

# Environmental Assessment and Draft Section 4(f) Evaluation

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## Downtown Brookings – Highway 101 Transportation Solutions Project

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### U.S. Highway 101 (Oregon Coast Highway) Brookings, Oregon



Oregon Department of Transportation  
and  
Federal Highway Administration

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## METRIC CONVERSION INFORMATION

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In accordance with recent Executive Orders and Secretary of Commerce direction, Federal Highway Administration and supporting agency project plans were to be converted to metric units by 2000. However, the Oregon Department of Transportation is now in the process of converting back to English units. This document, where appropriate, will reflect both English and metric units side by side to assist the reader. The following is a brief summary of the conversion factors and units used in this document.

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<b>From English Units</b>	<b>To Metric Units</b>	<b>Multiply By</b>
mile (mi)	kilometer (km)	1.609
foot (ft)	meter (m)	0.3048
miles per hour (mph)	kilometers per hour	1.609
cubic yard (cy)	cubic meter (m <sup>3</sup> )	0.7646
acre (ac)	hectare (ha)	0.4047

---



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**TO INTERESTED PARTIES OF THE Downtown Brookings – Highway 101  
Transportation Solutions Project**

**U.S. Highway 101 (Oregon Coast Highway)  
Brookings, Oregon  
Curry County  
Key No. 11718**

This Environmental Assessment and Draft Section 4(f) Evaluation are being distributed for your information according to state and federal regulations.

Your reply is anticipated within 30 days according to appropriate state and federal regulations. If comments are not received by the date stamped below, it will be assumed that you have no comments.

All comments should be mailed or delivered to:

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Or, alternatively, you may email comments to: [greg.holthoff@odot.state.or.us](mailto:greg.holthoff@odot.state.or.us)

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Thank you,

Mark Usselman, Southwest Area Manager  
ODOT Region 3

**COMMENTS DUE BY: \_\_\_\_\_**





Downtown Brookings – Highway 101 Transportation Solutions Project  
Oregon Coast Highway (U.S. Highway 101)  
Brookings Oregon; Curry County  
Key Number 11718

Environmental Assessment and  
Draft Section 4(f) Evaluation

Submitted pursuant to 42 U.S.C. 4332 (2)(c)B & 49 U.S.C. Sec. 303

U.S. Department of Transportation, Federal Highway Administration  
and  
Oregon Department of Transportation

11/23/04  
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**Abstract:**

The Federal Highway Administration (FHWA) and Oregon Department of Transportation (ODOT) propose two "build" alternatives to improve traffic safety issues along U.S. Highway 101 through Brookings Oregon from MP 356.2 to MP 357.8. A "no-build" alternative is also included in the Environmental Assessment.

"Alternative 4" would create a three-lane one-way couplet using the existing route of U.S. Highway 101 along Chetco Avenue for northbound traffic and developing Railroad Street, a city owned facility, to carry southbound U.S. Highway 101 traffic. New connections from Chetco Avenue to Railroad Street would need to be constructed. The connection at the north end of town would occur using Mill Beach Loop behind the current Fred Meyer Store location. The southern end connection would occur at Alder Street with the couplet route passing between the current Chetco Community Public Library and bowling alley locations. Impacts under Alternative 4 would include right-of-way impacts, eight business displacements and six residential displacements, noise impacts, and visual impacts. There are potential impacts to the Elmer Bankus Fountain, an identified Section 4(f) resource, but design modifications would likely eliminate those impacts. All intersections within the study area would operate within mobility standards for the planning year, 2027.

"Alternative 5" would keep all U.S. Highway 101 traffic on its current route using Chetco Avenue. Additional left turn pockets would be added at Pacific Avenue, Mill Street, Wharf Street, Fern Avenue, Oak Street and Alder Street to allow safe turning from Chetco Avenue to side streets. The intersection at 5th Street and Chetco Avenue would be widened to an eight-lane intersection. Impacts under Alternative 5 would include the loss of all on-street parking along Chetco Avenue, right-of-way impacts, noise impacts, and potential impacts to the Elmer Bankus Fountain, an identified Section 4(f) resource. Options for avoiding the park are being considered by FHWA, ODOT, and the City of Brookings.

The approximate cost of Alternative 4 is between \$16.8 million and \$19.1 million. The cost for Alternative 5 is \$6.4 million to \$10 million. The range of costs reflects the possible inclusion of off-system improvements that are not required for each alternative to function but would improve circulation within Brookings.

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## TABLE OF CONTENTS

---

<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
<b>1. PURPOSE AND NEED.....</b>	<b>1</b>
1.1 PURPOSE OF PROPOSED PROJECT .....	1
1.2 NEED OF THE PROPOSED PROJECT .....	1
1.3 GOALS AND OBJECTIVES.....	2
<b>2. PROJECT ALTERNATIVES .....</b>	<b>5</b>
2.1 PROJECT BACKGROUND .....	5
2.2 EXISTING CONDITIONS .....	5
2.3 DEVELOPMENT OF ALTERNATIVES .....	6
2.3.1 Narrowing of Alternatives .....	8
2.4 DESCRIPTION OF ALTERNATIVES .....	8
2.4.1 No-Build Alternative .....	8
2.4.2 Alternative 4 .....	10
2.4.3 Alternative 5 .....	11
2.4.4 Common Design Features of Alternatives 4 and 5.....	14
2.4.5 Alternative Costs .....	14
2.5 AREAS OF CRITICAL CONCERN OR CONTROVERSY .....	15
2.5.1 Couplet vs. Five-Lane .....	15
2.5.2 Parking.....	16
2.5.3 Off System Improvements.....	16
2.5.4 Special Transportation Area Designation.....	16
2.6 REQUIRED PERMITS AND PLANNING ACTIONS.....	17
2.7 ALTERNATIVES CONSIDERED BUT WITHDRAWN .....	17
2.7.1 Alternative 1 .....	17
2.7.2 Alternative 1A .....	17
2.7.3 Alternative 2 .....	18
2.7.4 Alternative 2A .....	18
2.7.5 Alternative 2B .....	19
2.7.6 Alternative 3 .....	19
2.7.7 Alternative 6 .....	19
2.8 RELATED PROJECTS.....	20

