceanview Drive and rerouting it to Benham Lane east from the Oceanview Drive/Lower Harbor Road intersection to US 101; and then south from the US 101/Benham Lane intersection to the Oregon/California border for the following reasons:

1. Most bicyclist use US 101 as the main travel-way to the Oregon/California border.
2. US 101 bikeway shoulders are adequate to support bicyclist and pedestrians.
3. This corridor plan proposes to improve US 101 bicycle and pedestrian facilities to current design standards to improve bicycle safety.
4. The Pacific Ocean is more visible from US 101's higher elevation than from the south-end of Oceanview Drive. New home development along Oceanview Drive blocks ocean scenery. The County zoning code does not have view-shed protection requirements to limit building heights along Oceanview Drive.
5. Oceanview Drive does not meet County collector street standards for 2' wide shoulders. There are bike lanes only at the south-end of Oceanview Drive (MP 1.5-3.5).
6. Roadway conditions at the north-end of Oceanview Drive (MP 0-1.5) do not have shoulders to separate bicyclist from motor vehicles in the travel lanes. The fog line abuts the County storm drain system on both sides of the road.
7. Oceanview Drive traverses existing residential neighborhoods and agricultural/private lands. There is not adequate right of way to widen shoulders to accommodate bicyclist. Widening of Oceanview Drive would require taking agricultural lands, impacting residences, relocating utilities and relocating the County storm drain system.

(**Note:** Oregon Coast Bike Route signage will need to be updated for the new bike route.)

Bicycle and Pedestrian Improvements

On US 101 within the study area, there are sidewalks intermittently between the Chetco River Bridge and Benham Lane. Within this area, there are three (3) intersections with marked crosswalks at Zimmerman Lane, Hoffeldt Lane, and Benham Lane.

The following additional ADA needs are also identified:
Along the sections of US 101 that have sidewalk, ADA deficiencies exist at two (2) locations where there are no ramps to allow for access from the sidewalk to the street:

1. North driveway of the South Coast Center.
2. End of sidewalk north of Hall Way on the east-side of US 101.

Curb ramps at the signalized intersections (Zimmerman Lane, Hoffeldt Lane, and Benham Lane) are not compliant with the latest design standard, which requires curb ramps on both sides of the corner instead of just one in the center.

Bicycle and Pedestrian Improvements include:
The proposed bicycle lanes and sidewalks along US 101 between the Chetco River Bridge and Benham Lane would fit well into the existing bicycle and pedestrian network **(See Projects 1 and 2)**.

1. Between the Chetco River Bridge and Zimmerman Lane, new bike lanes would connect to existing bike lanes on Lower Harbor Road and Shopping Center Drive. New sidewalks would connect to the existing sidewalks on Lower Harbor Road, Shopping Center Drive, South Bank Chetco River Road, and Zimmerman Lane **(See Projects 1 and 2)**.
2. Between Zimmerman Lane and Hoffeldt Lane, new sidewalks would join existing sidewalks on Zimmerman Lane, Hoffeldt Lane, and Shopping Center Avenue **(See Project 2).**
3. Between Hoffeldt Lane and Benham Lane, new bike lanes would go through the intersection to provide a connection to existing bike lanes on Benham Lane, which connect to bike lanes on Lower Harbor Road **(See Project 2)**.

7 PLAN MONITORING

The US 101 Corridor Plan relies on monitoring traffic volumes, congestion, and crash history to identify when projects should be considered for implementation or modification. When conditions are approaching an identified threshold, opportunities for funding projects should be pursued.

7.1 TRAFFIC CONDITIONS MONITORING

A projects priority in the US 101 Corridor Plan is based on when a project may be warranted. Although some priority has been assigned to the projects, periodic monitoring should occur to identify when projects may be needed. In some cases, priority may be elevated based on traffic volume trends or crash history, while others may be delayed.

