

Highway 199 Expressway Upgrade

Oregon Department of Transportation

Environmental Assessment

Highway 199
City of Grants Pass and Josephine County, Oregon



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Oregon

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TO INTERESTED PARTIES OF THE Highway 199 Expressway Upgrade Project

**Highway 199 (US 199)
City of Grants Pass and
Josephine County, Oregon
Key No. 14019**

This Environmental Assessment is 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.

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Thank you,

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HIGHWAY 199 EXPRESSWAY UPGRADE PROJECT
City of Grants Pass and Josephine County
Key No. 14019

ENVIRONMENTAL ASSESSMENT

Submitted pursuant to 42 U.S.C. 4332(2)(C) and 23 CFR Part 771

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

Federal Highway Administration Official

12-21-06
Date

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Abstract:

The Federal Highway Administration (FHWA) and Oregon Department of Transportation (ODOT) propose two build alternatives to address vehicular and pedestrian safety, current and future congestion, and operational deficiencies along Highway 199 between Midway Avenue (milepost 4.44) and Tussey Lane (milepost 0.20). A No Build Alternative is also analyzed in this environmental assessment (EA).

Alternative A Phase 1 would create a median barrier (Midway Avenue to Rogue Community College) and then a raised curb median (Rogue Community College to Tussey Lane) to separate four travel lanes from Midway Avenue to Dowell Road and six travel lanes from Dowell Road to Tussey Lane. Improvements would occur at several Highway 199 intersections, including: Midway Avenue, Arbor Ridge Drive, Dawn Drive, Rogue Community College entrance, Hubbard Lane, Allen Creek Road, Redwood Avenue, Fairgrounds Road, and Ringuette Street. Allen Creek Road would be extended north to a new four-legged intersection with Redwood Avenue, a new access road to Pansy Lane, and a realigned Highway 199 slip ramp. Phase 2 could extend the access road to Tussey Lane.

Alternative C Phase 1 would create a median barrier (Midway Avenue to Rogue Community College) and then a raised curb median (Rogue Community College to Tussey Lane) to separate four travel lanes from Midway Avenue to Dowell Road and six travel lanes from Dowell Road to Tussey Lane. Improvements would occur at several Highway 199 intersections, including: Midway Avenue, Arbor Ridge Drive, Dawn Drive, Rogue Community College entrance, Hubbard Lane, Allen Creek Road, Redwood Avenue, Fairgrounds Road, and Ringuette Street. Allen Creek Road would be curved to connect at a new three legged intersection with Redwood Avenue and a new access road connecting to Pansy Lane. Phase 2 could extend the access road to Tussey Lane.

Alternatives A and C would result in the same types of effects including: full and partial right of way acquisitions, business and residential displacements, and impacts to biological resources, wetlands, noise, and water resources. Effects to historic irrigation canals, Section 4(f) resources, would not constitute an adverse affect under Section 106, and Section 4(f) requirements would be met through a *de minimis* finding.

Construction is expected to begin in fall 2007. The approximate construction and right of way acquisition cost (2006 dollars) of Alternative A is \$35.0 million and the approximate cost of Alternative C is \$34.4 million.

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Appendix C. Alternatives Considered but Withdrawn

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Appendix E. List of Technical Reports and Studies Prepared for this Project

Appendix F. Distribution List

Appendix G. List of Preparers

ACRONYMS

Acronym or Abbreviation	Meaning
AADT	Annual Average Daily Traffic
AGST	Above Ground Storage Tank
APE	Area of Potential Effects
API	Area of Potential Impact
ADT	Average Daily Traffic
BLM	U.S. Bureau of Land Management
BMX	Bicycle Motocross
CAC	Citizen Advisory Committee
CEG	Conditionally Exempt Generator
CETAS	Collaborative Environmental and Transportation Agreement on Streamlining
CFR	Code of Federal Regulations
CH	Critical Habitat
CO	Carbon Monoxide
dBA	Decibel, A-weighted
DLCD	Department of Land Conservation and Development
DEQ	Department of Environmental Quality
DSL	Department of State Lands
EA	Environmental Assessment
ECSI	Environmental Cleanup Site Information
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESCP	Erosion and Sediment Control Plan

Acronym or Abbreviation	Meaning
ESH	Essential Salmonid Habitat
ESU	Evolutionary Significant Unit
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FOE	Finding of Effect
FONSI	Finding of No Significant Impact
GPID	Grants Pass Irrigation District
Leq (h)	Hourly Equivalent Sound Levels
LQG	Large Quantity Generator
LT	Listed Threatened
LUST	Leaking Underground Storage Tank
LWCF	Land and Water Conservation Fund
LWI	Local Wetlands Inventory
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Agreement
MP	Mile Post
MSAT	Mobile Source Air Toxics
MTP	Master Transportation Plan
MVM	Million Vehicle Miles
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration

Acronym or Abbreviation	Meaning
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NWTPH-HCID	Northwest Total Petroleum Hydrocarbon Identification
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
OHWM	Ordinary High Water Mark
ORNHIC	Oregon Natural History Information Center
OSFM	Oregon State Fire Marshal
OTP	Oregon Transportation Plan
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PCP	Pentachlorophenol
PDT	Project Development Team
PEC	Potential Environmental Conditions
PEM	Palustrine Emergent
PFO	Palustrine Forested
PJD	Preliminary Jurisdictional Determination
PM_{2.5}	Particulate Matter Less than 2.5 Microns in Diameter
PM₁₀	Particulate Matter Less than 10 Microns in Diameter
POW	Palustrine Open Water

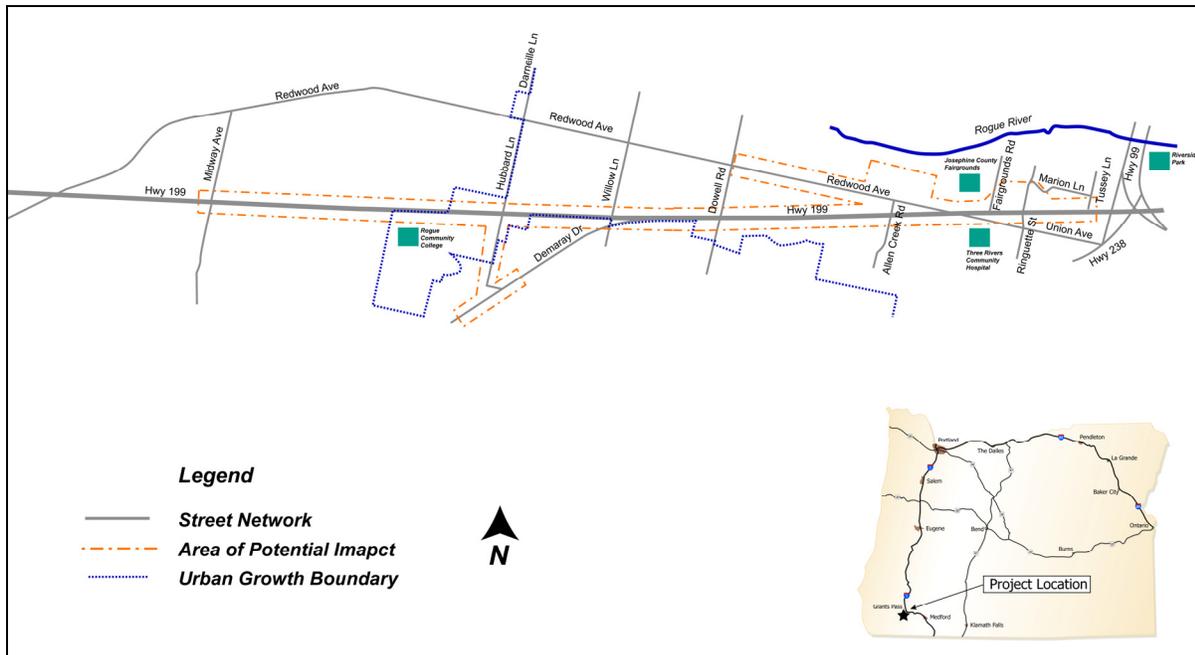
Acronym or Abbreviation	Meaning
POW/AB	Palustrine Open Water/Aquatic Bed
PRC	Population Research Center
PSI	Preliminary Site Investigation
PSS	Palustrine Scrub-Shrub
R2OW	Riverine, Lower Perennial, Open Water
R2SB	Riverine, Lower Perennial, Stream Bed
R3AB	Riverine, Upper Perennial, Aquatic Bed
R3OW	Riverine, Upper Perennial, Open Water
RPEC	Recognized and Potential Environmental Conditions
RCC	Rogue Community College
RCRA	Resource Conservation and Recovery Act
RVCOG	Rogue Valley Council of Governments
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SC	Sensitive-Critical
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SONC	Southern Oregon-Northern California
SPCC	Spill Prevention and Control Countermeasures
SQG	Small Quantity Generator
STIP	State Transportation Improvement Plan
T&E	Threatened and Endangered
TCP	Tetrachlorophenol
TIP	Transportation Improvement Plan
TNM	Traffic Noise Model

Acronym or Abbreviation	Meaning
TPH	Total Petroleum Hydrocarbons
TSD	Treatment Storage and Disposal
TSP	Transportation System Plan
TSS	Total Suspended Solids
UGB	Urban Growth Boundary
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
V/C	Volume to Capacity
VMT	Vehicle Miles Traveled
WPA	Works Project Administration
YMCA	Young Men's Christian Association

Executive Summary

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). The EA discloses potential environmental effects of the Highway 199 Expressway Upgrade project in Grants Pass and Josephine County, Oregon (Exhibit 1) and serves as a key source of information for public and agency review and input into the project.

EXHIBIT 1. PROJECT LOCATION



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 goals and objectives of

Organization of the Environmental Assessment

Chapter 1 – Project Introduction

Chapter 2 – Project Alternatives

Chapter 3 – Affected Environment and Environmental Consequences

Chapter 4 – Mitigation and Conservation Measures

Chapter 5 – Project Coordination and Public Involvement

Chapter 6 – References

Chapter 7 – Glossary

Area of Potential Impact (API)

The API is the area that potential impacts from the project may occur. For this project, the API is generally bounded by Midway Avenue to the west and Tussey Lane to the east. The API extends 300 feet south and north of the Highway 199 centerline, with additional area extending south along Hubbard Lane to Demaray Drive, northwest along Redwood Avenue to Dowell Road, and 500 feet north along Ringuette Street.

Uncontrolled access

An access point that has no signage or signals to control vehicles entering or leaving a parcel.

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 withdrawn from consideration. Chapter 3 describes the baseline conditions and potential effects (direct, indirect, and cumulative) each of the alternatives could have on environmental resources in the area of potential impact (API). Chapter 4 provides a description of potential mitigation measures that could be implemented to reduce or eliminate effects in the API. Chapter 5 describes the public involvement and agency coordination that occurred during project scoping. Chapter 6 identifies references cited in the EA, and Chapter 7 is a glossary of terms.

Purpose and Need for the Project

The purpose of the project is to address vehicular and pedestrian safety, and current and future congestion and operational deficiencies along Highway 199 between Midway Avenue and Tussey Lane. The need for the project is based on the crash history, congestion, access, growth of surrounding area, and system efficiency of Highway 199.

Summary of Alternatives**No Build Alternative**

Highway 199 in the API has two travel lanes in each direction, with signalized intersections at Dowell Road, Allen Creek Road, Redwood Avenue, Fairgrounds Road, and Ringuette Street. Unsignalized intersections include: Midway Avenue, Rogue Community College, Hubbard Lane, Willow Lane, Henderson Lane, and Tussey Lane. In addition, Arbor Ridge Drive, Dawn Drive, and many private driveways currently have direct and uncontrolled access onto Highway 199.

From Midway Avenue to Willow Lane, the wide paved median does not restrict vehicular movements across travel lanes. At the intersection of Highway 199 and Willow Lane there is a raised curb median, which provides westbound traffic on Highway 199 with one left-turn-only lane onto southbound Willow Lane, prohibits

eastbound Highway 199 traffic from turning left onto Willow Lane, and prohibits traffic on Willow Lane from crossing Highway 199.

On Highway 199 between Willow Lane and Redwood Avenue, a continuous left-turn pocket and no physical barrier separate westbound and eastbound traffic. Between Redwood Avenue and Ringuette Street, the westbound and eastbound travel lanes on Highway 199 are separated by a depressed median. From Ringuette Street to Tussey Lane, a raised curb median on Highway 199 separates westbound and eastbound traffic.

There are limited and unconnected dedicated bicycle and pedestrian facilities in the API. There is an existing bicycle and pedestrian shared use path along the south side of Highway 199, beginning at the Rogue Community College (RCC) entrance and continuing east until Nebraska Avenue. Along Redwood Avenue and most of Hubbard Lane, pedestrians and bicyclists use paved shoulders. A small section of sidewalk exists along the west side of Hubbard Lane just south of Highway 199.

The No Build Alternative also assumes that other programmed and funded projects in and adjacent to the API will occur, regardless of whether this project is constructed.

Alternative A

Alternative A would be constructed in two phases. Phase 1 would include improvements on Highway 199 from Midway Avenue to Tussey Lane and a realignment of the Allen Creek Road intersection with Redwood Avenue. Phase 2 could include additional improvements north of Highway 199 from Pansy Lane to Tussey Lane.

Alternative A – Phase 1

Exhibit 2 shows the general alignment of Alternative A Phase 1 with the area where this alternative differs in design from Alternative C Phase 1.

Alternative A Phase 1 would add a median barrier (Midway Avenue to Rogue Community College) and then a raised curb median (Rogue Community College to Tussey Lane) to separate four travel lanes from Midway Avenue to Dowell Road and six travel lanes from Dowell Road to Tussey Lane. Improvements would occur at several Highway 199 intersections, including: Midway Avenue, Arbor Ridge

Other programmed and funded projects that would occur under the No Build Alternative

- Construct eastbound passing lane on Highway 199 about 6 miles west of the project API
 - Repave and construct bicycle and pedestrian facilities on OR 99 and OR 238
 - Redwood Avenue improvements from Redwood Circle to Dowell Road
 - Improve Redwood Avenue at Dowell Road intersection and install traffic signal
-

Design plan sheets showing Alternative A can be found in Appendix A. Access plan sheets for this alternative can be found in Appendix B.

Drive, Dawn Drive, Rogue Community College entrance, Hubbard Lane, Allen Creek Road, Redwood Avenue, Fairgrounds Road, and Ringuette Street. Allen Creek Road would be extended north to a new four-legged intersection with Redwood Avenue, a new access road, and a realigned Highway 199 slip ramp. The new access road would extend to Pansy Lane, which would provide access to the Young Men's Christian Association (YMCA) and fairgrounds.

The median barrier, raised curb median, and other access control measures would restrict turning movements to and from Highway 199 at multiple intersections and driveways. Pedestrian and bicycle improvements would include a shared use path separated from Highway 199, bicycle lanes on Highway 199, and sidewalks along Highway 199 and Hubbard Lane separated from the travel lanes by a landscape strip. Two types of bicycle facilities would be provided to accommodate various bicycling experiences. Bicycle lanes on the highway would likely be used by experienced bicyclists who seek faster routes for commuting or biking long distances; the shared use path would likely be used by less experienced bicyclists or those pursuing slower paced recreation. New or improved connections to other existing and proposed pedestrian and bicycle facilities would also be constructed.

Alternative A – Phase 2

Phase 2 could extend the access road east to Tussey Lane, which could create a full access road connection between Allen Creek Road and Tussey Lane. This access road would be north and parallel to Highway 199. At this stage in the Highway 199 Expressway Upgrade project, Phase 2 is considered preliminary and impacts resulting from Phase 2 are generally discussed in this environmental assessment.

Phase 2 will be studied in more detail during the South Y Interchange Planning Study, which is scheduled to begin in 2007. The South Y Interchange Planning Study will develop and consider a range of alternatives that address congestion affecting traffic operations at the interchange. Construction of the Highway 199 Expressway Upgrade Phase 2, and the actual alignment, would not be set unless this access road concept is found to be part of the overall solution for the South Y Interchange Planning Study.

Alternative C

Alternative C would also be constructed in two phases. Phase 1 would include improvements on Highway 199 from Midway Avenue to Tussey Lane and a realignment of the Allen Creek Road intersection with Redwood Avenue. Phase 2 could include additional improvements north of Highway 199 from Pansy Lane to Tussey Lane.

Alternative C – Phase 1

Exhibit 2 shows the general alignment of Alternative C Phase 1 with the area where this alternative differs in design from Alternative A Phase 1.

Alternative C Phase 1 would add a median barrier (Midway Avenue to Rogue Community College) and then a raised curb median (Rogue Community College to Tussey Lane) to separate four travel lanes from Midway Avenue to Dowell Road and six travel lanes from Dowell Road to Tussey Lane. Improvements would occur at several Highway 199 intersections, including: Midway Avenue, Arbor Ridge Drive, Dawn Drive, Rogue Community College entrance, Hubbard Lane, Allen Creek Road, Redwood Avenue, Fairgrounds Road, and Ringuette Street. Allen Creek Road would be curved to connect at a new three-legged intersection with Redwood Avenue and a new access road. The new access road would extend to Pansy Lane, which would provide access to the YMCA and fairgrounds.

The median barrier, raised curb median, and other access control measures would restrict turning movements to and from Highway 199 at multiple intersections and driveways. Pedestrian and bicycle improvements would include a shared use path separated from Highway 199, bicycle lanes on Highway 199, and sidewalks along Highway 199 and Hubbard Lane separated from the travel lanes by a landscape strip. New or improved connections to other existing and proposed pedestrian and bicycle facilities would also be constructed.

Alternative C – Phase 2

Phase 2 could extend the access road east to Tussey Lane, which could create a full access road connection between Allen Creek Road and Tussey Lane. This access road would be north and parallel to Highway 199. At this stage in the Highway 199 Expressway Upgrade project, Phase 2 is considered preliminary and impacts

Design plan sheets showing Alternative C can be found in Appendix A. Access plan sheets for this alternative can be found in Appendix B.

resulting from Phase 2 are generally discussed in this environmental assessment.

Phase 2 will be studied in more detail during the South Y Interchange Planning Study, which is scheduled to begin in 2007. The South Y Interchange Planning Study will develop and consider a range of alternatives that address congestion affecting traffic operations at the interchange. Construction of the Highway 199 Expressway Upgrade Phase 2, and the actual alignment, would not be set unless this access road concept is found to be part of the overall solution for the South Y Interchange Planning Study.

Summary of Potential Long-Term Effects and Mitigation Measures

The potential long-term effects to resources analyzed for Phase 1 of the project are summarized in Exhibit 3. Potential effects for Phase 2 of the project are generally discussed in Chapter 3. The exhibit also summarizes mitigation measures for construction plans and specifications and select general mitigation measures that could be implemented to minimize effects on resources.

Effects and mitigation are differentiated by alternative if an alternative has distinct effects. Otherwise, a common description of effects and mitigation is provided in Exhibit 3.

EXHIBIT 2. ALTERNATIVE A AND ALTERNATIVE C

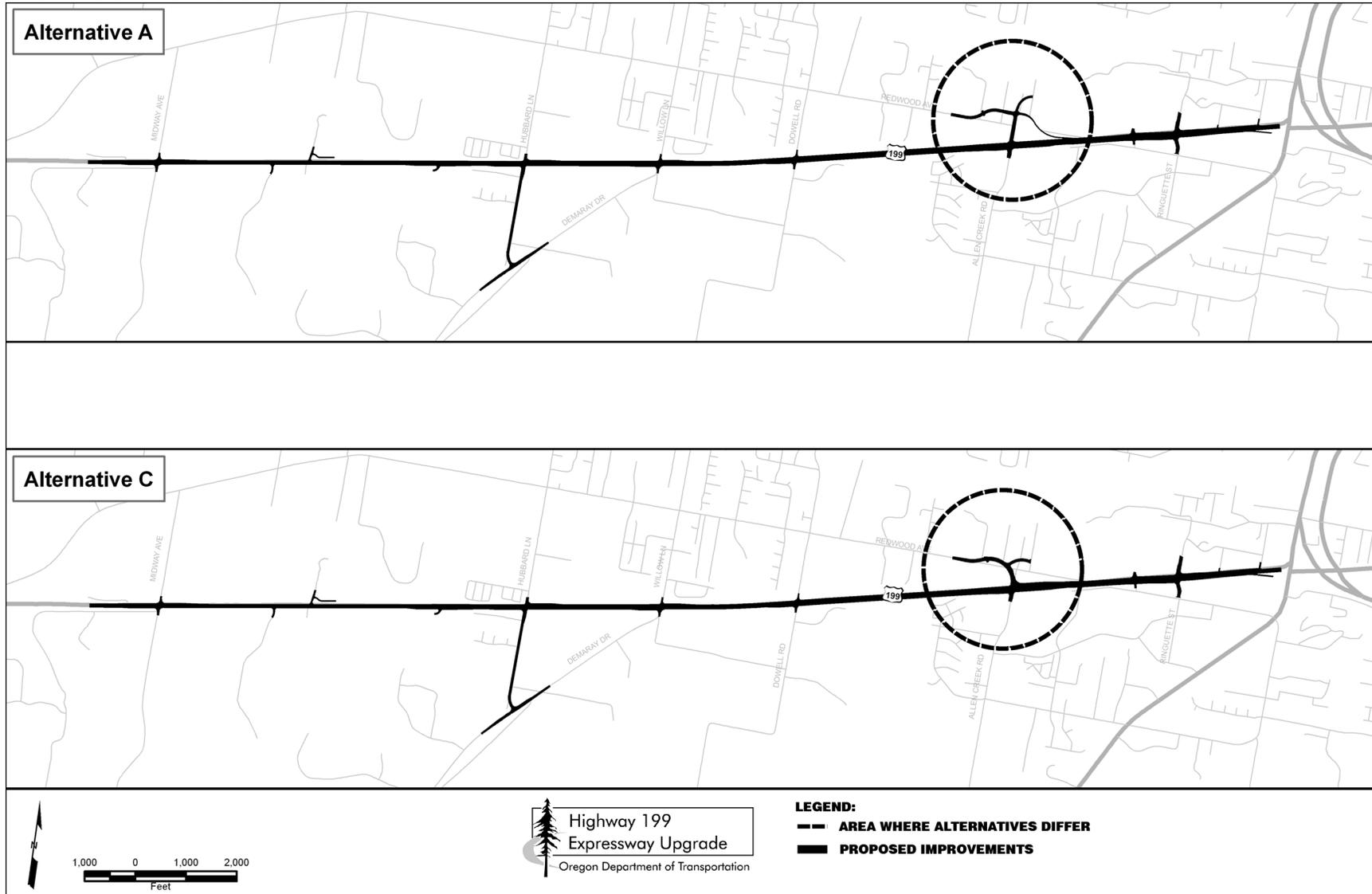


EXHIBIT 3. SUMMARY OF POTENTIAL LONG-TERM EFFECTS AND MITIGATION MEASURES

Resource Element	No Build Alternative	Alternative A	Alternative C
Air Quality			
Potential Effects	<ul style="list-style-type: none"> Increased congestion, causing air pollution 	<ul style="list-style-type: none"> Regional conformity with the State Implementation Plan has not been established at this time; regional conformity shall be established prior to the FHWA's NEPA decision. It is the responsibility of the Rogue Valley Council of Governments to complete the regional conformity determination. Project would not cause or contribute to a new violation of the PM₁₀ (particulate matter less than 10 microns in diameter) National Ambient Air Quality Standards, or increase the frequency or severity of violation 	
Mitigation Measures	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> None required 	<ul style="list-style-type: none"> None required
Archaeology			
Potential Effects	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> There would be no long-term adverse effects to archaeological resources since there are no significant resources in the area of potential effect (APE) 	
Mitigation Measures	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> Should previously unidentified archaeological resources or human remains be encountered, work should immediately cease in the vicinity of the discovery to avoid further damages to the resource. Oregon Department of Transportation (ODOT), Federal Highway Administration (FHWA), State Historic Preservation Office (SHPO), and the Oregon State Museum of Anthropology would be notified so the significance of the discovery can be evaluated and the appropriate course of action implemented 	

Resource Element	No Build Alternative	Alternative A	Alternative C
Biology			
Potential Effects	<ul style="list-style-type: none"> No effects 	<p><i>Fisheries Resources/Water Quality</i></p> <ul style="list-style-type: none"> No effect to water quality or geomorphology from net increase of impervious surface area <p><i>Wildlife Resources</i></p> <ul style="list-style-type: none"> Wildlife passage restricted by median barrier Wildlife-vehicle incidents may increase Tree removal may result in slight decrease in habitat for Migratory Bird Treaty Act (MBTA) protected nesting birds <p><i>Botanical Resources</i></p> <ul style="list-style-type: none"> Minimal effects to non-Endangered Species Act (ESA) botanical species No effects to ESA protected plant species Trees would be removed 	
Mitigation Measures	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> Implement a Pollution Control Plan (PCP) Prepare an Erosion and Sediment Control Plan (ESCP) Construct stormwater treatment facilities, including water quality swales and detention ponds Remove trees outside bird nesting season (March 1 – September 1) Fully span the active channel width of the Sand Creek and avoid in-water work during construction of the pedestrian bridge Develop and implement a riparian planting plan Comply with all permit conditions of approval and/or mitigation measures Follow the requirements of the applicable federal, state, and local regulations 	

Resource Element	No Build Alternative	Alternative A	Alternative C
Hazardous Materials			
Potential Effects	<ul style="list-style-type: none"> No negative effects or positive benefits would be realized 	<ul style="list-style-type: none"> 28 sites (12 identified and 16 possible) have recognized and potential environmental conditions Public health hazards from possible changes in the amount of hazardous materials located above and below ground Increased effects to the environment through exposure of hazardous materials Increased project costs Knowing where hazardous materials may exist could be a positive benefit to public health and safety Removal of hazardous materials would be a positive benefit to public health and safety 	
Mitigation Measures	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> Investigate recognized and potential environmental conditions sites (i.e. subsurface sampling) to eliminate or minimize effects that sites could have on project activities and vice versa Prepare Level 2 Preliminary Site Investigation report document the presence or absence of potential contamination identified in the Hazardous Materials Corridor Study for the project. 	
Historic Resources			
Potential Effects	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> No long-term effects to any significant historic-period buildings 3 canals (Main, South Main, and South Highline) are historic resources eligible for listing on the National Register of Historic Places Effects to the 3 historically significant canals would involve placing sections of the waterways in culverts No adverse effect on canals which are part of an eligible historic resource 	
Mitigation Measures	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> Mitigation and conservation measures could be necessary if project design plans change and project effects to the three canals would be greater than stated in the Final Historic Resources Technical Report 	

Resource Element	No Build Alternative	Alternative A	Alternative C
Land Use			
Potential Effects	<ul style="list-style-type: none"> Increased congestion and difficult access may deter new development and make retaining existing development more difficult Noncompliance: Oregon Statewide Planning Goal 12, City of Grants Pass Master Transportation Plan (MTP), Josephine County's Rural Transportation System Plan (TSP) 	<ul style="list-style-type: none"> 120 parcels affected by acquisition Acquisitions: 2 full, 118 partial No land use plan amendments of zone changes Type II Land Use Permit/Approval from the City of Grants Pass Ministerial Land Use Review and Permit from Josephine County would be required Compliance: Oregon Bicycle and Pedestrian Plan, ORS 366.514, Oregon's Statewide Planning Goal 12, the City of Grants Pass Master Transportation Plan (MTP), and the Josephine County Rural Transportation Systems Plan (TSP) 	<ul style="list-style-type: none"> 116 parcels affected by acquisition Acquisitions: 2 full, 114 partial No land use plan amendments of zone changes Type II Land Use Permit/Approval from the City of Grants Pass Ministerial Land Use Review and Permit from Josephine County would be required Compliance: Oregon Bicycle and Pedestrian Plan, ORS 366.514, Oregon's Statewide Planning Goal 12, the City of Grants Pass MTP, and the Josephine County Rural TSP
Mitigation Measures	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> Work with property and business owners in the API to minimize conflicts and inconveniences from construction-related activities Provide property and business owners in the API with advanced notice of potential access or utility disruptions resulting from construction activities Schedule the most disruptive construction activities during off-peak hours to minimize the effect to traffic Comply with all permit conditions of approval and/or mitigation measures Follow the requirements of the applicable federal, state, and local land use and zoning regulations 	
Noise			
Potential Effects	<ul style="list-style-type: none"> 54 residences, 10 commercial sites, and the YMCA outdoor basketball courts would experience noise levels that approach or exceed the noise abatement criteria 	<ul style="list-style-type: none"> 51 residences, seven commercial sites, and the YMCA outdoor basketball courts would experience noise levels that approach or exceed the noise abatement criteria 	<ul style="list-style-type: none"> 58 residences, six commercial sites, and the outdoor basketball courts at the YMCA would experience noise levels that approach or exceed the noise abatement criteria
Mitigation Measures	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> None proposed 	<ul style="list-style-type: none"> None proposed

Resource Element	No Build Alternative	Alternative A	Alternative C
Right of Way Acquisition and Relocation			
Potential Effects	<ul style="list-style-type: none"> • None identified 	<ul style="list-style-type: none"> • 120 parcels affected • Estimated total area required (not including temporary easements): 12.4 acres • 5 residential relocations • 8 commercial relocations • 2 full acquisitions • Cost: \$15.2 million 	<ul style="list-style-type: none"> • 116 parcels affected • Estimated total area required (not including temporary easements): 11.5 acres • 3 residential relocations • 9 commercial relocations • 2 full acquisitions • Cost: \$15.4 million
Mitigation Measures	<ul style="list-style-type: none"> • None identified 	<ul style="list-style-type: none"> • Implement provisions as required under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, for all residential and commercial displacements and real property acquisitions. All property owners would be compensated at fair market value and relocation assistance would be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 	
Section 4(f) and 6(f)			
Potential Effects	<ul style="list-style-type: none"> • None identified 	<ul style="list-style-type: none"> • Sections of canals placed in culverts • Canals: <i>de minimis</i> use • Recreation field at RCC: Access changes to RCC but no impacts to the recreation field, and no use of Section 4(f) resource • Picnic area, playground, and equestrian arena at fairgrounds: Access changes to fairgrounds, but no impacts to picnic area, playground, or equestrian area, and no use of Section 4(f) resource 	
Mitigation Measures	<ul style="list-style-type: none"> • None identified 	<ul style="list-style-type: none"> • Provide advanced public notice of planned temporary road closures and detours, and changes in access routes that would affect Section 4(f) resources and the River City Trail • Implement dust and noise mitigation during work hours 	

Resource Element	No Build Alternative	Alternative A	Alternative C
Socioeconomics and Environmental Justice			
Potential Effects	<ul style="list-style-type: none"> Continued unsafe, and potentially worsened, conditions for motorists, bicyclists, and pedestrians 	<ul style="list-style-type: none"> 5 residential relocations 8 commercial relocations BMX course relocated Conversion of private parcels to public: parcels paid \$2,638 in taxes (2005) Improved safety and decreased congestion Access more limited along Highway 199 Some access changes from full access to right in/right out only No disproportionate or adverse effects to EJ populations 	<ul style="list-style-type: none"> 3 residential relocations 9 commercial relocations BMX course relocated Relocation of health retailer (medical supplies) Conversion of private parcels to public: parcels paid \$554 in taxes (2005) Improved safety and decreased congestion Access more limited along Highway 199 Some access changes from full access to right in/right out only No disproportionate or adverse effects to EJ populations
Mitigation Measures	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> Provide notices of planned construction activities, planned temporary road closures and detours, and changes in other access routes Provide advance notice for major utility shut-offs and schedule during low use times Distribute periodic press releases, newsletters, or notices to residents in the API to advise them of changes in pedestrian, bicycle, or transit routes during construction. These should be prepared in English and for languages that meet or exceed the U.S. Department of Justice's 5 percent threshold Implement dust and noise mitigation during work hours Plan construction activities to allow reasonable access to private residential and commercial properties, and community and social services 	

Resource Element	No Build Alternative	Alternative A	Alternative C
Traffic and Transportation			
Potential Effects	<ul style="list-style-type: none"> • 10 intersections on Highway 199 and Highway 238 fail to meet the volume to capacity (v/c) ratio mobility standards in year 2025 • 3 local street intersections fail to meet mobility standards in year 2025 • Safety on Highway 199 would not improve; 108 conflict points would exist between Allen Creek Road and Tussey Lane • Wide paved median on west end of Highway 199 would be a safety concern • Depressed unpaved median on east end of Highway 199 would be a safety concern • Decrease in crash rates would not be expected • Fails to minimize traffic flow interruptions • Fails to provide safe, convenient bicycle and pedestrian travel • Fails to improve bicycle and pedestrian facilities connectivity • Fails to reduce conflicts between vehicle traffic and bicycle and pedestrian users • Causes major queuing along Highway 199 at Redwood Avenue, Fairgrounds Road, Ringuette Street, and South Y Interchange • All measures of effectiveness, except vehicle miles traveled, would be worse than Alternatives A and C 	<ul style="list-style-type: none"> • 5 intersections on Highway 199 and Highway 238 fail to meet mobility standards in year 2025; however, 4 of the 5 improve the v/c ratio and 1 has no change to the v/c ratio as compared to the No Build Alternative • 2 local street intersections fail to meet mobility standards in year 2025 • Safety on Highway 199 would improve; 65 conflict points would exist between Allen Creek Road and Tussey Lane • Median barrier and raised curb median on west end of Highway 199 would be a safety benefit • Raised curb median on east end of Highway 199 would be a safety benefit • Decrease in crash rates would be expected • Reduces traffic flow interruptions • Provides safe, convenient bicycle and pedestrian travel • Improves bicycle and pedestrian facilities connectivity • Reduces conflicts between vehicle traffic and bicycle and pedestrian users • Decreases overall travel time by 4.9 and 3.0 minutes (eastbound and westbound) and travel delay by 4.8 and 1.1 minutes (eastbound and westbound) along Highway 199 • Increases average speed by 5 mph and 9 mph (eastbound and westbound) along Highway 199 • Eliminates major queuing along Highway 199 except at the South Y Interchange 	<ul style="list-style-type: none"> • 5 intersections on Highway 199 and Highway 238 fail to meet mobility standards in year 2025; however, 4 of the 5 improve the v/c ratio and 1 has no change to the v/c ratio as compared to the No Build Alternative • 2 local street intersections fail to meet mobility standards in year 2025 • Safety on Highway 199 would improve; 64 conflict points would exist between Allen Creek Road and Tussey Lane • Median barrier and raised curb median on west end of Highway 199 would be a safety benefit • Raised curb median on east end of Highway 199 would be a safety benefit • Decrease in crash rates would be expected • Reduces traffic flow interruptions • Provides safe, convenient bicycle and pedestrian travel • Improves bicycle and pedestrian facilities connectivity • Reduces conflicts between vehicle traffic and bicycle and pedestrian users • Decreases overall travel time by 4.7 and 3.0 minutes (eastbound and westbound) and travel delay by 5.2 and 1.4 minutes (eastbound and westbound) along Highway 199 • Increases average speed by 5 mph and 11 mph (eastbound and westbound) along Highway 199 • Eliminates major queuing along Highway 199 except at the South Y Interchange

Resource Element	No Build Alternative	Alternative A	Alternative C
Traffic and Transportation continued			
Potential Effects continued		<ul style="list-style-type: none"> Decreases travel time and travel delay by 604 and 663 vehicle hours respectively in the transportation study area Travel distance in the transportation study area increases by 1,479 vehicle miles traveled Positive benefits would be realized under all measures of effectiveness, except vehicle miles traveled, over the No Build Alternative Slightly less positive benefits than Alternative C In comparison to the No Build Alternative, Alternative A results in overall improvements to Highway 199 and transportation system 	<ul style="list-style-type: none"> Decreases travel time and travel delay by 579 and 665 vehicle hours respectively in the transportation study area Travel distance in the transportation study area increases by 2,343 vehicle miles traveled Positive benefits would be realized under all measures of effectiveness, except vehicle miles traveled, over the No Build Alternative Slightly more positive benefits than Alternative A In comparison to the No Build Alternative, Alternative C results in overall improvements to Highway 199 and transportation system
Mitigation Measures	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> Implement a Mobility Plan and Traffic Control Plan Implement a Transportation Management Plan 	<ul style="list-style-type: none"> Implement a Mobility Plan and Traffic Control Plan Implement a Transportation Management Plan
Visual			
Potential Effects	<ul style="list-style-type: none"> Visually distracting traffic congestion in the API would worsen over time Increased light and glare from cars and trucks Increased visual disorder 	<ul style="list-style-type: none"> Some vegetation removal, minor terrain modification, and increased pavement for widened and new roads Decreased congestion and a more visually ordered roadway Visual quality would remain the same between Midway Avenue and Fairgrounds Road, and would improve slightly between Fairgrounds Road and Tussey Lane 	
Mitigation Measures	<ul style="list-style-type: none"> None identified 	<ul style="list-style-type: none"> Restore construction staging areas that are not needed once the project is completed to pre-project existing conditions to the extent practicable Minimize to the extent practicable the amount of vegetation removal in clear and grub areas Shield and/or focus construction lighting on work areas to minimize ambient spillover of light into adjacent areas Implement a boulevard treatment (landscaping, decorative lighting, etc) along Highway 199 between Allen Creek Road and Tussey Lane to improve visual quality Use colored concrete and/or stamped patterns for barrier and median areas to blend into the natural environment 	

Resource Element	No Build Alternative	Alternative A	Alternative C
Water			
Potential Effects	<ul style="list-style-type: none"> • With a gradual but steady increase in traffic volumes over time, there would be a potential that highway runoff pollution would exceed the levels currently generated • Increases in sediment, suspended solids, and petroleum contaminants, primarily in Allen Creek, and to a lesser extent in Sand Creek • Negative effects on water quality would be greater than Alternatives A and C since water quality treatment facilities would not be constructed 	<ul style="list-style-type: none"> • 15 acres of new right of way, with 5.5 acres associated with expanding the Highway 199 and 9.5 acres associated with the modifications to the local street network • 7.0 acres of net new impervious for the Highway 199 and 4.2 acres of net new impervious for the local street network. The total amount of net new impervious is 11.2 acres • Mitigation provided by the stormwater treatment facilities would ensure that the 3-year, in-stream concentrations of copper and zinc remain below acute water quality criteria • Mitigation provided by the stormwater treatment components would decrease the pollutant loads to levels less than baseline conditions 	<ul style="list-style-type: none"> • 13 acres of new right of way, with 6 acres associated with expanding the Highway 199 and 7 acres associated with the modifications to the local street network • 7.8 acres of net new impervious for the Highway 199 and 2.7 acres of net new impervious for the local street network. The total amount of net new impervious is 10.5 acres • Mitigation provided by the stormwater treatment facilities would ensure that the 3-year, in-stream concentrations of copper and zinc remain below acute water quality criteria • Mitigation provided by the stormwater treatment components would decrease the pollutant loads to levels less than baseline conditions
Mitigation Measures	<ul style="list-style-type: none"> • None identified 	<ul style="list-style-type: none"> • Route runoff from 10.3 acres of impervious surface through new stormwater treatment facilities 	<ul style="list-style-type: none"> • Route runoff from 10.7 acres of impervious surface through new stormwater treatment facilities

Resource Element	No Build Alternative	Alternative A	Alternative C
Wetlands			
Potential Effects	<ul style="list-style-type: none"> • None identified 	<ul style="list-style-type: none"> • 0.55 acres of effect to palustrine forested wetlands • No effects to palustrine scrub-shrub • 0.63 acres of effect to palustrine emergent wetlands • 0.68 acres of effect to Sand Creek critical habitat • 0.01 acres of effect to riverine, upper perennial, aquatic bed • 0.07 acres of effect to palustrine open water/aquatic bed 	<ul style="list-style-type: none"> • 0.55 acres of effect to palustrine forested wetlands • 0.03 acres of effect to palustrine scrub-shrub • 0.63 acres of effect to palustrine emergent wetlands • 0.68 acres of effect to Sand Creek critical habitat • 0.01 acres of effect to riverine, upper perennial, aquatic bed • 0.07 acres of effect to palustrine open water/aquatic bed
Mitigation Measures	<ul style="list-style-type: none"> • None identified 	<ul style="list-style-type: none"> • Identify wetlands and waters as “no work zones” or “restricted work zones” on plans and in the field • Implement best management practices • Prepare an erosion and sedimentation control plan and a pollution control plan • Develop and implement a wetland restoration plan and site restoration plans • Add guardrail to the design where appropriate to avoid effects to wetlands by increasing roadway fill slope steepness • Construct the pedestrian bridge over Sand Creek to fully span the ordinary high water mark (OHWM) • Develop stormwater management plans to avoid direct effects to wetlands to the extent practicable • Develop a compensatory wetland mitigation plan to replace functions lost as a result of permanent effects to wetlands 	

CHAPTER 1. Project Introduction

The purpose of the Highway 199 Expressway Upgrade project is to address issues of safety, access, capacity, and congestion along a segment of Highway 199 that has experienced a crash rate that is higher than the statewide average and includes several intersections that are experiencing congestion levels that are considered unacceptable per the 1999 Oregon Highway Plan (OHP).

1.1 Project Identification and Description

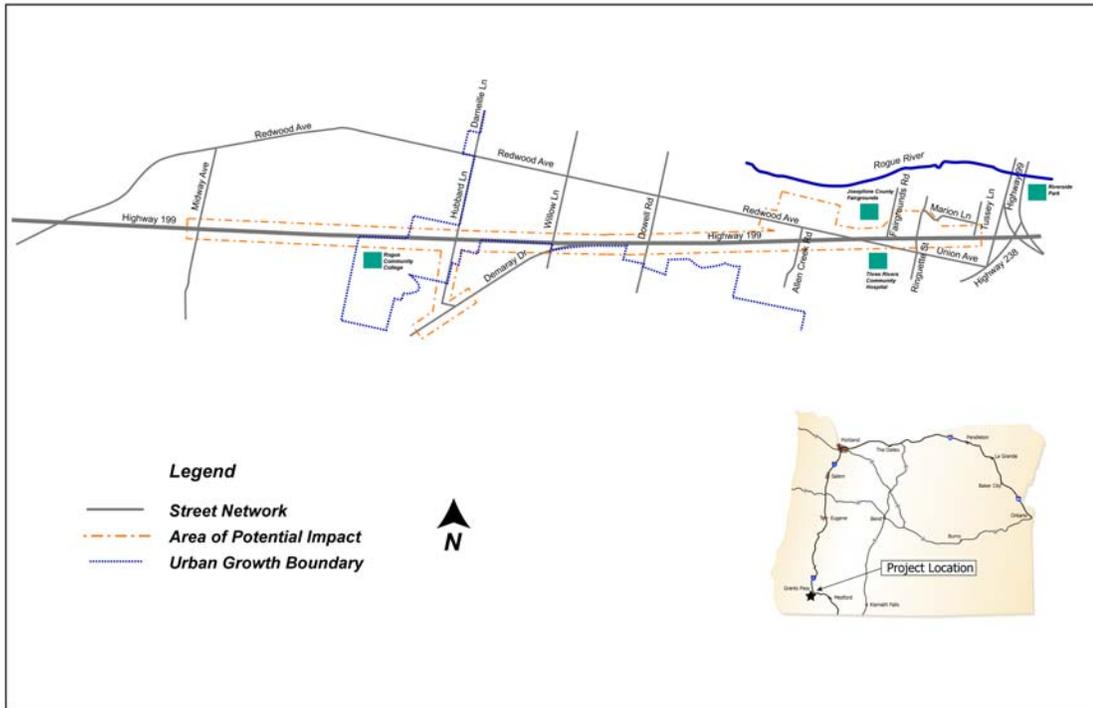
The Highway 199 Expressway Upgrade Project is located in Grants Pass in Josephine County, Oregon (Exhibit 1-1). The project is 4.24 miles long, from mileposts 0.20 to 4.44. The area of potential impact (API) is the area within which potential environmental, social, and economic impacts from the project may directly occur. The API is defined as the general area of Highway 199 bounded by: Midway Avenue to the west and Tussey Lane to the east; Hubbard Lane from Highway 199 to Demaray Drive to the south; Redwood Avenue from Highway 199 to Dowell Road, and 500 feet north of Highway 199 along Ringuette Street (Exhibit 1-2).

Exhibit 1-1. Project Identification

Project Name: Highway 199 Expressway Upgrade Project	Funding Source: FHWA and ODOT
County: Josephine	State Improvement Program Status: ENVDOC
City: Grants Pass	Beginning Milepost: 0.20
ODOT Region: 3	Ending Milepost: 4.44
Highway/Roadway: Highway 199	Length: 4.24 miles

This environmental assessment is being prepared to comply with National Environmental Policy Act (NEPA) requirements for environmental review. This evaluation will be used by the Oregon Department of Transportation (ODOT) and Federal Highway Administration (FHWA) to determine whether a finding of no significant impact (FONSI) will be prepared, or if greater environmental review is needed in the form of an environmental impact statement (EIS).

Exhibit 1-2. Project Location and Area of Potential Impact (API)



The western segment of the project (Midway Avenue to Dowell Road) is located in an area that is rural with intermittent, residential neighborhoods on either side of the highway. Rogue Community College is located in the western portion of the project, along with a few churches. There are some large, intact stands of mature trees in this area and the terrain slopes gently.

The central segment of the project (Dowell Road to Fairgrounds Road) transitions to a more urban and developed setting. This segment supports a variety of uses ranging from residential to large commercial facilities, including the Josephine County Fairgrounds. Development density and traffic congestion increase as one travels from west to east. In addition, there are some stands of mature trees and some individual trees, shrubs, and bushes, and the terrain begins to transition from sloping to flat.

The eastern segment (Fairgrounds Road to Tussey Lane) of the project is in a highly and densely developed, urban part of Grants Pass. There are a variety of uses in this portion including but not limited to small businesses, neighborhoods, and a hospital. There is substantial congestion in this area. There are a few trees, shrubs, and bushes, and the terrain is mostly flat.

1.2 Project Purpose

The purpose of the project is to address vehicular and pedestrian safety, and current and future congestion and operational deficiencies along Highway 199 between Midway Avenue and Tussey Lane.

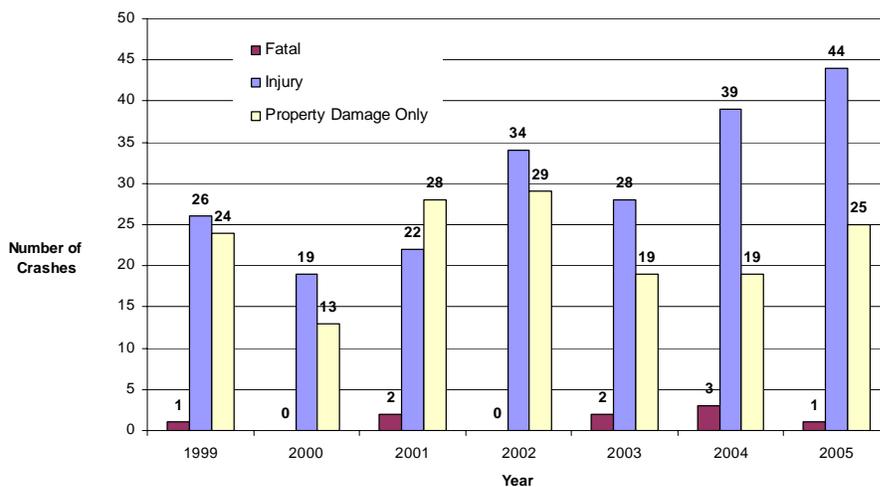
1.3 Project Need

The need for the project is based on the crash history, congestion, access, growth of surrounding area, and system efficiency of Highway 199.