---

**TABLE OF CONTENTS (CONTINUED)**

---

<b>3.</b>	<b>ENVIRONMENTAL IMPACTS .....</b>	<b>28</b>
3.1	TRANSPORTATION .....	28
3.1.1	Existing Conditions and Methods .....	28
3.1.2	Transportation Impacts .....	32
3.1.3	Cumulative Impacts .....	41
3.2	SOCIOECONOMICS.....	41
3.2.1	Existing Conditions and Methods .....	41
3.2.2	Socioeconomic Impacts .....	41
3.2.3	Cumulative Socioeconomic Impacts .....	48
3.3	PLANNING AND LAND USE .....	48
3.3.1	Existing Conditions and Methods .....	48
3.3.2	Planning and Land Use Impacts .....	54
3.3.3	Cumulative Planning and Land Use Impacts .....	58
3.4	NOISE .....	59
3.4.1	Existing Conditions and Methods .....	59
3.4.2	Noise Impacts .....	60
3.4.3	Cumulative Noise Impacts .....	71
3.5	ARCHAEOLOGICAL RESOURCES .....	71
3.5.1	Existing Conditions and Methodology .....	71
3.5.2	Archeological Resource Impacts .....	71
3.5.3	Cumulative Archeological Resource Impacts .....	72
3.6	BIOLOGICAL RESOURCES.....	72
3.6.1	Existing Conditions and Methods .....	72
3.6.2	Biological Resource Impacts .....	73
3.6.3	Cumulative Biological Resource Impacts .....	73
3.7	HAZARDOUS MATERIALS.....	73
3.7.1	Existing Conditions and Methods .....	73
3.7.2	Hazardous Materials Impacts .....	74
3.7.3	Cumulative Hazardous Materials Impacts.....	75
3.8	HISTORIC RESOURCES.....	75
3.8.1	Existing Conditions and Methods .....	75
3.8.2	Historic Resource Impacts.....	78
3.8.3	Cumulative Historic Resources Impacts .....	78
3.9	VISUAL RESOURCES .....	79
3.9.1	Existing Conditions and Methodology .....	79
3.9.2	Visual Resources Impacts.....	79

---

**TABLE OF CONTENTS (CONTINUED)**

---

3.9.3	Cumulative Visual Resource Impacts .....	81
3.10	WATER QUALITY .....	81
3.10.1	Existing Conditions and Methods .....	81
3.10.2	Water Quality Impacts.....	82
3.10.3	Cumulative Water Quality Impacts .....	83
3.11	WETLANDS .....	83
3.11.1	Existing Conditions and Methods Existing Conditions.....	83
3.11.2	Wetland Impacts.....	85
3.11.3	Cumulative Wetland Impacts .....	85
3.12	AIR QUALITY .....	86
3.12.1	Existing Conditions and Methods .....	86
3.12.2	Air Quality Impacts .....	86
3.12.3	Cumulative Air Quality Impacts .....	86
<b>4.</b>	<b>MITIGATION.....</b>	<b>87</b>
4.1	TRANSPORTATION MITIGATION .....	87
4.1.1	Alternative 4 .....	87
4.1.2	Alternative 5 .....	88
4.2	SOCIOECONOMICS MITIGATION.....	90
4.2.1	Construction Mitigation.....	90
4.2.2	Other Mitigation .....	90
4.3	PLANNING AND LAND USE MITIGATION .....	93
4.3.1	Construction Mitigation.....	93
4.3.2	Other Mitigation .....	93
4.4	NOISE MITIGATION .....	94
4.4.1	Construction Noise Mitigation .....	94
4.4.2	Other Mitigation .....	95
4.5	ARCHAEOLOGICAL RESOURCES MITIGATION .....	96
4.5.1	Construction Mitigation.....	96
4.6	BIOLOGICAL RESOURCES MITIGATION.....	96
4.6.1	Construction Mitigation.....	96
4.7	HAZARDOUS MATERIALS MITIGATION.....	96
4.7.1	Construction Mitigation.....	96
4.8	HISTORIC RESOURCES MITIGATION.....	97
4.8.1	Construction Mitigation.....	97
4.8.2	Other Mitigation .....	97
4.9	VISUAL RESOURCES MITIGATION .....	97