Periodic Corridor Monitoring

Periodic corridor monitoring of traffic and crash data can be used to identify the need for capacity and safety improvements within the US 101 corridor.

Data collection should include:

- *Intersection traffic volumes should be collected and analyzed every three (3) to five(5) years to identify the need for traffic signals, left-turn lanes, right-turn lanes, and other capacity and safety improvements identified in the Corridor Plan.*
- *Crash rates should be reviewed every two (2) to three (3) years and SPIS rankings should be reviewed annually to identify when safety improvements such as left-turn lanes, right-turn lanes, and access management measures may be necessary.*

Traffic Impact Studies

Work with City of Brookings and Curry County land use processes to require traffic impact studies (TIS) for proposed developments impacting US 101 to monitor when projects are warranted. Proposed developments that generate a sufficient number of trips to impact US 101 or other public intersections along US 101 should be required to prepare a TIS. Actions related to TIS preparation include:

- *Minimum trip thresholds for when a TIS is required should be reviewed for consistency with monitoring needs of the US 101 Corridor Plan.*
- *Improvements that are triggered by development should be incorporated into the conditions of approval for the proposal.*

Recommended Policy Language:
"Traffic Study Requirements. The city or county with land use, development or access jurisdiction may require a traffic study prepared by a traffic engineer to determine access, circulation and other transportation requirements including identification of projects needed to implement the Transportation System Plan or other projects needed to mitigate for traffic impacts resulting from development that exceeds assumptions from the Transportation System Plan."

8 FUNDING

None of the projects listed in the US 101 Corridor Plan currently have identified funding sources. Funding is anticipated to come from a variety of public and private sources as projects develop over time.

8.1 STATE FUNDING SOURCES

Funding in the State Transportation Improvement Program (STIP) is divided into two (2) categories:

1. **Enhance**: Activities that enhance, expand, or improve the transportation system.
2. **Fix-It**: Activities that fix or preserve the transportation system.

Projects that may be eligible for the Enhance category of funds include:

- Bicycle and/or pedestrian facilities on or off the highway ROW.
- Development STIP projects (projects not ready for construction with 4-year cycle).
- Modernization projects that add capacity to the system (per ORS 366.507).
- Most projects previously eligible for Transportation Enhancement (TE) funds.
- Projects previously eligible for Flex Funds (Bicycle and Pedestrian, Transit, and TDM projects, plans, programs, and services).
- Protective ROW purchases.
- Public transportation (capital projects only, not operations).
- Safe Routes to School (infrastructure projects).
- Scenic Byways (construction projects).
- Transportation Alternatives (the federal transportation authorization, MAP-21).
- Transportation Demand Management.

Project activities eligible for the *Fix-It* category of funds include:

- Bicycle and pedestrian facilities on state routes only.
- Bridges (state owned).
- Culverts.
- High risk rural roads.
- Illumination signs and signals.
- Landslides and rock falls.
- Operations (includes ITS).
- Pavement preservation.
- Rail-highway crossings.
- Safety.
- Salmon (fish passage).
- Site mitigation and repair.
- Storm water retrofit.
- Transportation Demand Management (part of operations).
- Work zone safety (project specific).

8.2 OTHER FUNDING SOURCES

Other funding may come from public or private sources. Public funding opportunities could include local government Capital Improvement Programs and possible partnerships with local agencies to combine resources for related projects. Private development could be another source for funding through required mitigation or a developer contribution to a larger improvement activity.

8.3 FUNDING DISCLOSURE

Private development cannot rely upon the highway improvement projects included in the US 101 Corridor Plan as mitigation, unless a project has been programmed for funding in the STIP, programmed for funding in a local Capital Improvement Program (CIP), funded in an Intergovernmental Agreement (IGA) with ODOT, or funded in a Cooperative Improvement Agreement (CIA) with ODOT.