1.3.1 Safety

There have been 378 crashes reported within the limits of the project between January 1, 1999, and December 31, 2005. Of these reported crashes, 2 percent included fatalities, 56 percent involved injuries, and 42 percent involved property damage only (Exhibit 1-3).

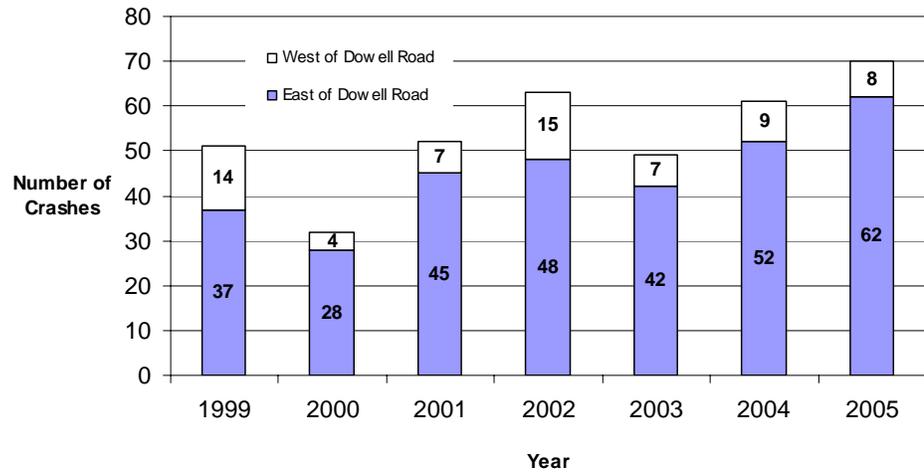
Exhibit 1-3. Highway 199 Crash Summary between Tussey Lane to Midway Avenue



Highway 199 from Tussey Lane to Midway Avenue has experienced a crash rate consistently higher than the statewide average for similar facilities. Along the eastern portion of Highway 199 from Tussey Lane to Dowell Road, the 2005 crash rate is 2.56 crashes per million vehicle miles (MVM) which is higher than other comparable suburban non-freeway Oregon highways (1.39 crashes per MVM). Within the western portion of Highway 199, from Dowell Road to Midway Avenue, the 2005 crash rate is 0.55 crashes per MVM which is lower than other comparable rural, non-freeway Oregon

highways (1.01 crashes per MVM). Exhibit 1-4 shows the number of crashes occurring on Highway 199 east and west of Dowell Road from January 1999 through December 2005.

Exhibit 1-4. Crashes occurring on Highway 199 East and West of Dowell Road



The highest number of crashes occurred between Tussey Lane and Dowell Road. Crashes within this segment tend to be less severe than crashes west of Dowell Road. Between January 1, 1999, and December 31, 2005, there have been 314 crashes in this segment, one of which involved a fatality. Approximately 75 percent of the crashes in this segment were a rear-end type.

Controlled Intersection

An intersection that has signs or signals and establishes who has the right of way. It includes traffic signals or an all-way stop.

Uncontrolled Intersection

An intersection that has no signage or signals but where the basic right of way rule controls who has the right of way at the intersection (first at the intersection has the right of way, but yield to the right if two vehicles approach at the same time).

Partially Controlled Intersection

An intersection that has stop signs only on the side streets or the intersecting local roads.

Between Dowell Road and Midway Avenue, there are fewer crashes, but the severity of the crashes is greater due to the higher speeds. From 1999 through December 2005 there have been 64 crashes, of which there were 9 crashes that included fatalities. The types of crashes occurring in this segment were angle (25 percent), parking/backing/fixed (25 percent), turning (23 percent), rear-end (13 percent), and various others (14 percent).

West of Dowell Road, there is a lack of safe areas for school buses to stop along the highway to pick up school children.

During peak traffic hours, vehicles at partially controlled intersections have long waits to find gaps in traffic to safely enter the highway. This is especially difficult for vehicles attempting to make left turns across multiple lanes of traffic. In these situations, drivers wait long time periods, become frustrated, and take higher risks to enter the highway.

1.3.2 Access

There are 15 intersections along Highway 199 in the API. Five of the intersections are controlled by 4-way signals, and ten are partially controlled by stop signs at the intersecting local roads. In addition to the controlled intersections, there are approximately 13 driveways that allow uncontrolled access to Highway 199. A particularly unsafe area occurs on westbound Highway 199 between Tussey Lane and Ringuette Street where there is no curb or defined driveways which allows uncontrolled access into dense commercial development. This presents a situation where traffic freely enters and exits the highway, increasing the crash risk.

The signals at Ringuette Street, Fairgrounds Road, and Redwood Avenue do not meet the standard signalized access spacing of at least 0.5 mile. Only the spacing from Allen Creek Road to Dowell Road signals currently meets this standard. Signal spacing standards are set to benefit traffic flow; hence, substandard signal spacing on Highway 199 reduces the ability of traffic to flow efficiently.

The current substandard spacing of signalized intersections, the multiple driveways and uncontrolled access along the highway, and the high traffic volumes during peak hour traffic has created an environment of stop-and-go traffic due to vehicles slowing and stopping to enter or exit the highway. These conditions diminish the ability of Highway 199 to function as an expressway where traffic should travel safely at efficient speeds and promote high volume traffic movements.

1.3.3 Capacity and Congestion

The average daily traffic (ADT) between Tussey Lane and Dowell Road ranges from 38,000 to 22,000 and from Dowell Road to Midway Avenue it ranges from 22,000 to 12,000. Congestion is occurring throughout the Highway 199 corridor. Currently four intersections within the corridor are functioning at an unacceptable volume to capacity (v/c) level, and two intersections are nearly at the unacceptable level (Exhibit 1-5). A v/c ratio above 0.70 for highways such as Highway 199 is considered unacceptable per the 1999 Oregon Highway Plan and its amendments.

Traffic simulations were developed to determine where delays and traffic queues may impact adjacent intersections along the corridor.



Unrestricted access on Highway 199 near Tussey Lane

Volume to Capacity (v/c) Ratio

A measurement of highway/roadway service quality that compares the number of vehicles using or expected to use a given road or segment of road (the volume) with the number of vehicles that the facility is designed to handle safely (the capacity).

Queue

A waiting line of vehicles.

Freight Movement

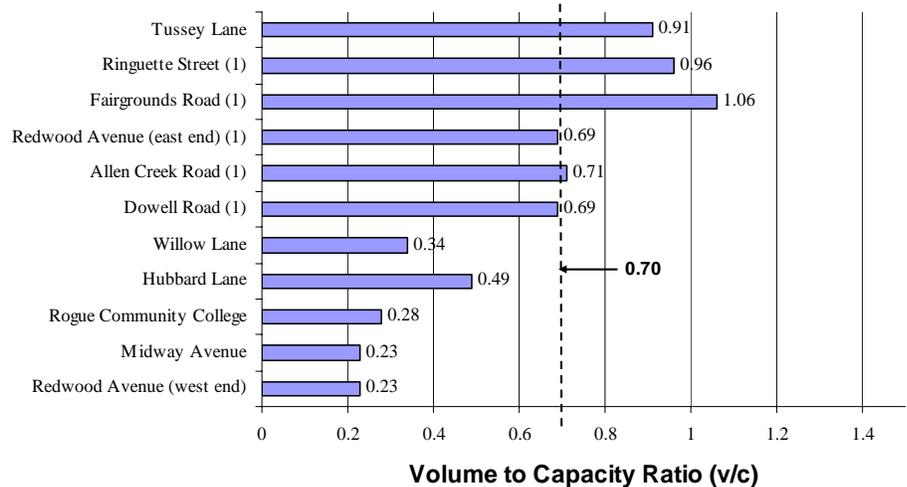
Congestion and lack of capacity on Highway 199 adversely affect truck and freight movement in the same manner that passenger vehicles are affected. Slow freight movement is costly in terms of schedule, labor, and travel expenses, which can then be passed onto businesses and their customers.

South Y Interchange

The South Y Interchange is located just east of the Highway 199 Expressway Upgrade project API. The South Y Interchange is the intersection of three state highways: Highway 199, Oregon 238, and Oregon 99.

The simulation analysis indicates that significant queues would form in both directions at Ringuette Street affecting traffic operations at adjacent intersections in both directions. Additionally, the intersection of Allen Creek Road with Redwood Avenue, which is currently a stop sign for traffic on Allen Creek Road and no stop sign or signal for Redwood Avenue traffic, in the future would likely queue through the Highway 199/Allen Creek Road intersection, affecting traffic operations along Highway 199. Congestion levels at the South Y Interchange would also continue to affect overall traffic operations eastbound on Highway 199. Resolving the congestion at the South Y Interchange will be addressed in a separate study, which is expected to begin in 2007.

Exhibit 1-5. V/C Ratios for Intersections on Highway 199 (2005)



(1) Signalized Intersection (assumed with 120-second cycle length)

1.3.4 Growth

Grants Pass, the second largest city in Southern Oregon and the largest city in Josephine County, has experienced a high population growth rate, averaging 2.9 percent annual increase from 1996 to 2005. Over the last 10 years, the population of Grants Pass has increased by 29 percent. The current estimated population of Grants Pass is 26,085 (Portland State University, 2006). Development is occurring at a high rate within and near the Highway 199 project limits. With the increase in population comes an increase in traffic. Traffic west of Dowell Road is growing at a rate of 1.5 to 2 percent

per year. Growth in Grants Pass is likely to increase over the next several years due in part because of the likely expansion of its urban growth boundary. This growth in turn adds more traffic to the currently congested Highway 199.

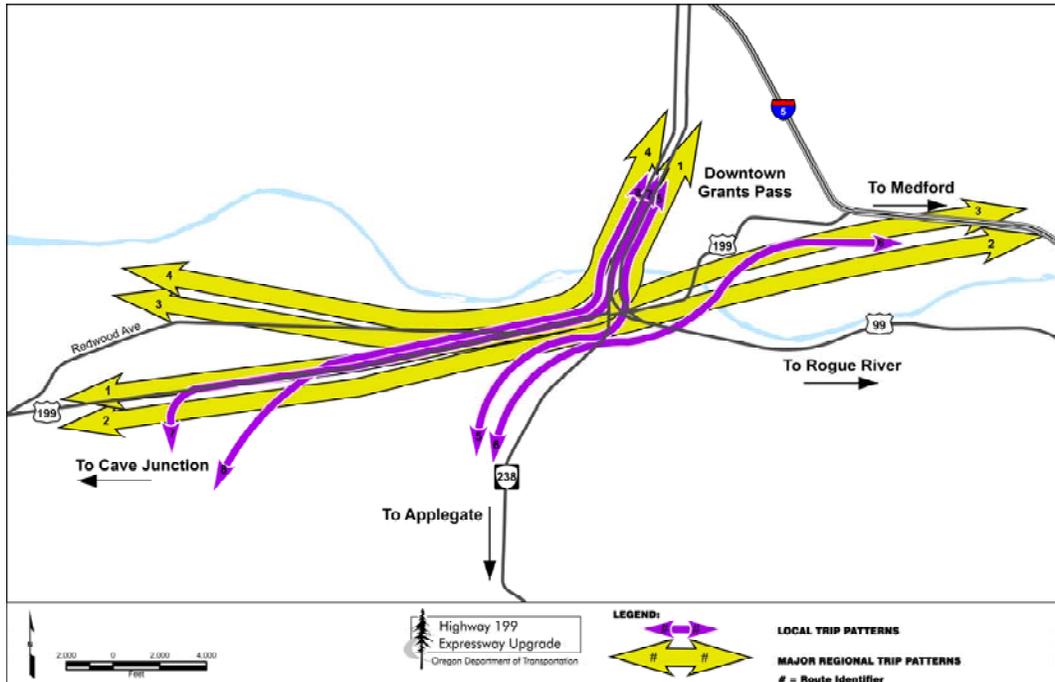
1.3.5 System Efficiency

Highway 199 is currently not functioning as an expressway as defined by the OHP. The 1999 OHP defines an expressway as a highway that provides for safe and efficient high speed and high volume traffic movements. The primary function of an expressway is for interurban travel and connections to ports and major recreation areas with minimal interruptions. Private access is discouraged and public access is highly controlled. Freight, commuters, and tourists cannot effectively move through the Highway 199 corridor due to high traffic congestion, slower speeds, and numerous access points that have negatively impacted inter-regional and regional travel.

Exhibit 1-6 shows the origin and destination of both local and regional through trips. Regional trips on Highway 199 tend to flow between I-5 and the Oregon Coast (see trips identified as 1-4). Local users use Highway 199 to make short trips, such as to the hospital, local businesses, or community college located next to the highway (see trips identified as 5-8). Local users are often making more turning movements onto and off of the highway, which puts local use in conflict with regional through users, which contributes to congestion. High traffic volumes on Highway 199 also create a barrier for north-south local travelers trying to use local roads.

This high level of local and regional use limits Highway 199 from functioning as an expressway since the current high volume of traffic is not moving at high speeds due to congestion. Furthermore, limited access control along Highway 199 in the API exacerbates the operational and safety concerns on this designated expressway for both passenger vehicles and freight trucks.

Exhibit 1-6. Major Regional and Local Trip Patterns



1.4 Project Goals and Objectives

Chapter 5 contains more detailed descriptions of the CAC and PDT.

In addition to the purpose and need, several project goals and objectives have been identified by the Citizen Advisory Committee (CAC) and Project Development Team (PDT). The goals and objectives were identified to aid in developing conceptual alternatives and in screening alternatives to determine those that would be further studied. The project goals and objectives are:

Goal: Improve safety within the Highway 199 corridor

- Minimize conflicts at access points
- Provide safe turnout locations for school buses and other service vehicles that use the roadway shoulders
- Minimize deviations from design standards
- Promote driver education and safety awareness

Goal: Avoid or minimize community and environmental impacts

- Comply with all applicable environmental laws and regulations
- Avoid or minimize effects to fish and wildlife



Shoulders and median on Highway 199 in the west segment; lack of safe left turn areas.

- Avoid or minimize effects to wetlands
- Minimize noise effects to residences adjacent to Highway 199
- Enhance visual clues from rural to urban to ease travel in the corridor
- Reduce visual clutter
- Minimize residential displacements
- Minimize business displacements

Goal: Improve multimodal transportation

- Provide safe, convenient bicycle and pedestrian travel
- Improve connectivity of bike and pedestrian facilities across and adjacent to the highway
- Reduce conflicts between vehicle traffic and bicycle and pedestrian users
- Provide bicycle and pedestrian facilities that meet current standards

Goal: Improve operation of the expressway

- Address all users (local, through, and tourism)
- Meet design year (2030) volume/capacity ratios for expressway
- Address off-system/local street effects
- Maintain adequate local access
- Improve highway function as an expressway
- Encourage the use of all roads to their correct function
- Consider Intelligent Transportation System (ITS) solutions

Intelligent Transportation System (ITS)

ITS is the application of advanced technology to address transportation problems. ITS makes use of advanced communication and computer technology to address these problems and enhance the movement of people, goods and services.

Goal: Minimize impacts to freight travel

- Accommodate freight access to commercial and industrial properties
- Minimize traffic flow interruptions, especially for large trucks

Goal: Address project funding constraints

- Define a project that can be built either with available funding or in phases

1.5 Scoping Summary

Chapter 5 contains more detailed discussion on project coordination and public involvement efforts.

Public Scoping – Issues Identified

The following issues of concern were raised by the public:

- Safety
 - Speed
 - Congestion
 - Access
 - Hwy 199 changes
 - Project responsibility
 - Driver education
 - Effects on businesses
 - Emergency access
-

CETAS Agencies

- **Federal:** Federal Highway Administration (FHWA), United States Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (USACE).
 - **State of Oregon:** Oregon Department of Fish and Wildlife (ODFW), Oregon Department of Environmental Quality (DEQ), State Historic Preservation Office (SHPO), Oregon Department of State Lands (DSL), Department of Land Conservation and Development (DLCD).
-

Scoping is the process by which ODOT and FHWA gather input from the public and interested agencies on the nature and extent of issues and impacts associated with the project and how they will be addressed in the EA. The scoping process also provides input into the methods by which these issues and impacts will be evaluated.

Scoping for the Highway 199 Expressway Upgrade project occurred from December 2004 through March 2005. Project scoping was conducted by gathering input through a variety of efforts. One effort included identifying project stakeholders (public and agency) and then asking these stakeholders to share their thoughts and concerns about environmental resources and transportation issues in the API. A second effort of gathering involved collecting public input through an initial survey, two CAC meetings, and a public open house held March 3, 2005. The purpose of the survey was to ask respondents how they use the highway (daily commuter, business owner, resident, etc.) and what they saw as the most significant problems, and to search for public representatives for the CAC. The CAC was assembled to ensure that the project considered the community's interests, issues, knowledge, and recommendations. The CAC consisted of residents, commuters, business owners, elected and appointed officials, property owners, and special interest groups.

The project's first Open House was held March 3, 2005. This meeting served as the public scoping meeting for the project, and its purpose was to collect people's issues and concerns about the project. A variety of comments were received and issues identified during the scoping meeting.

Agency input on the project was conducted when ODOT presented the Highway 199 Expressway Upgrade Project to the Collaborative Environmental and Transportation Agreement on Streamlining (CETAS) committee in April 2005. This committee is composed of both federal and state agencies that would have an interest in the project. The agencies had the opportunity to learn about the project and to identify key resources and issues for the project. However,

due to the limited nature of anticipated natural resource effects the CETAS committee decided not to formally review this project. Resource and regulatory agency input also occurred through on-going coordination through ODOT's liaison program.

In addition, other state and local agencies were involved in the decision making process throughout the project by participating as members of the PDT. Agencies represented on the PDT included the City of Grants Pass, Josephine County, Grants Pass Chamber of Commerce, and Oregon State Police.

CHAPTER 2. Project Alternatives

The Highway 199 Expressway Upgrade project considered a range of alternatives to address the safety, congestion, and capacity needs while minimizing effects to the community and environment. This range of alternatives was narrowed down to three alternatives—two Build Alternatives and the No Build Alternative—which are the focus of this environmental assessment. This chapter provides an overview of the screening process for selecting the two Build Alternatives, and identifies features of the Build Alternatives and the No Build Alternative.

2.1 Development of Alternatives

During the early stages of the project, alternatives were developed separately for the west segment of the API (Midway Avenue to Dowell Road) and the east segment (Dowell Road to Tussey Lane). This temporary division of the project into two segments during the alternatives development process enabled the project team to develop alternatives that addressed the issues pertinent to each segment. The transition area around Dowell Road was always consistent between the two segments so that alternatives developed for the west segment would be compatible with alternatives developed for the east segment. This approach enabled localized issues to be addressed and prevented any bias in the alternatives selected for one area to preclude alternatives selected elsewhere.

The overall process of developing alternatives consisted of the following stages:

- Define screening criteria
- Brainstorm conceptual alternatives

- Apply traffic analysis and design standards to each conceptual alternative
- Evaluate each alternative against the screening criteria
- Select alternatives to move forward or be withdrawn from further study.

2.1.1 Screening Criteria

The PDT agreed to screening criteria that reflected the project’s purpose and need statement as well as goals and objectives. Criteria were grouped in the following categories:

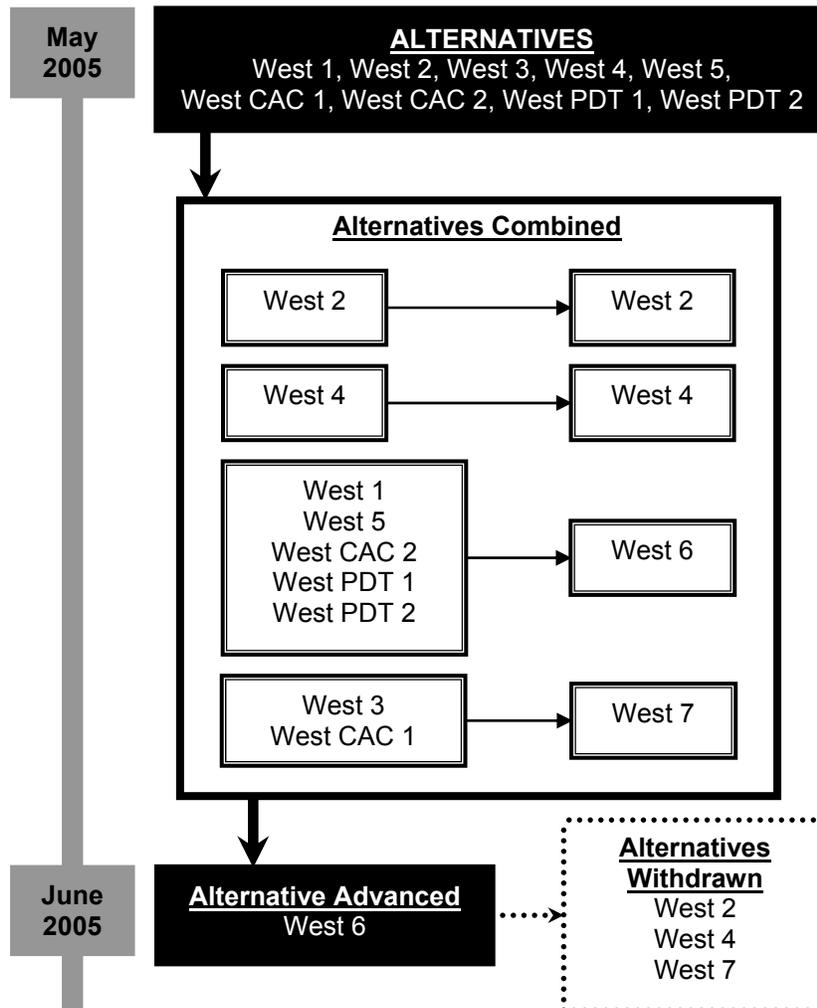
- Meet project purpose and need
- Improve safety
- Improve operation of the expressway
- Minimize impacts to freight travel
- Improve multi-modal transportation
- Minimize impacts to the environment
- Address project funding constraints by developing project elements that could be implemented in phases
- Address design standards.

Within each category, a subset of specific criteria was listed. Each criterion was then assigned a measure. For example, one criterion within the “improve safety” element was minimizing vehicle conflicts at access points. The measure for the criterion was the number of access points directly on Highway 199. Quantitative and qualitative measures were similarly assigned to each criterion.

2.1.2 West Segment: Developing and Evaluating Alternatives

Initially, the project team, with input from the CAC and PDT, developed nine alternatives for potential improvements to Highway 199 between Midway Avenue and Dowell Road. These alternatives were quickly regrouped into four distinct alternatives since among the original nine alternatives; many had similar components (Exhibit 2-1).

Please refer to Section 2.6 in this chapter for an explanation on why some alternatives were withdrawn from further study.



Summary of West Segment Alternatives

West 2: Two-way Left Turn

Highway 199 would be a 5-lane facility with two travel lanes eastbound, two travel lanes westbound, and one center lane for two-way left turns.

West 4: Mini-couplet

Highway 199 would have two travel lanes in each direction with a 50-foot median with periodic breaks allowing for safe turning movements.

West 6: Combination

Highway 199 would have two travel lanes in each direction with median barrier or curb. Median breaks and left-turn-only lanes would be provided at Midway Avenue, Rogue Community College, Hubbard Lane, Willow Lane, and Dowell Road. U-turns would be permitted at Midway Avenue, Hubbard Lane, and Dowell Road.

West 7: Combination with Dawn Drive Connector

West 7 is the same as West 6 with the addition of a new public road connecting Dawn Drive north to Redwood Avenue.

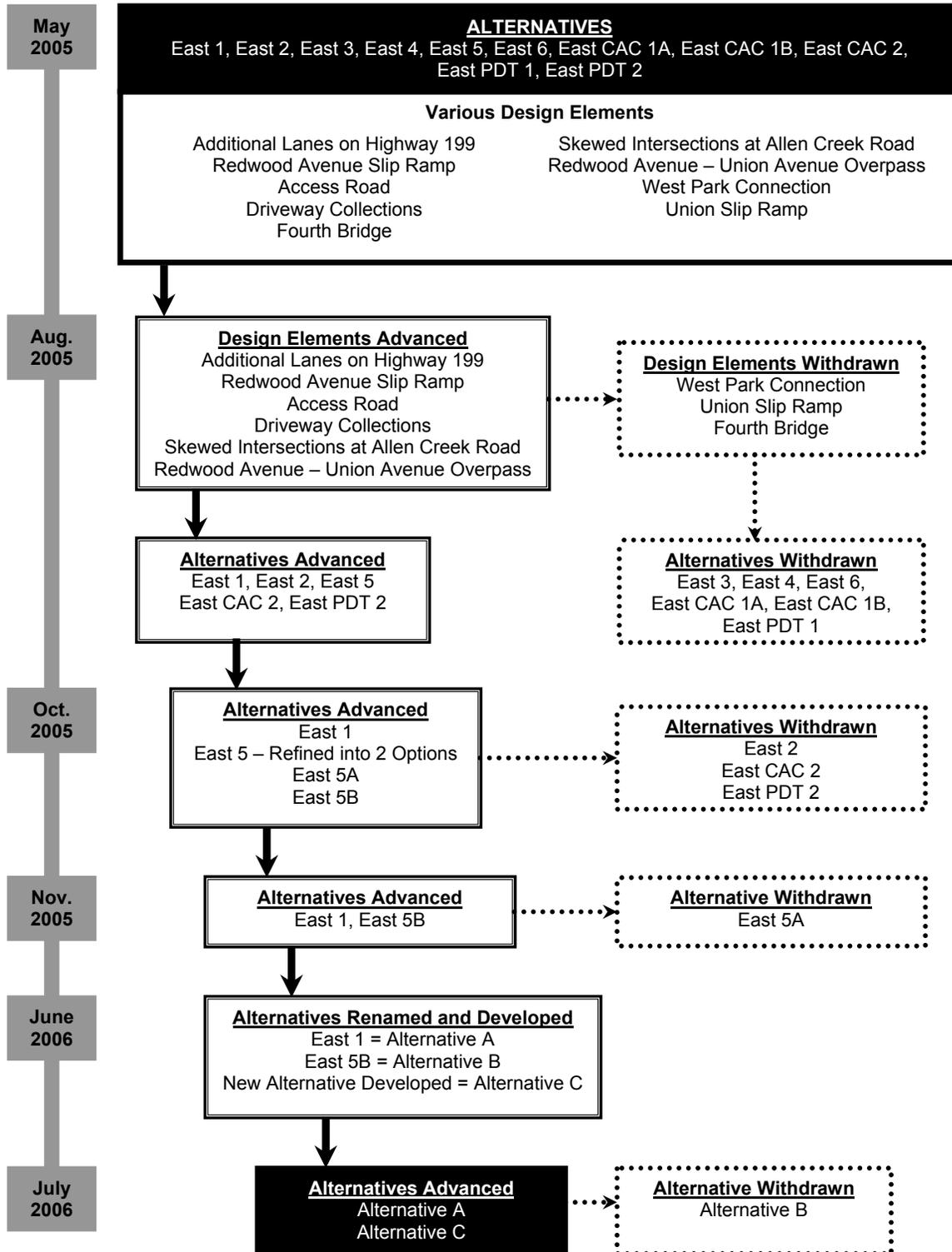
The four alternatives evaluated across the screening criteria were named: West 2, West 4, West 6, and West 7. In June 2005, the PDT voted to move West 6 forward for further detailed study. The other three alternatives were withdrawn from further study.

West 6 became the proposed design on both Alternative A and Alternative C from Midway Avenue to Dowell Road.

2.1.3 East Segment: Developing and Evaluating Alternatives

For the east segment that spans the area between Dowell Road and Tussey Lane, the project team, with input from the PDT and CAC, initially developed 11 alternatives. The screening process was

EXHIBIT 2-2. ALTERNATIVES CONSIDERED FOR THE EAST SEGMENT



undertaken in several steps due to the complexity of the alternatives and urban area (Exhibit 2-2).

The first step was to look at key design components of several east alternatives, including:

- Connect West Park Street to Allen Creek Road to enhance local road connectivity and thereby reduce congestion on Highway 199
- Add two travel lanes on Highway 199, which would increase the expressway from four to six travel lanes
- Add a new bridge over the Rogue River to provide additional north-south connectivity to change travel patterns and reduce local use of Highway 199 (also known as East 6)
- Connect Union Avenue via a ramp off eastbound Highway 199 to enhance local road connectivity and thereby reduce congestion on Highway 199.

In August 2005, these design components were evaluated across the screening criteria. The PDT voted to forward the “add two travel lanes to Highway 199” component and withdraw the other three components from further study. The result of these decisions was to regroup the initial 11 alternatives into five distinct alternatives that reflected the “add two travel lanes to Highway 199” component as well as other design components that had not yet been evaluated by the PDT. These five alternatives were named: East 1, East 2, East 5, East CAC2, and East PDT2.

The second step occurred in October 2005 when these five alternatives were evaluated across the screening criteria. The PDT voted to move East 1 and East 5 forward and withdraw the other three alternatives from further study. The PDT also asked that a slight variation be considered for East 5, so this alternative was renamed to East 5A and a new East 5B was introduced.

In November 2005, the third step in the screening process occurred when East 1, East 5A, and East 5B were evaluated. The PDT unanimously agreed to forward East 1 and East 5B and withdraw East 5A.

In an effort to reconnect the east segment with the west segment, the following links and renaming of alternatives occurred:

Alternatives Considered in the East Segment

East 1: Full Access Road (Allen Creek Road to Tussey Lane)

Highway 199 would have six travel lanes with limited access to properties. A new public road would be added to provide access to business on the north side of Highway 199 from Allen Creek Road to Tussey Lane.

East 2: Limited Access Road (Allen Creek Road to Ringuette Street)

East 2 is the same as East 1, except the access road would only be constructed between Allen Creek Road and Ringuette Street.

East 5 (also called East 5A): Limited Access Road with Two Overcrossings

East 5 (East 5A) is the same as East 1, except the access road would cross over Allen Creek Road and Ringuette Street rather than intersect it at-grade.

East 5B: Limited Access Road with One Overcrossing

East 5B is the same as East 1, except the access road would cross over Allen Creek Road rather than intersect it at-grade.

East CAC2: Reconfigured Allen Creek Road

Highway 199 would have six travel lanes with limited access to properties. The intersection of Allen Creek Road and Redwood Avenue would be curved to allow more free-flow vehicle movement.

East PDT2: Redwood Avenue – Union Avenue Overcrossing

Highway 199 would have six travel lanes with limited access to properties. A partial access road would provide access to businesses along the north side of Highway 199 from the fairgrounds to Tussey Lane. Redwood Avenue and Union Avenue would be connected via a bridge over Highway 199.

Please refer to Section 2.6 in this chapter for an explanation on why some alternatives were withdrawn from further study.

East 1 + West 6 → Alternative A

East 5B + West 6 → Alternative B

Over the winter and spring of 2006, several concerns were raised by project stakeholders about the potential impacts both alternatives could have on the community, particularly on the east segment. As a result, a new alternative was developed and named Alternative C. Alternative C proposed a new alignment on the east segment but retained all West 6 improvements on the west segment. The Alternative C alignment in the east segment reduced many adverse impacts to businesses, property owners, and the fairgrounds that were associated with Alternatives A and B. In addition, Alternative C resulted in improved traffic operations in the Allen Creek Road and Redwood Avenue vicinity when compared to Alternative B.

The final step in screening the alternatives occurred in July 2006. Alternatives A, B, and C were evaluated across the screening criteria. Alternatives A and C were voted by the PDT to move forward for further study; Alternative B was withdrawn.

Therefore, the build alternatives evaluated in this environmental assessment are Alternative A and Alternative C. The No Build Alternative is also evaluated for comparative purposes. A description of each alternative is provided in the next sections.

2.2 No Build Alternative

The No Build Alternative provides the basis for a comparative analysis of the build alternatives. The No Build Alternative assumes that roadway configurations along Highway 199 in the API would remain in their current configuration.

Currently, Highway 199 in the API has two travel lanes in each direction, with signalized intersections at Dowell Road, Allen Creek Road, Redwood Avenue, Fairgrounds Road, and Ringuette Street. The timing of the following signals on Highway 199 has been optimized for traffic operations: Allen Creek Road, Redwood Avenue, Fairgrounds Road, and Ringuette Street. Unsignalized intersections include: Midway Avenue, Rogue Community College, Hubbard Lane, Willow Lane, Henderson Lane, and Tussey Lane. Arbor Ridge Drive and Dawn Drive intersections on Highway 199 are partially controlled with stop signs. In addition, many private



Existing signalized intersection of Highway 199 and Fairgrounds Road.

driveways currently have direct and uncontrolled access onto Highway 199.

Between Allen Creek Road and Tussey Lane the westbound and eastbound travel lanes on Highway 199 are separated by a large median. From Midway Avenue to Willow Lane, the wide paved median does not restrict vehicular movements across travel lanes. At the intersection of Highway 199 and Willow Lane there is a raised curb median, which provides westbound traffic on Highway 199 with one left-turn-only lane onto southbound Willow Lane, prohibits eastbound Highway 199 traffic from turning left onto Willow Lane, and prohibits traffic on Willow Lane from crossing Highway 199.

On Highway 199 between Willow Lane and Redwood Avenue, a continuous left-turn pocket and no physical barrier separates westbound and eastbound traffic. Between Redwood Avenue and Ringuette Street on Highway 199, the westbound and eastbound travel lanes on Highway 199 are separated by a depressed median. From Ringuette Street to Tussey Lane, a raised curb median on Highway 199 separates westbound and eastbound traffic.

There are limited and unconnected dedicated bicycle and pedestrian facilities in the API. There is an existing bicycle and pedestrian shared use path along the south side of Highway 199, beginning at the Rogue Community College entrance and continuing east until Nebraska Avenue. Along Redwood Avenue and most of Hubbard Lane, pedestrians and bicyclists use paved shoulders. A small section of sidewalk exists along the west side of Hubbard Lane just south of Highway 199.

The No Build Alternative also assumes that other programmed and funded projects in and adjacent to the API will occur, regardless of whether the Highway 199 Expressway Upgrade Project is constructed. The No Build Alternative assumes the following future improvements:

- Minor road realignment and signal installation at Park Street and Lewis Avenue
- Signal installation and lane modification at Harbeck Road and OR 238
- Construct eastbound passing lane on Highway 199 (mile post (MP) 10.4-11.2) about 6 miles west of the project API

- Repave and construct bicycle and pedestrian facilities on OR 99 (MP 0 to 1.39) and OR 238 (MP 0 to 1.7)
- Redwood Avenue improvements including reconstruction of two travel lanes, center turn lane, and bicycle and pedestrian facilities from Redwood Circle to Dowell Road
- Improve Redwood Avenue at Dowell Road intersection and install traffic signal.

Traffic analysis projections of the No Build Alternative assumed the above improvements; therefore the benefits that these future improvements may yield are included in the No Build Alternative's traffic conditions presented in this environmental assessment.

Maps of Alternative A

Detailed maps showing the proposed improvements for Alternative A are included in Appendix A.

Appendix B includes maps that illustrate access (driveway) modifications.

2.3 Alternative A

Alternative A would be constructed in two phases. Phase 1 would include improvements from Midway Avenue to Tussey Lane and a realignment of the Allen Creek Road intersection with Redwood Avenue. Phase 2 would include additional improvements north of Highway 199 from Pansy Lane to Tussey Lane.

2.3.1 Phase 1

The general alignment of Alternative A is shown in Exhibit 2-3.

Alternative A: Midway Avenue to Dowell Road

Exhibit 2-4 shows the general improvements proposed as part of Alternative A between Midway Avenue and Dowell Road, with insets to provide greater design detail at major intersections. This segment has the following design features:

- Highway 199 would continue to have four travel lanes (two in each direction) but a median barrier would be added between the eastbound and westbound lanes. From Midway Avenue to the Rogue Community College entrance, the barrier would be an approximately 42-inch-high concrete median barrier. This median barrier would transition to a raised curb median (approximately 8 inches high) in the vicinity of the Rogue Community College entrance. The raised curb median would continue east to Dowell Road. Insets 7 and 8 of Exhibit 2-4 illustrate these typical road sections.

EXHIBIT 2-3. ALTERNATIVE A

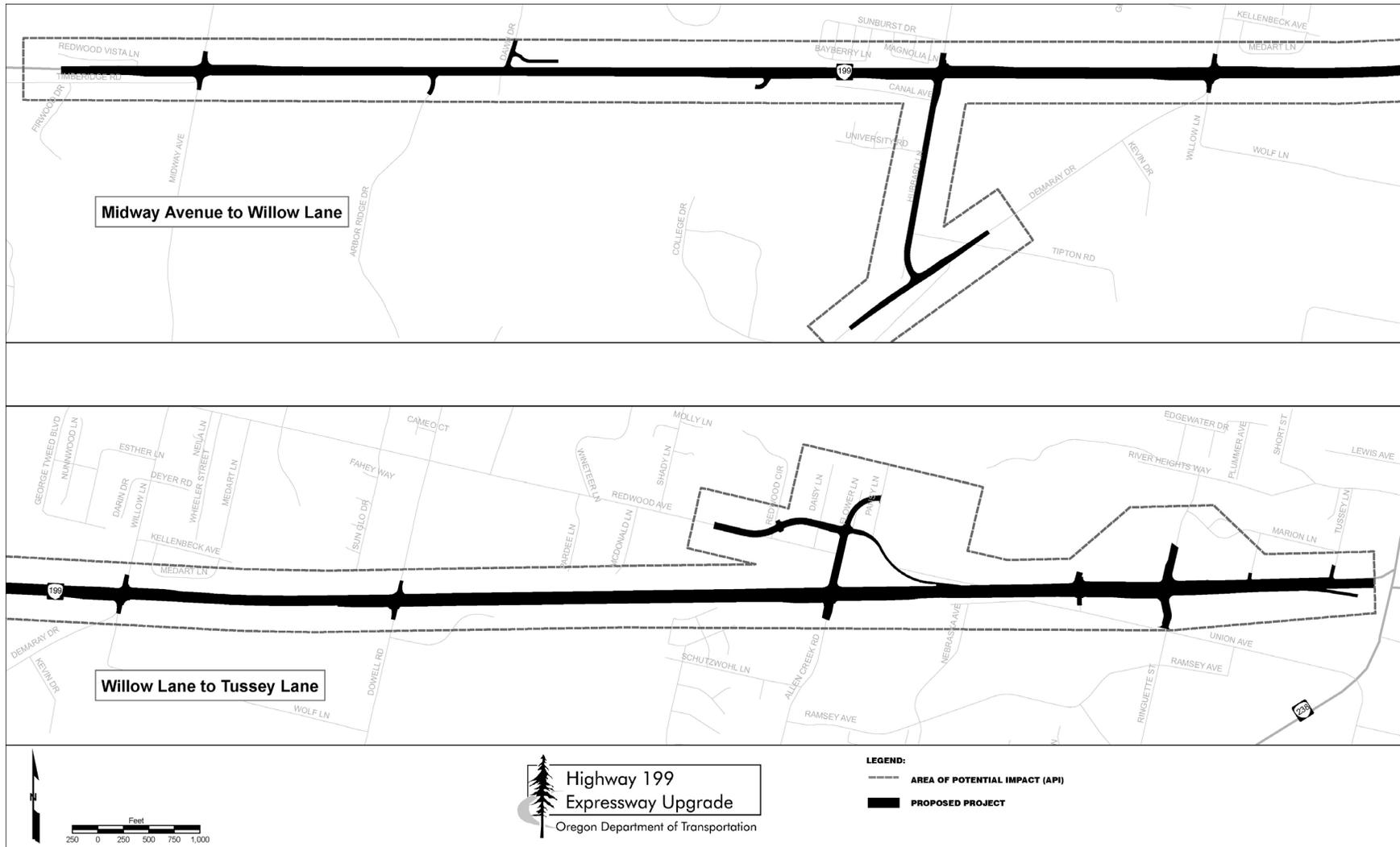
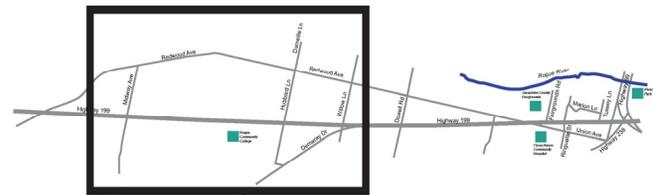
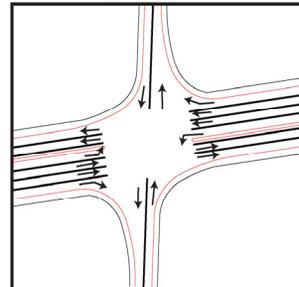


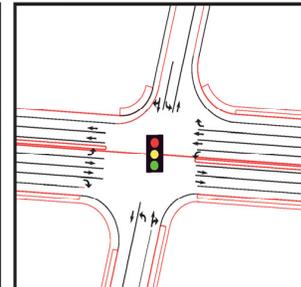
EXHIBIT 2-4. ALTERNATIVE A AND ALTERNATIVE C BETWEEN MIDWAY AVENUE TO DOWELL ROAD



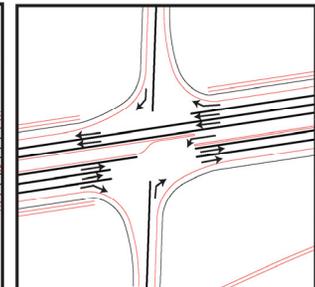
Relation to Project API



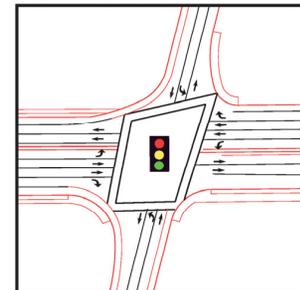
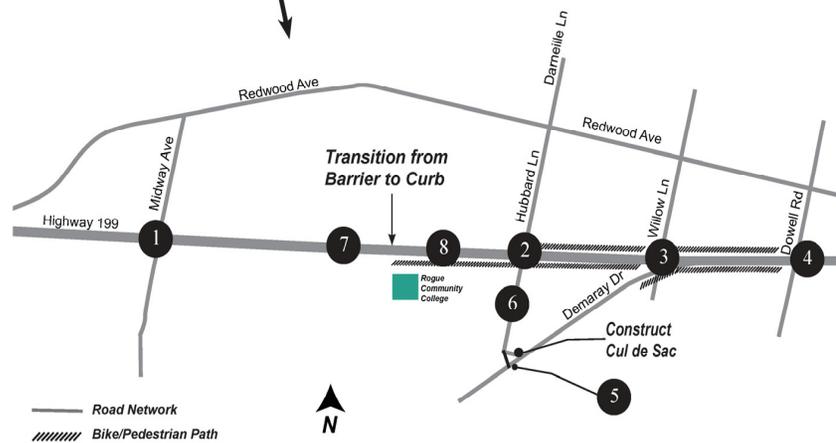
1 Highway 199 at Midway Avenue



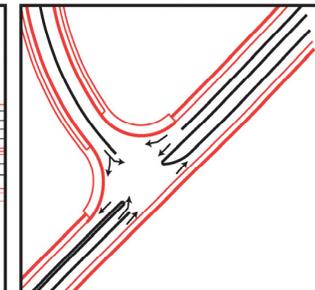
2 Highway 199 at Hubbard Lane



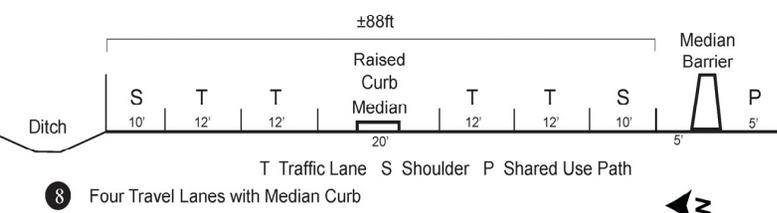
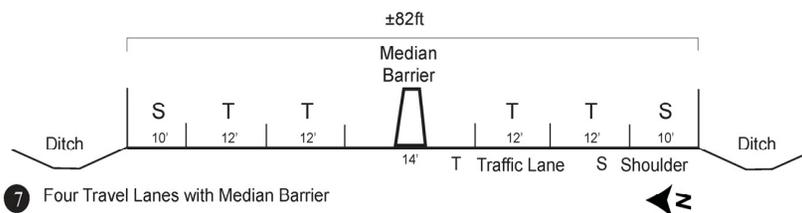
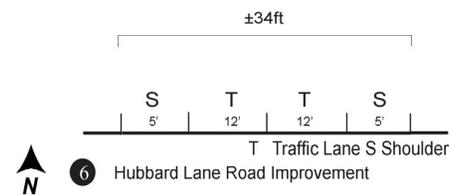
3 Highway 199 at Willow Lane



4 Highway 199 at Dowell Road



5 Hubbard Lane at Demaray Drive



- The existing configuration of the Highway 199 at Midway Avenue intersection would remain two through lanes in each direction and left-turn-only and right-turn-only lanes from Highway 199 north and south onto Midway Avenue (Exhibit 2-4, Inset 1). Traffic on Midway Avenue would be able to make left and right turns onto Highway 199. Improvements to this intersection would include widening Highway 199 to accommodate u-turn movements.
- Arbor Ridge Drive, Dawn Drive, and various private driveways would be restricted to right in/right out movements due to the median barrier along Highway 199. A new driveway collector nearly 500 feet long would also be constructed east from Dawn Drive.
- The entrance to Rogue Community College from eastbound Highway 199 would have a deceleration lane for right turns into the college. Entrance to the college from westbound on Highway 199 would be from a left-turn-only lane. Exit from the college would be right out only. A portion of the South Highline Canal adjacent to the southeast corner of the intersection of Highway 199 and the Rogue Community College entrance would be realigned for about 150 feet to accommodate the highway widening and modified connection of the multi-use path to the college access road.
- Highway 199 at the intersection with Hubbard Lane would include left-turn-only lanes, two through lanes, and right-turn-only lanes in both directions. Traffic on Hubbard Lane would be able to make left and right turns onto Highway 199. U-turns would be permissible. This intersection would be constructed to accommodate a future traffic signal once traffic conditions warrant signal installation (Exhibit 2-4, Inset 2).
- Hubbard Lane would be improved to City of Grants Pass design standards south of Highway 199 (Exhibit 2-4, Inset 6). The southern-most 400 feet of Hubbard Lane would be realigned to create a new intersection with Demaray Drive (Exhibit 2-4, Inset 5). The new intersection of Hubbard Lane and Demaray Drive would have a left-turn-only pocket on northbound Demaray Drive. The existing intersection of

Hubbard Lane and Demaray Drive would be closed and made into a cul-de-sac.