---

**TABLE OF CONTENTS (CONTINUED)**

---

4.9.1	Construction Mitigation.....	97
4.9.2	Other Mitigation .....	98
4.10	WATER QUALITY MITIGATION .....	98
4.10.1	Construction Mitigation.....	98
4.10.2	Other Mitigation .....	98
4.11	WETLANDS MITIGATION .....	99
4.11.1	Construction Mitigation.....	99
4.11.2	Other Mitigation .....	99
4.12	AIR QUALITY MITIGATION .....	99
4.12.1	Construction Mitigation.....	99
<b>5.</b>	<b>PUBLIC INVOLVEMENT AND AGENCY COORDINATION.....</b>	<b>100</b>
5.1	PUBLIC INVOLVEMENT.....	100
5.2	COORDINATION WITH LOCAL, STATE AND FEDERAL AGENCIES.....	101
<b>6.</b>	<b>DRAFT SECTION 4(F) EVALUATION.....</b>	<b>102</b>
6.1	INTRODUCTION .....	102
6.2	DESCRIPTION OF THE SECTION 4(F) RESOURCE.....	103
6.3	IMPACTS TO THE SECTION 4(F) RESOURCE .....	104
6.3.1	Alternative 4 .....	104
6.3.2	Alternative 5 .....	104
6.4	ALTERNATIVES THAT WOULD AVOID THE 4(F) RESOURCE .....	105
6.4.1	Alternative 6 .....	105
6.4.2	Alternative 4 (Modified 5th Street and Chetco Intersection) .....	105
6.4.3	Alternative 5 (Modified 5th Street and Chetco Intersection) .....	109
6.4.4	Alternative 5 with Relocation of Elmer Bankus Fountain .....	112
6.5	MEASURES TO MINIMIZE HARM.....	112
6.6	RECORD OF COORDINATION .....	113

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---

**TABLE OF CONTENTS (CONTINUED)**

---

---

**LIST OF FIGURES**

ES1-1	Brookings Oregon Vicinity Map .....	ES-3
2-1	Downtown Brookings – Highway 101 Transportation Solutions Project Area .....	7
2-2	Alternative 4 Design Features .....	12
2-3	Alternative 5 Design Features .....	13
2-4	Alternates Eliminated – Alternative 1 .....	21
2-5	Alternates Eliminated – Alternative 1A .....	22
2-6	Alternates Eliminated – Alternative 2 .....	23
2-7	Alternates Eliminated – Alternative 2A .....	24
2-8	Alternates Eliminated – Alternative 2B .....	25
2-9	Alternates Eliminated – Alternative 3 .....	26
2-10	Alternates Eliminated – Alternative 6 .....	27
3-1	Existing Study Area Street System and Intersection Traffic Control/Geometrics .....	30
3-2	Comprehensive Plan and Zoning Designations.....	49
3-3	Project Area Land Uses .....	50
3-4	Receptor and Monitoring Site Locations – Alternative 4.....	62
3-5	Receptor and Monitoring Site Locations – Alternative 4.....	63
3-6	Receptor and Monitoring Site Locations – Alternative 4.....	64
3-7	Receptor and Monitoring Site Locations – Alternative 5.....	65
3-8	Receptor and Monitoring Site Locations – Alternative 5.....	66
3-9	Receptor and Monitoring Site Locations – Alternative 5.....	67
3-10	Map of Potentially Eligible Resource Groups.....	77
3-11	Wetlands Map.....	84
6-1	Alternative 4 – 5th/Chetco Original Intersection Design .....	106
6-2	Alternative 5 – 5th/Chetco Original Intersection Design .....	107
6-3	Alternative 4 – 5th/Chetco Revised Intersection Design .....	108
6-4	Alternative 5 – 5th/Chetco Revised Intersection Design .....	111

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**TABLE OF CONTENTS (CONTINUED)**

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---

**LIST OF TABLES**

ES-1	Summary of Potential Impacts and Mitigation Measures.....	ES-4
1-1	Existing and Future Volume-to-Capacity Ratios for Selected Signalized Intersections.....	2
1-2	Existing and Future Volume-to-Capacity Ratios for Selected Unsignalized Intersections.....	2
2-1	Estimated Project Costs (Preliminary).....	14
2-2	Permits and planning actions that may be required for the Proposed Action.....	17
3-1	City of Brookings Future Land Development Needs (2002).....	51
3-2	Predicted Peak Noise Hour Sound Levels for Existing and No-Build Alternative Conditions ( $L_{eq}$ – dBA).....	60
3-3	Predicted Peak Noise Hour Sound Levels for Existing and Alternative 4 Conditions ( $L_{eq}$ – dBA).....	68
3-4	Predicted Peak Noise Hour Sound Levels for Existing and Alternative 5 Conditions ( $L_{eq}$ – dBA).....	70
3-5	Properties with Potential Hazardous Materials Impacts with Alternative 4.....	74
6-1	Summary of Impacts From Draft Section 4(f) Evaluation.....	115

**APPENDICES**

A	Technical Reports Prepared for this Project
B	List of Preparers and Reviewers
C	Distribution List
D	References
E	Correspondence from Agencies
F	Land Acquisition and Relocation Assistance
G	Public Involvement Materials

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## KEY TERMS AND ABBREVIATIONS

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ADT	Average Daily Traffic Volumes
A-weighted	Noise measurements that use a filtering system to approximate normal human perception of noise
BMPs	Best Management Practices –BMPs are commonly used methods to manage a particular problem, such as waste discharge, stormwater, or erosion by using structural or non-structural techniques that reduce such short-term, adverse impacts during the construction or operation of a facility
Build Alternative	A proposed future development/construction scenario to address the stated purpose and need for a proposed action
Capacity	The maximum rate of flow at which vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions; usually expressed as vehicles per hour
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Couplet	A pair of parallel one-way streets that carry the combined traffic of one two-way road.
Cumulative Impacts	The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions
dB	Decibels
dBA	See A-weighted Decibels
Decibel	A unit to measure sound.
DLCD	Department of Land Conservation and Development
Direct Impacts	Direct effects that are caused by the action and occur at the same time and place.
EA	Environmental Assessment

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## KEY TERMS AND ABBREVIATIONS (CONTINUED)