CITY OF BROOKINGS

COUNCIL AGENDA REPORT

Meeting Date: September 25, 2017

Originating Dept: Planning

Signature (submitted by)

City Manager Approval

Subject: A hearing on File LDC-1-17 for consideration of revisions to Chapter 17.170 Street Standards of the Brookings Municipal Code.

Recommended Motion: Motion to approve revisions proposed by LDC-1-17 to revise Section 17.170, Street Standards to include updates proposed with the adoption of the Transportation System Plan update and direct staff to draft the adopting ordinance.

Financial Impact: None.

Reviewed by Finance & Human Resources Director:

Background/Discussion: The Transportation System Plan (TSP) update requires adoption of several changes to the Land Development Code (LDC) including changes to definitions, code section numbering, and street standards. With the proposed adoption of these updates, the Land Development Code will more accurately reflect the Transportation System Plan updates.

The proposed changes were presented to the Brookings Planning Commission at their September 5, 2017 meeting. The Brookings Planning Commission recommended approval of the proposed changes to the Brookings Municipal Code Section 17.170, Street Standards.

Attachment(s): A. Chapter 17.170 Street Standards, Brookings Municipal Code.

Chapter 17.170
STREET STANDARDS

17.170.020 Definitions.

The following definitions apply for the purpose of this chapter. Also see definitions in Chapter 17.08 BMC.

“Access” means a way or means of approach to provide pedestrian, bicycle, or motor vehicular entrance or exit to a property.

“Access classification” means a ranking system for roadways used to determine the appropriate degree of access management. Factors considered include functional classification, the appropriate local government’s adopted plan for the roadway, subdivision of abutting properties, and existing level of access control.

“Access management” means the process of providing and managing access to land development while preserving the regional flow of traffic in terms of safety, capacity, and speed.

“Bicycle facilities” is a general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities and all bikeways. Wherever bicycle facilities are provided, proper signage must be installed, including the use of “sharrows,” if appropriate.

“Bikeway” means any road, path, or way that is in some manner specifically open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are shared with other transportation modes. The five types of bikeways are:

1. “Multi-use path” means a paved 10- to 12-foot-wide way that is physically separated from motorized vehicular traffic; typically shared with pedestrians, skaters, and other nonmotorized users.

2. “Bike lane” means a four- to six-foot-wide portion of the roadway that has been designated by permanent striping and pavement markings for the exclusive use of bicycles.

3. “Shoulder bikeway” means the paved shoulder of a roadway that is four feet or wider; typically shared with pedestrians in rural areas.

4. “Shared roadway” means a travel lane that is shared by bicyclists and motor vehicles. Designating a street as a “bicycle boulevard” or “sharrow” will require appropriate signage and modifications. These should only be considered on residential, low traffic volume, interconnected streets.

5. “Multi-use trail” means an unpaved path that accommodates all-terrain bicycles; typically shared with pedestrians.

“Corner clearance” means the distance from an intersection of a public or private road to the nearest driveway or street measured from the closest edge of the pavement of the intersecting road to the closest edge of the pavement of the connection along the traveled way.

“Cross access” means a commercial or industrial service drive providing vehicular access between two or more contiguous sites so the driver need not enter the public street system.

"Development driven improvement" means improvements to be installed when new development increases the need and demand for roadway, bicycle, or pedestrian facilities.