- A separated bicycle and pedestrian shared use path would be constructed along the north side of Highway 199 between Hubbard Lane and Dowell Road. The existing bicycle and pedestrian shared use path along the south side of Highway 199, beginning at the Rogue Community College entrance and continuing east past Dowell Road, would be reconstructed (Exhibit 2-4).
- Highway 199 at the intersection with Willow Lane would remain two through lanes in each direction, right-turn-only lanes in both directions, and raised curb median allowing left-turn-only from a dedicated turn pocket for westbound traffic (Exhibit 2-4, Inset 3). Eastbound traffic would continue to be prohibited from making left turns. Willow Lane would continue to be right in/right out only north and south of Highway 199.
- Highway 199 at the intersection with Dowell Road would continue to be signalized. It would include left-turn-only and right-turn-only lanes off Highway 199. Traffic on Dowell Road would be able to make left and right turns onto Highway 199.

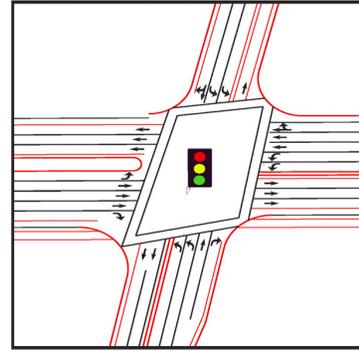
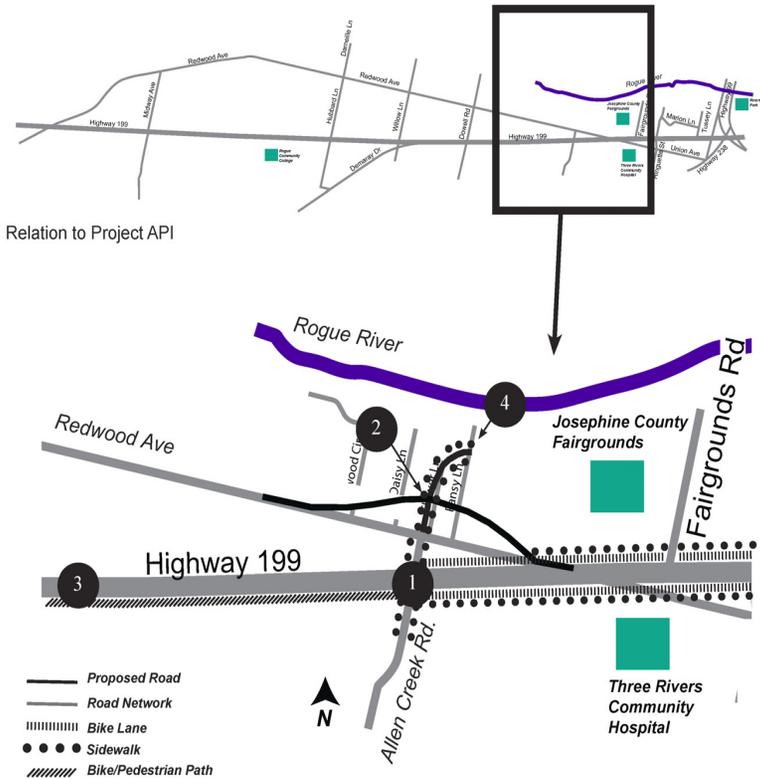
Alternative A: Dowell Road to Fairgrounds Road

Exhibit 2-5 shows the general improvements proposed as part of Alternative A between Dowell Road and Fairgrounds Road, with insets to provide greater design detail at major intersections. This segment of Alternative A has the following design features:

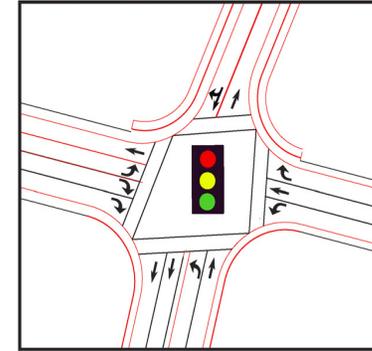
- At Dowell Road, Highway 199 would transition from four travel lanes to six travel lanes with raised curb median continuing between the eastbound and westbound lanes (Exhibit 2-5, Inset 3). For westbound Highway 199 traffic, the right lane approaching Dowell Road would become a right-turn-only lane onto northbound Dowell Road.
- The intersection of Highway 199 and Allen Creek Road, as shown in Inset 1 of Exhibit 2-5, would remain signalized and include the following features:

- Eastbound Highway 199 would have three through lanes, one left-turn-only lane, and one right-turn-only lane.
 - Westbound Highway 199 would have three through lanes, with the right-hand lane also allowing for right turns, and two left-turn-only lanes.
 - Northbound Allen Creek Road would have one through lane, two left-turn-only lanes, and one right-turn-only lane.
 - Southbound Allen Creek Road would have one combined through and right-turn lane and two left-turn-only lanes.
- Allen Creek Road would be extended approximately 250 feet north of the existing Redwood Avenue where it currently ends at a “T” intersection (Exhibit 2-5, Inset 2). Sidewalks would be added on both sides of Allen Creek Road and u-turns would be permissible at the intersection of Allen Creek Road, Redwood Avenue, and the new access road. This new intersection would be signalized and:
 - Northbound from Allen Creek Road would have one through lane and one left-turn-only lane.
 - Eastbound from a realigned Redwood Avenue would have no through lanes, one left-turn-only lane, and two right-turn-only lanes.
 - Southbound from a new access road would have a single combined through lane and right-turn lane.
 - Westbound from a realigned westbound Highway 199 slip ramp would have one through lane, one left-turn-only lane and one right-turn-only lane.
 - The slip ramp from westbound Highway 199 to Redwood Avenue would be shifted north. This realignment requires relocating access to the YMCA and nearby parcels from Redwood Avenue to an existing driveway that has access on Pansy Lane. YMCA traffic can connect to Redwood Avenue via the new extension of Allen Creek Road that curves north and east to connect to Pansy Lane.

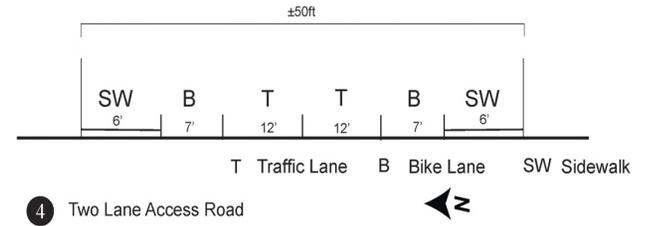
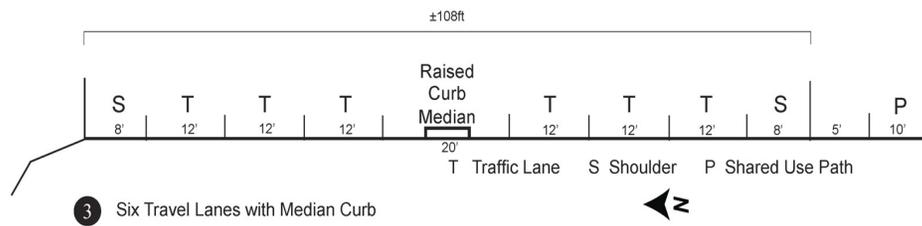
EXHIBIT 2-5. ALTERNATIVE A BETWEEN DOWELL ROAD AND FAIRGROUNDS ROAD



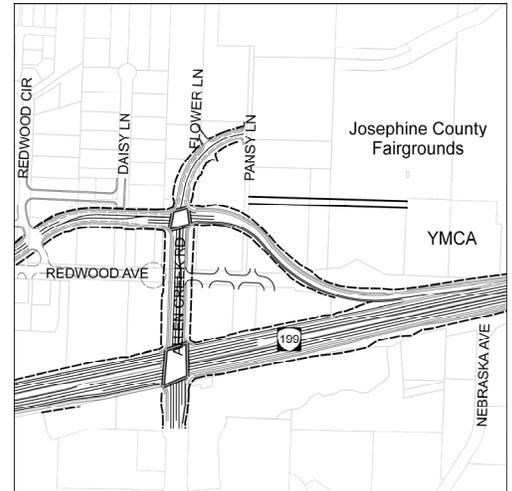
1 Highway 199 at Allen Creek Road



2 Allen Creek Road at Redwood Avenue



- To connect with the new extension of Allen Creek Road, Redwood Avenue would be realigned starting just west of Redwood Circle (Exhibit 2-5). The realigned portion of Redwood Avenue would curve to the north. The remaining portion of Redwood Avenue east of the new curve would cul-de-sac just before Allen Creek Road. Properties along this stretch would use this road to access the realigned Redwood Avenue at an intersection with Redwood Circle. The City of Grants Pass may consider adding a signal at this intersection.
- A new local street would be constructed to connect Daisy Lane with Redwood Circle; thereby providing properties along Daisy Lane access to Redwood Avenue.
- Access to the Josephine County Fairgrounds, the Young Men's Christian Association (YMCA), and other county-owned parcels east of the YMCA would be from a new access road and Pansy Lane (Exhibit 2-5). The access road would bulb out to the north of the new Allen Creek Road extension, curve east, and connect to Pansy Lane. An existing driveway on Pansy Lane would continue to provide access to the YMCA and the fairgrounds.
- The access road would have two lanes and a sidewalk on both sides of the road (Exhibit 2-5, Inset 4).
- A realigned one-way slip ramp from westbound Highway 199 would be constructed (Exhibit 2-5, Inset 3). This slip ramp would allow westbound traffic to either continue through the new Allen Creek Road intersection to the realigned Redwood Avenue, turn right onto the new access road, or turn left towards the Highway 199 at Allen Creek Road intersection.
- Access to properties along the old Redwood Avenue alignment east of Allen Creek Road would still be via old Redwood Avenue. Access to properties along old Redwood Avenue west of Allen Creek Road would be via Redwood Circle and then the old Redwood Avenue. Cul-de-sacs would be constructed on the east end of the old Redwood Avenue alignment. Properties along Flower Lane would have access via a new connection to the access road. Properties on Daisy Lane would connect to Redwood Avenue via a new connector to Redwood Circle.



Access to the fairgrounds and YMCA would be via a new access road that connects to Pansy Lane which connects to an existing driveway into the fairgrounds.

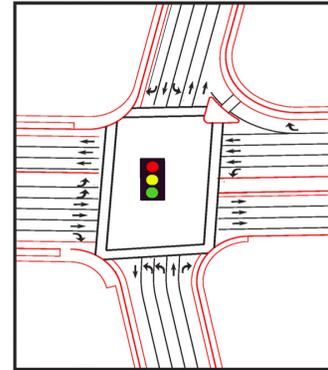
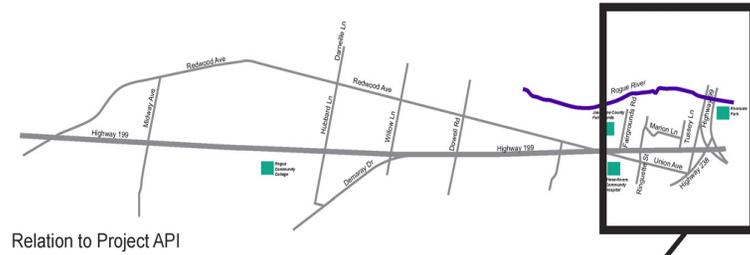
- The existing signal at the Highway 199 and Redwood Avenue intersection would be removed.
- The existing separated bicycle and pedestrian shared use path along south side of Highway 199, which begins at the Rogue Community College entrance, would continue east to Nebraska Avenue. At this point, the pedestrian traffic would use the sidewalks on Union Avenue or Highway 199; the bicycle traffic would either use the paved shoulders on Highway 199 or Union Avenue.
- A bike lane along the north side of Highway 199 between the Redwood Avenue slip ramp and Fairgrounds Road and continuing east to Tussey Lane, would be striped on the roadway shoulder.
- A bike lane would be added along the south side of Highway 199 between Allen Creek Road and Ringuette Street and would be striped on the roadway shoulder.
- Sidewalk, separated by a planter strip, would be added to the north side of Highway 199 from the Redwood Avenue slip ramp to Tussey Lane. A sidewalk would be added to the south side of Highway 199 from Nebraska Avenue to Ringuette Street.

Alternative A: Fairgrounds Road to Tussey Lane

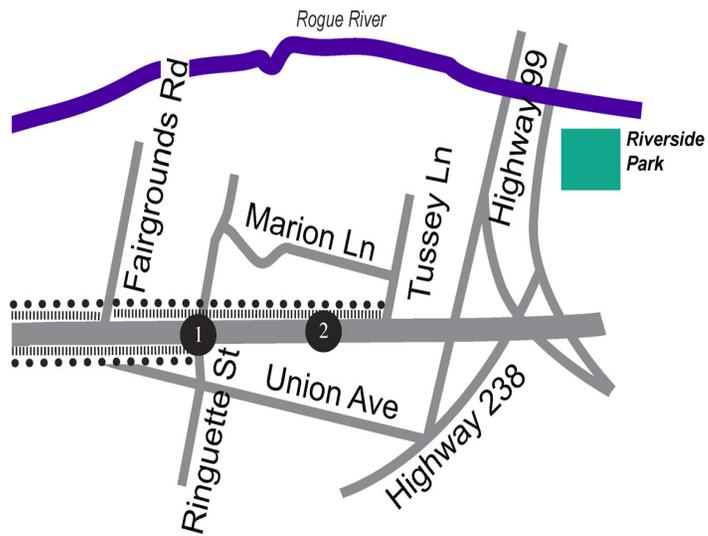
Exhibit 2-6 shows the general improvements proposed as part of Alternative A between Fairgrounds Road to Tussey Lane, with insets to provide greater design detail at major intersections. This segment has the following design features:

- This segment of Highway 199 would provide six travel lanes with raised curb median continuing between the eastbound and westbound lanes (Exhibit 2-6, Inset 2).
- Where permitted, direct access to Highway 199 would be right in/right out only. Curb and a detached sidewalk would be constructed along the westbound portion of Highway 199. Access would be defined by driveways with some shared between parcels.

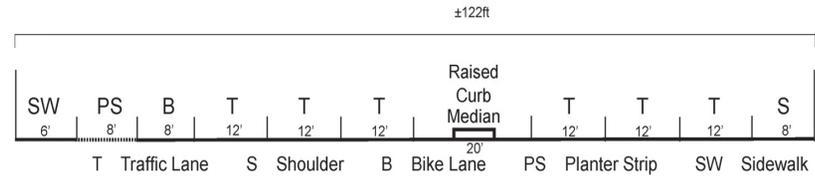
EXHIBIT 2-6. ALTERNATIVE A AND ALTERNATIVE C BETWEEN FAIRGROUNDS ROAD AND TUSSEY LANE



1 Highway 199 at Ringuette Street



- Road Network
- ||||| Bike Lane
- Sidewalk



2 Six Travel Lanes with Median Curb



- The existing signal at the intersection of Highway 199 and the Fairgrounds Road would be removed and traffic movements would be restricted to right in/right out.
- The intersection of Highway 199 and Ringuette Street, as shown in Inset 1 of Exhibit 2-6, would continue to be signalized and include the following features:
 - Westbound Highway 199 would have three through lanes, one left-turn-only lane, and one free-flowing right-turn-only lane.
 - Eastbound Highway 199 would have three through lanes, two left-turn-only lanes, and one right-turn-only lane.
 - Northbound Ringuette Street would have one through lane, two left-turn-only lanes, and one right-turn-only lane.
 - Southbound Ringuette Street would have one through lane, one left-turn-only lane, and one right-turn-only lane.
 - A left-turn-only lane would be added to southbound Ringuette Street at the intersection with Union Avenue.
- Henderson Lane and Tussey Lane would continue to provide access to Highway 199 and traffic would continue to be restricted to right in/right out movements due to raised curb median along Highway 199.
- A sidewalk, separated from Highway 199 by a planter strip, would continue along the north side of Highway 199 between Fairgrounds Road and Tussey Lane. A sidewalk would also be constructed along both sides of Ringuette Street north of Highway 199 for approximately 300 feet. A sidewalk along the south side of Highway 199 would continue from Nebraska Avenue to Ringuette Street.
- The bike lane striped on the roadway shoulder along north side of Highway 199, starting at Allen Creek Road, would continue between Fairgrounds Road and Tussey Lane. The bike lane striped on the roadway shoulder along the south

side of Highway 199, starting at Allen Creek Road, would continue to Ringuette Street.

2.3.2 Phase 2

Phase 2 of Alternative A could extend the access road east to Tussey Lane, which could create a full access road connection between Allen Creek Road and Tussey Lane. This access road would be north and parallel to Highway 199. At this stage in the Highway 199 Expressway Upgrade project, Phase 2 is considered preliminary and impacts resulting from Phase 2 are generally discussed in this environmental assessment.

Phase 2 will be studied in more detail during the South Y Interchange Planning Study, which is scheduled to begin in 2007. The South Y Interchange Planning Study will develop and consider a range of alternatives that address congestion affecting traffic operations at the interchange. Construction of the Highway 199 Expressway Upgrade Phase 2, and the actual alignment, would not be set unless this access road concept is found to be part of the overall solution for the South Y Interchange Planning Study.

2.4 Alternative C

Alternative C would also be constructed in two phases. Phase 1 would include improvements from Midway Avenue to Tussey Lane and a realignment of the Allen Creek Road intersection with Redwood Avenue. Phase 2 would include additional improvements north of Highway 199 from Pansy Lane to Tussey Lane.

The general alignment of Alternative C is shown in Exhibit 2-7.

2.4.1 Phase 1

Alternative C: Midway Avenue to Dowell Road

This section of Alternative C has the same design features as Alternative A (Exhibit 2-4).

Alternative C: Dowell Road to Fairgrounds Road

Exhibit 2-8 shows the general improvements proposed as part of Alternative C between Dowell Road and Fairgrounds Road, with insets to provide greater design detail at major intersections. This segment has the following design features:

Maps of Alternative C

Detailed maps showing the proposed improvements for Alternative C are included in Appendix A.

Appendix B includes maps that illustrate access (driveway) modifications.

EXHIBIT 2-7. ALTERNATIVE C

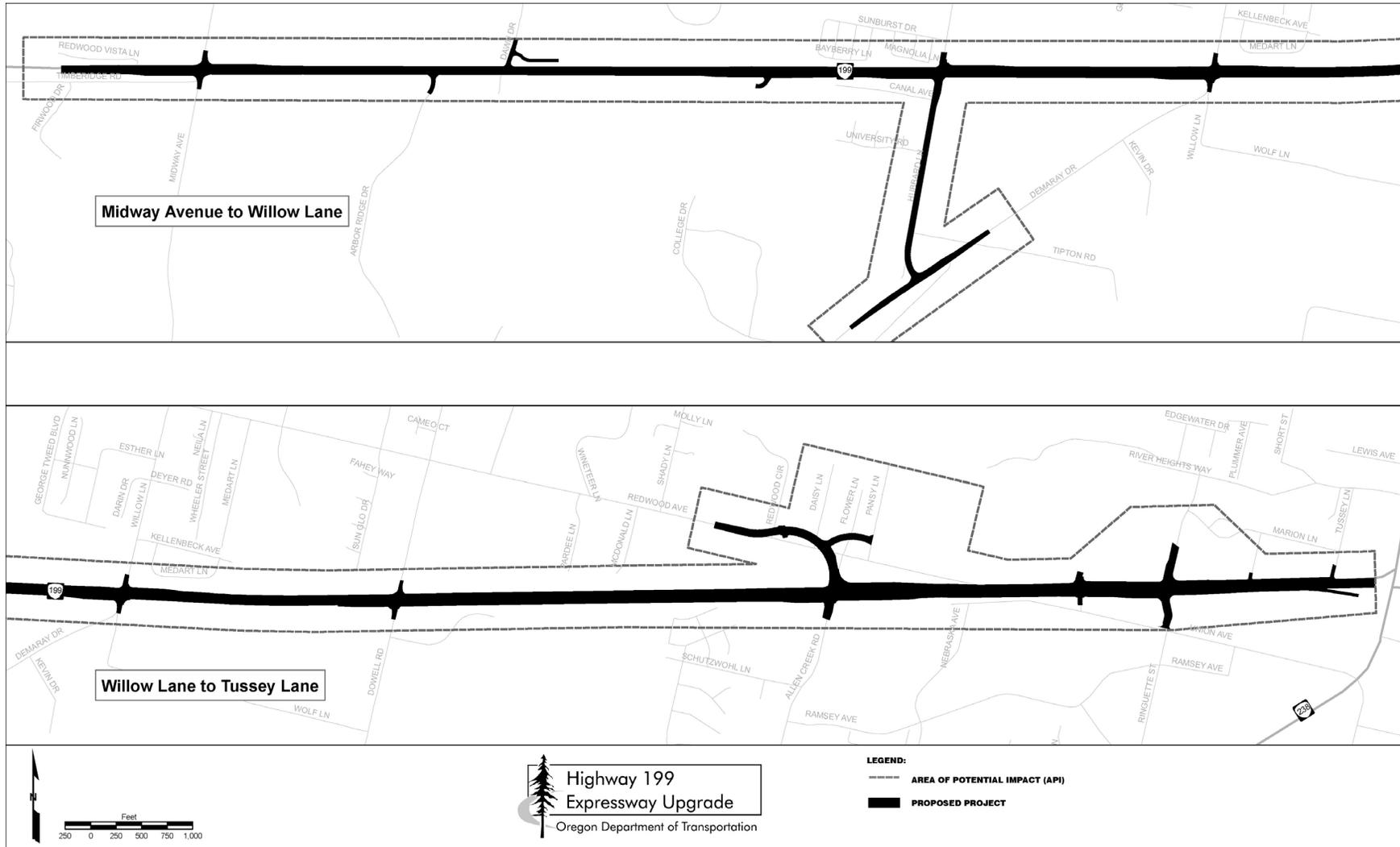
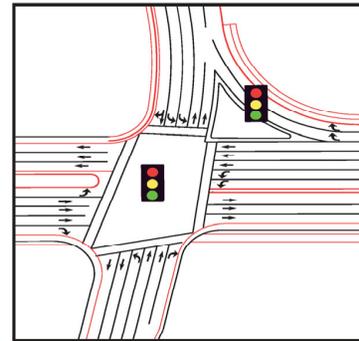
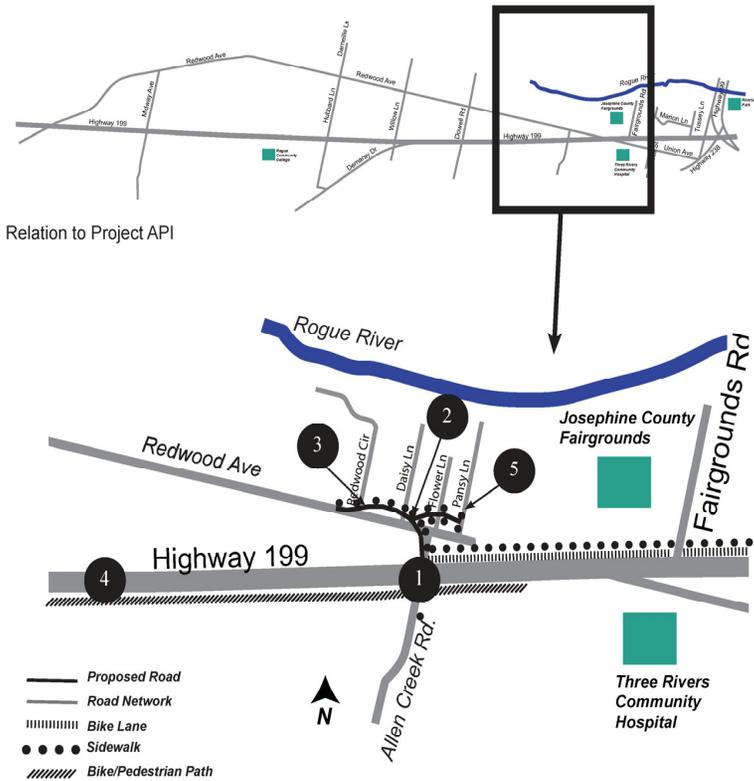
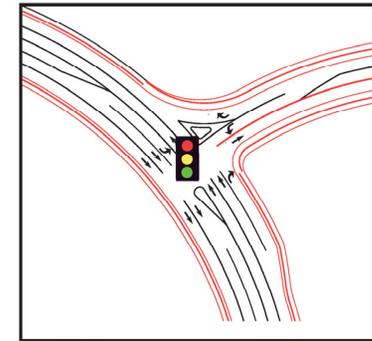


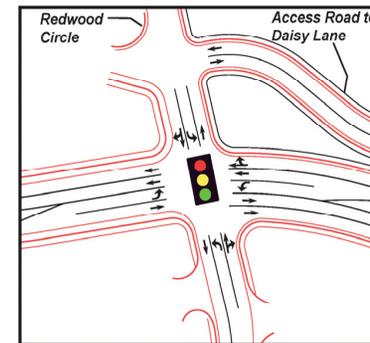
EXHIBIT 2-8. ALTERNATIVE C BETWEEN DOWELL ROAD AND FAIRGROUNDS ROAD



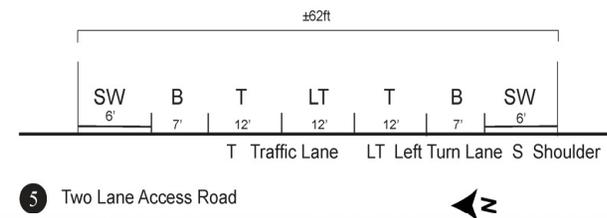
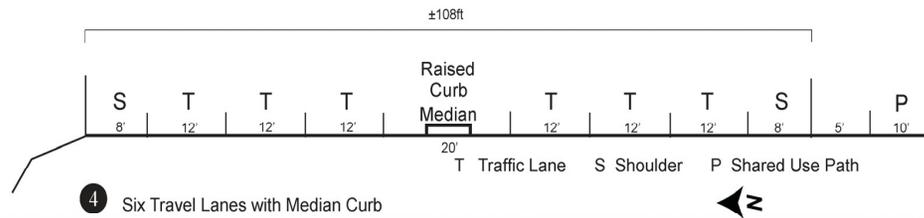
1 Highway 199 at Allen Creek Road



2 Allen Creek Road at Access Road



3 Redwood Avenue at Redwood Circle



- At Dowell Road, Highway 199 would transition from four travel lanes to six travel lanes with raised curb median continuing between the eastbound and westbound lanes (Exhibit 2-8, Inset 4). There would be no direct access to Highway 199 from businesses or residences. For westbound Highway 199 traffic, the right lane approaching Dowell Road would become a right-turn-only lane onto northbound Dowell Road.
- The intersection of Highway 199 and Allen Creek Road, as shown in Inset 1 of Exhibit 2-8, would be signalized and include the following features:
 - Eastbound Highway 199 would have three through lanes, one left-turn-only lane and one right-turn-only lane.
 - Westbound Highway 199 would have three through lanes, two left-turn-only lanes and two right-turn-only lanes. The right-turn-only lanes would be signalized. The right-turn-only lanes would begin approximately 700 feet east of the intersection to enable vehicle queuing when the signal is red. This queuing distance would prevent traffic back-up on Highway 199.
 - Northbound Allen Creek Road would have two through lanes, one left-turn-only lane, and one right-turn-only lane.
 - Southbound Allen Creek Road would have one combined through and right-turn lane and two left-turn-only lanes.
- Allen Creek Road, north of Highway 199 would be curved slightly to the west to connect with a new three-legged intersection with a realigned Redwood Avenue and a new access road. The City of Grants Pass may consider adding a signal at this intersection. This intersection, as shown in Inset 2 of Exhibit 2-8, would include the following features:
 - Northbound Allen Creek Road would have two through lanes and one right-turn-only lane.

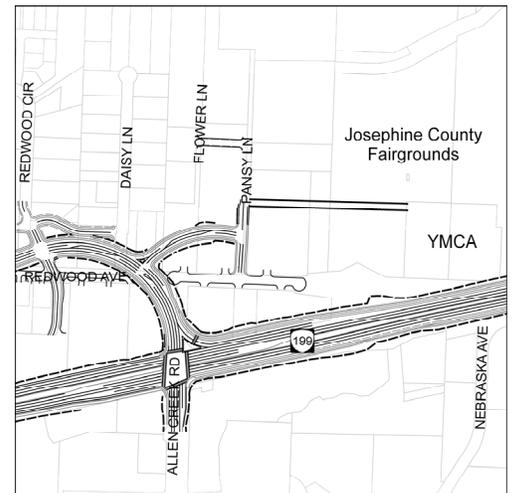
- Southbound realigned Redwood Avenue would have two through lanes and one left-turn-only lane.
- Westbound new access road would have one left-turn-only lane and one right-turn-only lane.
- To connect with the new Allen Creek Road intersection, Redwood Avenue would be realigned and curved north just west of Redwood Circle.
- A new four-legged intersection with Redwood Avenue and Redwood Circle would provide access to the properties located along the old Redwood Avenue alignment between Redwood Circle and Allen Creek Road. This intersection would also provide access to those properties north along Redwood Circle. The City of Grants Pass may consider adding a signal at this intersection. In addition, a new local street would be constructed connecting Daisy Lane with Redwood Circle; thereby providing properties along Daisy Lane access to Redwood Avenue. This intersection, as shown in Inset 3 of Exhibit 2-8, would include the following features:

- Eastbound realigned Redwood Avenue would have one through lane, one left-turn-only lane, and one right-turn-only lane.
- Westbound realigned Redwood Avenue would have one through lane, one combined through and right-turn lane, and one left-turn-only lane.
- Southbound Redwood Circle would include one combined through and right-turn lane and one left-turn-only lane.
- Northbound Redwood Circle would have one combined through and right-turn lane and one left-turn-only lane.

- Access to the Josephine County Fairgrounds, the YMCA, and other Fairground parcels east of the YMCA would be from a new access road that connects to Pansy Lane. This access road would bulb out slightly to the north/northeast of the new three-legged intersection with Allen Creek Road and Redwood Avenue, and then curve south to Pansy Lane. An



Access to properties on Redwood Avenue would be via a new intersection at Redwood Circle and new or modified local streets.



Access to the fairgrounds and YMCA would be from a new access road that connects to Pansy Lane. An existing driveway on Pansy Lane would continue to provide access to the fairgrounds and YMCA.

existing driveway on Pansy Lane would continue to provide access to the YMCA and the fairgrounds. The access road would have two travel lanes, bike lanes, and a sidewalk on both sides of the road (Exhibit 2-8, Inset 5).

- Pansy Lane would provide access to properties along the old Redwood Avenue alignment and east of Allen Creek Road. Cul-de-sacs would be constructed on either end of this portion of the old Redwood Avenue alignment (Exhibit 2-8).
- Properties along Flower Lane would have access via a new local street connection between Flower Lane and Pansy Lane (Exhibit 2-8).
- The existing signal at the intersection of Redwood Avenue and Highway 199 would be removed and access to Redwood Avenue from westbound Highway 199 would be from the two right-turn-only lanes at the Allen Creek Road intersection.
- The existing separated bicycle and pedestrian shared use path along south side of Highway 199, which begins at the Rogue Community College entrance, would continue east to Nebraska Avenue.
- A bike lane would be added along north side of Highway 199 between the Allen Creek Road and Fairgrounds Road, and continuing east to Tussey Lane, would be striped on the roadway shoulder.
- A bike lane would be added along the south side of Highway 199 between Allen Creek Road and Ringuette Street and would be striped on the roadway shoulder.
- Sidewalk, separated by a planter strip, would be added to the north side of Highway 199 from Allen Creek Road to Tussey Lane. A sidewalk would be added to the south side of Highway 199 from Nebraska Avenue to Ringuette Street.

Alternative C: Fairgrounds Road to Tussey Lane

This section of Alternative C has the same design features as Alternative A (Exhibit 2-6).

2.4.2 Phase 2

Phase 2 of Alternative C has the same design features and conditions as Phase 2 of Alternative A.

2.5 Areas of Critical Concern and Controversial Issues

During the alternatives development process, several issues were raised by the public and project stakeholders as areas of concern and controversy. These issues as well as ODOT's efforts to address these issues are described in the following sections.

2.5.1 Frontage Road

Throughout the early stages of alternatives development, the design concepts proposed for the east project area included full and partial frontage road improvements. The frontage road was proposed to be a new local street with two travel lanes, shoulders that supported bicycle lanes, planter strips, and sidewalks. The full frontage road concept was proposed to be located north of Highway 199 and connect Allen Creek Road to Tussey Lane. In some cases, a partial frontage road concept was studied as part of several alternatives. The partial frontage road would have been similarly designed as the full frontage road, but would have been shorter in length and connected Allen Creek Road to Ringuette Street.

ODOT received positive and negative feedback from the public and project stakeholders about both frontage road scenarios. Concern about the negative effects to businesses, such as a change in access from their current access to Highway 199 to their future access to the frontage road, was in many cases viewed negatively. Some businesses rely on pass-by traffic, and these businesses believe some of their customers would not travel the extra distance to move from the highway and onto the frontage road to reach the business. Other businesses were concerned that their business would need to relocate in order to make way for the frontage road.

Another disadvantage with the frontage road was the potential impacts to the Josephine County Fairgrounds and nearby county property and facilities. Partial acquisition of some county property would be needed to provide public right of way for the frontage road. The county and fair board voiced their concern of potential detrimental effects to activities occurring at the fairgrounds as well

as the community's attachment to all that the fairgrounds offers their families and community.

Positive feedback was received for the improved traffic operations that would result from having a frontage road in combination with Highway 199. The expressway currently supports both regional trips and local trips. With the frontage road, most local trips would be shifted from currently using Highway 199 to using the frontage road. This shift would reduce the number of times vehicles on the expressway slow down to accommodate vehicles turning into and out of driveways. In turn, this would improve the traffic flow, reduce congestion, and improve the safety along Highway 199.

ODOT weighed the positive and negative issues surrounding the frontage road concept, and redefined the alternatives to reflect public feedback. In July 2006 and October 2006, each alternative that was under consideration by the CAC and PDT was separated into two implementation phases. Phase 1 no longer proposed a frontage road concept. This phase included all proposed improvements to Highway 199, such as widening the expressway from four travel lanes to six, and combining and defining driveways along the expressway by constructing curbs and sidewalks. A short public street would be constructed from Allen Creek Road to Pansy Lane to provide alternate access to the fairgrounds, YMCA, and other properties in between.

Phase 2 of the alternatives would continue this public access road east to fully connect it to Tussey Lane as in the original full frontage road concepts. However, ODOT committed to coordinate the location and design of Phase 2 with the upcoming South Y Interchange study. Construction of Phase 2, and the actual alignment, would not be set unless this access road concept is found to be part of the overall solution for the South Y Interchange Planning Study scheduled to begin in 2007. Phase 1 of both build alternatives has independent utility from Phase 2 and meets the project's purpose and need.

2.5.2 Allen Creek and Sand Creek

Two fish-bearing streams are located in the API: Allen Creek and Sand Creek. Both of these streams support Endangered Species Act (ESA) listed fish. Due to the biological significance of these two

streams, ODOT took steps during the design of each alternative to avoid impacts to both streams. If impacts could not be avoided, impacts were minimized.

A pedestrian bridge over Sand Creek would be built as part of a new shared use path on the north side of Highway 199. The bridge would be designed to span the creek and construction activities would be specified to occur outside the ordinary high water mark. Therefore, direct impacts to the creek would be negligible.

Stormwater runoff could affect both Sand Creek and Allen Creek as a result of adding new impervious surface in the API. In addition to the roadway improvements, ODOT would also design and construct appropriate stormwater treatment systems to address the increased volume and water quality of stormwater runoff from the impervious surface.

2.5.3 Josephine County Fairgrounds

The Josephine County Fairgrounds is located in the API. Most alternatives considered during the course of the project would have caused some effect to the fairgrounds property. ODOT recognizes the importance of the community's support and use of the fairgrounds. Throughout the project, ODOT has and will continue to coordinate with Josephine County to address issues associated with the fairgrounds property, including access, property acquisition, and modifications to fairground events and uses.

2.6 Alternatives Considered but Withdrawn

In addition to Alternative A and Alternative C, the PDT and CAC considered other alternatives. Through the evaluation and screening process, a number of alternatives were withdrawn from study. The sections below present the alternatives that were considered but withdrawn during the alternatives screening process, including the reasons why each alternative was withdrawn.

2.6.1 West Segment

Three alternatives were developed and considered for Highway 199 between Midway Avenue and Dowell Road, but eventually withdrawn, from further consideration by the PDT and CAC. These alternatives were named West 2, West 4, and West 7.

Maps of Conceptual Alternatives Considered but Withdrawn

Conceptual maps showing alternatives considered but withdrawn are located in Appendix C.

West 2 would improve Highway 199 to be a 5-lane facility with two travel lanes eastbound, two travel lanes westbound, and one center lane for two-way left turns. The center lane would be used by vehicles that need to make left turns onto and off the highway. Vehicles could use this lane to wait for gaps in oncoming traffic to make their turns. This alternative was withdrawn because it:

- Inadequately addressed the number of potential conflict points.
- Did not provide protection from cross-over head-on crashes, which have resulted in severe injury and fatalities in the western segment where vehicles travel at higher speeds and there is a lack of median protection.
- Was the least effective in meeting the project's purpose and need.

Cross-over crash

A cross-over crash is when vehicles cross over the center median and crash into vehicles in the oncoming travel lanes.

West 4 would improve Highway 199 to have two travel lanes in each direction separated by a 50-foot median. Gaps in these median and left-turn pockets would be spaced midway between existing intersections of Highway 199 and local roads. This configuration would enable vehicles to make protected u-turns at locations away from existing intersections. This alternative was withdrawn because it:

- Had the greatest right of way acquisition and relocation needs compared to other west concepts
- Had higher impacts to wetlands and fish
- Created additional conflicts where indirect left turn or u-turn traffic enters the "fast" through lane.

West 7 would improve Highway 199 to have two travel lanes in each direction with median barrier or curb. Median breaks and left-turn-only lanes would be provided at Midway Avenue, Rogue Community College, Hubbard Lane, Willow Lane, and Dowell Road. U-turns would be permitted at Midway Avenue, Hubbard Lane, and Dowell Road. This alternative would also include the addition of a new public road connecting Dawn Drive north to Redwood Avenue. West 7 is the same as West 6 except that it includes an additional extension of Dawn Drive, which would

connect north to Redwood Avenue. This alternative was withdrawn because it:

- Had high residential impacts, relocations, and cost to construct the Dawn Drive collector that likely would not outweigh traffic and safety benefits that a connecting road to Redwood Avenue may have
- Provided no additional benefits when compared to West 6, yet it had greater impacts associated with Dawn Drive improvement.

2.6.2 East Segment

Development of alternatives for the east segment was undertaken in steps. The first step evaluated four major components of the 11 original alternatives developed. Of the four components considered, three were withdrawn from further study and included: “Connect West Park to Allen Creek Road,” “Add a new bridge over the Rogue River” (also known as East 6), and “Connect Union Avenue via a ramp from Highway 199.” Reasons for withdrawing these design components are explained as follows.

The West Park connection to Allen Creek Road would not substantially reduce the volume of traffic or congestion on Highway 199 and would not improve safety by reducing the number of conflict points on the highway. Other detractions included: noise, right of way impacts, and increased traffic that would adversely affect the neighborhood character along West Park Street, high impacts to wetlands and natural habitats, and lack of local access to businesses on Highway 199 from West Park.

A new bridge over the Rogue River was considered but would also not substantially relieve the volume of traffic using Highway 199. Furthermore, if this new bridge was built in the vicinity of Allen Creek Road, as shown on the *Grants Pass Urban Area Master Transportation Plan*, it would actually introduce additional traffic at the intersection of Highway 199 and Allen Creek Road and worsen the congestion at this location. Other reasons for withdrawing this alternative included: the conversion of park land applicable to Section 4(f) of the U.S. Department of Transportation Act and high impacts to wetlands and natural habitat.

Maps of Conceptual Alternatives Considered but Withdrawn

Conceptual maps showing alternatives considered but withdrawn are located in Appendix C.

The Union Avenue slip ramp would shift congestion to local streets. Other detractions included: conflict between high speed, one-way traffic on slip ramp and slower, two-way traffic on Union Avenue; unsafe bicycle/pedestrian crossing; business displacements; and additional improvements to the intersection of US 238 and Harbeck Road that would be necessary to accommodate the traffic using the Union Avenue slip ramp.

In the next steps of developing, evaluating, and screening alternatives for the east segment, the following alternatives were considered but withdrawn: East 2, East 5A (originally known as East 5), East CAC2, and East PDT2.

East 2 included improving Highway 199 to have six travel lanes with access to properties between Allen Creek Road and Ringuette Street moved onto an access road that would be just north of Highway 199. This alternative was withdrawn because it would be difficult to provide access to businesses near Ringuette Street, encourage cut-through traffic in residential areas, and not accommodate freight deliveries to businesses between Ringuette Street and Tussey Lane.

East 5A included improving Highway 199 in the same way as East 2, except the new public road (access road) would cross over Allen Creek Road and Ringuette Street, rather than intersecting them at grade. This alternative was withdrawn because it would have substantial impacts to businesses.

East CAC2 included improving Highway 199 to have six travel lanes with limited access to properties. The intersection of Allen Creek Road and Redwood Avenue would be curved to allow more free-flow vehicle movement. This alternative was withdrawn because it would be extremely difficult to provide access to businesses east and west of Allen Creek Road, would have the least accommodation for safe pedestrian and bicycle movement, would have substantial out-of-direction travel, and would not be safe because drivers could inadvertently make wrong turns.

East PDT2 included improving Highway 199 to have six travel lanes with limited access to properties. A partial access road would provide access to businesses along the north side of Highway 199 from the fairgrounds to Tussey Lane. Redwood Avenue and Union Avenue would be connected via a bridge over Highway 199. This alternative was withdrawn because it would have substantial

business displacements, would shift congestion to local streets, and would be expensive and could not be phased.

2.7 Required Permits and Planning Actions

Exhibit 2-9 lists the probable permits and planning actions required for the project as well as the issuing agency and estimated timelines to gain approval.

EXHIBIT 2-9. PERMITS AND PLANNING ACTIONS THAT MAY BE REQUIRED

Permit/Planning Action	Issuing Agency	Estimated Timeline
Type II Land Use Review Procedure ¹	City of Grants Pass	3-4 weeks depending on extent of development
Ministerial Land Use Review Procedure and Development Permit ²	Josephine County	3-4 weeks depending on extent of development
Section 4(f) <i>de minimis</i> impact criteria	FHWA and ODOT	60 days
Permit to plant, prune, root prune, remove, kill, or disturb a tree in city right of way	City of Grants Pass	2 days
National Pollutant Discharge Elimination System (NPDES) 1200-CA	DEQ	Already obtained by ODOT for construction projects
Section 404 Permit	USACE	130 days (assuming issuance of a USACE General Permit)
Fill and Removal Permit	DSL	130 days (assuming issuance of a state DSL General Authorization)
Section 401 Water Quality Certification	DEQ	130 days (concurrent with General Authorization/General Permit processing)
Section 106 Consultation	SHPO	30 days

¹ Type II Land Use Review requires the submittal of an application and supporting information (such as a project description and maps), a staff review and recommendation, and a decision by a Hearings Officer at a publicly noticed meeting.

² Ministerial Land Use Review requires the submittal of an application and supporting information and a decision by the County Planning Director. A public notice and hearing is not required.

CHAPTER 3. Affected Environment and Environmental Consequences

Chapter 3 presents descriptions of the baseline environmental conditions and an analysis of the potential effects of the Highway 199 Expressway Upgrade project on people and the environment. Scientists, planners, and engineers from the project team conducted a variety of different studies and summarized their analysis in technical reports (Appendix E). This information was used to examine changes that could occur as a result of the No Build Alternative or from constructing either of the Build Alternatives (Alternative A and Alternative C).

3.1 Air Quality

3.1.1 Methods and Coordination

The Clean Air Act section 176(c) requires that federally supported highway and transit project activities be consistent with state air quality goals, found in the state implementation plan (SIP). The process to ensure this consistency is called Transportation Conformity. Conformity to the SIP means that transportation projects will not cause new violations of the national ambient air quality standards (NAAQS) (EPA, 2006a), worsen existing violations of the standard, or delay timely attainment of the relative standard.

Transportation conformity is required for federally supported transportation projects that are located in areas that have been designated by the Environmental Protection Agency (EPA) as not meeting a NAAQS. These areas are called nonattainment areas if they currently do not meet air quality standards or maintenance areas if they have previously violated air quality standards, but currently

The following air quality report was prepared for this project:

- Air Quality Technical Memorandum

This report provides additional detail and can be found on the project website at:

http://www.oregon.gov/ODOT/HWY/REGIO/N3/h199e_index.shtml

National Ambient Air Quality Standards (NAAQS)

The National Ambient Air Quality Standards are the maximum allowable level, averaged over a specific time period, for a certain air pollutant in the outdoor air.

meet them and have an approved Clean Air Act Section 175 A maintenance plan.

Particulate Matter (PM₁₀)

Particulate pollution is composed of solid particles or liquid droplets that are small enough to remain suspended in the air. PM₁₀ refers to particulate matter less than 10 microns in diameter, about one-seventh the thickness of a human hair. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when industry and gases emitted from motor vehicles undergo chemical reactions in the atmosphere. Major sources of PM₁₀ include motor vehicles; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning, industrial sources, windblown dust from open lands; and atmospheric chemical and photochemical reactions. Suspended particulates produce haze and reduce visibility.

Maintenance Area

A maintenance area is an area that has previously violated air quality standards for one or more of the principal pollutants (carbon monoxide, lead, nitrogen dioxide, particulate matter (PM₁₀ and PM_{2.5}), ozone, and sulfur dioxides), but now meets air quality standards and has an approved Clean Air Act Section 175(a) maintenance plan.

In order to comply with the Oregon Administrative Rules (OAR) 340-252 Transportation Conformity Rule requirements (OAR 340-252), a qualitative PM₁₀ hot spot analysis following EPA's March 29, 2006 Transportation Conformity Guidance for Qualitative Hot-Spot Analysis in PM_{2.5} (particulate matter less than 2.5 microns in diameter) and PM₁₀ Nonattainment and Maintenance Areas (EPA, 2006b) was conducted. According to 40 CFR 93.123(b)(2) and (4), a quantitative analysis for applicable projects is not required until the EPA releases modeling guidance in the Federal Register. However, a qualitative hot-spot analysis is still required. For this project, a qualitative project-level hot-spot assessment was therefore conducted following the joint EPA and FHWA *Transportation Conformity Guidance* in order to assess whether the project would cause or contribute to any new localized PM₁₀ violations, or increase the frequency or severity of any existing violations, or delay timely attainment of the PM₁₀ NAAQS.

Following the methodologies provided in the March 2006 guidance, an attempt was made to compare future roadway annual average daily traffic (AADT) at the intersections affected by the project to existing AADT at roadways near the ambient PM₁₀ monitors to determine whether the project has the potential to cause or exacerbate a violation of the PM₁₀ NAAQS.

Mobile Source Air Toxics

On February 3, 2006, the FHWA released an Interim Guidance on Mobile Source Air Toxics (MSAT) for use in NEPA documents. This guidance is interim because MSAT science is still evolving and the EPA is in the process of assessing the risks of various kinds of exposures to these pollutants. Currently no NAAQS exist for MSATs. A basic analysis of the likely MSAT emission impacts of this project was conducted.