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Environmental Justice	Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” is intended to focus federal attention on the environmental and human health conditions of minority and low-income populations with the goal of achieving environmental protection for all communities. Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, and local programs and policies.
EO	Executive Order
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
Impacts	Impacts are the effects or consequences of actions. Environmental impacts are effects upon the elements of the human and natural environment.
Indirect Impacts	Impacts caused by the action occurring later in time or farther removed in distance, but still reasonably foreseeable.
Impervious Surfaces	Surfaces that are sealed in a manner that prevents water from filtering into the soil, such as when covered by asphalt or a building.
Infiltration	The process in which water enters the soil to become groundwater
$L_{eq}$	Average hourly sound level
Mitigation	Rectifying impacts by repairing, rehabilitation, or restoring the affected environment; or compensating for impacts by replacing, enhancing, or providing substitute resources or environments; and/or monitoring impacts and taking appropriate corrective measures.
MP	Milepoint
mph	miles per hour
NEPA	National Environmental Policy Act
NHS	National Highway System

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## KEY TERMS AND ABBREVIATIONS (CONTINUED)

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NWI	National Wetlands Inventory
No-Build Alternative	No action is proposed other than already planned projects. Serves as a baseline for comparing impacts of build alternative(s).
OAR	Oregon Administrative Rules
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
ORS	Oregon Revised Statutes
REA	Revised Environmental Assessment
ROW	Right-of-Way
Screening Criteria	Criteria that reflect project goals and objectives and can be used to compare and evaluate conceptual alternatives.
Section 4(f)	In the U.S. Department of Transportation Act of 1966, a special provision [Section 4(f)] was included to provide protection to public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Federal Highway Administration may not use any of these resources unless there is no feasible and prudent alternative.
SHPO	State Historic Preservation Office
SPIS	Safety Priority Index System. The SPIS is a method developed by ODOT for identifying hazardous locations on state highways. The SPIS score is based on three years of crash data and considers crash frequency, crash rate, and crash severity. ODOT bases its SPIS on 0.10 mile segments to account for variances in how crash locations are reported. To become a SPIS site, a location must meet one of the following criteria: three or more crashes have occurred at the same location over the previous three years, and one or more fatal crashes have occurred at the same location over the previous three years.”
STA	Special Transportation Area – Designation for a section of state highway. Often used when State highway serves as the main streets of a community. An STA emphasizes management of the transportation system for safety and efficient use of resources while recognizing the main street function of state highways.
STIP	State Transportation Improvement Program
TSP	Transportation System Plan

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## KEY TERMS AND ABBREVIATIONS (CONTINUED)

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UGB	Urban Growth Boundary
v/c	Volume-to-capacity ratio is the ratio of traffic volume (number of vehicles) on a highway facility to the facility's vehicle capacity

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# Executive Summary

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## Purpose of the Document

This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA), as implemented by Council on Environmental Quality (CEQ) and Federal Highway Administration (FHWA) regulations (40 CFR 1500 and 23 CFR 771, respectively). The EA discloses potential environmental impacts of the Downtown Brookings–Highway 101 Transportation Solutions Project in Brookings, Oregon (Figure ES1-1) and serves as a key source of information for public and agency review and input on the proposed project.

To support the analysis summarized in this document the Oregon Department of Transportation (ODOT) prepared detailed Technical Reports to address potential project impacts to particular elements of the built and natural environment. The Technical Reports provide more background and in-depth analysis of the data that were used to determine impacts, as well as methodologies for the analysis. (See Appendix A)

## Organization of the Document

Chapter 1 describes the Purpose and Need of the project and establishes the fundamental reasons for the project's development and evaluation. Chapter 1 also contains the adopted Goals and Objectives of the project that were created to assist with development of conceptual alternatives and to help determine which alternatives would best meet the needs of the community.

Chapter 2 describes the alternatives from early conception through identification of the two build alternatives analyzed in this document. There is also a discussion of the alternatives that were eliminated from consideration. Chapter 3 describes the potential impacts (direct, indirect, and cumulative) each of the alternatives could have on resources within the project area. Chapter 4 provides a description of potential mitigation measures that could be implemented to reduce or eliminate impacts within the project area. Chapter 5 describes the public involvement and agency coordination that occurred during the project-scooping phase of the project. Chapter 6 is the Draft Section 4(f) Evaluation, which addresses potential impacts to Section 4(f) resources such as public parks or historic resources.

## Summary of Alternatives

### **Alternative 4**

Under Alternative 4 Chetco Avenue would be redesigned to create a couplet that would route southbound traffic onto Railroad Street, while keeping northbound traffic on Chetco Avenue (Figure 2-2). Both directions would have three lanes and on-street parking along portions of each segment of the couplet.