“Frontage road” means a public or private drive which generally parallels a public street between the right-of-way and the front building setback line. The frontage road provides access to private properties while separating them from the arterial street.
“Functional area (intersection)” means that area beyond the physical intersection of two roads that comprises decision and maneuver distance, plus any required vehicle storage length.
“Functional classification” means a system used to group public roadways into classes according to their purpose in moving vehicles and providing access.
“Joint access (or shared access)” means a driveway connecting two or more contiguous sites to the public street system.
“Lot” means a parcel, tract, or area of land whose boundaries have been established by some legal instrument, which is recognized as a separate legal entity for purposes of transfer of title, has frontage upon a public or private street, and complies with the dimensional requirements of this code.
“Lot, corner” means any lot having at least two contiguous sides abutting upon one or more streets; provided, that the interior angle at the intersection of such two sides is less than 135 degrees.
“Lot depth” means the average distance measured from the front lot line to the rear lot line.
“Lot frontage” means that portion of a lot extending along a street right-of-way line.
"Multi-modal" means consideration of various modes of transportation (walking, cycling, automobile, public transit, air, and water systems).
“Nonconforming access features” means features of the property access that existed prior to the date of the ordinance codified in this chapter adopting and do not conform to the requirements of this chapter.
“Off-site improvements” means street facilities not on the subject property.
“On-site improvements” means street facilities installed on the subject property.
“Pedestrian facilities” is a general term denoting improvements and provisions made to accommodate or encourage walking, including sidewalks, accessways, crosswalks, ramps, paths, and trails.
“Plat” means an exact and detailed map of the subdivision of land.
“Private road” means a local access road that is built to city standards and that the city has not officially accepted for purposes of jurisdiction, or an existing local access road that was not constructed to city standards and was never intended to be dedicated to the public.
“Public road” means a road over which the public has a right of use that is a matter of public record.
“Reasonable access” means the minimum number of access points, direct or indirect, necessary to provide safe access to and from the roadway.
“Right-of-way” means land reserved, used, or to be used for a highway, street, alley, walkway, drainage facility, or other public purpose.
"Sharrows" means shared lane markings with wayfinding signage that reminds road users that people biking can occupy the full travel lane.
“Significant change in trip generation” means a change in the use of the property, including land, structures or facilities, or an expansion of the size of the structures or facilities causing an increase in the trip generation of the property exceeding: (1) local – 10 percent more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all

roads under local jurisdiction; or (2) state – 25 percent more trip generation (peak volume) and 100 vehicles per day more than the existing use for all roads under state jurisdiction.
"Stub-out (street stub)" means a portion of a street or cross access drive used as an extension to an abutting property that may be developed in the future.
"Through connector" means a short spur that provides through connectivity for bicycle circulation between adjoining streets, between abutting dead-end roads, through a multiple-family dwelling cluster, or through a park.
"Walkway" means a hard-surfaced area intended and suitable for pedestrians, including sidewalks and the surfaced portions of accessways. [Ord. 11-O-675 § 2; Ord. 07-O-595.]

17.170.050 Street construction standards.

Table 17.170.060

Standard Minimum Right-of-Way and Roadway Width for New Streets – Guidance for Existing Streets

Type of Street**	Minimum ROW (Feet)	Minimum Road Surface Width (Feet)	Pedestrian Improvements
State Highway Arterial[1]	84	70	5 – 12 feet, both sides
Residential Collector	50	36	10-foot multi-use path (in lieu of bike lanes and sidewalk)
Residential Local***	42	28	5 feet, both sides
Residential (Local)*** Maximum of 12 dwelling units taking access[6]	38	24	5 feet, both sides
Residential (Local)*** Maximum of 8 dwelling units taking access and on-street parking available within 400 feet on this street[2]	29	20	5 feet, one side
Downtown Core Area[1] (See Map 17.92.030-1)	50	36	5 – 8 feet, both sides
Residential One-Way Street[2]	34	20	5 feet, both sides
Half Street[2, 5]	1/2 of accepted standard	1/2 of accepted standard	5 feet, one side
Access Road Turn-Around	See public works document "General Engineering		To be determined based on type of turn-

	Requirements and Standard Specifications"		around
Commercial/Industrial[1]	58	44	5 – 8 feet, both sides
Commercial One-Way Street	50	36	5 – 8 feet, both sides
Hillside Collector Street[2, 3, 4, 9]	27	20	4-foot paved shoulder, one side
Hillside Local Street[2, 3, 4, 9] Maximum of 12 dwelling units taking access	23	20	None
Hillside One-Way Street[2, 3, 4, 7, 9]	23	16	4-foot paved shoulder, one side
Alley	20	20	None
The following standard is the minimum standard for existing streets. This standard can only be used when the street is serving a limited area and approved by the city council.			
Must be approved by the city council in a local improvement district process[2, 8]	30	16	Proposal by applicants