3.1.2 Baseline Conditions

The API is in an air quality maintenance area for only one of the six principal pollutants: PM₁₀. As such, the project is required to meet Transportation Conformity requirements.

The Grants Pass area is currently designated as a maintenance area for the pollutants carbon monoxide (CO) and particulate matter with a diameter of 10 microns or less (PM₁₀). The CO maintenance boundary is defined as the Grants Pass central business district. The PM₁₀ maintenance boundary is defined as the Grants Pass Urban Growth Boundary (UGB). The Highway 199 Expressway Upgrade project is located outside the CO boundary but within PM₁₀ maintenance area. As such, the project is required to meet Transportation Conformity requirements found in OAR 340-252.

Particulate Matter (PM₁₀)

The PM₁₀ trends for western Oregon cities using second highest 24-hour average monitored data shows that the 24-hour standard has not been exceeded at the Grants Pass monitor since 1988. In addition, no exceedances of the PM₁₀ 24-hour or annual standard have been recorded in western Oregon since 1995. The maximum 24-hour PM₁₀ level recorded in the City of Grants Pass in 2005 (the last full year of monitored data) is 48 micrograms per cubic meter, which is 32 percent of the NAAQS. Similarly, the maximum annual average PM₁₀ value monitored at this location is 16.4, which is 33 percent of the NAAQS. This monitor, located at the Grants Pass Parkside School, is approximately 1 mile northwest of the project.

Conformity Requirements

The Clean Air Act section 176(c) requires that federally supported highway and transit project activities be consistent with state air quality goals, found in the SIP. The process to ensure this consistency is called Transportation Conformity. Conformity to the

Particulate Matter 10 (PM₁₀)

Particulate pollution is composed of solid particles or liquid droplets that are small enough to remain suspended in the air. PM₁₀ refers to particulate matter less than 10 microns in diameter, about one-seventh the thickness of a human hair. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals.

SIP means that transportation activities will not cause new violations of the NAAQS, worsen existing violations of the standard, or delay timely attainment of the relevant standard.

Transportation conformity is required for federally supported transportation projects that are located in areas that have been designated by the EPA as not meeting a NAAQS. These areas are called nonattainment areas if they currently do not meet air quality standards or maintenance areas if they have previously violated air quality standards but currently meet them and have an approved Clean Air Act section 175A maintenance plan.

Designated nonattainment and maintenance areas must have in place both a long range transportation plan and transportation improvement program (TIP) that complies with the conformity rule, and federally supported projects must also demonstrate conformity. Project-level conformity may also require an assessment of localized emission impacts, known as a hot-spot analysis, for certain projects.

Mobile Source Air Toxics (MSATs)

The Clean Air Act identified 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list of toxics and identified a group of 21 as MSATs, which are set forth in an EPA final rule, *Control of Emissions of Hazardous Air Pollutants from Mobile Sources* (66 Final Rules (FR) 17235). The EPA also extracted a subset of this list of 21 that it now labels as the six priority MSATs. These are as follows:

- **Benzene** is characterized as a known human carcinogen.
- The potential carcinogenicity of **acrolein** cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- **Formaldehyde** is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- **1,3-butadiene** is characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde** is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats

and laryngeal tumors in male and female hamsters after inhalation exposure.

- **Diesel exhaust** is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases. Diesel exhaust also represents chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

The EPA has also issued a number of regulations that will dramatically decrease MSATs through cleaner fuels and cleaner engines. Between 2000 and 2020, FHWA projects that even with a 64 percent increase in vehicle miles traveled (VMT), these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57 percent to 65 percent, and will reduce on-highway diesel PM emissions by 87 percent.

3.1.3 Temporary Effects

Temporary increases in pollutant emissions are expected during project construction. Emissions resulting from construction of the project are not required to be considered in the hot-spot analysis if such emissions are considered temporary according to 40 U.S. Code of Federal Regulations (CFR) 93.123(c)(5). The construction contractor, however, would be required to comply with all local, state, and federal regulations concerning air pollution abatement related to construction activities.

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

3.1.4 Long-Term Effects

Particulate Matter (PM₁₀)

As clarified in the preamble to the July 1, 2004 revision to the transportation conformity rule (64 (FR) 40056), the conformity rule requires that project-level analyses consider the year of expected peak emissions from the project. For PM₁₀, this is expected to be a near-term year, such as the first year of operation of the project, because emission rates from diesel vehicles are predicted to substantially decline between the opening year (2010) and the design

year (2030) and these decreases would more than offset any increase in projected traffic volumes. The decline in emissions in future years is due in part to improvements in tailpipe emissions, national vehicle emissions control programs, and the mandated use of ultra-low sulfur diesel-fuel.

Based on the year of expected peak emissions, it was determined that the project opening year, 2010, represents the year for the potential worst case impacts of the project. In addition, an analysis of truck volumes and overall 2010 Build AADT, determined that the intersection of Highway 199 and Allen Creek Road represents the worst case analysis area of the proposed project.

There are several factors that strongly indicate that the project would not cause or exacerbate a violation of the NAAQS. These are as follows:

- No exceedances of the PM₁₀ NAAQS have been recorded at any monitor in western Oregon in over 10 years
- No exceedances of the PM₁₀ NAAQS have been recorded in the City of Grants Pass since 1988
- The AADT (94,800) and truck percentage (1.3%) at the worst case analysis site in the critical analysis year (2010) are below the conformity guidance threshold of 125,000 AADT and 8% that are used to determine whether a project should be considered a project of air quality concern
- The project would not affect the overall character of the API, and therefore, not change the current vehicle mix within the area or increase the relatively low truck percentages on the affected roadways
- PM₁₀ impacts from diesel truck emissions on a per vehicle basis should decrease in future years due to the implementation of national diesel engine and diesel sulfur fuel regulations that are expected to cut heavy-duty diesel emissions
- The project would have limited affects on PM₁₀ emissions.
- The project would minimally affect PM₁₀ emissions – Alternative C would increase VMT in the future by only 13 percent and Alternative A would result in an increase by

only 8 percent. See Exhibit 3-1 below from the air report. As shown in this table, the project alternatives only minimally affect regional miles of travel.

EXHIBIT 3-1. MODELED PM PEAK VEHICLES MILES OF TRAVEL (2025)

Alternative	VMT
No Build	17,348
Alternative A	18,827
Alternative C	19,691

Source: Transportation Section of the Environmental Assessment

Project Conformity with the State Implementation Plan

Based on the results of the PM₁₀ hot spot analysis, it is determined that the Highway 199 Expressway Upgrade project would not cause or contribute to a new localized violation. The project would not increase the frequency or severity of an existing violation of the PM₁₀ NAAQS as no violations currently exist. These results are applicable to all alternatives under study.

The Highway 199 Expressway Upgrade project has been determined to be regionally significant. An air quality regional emissions analysis must be completed for the preferred alternative prior to the completion of the FHWA NEPA decision (prior to issuance of a finding of no significant impact, if applicable). The regional conformity has not yet been established; it is the responsibility of the Rogue Valley Council of Governments (RVCOG) to complete the regional conformity determination.

Therefore, project conformity with the SIP can not be established until regional conformity has been established.

Mobile Source Air Toxics (MSATs)

As Alternatives A and C fit the definition of a project with low potential MSAT impacts and as the highest future year AADT that would occur at any of the affected intersections (i.e., the intersection of Highway 199 and Allen Creek Road) is 94,800 in 2010 and 122,100 in 2030, which are below the FHWA criterion, Alternatives A and C are considered to be “Projects with Low Potential MSAT Effects.”

MSAT emissions are proportional to the number of vehicle miles traveled. Because the estimated AADT under each of the alternatives is nearly the same, increasing by approximately three percent under

Regionally Significant

The project was deemed regionally significant because the proposed actions are to occur on a major arterial or expressway.

Alternative C and decreasing by approximately three percent under Alternative A, it is expected there would be no appreciable difference in overall MSAT emissions generated in the API between the two alternatives. Also, regardless of the alternative chosen, emissions would likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2020.

Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the API are likely to be lower in the future in nearly all cases.

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

The following archaeological reports were prepared for this project:

- Archaeological Survey (Phase 1) of the Highway 199 Expressway Upgrade
 - Archaeological Investigations of the Highway 199 Expressway Upgrade
-

Area of Potential Effects (APE)

The area of potential effects (APE) is the geographic area within which the proposed action may directly or indirectly cause alterations in the character or use of historic properties and cultural and archaeological resources.

3.1.5 Indirect and Cumulative Effects

The air quality analysis for the project considers the long-term indirect and cumulative effects of air pollution emissions from all traffic forecast to operate within the project area. There are no indirect and cumulative effects to air quality as a result of this project.

3.2 Archaeology

3.2.1 Methods and Coordination

An area of potential effects (APE) was defined for the project. For this project, the APE is the same area as the API. The presence of known archaeological resources in the APE was researched through a review of the State Historic Preservation Office (SHPO) database files, General Land Office (GLO) maps, and recent archaeological investigations conducted for other projects in the area (O'Neill, 2006; O'Neill, 2007). Site investigations were conducted to survey the APE for potential archaeological resources, confirm the results of the database and maps review, and conduct subsurface probing in high probability landforms.

Coordination with SHPO has been undertaken to report the findings of effect.

3.2.2 Baseline Conditions

No archaeological resources in the APE were identified through the review of SHPO database files and GLO maps.

Site investigations identified six areas in the west half of the APE as having a high probability of containing buried cultural resources. Subsurface investigations confirmed the presence of four isolate artifacts, three of which were recovered in highly disturbed areas. None of the isolate artifacts are considered to be significant cultural resources.

It is unknown if resources are buried in the east half of the APE due to the presence of parking lots, businesses, and infrastructure covering the ground surface.

3.2.3 Temporary Effects

Non-ground-disturbing activities, such as acquiring right of way, cutting vegetation, reseeding, and changing access would have no effects on archaeological resources.

Ground-disturbing activities, such as removing vegetation, excavating, grading, and using heavy equipment could occur within the boundaries of the APE. Since the four isolate artifacts recovered are not considered significant, permanent, irreversible, and irretrievable loss of scientific information and/or cultural value is not expected.

3.2.4 Long-Term Effects

There would be no long-term adverse effects to archaeological resources within the APE since no significant resources were identified in the APE.

3.2.5 Indirect and Cumulative Effects

The Rogue River Basin is archaeologically rich, containing buried evidence of human occupation from at least 9,500 years ago. Past archaeological investigations in the Rogue River Valley between Grants Pass and the Applegate River have identified sites of significant value. These sites are often not readily apparent but are commonly exposed as a consequence of ground-disturbance during construction.

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

Several planned or proposed improvements are anticipated for construction in or near the APE and could affect known or undiscovered archaeological resources. Site-specific archaeological investigations would need to occur for each project to avoid permanent, irreversible, and irretrievable loss of scientific information and/or cultural value.

3.3 Biology

The following biological reports were prepared for this project:

- Biological Baseline Report
- Biological Technical Memorandum

These reports provide additional detail and can be found on the project website at: http://www.oregon.gov/ODOT/HWY/REGIO/N3/h199e_index.shtml

3.3.1 Methods and Coordination

The methods used to assess potential impacts to biological resources in the API included reviewing best available natural resource databases, having discussions with managing natural resource agency specialists, and conducting on-site field investigations. Fish, wildlife, and botanical surveys were completed to verify and determine possible impacts to federal and state Endangered Species Act (ESA) protected and non-protected species from the project.

Potential impacts to protected species were determined using the Josephine County Species List published by the USFWS (USFWS, 2005) to determine the presence of federally listed threatened or endangered (T&E) species in the API. ESA lists were also consulted from the Oregon Department of Fish and Wildlife (ODFW) and the Oregon Department of Agriculture (ODA) for state-listed fish, wildlife, and plant species. Searches were completed in the Oregon Natural Heritage Information Center (ORNHIC) database, StreamNet, the Issacs and Anthony Bald Eagle Nest Survey database, and the Survey of Peregrine Falcon Eyries in Oregon During 2003 to identify possible presence of sensitive species in the API. Field investigations were also completed to verify the results of the literature searches and document baseline conditions.

Coordination with ODFW and National Marine Fisheries Service (NMFS) biologists was also necessary to determine possible impacts to fish and wildlife species from this project.

3.3.2 Baseline Conditions

Fisheries Resources/Water Quality

The Rogue River and tributary streams support native stocks of:

- Summer and winter steelhead (*Oncorhynchus (O) mykiss*)

- Spring and fall Chinook salmon (*O. tshawytscha*)
- Coho salmon (*O. kisutch*)
- Cutthroat trout (*O. clarki*)
- Pacific lamprey (*Lampetra tridentate*).

Additionally, non-game resident species and exotics are present in the Rogue River and its tributaries. Hatchery stocks of summer and winter steelhead, spring Chinook and Coho are also present in the system.

The ORNHIC database identifies Southern Oregon-Northern California (SONC) Coho salmon evolutionary significant unit (ESU) as federally threatened (LT) and state sensitive-critical (SC) in the Rogue River. This species is known to occur in the API in Allen Creek (ODFW, 2006), Sand Creek (StreamNet, 2006 and ODFW, 2006), and the lower 0.5 mile (outside the API) of Sparrowhawk Creek (ODFW, 2006), tributaries of the Rogue River. Critical habitat for SONC Coho salmon has been designated by the NMFS. No other fish species are listed or proposed to be listed at this time.

Wildlife Resources

Exhibit 3-2 lists the USFWS T&E species list and status for Josephine County. None of these species are known to nest or utilize habitat in the API (ODFW, 2006 and ORNHIC, 2004).

EXHIBIT 3-2. USFWS THREATENED AND ENDANGERED WILDLIFE SPECIES IN JOSEPHINE COUNTY

Wildlife Species		Status
Common Name	Scientific Name	
Marbled murrelet	<i>Brachyramphus marmoratus</i>	Threatened
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened
Northern spotted owl	<i>Strix occidentalis caurina</i>	Threatened

The USFWS Josephine County species list cites no proposed species at this time. However, two species are identified as candidate species for listing under the ESA:

- Pacific fisher (*Martes pennanti pacifica*)
- Streaked horned lark (*Eremophila alpestris strigata*).

These species are not known to occur in the API, nor is suitable habitat for these species found in the API.

Evolutionary Significant Unit (ESU)

The term used by the NMFS for a fish species population protected by a listing under the ESA.

Critical Habitat

Critical habitat has been defined as the area within 300 feet from the ordinary high water elevation of a stream where a listed species is present or was historically present.

ODFW lists the American Peregrine falcon (*Falco peregrinus anatum*) as endangered under the state ESA. This species is not known to nest or utilize habitat in the API (ORNHIC, 2004 and Isaacs, 2004).

Botanical (Plant) Resources

Three plant species are listed by the USFWS as endangered under the ESA within Josephine County:

- Macdonald’s rockcress (*Arabis macdonaldiana*)
- Gentner mission-bells (*Fritillaria gentneri*)
- Cook’s lomatium (*Lomatium cookii*).

Database searches and field investigations revealed these species do not exist in the API.

Exhibit 3-3 identifies the state ESA species and status in Josephine County. Database searches and field investigations revealed these state listed species do not occur in the API.

EXHIBIT 3-3. STATE ESA SPECIES, STATUS, AND LOCATION

Wildlife Species		Status
Common Name	Scientific Name	
Sexton Mt. mariposa lily	<i>Calochortus indecorus</i>	Thought extinct
Shiny-fruited popcorn flower	<i>Plagiobothrys lamprocarpus</i>	Thought extinct
Howell's mariposa lily	<i>Calochortus howellii</i>	Threatened
Large-flowered rush lily	<i>Hastingsia bracteosa</i>	Threatened
Howell's microseris	<i>Microseris howellii</i>	Threatened

3.3.3 Temporary Effects

No Build Alternative

The No Build Alternative would have no temporary effects to the current biological baseline condition for fish, wildlife, or botanical species.

Alternatives A and C – Phases 1 and 2

Potential temporary construction impacts from roadway widening and tree removal include erosion and sediment impacts to nearby surface waters. Disturbed soils may increase erosion and sediment and adversely affect water quality in nearby waterways and adjacent wetland areas. These impacts, if they occur, are generally short-term and mitigated during construction through properly installed erosion and sediment control measures. Installing erosion control fences,

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

using straw mulch, and/or grass seeding on exposed soils are typical methods of controlling erosion and sediment and preventing impacts to nearby streams. As a result, temporary impacts to nearby waterways are expected to be negligible.

Other short-term water quality impacts from construction could include petrochemical and green concrete spills. Spills and/or erosion occurring during construction could adversely affect water quality. Water quality (i.e., temperature and organic matter recruitment) could also be adversely affected by tree removal.

No erosion, sediment, or water quality effects are expected from this project and temporary effects to biological resources are expected to be negligible.

3.3.4 Long-Term Effects

No Build Alternative

The No Build Alternative would not adversely affect biological resources (fisheries, wildlife, or botanical) in the API.

Alternatives A and C – Phase 1 Fisheries Resources/Water Quality

Potential effects to fisheries and water quality from Alternatives A and C would include increase impervious surface and increased stormwater runoff volumes. Unmitigated stormwater effects include changes to base and peak flows in surface streams and decreased water quality conditions from pollutant loading. This action could affect water quality and geomorphology (or the features found and processes operating) in Allen Creek, Sand Creek, Sparrowhawk Creek, and the Rogue River. Both alternatives would include construction of a new pedestrian bridge over Sand Creek that would require removal of 2-5 trees. Foundations for the new structure would be outside the ordinary high water mark of the creek resulting in negligible effects to fisheries, stream geomorphology, riparian vegetation, and water quality resources. Riparian trees removed during construction would be mitigated by planting new trees and any lost riparian function (shade, organic matter recruitment, etc.) would be restored as the new trees grow.

The amount of impervious surface treated through new stormwater treatment facilities for Alternative A would be approximately 10.3 acres; Alternative C would treat approximately 10.7 acres. The difference between the two alternatives is insignificant from a water

Pollutant Loading

Introducing any substance into the environment that contaminates or otherwise adversely affects the usefulness of a resource.

Geomorphology

An academic discipline that attempts to explain features found and processes operating upon the surface of the earth. It is scientific in approach.

quality perspective for Sand Creek, Allen Creek, and Sparrowhawk Creek. Both build alternatives would treat stormwater runoff from net new impervious surface to a 'no effect' level for water quality and quantity. Therefore, potential impacts to ESA-protected Coho salmon would be expected to be the same for both Alternatives A and C.

Wildlife Resources

Alternatives A and C would construct 4,300 linear feet of 42-inch-high median barrier between the east bound and west bound travel lanes along Highway 199. This median barrier, important to improve traffic safety in this area, would be installed between Midway Avenue and the Rogue Community College. The median barrier may pose a wildlife passage obstacle for both large and small animal species found in the area. ODOT considered providing gaps in the median barrier to provide areas for animal crossings; however, the associated roadway widening would have resulted in increased wetland impacts. ODOT is considering providing gaps at the base of the median barrier to provide for passage of smaller mammals. Additionally, smaller mammals would be able to use the various cross pipes for passage beneath Highway 199.

Both alternatives would require removing selected trees in the API. The exact quantity and species of trees is unknown at this time; however, tree removal would be expected to be minimal since most of the roadway widening would be done in the existing road prism or clear zone. Tree removal may result in a slight decrease in habitat for nesting birds protected under the Migratory Bird Treaty Act (MBTA).

Botanical Resources

Neither Alternative A or C would result in negative effects to sensitive or listed botanical resources in the API.

Alternatives A and C – Phase 2

The area where Phase 2 could occur is highly developed with fewer natural habitat conditions present; thus, adverse effects to biological resources would be expected to be minimal. Biological impacts would be restricted primarily to increased impervious surfaces and potential impacts to water quality and quantity.

3.3.5 Indirect and Cumulative Effects

Alternatives A and C would be expected to have minor and insignificant indirect and cumulative effects to biological resources.

Fisheries Resources/Water Quality

Alternatives A and C include constructing water quality treatment facilities (i.e., detention ponds and vegetated swales). Facilities would be sized so stormwater runoff would have no indirect effect to aquatic resources downstream of the project area, including the Rogue River.

As development and traffic continues to increase in this area, adverse cumulative impacts to water quality could be expected. Projected increases in traffic volumes may increase pollutant loading in stormwater runoff. Since limited stormwater treatment facilities currently exist in the API, increased levels of pollutants would enter surface waters. Therefore, the No Build Alternative could result in a cumulative adverse affect to water quality. Reducing water quality could result in a negative effect to aquatic species, including ESA-listed Coho salmon.

Wildlife Resources

Alternatives A and C include constructing a 42-inch-high median barrier between the eastbound and westbound travel lanes, from Midway Avenue to roughly the Rogue Community College. A median barrier of this type can disrupt wildlife passage from one side of the highway to the other. Not only can passage be blocked, but animals wandering onto the travel lanes can become confused and disoriented (Farrell, 2006) and subject to vehicular impact. Animals may walk parallel to the barrier and spend an excessive amount of time exposed to traffic. Constructing a concrete median barrier could result in an increased number of wildlife-vehicle incidents in the area; however, this area is not known to be a major wildlife crossing corridor (Allemand, 2006) so incidents would be expected to be minimal.

Resident populations of deer, elk, cougar, bear, and numerous small mammals and herptiles are known to occur in the area (Farrell, 2006); however, wildlife species most likely to be affected by the median barrier include resident black-tail deer and small mammals such as raccoon, opossums, and skunks. Animals protected by the

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

state and federal ESA are not expected to be affected by the median barrier.

Cumulative effects to wildlife could include the incremental loss of vegetation in the project vicinity, which could reduce habitat available to wildlife. In addition, future development could further fragment existing habitats and inhibit movement through wildlife migration corridors.

Botanical Resources

No indirect or cumulative effects are anticipated to botanical resources.

3.4 Hazardous Materials

3.4.1 Methods and Coordination

To identify recognized and potential environmental conditions (RPECs) that could affect the construction or right of way acquisitions for the project, a search of the DEQ on-line Facility Profiler was conducted to identify sites that were either environmental cleanup sites (ECSIs), Resource Conservation and Recovery Act (RCRA) generators, leaking underground storage tank (LUST) sites, or sites with registered underground storage tanks (USTs). In addition to reviewing the DEQ on-line Facility Profiler, the Oregon State Fire Marshal (OSFM) hazardous substance incident database was reviewed. Site investigations were conducted and photographs documenting reconnaissance observations were taken. Additional sites suspected of having potential environmental conditions (PECs) in the API were identified during site investigations. To clarify past land uses, historical Sanborn Fire Insurance Maps and aerial photographs were reviewed.

Impact potentials were assessed for each alternative based on RPEC site locations, documented or suspected on-site contamination, construction activities and right of way purchasing. Once RPEC sites with likely potentials of affecting the alternatives were identified, mitigation procedures needed to eliminate or minimize impact potentials were established.

3.4.2 Baseline Conditions

Exhibit 3-4 through Exhibit 3-5 show the location of the 41 RPEC sites (40 in the API and one adjacent to the API), including 16

The following hazardous materials reports were prepared for this project:

- Hazardous Materials Corridor Study
- Hazardous Materials Technical Memorandum

These reports provide additional detail and can be found on the project website at:

http://www.oregon.gov/ODOT/HWY/REGIO/N3/h199e_index.shtml

DEQ Facility Profiler

An on-line geographically-based resource to search for facilities recorded in DEQ's databases, including ECSI and LUST.

Environmental Cleanup Site Information (ECSI)

A database used by DEQ to record information on contaminated and potentially contaminated sites. Includes information on where the site is located, when and how the site may have become contaminated, and what actions DEQ has taken to investigate and clean up the site.

Leaking Underground Storage Tank (LUST)

Refers to sites (mostly gas stations) with leaking underground fuel storage tanks that are cleaned up under the supervision of DEQ's Underground Storage Tank Program.

EXHIBIT 3-4. IDENTIFIED RECOGNIZED AND POTENTIAL ENVIRONMENTAL CONDITIONS SITES – WILLOW LANE TO ALLEN CREEK ROAD

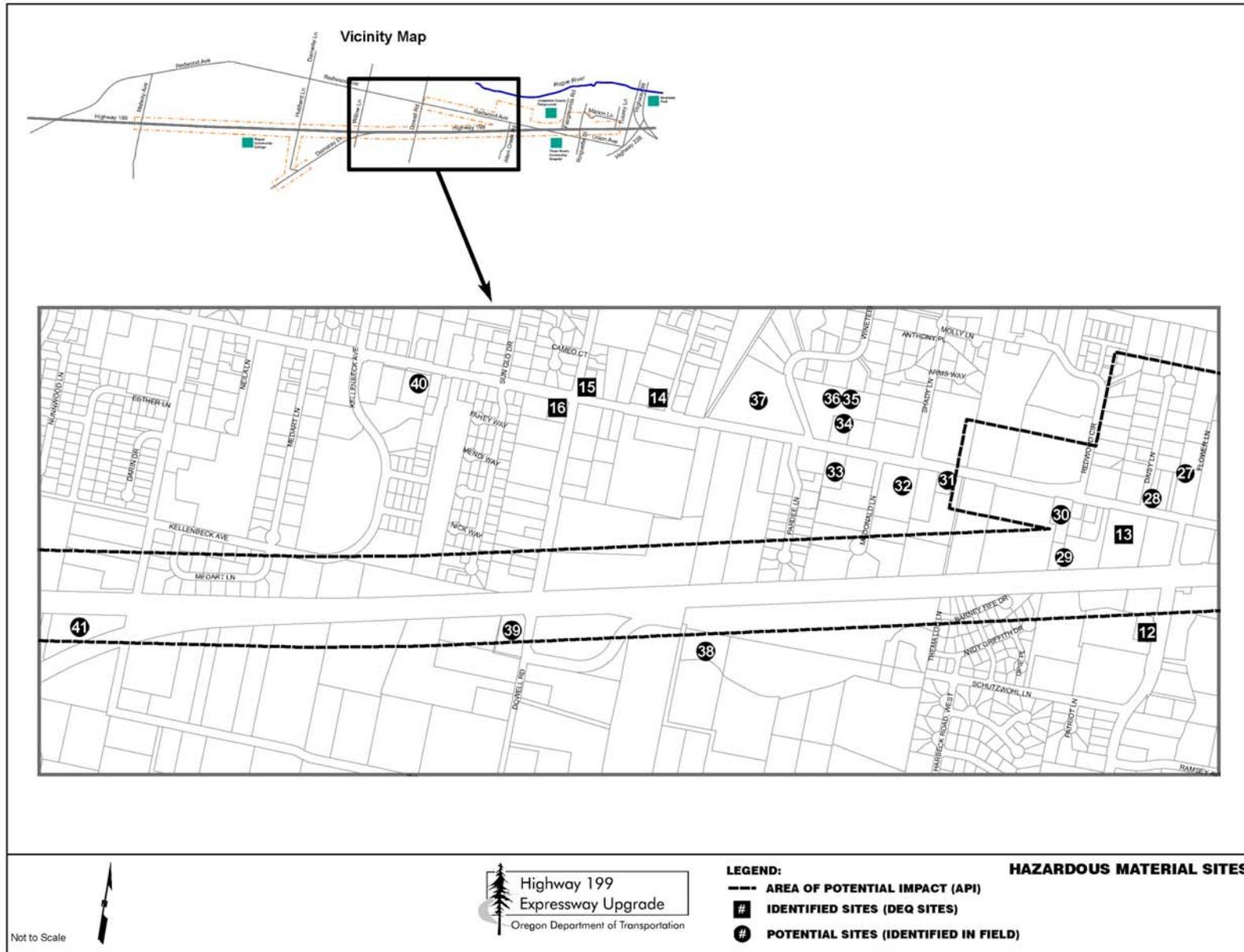
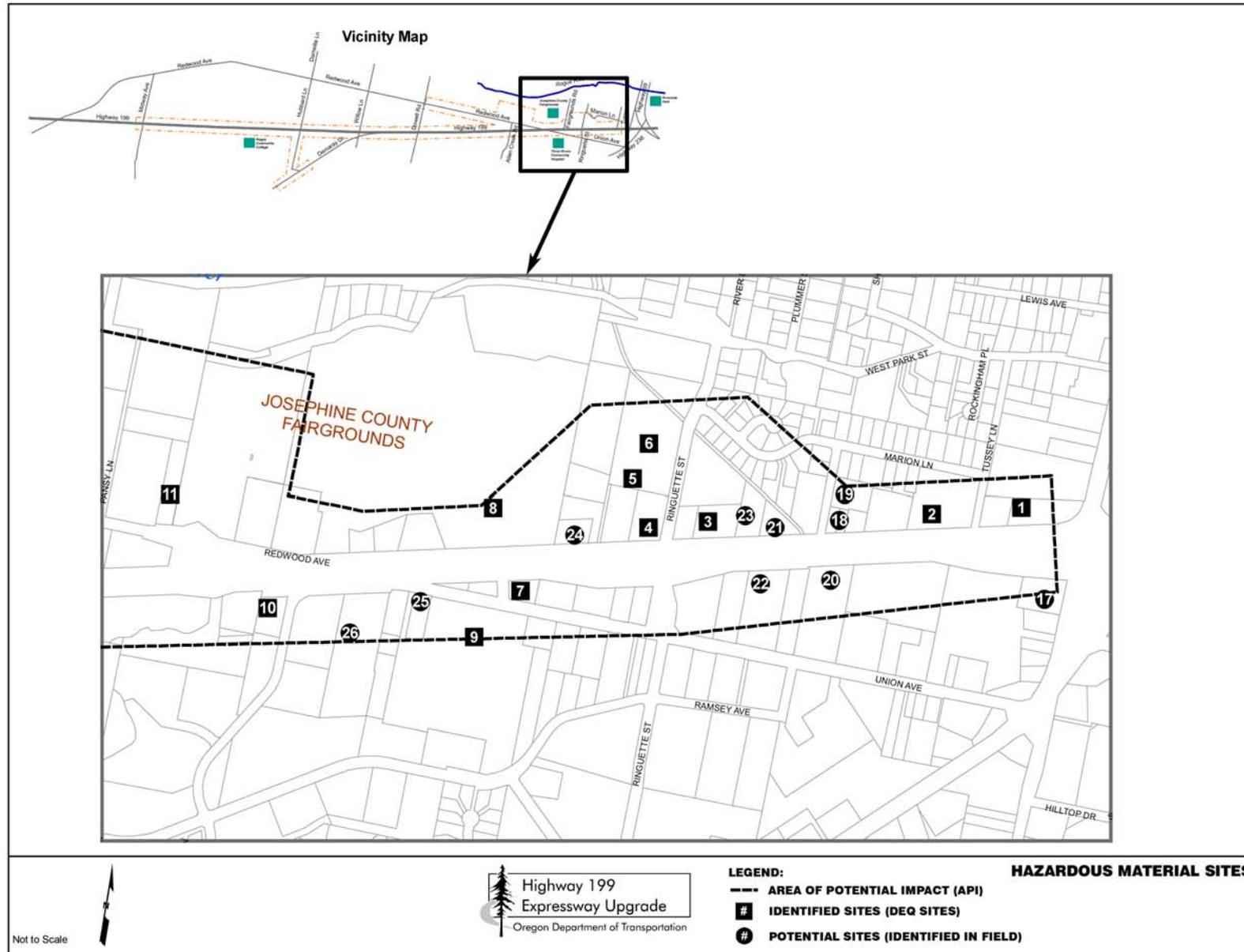


EXHIBIT 3-5. IDENTIFIED RECOGNIZED AND POTENTIAL ENVIRONMENTAL CONDITIONS SITES – NEBRASKA AVENUE TO TUSSEY LANE



identified sites and 25 potential sites. Sites numbered 1-16 are the identified sites and sites numbered 17-41 are the potential sites. All of the 41 RPEC sites are located east of Willow Lane.

3.4.3 Temporary Effects

No Build Alternative

Under the No Build Alternative, the project would not be constructed and therefore, no project-related temporary effects or benefits from hazardous materials would occur.

Alternatives A and C – Phase 1

Temporary impacts may occur in the API as a result of existing RPEC sites and construction activities. The temporary effects would be related to construction activities and could affect the following:

- Worker and public health risks
- Construction costs
- Right of way purchasing.

The main impacts to worker and public safety could come from unnecessary exposure to hazardous materials during construction. The construction costs relate directly to regulatory compliance needed to work with hazardous materials by following mandatory protocol to ensure worker and public safety. Property values are likely to vary depending on the presence of on-site contamination, and therefore, affect right of way purchasing.

The following variables were used to identify RPEC sites potentially affected by the construction of Alternative A or C:

- Site locations relative to project activities
- Estimated groundwater flow directions
- Likely areas of right of way purchasing
- Construction activities requiring excavation below sub-grade
- Severity of documented or suspected on-site contamination.

Affects from hazardous materials could occur as a result of Alternative A or C on or near 28 RPEC sites in the API; 12 identified sites (Exhibit 3-6) and 16 potential sites (Exhibit 3-7). Four identified RPEC sites (sites numbered 6 and 14-16) and nine

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

potential sites (sites numbered 19, 31-37, 40) would not be affected by Alternatives A and C.

EXHIBIT 3-6. IDENTIFIED SITES THAT COULD AFFECT ALTERNATIVES A AND C

Site Number	Site Name	Location
1	Mobil Oil Bulk Facility (Former); Current Guthrie Motors	250 Redwood Highway
2	Former Triple A RV Center	324 Redwood Highway
3	Former Don's Petroleum Inc; Current Card Paul S Automotive Repair	610 Redwood Highway
4	Former Colvin Oil Co – Grants Pass #1; Current Chevron Minimart & Moser Paving & Excavating	650 Redwood Highway
5	Josephine County Parks Shop	125 Ringuette Street
7	Former Fairgrounds Texaco; Current Fairgrounds Towing & Shell	780 Union Avenue
8	Josephine County Fairgrounds	1451 Fairgrounds Road
9	Former Star Concrete Inc.	689 Union Avenue
10	Former Chrome City; Current Cartwright's Valley Meat Co	1550 Nebraska Avenue
11	Josephine County Fairgrounds	100 Redwood Avenue
12	Allen Creek Property	1618 Allen Creek Road
13	Former Rogue River Rentals South; Current Redwood Nursery	1303 Redwood Avenue

For additional details, such as site information, DEQ ID #, and status, on the identified and potential sites refer to the Highway 199 Expressway Upgrade Project Hazardous Materials Technical Report and Hazardous Materials Corridor Study.

EXHIBIT 3-7. POTENTIAL SITES THAT COULD AFFECT ALTERNATIVES A AND C

Site Number	Site Name	Location
17	Former Unocal Oil Facility	Southwest of intersection of Redwood Highway and Williamson Highway
18	Dan'L Boone's Trading Post	470 Redwood Highway
20	Les Schwab Tire Center	320 Union Avenue
21	Piper Drive-in	550 Redwood Highway
22	Abandoned Building	340 Union Avenue
23	Cash Equipment Sales	568 Redwood Highway
24	Current Mobil Station, Bi-Mor Stations Inc. No 21	730 Redwood Highway
25	Revolvo West	699 Union Avenue
26	Oregon's Best Cars Service Center	715 Union Avenue
27	A-1 Speedy Plumbing	1222 Redwood Avenue
28	Auto Wheel Corp (AWC)	1258 Redwood Avenue
29	Lewis Power Equipment Rental & Repair	1307 Redwood Avenue
30	Hawg Wild Custom Motorcycles	Located adjacent (just north) to Site 29.
38	RW WEST & Auto RV & Repair	1749 Schutzwahl Lane
39	Miller Auto Sales	1792 Dowell Road
41	Mr. Quick's Automotive Repair	1872 Demaray Drive

The following RPEC sites are of particular concern:

- Site 1 – Former use Mobil Oil Bulk Facility ECSI. DEQ files indicate that four aboveground storage tanks (AGSTs) and one UST were removed from the property in the mid-1970s. According to DEQ, groundwater off-site has slightly elevated total petroleum hydrocarbons (TPH) and polycyclic aromatic hydrocarbons (PAH). DEQ suspects the likely source of these elevated levels is from the former petroleum bulk facility. DEQ is requiring further investigation of this site.
- Site 4 – Former use Colvin Oil Company – Grants Pass #1; current use Chevron Minimart and Moser Paving and Excavation. There is a LUST report documented as well as four registered USTs. According to DEQ records, the cleanup for the LUST report has not been completed.
- Site 7 – Former Fairgrounds Texaco; current Fairgrounds Towing and Shell. There is documentation of two LUSTs and three registered USTs at this site. DEQ records indicate that the cleanup for the LUSTs has not been completed.
- Site 11 – Josephine County Fairgrounds ECSI. According to DEQ online records, in April 1995, 3,800 gallons of “Vultafoam” 1 (1-dichloro-2-fluoroethane) was released into a gravel parking lot on the Josephine County Fairgrounds property. DEQ notes that the release was due to vandal activity. In addition, DEQ confirmed that 500 tons of soil and gravel were removed from the site and were disposed of at the River Bend Landfill in McMinnville, Oregon. Furthermore, DEQ records explain that the liquid waste was sent to Burlington Environmental, and stormwater that accumulated in the excavation area in anticipation of confirmation sampling was discharged into Allen Creek under a Water Quality special permit. DEQ is requiring further investigation of this site.



Site 1; Former Mobil Oil Bulk Facility; Current Guthrie Motors; 250 Redwood Highway



Site 4; Former Colvin Oil Co – Grants Pass #1; Current Chevron Minimart & Moser Paving & Excavating; 650 Redwood Highway.



Site 7; Former Fairgrounds Texaco; Current Fairgrounds Towing & Shell; 780 Union Avenue



Site 11; Josephine County Fairgrounds; 100 Redwood Avenue

- Site 12 – Allen Creek Property ECSI. According to DEQ on-line records, this property was formerly used for lumber remanufacturing. The primary concern for DEQ regarding this site included the following: wood treatment preservatives used on-site such as pentachlorophenol (PCP), tetrachloro-phenol (TCP), and petroleum hydrocarbons; and the extent of remaining contamination in the site soils, surface water sediments, and groundwater. DEQ confirms that there has not been off-site contamination into the underlying aquifer beneath this site. A No Further Action determination issued by DEQ was only in regards for the wood treatment area of the property. DEQ has not issued a No Further Action for the rest of the property.
- Site 17 – Former Unocal Oil Facility. Evidence from aerial photographs taken in 1957 and 1976 indicates the presence of relatively large AGSTs.

Alternatives A and C – Phase 2

Depending on the design and right of way needs required in Phase 2, construction activities could result in additional affects from hazardous materials.

3.4.4 Long-Term Effects

No Build Alternative

Under the No Build Alternative, the project would not be constructed and, therefore, no project-related, long-term effects or benefits from hazardous materials would occur.

Alternatives A and C – Phase 1

Long-term effects and benefits to and from RPEC sites may occur in the API as a result of the project. These long-term effects and benefits consist of the direct effects that project activities may have on RPEC sites and surrounding areas including:

- Public health hazards
- Environment
- Project costs

The human health hazards are associated with possible changes in the amount of hazardous materials located both above and below the ground surface. Benefits to the environment within and adjacent to

the API as well as project costs are possible by identifying and possibly removing existing contamination. Project activities could be beneficial to the public and environment within and adjacent to the API by:

- Providing additional surface and subsurface information as to the presence of hazardous materials
- Possibly removing hazardous materials from above and below the ground surface
- Eliminating or minimizing potential exposures of hazardous materials to the public during and after completion of the project.

The identified RPEC sites could have direct long-term effects on the API and project if disturbed.

Alternatives A and C – Phase 2

The identified RPEC sites could have direct long-term effects on the API and project if disturbed.

3.4.5 Indirect and Cumulative Effects

Project activities could potentially have both beneficial and non-beneficial indirect effects upon completion. The potentially beneficial effects include:

- Increased public safety and positive impacts on the environment associated with possible contamination removal in the API
- Improved understanding of existing subsurface conditions from subsurface investigations
- Enhanced assessment of property values within API as a result of subsurface investigations.

The potentially non-beneficial indirect effects consist mainly of:

- Possible exposure of hazardous materials to the public and environment as a result of construction activities
- Possible re-mobilization of existing contaminated soil and groundwater due to excavation below sub-grade.

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

The Highway 199 project in combination with other projects could potentially have beneficial and non-beneficial cumulative effects both during and after completion of activities. The potentially beneficial cumulative effects include:

- Improved public and environmental safety within and adjacent to the API as a result of subsurface investigations and site-remediation actions necessary for construction activities and risk-based site closures
- Improved worker and public safety during construction as a result of following necessary safety protocol associated with hazardous materials
- Better understanding of existing hazardous materials located above and below the ground surface
- Enhanced understanding of existing geologic conditions due to subsurface investigations and excavations.

The potentially non-beneficial cumulative effects include:

- Possible increase in human health safety hazards due to potential disturbance and exposures to contaminated soil and groundwater during and after construction activities
- Potential increased use of hazardous materials in the API as a result of possible increased commercial development and activity.

The following historic resources reports were prepared for this project:

- Historic Resources Baseline Report
- Supplemental Historic Resource Baseline Conditions Report: Alternatives A, B, and C
- Historic Resources Technical Report

These reports provide additional detail and can be found on the project website at:

http://www.oregon.gov/ODOT/HWY/REGIO/N3/h199e_index.shtml

Area of Potential Effects (APE)

The area of potential effects (APE) is the geographic area within which the proposed action may directly or indirectly cause alterations in the character or use of historic properties and cultural and archaeological resources.

3.5 Historic Resources

3.5.1 Methods and Coordination

Two reconnaissance-level historic resource pedestrian surveys were conducted for the APE in 2005. Residential and commercial buildings and industrial irrigation features that were 45 years in age or older (pre-1960) were recorded as part of the surveys. Historic-period resources were assessed for their eligibility for listing in the National Register of Historic Places (NRHP).

Coordination has occurred with the ODOT and SHPO on historic eligibility determinations and on findings of effect to historic resources.

When properties were identified as potentially eligible for listing on the NRHP, several steps were taken to comply with Section 106 of the National Historic Preservation Act (NHPA). A determination of eligibility (for listing on the NHPA) was conducted for each property. ODOT and SHPO were consulted on determinations of eligibility. Findings of effect to historic resources were also conducted, and ODOT and SHPO are in the process of reviewing the findings of effect.

3.5.2 Baseline Conditions

During baseline surveys, 169 buildings and structures were identified as 45 years in age or older in the APE. These buildings and structures were recommended to be not eligible for listing the NRHP. ODOT agreed and SHPO concurred with this finding in February 2006.

In addition to the 169 buildings and structures above, three other resources were documented on Section 106 forms and evaluated for their significance: the Grants Pass Irrigation District (GPID) system, the Josephine County Fairgrounds, and the Redwood Grange No. 760. ODOT and SHPO reviewed these resources, and determined that the Josephine County Fairgrounds and the Redwood Grange No. 760 were not eligible for listing in the NRHP.

One resource within the APE is recommended to be eligible for listing in the NRHP. The historic resource is the GPID Water Distribution System Linear Historic District. The system consists of three canals and a network of laterals, ditches, culverts, and control boxes. The three canals are the only significant elements within this system; the other irrigation-related features are from the historic-period, but they are not considered to be contributing to the significance of the system.

The three canals associated with the GPID that pass through the APE are the Main Canal, South Main Canal, and South Highline Canal. A Section 106 Documentation form for the GPID resource that discusses these three canals and its associated features was prepared. The evaluation of the GPID Water Distribution System Linear Historic District has been reviewed by ODOT; ODOT determined it is eligible for listing in the NRHP. The SHPO concurred that these canals are eligible for listing on February 17, 2006.

National Register of Historic Places (NRHP)

The National Register of Historic Places is the official listing of properties significant in national, state, and/or local history.

Section 106

Section 106 implements the National Historic Preservation Act of 1966. This is a federal review process that ensures that historic properties are considered during the planning and execution of projects with federal involvement.



Main buildings near the entrance to the Fairgrounds. The Merchants building (1927-1928) is on the left.

Grants Pass Irrigation District (GPID)

This district was formed in 1916 to provide irrigation water for agricultural land and for small home farms.

Section 4(f)

Section 4(f) evaluation of impacts to historic properties is required under the U.S. Department of Transportation Act of 1966, as amended. Please see Section 3.9 for a discussion of the impacts to Section 4(f) resources.



South Highline Canal/culvert across from the Rogue Community College, looking southeast.

There would be no adverse affect on the three canals: Main Canal, South Main Canal, and South Highline Canal. The project use of the canals would not adversely affect the features and attributes that qualify them for listing in the NRHP. The use would result in a *de minimis* effect on the three canals under Section 4(f).

3.5.3 Temporary Effects

There would be no temporary effects on the three canals and no temporary effects would occur to any significant historic-period buildings, including houses and commercial buildings, because there are no buildings in the API that are eligible for listing in the NRHP.

3.5.4 Long-Term Effects

No Build Alternative

Under the No Build Alternative, the project would not occur. No private property would be acquired for right of way and no existing buildings would be displaced for highway construction. Access to private properties would not be modified. No long-term effects or benefits to the three canals would occur.

Alternatives A and C – Phase 1

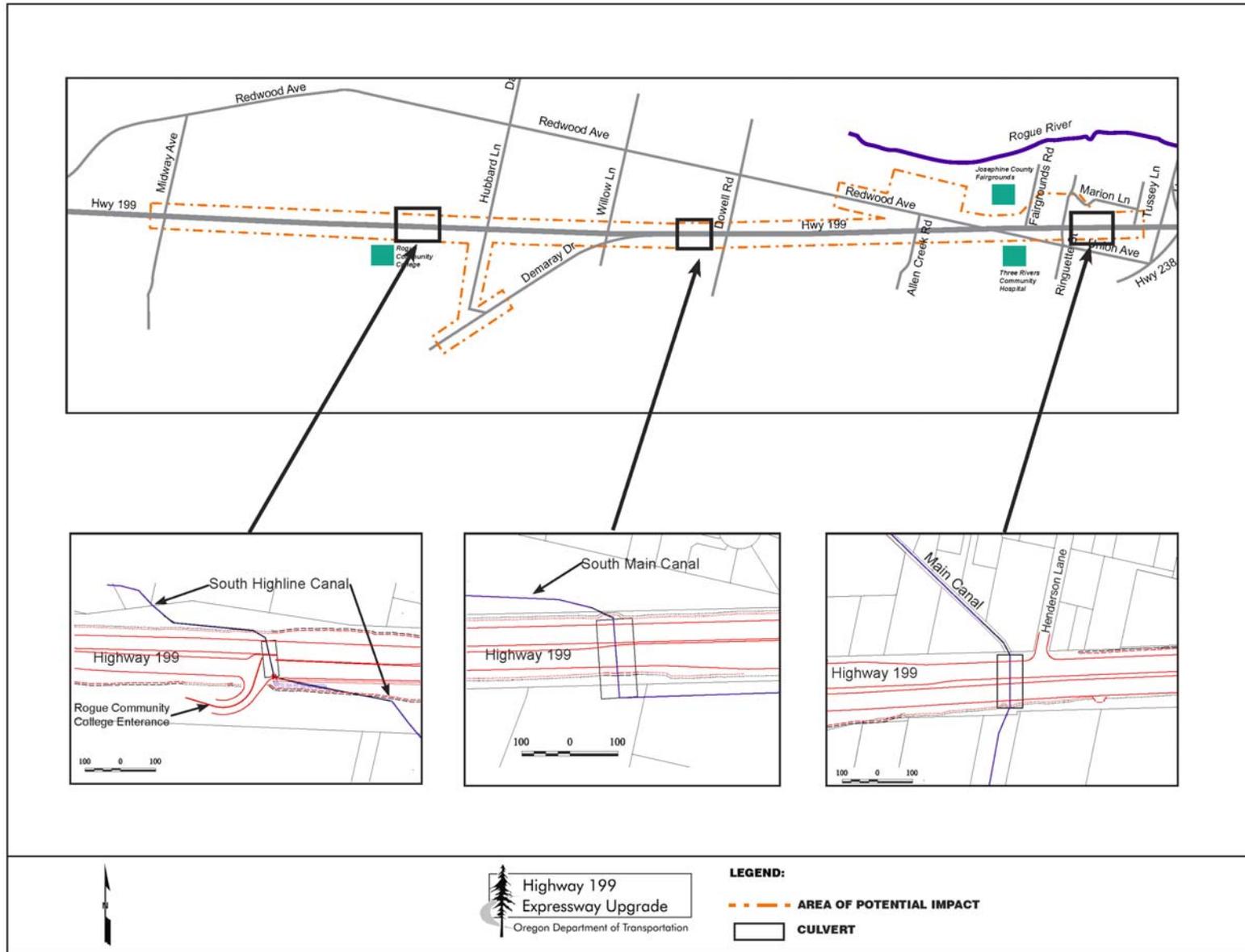
The long-term effects and benefits on historic resources are similar throughout the APE and between Alternatives A and C. No long-term effects would occur to any significant historic-period buildings, including houses and commercial buildings, because there are no buildings in the API that are eligible for listing in the NRHP.