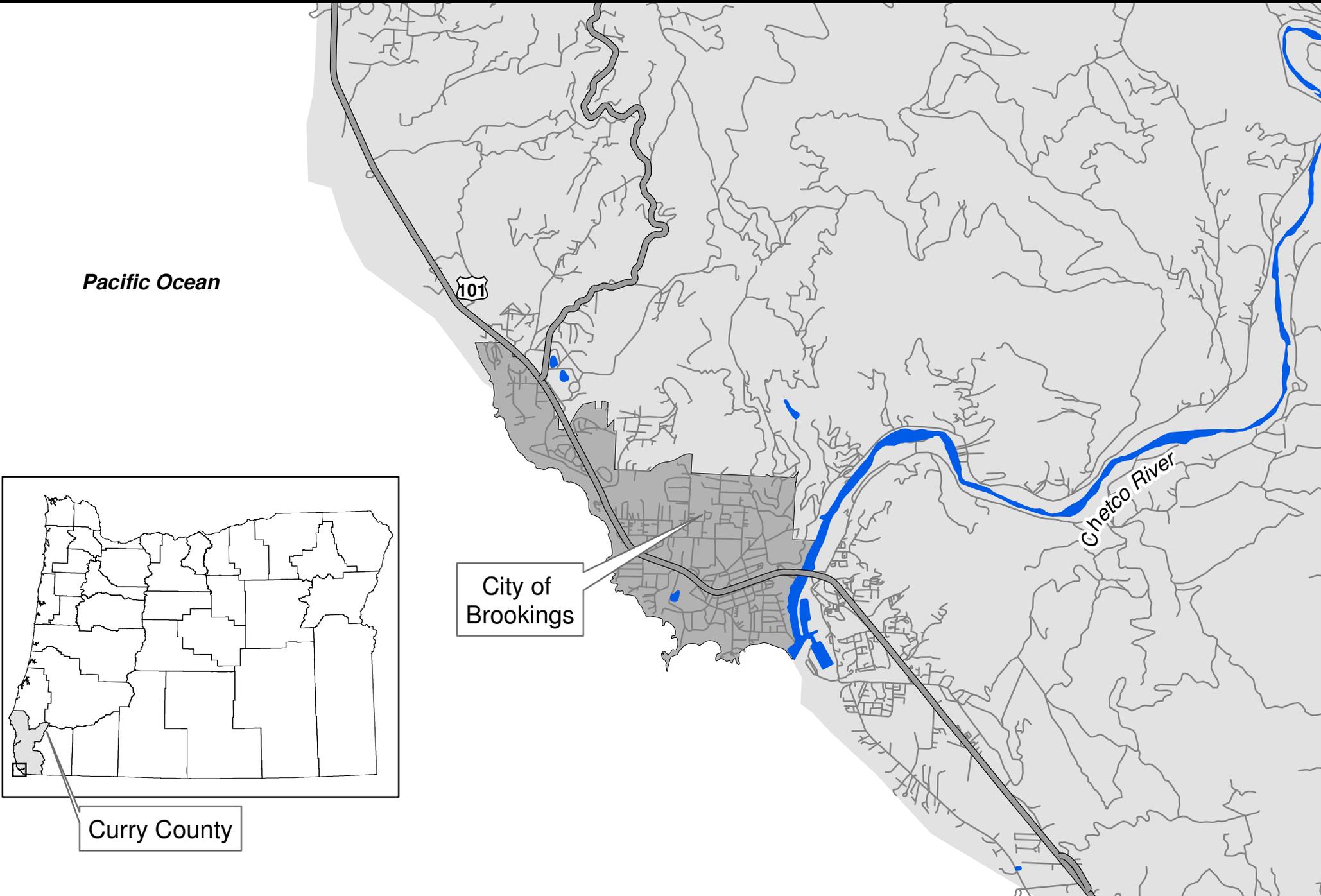
Railroad Street would require widening to accommodate three lanes of traffic, on-street parking, and a bicycle lane. Additional right-of-way (ROW) would be needed at both ends of the couplet where the two legs would split/rejoin. Traffic signals would be installed on Railroad Street at 5th Street, Mill Street, Wharf Street, and Oak Street. Traffic signals on Chetco would remain at Oak Street and 5th Street. The traffic light that is currently at Center Street would be moved to Mill Street.

### ***Alternative 5***

Under Alternative 5 four lanes of traffic would be kept on Chetco Avenue, and left turn pockets at Pacific Avenue, Mill Street, Wharf Street, Fern Avenue, Oak Street and Alder Street would be added to allow safe turning from Chetco Avenue to side streets (see Figure 2-3). A raised median would be constructed in the areas that did not have left turn bays. The design would include two lanes in each direction and left turn pockets. In order to accommodate this design, on-street parking would be removed from Chetco Avenue. Traffic signals on Chetco Avenue would remain at Oak Street and 5th Street. The traffic light that is currently at Center Street would be moved to Mill Street.

## **Summary of Potential Impacts and Potential Mitigation Measures**

The potential impacts to, and mitigation measures for, the social and environmental elements analyzed for this project are summarized in Table ES-1.