** If bike lanes are proposed, an additional 10 feet of right-of-way will be needed.

*** See layout guidelines in "Neighborhood Street Design Guidelines" document. Low impact development techniques such as landscaped buffers, vegetated swales, parking pavers, etc., are encouraged.

[1]Sidewalks must be the maximum possible when adequate right-of-way is available **and topography allows**.

[2]No parking on either side on pavement.

[3]Requires documentation that topographical constraints warrant use of hillside streets. Site plan committee approval required.

[4]Alternative engineered design standards may be considered and right-of-way width may vary depending on topography.

[5]Only used when easement for second half width is secured on adjacent property. Must be approved by planning commission.

[6]Parking on one side only.

[7]Paved shoulder must be constructed to meet paved roadway standards.

[8]Parking facilities to be proposed by applicant.

[9]Curbs may be required, depending on city engineer's recommendation.

1. The planning commission may accept a narrower right-of-way width and/or alternate construction standard than those set forth in Table 17.170.060 where it can be shown by the

applicant, to the satisfaction of the commission and to the fire chief having jurisdiction, that the topography or the small number of lots served and the probable future traffic development are such that the proposal is justified.
2. Slope Easements. The planning commission may require a perpetual, unobstructed easement adjacent to a public right-of-way where the slope of the land is such that earth movements might damage a public right-of-way. Within this easement area, the natural vegetative cover shall not be disturbed.
3. In areas where a neighborhood circulation plan has been adopted, the right-of-way and roadway width can be constructed to the standards of Table 17.170.060 or at the standards of the adopted neighborhood circulation plan. Once a standard has been determined for any street segment, the remaining portion of the segment will be constructed at that standard at the discretion of the planning commission.

The existing collector streets listed below are not physically able to meet adopted collector standards as stated in Table 17.170.060. Any future improvements to these streets must meet the following standards. These streets are in the county's jurisdiction as of the date of this revision. When the existing street pavement is equivalent to the city's construction standards, the city will accept jurisdiction.

Specific Standards for Certain Streets	Right of Way (feet)	Minimum Road Surface Width (feet)	Sidewalk Improvements
Old County Rd.[1, 2]	As needed	20 ft. and 4 ft. paved shoulder one side adjacent to the north-bound travel lane	None
Parkview Dr.[1, 2]	As needed	20 ft~~. and multi-use path on the predominantly western side~~	~~None~~ **Sidewalk on east side only**
North Bank Chetco River Rd.[2]	As needed	Future improvements to match existing pavement	None

1. When applicant's engineer demonstrates there are constraints that make this standard impracticable, the four-foot paved shoulder or multi-use path may be eliminated. The city must review and agree with the analysis prior to planning commission review.
2. Parking prohibited on paved shoulder.

17.170.100 Access management.

D. Commercial Access Connection and Driveway Design.
1. Driveways shall meet the following standards:
a. If the driveway is a one-way-in or one-way-out drive, then the driveway shall be a minimum width of 10 feet and shall have appropriate signage designating the driveway as a one-way connection.
b. For two-way access, each lane shall have a minimum width of 10 feet.

2. Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view. Construction of driveways along acceleration or deceleration lanes and tapers shall be avoided due to the potential for vehicular weaving conflicts.

3. The length of driveways shall be designed in accordance with the anticipated storage length for entering and exiting vehicles to prevent vehicles from backing into the flow of traffic on the public street or causing unsafe conflicts with on-site circulation.

4. Approval from the jurisdiction with authority must be provided when substantial expansion of a commercial structure that requires additional parking or a new driveway access to a public street is proposed.