The long-term effects to the Main Canal, South Highline Canal, and South Main Canal would occur within three separate and small sections of the project area (Exhibit 3-8).

The main effects to the three canals in these areas would involve placing sections of the waterways in culverts. The areas that would be involved in this work are short sections of the canals and represent a small portion of the canals relative to the overall size of the entire canal system. The effects to the canals would not alter their functional use or change the historical character of the alignments or their historical significance to farming activities. These changes do not constitute an adverse effect to the significance of the resource.

Portions of the South Highline Canal and the South Main Canal are located between Midway Avenue and Dowell Road. Approximately 147 feet of the length of the South Main Canal north of the culvert west of Dowell Road, is within an area that may be affected by grading activities along the north side of Highway 199. It is not anticipated that the canal will need to be realigned or covered although the culvert may be lengthened to account for increased shoulder widths.

EXHIBIT 3-8. THREE AREAS OF POTENTIAL EFFECTS TO SIGNIFICANT CANAL RESOURCES





Culvert on the Main Canal east of the fairgrounds, north side of the highway, looking southeast.

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

A portion of the South Highline Canal is near the entrance to Rogue Community College and west of Hubbard Lane. Approximately 427 feet of the length of the canal would be realigned along a strip south of Highway 199, a portion of the canal that had previously been disturbed by highway construction in the early 1960s. Grading activities and extension of the culvert along the south side of Highway 199 is also anticipated. The canal extends from the south side of Highway 199, through the culvert, and continues on the north side of the highway. The grading may require lengthening of the existing culvert to account for increased shoulder widths.

A portion of the Main Canal, an NRHP-eligible property, east of the fairgrounds, would be affected by Highway 199 improvements. The canal's culvert would be lengthened at both the north and south ends to accommodate a wider expressway and shoulders; this would cover small portions of the canal that were originally open. No alterations other than covering the canal at each end would be expected to occur.

Alternatives A and C – Phase 2

Phase 2 could potentially add another crossing of the Main Canal. Long-term effects to this portion of the Main Canal would be similar to those occurring during Phase 1.

3.5.5 Indirect and Cumulative Effects

There are no indirect effects on historic resources in the APE. Various planned or proposed improvements were considered in relation to the potential cumulative effects associated with the Highway 199 Expressway Upgrade project. Most improvements are not within the current project APE and these areas have not been surveyed for historic resources. These improvements would need to comply with Section 106 requirements to ensure that historic properties are considered during the planning of projects with federal involvement. Four improvements are within the current project APE and have been surveyed for historic resources. No historic properties that have been determined eligible for listing in the NRHP were recorded in these four improvement areas at this time. However, the historic resources that were recorded should be reviewed because a historic resource may later meet eligibility criteria.

3.6 Land Use

3.6.1 Methods and Coordination

Land use information was obtained from site visits, site photographs, aerial photographs, maps, personal communication, web pages, and review of state, regional, and local plans. These resources were used to document existing conditions in the API, to determine applicable land use permits, policies, and approvals, and to assess potential project effects.

Ongoing project coordination is occurring with the City of Grants Pass and Josephine County, as well as the project Citizen Advisory Committee, Project Development Team, and ODOT project management team.

3.6.2 Baseline Conditions

The Highway 199 Expressway Upgrade project is located within the planning jurisdiction of the City of Grants Pass and Josephine County. The City of Grants Pass has planning jurisdiction within the city limits and within the Grants Pass Urban Growth Boundary (UGB). Land outside of the UGB is within Josephine County's jurisdiction. In the API existing land uses generally reflect zoning designations. Land uses in the API range from urban at the east end to rural at the west end. Land uses in the eastern end of the API are a mix of predominately general commercial, light industrial, and low to moderate density residential. Land use in the western end, which is outside the Grants Pass UGB, is primarily rural residential and open space.

According to the City of Grants Pass and Josephine County development codes, transportation facilities (public roads) are a permitted use within all city and county zoning districts. In addition to the development codes, there are several state and local plans and regulations applicable to land uses in the API. Applicable local plans include the City of Grants Pass Comprehensive Plan, Josephine County Comprehensive Plan, and the local transportation system plans (TSPs). The applicable state plans and regulations include the Oregon Transportation Plan (OTP), Oregon Highway Plan (OHP), Oregon Bicycle and Pedestrian Plan, ORS 366.514 (use of highway funds for footpaths and bicycle trails), Oregon's statewide planning goals, and other Oregon Administrative Rules (OAR). The Highway

The following land use reports were prepared for this project:

- Land Use Baseline Report
- Land Use Technical Report

These reports provide additional detail and can be found on the project website at:

http://www.oregon.gov/ODOT/HWY/REGIO N3/h199e_index.shtml



Commercial center within the east end of the API east of Dowell Road.



Existing retirement community within the API.

Comprehensive Plan Designations*City of Grants Pass*

- Low Density Residential
- Moderate Density Residential
- High Density Residential
- General Commercial
- Business Park
- Industrial

Josephine County

- Residential
 - Commercial (Rural Commercial)
-

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

Oregon Statewide Planning Goal 12, Transportation

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

199 Expressway Upgrade project complies with these state plans, goals, and regulations and is identified for funding in the Oregon Statewide Transportation Improvement Program (STIP).

3.6.3 Temporary Effects*No Build Alternative*

The project would not be constructed, and therefore, no project-related temporary effects or benefits would occur as a result of the No Build Alternative.

Alternatives A and C – Phases 1 and 2

The temporary effects and benefits on land uses are similar throughout the API and between the two build alternatives. Construction-related impacts would decrease in intensity as the distance between construction and a particular land use increased. Specifically, construction can cause traffic congestion, delays, and may impede existing access, temporarily affecting current land uses near the project. Increased air and dust emissions as well as light illumination from vehicle and work equipment can be an annoyance to local businesses and residences during construction. Once construction is complete, these impacts would end and no long-term impacts related to construction would be expected to occur.

3.6.4 Long-Term Effects*No Build Alternative*

The project would not occur. No private property would be acquired for right of way, no buildings would be removed, and access to private properties would not be modified.

Vehicular and pedestrian safety would not be addressed and may be exacerbated with increased growth and congestion along Highway 199. Operational deficiencies would continue and potentially worsen with future traffic growth. Increased congestion and difficult access may deter new development and make retaining existing development more difficult.

The No Build Alternative would not change existing compliance with the City of Grants Pass and Josephine County's Land Use Plans and development codes/regulations.

The No Build Alternative would not comply with: the Oregon Statewide Planning Goal 12; or with policies and goals of the City of

Grants Pass' Master Transportation Plan (MTP) and Josephine County's Rural Transportation System Plan (TSP).

Alternatives A and C – Phase 1

As shown in Exhibit 3-9, a total of 120 and 116 parcels would be affected by right of way acquisitions as a result of Alternatives A and C, respectively. Of those, all but two would be partial acquisitions and/or driveway modifications. The majority of partial acquisitions would occur between Dowell Road and Fairgrounds Road.

EXHIBIT 3-9. ANTICIPATED NUMBER OF ACQUISITIONS PER ALTERNATIVE IN PHASE 1

Acquisition Type	Number of Acquisitions	
	Alternative A	Alternative C
Full	2	2
Partial and/or Driveway Modifications	118	114
Total	120	116

Note: This list reflects the current level of project design. Specific property acquisition will be finalized during final design.

Two full parcel acquisitions would occur under each alternative. The full acquisitions under Alternative A would be north of the existing Allen Creek Road and Redwood Avenue intersection and would be required to construct the new intersection. The full acquisitions under Alternative C would be along Redwood Avenue and would be required to accommodate the realignment of Allen Creek Road as well as the new road to Pansy Lane.

The partial acquisitions would primarily affect existing landscaping, asphalt, parking, and signs. Several parcels may also have their access modified to comply with ODOT and city access management standards.

Neither alternative would require any land use plan amendments or zone changes. Since the improvements would extend outside of ODOT right of way, a Type II Land Use Permit/Approval from the City of Grants Pass and a Ministerial Land Use Review and Permit from Josephine County would be required.

The safety improvements and reduction in traffic congestion associated with each alternative would comply with: the Oregon Bicycle and Pedestrian Plan and ORS 366.514, Oregon's Statewide Planning Goal 12, the City of Grants Pass MTP, and the Josephine County Rural TSP.



Alternative A Phase 1 would result in two full parcel acquisitions.



Alternative C Phase 1 would result in two full parcel acquisitions.

Alternatives A and C – Phase 2

Additional parcel acquisitions for right of way would result from extending the access road from Pansy Lane to Tussey Lane.

3.6.5 Indirect and Cumulative Effects

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

Indirect effects from the project to land uses could be development and increased traffic around major Highway 199 intersections and along local streets. Alternatives A and C include access control measures along Highway 199 that would require new development to gain access from local roads. An indirect effect to future development patterns could result since development would most likely occur in areas that have direct access to local streets, such as Hubbard Lane and Dowell Road. Other indirect effects may be associated with increased connectivity of pedestrians and bicyclists facilities. This additional connectivity could also induce development along Hubbard Lane. Conversely, indirect benefits from the project to land uses could be realized by creating a need to further expand and develop these pedestrian and bicycle facilities in the area and beyond.

Cumulative impacts may also include increased development, particularly in the area of the modified Highway 199/Allen Creek Road and Allen Creek Road/Redwood Avenue intersections. The City of Grants Pass currently restricts development along Redwood Avenue due to existing traffic congestion. After the Highway 199 improvements are completed, the city may lift this restriction; thus, the Highway 199 improvements, when combined with current or proposed development by others in this area, could lead to increased development.

The Highway 199 Expressway Upgrade project in combination with the planned or proposed projects, including the Fourth Bridge and the South Y Interchange, could contribute to a more urbanized character of the area; improve multimodal transportation connectivity and safety; convert private property to public right of way; increase the development of currently undeveloped properties; increase the demands for urban-level public services and facilities; and increase the level of noise, light and glare, and human activities.

3.7 Noise

3.7.1 Methods and Coordination

Applicable noise regulations and guidelines provide a basis for evaluating potential noise impacts. For federally funded highway projects, traffic noise impacts occur when the predicted hourly equivalent sound levels, (Leq (h)), approach or exceed the noise abatement criteria established by the FHWA, or substantially exceed existing noise levels (FHWA, 1982).. Although “substantially exceed” is not defined, ODOT considers an increase of 10 A-weighted decibels (dBA) or more to be a substantial increase.

The FHWA noise abatement criteria specifies exterior Leq (h) noise levels for various land activity categories (Exhibit 3-10). For receptors where serenity and quiet are of extraordinary significance, the noise criterion is 57 dBA (A-weighted decibels). For residences, parks, schools, churches, and similar areas, the noise criterion is 67 dBA. For developed lands, the noise criterion is 72 dBA. ODOT considers a noise impact to occur if predicted Leq (h) noise levels approach within 2 dBA of the noise abatement criteria in Exhibit 3-10. Thus, if a noise level were 65 dBA or higher, it would approach or exceed the FHWA noise abatement criterion of 67 dBA for residences.

EXHIBIT 3-10. FHWA NOISE ABATEMENT CRITERIA

Activity Category	Leq (h) (dBA)	Description of Activity Category
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	–	Undeveloped lands.
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: FHWA, 1982.

dBA (A-weighted)

The sound pressure levels in decibels measured with a frequency weighting corresponding to the A-scale. The A-scale best approximates the sound as heard by the normal human ear.

Ambient Sound

The all-encompassing noise associated with a given environment (usually a composite of sounds from many sources near and far).

Ambient noise levels were measured at 40 locations near the project roadways to describe the existing noise environment, identify major noise sources, validate the noise model, and characterize the weekday background environmental noise levels.

The FHWA's Traffic Noise Model (TNM) Version 2.5 computer model (FHWA, 2004) was used to predict Leq (h) traffic noise levels. TNM provides precise estimates of noise levels at discrete points, by considering interactions between different noise sources and the effects of topographical features. Noise emissions from each roadway segment are calculated based on the number of automobiles, medium trucks, and heavy trucks per hour; vehicular speed; and reference noise emission levels of an individual vehicle. TNM also considers effects of intervening barriers, topography, trees, and atmospheric absorption. Noise from sources other than traffic is not included. Noise monitoring results were used to validate the existing conditions TNM model.

Predicted noise levels were compared with the noise abatement criteria and the numbers of affected receptors were counted for Alternatives A and C. Mitigation measures were evaluated for engineering feasibility and reasonableness using ODOT criteria at receptors where noise levels were modeled to approach or exceed the noise abatement criteria for the build alternatives. Noise abatement selection criteria, outlined in the ODOT Noise Manual 1996 (ODOT, 1996), were considered to evaluate noise mitigation. Construction noise was qualitatively assessed using EPA reference levels (EPA, 1971).

A copy of the Noise Technical Report will be sent to the Josephine County Planning Department and the City of Grant Pass Planning Department. This report will serve to inform those agencies of the effects of the project on local noise levels. The information contained within this report can assist the cities and county in their planning process. It is recommended that the City of Grants Pass and Josephine County use this information as a guide when developing future land use plans, zoning, and/or building code requirements. The use of this information may assist local governments with future development plans and thereby result in development that is consistent with the noise environment.

3.7.2 Baseline Conditions

Noise levels along the current roadways range from 50 to 71 dBA Leq. Fifty-two residences, the outdoor basketball courts at the YMCA, and six commercial sites would experience noise levels that approach or exceed the noise abatement criteria (Exhibit 3-11 through Exhibit 3-14). The noise level at these receptors is dependent upon the proximity of the receptor to the nearest roadway, the amount of physical shielding provided by buildings, topography, etc.

3.7.3 Temporary Effects

No Build Alternative

The Highway 199 Expressway Upgrade would not be constructed and, therefore, no temporary effects or benefits to noise-sensitive resources associated with this project would occur. The No Build Alternative also assumes that other programmatic and funded projects within and adjacent to the API would occur, regardless of whether the Highway 199 Expressway Upgrade project is constructed.

Alternatives A and C

Areas adjacent to the project would be exposed to construction noise. Although of a temporary nature, the additional noise can be annoying. Construction usually would be carried out in several reasonably discrete steps, each of which would have its own mix of equipment and, consequently, its own noise characteristics. Roadway construction would involve clearing and grading activities, removing the old roadway, importing of materials, and paving. Noise levels from construction equipment would range from 69 to 106 dBA at 50 feet.

3.7.4 Long-Term Effects

No Build Alternative

Noise levels for the No Build future condition are predicted to range from 50 to 71 dBA Leq. Noise levels are predicted to increase between zero and three decibels, which is not perceptible to the average human ear. Fifty-four residences, the outdoor basketball courts at the YMCA, and 10 commercial sites would experience traffic noise levels that approach or exceed the noise abatement criteria (Exhibit 3-11 through Exhibit 3-14). The increase in noise level is due to increased traffic volumes to the roadway network.

Noise levels comparisons

Soft whisper from 50 feet
30dBA

Television from 10 feet
60dBA

Freeway from 50 feet
70dBA

City bus from 50 feet
80dBA

Jet airliner from 200 feet
120dBA

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

To the average human ear....

- a 1 to 2 dBA increase is not perceptible.
 - a 5 or 6 dBA increase is readily noticeable and appears as if the sound is about one and one-half times as loud.
 - a 10 dBA increase appears to be a doubling on sound level.
-

EXHIBIT 3-11. LOCATIONS WHERE PREDICTED NOISE LEVELS APPROACH OR EXCEED THE NOISE ABATEMENT CRITERIA – MIDWAY AVENUE TO DOWELL ROAD (ALTERNATIVES A AND C)

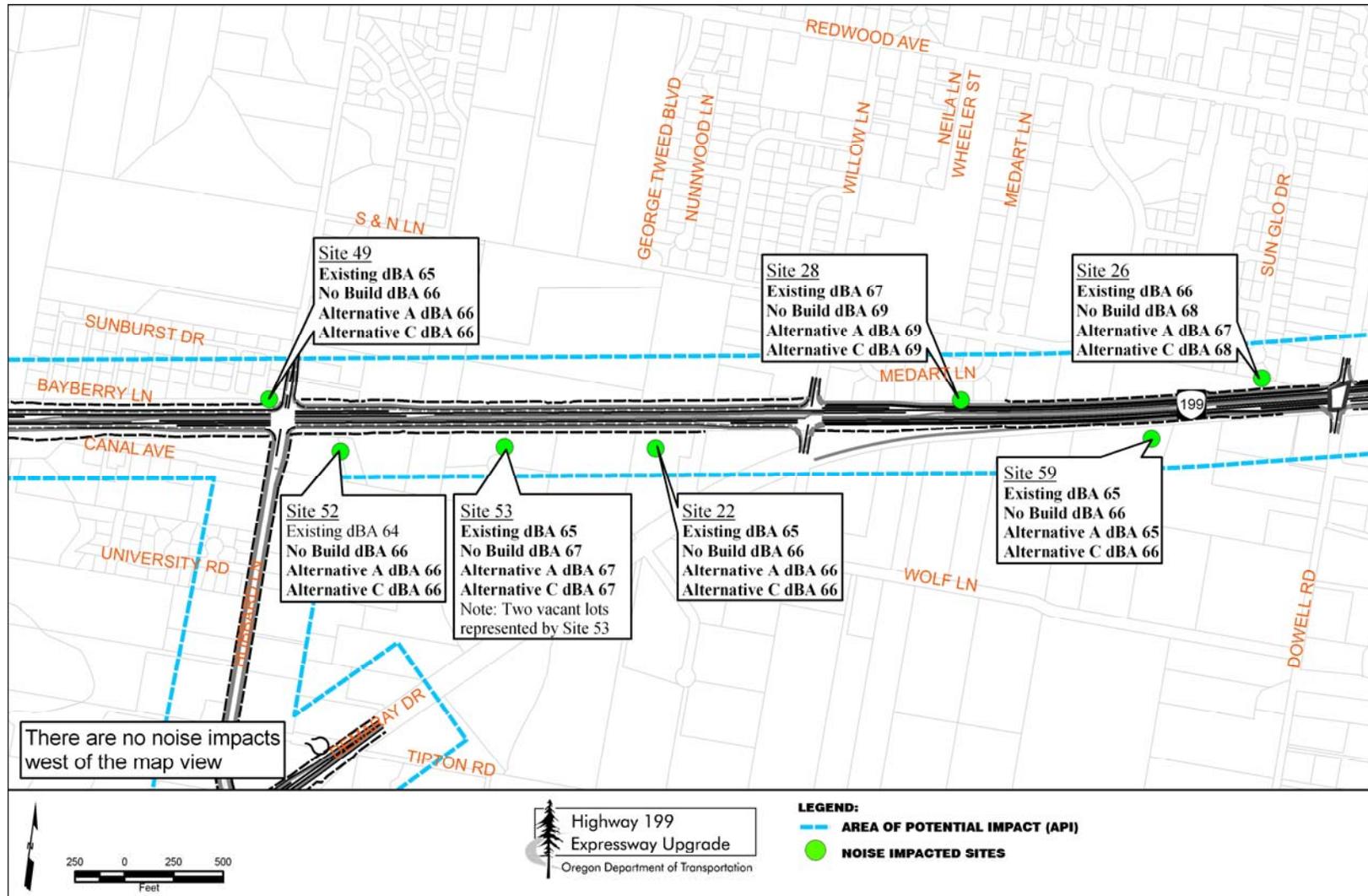


EXHIBIT 3-12. LOCATIONS WHERE PREDICTED NOISE LEVELS APPROACH OR EXCEED THE NOISE ABATEMENT CRITERIA –DOWELL ROAD TO FAIRGROUNDS ROAD (ALTERNATIVE A)

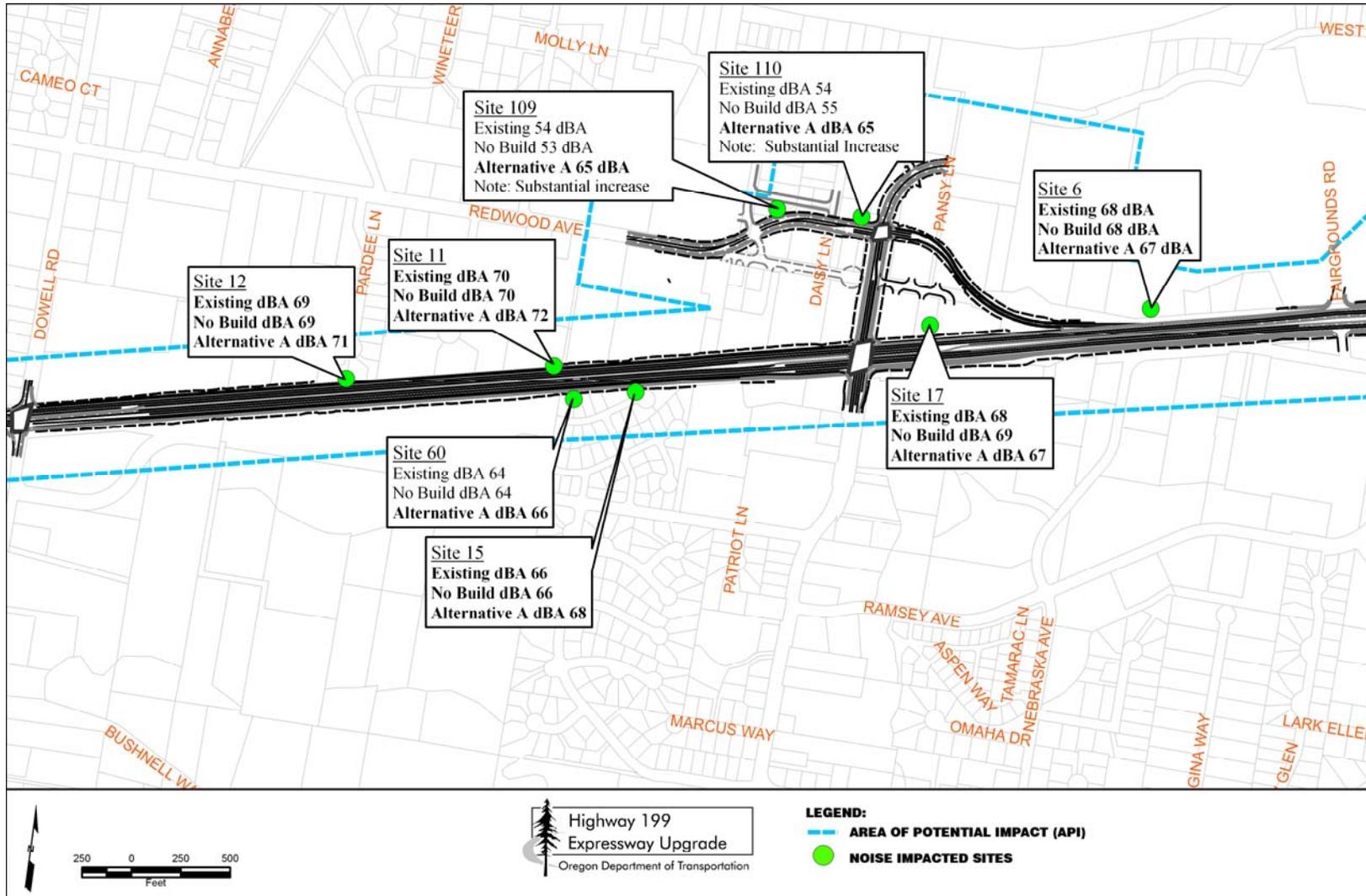


EXHIBIT 3-13. LOCATIONS WHERE PREDICTED NOISE LEVELS APPROACH OR EXCEED THE NOISE ABATEMENT CRITERIA –DOWELL ROAD TO FAIRGROUNDS ROAD (ALTERNATIVE C)

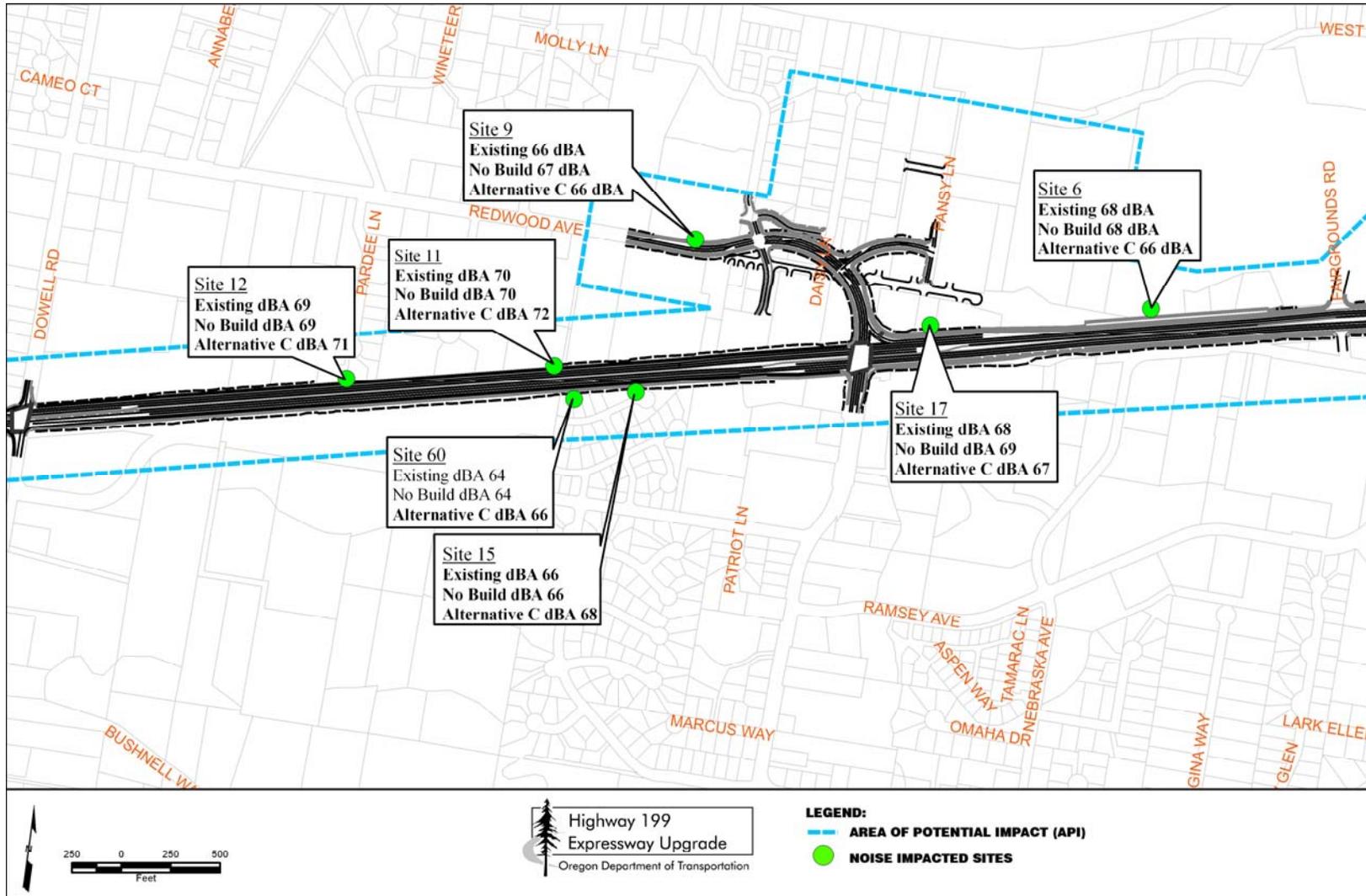
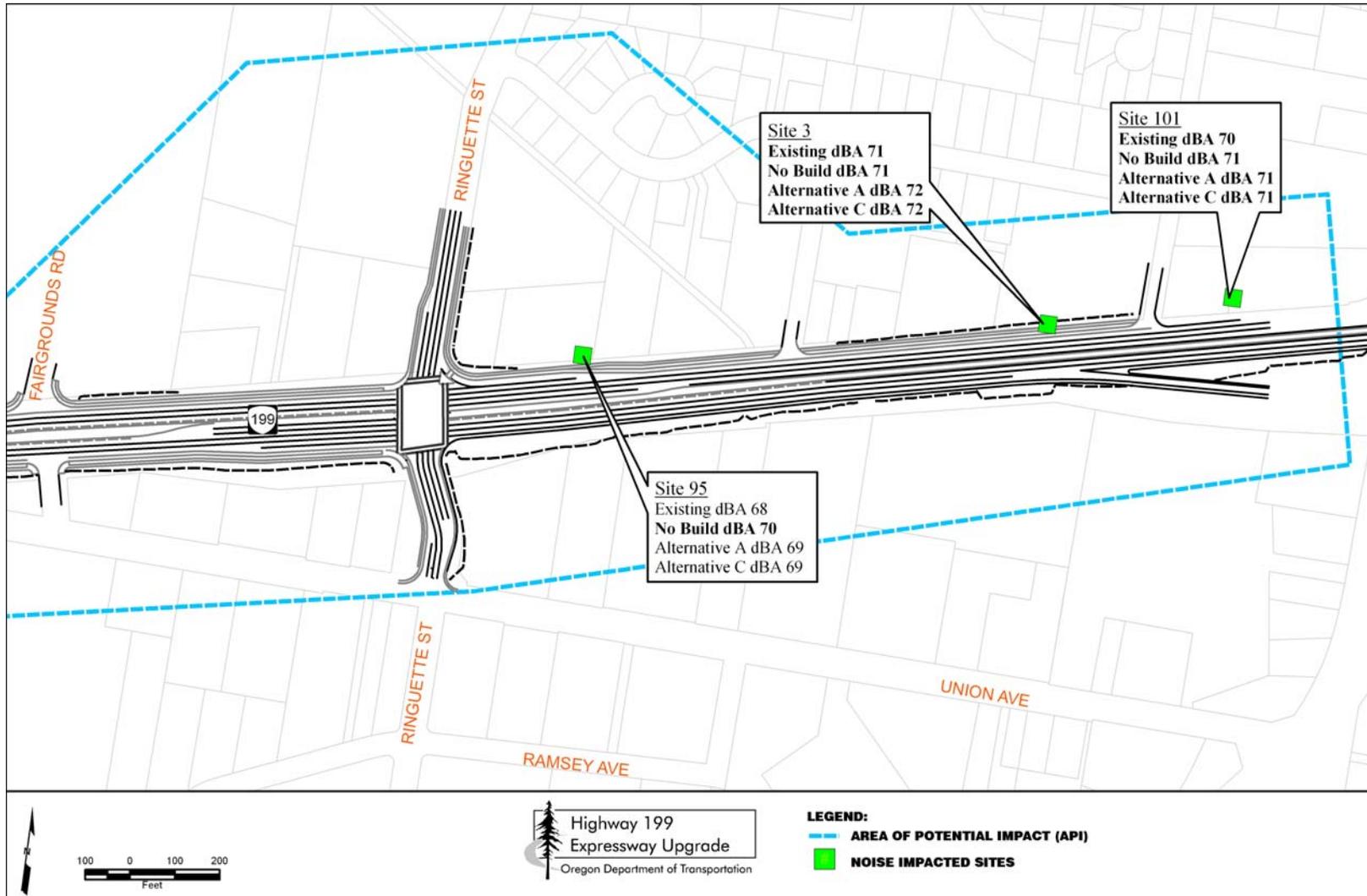


EXHIBIT 3-14. LOCATIONS WHERE PREDICTED NOISE LEVELS APPROACH OR EXCEED THE NOISE ABATEMENT CRITERIA –FAIRGROUNDS ROAD TO TUSSEY LANE (ALTERNATIVES A AND C)



Alternative A – Phase 1

Under the Alternative A future conditions, 51 residences, seven commercial sites, and the outdoor basketball courts at the YMCA would experience noise levels that approach or exceed the noise abatement criteria (Exhibit 3-11, Exhibit 3-12, and Exhibit 3-14). Noise levels for Alternative A are predicted to range from 50 to 72 dBA. Noise levels are predicted to increase by zero to two decibels at most locations, which is not perceptible to the average human ear. One residence and a single commercial site located adjacent to the realigned Redwood Avenue between Allen Creek Road and Redwood Circle are predicted to have an increase of 11 decibels. This is considered a substantial increase under ODOT noise abatement criteria. The increase in noise level is due to increased traffic volumes to the roadway network, reconfiguration of roadways, and/or new roadways.

Eight residences (four duplexes) located at the Spring Village Retirement and Assisted Living Facility on the northwest corner of Redwood Circle and Redwood Avenue are predicted to experience a noise level decrease of three decibels. The predicted decrease is attributed to a slight rise in vertical alignment of Redwood Avenue near sites.

Two commercial sites, the Josephine County Humane Society and a vacant commercial building, are predicted to experience a four decibel decrease on the north side of the properties due to removal of Redwood Avenue between Allen Creek Road and Highway 199.

Alternative C – Phase 1

Under the Alternative C future conditions, 58 residences, six commercial sites, and the outdoor basketball courts at the YMCA would experience noise levels that approach or exceed the noise abatement criteria (Exhibit 3-11, Exhibit 3-13, and Exhibit 3-14). Noise levels for Alternative C are predicted to range from 49 to 72 dBA. Noise levels are predicted to increase by zero to three decibels at most locations, which is not perceptible to the average human ear. Two residences adjacent to the realigned Redwood Avenue between Allen Creek Road and Redwood Circle are predicted to have an increase of four decibels. The increase in noise level is due to increased traffic volumes to the roadway network, reconfiguration of roadways and/or new roadways.

Three residences located off of Pansy Lane, the Josephine County Humane Society, one vacant commercial building, a residence (rental unit) located behind the Josephine County Humane Society, and the YMCA outdoor basketball courts are predicted to experience a one to four decibel reduction. The reduction is attributed to the removal of the westbound Redwood Avenue slip ramp, and removing the signal at Redwood Avenue and Highway 199.

Alternatives A and C – Phase 2

If Phase 2 of is implemented, changes in noise levels could occur; however, the magnitude of change is unknown. Additional noise analysis would need to be conducted when specific alignments and improvements of Phase 2 are determined.

3.7.5 Indirect and Cumulative Effects

The noise analysis for this project is based on predicted future traffic volumes based on transportation demand forecasting, including the effects of unmet demand on the transportation system. By including unmet demand, the indirect and cumulative effects of increased transportation capacity are included in the analysis.

3.8 Right of Way Acquisition and Relocation

3.8.1 Methods and Coordination

Standard ODOT right of way liaison procedures were used for estimating project effects on properties, residents, and businesses. Determination of right of way and relocation effects was conducted using preliminary design (Appendix A) and preliminary access management strategy (Appendix B). Calculations of acquired acreages and number of relocations may change based on the subsequent final design.

Preliminary designs overlaid onto aerial photo maps with parcel boundaries were reviewed. A field review of each of the properties that would be affected was conducted. An overview of the housing market in Grants Pass and Josephine County was conducted to determine the existing supply of single-family housing.

No relevant information about septic systems, wells, or other private water systems was included in the analysis.

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

The following right of way acquisition and relocations report was prepared for this project:

- Right of Way Technical Report

This report provides additional detail and can be found on the project website at:

http://www.oregon.gov/ODOT/HWY/REGIO/N3/h199e_index.shtml

The existing Highway 199 right of way ranges from 150 to 250 feet wide. The existing Redwood Avenue right of way ranges from 60 to 70 feet wide.

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

Alternative A
Acquisition Area: 12.4 acres
Cost of Acquisitions: \$15.2 million

Alternative A Commercial Relocations

Auto Wheel Corp.
Bear Distributions
Between the Buns
Dan'l Boones Trading Post
Moser Paving Office
O' Aces Deli
River City BMX

3.8.2 Baseline Conditions

Between Midway Avenue and Dowell Road, most parcels are residential. In this segment there are only a few commercial parcels. There is a mixture of residential and commercial parcels between Dowell Road and Fairgrounds Road. The concentration of commercial parcels increases from west to east. Between Fairgrounds Road and Tussey Lane there is a high concentration of parcels in general, and there are more commercial parcels in this area than others.

There is currently an adequate supply of single-family houses for potentially relocated residents.

3.8.3 Temporary Effects

Right of way acquisitions and relocations are long-term project effects. There are no identified temporary effects.

3.8.4 Long-Term Effects

No Build Alternative

Under the No Build Alternative, the project would not be constructed and, therefore, there would be no long-term effects or benefits to right of way, and there would be no relocations.

Alternative A – Phase 1

Under Alternative A, 120 parcels would be affected by full or partial acquisition, relocation, and/or driveway modifications. There would be two full acquisitions, 118 partial acquisitions, and 12 relocations. Five of the relocations would be residential, and seven would be commercial.

The estimated total acquisition area required for the API is 12.4 acres, and is broken down as follows: 11.6 acres fee acquisition and 0.8 acre slope and utility easement.

The estimated cost of right of way acquisition between Midway Avenue and Dowell Road is \$2.6 million, between Dowell Road and Fairgrounds Road is \$11.2 million, and between Fairgrounds Road and Tussey Lane is \$1.4 million. The total estimated cost of right of way acquisition for the API is \$15.2 million.

Right of way impacts due to utility and drainage impacts were not addressed because designs have not been finalized yet. Additional

effects to properties as a result of utility or drainage issues would necessarily increase projected estimated costs. At this stage in the project, drainage facilities are anticipated to be located in public right of way and minimal, if any, private property acquisitions would be needed to locate these facilities.

Alternative C – Phase 1

Under Alternative C, 116 parcels would be affected by full or partial acquisition, relocation, and/or driveway modifications. There would be two full acquisitions, 114 partial acquisitions, and 11 relocations. Three of the relocations would be residential, and eight would be commercial.

The estimated total acquisition area required for the API is 11.5 acres, and is broken down as follows: 10.7 acres fee acquisition and 0.8 acre slope and utility easement.

The estimated cost of right of way acquisition between Midway Avenue and Dowell Road is \$2.6 million, between Dowell Road and Fairgrounds Road is \$11.4 million, and between Fairgrounds Road and Tussey Lane is \$1.4 million. The total estimated cost of right of way acquisition for the API is \$15.4 million.

Right of way effects due to utility and drainage effects were not addressed because designs have not been finalized yet. Additional effects to properties as a result of utility or drainage issues would necessarily increase projected estimated costs. At this stage in the project, drainage facilities are anticipated to be located in public right of way and minimal, if any, private property acquisitions would be needed to locate these facilities.

Alternatives A and C – Phase 2

If Phase 2 of the project is implemented, additional right of way would be required and there would likely be additional relocations.

3.8.5 Indirect and Cumulative Effects

There are no identified indirect effects. Cumulative effects, when this project is combined with other proposed projects in the vicinity, include the conversion of more private property to public property for transportation and other development projects. This could result in increased costs associated with property acquisition, and fewer privately owned parcels.

Alternative C Commercial Relocations

- Auto Wheel Corp.
 - Between the Buns
 - Dan'l Boones Trading Post
 - HASL Independent Living Center
 - Moser Paving Office
 - O'Aces Deli
 - River City BMX
 - Stone Country USA
-

Alternative C
Acquisition Area: 11.5 acres
Cost of Acquisitions: \$15.4 million

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

The following Section 4(f) and 6(f) reports were prepared for this project:

- Section 4(f) and 6(f) Baseline Report
- Section 4(f) and 6(f) Technical Report

These reports provide additional detail and can be found on the project website at:

http://www.oregon.gov/ODOT/HWY/REGIO/N3/h199e_index.shtml

Section 4(f) Resources in the API

- South Main Canal, South Highline Canal, and Main Canal
 - Picnic pavilion, playground, and equestrian arena at the fairgrounds
 - Recreation field at RCC
-



Rogue Community College recreation field.

3.9 Section 4(f) and 6(f)

3.9.1 Methods and Coordination

Information regarding public park and recreation lands or wildlife refuge resources potentially subject to Section 4(f) provisions was identified by review of United States Geological Survey (USGS) topographic maps, local comprehensive plan and zoning maps, Josephine County and City of Grant Pass lists of county- and city-owned park facilities, and National Park Service lists of Wild and Scenic Rivers.

A site visit was conducted in 2005 to collect information regarding the character and important features of the resources. Additionally, site visits to document potential historic resources were conducted in 2005.

The Oregon Parks and Recreation Department was contacted to identify recreational sites that have used Land and Water Conservation Fund (LWCF) monies for acquisition or development, and are, therefore, subject to Section 6(f) requirements.

3.9.2 Baseline Conditions

Section 4(f)

One historic resource in the API, the Grants Pass Irrigation District (GPID), is eligible for listing in the National Register of Historic Places (NRHP), per Section 106 of the NHPA, and is subject to Section 4(f) provisions. The three canals associated with the GPID that pass through the API are the South Main Canal, the South Highline Canal, and the Main Canal.

Portions of the Josephine County Fairgrounds are located in the API. The picnic pavilion, playground area, and equestrian arena are open to the public and are Section 4(f) resources. Other facilities at the fairgrounds are not Section 4(f) resources.

The recreation field at Rogue Community College (RCC) is in the API and is open to the public all year long at no cost. The recreation field is subject to Section 4(f) provisions because it is in the API, is for public recreation use, and is important for public recreational purposes.

The City of Grants Pass has two proposed recreational facilities that are either partially within or near the API. One is a trail system to be called the River City Trail. The portion of the River City Trail in the vicinity of Allen Creek Road will be jointly planned by ODOT and the City of Grants Pass. The second proposed recreational facility, near but not in the API, is Redwood Park. These proposed recreational facilities are not subject to Section 4(f) provisions because they are either being developed outside of the API or are being jointly developed with the local agency.

Section 6(f)

None of the recreational facilities (River City Trail, Redwood Park, recreation field at RCC, or picnic pavilion, playground, and equestrian arena at the fairgrounds) are Section 6(f) resources because they did not utilize Land and Water Conservation Funds (LWCF).

3.9.3 Temporary Effects

No Build Alternative

No temporary effects or benefits on Section 4(f) resources associated with the No Build Alternative would occur.

Alternatives A and C – Phase 1

The temporary effects and benefits from construction that affect Section 4(f) resources are similar throughout the API and between Alternatives A and C. Construction effects to Section 4(f) resources would primarily be a temporary alteration to access, such as to the recreation field at RCC, and the equestrian arena and picnic pavilion/playground at the Josephine County Fairgrounds. These resources would still be accessible during construction. Coordination with the fairgrounds would be needed to ensure that access is maintained. Other temporary effects to Section 4(f) resources include increases in noise, and air and dust emissions. No constructive use to these resources would result from these temporary effects.

3.9.4 Long-Term Effects

No Build Alternative

Under the No Build Alternative, the project would not be constructed and, therefore, no long-term effects or benefits on Section 4(f) resources associated with this project would occur.

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.



The picnic pavilion/playground at the Josephine County Fairgrounds would be accessible during construction.

Detailed explanation of the long-term effects to the canals can be found in Section 3.5.4 of the Historic Resources section.

Alternatives A and C – Phase 1

Both alternatives would affect the South Main Canal, the South Highline Canal, and the Main Canal. The main effect to these canals would involve placing sections of the open canals into culverts. The areas that would be involved in this work are short sections of the canals and represent a small portion of the canals relative to the overall size of the entire canal system. The effects to the canals would not alter their functional use or change the historical character of the alignments or their historical significance to farming activities. These changes do not constitute an adverse affect to the significance of the resource. Therefore, there would likely be a *de minimis* use of these canals per the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) amendment to Section 4(f) of the Department of Transportation Act of 1966. FHWA concurrence on this *de minimis* use of the three canals is pending.

A portion of the proposed River City Trail would cross through the API using existing ODOT and City of Grants Pass rights of way on surface streets. The trail alignment would be affected by improvements near Allen Creek Road. Both Alternative A and Alternative C would incorporate a trail alignment being jointly planned between ODOT and the City of Grants Pass. The alignment of the trail would primarily consider pedestrian safety and, if feasible, would be within the right of way acquisition area for this project. Both alternatives would, therefore, allow the River City Trail to connect through this section of the API. There would be no Section 4(f) use of the River City Trial. The planned trail is not a Section 4(f) resource because it is being jointly planned with a local agency.

The project would not affect the use or activities of the recreation field at RCC; therefore, there would be no Section 4(f) use of this resource.

The project would not affect the use or activities of the picnic area, playground, or equestrian arena at the Fairgrounds; therefore, there would be no Section 4(f) use of this resource.

Alternatives A and C – Phase 2

If Phase 2 of the project is implemented, additional effects to the Main Canal could take place.

De minimis use

A *de minimis* use of a Section 4(f) resource is a use that does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f) of the Department of Transportation Act of 1966.

Section 4(f) Resources and Impacts

- South Highline Canal, South Main Canal, Main Canal: *De minimis* use
 - River City Trail: No Section 4(f) use
 - Recreation Field at RCC: No Section 4(f) use
 - Picnic Area, Playground, and Equestrian Arena at Fairgrounds: No Section 4(f) use
-

A “de minimis use” or “no Section 4(f) use” means that an analysis of avoidance alternatives is not required.

FHWA concurrence on the “*de minimis* use” and “no Section 4(f) use” (pending) will complete the Section 4(f) evaluation process.

3.9.5 Indirect and Cumulative Effects

There are no indirect effects or benefits on Section 4(f) resources in the API by Alternatives A or C. Several planned or proposed improvements in or near the API were considered in relation to potential cumulative effects associated with the project. No cumulative effects from these projects are anticipated.

3.10 Socioeconomics and Environmental Justice

3.10.1 Methods and Coordination

The analysis of social, economic, relocation, and environmental justice effects follows guidelines put forth by FHWA NEPA guidelines. In accordance with Presidential Executive Order 12898, effects to environmental justice populations (low-income and minority) in the API were analyzed. Furthermore, in accordance with Title VI of the Civil Rights Act, effects to disabled and elderly populations are also discussed. Effects to limited English proficient populations are discussed in accordance with Presidential Executive Order 13166.