Pacific Ocean

101

Chetco River

City of Brookings

Curry County

**KEY**

-  Roads
-  Highway
-  City of Brookings
-  Rivers



Figure ES 1-1  
Regional and County Map  
Source: Parametrix



**Table ES-1 Summary of Potential Impacts and Mitigation Measures**

Alternatives	Potential Impacts	Mitigation Measures
<b>Transportation</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>All study area intersections would operate within the ODOT Oregon Highway Plan v/c standard (0.80) in 2007.</li> <li>Nine study area intersections would exceed the 0.80 v/c standard in 2027 (the intersections would also exceed the 0.90 v/c standard associated with the STA designation).</li> <li>Increased congestion along Chetco Avenue would likely lead to higher accident rates and a decrease in vehicle and pedestrian safety.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>Addition of travel lanes would increase capacity of highway system.</li> <li>All study area intersections would operate within the ODOT Highway Design Manual v/c standard (0.75) in 2007 and in 2027.</li> <li>Proposed street closures and alignment modifications could cause traffic to divert to nearby parallel routes that are not classified or designed for higher volumes.</li> <li>Approximately 35 additional on-street parking spaces would be provided within the study area (compared with the No-Build alternative).</li> <li>Bicycle lanes would be added to Chetco Avenue and Railroad Street.</li> <li>Potentially higher vehicle speeds on the couplet could contribute to the perception of an uncomfortable crossing environment for pedestrians.</li> <li>The couplet's merge/diverge points could be potentially uncomfortable for pedestrian and bicycle crossings.</li> <li>Proposed elimination of some street connections could impact business and residential access.</li> </ul>	<ul style="list-style-type: none"> <li>Tanbark Road would need to be reclassified to a collector to compensate for Memory Lane closure. Tanbark Road would also need to meet design standards for collector streets.</li> <li>Mill Street would need to be reclassified to a collector to compensate for the closure of Center Street. Mill Street would need to meet specific design standards for collector streets.</li> <li>Pedestrians could be encouraged to cross streets at signalized intersections by adding crosswalks and pedestrian signal push buttons.</li> <li>Signage could be added to advise motorists of bicycle/pedestrian cross-traffic to increase awareness of pedestrians and cyclists.</li> <li>Maintain bicycle lane striping through "conflict areas" with motorized vehicles with dashed lines to increase motorist awareness of bicycle traffic in these areas.</li> <li>Safer pedestrian amenities at the merge/diverge points of the couplet, like marked crosswalks and possibly signalized crossings, should be considered.</li> <li>Driveway access modifications on Chetco Avenue and Railroad Street (including driveway relocation, closure and/or consolidation) would be based on current ODOT procedures during the roadway design phase.</li> </ul>

Alternatives	Potential Impacts	Mitigation Measures
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>• Addition of left turn pockets (with medians) and limiting direct access between Chetco Avenue and adjacent properties would increase capacity of highway system.</li> <li>• Four intersections would exceed the Highway Design Manual 0.75 v/c standard in 2027, but three of the intersections are located within the potential STA boundary and would fall within the associated 0.90 v/c standard. The fourth is not on the state highway system.</li> <li>• Proposed street closures and alignment modifications could cause traffic to divert to nearby parallel routes that are not classified or designed for higher volumes.</li> <li>• About 95 on-street parking spaces would be removed from the study area.</li> <li>• Removing on-street parking from Chetco Avenue would eliminate conflicts between through traffic and vehicles making parking maneuvers.</li> <li>• Bicycle lanes would be added to Chetco Avenue west of Pacific Avenue.</li> <li>• Eight-lane intersection on Chetco Avenue at 5th Street could create safety issues for pedestrians crossing Chetco Avenue.</li> </ul>	<ul style="list-style-type: none"> <li>• Tanbark Road would need to be reclassified to a collector and to compensate for Memory Lane closure. Tanbark Road would also need to meet design standards for collector streets.</li> <li>• Mill Street would need to be reclassified to a collector compensate for the closure of Center Street. Mill Street would need to meet specific design standards for collector streets.</li> <li>• Lost parking supply could be replaced in other nearby areas with on-street or off-street facilities.</li> <li>• Prior to adding parking facilities ODOT and the city could conduct a study focused on the on-street existing parking facilities on Chetco Avenue to determine current parking utilization in Downtown Brookings and future needs.</li> <li>• Parking replacement recommendations must comply with the policies and regulations dictated by the Brookings TSP, Downtown Master Plan, and other pertinent planning documents.</li> <li>• Any potential “buffer” options (like planter strips) should be considered to mitigate for the loss of on-street parking.</li> <li>• Driveway access modifications on Chetco Avenue (including driveway relocation, closure and/or consolidation) would be based on current ODOT procedures during the roadway design phase.</li> </ul>
<b>Socioeconomics</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>• Increased congestion and decreased safety.</li> <li>• Decreased access to neighborhoods, businesses, and community facilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Crosswalks, crossing guards, and other pedestrian safety measures could be used to mitigate for increased for pedestrian safety issues in downtown.</li> <li>• Improve downtown signage to attractions and create gateways for the city.</li> <li>• Improve downtown signage for parking and traffic mobility.</li> <li>• Restrict turns onto and off of Chetco Avenue.</li> </ul>

Alternatives	Potential Impacts	Mitigation Measures
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>• Temporary access impacts to neighborhoods, businesses and community facilities due to construction.</li> <li>• Total acquisition of six residences on Mill Beach Loop.</li> <li>• Total acquisition of eight businesses.</li> <li>• Increased traffic volumes passing nearby the Chetco Community Public Library.</li> <li>• Creates need for out-of-direction travel to reach businesses, neighborhoods, and community facilities.</li> <li>• Increases opportunity for establishing pedestrian and streetscape amenities in the downtown that would comply with the Americans with Disabilities Act.</li> <li>• Increased number of parking spaces throughout the project area.</li> <li>• Out-of-direction travel times for residents who live on Spruce Drive, Linden Lane, and Mulberry Lane because of realignment of Spruce/Alder intersection.</li> </ul>	<ul style="list-style-type: none"> <li>• Relocation assistance for landowners and tenants would be provided in accordance with the Uniform Relocation Assistance and Relief Property Acquisitions Policies Act of 1970 as amended.</li> <li>• Development of a Traffic Management Plan prior to construction.</li> <li>• Regular updates of closings and detours could be provided to Brookings residents through postings on a website, and in public facilities such as City Hall and Chetco Community Public Library.</li> <li>• Crosswalks, crossing guards, and other pedestrian safety measures could be used to mitigate for increased speeds on Railroad and Chetco Avenues.</li> </ul>
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>• Potential relocation of two businesses.</li> <li>• Removal of all parking on Chetco Avenue.</li> <li>• Little opportunity for implementation of pedestrian friendly elements outlined in the Downtown Master Plan.</li> <li>• Out-of-direction travel times for residents who live south of Railroad Street and east of Wharf Street because of Wharf/Memory/Railroad Street intersection realignment.</li> <li>• Improved vehicle safety on Chetco Avenue with inclusion of left-turn pockets.</li> <li>• Out of direction travel required to reach Post Office.</li> <li>• An eight-lane intersection at 5th Street and Chetco Avenue would create a challenging pedestrian crossing.</li> </ul>	<ul style="list-style-type: none"> <li>• Relocation assistance for landowners and tenants would be provided in accordance with the Uniform Relocation Assistance and Relief Property Acquisitions Policies Act of 1970 as amended.</li> <li>• Development of a Traffic Management Plan prior to construction.</li> <li>• Signage to help direct travelers adjust revised traffic patterns and out of direction travel.</li> </ul>
<b>Planning and Land Use</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>• Increased population and greater traffic would reduce mobility in Downtown Brookings.</li> <li>• Resulting potential decrease in the desirability of Brookings may direct new land uses to Harbor.</li> </ul>	<ul style="list-style-type: none"> <li>• There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>