17.170.120 Residential driveway approaches.

A. Distance from Intersection. Driveway approaches shall be positioned from the intersection of a residential street a distance of no less than 20 feet and 100 feet for collector and arterial streets; provided, however, that such distances may be reduced by the city engineer where impractical due to lot configuration and/or width.

B. Number of Accesses Permitted. Access points to a public street shall be the minimum necessary to provide reasonable access while not inhibiting the safe traffic circulation and carrying capacity of the street. Each parcel or lot may have one access to the street unless an additional access is approved by the site plan committee.

C. Joint Access Encouraged. Common accessways at a property line shall be encouraged and in some instances may be required in order to reduce the number of access points to streets. Construction of common accessways shall be preceded by recording of joint access and maintenance easements. [Ord. 07-O-595.]

D. Approval from the jurisdiction with authority must be provided when a new driveway access to a public street is proposed.

E. Driveway approach width standards. Driveway approaches for single-family and two-family dwellings shall have a minimum width of 8 feet and a maximum width of 27 feet in addition to ADA compliant wings on either side. All other residential driveway approaches shall be a minimum of 15 feet and a maximum of 36 feet. Approaches shall be built to city standards per the "Engineering Requirements and Standard Specifications for Public Works Infrastructure".

Requests for wider approaches shall be reviewed by the Site Plan Committee on a case by case basis. For properties where the ADA compliant wings would extend beyond the property lines, the driveway shall be centered on the property frontage and the approach design shall be reviewed by the Site Plan Committee. Considering ADA requirements, an approved recommendation shall be given that will mitigate the narrower approach to prevent undo inconvenience to neighboring properties. Approaches that serve driveways within an easement shall be reviewed by Site Plan Committee on a case by case basis.

Email 9/13/2017
Publish 9/16/2017

PUBLIC NOTICE
NOTICE OF PUBLIC HEARING BEFORE THE CITY COUNCIL

NOTICE IS HEREBY GIVEN that a public hearing will be held before the City Council on Monday, September 25, 2017, at 7:00 P.M. in the Council Chambers of Brookings City Hall, 898 Elk Drive, Brookings, OR 97415.

In the matter of File No. CP-1-15, approval of the Transportation System Plan update and revisions to Goal 12, Transportation of the Brookings Comprehensive Plan. City initiated. The criteria used to decide this matter are found in Chapter 17.140 Amendments, of the Brookings Municipal Code (BMC). This is a legislative hearing and City Council will make a decision on the matter.

In the matter of File No. LDC-1-17, revision of Brookings Municipal Code (BMC) Section 17.170 Street Standards, Transportation System Plan updates. City initiated. The criteria used to decide this matter are found in Chapter 17.140 Amendments, of the BMC. This is a legislative hearing and City Council will make a decision on the matter.

The public is invited to attend and participate in this public hearing. All persons wishing to address this matter will have an opportunity to do so in person at the hearing or by submitting written evidence to the Planning Department at the address above. If you wish to speak at the hearing, you will be asked to sign in and afforded 5 minutes to speak. Failure to raise an issue accompanied by statements or evidence sufficient to afford the Commission and parties an opportunity to respond to the issues precludes appeal to the Oregon Land Use Board of Appeals (LUBA).

A copy of the application and all documents and evidence, in addition to the staff report prepared for this case, will be available for public inspection, at no cost at the Brookings Planning Department, 898 Elk Drive, Brookings, OR 97415. Copies of any of these documents may be obtained at reasonable cost, seven days prior to the hearing. All documents may be viewed or obtained at the Planning Department at Brookings City Hall or call Mark Schexnayder at 541-469-1137 for additional information.

All public meetings are held in accessible locations. Auxiliary aids will be provided upon request with advance notification. Please call 469-1137 to make the appropriate arrangements. TTY (800) 735-1232.