Data from the US Census Bureau website were used to determine presence of low-income, minority, and disabled populations, and populations with limited English proficiency. Additional information was gathered from a variety of sources such as Josephine County, the City of Grants Pass, and the State of Oregon. Field visits documented businesses in the API.

3.10.2 Baseline Conditions

The community character is composed of subdivisions, multi-family complexes, retirement facilities, and individual residences. Businesses are concentrated in the eastern end of the API, with the concentration decreasing moving west. The western end of the API is primarily residential.

Public services are provided by a mix of public and private entities. There are no federal, state, county, or city designated public parks or recreation areas. Informal and private recreation facilities include portions of the Josephine County Fairgrounds, the recreation field at Rogue Community College, and a private bicycle motocross (BMX) facility.

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

The following socioeconomic and environmental justice reports were prepared for this project:

- Socioeconomic and Environmental Justice Baseline Report
- Socioeconomic and Environmental Justice Technical Report

These reports provide additional detail and can be found on the project website at: http://www.oregon.gov/ODOT/HWY/REGIO/N3/h199e_index.shtml

Applicable Regional and Local Plans Reviewed

Presidential Executive Order 12898

Presidential Executive Order 13166

Title VI of the Civil Rights Act of 1964

Oregon Bicycle and Pedestrian Plan

Oregon Revised Statutes 366.514

Federal, State, and Local Air Quality and Noise Regulations

Josephine Community Transit buses (Route 10) serve the API. Transit service is every 30 minutes on Mondays through Fridays from approximately 7 am to 5 pm (Josephine Community Transit, 2005).

Pedestrian facilities include the paved shoulder along portions of Redwood Avenue, a shared use path along the south side of Highway 199 from the Rogue Community College to Nebraska Avenue, and sidewalk separated from a bike lane on Union Avenue between Nebraska Avenue and Highway 238. Municipal services are funded by taxes and fees from both the City of Grants Pass and Josephine County.

Environmental justice populations and other populations of concern (aged, disabled, limited English proficient) are present in the API.

3.10.3 Temporary Effects

No Build Alternative

Under the No Build Alternative, the Highway 199 Expressway Upgrade project would not occur. Since the project would not be constructed there would be no temporary effects.

Alternatives A and C – Phases 1 and 2

The temporary effects and benefits to social conditions and services, economics, and environmental justice communities are similar throughout the API and between the two build alternatives. They would include: traffic detours and delays, congestion around work sites, temporary change in access, temporary utility shut-offs, equipment noise, vehicle and work light illumination, and air and dust emissions.

3.10.4 Long-Term Effects

No Build Alternative

Under the No Build Alternative there would be no commercial or residential relocations. Vehicular and pedestrian safety concerns along Highway 199 would not be addressed and, with increased traffic volumes, the crash rate may even worsen. Existing and future congestion and operational deficiencies would also not be addressed, which would likely result in increased traffic on local roads. This could make it difficult to attract and retain businesses. Pedestrian and bicycle facilities in the API would not be expanded. These effects would be distributed across the population in the API; therefore, the

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

No Build Alternative would not disproportionately or adversely affect environmental justice populations.

Alternatives A and C – Phase 1

Alternatives A and C would improve vehicular and pedestrian safety and enhance pedestrian and bicycle facilities and connectivity throughout the API. The improvement of bicycle and pedestrian facilities would be consistent with the Oregon Bicycle and Pedestrian Plan and Oregon Revised Statutes 366.514 (use of highway funds for footpaths and bicycle trails). Two types of bicycle facilities would be provided to accommodate various bicycling experiences. Bicycle lanes on the highway would likely be used by experienced bicyclists who seek faster routes for commuting or biking long distances; the shared use path would likely be used by less experienced bicyclists or those pursuing slower paced recreation.

Public transit would not be negatively affected. School buses would continue to have room on the shoulder of Highway 199 to pick up and drop off students in a safe manner.

Safety near businesses would improve because there would be fewer access points on Highway 199, which would lower the chance of crashes. Congestion would decrease. Businesses that depend on efficient travel conditions (either for destination customers or for deliveries or shipments to and from businesses) would especially benefit from reduced congestion.

Other long-term effects include residential and commercial relocations and changes in access (primarily from full access to and from Highway 199 to right in/right out at specific locations). There would be five residential relocations and eight commercial relocations under Alternative A and three residential relocations and nine commercial relocations under Alternative C (Exhibit 3-15).

EXHIBIT 3-15. ANTICIPATED NUMBER OF RELOCATIONS PER ALTERNATIVE IN PHASE 1

Relocation Type	Number of Relocations	
	Alternative A	Alternative C
Residential	5	3
Commercial	7	8
Total	12	11

Commercial relocations under both alternatives would include businesses in the following general categories: restaurants, general retail, construction, and private recreation facility. One recreational facility, the BMX course, would be relocated. No social- or health-

Commercial Relocations per Build Alternative

- Auto Wheel Corp (both)
 - Bear Distributors (Alternative A only)
 - Between the Buns (both)
 - Dan'l Boones Trading Post (both)
 - HASL Independent Living Center (Alternative C only)
 - Moser Paving Office (both)
 - O'Aces Deli (both)
 - River City BMX (both)
 - Stone Country USA (Alternative C only)
-

related services or businesses would be relocated under Alternative A but a health retail (medical supplies) business would be relocated under Alternative C.

The relocation of the health retail business would cause customers to travel to new, and potentially farther, locations to get medical supplies. This could negatively affect the elderly population, particularly those living in a nearby care facility, because travel can sometimes be difficult for them. However, the health retail business could choose to relocate in the API.

Access changes could potentially cause residents and other motorists to take different and potentially longer routes to and from neighborhoods and homes, businesses, or recreational facilities. Access to businesses located near the intersections of Highway 199 and Redwood Avenue with Allen Creek Road would remain but would be provided via new local streets, rather than directly onto Redwood Avenue.

Two parcels would be fully acquired under each alternative and, thus, converted from private to public ownership. This would cause a slight but permanent decrease in the number of available parcels across which the property tax load would be distributed.

Public involvement efforts have not identified any specific, current environmental justice concerns. In terms of relocations, some of the relocations are proposed in census blocks or block groups with a higher percentage of environmental justice populations than Josephine County. Other relocations are proposed in census blocks that have a lower percentage of environmental justice populations than Josephine County. Under Alternative C, there is likely one low-income tenant that would be displaced. Overall, the potential effects and benefits would be distributed across the environmental justice and non-environmental justice communities; therefore, there would be no disproportionate effects to environmental justice populations. Additionally, mitigation proposed for right of way acquisition, hazardous materials, and noise would minimize any adverse effects to both environmental justice and non-environmental justice populations.

Alternatives A and C – Phase 2

If Phase 2 were to be constructed there would likely be more acquisitions, more relocations (especially businesses), access moved

Alternative A	
Full Parcel Acquisitions	Amount of Property Taxes Paid in 2005
2	\$2,638

Alternative C	
Full Parcel Acquisitions	Amount of Property Taxes Paid in 2005
2	\$554

Environmental Justice Effects

There would be no disproportionate or adverse effects to environmental justice populations.

from Highway 199 to the access road, and more pedestrian and bicycle connectivity with sidewalks on the access road. There could potentially be increased noise effects, but negative air quality effects would not be anticipated. The potential benefits would include reduced congestion and improved safety.

3.10.5 Indirect and Cumulative Effects

There are no identified indirect effects. Cumulative effects would be expected to be approximately the same for both alternatives and would include: increased development of undeveloped land creating a more urbanized environment, improved multimodal transportation connectivity and safety, conversion of private property to public property through right of way acquisition, increased demand for urban-level public services and facilities, and increased noise, light, glare, and other human activities.

3.11 Traffic and Transportation

3.11.1 Methods and Coordination

The traffic and transportation analysis examined existing (year 2004) traffic and transportation system conditions and forecasted conditions in 20 years (year 2025). The analysis used a set of performance measures, or measures of effectiveness (MOE) to supplement traditional highway capacity measures, such as volume to capacity (v/c) ratio and level of service (LOS).

The traffic and transportation analysis uses year 2004 20th highest hour volumes. To develop the volumes, 16-hour traffic counts were undertaken at 35 intersections in or near the API. The counts were seasonally adjusted to the 30th highest hour volumes using the Timber Ridge automatic traffic recorder located just west of the API. Growth factors were also developed using future historical volumes based on ODOT transportation volume tables to standardize the counts to 2004 values.

The analysis also relies on year 2025 peak hour traffic volumes. The Grants Pass Transportation Model was used to create 2025 traffic volumes. The volumes were input into a traffic operations model to establish v/c ratios and MOEs.

The 1999 Oregon Highway Plan (OHP) mobility standards for a non-Metropolitan Planning Organization (MPO) area were used to

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

The following traffic and transportation reports were prepared for this project:

- Transportation Baseline Report
- Traffic and Transportation Technical Report
- Additional Transportation Performance Measures Technical Paper
- Access Management Strategy

These reports provide additional detail and can be found on the project website at: http://www.oregon.gov/ODOT/HWY/REGIO/N3/h199e_index.shtml

The MOEs are measured for the year 2025 PM peak hour and were calculated by averaging five 1-hour traffic simulations between Midway Avenue and the South Y Interchange.

Volume to Capacity (v/c) Ratio

A measurement of highway service quality that compares the number of vehicles using or expected to use a given road or segment of road (the volume) with the number of vehicles that the facility is designed to handle safely (the capacity).

Level of Service (LOS)

A qualitative rating of the effectiveness of a highway facility in serving traffic. It characterizes traffic flow conditions in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort and convenience. Six levels of service are defined, ranging from A (full free flow traffic) to F (complete gridlock). The most commonly desired LOS is C, which signifies full but constant traffic flow with only occasional interruptions.

95th Percentile Queue Length

The length of or number of vehicles that has only a 5 percent chance of being exceeded during the analysis time period (in this case, 2025 PM peak hour). It is used for determining the appropriate length of turn pockets.

Excessively long queues are often seen in areas where v/c ratios exceed transportation system standards.

The MOEs are applicable to the API and the transportation study area. The transportation study area is an area greater than the API and is bound by the Rogue River on the north, Oregon 238/6th Street on the east, Union Avenue on the south, and Redwood Avenue/Highway 199 (west intersection) on the west.

Using the transportation model, CO emissions are calculated based on fuel consumption and use a simplified formula. This information does not replace the more detailed air quality analyses conducted for the EA, but is included here as a comparative measure between alternatives.

evaluate maximum acceptable v/c ratios for existing and no build conditions. In addition to v/c ratios, the 95th percentile queue lengths were obtained to understand the operation of the transportation system.

In order to gain a better understanding of the effects to traffic and the transportation system between the No Build Alternative and the two build alternatives, a set of MOEs were developed. The MOEs included:

- Travel time (in the API)
- Travel delay
- Average speed
- Queues greater than two blocks (600 feet)
- Travel time (in the transportation study area)
- Travel distance
- Total delay
- Number of stops per vehicle
- Fuel used
- Carbon monoxide (CO) emissions.

3.11.2 Baseline Conditions

The Highway 199 Expressway Upgrade project covers nearly 4.3 miles along Highway 199 from Midway Avenue (MP 4.44) to Tussey Lane (MP 0.20). Highway 199 is the primary route from I-5 to the southern Oregon coast.

In general, in the API Highway 199 has four travel lanes (two in each direction) with wide shoulders and access from at-grade public roads or from private parcels adjacent to the highway. The intersections of Dowell Road, Allen Creek Road, Redwood Avenue, Fairgrounds Road, and Ringuette Street are signalized and a restrictive raised curb median has been installed at the Willow Lane intersection. The raised curb median from Tussey Lane west makes driveway access along Highway 199 right in/right out. The speed limit is 50 miles per hour (mph) between Midway Avenue and

Willow Lane, 45 mph between Willow Lane and Fairgrounds Road, and 35 mph from Fairgrounds Road to Tussey Lane.

Traffic Operations

The existing traffic and transportation conditions, or baseline conditions, are based on year 2004-2005 traffic data. The average daily traffic (ADT) from Midway Avenue to Dowell Road ranges between 12,000 and 22,000. From Dowell Road to Tussey Lane it ranges between 22,000 and 38,000. Exhibit 3-16 summarizes existing traffic operations (v/c ratio and LOS) at several intersections. For signalized intersections, the intersection v/c ratio (for intersections under ODOT jurisdiction) or intersection LOS (for non-ODOT intersections) is provided. For unsignalized ODOT-controlled intersections, the highest approach v/c ratio is provided unless that specific movement would be removed either as part of a future programmed project or as part of a build alternative being assessed here, in which case the highest v/c of a remaining movement is provided for comparative purposes. For unsignalized intersections not under ODOT jurisdiction, the LOS classification is provided rather than the v/c ratio.

The maximum acceptable v/c ratio for Highway 199 is 0.70 based on its classification as an expressway. The acceptable standard for Highway 99 (6th Street) and Highway 238 is 0.85. A v/c ratio of 1.0 represents an intersection that is at its theoretical capacity. Local roads have a minimum acceptable LOS D.

Intersections that fail to meet the ODOT mobility standard along Highway 199 include the intersections with Dowell Road, Allen Creek Road, Redwood Avenue, Fairgrounds Road, Ringuette Street, Henderson Lane, Tussey Lane, and Highway 99 (6th Street). All of these fail the ODOT mobility standard primarily due to high through traffic volumes.

Local intersections that fail to meet the minimum LOS D standard include Redwood Avenue at Dowell Road and at Allen Creek Road. These intersections are unsignalized and lack turning lanes that would allow them to meet the standard.

Safety

Improving safety along the corridor is needed. Crash data from January 1999 through December 2005 indicates a total of 370 crashes; 310 of the 370 occurred in the more urban area between

Average Daily Traffic (ADT)

The number of vehicles that pass a specified location in a 24-hour period.

Dowell Road and Tussey Lane (Exhibit 3-17). While the total number of crashes occurring in the urban area was much higher, all but one of the nine crashes involving fatalities occurred in the more rural portion of the API, between Midway Avenue and Dowell Road (Exhibit 3-18).

Two different traditional methods for measuring highway capacity can be used. ODOT uses v/c ratio for intersections under ODOT jurisdiction, while Grants Pass and Josephine County use LOS for intersections under their jurisdiction.

EXHIBIT 3-16. V/C RATIOS AND LOS AT VARIOUS INTERSECTIONS

Major Road at Minor Road	2004	
	V/C Ratios	LOS
Highway 199 at		
Redwood Avenue (west)*	0.23 NB	--
Midway Avenue*	0.23 WB	--
Arbor Ridge/Dawn Drive*	0.32 WB	--
RCC Entrance*	0.28 NB	--
Hubbard Lane*	0.49 SB	--
Willow Lane*	0.34 WB L	--
Dowell Road	0.78	--
Allen Creek Road	0.72	--
Redwood Avenue (east)	0.75	--
Fairgrounds Road	1.04	--
Ringuette Street	0.99	--
Henderson Lane*	0.92 WB T	--
Tussey Lane*	0.91 WB T	--
Highway 99 (6 th Street)	1.64	--
Highway 238 at		
Union Avenue	1.47	--
Redwood Avenue at		
Midway Avenue*	--	A (EB)
Hubbard Lane*	--	C (NB)
Willow Lane*	--	D (SB)
Dowell Road*	--	F (NB & SB)
Allen Creek Road*	--	F (NB)
Union Avenue at		
Ringuette Street*	--	D (EB)
Demaray Drive at		
Hubbard Lane*	--	A (SB)
Willow Lane*	--	B (NB)

NB – northbound

WB – westbound

SB – southbound

L – left turn; T – through; R – right turn

Black cells – indicates the OHP mobility standard for Highway 199 (v/c = 0.70) or Highways 99 and 238 (v/c = 0.85) has been exceeded or the mobility standard for local streets (LOS D) has been exceeded.

* – unsignalized intersection

EXHIBIT 3-17. COMPARISON OF TOTAL CRASHES IN API (1999-2005)

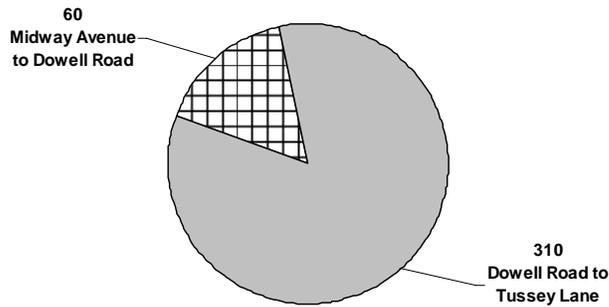
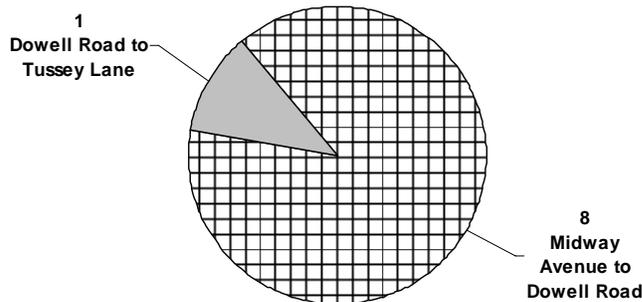


EXHIBIT 3-18. COMPARISON OF TOTAL FATALITIES FROM CRASHES IN API (1999-2005)



As shown in Exhibit 3-19, the 2005 crash rate for the rural portion is 0.42 crashes per million vehicle miles (MVM), which is lower than the 1.01 crashes per MVM for comparable rural, non-freeway Oregon highways. The 2005 crash rate for the urban portion was 2.79 crashes per MVM, which is higher than the 1.39 crashes per MVM for comparable suburban non-freeway Oregon highways.

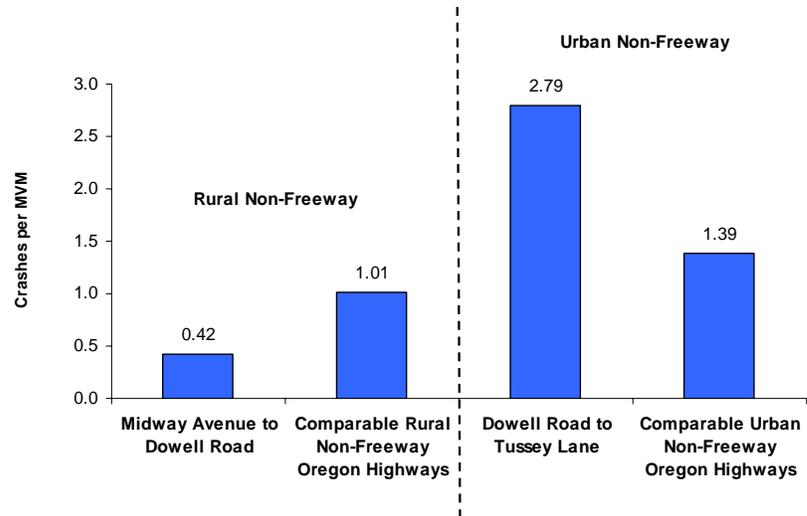
In addition to high vehicle speeds, the frequent presence of private property and commercial business driveway access points directly onto Highway 199 in the east section contributes to crashes and reduces its traffic carrying capacity. Driveways are spaced very close

Uncontrolled access

An access point that has no signage or signals to control vehicles entering or leaving a parcel.

together and provide uncontrolled access to the highway, which increases the risk of crashes.

EXHIBIT 3-19. COMPARISON OF CRASHES PER MILLION VEHICLE MILES (2005)



3.11.3 Temporary Effects

No Build Alternative

The project would not be constructed and therefore no project-related temporary effects or benefits would occur as a result of the No Build Alternative.

Alternatives A and C – Phase 1 and 2

Construction activities would cause temporary traffic delays and possibly detour vehicle trips to alternative routes. Access to businesses and residential areas may be altered due to relocation and/or modification of driveways. Pedestrians and bicyclists may experience effects from temporary closures or detouring of pedestrian and bicycle facilities. These effects would be short in duration and limited to when construction activities occur.

3.11.4 Long-Term Effects

No Build Alternative

As described in Chapter 2, the No Build Alternative assumes that other programmed and funded projects in and adjacent to the API would occur between today and 2025, regardless of whether the Highway 199 Expressway Upgrade project is constructed.

Exhibit 3-20 compares the existing year 2004 v/c ratios at several intersections with year 2025 v/c ratios under the No Build Alternative.

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

EXHIBIT 3-20. V/C RATIOS AND LOS AT VARIOUS INTERSECTIONS UNDER NO BUILD ALTERNATIVE

Major Road at Minor Road	2004		2025	
	V/C Ratios	LOS	V/C Ratios	LOS
Highway 199 at				
Redwood Avenue (west)	0.23 NB	--	0.27 NB	--
Midway Avenue	0.23 WB	--	0.23 WB	--
Arbor Ridge/Dawn Drive	0.32 WB	--	0.33 WB	--
RCC Entrance	0.28 NB	--	0.39 NB	--
Hubbard Lane	0.49 SB	--	0.83 SB	--
Willow Lane	0.34 WB L	--	0.38 WB L	--
Dowell Road	0.78	--	0.86	--
Allen Creek Road	0.72	--	0.89	--
Redwood Avenue (east)	0.75	--	0.89	--
Fairgrounds Road	1.04	--	1.88	--
Ringuette Street	0.99	--	1.24	--
Henderson Lane	0.92 WB T	--	1.04 WB T	--
Tussey Lane	0.91 WB T	--	1.04 WB	--
Highway 99 (6 th Street)	1.64	--	1.72	--
Highway 238 at				
Union Avenue	1.47	--	1.16	--
Redwood Avenue at				
Midway Avenue*	--	A (EB)	--	A (EB)
Hubbard Lane*	--	C (NB)	--	C (NB & SB)
Willow Lane*	--	D (SB)	--	F (SB)
Dowell Road ¹	--	F (NB & SB)	--	C
Allen Creek Road*	--	F (NB)	--	F (NB)
Union Avenue at				
Ringuette Street*	--	D (EB)	--	F (EB)
Demaray Drive at				
Hubbard Lane*	--	A (SB)	--	B (SB)
Willow Lane*	--	B (NB)	--	C (NB)

NB – northbound

WB – westbound

SB – southbound

L – left turn; T – through; R – right turn

Black cells – indicates the OHP mobility standard for Highway 199 (v/c = 0.70) or Highways 99 and 238 (v/c = 0.85) has been exceeded or the mobility standard for local streets (LOS D) has been exceeded.

* - unsignalized

¹ The 2025 no-build network assumes this intersection is signalized.

The analysis shows that intersections west of Hubbard Lane would continue to meet the v/c ratio standard for year 2025 volumes even though they are stop sign controlled. The intersection of Highway 199 and Hubbard Lane would fail in year 2025 due to the difficulty of making left turns onto Highway 199 from a stop sign controlled

intersection. The intersection of Highway 199 and Willow Lane would continue to meet the v/c ratio standard because the left turns have been eliminated and the intersection can handle the volumes in the current configuration even with increased traffic. As with the existing conditions, all intersections from Dowell Road through Highway 99 (6th Street) fail to meet the ODOT mobility standard.

Two of the local intersections that fail to meet the minimum LOS D standard today also would fail in 2025: Redwood Avenue at Willow Lane and Redwood Avenue at Allen Creek Road. The Redwood Avenue/Dowell Road intersection is assumed to be signalized in the future and thus, the LOS is no longer failing in the 2025 No Build Alternative. The Union Avenue/Ringuette Street intersection that is at LOS D today would fall to LOS F by 2025 No Build, due to difficulties crossing or turning onto Ringuette Street from Union Avenue. The simulation model shows that queues on the south leg of the Highway 199/Ringuette Street intersection would encroach into the Union Avenue/Ringuette Street intersection.

A traffic simulation was run using the Synchro/SimTraffic model developed to generate LOS information and MOEs to analyze the alternatives. This simulation model indicates the following:

- Peak-period traffic queues would occur in both directions of Highway 199 between Allen Creek Road and the South Y Interchange, with queues from one intersection frequently encroaching into adjacent intersections.
- Traffic turning from Allen Creek Road onto Redwood Avenue would have few traffic gaps with which to make these turns, which results in queues that extend through the Highway 199/Allen Creek Road intersection. Traffic blockages from these queues also affect traffic operations on Highway 199.
- The simulation model also indicates that there is a high probability of vehicles frequently changing lanes in order to bypass traffic queues.
- The high levels of traffic congestion on Highway 199 may encourage drivers to seek alternate routes that may include neighborhood streets, to avoid this congestion.

Safety along Highway 199 would not improve under this alternative. It would not minimize conflicts at access points since 108 conflict points would exist between Allen Creek Road and Tussey Lane. Vehicles would likely make frequent, last-minute lane changes in order to bypass intersection traffic queues, resulting in a moderate-to-high risk of sideswipe and rear-end crashes in the future.

As a result, access control would not be realized, unexpected traffic maneuvers would increase, and a decrease in crash rates would not be expected.

Exhibit 3-21 summarizes the MOEs findings under the No Build Alternative in the transportation study area.

EXHIBIT 3-21. MEASURES OF EFFECTIVENESS FINDINGS UNDER NO BUILD ALTERNATIVE

Measure of Effectiveness (MOE)	Finding
Highway 199 MOEs (Year 2025 PM peak hour)	
Travel Time (Minutes per trip: South Y Interchange to Midway Avenue)	
Eastbound	18.1
Westbound	10.6
Travel Delay (Minutes per vehicle: South Y Interchange to Midway Avenue)	
Eastbound	12.6 ¹
Westbound	3.1
Average Speed (mph)	
Eastbound	14
Westbound	24
Queues greater than two blocks (600 feet)	
Eastbound	<ul style="list-style-type: none"> • Redwood Avenue • Fairgrounds Road • Ringuette Street • South Y Interchange
Westbound	<ul style="list-style-type: none"> • Ringuette Street • Redwood Avenue
Transportation Study Area MOEs (2025 PM Peak Hour)	
Travel time (vehicle hours)	2,547
Travel distance (vehicle miles traveled)	17,348
Total delay (vehicle hours)	2,071
Environmental Measures in the Transportation Study Area	
Number of stops per vehicle ¹	3.8
Fuel used (gallons)	2,412
CO emissions (kilograms)	213

¹ It takes 18.1 minutes to travel the corridor eastbound. Of this time, 12.6 minutes is taken up by slowing or being stopped due to traffic congestion (eastbound, mostly approaching the South Y Interchange).

The No Build Alternative would also fail to:

- Minimize traffic flow interruptions, especially for large trucks

- Provide safe, convenient bicycle and pedestrian travel
- Improve connectivity of bike and pedestrian facilities across and adjacent to Highway 199
- Reduce conflicts between vehicle traffic and bicycle and pedestrian users.

Alternatives A and C – Phase 1

Alternative A involves reconfiguring the Highway 199 intersection with Allen Creek Road to shift the westbound Highway 199 turns onto Allen Creek Road and to Redwood Avenue onto a new off-ramp, which would connect to the Allen Creek Road/Redwood Avenue intersection with a new traffic signal. An access road for local access is the north leg of the new intersection and would connect to Pansy Lane.

Alternative C involves reconfiguring the Allen Creek Road/Redwood Avenue intersection from a “T” configuration to a smooth curve, north of Highway 199. A local access road forms a “T” intersection approximately 300 feet north of Highway 199 to provide access to properties east of Allen Creek Road. The Highway 199 intersection with Allen Creek Road is modified to have two westbound right-turn lanes through the signal to northbound Allen Creek Road, which is improved to have two through lanes north- and west-bound onto Redwood Avenue.

Private property access in the vicinity of the new Allen Creek Road/Redwood Avenue intersection would be modified. The traffic models developed to analyze alternatives reflect the revised access and traffic patterns.

A new median barrier and raised curb median along Highway 199 would prohibit left turns except at key intersections:

- Ringuette Street
- Allen Creek Road
- Dowell Road
- Hubbard Lane
- Midway Avenue.

The Highway 199/Fairgrounds Road intersection would become right in/right out, as would the Highway 199/Arbor Ridge Drive and Highway 199/Dawn Drive intersections. Trips were revised in the model to either use alternate routes for local circulation or make u-turns at signalized intersections.

The RCC entrance road would be reconfigured to right in/right out and left in. Left turns to go westbound on Highway 199 would need to use the alternate access onto Demaray Drive and travel to Hubbard Lane where these trips can then turn left onto Highway 199 to travel west.

The traffic models reflect the access and traffic circulation modifications. Exhibit 3-22 compares the year 2025 v/c ratios and LOS at several intersections between Alternatives A and C with the No Build Alternative.

The analysis shows that intersections west of Hubbard Lane would continue to meet the v/c ratio standard for year 2025 volumes even though they are stop sign controlled. The intersection of Highway 199 and Hubbard Lane improves due to providing left-turn lanes on Hubbard Lane to allow right-turning traffic to avoid being queued behind left-turning vehicles as is the case for the No Build Alternative. A signal would be added to this intersection when signal warrants are met.

The RCC entrance road improves due to removing left turns onto Highway 199 from the intersection. Instead, these trips were assumed to turn right and then make a u-turn at the signalized Hubbard Lane to travel west.

The intersection of Highway 199 and Willow Lane would continue to meet the v/c ratio standard because the left turns have been eliminated and the intersection can handle the volumes in the current configuration even with increased traffic.

The Highway 199 intersections with Henderson Lane and Tussey Lane improve to a satisfactory v/c ratio due to the additional capacity provided on Highway 199.

Most of the intersections along Highway 199 show improvement in v/c ratio. Although Dowell Road, Allen Creek Road, and Ringuette Street still exceed the 0.70 standard, the v/c ratio improves over No Build Alternative in all cases.

EXHIBIT 3-22. COMPARISON OF 2025 V/C RATIOS AND LOS AT VARIOUS INTERSECTIONS

Major Road at Minor Road	No Build Alternative 2025		Alternative A 2025		Alternative C 2025	
	V/C Ratios	LOS	V/C Ratios	LOS	V/C Ratios	LOS
Highway 199 at						
Redwood Avenue (west)*	0.27 NB	--	0.27 NB	--	0.27 NB	--
Midway Avenue*	0.23 WB	--	0.23 WB	--	0.23 WB	--
Arbor Ridge/Dawn Drive*	0.33 WB	--	0.33 WB	--	0.33 WB	--
RCC Entrance*	0.39 NB	--	0.25 WB	--	0.25 WB	--
Hubbard Lane	0.83 SB	--	0.52 SB L ¹	--	0.52 SB L ¹	--
Willow Lane*	0.38 WB	--	0.38 WB	--	0.38 WB	--
Dowell Road	0.86	--	0.85	--	0.85	--
Allen Creek Road	0.89	--	0.84	--	0.77²	--
Redwood Avenue (east)	0.89	--	N/A	--	N/A	--
Fairgrounds Road	1.88	--	0.48 WB*	--	0.48 WB*	--
Ringuette Street	1.24	--	0.78	--	0.78	--
Henderson Lane	1.04 WB T	--	0.64 WB	--	0.64 WB	--
Tussey Lane	1.04 WB	--	0.63 WB	--	0.63 WB	--
Highway 99 (6 th Street)	1.72	--	1.72	--	1.72	--
Highway 238 at						
Union Avenue	1.16	--	0.98	--	0.98	--
Redwood Avenue at						
Midway Avenue*	--	A (EB)	--	A (EB)	--	A (EB)
Hubbard Lane*	--	C (NB & SB)	--	C (NB & SB)	--	C (NB & SB)
Willow Lane*	--	F (SB)	--	F (SB)	--	F (SB)
Dowell Road	--	C	--	C	--	C
Allen Creek Road*	--	F (NB)	--	D	--	A
Union Avenue at						
Ringuette Street*	--	F	--	F	--	F
Demaray Drive at						
Hubbard Lane*	--	B (SB)	--	B (SB)	--	B (SB)
Willow Lane*	--	C (NB)	--	C (NB)	--	C (NB)

NB; WB; SB – northbound; westbound; southbound

L – left turn; T – through; R – right turn

Black cells – indicates the OHP mobility standard (for the No Build Alternative) or the Highway Design Manual mobility standard (for Alternatives A and C) for Highway 199 (v/c = 0.70) or Highways 99 and 238 (v/c = 0.85) has been exceeded or the mobility standard for local streets (LOS D) has been exceeded.

* - unsignalized

¹ If the Highway 199/Hubbard Lane intersection was unsignalized the v/c ratio under Alternative C would be 0.46 SB L.

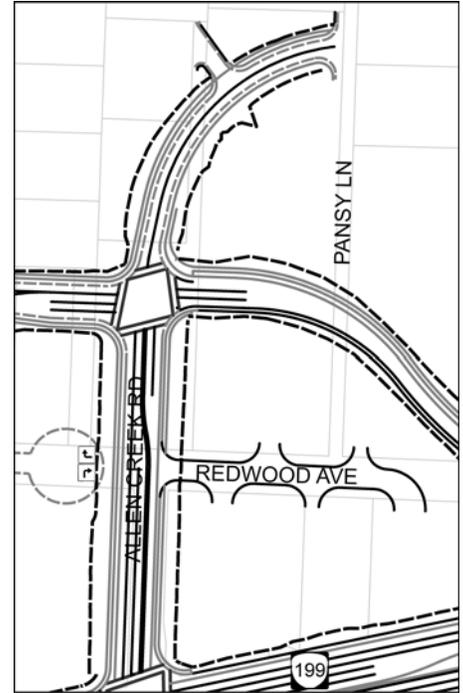
² Note that the v/c ratio is less than for Alternative A. This is due to providing two northbound through lanes in Alternative C that are not included in Alternative A due to safety reasons.

The traffic simulation model indicates that most of the traffic queuing observed in the No Build Alternative would no longer exist. There is some additional queuing eastbound approaching the South Y Interchange compared to the No Build Alternative model as the bottlenecks at Ringuette Street and at Allen Creek Road that were in the No Build Alternative model (and thus constrained the number of vehicles per hour approaching the South Y Interchange) would be removed in Alternatives A and C. The queues at the Allen Creek Road/Redwood Avenue intersection that in the No Build Alternative were encroaching into the Highway 199/Allen Creek Road intersection would not exist in Alternatives A or C.

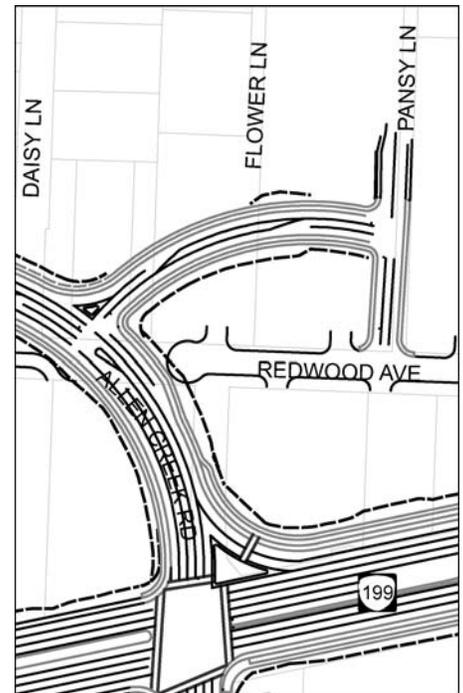
The v/c ratio for Alternative A would be higher than Alternative C at the Highway 199/Allen Creek Road intersection; but still lower than under the No Build Alternative. This is because Alternative A would include only one northbound through lane but Alternative C would provide two northbound through lanes (and the existing double left-turn configuration is reduced to a single lane). Two through lanes are not recommended in Alternative A due to the following safety reasons:

- The left-lane would become a “trap” lane for the left turn at Redwood Avenue, which is uncommon and could lead to unexpected weaving of vehicles to the right to avoid being trapped in the left-turn lane.
- Alternative A retains the commercial driveway on the east side of Allen Creek Road on the north side of Highway 199 whereas this access is modified to the side access road in Alternative C. In Alternative A, this driveway would be right in/right out. Under a two-lane scenario, there is a high potential for vehicles to exit the driveway and quickly weave across two lanes of Allen Creek Road to make the left turn onto Redwood Avenue (or the u-turn to head south on Allen Creek Road back to Highway 199). This is a short distance for this maneuver that would likely increase the crash rate and adversely affect traffic operations of northbound Allen Creek Road. The single-through-lane scenario minimizes this risk.

On the local system, two of the three intersections that failed the LOS D standard in the No Build Alternative would continue to fail



Alternative A retains the commercial driveway east of Allen Creek Road. This driveway would be right in/right out.



Under Alternative C, the commercial driveway is modified with a cul-de-sac.

under Alternatives A and C. The exception is the Redwood Avenue/Allen Creek Road intersection which under each alternative is replaced with a modified and signalized intersection that improves the LOS to D under Alternative A and a LOS A under Alternative C; both are satisfactory levels.

The access management improvements of Alternatives A and C would help to minimize conflicts along Highway 199 between Allen Creek Road and Tussey Lane by reducing the number of potential conflict points to approximately 65 (Alternative A) and 64 (Alternative C); approximately 40 percent fewer than the No Build Alternative. It is expected that a reduced number of conflict points would reduce crashes; thereby increasing safety along the highway.

The improvement in traffic operations and the removal of most of the traffic queues observed in the No Build Alternative should improve safety and reduce crashes in Alternatives A and C compared to the No Build Alternative. The potential for traffic diversion onto parallel, neighborhood streets is reduced.

In addition, compared to the No Build Alternative, Alternatives A and C would:

- Reduce traffic flow interruptions, especially for large trucks
- Provide safe, convenient bicycle and pedestrian travel
- Improve connectivity of bike and pedestrian facilities across and adjacent to Highway 199
- Reduce conflicts between vehicle traffic and bicycle and pedestrian users
- Alleviate vehicle queuing which in turn reduces the risk of crashes due to lane changing and unexpected driver maneuvers.

Exhibit 3-23 provides a comparison of the MOE findings under Alternatives A and C with the No Build Alternative in the transportation study area. Exhibit 3-24 shows the total travel time, breaking out travel time and stopped time, westbound and eastbound between Midway Avenue and the South Y Interchange. Exhibit 3-25 shows the intersections that would experience major queues during the 2025 PM peak hour.

EXHIBIT 3-23. COMPARISON OF MEASURES OF EFFECTIVENESS

Measure of Effectiveness (MOE)	Findings per Alternative		
	No Build Alternative	Alternative A	Alternative C
Highway 199 MOEs (Year 2025 PM peak hour)			
Travel Time (Minutes per trip: South Y Interchange to Midway Avenue)			
Eastbound	18.1	13.2 ¹	13.4 ¹
Westbound	10.6	7.6	7.6
Travel Delay (Minutes per vehicle: South Y Interchange to Midway Avenue)			
Eastbound	12.6	7.8 ²	7.4
Westbound	3.1	2.0	1.7
Average Speed (mph)			
Eastbound	14	19	19
Westbound	24	33	35
Queues greater than two blocks (600 feet)			
Eastbound	<ul style="list-style-type: none"> • Redwood Avenue • Fairgrounds Road • Ringuette Street • South Y Interchange 	<ul style="list-style-type: none"> • South Y Interchange (through Ringuette Street) 	<ul style="list-style-type: none"> • South Y Interchange (through Ringuette Street)
Westbound	<ul style="list-style-type: none"> • Ringuette Street • Redwood Avenue 	<ul style="list-style-type: none"> • n/a 	<ul style="list-style-type: none"> • n/a
Transportation Study Area MOEs (2025 PM Peak Hour)			
Travel time (vehicle hours)	2,547	1,943	1,968
Travel distance (vehicle miles traveled)	17,348	18,827	19,691
Total delay (vehicle hours)	2,071	1,408	1,406
Environmental Measures in the Transportation Study Area			
Number of stops per vehicle ¹	3.8	3.2	2.6
Fuel used (gallons)	2,412	2,290	2,321
CO emissions (kilograms)	213	185	175
¹ Large traffic backups caused by South Y Interchange congestion affects eastbound travel time. ² It takes 13.2 minutes to travel the corridor eastbound. Of this time, 7.8 minutes is taken up by slowing or being stopped due to traffic congestion (eastbound, mostly approaching the South Y Interchange).			

EXHIBIT 3-24 YEAR 2025 PM PEAK HOUR TRAVEL TIME

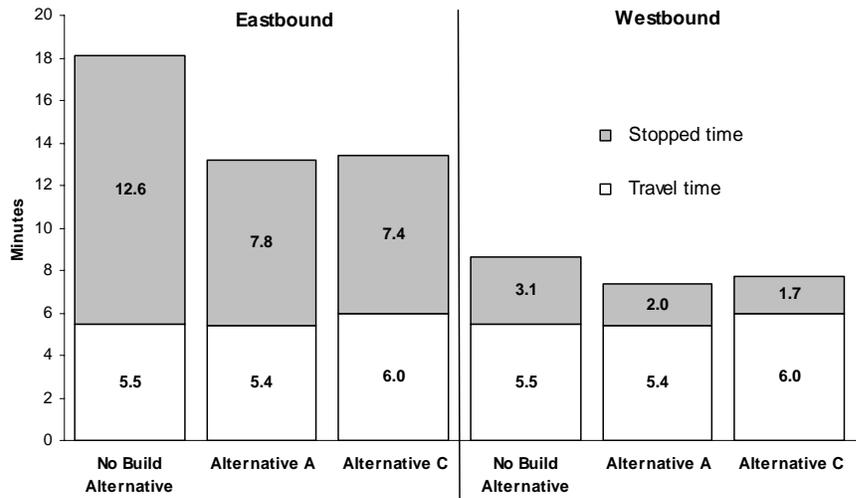
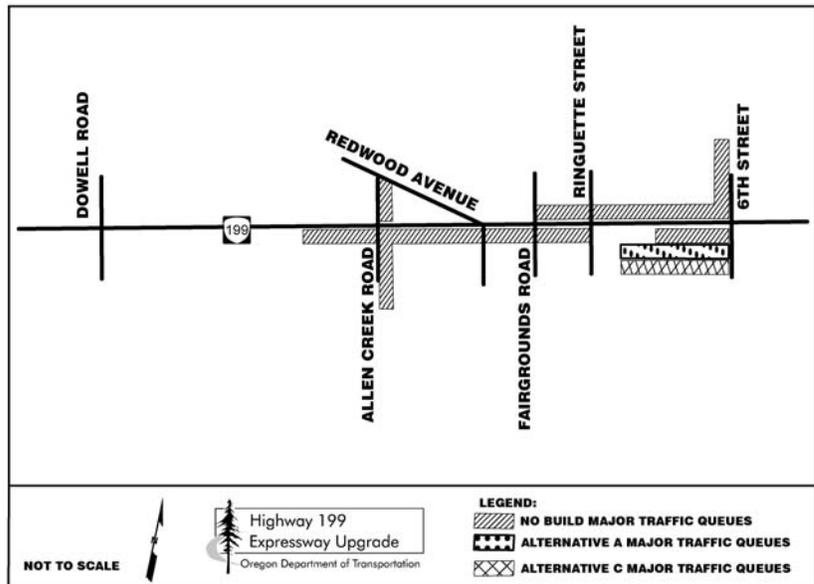


EXHIBIT 3-25. YEAR 2025 PM PEAK HOURS MAJOR QUEUES



Positive benefits would be realized under both Alternatives A and C in all measured categories over the No Build Alternative, with the exception of vehicle miles traveled (VMT). Differences in VMT would likely be due to more traffic attracted to the study area under Alternatives A and C, more vehicles being able to travel through the Highway 199 corridor and the adjacent road system in the peak hour compared to the No Build Alternative due to reduced traffic queues and stopped vehicles, and slightly longer trip lengths due to access management and the access road along Highway 199. Increases in VMT would be more than offset by reductions in travel time, delay, fuel consumption, and pollutants.

Alternatives A and C would eliminate the major queuing at the intersection of Highway 199 and Redwood Avenue, Fairgrounds Road, and Ringuette Street (Exhibit 3-25). However, the capacity increases under Alternatives A and C would allow more traffic to move through the corridor, which causes the eastbound queues at the South Y Interchange to be moderately longer than under the No Build Alternative. Still, even with congestion at the South Y Interchange, there would be overall improvements to the transportation system as well as improvements in the Highway 199 corridor as a result of Alternatives A and C. For example, a reduction in overall travel time between Midway Avenue and the South Y Interchange would occur as a result of eliminating major queues at Redwood Avenue, Fairgrounds Road, and Ringuette Street; the eastbound travel time would be reduced by approximately 5 minutes under Alternative A and approximately 5.5 minutes under Alternative C and westbound travel time is reduced by approximately 1.5 minutes under both alternatives (Exhibit 3-24).

There are measurable improvements, on the order of 8-10 percent, between Alternatives A and C and the No Build Alternative in terms of travel time, delay, fuel consumption, and air pollutant emissions due to the removal of two traffic signals and adding an additional travel lane in each direction between Dowell Road and Tussey Lane.

The difference between Alternative A and Alternative C in the area of Allen Creek Road would result in Alternative C having an improvement in traffic speeds and travel times; however, this is offset by a slight increase in overall vehicle miles traveled. These differences are likely as a result of the smooth connection between Allen Creek Road and Redwood Avenue in Alternative C as opposed to a “T” intersection in Alternative A, as well as differences in private property and local access adjacent to this intersection between the two alternatives. However, the differences between the two are minor.

Alternatives A and C – Phase 2

Phase 2 improvements would be expected to further improve access management, safety, and traffic flow on Highway 199. This results primarily from reducing the number of access points on Highway 199 between the Fairgrounds Road and Tussey Lane.

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

3.11.5 Indirect and Cumulative Effects

Improvements under Alternatives A and C would increase capacity and mobility in the project corridor. As a result, indirect effects could include increased traffic, noise, and glare from vehicles. Alternatives A and C would eliminate the major queuing along Highway 199 that would be observed under the No Build Alternative; however, this would have the indirect effect of moderately longer eastbound queues at the South Y Interchange as some of the existing bottlenecks to the west of the interchange would be eliminated due to capacity increases, thereby allowing more traffic to “get through” to the South Y Interchange over the peak hours.

Induced traffic along Highway 199 would be expected as a result of the capacity and mobility improvements. This would primarily be the result of increased trips from new developments in the transportation study area and from trips that were previously diverted due to the existing congestion and increase in travel costs. When compared to the increase in trips generated from new developments, the induced trips that are a diversion from other routes would be minimal as there are very few, if any, viable alternative routes onto which traffic presently has been diverted.

These same improvements, in combination with other past, present, and foreseeable future projects, would have positive cumulative effects on traffic movements and the transportation system by improving mobility, level of service and multimodal transportation.

3.12 Visual Quality

3.12.1 Methods and Coordination

Analysis of visual quality follows guidance described in the Federal Highway Administration (FHWA) Visual Impact Assessment for Highway Projects, which provides guidance for documenting visual resources (USDOT, 1988). The FHWA document also describes how to quantitatively assess a view’s visual quality, which is composed of three components: vividness, intactness, and unity. Visual quality is calculated for each view and is the average of these three components. The existing visual quality scores are compared to the proposed visual quality scores for each alternative.