Alternatives	Potential Impacts	Mitigation Measures
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>62 properties would be partially or entirely acquired to build the alternative.</li> <li>14 total acquisitions. Eight commercial, six residential.</li> <li>Reduced access for businesses near 5th Street and Chetco Avenue</li> <li>Improved traffic mobility allowing for more access to business</li> <li>Railroad Street would be owned by ODOT, which would require an amendment to the City Transportation System Plan.</li> </ul>	<ul style="list-style-type: none"> <li>Relocation assistance would be provided in accordance with the Uniform Relocation Assistance and Relief Property Acquisitions Policies Act of 1970 as amended.</li> <li>Alternative access would need to be constructed for the KFC/Taco Bell, McDonalds, Les Schwab (and Old Pizza Hut) properties near the corner of 5th Street and Chetco Avenue.</li> <li>Signage to indicate new access points for these businesses would be critical to the future success of commercial uses in this area.</li> </ul>
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>33 properties would be partially or entirely acquired to build the alternative.</li> <li>Two total acquisitions both of which would be commercial properties.</li> <li>Reduced access for businesses near 5th Street and Chetco Avenue.</li> </ul>	<ul style="list-style-type: none"> <li>Relocation assistance would be provided in accordance with the Uniform Relocation Assistance and Relief Property Acquisitions Policies Act of 1970 as amended.</li> <li>Alternative access would need to be constructed for the KFC/Taco Bell, McDonalds, Les Schwab (and Old Pizza Hut) properties near the corner of 5th Street and Chetco Avenue.</li> </ul>
<b>Noise</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>By 2027, sound levels at 19 receptors are predicted to exceed the noise impact criteria.</li> <li>No substantial increases are predicted.</li> <li>Eleven receptors, representing 14 residences and 2 motels, would be noise impacted under the No-Build Alternative.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>By 2027, sound levels at 27 receptors are predicted to exceed the noise impact criteria under Alternative 4. Seven of these would exceed substantial increase criteria</li> <li>Seven commercial land uses along Chetco Avenue and Railroad Street would be impacted</li> <li>Twenty other receptors (37 residences, 2 motels, an adult care home, a hospice clinic, and a church) would be impacted under Alternative 4.</li> <li>Temporary noise impacts would be likely during construction</li> </ul>	<ul style="list-style-type: none"> <li>Long-term noise mitigation in the form of noise barriers is not recommended for Alternative 4.</li> <li>Noise abatement measures would be included in the project specifications to minimize construction-related noise</li> </ul>
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>By 2027, sound levels at 17 receptors are predicted to exceed the noise impact criteria under Alternative 5. No substantial noise increases are predicted. Of the 17 impacted properties: <ul style="list-style-type: none"> <li>Seven represent commercial land uses on Chetco Avenue</li> </ul> </li> </ul> <p>Ten other impacted receptors are 11 residences and 2 motels.</p>	<ul style="list-style-type: none"> <li>Long-term noise mitigation in the form of noise barriers is not recommended for Alternative 5.</li> <li>Noise abatement measures would be included in the project specifications to minimize construction-related noise</li> </ul>

Alternatives	Potential Impacts	Mitigation Measures
<b>Archaeological Resources</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>No known potential impacts to archeological resources.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>No known potential impacts to archeological resources.</li> </ul>	<ul style="list-style-type: none"> <li>If archeological resources are discovered during construction ODOT Cultural Resources Program guidelines would be followed.</li> </ul>
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>No known potential impacts to archeological resources.</li> </ul>	<ul style="list-style-type: none"> <li>If archeological resources are discovered during construction ODOT Cultural Resources Program guidelines would be followed.</li> </ul>
<b>Biological Resources</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>No direct or indirect impacts on plants, wildlife, and fish.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>No direct or indirect impacts on plants, wildlife, and fish.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for Alternative 4.</li> </ul>
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>No direct or indirect impacts on plants, wildlife, and fish.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for Alternative 5.</li> </ul>
<b>Hazardous Materials</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>No potential impacts as a result of hazardous materials.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>There are three sites with potential hazardous material concerns that could be impacted.</li> </ul>	<ul style="list-style-type: none"> <li>Soil and/or groundwater samples would likely be collected to evaluate the potential liability associated with the right-of-way acquisition of HAZMAT sites.</li> <li>ODOT should consider pursuing a release of environmental liability from the property owners with each of the right-of-way property transactions.</li> <li>Every effort should be made to investigate the potential for encountering hazardous materials prior to beginning project construction. (ENV 16-02)</li> <li>A Pollution Control Plan (PCP) (Standard Specifications Section 00290.20) would be prepared, incorporated into construction bid documents, and implemented for construction activities during the project.</li> </ul>