The following visual resources reports were prepared for this project:

- Visual Quality Baseline Report
- Visual Quality Technical Report

These reports provide additional detail and can be found on the project website at: http://www.oregon.gov/ODOT/HWY/REGIO/N3/h199e_index.shtml

$$\text{Visual Quality} = \frac{\text{Vividness} + \text{Intactness} + \text{Unity}}{3}$$

3.12.2 Baseline Conditions

Visual resources in and visible from the API include a primarily flat landscape (with views of distant mountains and rolling hills), some stands of coniferous and deciduous trees, and a mixture of unremarkable manmade development that is generally more urban on the east end of the corridor and more rural on the west end.

The API is divided into three landscape units. Each landscape unit is characterized by a relatively consistent visual character throughout the unit (i.e., highly developed and urban). Representative views were selected in each landscape unit, and the visual quality scores for each view were determined. Exhibit 3-26 shows the existing visual quality scores for each of the views by landscape unit.



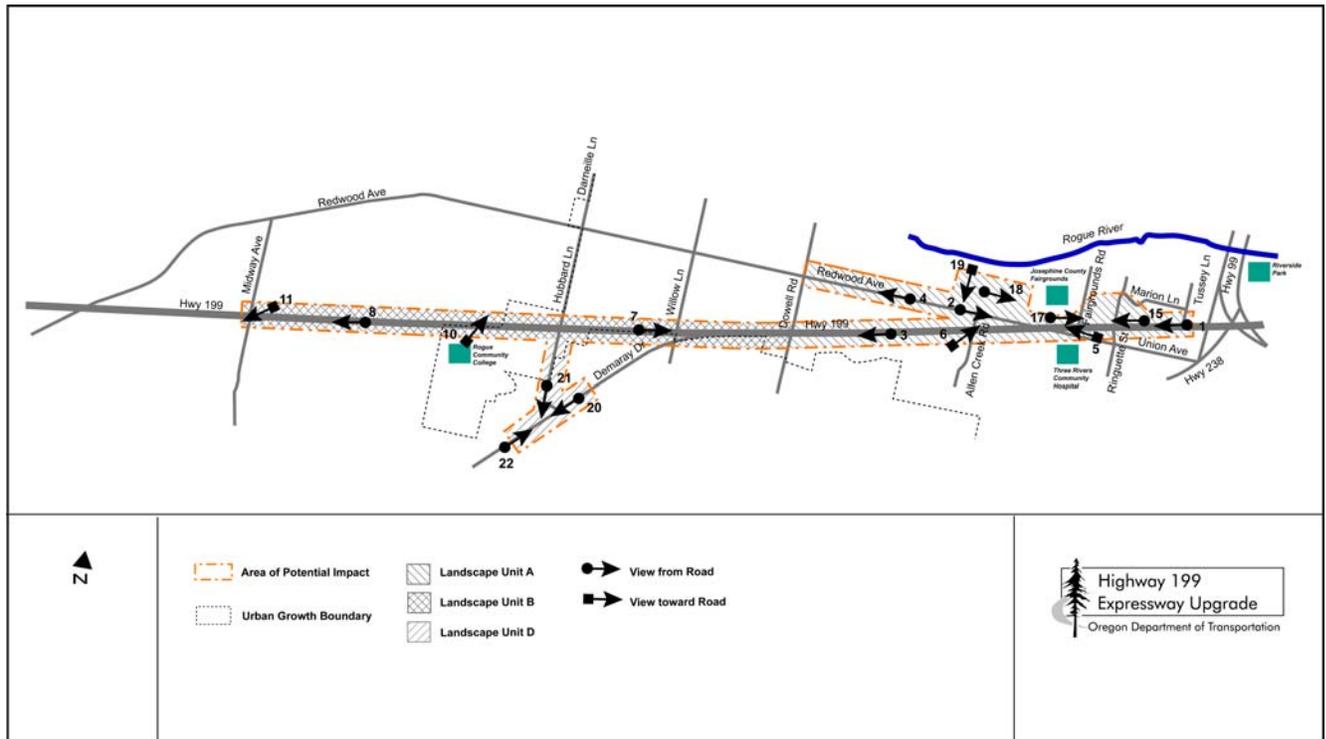
Landscape Unit A – View 1
Existing Visual Quality = Very Low
(Highway 199 at Tussey Lane)

EXHIBIT 3-26. EXISTING VISUAL QUALITY SCORES FOR THE API

Landscape Unit	View Number	From or Toward Road	VIVIDNESS					INTACTNESS			UNITY			OVERALL VIEW AVERAGE
			Landform	Water	Vegetation	Manmade	Average	Integrity of Visual Pattern	Encroachments	Average	Between Manmade & Natural	Overall	Average	
A	1	F	1	n/a	1	1	1	1	1	1	1	1	1	1
	2	F	5	n/a	3	1	3	2	4	3	2	2	2	3
	3	F	5	n/a	2	1	3	2	3	3	1	1	1	2
	4	F	5	n/a	2	1	3	2	4	3	2	2	2	3
	5	T	1	n/a	1	1	1	1	1	1	1	1	1	1
	6	T	1	n/a	1	1	1	1	2	2	1	1	1	1
	15	F	1	n/a	1	1	1	1	1	1	1	1	1	1
	16	F	4	n/a	3	1	3	2	4	3	2	2	2	3
	17	T	2	n/a	1	1	1	1	1	1	1	1	1	1
	18	F	4	n/a	4	1	3	3	3	3	3	3	3	3
19	T	1	n/a	1	1	1	1	1	1	1	1	1	1	
B	7	F	6	n/a	5	1	4	4	4	4	4	4	4	4
	8	F	5	n/a	7	4	5	6	6	6	5	7	6	6
	10	T	6	1	6	4	4	5	5	5	5	5	5	5
	11	T	5	n/a	7	4	5	6	6	6	5	7	6	6
D	20	F	2	n/a	7	4	4	6	6	6	5	7	6	5
	21	F	2	n/a	6	4	4	5	5	5	5	5	5	5
	22	F	2	n/a	7	4	4	6	6	6	5	7	6	5

The scores range from 1 (very low) to 7 (very high). The landscape units are mapped in Exhibit 3-27. Existing visual quality scores range from very low (1) to high (6), but in general visual quality in the API is considered average (4).

EXHIBIT 3-27. LANDSCAPE UNITS AND LOCATION AND ORIENTATION OF VIEWS



Planning requirements in the Comprehensive Plan for Josephine County (2001) related to visual quality include:

- To preserve and maintain agricultural lands and the rural character of Josephine County.
- To preserve valuable natural resources, unique natural areas, and historic features.

Planning requirements in the City of Grants Pass & Urbanizing Area Comprehensive Community Development Plan related to visual quality include:

- To conserve, restore and enhance the area’s scenic river, historic and natural resources.
- To maintain and improve the quality of the air, water, and land resources of the area.

Required Permits Related to Visual Quality

A City of Grants Pass encroachment permit to plant, prune, root prune, remove, kill, or disturb a tree in the right of way would be required. Once applied for, the encroachment permit usually takes no more than two business days to acquire.

Trees located in the right of way are regulated and controlled by City of Grants Pass ordinance. An encroachment permit is required to plant, prune, root prune, remove, kill, or disturb a tree in the right of way.

3.12.3 Temporary Effects

Under the No Build Alternative, construction of this project would not occur so there would be no related construction activity effects or benefits.

The temporary effects and benefits on visual quality are similar throughout the API and between Alternatives A and C. Temporary negative effects to visual quality would be from a degree of disorder and manmade elements in the API such as: construction equipment and workers, material stockpiles, debris, signs, high-visibility fencing, staging areas, temporary work platforms, demolition activities, light and glare, and the potential increase in traffic congestion. Grading and vegetation removal could alter existing views, which would be temporary if these areas are rehabilitated after construction. A benefit of construction would be that driving speeds would likely be reduced giving viewers more time to experience a view.

3.12.4 Long-Term Effects

No Build Alternative

Under the No Build Alternative, traffic congestion in the API would worsen over time. Increased light and glare from cars and trucks would disrupt existing key views, and the increased presence of cars, trucks, pedestrians, and bicyclists would add more disorder to many views.

Alternatives A and C – Phase 1

The existing and proposed visual quality scores are compared by landscape unit between Alternatives A and C (see sidebar). The effects to visual resources and overall visual quality between Midway Avenue and Dowell Road would be the same for both alternatives. The visual quality of the proposed views in this segment would remain the same as the visual quality of the existing views (5 = moderately high). There would be minor visual impacts such as some vegetation removal, minor terrain modification, and the addition of a median barrier or raised curb median, but none of the

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

For a view by view comparison of the effects to visual quality scores for Alternative A and C, please see the Highway 199 Expressway Upgrade Project Final Visual Quality Technical Report.

Landscape Unit	Existing Visual Quality	Alt A	Alt C
		Proposed Visual Quality	Proposed Visual Quality
Midway Ave to Dowell Rd	5	5	5
Dowell Rd to Fairgrounds Rd	2	2	2
Fairgrounds Rd to Tussey Ln	1	2	2



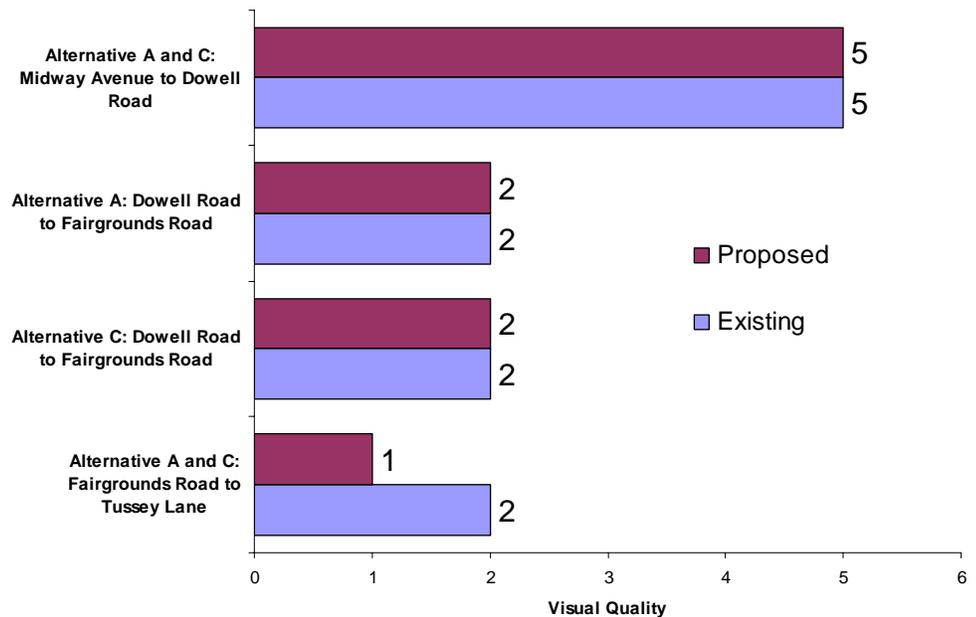
Landscape Unit A – View 5
 Proposed Visual Quality = Low
 (Highway 199 looking toward intersection
 with Fairgrounds Road)

impacts to visual resources would be substantial enough to decrease the visual quality scores of the views in this segment.

Between Dowell Road and Fairgrounds Road, the effects to visual resources and views would be slightly different under Alternatives A and C. Individual views would experience different visual effects depending on the alternative. However, overall, the visual quality of the proposed views in this segment would remain the same as the visual quality of the existing views (2 = low) for both alternatives. Generally, the negative effects such as vegetation removal and increased encroachment by widened or new roads would be offset by benefits such as decreased congestion and a more visually ordered roadway and highway.

The effects to visual resources and overall visual quality between Fairgrounds Road and Tussey Lane would be the same for both alternatives. The visual quality of the proposed views in this segment would be low (2) while the visual quality of the existing views is very low (1) (Exhibit 3-28). This improvement stems largely from a decrease in visually distracting congestion and addition of planter strips along the highway curb and defined driveways and sidewalks.

EXHIBIT 3-28. COMPARISON OF VISUAL QUALITY SCORES BETWEEN ALTERNATIVE A AND ALTERNATIVE C



Alternatives A and C – Phase 2

If Phase 2 were to be constructed, views would likely change somewhat, but the overall visual quality in this area would likely not

be substantially negatively affected because the existing visual quality of views is low or very low.

3.12.5 Indirect and Cumulative Effects

Collectively, the project along with other improvements could increase development in the area, particularly roads, intersections, and related structures. The collective effects would be expected to be approximately the same for both alternatives. These facilities could change the character of the area to become more urbanized.

Conversely, transportation improvements may reduce traffic congestion which would in turn reduce encroachment and distraction from existing views. These collective benefits would be expected to be approximately the same for both alternatives.

On the other hand, new roads and associated improvements can also increase encroachment on visual elements and contribute to the segmentation of existing landscape views, such as those of fields and forests. The addition of potentially distracting visual elements such as reflective signs or streetlights may lead to increased spillover of light into rural, naturally lit environments.

The project would also contribute to the collective removal of vegetation in the API. This would negatively affect existing views by decreasing the color, form, texture, and line elements that trees and shrubs provide.

3.13 Water Resources

3.13.1 Methods and Coordination

Information on water resources and water quality in the API was collected from the Oregon Department of Environmental Quality (DEQ, 2002). Flood Insurance Rate Maps (FIRMs) (FEMA 1991a,b and 1982a,b,c) from the Federal Emergency Management Agency (FEMA) were reviewed for the API to determine whether the roadway segments were likely within or near the 100-year or 500-year floodplain. A site visit was performed in winter 2005 to verify the existing water quality data that was collected.

Pollutants carried by stormwater runoff from impervious paved surfaces were calculated following the protocol developed by FHWA (Driscoll, *et al.* 1990). Pollutant concentrations were estimated for

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.



Existing vegetation provides color, form, texture, and line features that enhance visual quality.

The following water resources reports were prepared for this project:

- Water Resources Baseline Report
- Water Resources Technical Report

These reports provide additional detail and can be found on the project website at:

http://www.oregon.gov/ODOT/HWY/REGIO_N3/h199e_index.shtml

Pollutants

Pollutants of concern to water resources and water quality include copper, zinc, and total suspended solids (TSS). TSS are solids in water that can be trapped by a filter. TSS can include a wide variety of material, such as silt, decaying plant and animal matter, industrial wastes, and sewage. High concentrations of dissolved metals and suspended solids can cause many problems for stream health and aquatic life.

Stormwater Runoff

Stormwater runoff is the portion of precipitation (rainwater or snowmelt) that does not naturally seep into the ground or evaporate, but flows overland via ditches, surface flow, pipes, or other features into a defined surface water or treatment facility.

Impervious Surface

An impervious surface is any surface, such as a rooftop, sidewalk, road, parking lot, and compacted urban soils, that prevents rain from passing through or penetrating and moving into soils as it would naturally.

Net New Impervious Surface

A net new impervious surface is the amount of impervious surface created by the project.

Fecal Coliform

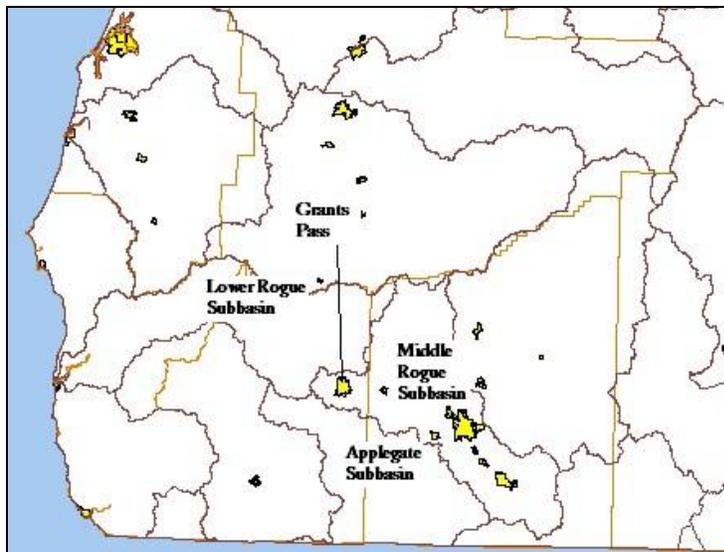
Fecal coliform are microorganisms that live in large numbers in the intestines of man and warm-blooded animals. One common type is *Escherichia coli* (*E. coli*). The presence of fecal coliform bacteria in aquatic environments indicates that the water has been contaminated with the fecal material of man or other animals.

the existing impervious surface associated with the No Build Alternative and the net new impervious surface for Alternatives A and C. The amount of specific pollutants (copper, zinc, and total suspended solids (TSS)) entering waterbodies were calculated for the No Build Alternative, Alternative A, and Alternative C, and were compared to State of Oregon water quality criteria.

3.13.2 Baseline Conditions

The API is in the Middle Rogue subbasin of the Southern Oregon Coastal basin (Exhibit 3-29). Specific waterbodies in the API include Sand Creek and Allen Creek.

EXHIBIT 3-29. SOUTHERN OREGON COASTAL BASIN MAP

*Water Quality*

The API has important water quality considerations because it crosses two tributaries of the Rogue River (Sand Creek and Allen Creek), which support species listed under the Endangered Species Act (ESA), such as Coho salmon. Furthermore, DEQ has determined that the Rogue River does not currently meet water quality standards. DEQ has included the segment of the Rogue River in the vicinity of the API (river miles 94.9 to 110.7) on its list of water quality impaired rivers because it does not meet water quality standards for fecal coliform during summer months or temperature year round.

Sand Creek and Allen Creek are not 303(d) listed waterbodies.

Stormwater Runoff

Stormwater runoff from road surfaces that enters nearby waterbodies can be a source of water pollution. Since Highway 199 crosses tributaries to the Rogue River, and has an ADT over 30,000, the improvements would require water quality mitigation. In the API, there are approximately 48 acres of existing impervious surface associated with Highway 199 and 11 acres of existing impervious surface associated with other roads and driveways. Stormwater runoff flows from the pavement (impervious surface) into adjacent ditches; these ditches either drain into property north of Highway 199 or into Sand Creek or Allen Creek. Although no formal stormwater facilities treat stormwater runoff, the existing roadside ditches do provide some water quality treatment. Good water quality is essential for the proper functioning of wetland, riparian, and other surface water habitats. Salmon, other resident fish, and other aquatic organisms are found in the API.

Floodplains

The API crosses Sand Creek and Allen Creek, and while it is relatively close to the Rogue River, the API is located outside of the mapped 500-year floodplain of the Rogue River. FEMA has not mapped the floodplains for Sand Creek or Allen Creek.

Drainage Tributary Areas

Three drainage tributary areas (DA 1, DA 2, and DA 3) were identified as being up gradient (south) of Highway 199 in the API. Exhibit 3-30 shows the location of each drainage tributary area within the API. The drainage tributary areas are delineated according to their topographical divide and discharge location to tributaries to the Rogue River. Drainage tributary area 1 extends slightly to the west of the API and generally drains to agricultural lands north of Highway 199. Those agricultural lands eventually drain to Sparrowhawk Creek outside of the API. Drainage tributary area 2 drains into Sand Creek while drainage tributary area 3 drains into Allen Creek. These three drainage tributary areas represent a total drainage area of 1,128 acres (1.76 square miles).

3.13.3 Temporary Effects

Under the No Build Alternative, construction of this project would not occur so there would be no related construction activity effects or benefits.

Existing Impervious Surface Area

- Highway 199: 48 acres
 - Other roads and driveways: 11 acres
-

Wetlands

Wetlands are areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. In these areas, filling and development are regulated by state and federal laws.

Riparian Areas

Riparian areas are those that are connected with or immediately adjacent to the banks of a stream.

500-Year Floodplain

A floodplain is any land area susceptible to inundation (flooding) by water from any source. The 500-year floodplain is the bound of the flood that has a 0.2 percent chance of being equaled or exceeded in any given year.

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

Erosion

Erosion is the displacement of solids (soil, mud, rock and other particles) by the agents of wind, water or ice, by downward or down-slope movement in response to gravity or by living organisms (in the case of bioerosion).

The temporary effects and benefits from construction that are related to water quality and water resources are similar throughout the API and between Alternatives A and C. Water quality concerns during construction could include erosion from exposed soils in construction and staging areas, stormwater runoff from soils that have not yet been revegetated after construction, pollutants from staging areas, and potential spillage of uncured concrete. During construction, eroded soils and pollutants could enter Sand Creek or Allen Creek, causing negative effects to water quality and aquatic life. The removal of vegetation, exposure of soil to erosion, loss of pollutant filtering capacity, and loss of shading if adjacent to a stream during construction could worsen water quality effects until replaced.

3.13.4 Long-Term Effects

No Build Alternative

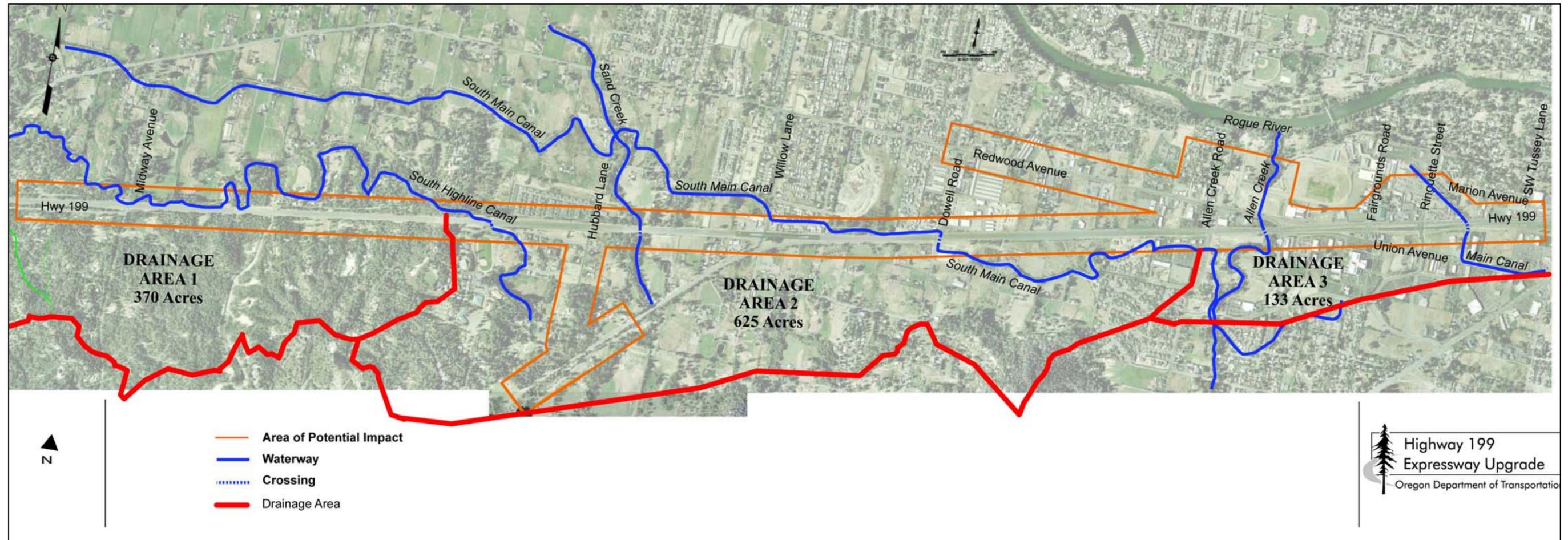
Under the No Build Alternative, the existing Highway 199 facility could continue to treat stormwater as it does now. With a gradual but steady increase in traffic volumes over time, there would be a potential that highway runoff pollution could exceed the levels currently generated, which would lead to increases in sediment, suspended solids, metals, and petroleum contaminants, primarily in Allen Creek, and to a lesser extent in Sand Creek. Under the No Build Alternative, the negative effects on water quality would be greater than Alternatives A and C.

The current condition of the roadway shows that Highway 199 is not contributing to exceedance of water quality standards for copper, zinc, and TSS. The modeled 3-year in-stream concentrations of copper and zinc are very close to the acute ambient water quality criteria but are not predicted to exceed them for any of the three drainage tributary areas. In addition, since almost all of the roadway runoff currently enters either vegetated ditches or pervious (undeveloped) lands adjacent to the right of way, the predicted 3-year concentrations are not likely to be found in Sand or Allen Creeks.

Alternative A – Phase 1

The primary long-term effect to water resources would be a net increase in the amount of impervious surface and the resulting additional pollutant load on the water resources within the API.

EXHIBIT 3-30. DRAINAGE TRIBUTARY AREAS AND WATER RESOURCES WITHIN THE API



Alternative A would result in 15 acres of new right of way, with 5.5 acres associated with expanding Highway 199 (bringing the total to 126.6 acres) and 9.5 acres associated with the modifications to the local street network including the new connection to Pansy Lane. Alternative A would result in 7.0 acres of net new impervious surface for Highway 199 and 4.2 acres of net new impervious surface for the local street network. The total amount of impervious surface associated with this project would be 70.6 acres. The total amount of net new impervious surface is 11.2 acres. A total of 10.3 acres of impervious surface would be routed through new stormwater treatment facilities. These facilities would treat the 7.0 acres of net new impervious surface for Highway 199 plus 3.3 acres of existing impervious for Highway 199. The 4.2 acres of net new impervious surface associated with the surface street network would continue to be treated under baseline conditions which include sheet flow to adjacent vegetated ditches and pervious (undeveloped) lots adjacent to the streets. Stormwater conveyance, detention, and treatment would be designed, constructed and maintained according to the recently updated ODOT Hydraulics Manual, 2006.

Water pollution concentrations and annual loads were calculated for tributary drainage areas for copper, zinc, and TSS using the same methods as the No Build Alternative. Water pollution concentrations and annual loads were calculated assuming both no treatment and treatment provided by vortex manhole units, bio-swales, and detention ponds/vaults. In general, the water pollution concentrations and annual loads were greater for Alternative A with no mitigation than those predicted for the No Build Alternative. Mitigation provided by the stormwater treatment components would decrease the pollutant loads to levels less than baseline conditions. Mitigation provided by the stormwater treatment facilities would ensure that the 3-year, in-stream concentrations of copper and zinc remain below acute water quality criteria.

Alternative C – Phase 1

Alternative C would result in 13 acres of new right of way, with 6 acres associated with expanding Highway 199 (bringing the total to 127.1 acres) and 7 acres associated with the modifications to the local street network including the new connection to Pansy Lane. Alternative C would result in 6.3 acres of net new impervious surface for Highway 199 and 2.7 acres of net new impervious

surface for the local street network. The total amount of impervious surface associated with this project would be 69.1 acres. The total amount of net new impervious surface is 10.5 acres. A total of 10.7 acres of impervious surface would be routed through new stormwater treatment facilities. These facilities would treat the 6.3 acres of net new impervious surface for Highway 199 plus 4.4 acres of existing impervious for Highway 199. The 2.7 acres of net new impervious surface associated with the surface street network would continue to be treated under baseline conditions which include sheet flow to adjacent vegetated ditches and pervious (undeveloped) lots adjacent to the streets. Stormwater conveyance, detention, and treatment would be designed, constructed and maintained according to the recently updated ODOT Hydraulics Manual, 2006.

Water pollution concentrations and annual loads were calculated for tributary drainage areas for copper, zinc, and TSS using the same methods as the No Build Alternative. Water pollution concentrations and annual loads were calculated assuming both no treatment and treatment provided by vortex manhole units, bio-swales, and detention ponds/vaults. In general, the water pollution concentrations and annual loads were greater for Alternative C with no mitigation than those predicted for the No Build Alternative. Mitigation provided by the stormwater treatment components would decrease the pollutant loads to levels less than baseline conditions. Mitigation provided by the stormwater treatment facilities would ensure that the 3-year, in-stream concentrations of copper and zinc remain below acute water quality criteria.

Alternative A and C – Phase 2

If Phase 2 is constructed, it would likely increase the amount of impervious surface within the project area associated with the surface street network. The Phase 2 roadway should be designed such that stormwater runoff from the new impervious surface is routed into either vegetated swales or allowed to sheetflow into adjacent undeveloped (pervious) land. This would minimize water quality impacts on Allen Creek.

3.13.5 Indirect and Cumulative Effects

Indirect impacts related to project area water quality could include impacts to habitat and wetlands addressed in the Biology and Wetlands Technical Reports. In addition, indirect impacts include

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

water quality effects that propagate downstream. Although reaches of the Rogue River downgradient of the API are listed by the DEQ as waters of concern for temperature and fecal coliform, the project is not expected to exacerbate these problems. The project would not add to the problems associated with fecal coliform as roadways are not typically sources of concern for fecal coliform. It is not likely that the project could increase those problems associated with downstream temperature as any water held in detention ponds would occur during the winter, which would not be warmed. The impacts would be small as the API is a relatively small area of the Middle Rogue River watershed.

Water quality can be affected by water quantity. Decreases in baseflow create higher concentrations because pollutants are less diluted. Because flow control design standards are included in the project, secondary impacts due to water quantity should be minimal. Flow control would be applied to existing and new impervious surfaces, as well as converted pervious surfaces.

The project could also have impacts on stormwater runoff in the watershed by adding between 7 and 7.8 acres of new impervious surface to Highway 199 and between 2.7 and 4.2 acres of new impervious for the surface street network. However, because stormwater detention and treatment for runoff from Highway 199 would be part of the project, these effects would be mitigated. In fact, the project treats more net new impervious surface (between 10.3 and 10.7 acres) on Highway 199 than it creates, so it may provide a slight cumulative benefit to the watershed.

The 2.7 and 4.2 acres of net new impervious surface associated with the surface street network would continue to be treated under baseline conditions which include sheet flow to adjacent vegetated ditches and pervious (undeveloped) lots adjacent to the streets. These streets are not expected (nor are they designed) to carry the same traffic volume as Highway 199. Consequently, the pollutant loading associated with the surface street network is expected to be substantially less than the pollutant loading associated with Highway 199.

Impacts to water quality from this project would be cumulative with other projects taking place nearby. This project and other projects taking place nearby have turbidity and suspended solids as the

primary water quality concern. Land conversion from pervious to impervious surfaces can cause increased stormwater runoff, with possible increased erosion, decreased infiltration, and decreased water quality. The larger road projects may have impacts from petroleum contaminants. However, these projects would be designed, constructed, and maintained following ODOT's requirements and the resulting impacts should be minimal.

3.14 Wetlands

The following wetlands reports were prepared for this project:

- Wetlands and Water Resources Baseline Report
- Wetlands Technical Report

These reports provide additional detail and can be found on the project website at:

http://www.oregon.gov/ODOT/HWY/REGIO_N3/h199e_index.shtml

3.14.1 Methods and Coordination

Preliminary information gathering included review of aerial photographs, US Geological Survey (USGS) Quadrangle Maps, National Resource Conservation Service (NRCS Soil Survey) Reports and Maps, National Wetland Inventory (NWI) Maps, Local Wetland Inventory (LWI) Maps, Oregon Department of State Lands (DSL) Essential Salmonid Habitat Maps and other resources.

USGS Quadrangle Maps provided topographic data, major drainage features and general land uses. The Official Soil Series Descriptions provided detailed information on soil forming processes, climate, geology and geography. Approximate wetland locations and boundaries were identified using the Grants Pass Local Wetlands Inventory GIS layer and National Wetlands Inventory Maps. The Grants Pass Wetlands Resource Plan was reviewed for baseline information and local development codes. ODOT's GIS system provided aerial photographs, general location/presence of irrigation systems, land use and development information, and other spatial data.

Several site visits and field investigations were completed. A pedestrian survey was conducted to ground-truth site conditions. Wetlands were identified in accordance with the USACE *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) and the DSL administrative rules for wetland determinations (OAR 141-090-0005 through 141-090-0055, 2006). Level 2 of the routine method was chosen to conduct the on-site wetland determination.

Wetlands and water resources were characterized by observed vegetation, hydrology, adjacent land uses, and landscape position. Identified wetlands were flagged in the field and mapped on color

Information on wetlands in the API was obtained from:

- US Geological Survey Quadrangle Maps
 - Official Soil Series Descriptions
 - Natural Resources Conservation Service Soil Survey Report and Maps
 - National Wetland Inventory Maps and Classifications
 - Local Wetland Inventory Maps
 - Federal Emergency Management Agency Floodway Maps
-

aerial photographs using field measurements. Field mapped boundaries were converted to microstation (.dgn) files. Due to the fact that no access to private property was obtained, depicted wetlands and impact areas are provided as a NEPA project planning aid and do not represent delineated wetlands.

Coordination was performed with the project management team (PDT), local planners and state and federal natural resource agencies including DSL, USACE, ODFW, NMFS, and USFWS.

3.14.2 Baseline Conditions

The API is in a rapidly urbanizing portion of the City of Grants Pass and Josephine County. Urban development and poor water conservation practices have drastically affected the extent and distribution of wetlands and water resources in the API. Irrigation ditches, roadside ditches, and extensive impervious surfaces have altered natural hydrologic processes and have limited the functional capacity of wetlands and water resources as well as affecting peak and base flows by increasing runoff and decreasing retention.

The NRCS Soil Survey identifies ten soil types within the project area. Two soil types are listed as hydric soils, but most of the soils may contain hydric properties. Exhibit 3-31 lists the mapped soil types and provides their hydric soil status (NRCS, 2000).

Hydric Soils

A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions (a situation where oxygen is absent) that favor the growth and regeneration of plants that are adapted to grow in water or very wet environments.

EXHIBIT 3-31. MAPPED SOIL TYPES AND HYDRIC SOIL STATUS IN THE API

Soil Type	Hydric Status
Abegg gravelly loam	Not hydric; wet spots may contain hydric properties
Barron coarse sandy loam	Not hydric; wet spots and inclusions may contain hydric properties
Camas-Newberg complex	Not hydric; river wash and wet spots may contain hydric properties
Clawson sandy loam	Hydric; alluvial fan
Holland sandy loam	Not hydric
Jerome sandy loam	Hydric; alluvial fan
Kerby loam	Not hydric; wet spots may contain hydric properties
Manita loam	Not hydric; seep springs and wet spots may contain hydric properties
Siskiyou gravelly sandy loam (North slopes)	Not hydric
Siskiyou gravelly sandy loam (South slopes)	Not hydric

Potentially jurisdictional wetlands and water resources, including two natural streams (Allen Creek and Sand Creek), roadside ditches, drainage ditches, and irrigation canals, are located in the API.

Palustrine Forested Wetlands

Palustrine forested wetlands are more often riparian areas than wetlands in the API.

Wetlands identified by the NWI Maps include palustrine forested (PFO), palustrine emergent (PEM) and palustrine open water (POW). Allen Creek and Sand Creek are also identified as PFO wetlands. Irrigation canals are most often identified as riverine, lower perennial, open water (R2OW), while the Rogue River is identified as riverine, upper perennial, open water (R3OW). Located immediately to the west of Hubbard Lane south of Highway 199 is a riverine, upper perennial, aquatic bed (R3AB) water resource which was mapped by the LWI as a wetland. Two palustrine open water/aquatic bed (POW/AB) resources are identified north of Highway 199 west of RCC, and two are identified south of Highway 199 west of Allen Creek Road. The most common wetland type in the API identified by LWI Maps is PEM wetlands. Palustrine scrub-shrub (PSS), PFO and POW wetlands are also mapped in the API. The local wetland inventory is shown in Exhibit 3-32 and Exhibit 3-33.

Hydrophytic Vegetation

Hydrophytic vegetation are plants that are adapted to grow and thrive in water or very wet soil conditions.

Vegetation observed in PEM wetlands includes cattail, reed-canary grass, pennyroyal, and hydrophytic vegetation that thrive in artificially wet hydroperiods. PSS wetland types contain native willow species, spiraea, and other typical wetland shrubs. PFO wetlands are dominated by an overstory of black cottonwood, red alder, and Oregon ash.

The integrity of most wetlands in the API is compromised due primarily to urban hydrologic alterations, which have resulted in reduced wetland areas with unnatural hydroperiods. Extensive irrigation canals have also adversely affected the local water cycle and natural hydrologic processes and channelization of streams has eliminated connectivity with flood plains and stream terraces.

Results of heavily managed water supplies have significantly affected wetlands, especially with regards to irrigation. The functional capacity of wetlands identified in the API is further impaired by roadside ditches, drainage ditches, and the presence of Highway 199 and OR 99.

EXHIBIT 3-32. LOCAL WETLAND INVENTORY IN THE WEST HALF OF THE API

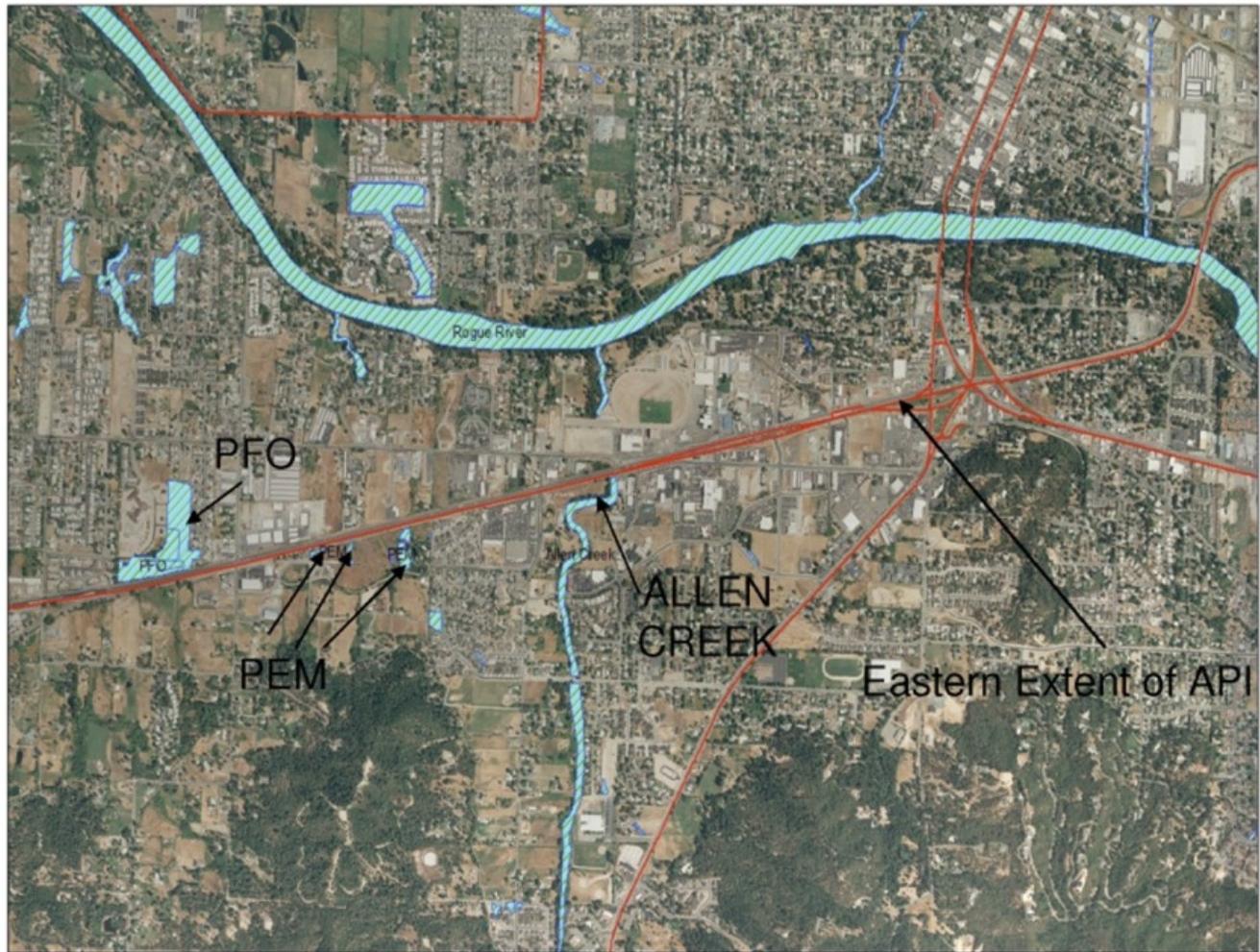


OREGON DEPARTMENT OF TRANSPORTATION
Local Wetland Inventory
West API



DISCLAIMER:
This product is for informational purposes only and may not have been prepared for or be suitable for legal, engineering or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

EXHIBIT 3-33. LOCAL WETLAND INVENTORY IN THE EAST HALF OF THE API



OREGON DEPARTMENT OF TRANSPORTATION
2005 Aerial Photo
Local Wetland Inventory
East API



DISCLAIMER:
This product is for informational purposes only and may not have been prepared for or be suitable for legal, engineering or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Allen Creek is a channelized tributary to the Rogue River classified as riverine, lower perennial, stream bed (R2SB). Riparian vegetation includes cottonwood, Oregon white oak, Ponderosa pine, red alder, Himalayan blackberry, and reed-canary grass. Sand Creek is a heavily altered tributary to the Rogue River classified as R2SB. Riparian vegetation includes similar species as Allen Creek.

Roadside ditches, drainage ditches and irrigation canals are potentially jurisdictional water resources if a connection to a natural waterway and an ordinary high water mark is present. Irrigation canals are potentially jurisdictional water resources if they exchange surface water with a natural waterway and contain an ordinary high water mark

3.14.3 Temporary Effects

No Build

The No Build Alternative would have no temporary impacts to wetlands and water resources within the API.

Alternatives A and C

Alternatives A and C would have temporary impacts to wildlife due to construction activities, heavy machinery and increased human presence. These impacts may be classified as nuisances. Other common temporary impacts such as the loss of trees and soil disturbance would be mitigated via site restoration and erosion and sediment control plans (ESCPs). The temporary loss of riparian or wetland trees may be considered a long-term temporary impact despite replanting due to long regeneration times.

Temporary impacts to wetlands and water resources in the western two-thirds of the API may derive from access needs. Since cross-drain culverts would be extended and/or replaced there may be a need for temporary work areas outside the permanent impact areas. Temporary access via wetlands, water resources and/or riparian zones would be avoided by performing roadway expansion from the roadway to the extent practicable.

Temporary impacts to wetlands east of Fairgrounds Road would not be anticipated since no wetlands are identified in this area. The only water resources identified within this area are an irrigation canal and a potentially jurisdictional stormwater ditch tributary. Temporary

Design plan sheets showing Alternative A and Alternative C can be found in Appendix A. Access plan sheets for each alternative can be found in Appendix B.

impacts may occur as a result of access needs to extend the Highway 199 concrete box culvert which conveys the irrigation canal.

Exhibits depicting the location of wetlands and water resource effects from Alternative A can be found in the Wetlands Technical Report, Appendix B.

3.14.4 Long-Term Effects

No Build Alternative

The No Build Alternative would not directly impact wetlands or water resources.

Alternatives A and C – Phase 1

The presence of wetlands and waters adjacent to the roadway offers little chance for complete avoidance of long-term effects. Long-term effects would mainly consist of sliver fills in wetlands and waters derived from roadway widening and improving intersections. A new pedestrian bridge over Sand Creek would permanently impact forested riparian zone and critical habitat (CH). An unnamed perennial tributary west of Hubbard Lane would be impacted by culvert extension. Intermittent tributaries would also be impacted by culvert extensions. A pond located at Dawn Drive would be impacted by improving the intersection. Roadside ditches and irrigation canals may also be impacted by the project.

The Highway 199 and Allen Creek Road intersection is the major design difference between Alternatives A and C. No wetland or water resources impacts are anticipated at the Allen Creek Road intersection under Alternative A; however, the slip ramp from westbound Highway 199 is positioned much closer to the riparian zone of Allen Creek under Alternative A. Under the Alternative C alignment, near the western extent of the Redwood Avenue roadway expansion, approximately 0.03 acre of wetlands would be affected. Effects of increased impervious surface area under each alternative would be mitigated via a spill prevention and control countermeasures (SPCC) plan.

Exhibit 3-34 identifies approximate quantities of long-term effects to wetland resources as a result of Alternatives A and C.

Alternatives A and C – Phase 2

The area where Phase 2 could occur is highly developed with fewer wetlands and water resources present; thus, long-term adverse effects to these resources would be expected to be minimal.

EXHIBIT 3-34. APPROXIMATE LONG-TERM EFFECTS TO WETLAND RESOURCES

Resource	Approximate Area of Effect (acres)	
	Alternative A	Alternative C
PFO	0.55	0.55
PSS	0.00	0.03
PEM	0.63	0.63
Sand Creek CH	0.68	0.68
R3AB	0.01	0.01
POW/AB	0.07	0.07

3.14.5 Indirect and Cumulative Effects

No Build Alternative

Indirect impacts from the No Build Alternative may include the loss of upgrades to the stormwater management infrastructure. Upgraded stormwater management would presumably result in a net improvement of water quality in receiving wetlands and waters.

Other projects scheduled to occur under the No Build Alternative may impact wetlands and water resources directly or indirectly. The other projects must also address wetlands and water resources, ESA and water quality compliance.

Alternatives A and C

The project is not expected to have major indirect effects outside the project footprint due primarily to the fact that the project would generally expand existing roadways as opposed to building new roads. New roads would be built in existing functionally impervious surfaces, for the most part. Indirect effects resulting from large increases in impervious surface area, alteration of existing hydrology in terms of stormwater management, and from utility infrastructure relocation or alteration may occur; however, where new roads would be constructed at the Allen Creek Road intersection, impacts to natural resources would be minor due to the presence of existing functionally impervious surfaces. No wetlands or water resources indirect effects are anticipated at the Allen Creek Road intersection. Stormwater management would mitigate indirect effects of water quality and quantity in runoff generated from this intersection improvement. Existing hydrology throughout the API would be maintained to the extent practicable and allowable for stormwater management, in order to reduce effects to existing hydrology.

A description and map of other projects considered in the indirect and cumulative effects analysis are included in Appendix D.

Highway 199 would function as an interurban route designed to ease regional mobility. Additional development is likely to occur off the expressway on a new access road and city streets, but not adjacent to Highway 199 as access would be controlled. Wetlands would likely become more fragmented and impervious surfaces would increase due to the continued urbanization adjacent to the API. Wetlands and water resources to be avoided by the Highway 199 Expressway Upgrade project in the western portion of the API, west of RCC, would likely continue to provide similar functions as they do today because of UGBs; however, residential development in this western section may affect wetlands and waters outside the API.

CHAPTER 4. Mitigation and Conservation Measures

Chapter 4 identifies potential mitigation and conservation measures that could be implemented to avoid, minimize, or compensate for negative effects that would occur as a result of the Highway 199 Expressway Upgrade project. Mitigation for the project has been divided into two types: 1) measures to be included on construction plans and specifications, and 2) other general measures that could also be applied.

4.1 Air Quality

4.1.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on air quality:

- Water exposed soil surfaces to control the generation of particulate matter emissions that are expected during construction.

4.1.2 General Measures

No general mitigation measures for air quality have been identified.

4.2 Archaeology

4.2.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on archaeological resources:

- Should previously unidentified archaeological resources or human remains be encountered, work should immediately cease in the vicinity of the discovery to avoid further damages to the resource. ODOT, FHWA, SHPO, and the Oregon State Museum of Anthropology would be notified so the significance of the discovery can be evaluated and the appropriate course of action implemented.

4.2.2 General Measures

No general mitigation measures for archaeological resources have been identified.