Alternatives	Potential Impacts	Mitigation Measures
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>There are three sites with potential hazardous material concerns that could be impacted.</li> </ul>	<ul style="list-style-type: none"> <li>Soil and/or groundwater samples would likely be collected to evaluate the potential liability associated with the right-of-way acquisition of HAZMAT sites.</li> <li>ODOT should consider pursuing a release of environmental liability from the property owners with each of the right-of-way property transactions.</li> <li>Every effort should be made to investigate the potential for encountering hazardous materials prior to beginning project construction. (ENV 16-02)</li> <li>A Pollution Control Plan (PCP) (Standard Specifications Section 00290.20) would be prepared, incorporated into construction bid documents, and implemented for construction activities during the project.</li> </ul>
<b>Historic Resources</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>No potential impacts to historic resources.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>No potential impacts to historic resources.</li> </ul>	<ul style="list-style-type: none"> <li>No mitigation is necessary because there would be no change to the resource or its significant features under Alternative 4.</li> </ul>
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>No potential impacts to historic resources.</li> </ul>	<ul style="list-style-type: none"> <li>No mitigation is necessary because there would be no change to the resource or its significant features under Alternative 5.</li> </ul>
<b>Visual Resources</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>Visual impacts from increased traffic congestion.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>Beneficial impact resulting from an overall decrease in curb-to-curb width north of 5th Street</li> <li>Increases in landscape area along frontage of Fred Meyer</li> <li>Addition of a potential gateway site and start of couplet.</li> <li>Number of travel lanes through downtown reduced from four to three</li> <li>Opportunities for consistent urbanized streetscape elements including curbs, gutters and sidewalks would add visual unity</li> <li>Consistent urbanized streetscape elements would add visual unity.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for Alternative 4</li> </ul>

Alternatives	Potential Impacts	Mitigation Measures
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>Increase in road surface at 5th Street and Chetco and the creation of a 6.7 meters (22-foot) retaining wall/fence at the Fred Meyer property line.</li> <li>Removal of on-street parking would eliminate significant buffer between travel lanes and sidewalks along Chetco Avenue.</li> <li>Consistent urbanized streetscape elements including curbs, gutters and sidewalks would add visual unity.</li> </ul>	<ul style="list-style-type: none"> <li>Construction of landscape screening to hide retaining wall.</li> <li>Including visual buffers as streetscape elements could decrease impacts from the removal of on-street parking.</li> </ul>
<b>Water Quality</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>Projected increased development in the project areas could cause added stormwater to enter system that is not currently treated.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>Increases impervious area within the project area by 4.8 acres.</li> <li>Increase in stormwater runoff to the millpond of 0.2 cfs for a two-year 24-hour design storm.</li> <li>Would not add additional stormwater pollutants to the stormwater discharges.</li> </ul>	<ul style="list-style-type: none"> <li>An Erosion Control Plan (ECP) would be prepared by ODOT's Erosion Control Team and implemented by the contractor.</li> <li>A minimum treatment facility could be needed for runoff produced by new impervious surfaces.</li> </ul>
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>Increase in impervious area within the project by roughly 4.08 acres.</li> <li>Increase in stormwater runoff to the millpond would be 0.4 cfs for a two-year 24-hour design storm.</li> <li>Would not add additional stormwater pollutants to the stormwater discharges.</li> </ul>	<ul style="list-style-type: none"> <li>An Erosion Control Plan (ECP) would be prepared by ODOT's Erosion Control Team and implemented by the contractor.</li> <li>A minimum treatment facility could be needed for runoff produced by new impervious surfaces.</li> </ul>
<b>Wetlands</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>Projected increased traffic volumes could result in an increase in pollutants entering the storm drains and decrease water quality in the millpond wetland.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>Decreased infiltration due to increased impervious surface area could slightly impact peak flows in Macklyn Creek.</li> <li>No measurable impact is expected to base flows.</li> <li>Increase flow into the millpond wetland is not expected to be measurable.</li> </ul>	<ul style="list-style-type: none"> <li>Best management practices would be implemented to minimize sedimentation in runoff from the construction site that could reach the millpond.</li> </ul>
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>Decreased infiltration due to increased impervious surface area could slightly impact peak flows in Macklyn Creek.</li> <li>No measurable impact is expected to base flows.</li> <li>Increase flow into the millpond wetland would not be expected to be measurable.</li> </ul>	<ul style="list-style-type: none"> <li>Best management practices would be implemented to minimize sedimentation in runoff from the construction site that could reach the millpond.</li> </ul>

Alternatives	Potential Impacts	Mitigation Measures
<b>Air Quality</b>		
<b>No-Build</b>	<ul style="list-style-type: none"> <li>No potential air quality impacts.</li> </ul>	<ul style="list-style-type: none"> <li>There are no specific mitigation measures suggested for the No-Build alternative.</li> </ul>
<b>Alternative 4</b>	<ul style="list-style-type: none"> <li>No potential air quality impacts.</li> </ul>	<ul style="list-style-type: none"> <li>To mitigate temporary emission increases in particulate matter due to construction activities, watering of exposed surfaces would be used to control dust generation.</li> </ul>
<b>Alternative 5</b>	<ul style="list-style-type: none"> <li>No potential air quality impacts.</li> </ul>	<ul style="list-style-type: none"> <li>To mitigate temporary emission increases in particulate matter due to construction activities, watering of exposed surfaces would be used to control dust generation.</li> </ul>