4.3 Biology

4.3.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on biological resources:

- Prepare an ESCP prior to the start of construction and adhere to it throughout the construction process.
- Implement a pollution control plan to prevent the release of toxic substances during construction.
- Construct stormwater treatment facilities, including water quality swales and detention ponds.
- Remove trees outside bird nesting season (March 1 – September 1) to mitigate potential effects to nesting birds protected by the MBTA.
- Construct a pedestrian bridge for the shared use path on the north side of Highway 199 that fully spans the active channel width of Sand Creek and avoids in-water work during construction.
- Develop and implement a riparian planting plan.
- Perform construction monitoring to ensure compliance with environmental permits, and follow reporting guidelines in permits.

4.3.2 General Measures

Where appropriate and feasible, general mitigation measures such as the following would be employed to partially or fully mitigate effects on biological resources:

- Comply with all permit conditions of approval and/or mitigation measures.
- Follow the requirements of the applicable federal, state, and local regulations to ensure protection of resource lands and environmentally sensitive areas.
- Consider opportunities to enhance existing habitat and riparian areas.
- Consider using median barrier with cutouts along the bottom to allow small mammal passage.
- Provide provisions for the replacement of landscaping elements to the extent possible.

4.4 Hazardous Materials

4.4.1 Measures for Construction Plans and Specifications

No mitigation measures for construction plans and specifications concerning hazardous materials have been identified.

4.4.2 General Measures

Where appropriate and feasible, general mitigation measures such as the following would be employed to partially or fully mitigate effects on or from hazardous materials

- Prepare a Level 2 Preliminary Site Investigation (PSI) report.
- Conduct further investigations of the API to eliminate or minimize the effects that RPEC sites could have on project activities and vice versa. The investigations would occur once the design is finalized. They would include a subsurface investigation on or adjacent to each site of concern as well as subsurface sampling.
- Should previously unidentified contamination be encountered during construction, work should cease

immediately in the vicinity of the discovery and the engineer should be notified.

4.5 Historic and Cultural

4.5.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on historic resources:

- Mitigation/conservation measures could be necessary for construction contractor compliance if the project design plans change and project effects to the three NRHP-eligible canals would be greater than stated in the Final Historic Resources Technical Report. In this case, if effects to the canals occur—such as covering or re-aligning larger segments—then these new effects would need to be assessed and a revised Section 106 and Section 4(f) analysis prepared.

4.5.2 General Measures

No general mitigation measures for historic and cultural resources have been identified.

4.6 Land Use

4.6.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on land uses:

- Work with property and business owners in the API to minimize conflicts and inconveniences from construction-related activities.
- Provide property and business owners in the API with advanced notice of potential access or utility disruptions resulting from construction activities.
- Schedule the most disruptive construction activities during off-peak hours to minimize the effect to traffic.

4.6.2 General Measures

Where appropriate and feasible, general mitigation measures such as the following would be employed to partially or fully mitigate effects on land uses:

- Comply with all permit conditions of approval and/or mitigation measures.
- Follow the requirements of the applicable federal, state, and local land use and zoning regulations to ensure protection of land uses, resource lands, and environmentally sensitive areas.
- Provide provisions for the replacement of landscaping elements to the extent possible.

4.7 Noise

4.7.1 Measures for Construction Plans and Specifications

Several construction noise abatement methods can be implemented to limit temporary effects. The following list of Standard Noise Control Specifications may be incorporated to mitigate the effects of construction noise.

- Require that no construction shall be performed within 1,000 feet of an occupied dwelling unit on Sundays, legal holidays, and between the hours of 10:00 p.m. and 6:00 a.m. on other days without the appropriate approval.
- Use equipment that has sound control devices no less effective than those provided on the original equipment. No equipment shall have unmuffled exhaust.
- Use equipment that complies with the pertinent equipment noise standards of the U.S. EPA.
- Perform no pile driving or blasting operations within 3,000 feet of any occupied dwelling unit on Sundays, legal holidays, and between the hours of 8:00 p.m. and 8:00 a.m. on other days, without the appropriate approval.

Should specific noise impact complaints occur during the construction of the project, one or more of the following noise



Construction Noise Measurement

mitigations may be required at the construction contractor's expense, as directed by ODOT:

- Locate stationary construction equipment as far from the nearby noise-sensitive properties as possible
- Shut off idling equipment
- Reschedule construction operations to avoid periods of noise annoyance identified in the complaint
- Notify nearby residences whenever extremely noisy work will be occurring
- Install temporary or portable acoustic barriers around stationary construction noise sources
- Operate electric-powered equipment using line voltage power.

If local governments have noise ordinances which control construction noise, the construction activities shall be in compliance with all applicable local noise ordinances.

4.7.2 General Measures

No additional temporary mitigation measures were identified beyond those described in section 4.7.1 Measures for Construction Plans and Specifications.

Several long term traffic noise abatement measures were evaluated where noise impacts are predicted. For example, noise generated from long-term operation of the project can be reduced by implementing traffic management measures, acquiring land as buffer zones or for constructing noise barriers or berms, realigning the roadway, noise insulating public use or nonprofit institutional structures, and constructing noise barriers or berms. These measures were evaluated for their potential to reduce noise impacts from the project. Any specific mitigation measure recommended as part of the project must be feasible and reasonable. Only noise walls were found to be generally feasible in mitigating traffic noise impacts.

Seventeen noise walls were considered for Alternative A and 16 noise walls were considered for Alternative C. Areas where sites were predicted to approach or exceed the noise abatement criteria

and where mitigation was considered are identified on Exhibit 4-1 to Exhibit 4-4.

Based on the studies completed to date, and applying the ODOT Noise Manuals Noise Abatement Evaluation Criteria, the Project Management Team has recommended that noise walls would not be incorporated into the project design.

Specific criteria that the Project Management Team found would not support noise wall mitigation included:

Change in Noise Level (Existing noise levels compared to Future Build Noise Level) – When comparing the existing noise levels with the Alternative A and C future noise levels west of Dowell Road, the noise levels are predicted to increase zero to two decibels by the Year 2030. A one to two decibel increase is not perceptible to the average human ear. This applied to all sites approaching or exceeding the noise abatement criteria west of Dowell Road.

Existing noise levels east of Dowell Road are predicted to increase between one to two decibels by the Year 2030 for most noise impact locations under Alternative A and C, except for sites 110 and 109. A one to three decibel increase or decrease is not perceptible to the average human ear.

Date of Development – Noise mitigation is not normally recommended for residences constructed after 1996 unless the project causes the noise levels to increase by 5 dBA or more.¹

¹ FHWA's Highway Traffic Noise Analysis and Abatement Policy and Guidance, issued in June of 1995, recommends that local governments implement land use controls to eliminate or reduce new noise impacts. It is not considered reasonable for ODOT to provide noise mitigation when local governments have allowed new development to occur in areas where the new development will be subject to noise impacts. Therefore, noise mitigation will typically not be recommended for new developments occurring after June 1996, unless the project causes noise levels to increase by 5 dBA or more (ODOT Noise Manual, June 1996).

EXHIBIT 4-1. LOCATIONS WHERE PREDICTED NOISE LEVELS APPROACH OR EXCEED THE NOISE ABATEMENT CRITERIA – MIDWAY AVENUE TO DOWELL ROAD (ALTERNATIVES A AND C)

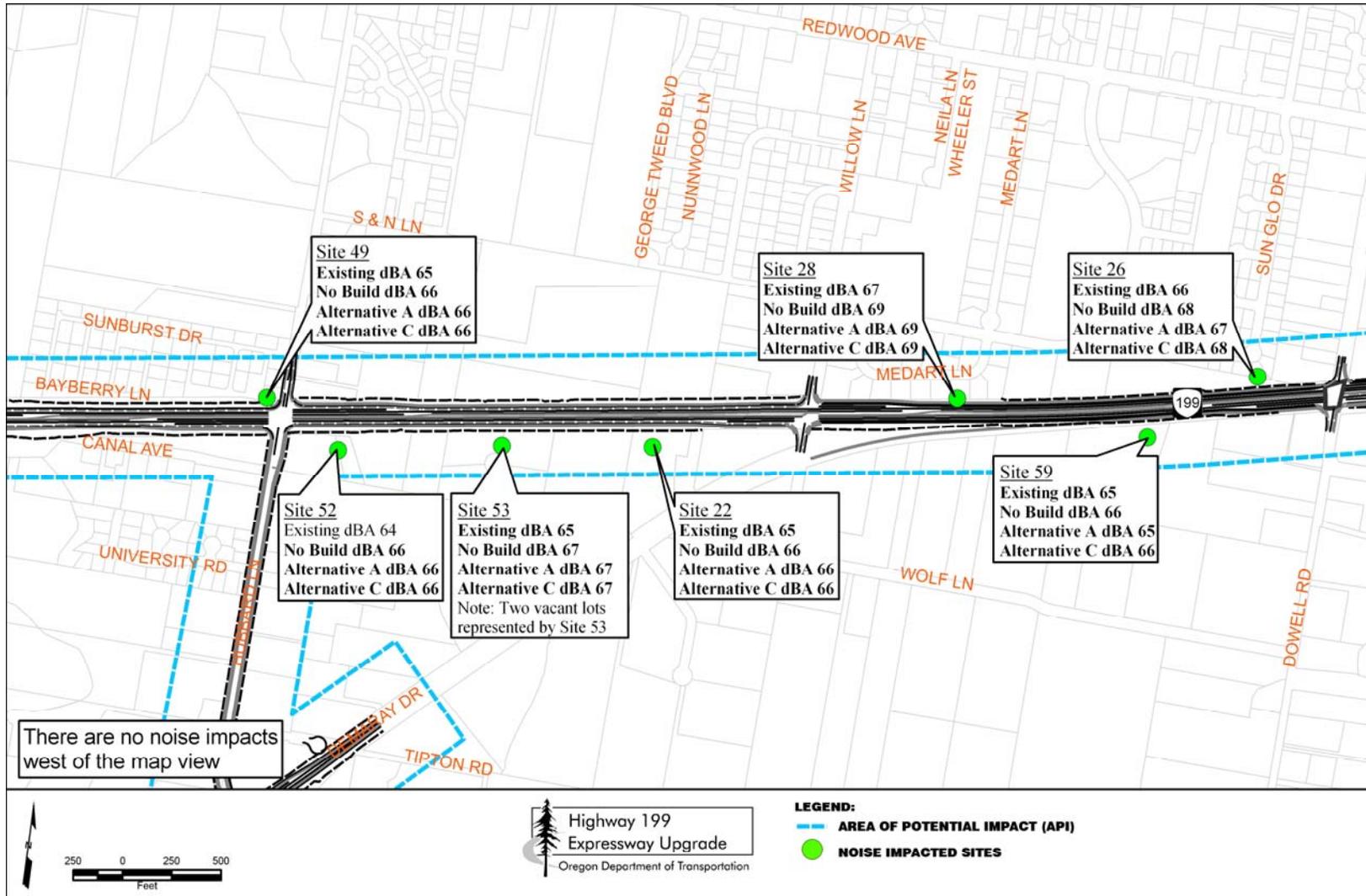


EXHIBIT 4-2. LOCATIONS WHERE PREDICTED NOISE LEVELS APPROACH OR EXCEED THE NOISE ABATEMENT CRITERIA –DOWELL ROAD TO FAIRGROUNDS ROAD (ALTERNATIVE A)

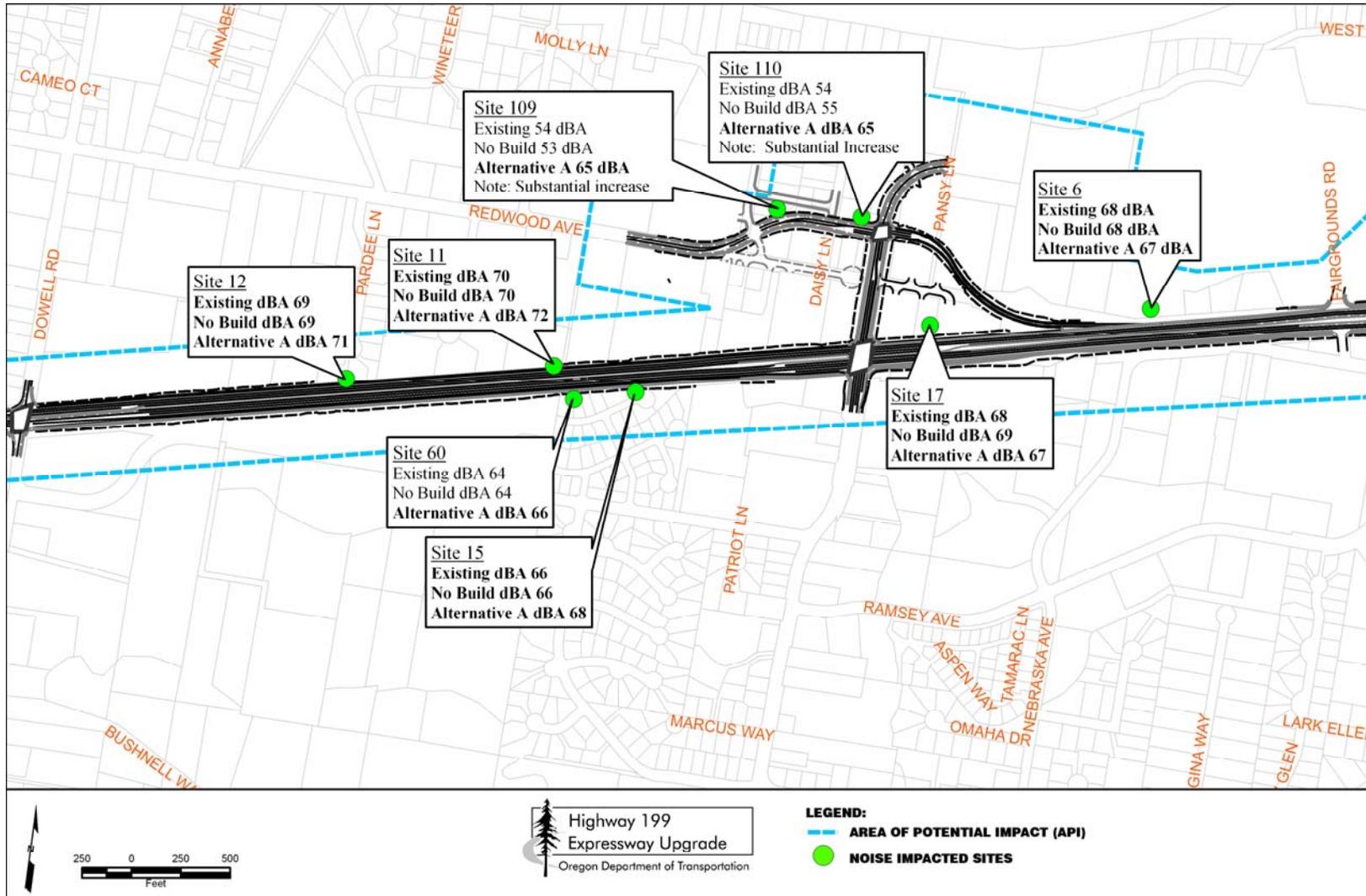


EXHIBIT 4-3. LOCATIONS WHERE PREDICTED NOISE LEVELS APPROACH OR EXCEED THE NOISE ABATEMENT CRITERIA –DOWELL ROAD TO FAIRGROUNDS ROAD (ALTERNATIVE C)

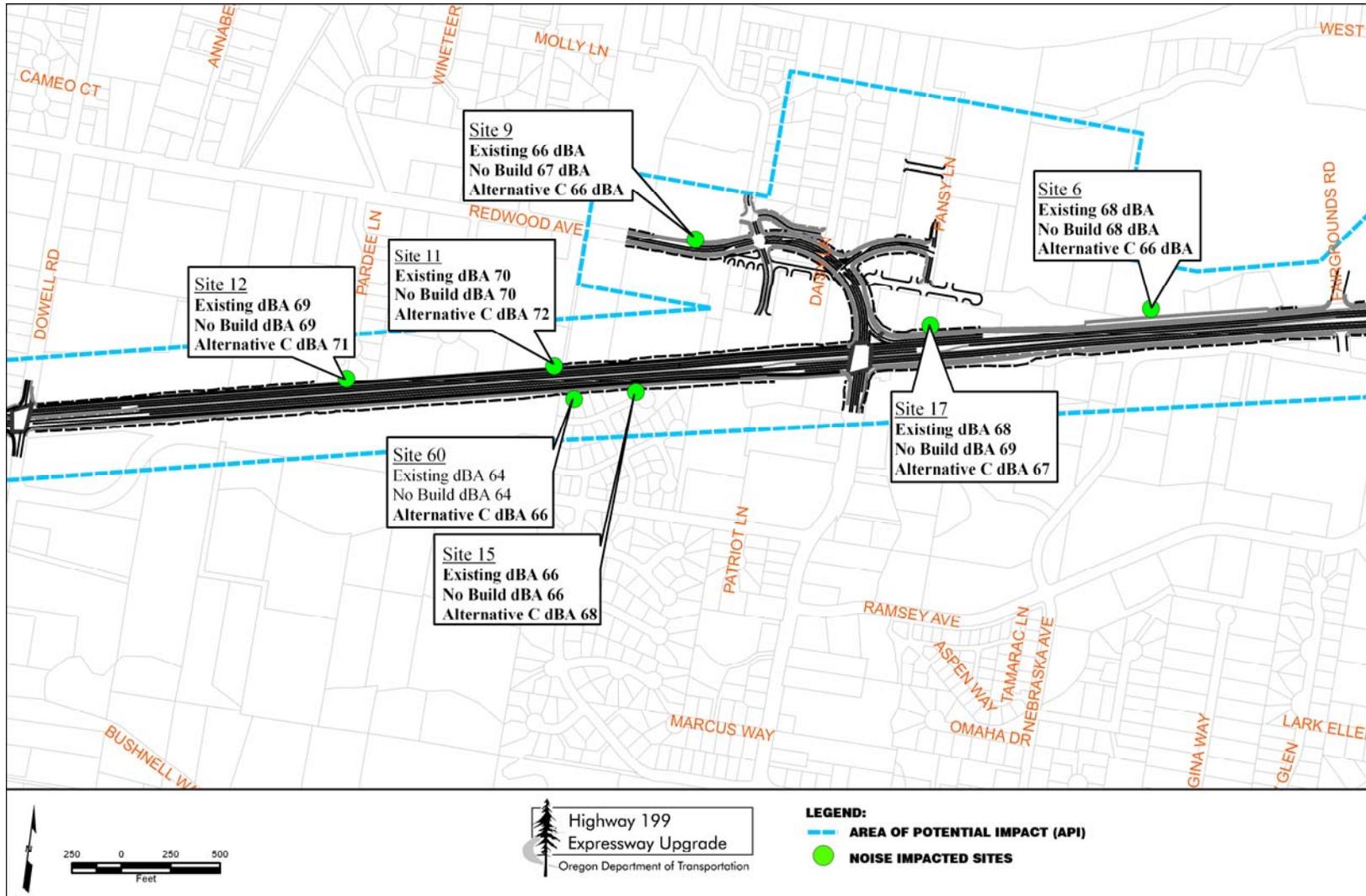
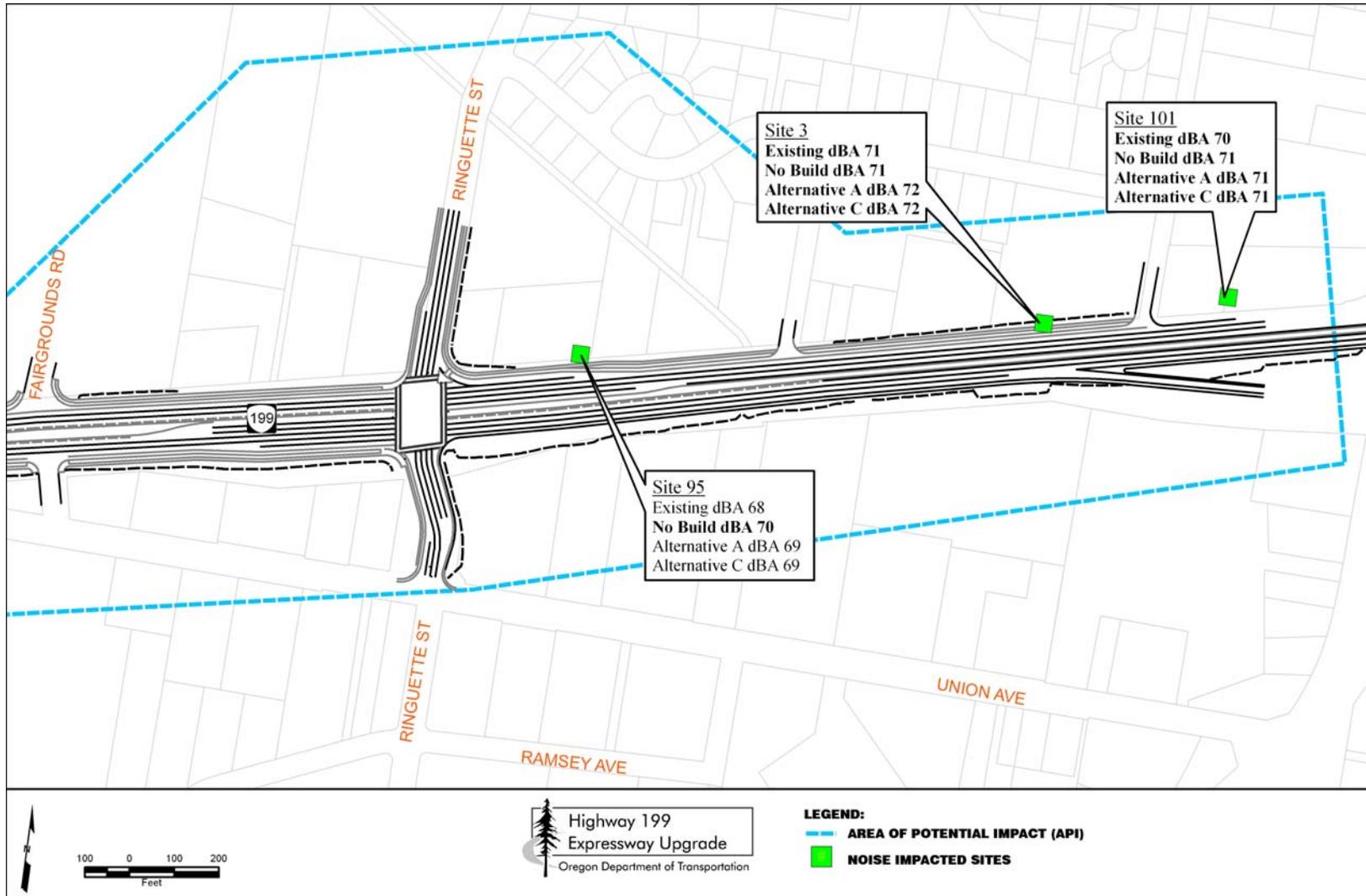


EXHIBIT 4-4. LOCATIONS WHERE PREDICTED NOISE LEVELS APPROACH OR EXCEED THE NOISE ABATEMENT CRITERIA –FAIRGROUNDS ROAD TO TUSSEY LANE (ALTERNATIVES A AND C



Zoning – Noise mitigation in the form of noise barriers is typically not recommended for commercial or industrial areas. Commercial enterprises often rely on visual exposure to the roadway to attract customers and to provide convenient access to their facility. Providing noise mitigation for such areas would provide minimal benefits, could become unwanted now or in the future, and is not considered to be a prudent expenditure of public funds. Therefore, noise mitigation is not recommended for these areas. Areas zoned for commercial or industrial but have an existing residence needs to be evaluated for its future use/activities. This can be done by weighing the chances that the site would be re-developed.

Total Cost – For a noise barrier to be cost effective, it typically requires a minimum of three or more residences grouped closely together. Alternative A has five sites and Alternative C has four sites that have two or fewer residences in areas considered for noise wall mitigation. The length of noise barrier necessary to prevent flanking noise from coming around the end of the barrier takes a noise barrier out of cost effectiveness and prevents a barrier from being recommended to mitigate noise for these sites.

Cost per Residence – ODOT applies a reasonable maximum dollar amount per benefited residence toward the construction of a noise wall. A benefited residence is any residence that gets a 5 dBA or more noise reduction as a result of the noise mitigation applied. If the dollar amount is exceeded then the noise wall would be considered not reasonable to construct based on the cost and number of residences benefited.

Exhibit 4-5 identifies one or more of the noise abatement evaluation criteria that were considered important factors that would not support recommending mitigation for those sites identified as approaching or exceeding the noise abatement criteria.

EXHIBIT 4-5. SUMMARY OF EVALUATION CRITERIA

Evaluation Criteria	Sites that Approach or Exceed the Noise Abatement Criteria																		
	49	52	53	22	28	59	26	12	11	60 and 15	9 ¹	109 ²	110 ²	17	6	95	3	101	
Change in noise levels, Existing to Future	●	●	●	●	●	●	●	●	●	●	●				●	●	●	●	●
Date of Development (Post 1996)	●		●				●	● ³		●	●								
Zoning (Commercial)		● ⁴		●					●		●	●		●	●	●	●	●	●
Cost per Residence				●															
Total Cost		●				●			●			●	●	●					

1. Site 9 is only an impact under Alternative C
2. Site 109 and 110 are an impact under Alternative A
3. Site 12 has a mix of development from Post and Pre 1996
4. Site 52 represents two residences. One residence is located on a parcel zoned commercial.

Additional considerations that would not support noise wall mitigation are summarized below.

- Alternatives A and C would not significantly change the horizontal or vertical alignment or increase the number of through traffic lanes on Highway 199 between Midway Avenue and Dowell Road. This applied to all sites approaching or exceeding the noise abatement criteria west of Dowell Road.
- Predicted future (Year 2030) traffic noise levels that approach or exceed the noise abatement criteria west of Dowell for Alternative C are the same, no increase, when compared to the Year 2030 No Build. Alternative A noise levels that approach or exceed the noise abatement criteria are the same, no increase, except in two cases where there is a one decibel decrease, when compared to the Year 2030 No Build.
- Noise reverberation or reecho could potentially occur at sites 9, 12, 15, 28, 49 and 60 (sites that would approach or exceed the noise abatement criteria) due to the close proximity, 10 feet or less, of several residences or apartments to the evaluated noise wall located on the right of way line. The

reverberation, or reecho, can occur when noise that deflects off the residences gets caught between the residence and noise wall and bounces back and forth making a reverberation effect. Reverberation would potentially reduce the effectiveness of the noise level reduction such that the noise wall would be of minimal or no benefit to the residence.

4.8 Right of Way Acquisition and Relocation

4.8.1 Measures for Construction Plans and Specifications

No mitigation measures for construction plans and specifications concerning right of way acquisition and relocation have been identified.

4.8.2 General Measures

Where appropriate and feasible, general mitigation measures such as the following would be employed to partially or fully mitigate effects on right of way acquisitions and relocations:

- Implement provisions as required under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, for all residential and commercial displacements and real property acquisitions. All property owners would be compensated at fair market value and relocation assistance would be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

4.9 Section 4(f) and 6(f)

4.9.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on Section 4(f) resources:

- Provide advanced public notice of planned temporary road closures and detours, and changes in access routes that would affect Section 4(f) resources and the River City Trail.

- Implement dust and noise mitigation during work hours as indicated in the air quality and noise sections of this chapter.

4.9.2 General Measures

Where appropriate and feasible, general mitigation measures such as the following would be employed to partially or fully mitigate effects on Section 4(f) resources:

- Plan construction activities to minimize changes to recreational facilities and to minimize effects to recreational events in the API.
- Conduct joint planning between ODOT and the City of Grants Pass for the final alignment of the segment of the River City Trail that is within the API, primarily considering pedestrian safety and maintaining trail connectivity. If feasible, the final alignment should be within the area proposed for right of way acquisition or on existing public right of way.
- Refine, to the extent practicable, the final design to minimize alterations to all canals affected.

4.10 Socioeconomics and Environmental Justice

4.10.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on socioeconomics and environmental justice resources:

- Provide notices of planned construction activities, planned temporary road closures and detours, and changes in other access routes. The schedule for these activities could be mailed periodically to all emergency service providers, public facilities and social services operating in the API, and the school districts for potential effects to school bus routes and stops.
- Provide advance notice for major utility shut-offs and schedule during low use times.

- Distribute periodic press releases, newsletters, or notices to residents in the API to advise them of changes in pedestrian, bicycle, or transit routes during construction. These should be prepared in English and for languages that meet or exceed the U.S. Department of Justice’s 5 percent threshold.
- Implement dust and noise mitigation during work hours as indicated in the air quality and noise sections of this chapter.

4.10.2 General Measures

Where appropriate and feasible, general mitigation measures such as the following would be employed to partially or fully mitigate effects on socioeconomic and environmental justice resources:

- Plan construction activities to allow reasonable access to private residential and commercial properties, and community and social services.
- Time temporary road closures and utility shut-offs to minimize negative effects to area activities.
- Implement provisions as required under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, for all businesses, and residents that are displaced and real property acquisitions. All affected property owners would be compensated at fair market value and relocation assistance would be provided for those who would be relocated in accordance with the Uniform Relocation Act.
- Provide housing of last resort if replacement housing within the resident’s financial means is not available.
- Work collaboratively with Josephine County and the fairgrounds to minimize the effect of right of way acquisitions on the current fairgrounds operations.
- Ensure reasonable access is provided to businesses in the API that are not relocated.

Housing of Last Resort

A term from the Uniform Relocation Assistance and Real Property Acquisition Policies Act for when, to provide comparable decent, safe, and sanitary housing within a person’s financial means. Replacement housing payments may exceed the maximum amount typically allowed.

4.11 Traffic and Transportation

4.11.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on traffic and transportation:

- Implement a Mobility Plan and Traffic Control Plan.
- Implement a Transportation Management Plan, which will include communication plan to notify the media, motor carriers and other stakeholders about phases of work.

4.11.2 General Measures

No general measures of mitigation concerning traffic and transportation have been identified.

4.12 Visual

4.12.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on visual resources:

- Restore construction staging areas that are not needed once the project is completed to pre-project existing conditions to the extent practicable.
- Minimize to the extent practicable the amount of vegetation removal in clear and grub areas.
- Shield and/or focus construction lighting on work areas to minimize ambient spillover of light into adjacent areas
- Implement an urban design treatment (landscaping, decorative lighting, etc.) along Highway 199 between Allen Creek Road and Tussey Lane to improve visual quality.
- Use colored concrete and/or stamped patterns for barrier and median areas to blend into the natural environment.

4.12.2 General Measures

Where appropriate and feasible, general mitigation measures such as the following would be employed to partially or fully mitigate effects on visual resources:

- Plant trees and other vegetation in areas where it has been removed to soften and reconnect visual gaps and/or to buffer undesirable views.
- Re-vegetate slopes with appropriate (typically native) grasses, shrubs, and/or trees.
- Utilize directional street lights with beam cut-off and shading devices to minimize light pollution/light trespass.
- Construct median barrier or raised curb median designs that employ simple clean lines, neutral colors, and/or other techniques that are not distracting to drivers and that blend into the environment.
- Use bold pavement striping clearly delineating travel lanes, bike facilities, and pedestrian crossings.
- Implement design detail such as landscaping, paving, and furnishings in areas where pedestrian use is expected (such as intersections, street crossings, and residential areas).
- Use treated (painted, stained, pigmented, or chemical-pressed) materials with low color contrast (to blend into the predominant surrounding environment).
- Use surface textures or other architectural techniques to minimize the appearance of bulkiness or mass.

4.13 Water

4.13.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on surface water bodies:

- Prepare an ESCP prior to the start of construction and adhere to throughout the process.

- Meet or exceed ODOT's Erosion Control Manual practices during the construction of the project, and all erosion and stormwater control measures should be used along with other required erosion management techniques established for road construction in the ESCP.
- Implement the requirements of ODOT's NPDES 1200-CA permit, including the preparation of an ESPC, to take all reasonable steps to minimize or prevent any discharge or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- Perform the maintenance and monitoring of the erosion and sediment control facilities, perform turbidity monitoring, maintain written records of visual monitoring, and follow the reporting requirements of noncompliance incidents as outlined in the NPDES 1200-CA permit.
- Prepare a SPCC plan to control pollutants throughout the project work areas. These areas can include but are not limited to staging, storage, maintenance, refueling areas, and waste sites.

4.13.2 General Measures

Where appropriate and feasible, general mitigation measures such as the following would be employed to partially or fully mitigate effects on surface water bodies:

- Perform contract management activities, including environmental compliance oversight of construction contractors, to ensure that the conditions and requirements of the ESPC and SPCC are in compliance.
- Perform contract management activities, including environmental compliance oversight of construction contractors, to ensure that the conditions and requirements of environmental permits are in compliance.
- Structure operations in a manner that reduces the risk of releases of suspended sediment into waterbodies that would increase turbidity to above background levels.

- Structure operations in a manner that reduces the risk of spills or the accidental exposure of fuels or hazardous materials to waterbodies or wetlands.
- Structure operations in a manner that provides for the prompt and effective cleanup of spills of fuel and other hazardous materials.
- Treat increased stormwater runoff from new impervious surfaces with the stormwater treatment facilities. These facilities are part of the proposed action, and thus no further mitigation would be necessary.
- Design the facilities in such a way that the water quality (treatment) and the water quantity (detention) requirements presented in the Stormwater Technical Report are met.
- Design all stormwater facilities so that required routine inspection and maintenance could be easily conducted. Special attention should be placed upon access needs, specifically for detention ponds and manhole structures.

4.14 Wetlands

4.14.1 Measures for Construction Plans and Specifications

Where appropriate and feasible, mitigation measures such as the following would be implemented to minimize construction effects on wetlands and water resources:

- Identify wetlands and waters as “no work zones” or “restricted work zones” on plans and in the field.
- Implement best management practices.
- Prepare an ESCP and a pollution control plan.
- Develop and implement a wetland restoration plan and site restoration plans.
- Add guardrail to the design where appropriate to avoid effects to wetlands by increasing roadway fill slope steepness.
- Construct the pedestrian bridge over Sand Creek to fully span the OHWM.

- Develop stormwater management plans to avoid direct effects to wetlands to the extent practicable.
- Develop a compensatory wetland mitigation plan to replace functions lost as a result of permanent effects to wetlands.

4.14.2 General Measures

Where appropriate and feasible, general mitigation measures such as the following would be employed to partially or fully mitigate effects on wetlands and water resources:

- Maintain wetland buffers by adhering to local setback requirements for wetlands and riparian zones.
- Consider opportunities to enhance existing wetlands and riparian areas.

CHAPTER 5. Project Coordination and Public Involvement

ODOT has conducted a variety of public outreach activities to gather the community's interest and concerns about the Highway 199 Expressway Upgrade project. This chapter summarizes the public outreach and agency consultation that has occurred over the course of the project.

5.1 Project Coordination

ODOT has coordinated with a variety of stakeholders internally and externally. Internal coordination has occurred across disciplines and with ODOT's managers and decision makers. External coordination has occurred at both the local and regional level and is described below.

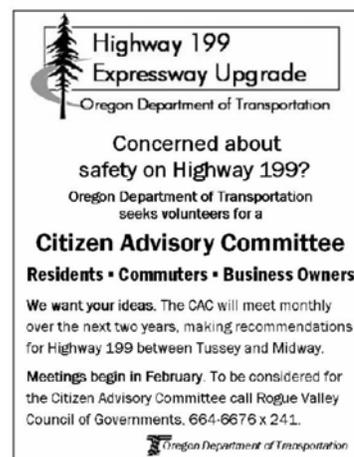
5.1.1 Local Coordination

Local coordination has occurred throughout the project and involved the following entities:

- Citizen Advisory Committee
- Project Development Team
- Josephine County
- City of Grants Pass

Citizens Advisory Committee

A Citizen Advisory Committee (CAC) was assembled to ensure that the project considered the community's interests, issues, knowledge, and recommendations. The CAC consisted of residents, commuters, business owners, property owners, and special interest groups.



Print advertisement to solicit members for the Citizen Advisory Committee.

The CAC's specific responsibilities included:

- Assisting in identifying project and community issues
 - Discussing project activities with constituencies and neighbors and reporting back to the CAC
 - Discussing and evaluating potential solutions
 - Making recommendations to the PDT
-



February 2005 CAC meeting.

The PDT's specific responsibilities included:

- Developing the purpose and need statement
- Developing and screening alternatives
- Deciding which alternatives to study in detail in the EA
- Deciding which alternatives to withdraw from further study
- Determining the preferred alternative

ODOT has coordinated with the following state and federal agencies throughout the project:

- **State of Oregon:** Oregon Department of Fish and Wildlife (ODFW), Oregon Department of Environmental Quality (DEQ), Oregon State Historic Preservation Office (SHPO), Oregon Department of State Lands (DSL), Oregon Department of Land Conservation and Development (DLCD).
- **Federal Agencies:** Federal Highway Administration (FHWA), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), U.S. Environmental Protection Agency (EPA), U.S. Army Corps of Engineers (USACE).

The CAC met 13 times between February 2005 and October 2006; two of those meetings were joint meetings with the Project Development Team (PDT). All meetings were held at the Rogue Community College, except one of the two joint meetings which was held at the Josephine County Fairgrounds. The CAC's role after the EA is released for public comment will be to make a recommendation on the preferred alternative.

Project Development Team

The PDT was assembled to represent the interests of the public and make project decisions. The PDT voting members consisted of staff from the City of Grants Pass, Josephine County, Grants Pass Chamber of Commerce, Oregon State Police, the freight/trucking industry, ODOT, and a citizen-at-large. Non-voting members represented Federal Highway Administration (FHWA), the CAC, and other ODOT technical specialists.

When making project decisions, the PDT considered input from the CAC, ODOT, and the public through the public involvement process. The PDT also met 13 times between February 2005 and October 2006; two of those meetings were joint meetings with the CAC. The PDT's role after the EA is released for public comment will be to make a decision on the preferred alternative.

City, County, and Other Coordination

ODOT also coordinated with the City of Grants Pass and Josephine County through their representatives on the PDT. Additionally, as specific issues arose, ODOT coordinated with individuals from these agencies on a one-on-one basis. ODOT also coordinated with the Josephine County Fair Board, private property owners, the Young Men's Christian Association (YMCA), businesses, and Oregon state representatives to answer general questions and to discuss access and right of way acquisition. General information about the project and conceptual landscape treatments proposed for Highway 199 between Tussey Lane and Allen Creek Road were presented to the Grants Pass Chamber of Commerce on September 29, 2006. This information was also presented to the Grants Pass City Council on October 2, 2006.

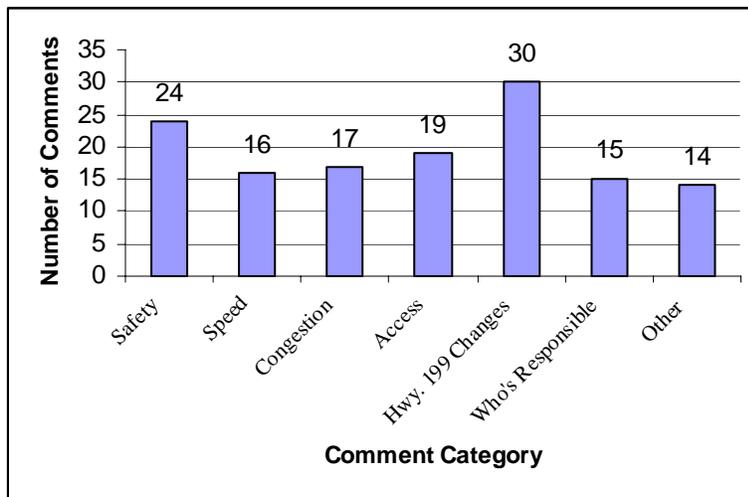
5.1.2 Coordination with Other Federal and State Agencies

ODOT has also coordinated with other state and federal agencies throughout the project to discuss potential project effects and mitigation. ODOT's liaisons at federal and state resource agencies were informed of the project, although coordination with these entities was minimal because effects to natural resources were minimal. ODOT will continue to coordinate with these state and federal agencies as needed throughout the project. A list of agencies who received a copy of this environmental assessment for review is provided in Appendix F.

5.2 Public Involvement

Initial public comments were collected from early stakeholder surveys in December 2004 through March 2005. The comments ranged from concern over bicycle and pedestrian safety along Highway 199 to how changes to Highway 199 would affect businesses. The comments received from these surveys and as well as written comments filed at the first two CAC meetings are summarized in Exhibit 5-1.

EXHIBIT 5-1. SUMMARY OF PUBLIC COMMENTS RECEIVED



Additional project outreach included three open houses. The project's first open house was held on March 3, 2005, and the purpose was to conduct the scoping for the project's EA. At this open house 71 people signed the attendance sheet. The open house was conducted as a self-guided tour of the project, with project staff

Highway 199 Public Involvement Activities

- Newspaper articles and advertisements, radio and television information broadcasts, and project website
 - Public surveys: December 2004 through March 2005
 - CAC meetings: 13 meetings between February 2005 and October 2006
 - Open House 1: March 3, 2005
 - Open House 2: August 25, 2005
 - Open House 3: January 2007
-

Scoping Meeting – March 3, 2005

A scoping meeting is designed to:

- Inform the public and agencies of the project and alternatives
 - Serve as a forum to gather comments to help identify potential environmental effects
 - Ensure that the environmental documents consider reasonable alternatives
 - Help identify issues and concerns to focus on items important to the local agencies and community.
-



August 2005 Open House

stationed at displays to discuss the project and answer questions. Eighteen written comments were received at this open house, primarily dealing with changes to Highway 199, speed, and safety.

The second open house was held on August 25, 2005. At this open house, 61 people signed the attendance sheet. The purpose of this open house was to discuss the conceptual alternatives developed by the PDT and CAC, including the NEPA process used to formulate these alternatives, and to present the alternatives recommended for detailed study in the EA. ODOT staff was available to answer questions and to gather input from local residents and businesses.

The third open house is scheduled for January 2007. There will be two elements of this meeting: 1) Stations will be posted throughout the meeting room to update attendees on the project's status and to discuss how public and environmental issues are being considered and addressed; and 2) There will also be a more structured public hearing component to this meeting where the public can give formal testimony.

Highway 199 Expressway Upgrade Website

<http://www.oregon.gov/ODOT/HWY/REGION3/>

News articles and ads about the project appeared in the *Grants Pass Daily Courier* and the free weekly circulation *Sneak Preview*. ODOT staff arranged to have information broadcast on local radio (KAJO) and on the public access cable television system (RVTV). ODOT has also maintained a publicly accessible project website. The internet address for the project website was provided in a letter that ODOT distributed in December 2005 to 470 stakeholders in the eastern end of the project. This letter also encouraged people to contact ODOT staff to learn more about the project.

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CHAPTER 7. Glossary

The following terms were used in this EA.

Term	Definition
Access control	Access control is the limiting and regulating of public and private access to Oregon State highways, as required by state law.
Advisory Council on Historic Preservation (ACHP)	The ACHP is an independent federal agency composed of twenty members, including presidential appointees, agency heads, and others named in the NHPA, whose role it is to advise the President and Congress on historic preservation matters, and to oversee the review of projects under Section 106 of the NHPA.
Alluvial fan	An alluvial fan is a fan-shaped deposit formed where a fast flowing stream flattens, slows, and spreads typically at the exit of a canyon onto a flatter plain.
Ambient sound	The all-encompassing noise associated with a given environment (usually a composite of sounds from many sources near and far).
Annual average daily traffic (AADT)	The yearly average of the number of vehicles that pass a specified location in a 24-hour period.
Area of potential impact (API)	The area of potential impact is a general term that applies to the area that impacts from the project may occur.
Area of potential effects (APE)	The APE is the geographic area within which the project may directly or indirectly cause alterations in the character or use of historic properties and cultural and archaeological resources. This is a term that specifically applies to Section 106 of the National Historic Preservation Act.
Average daily traffic (ADT)	The number of vehicles that pass a specified location in a 24-hour period.

Term	Definition
Average speed	The average speed during the peak hour for a vehicle traveling from one end of the API to the opposite end. This is measured by direction.
Best management practices	Physical, structural, and/or managerial practices that, when used singly or in combination, prevent or reduce pollutant discharge.
Carbon monoxide (CO) emissions	A measure of carbon monoxide emissions generated during the peak hour.
Clean Water Act 303(d) List	Section 303(d) of the federal Clean Water Act requires Oregon State to prepare a list of all surface waters in the state for which beneficial uses of the water – such as for drinking, recreation, aquatic habitat, and industrial use – are impaired by pollutants.
Concentration	Amount of substance in a unit volume or weight.
Congestion	Congestion is travel time or delay in excess of what is normally incurred under light or free-flow travel conditions.
Contamination	Introduction of a pollutant into another substance or the environment.
Controlled intersection	A controlled intersection is an intersection that has signs or signals that establish who has the right of way. Includes traffic signals or an all-way stop.
Critical habitat	Critical habitat has been defined as the area within 300 feet from the ordinary high water elevation of a stream where a listed species is present or was historically present.
Cumulative effects	Cumulative effects occur as a result of incremental effects of the project when added to other past, present and reasonably foreseeable future actions, regardless of the agency or person that undertakes the other action(s)
dBA (A-weighted)	The sound pressure levels in decibels measured with a frequency weighting corresponding to the A-scale. The A-scale best approximates the sound as heard by the normal human ear.
DEQ Facility Profiler	An on-line geographically-based resource to search for facilities recorded in DEQ's databases, including ECSI and LUST.

Term	Definition
Determination of eligibility (DOE)	A Determination of Eligibility is made when, during the Section 106 process, a cultural or historic resource has been identified which may be impacted by the execution of a federal, federally licensed, or federally assisted project. The purpose of the DOE is to determine whether or not a cultural or historic resource is eligible for listing in the NRHP. This determination is made by the SHPO of the state in which the resource is located. If a resource is determined to be eligible for listing in the NRHP, the Section 106 process continues, and a Finding of Effect is prepared.
Economic output	The total value of all goods and services produced in an entity (for example, a city, county, state, or country).
Elderly	A man or woman aged 65 or older.
Environmental Cleanup Site Information (ECSI)	A database used by DEQ to record information on contaminated and potentially contaminated sites. Includes information on where the site is located, when and how the site may have become contaminated, and what actions DEQ has taken to investigate and clean up the site.
Environmental justice	According to Presidential Executive Order 12898, there are three fundamental environmental justice principles: 1) To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and/or low-income populations, 2) To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process, and 3) To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and/or low-income populations.
Erosion	The displacement of solids (soil, mud, rock and other particles) by the agents of wind, water or ice, by downward or down-slope movement in response to gravity or by living organisms (in the case of bioerosion).
Evolutionary significant unit (ESU)	The term used by the National Marine Fisheries Service for a fish species population protected by a listing under the Endangered Species Act.
Executive Order on Environmental Justice (Executive Order 12898)	Enacted in February 1994 to ensure that federal agencies do not unfairly inflict environmental harm on economically disadvantaged and minority groups within the United States or any of its territories.

Term	Definition
Fecal coliform	Microorganisms that live in large numbers in the intestines of man and warm-blooded animals. One common type is <i>Escherichia coli</i> (<i>E. coli</i>). The presence of fecal coliform bacteria in aquatic environments indicates that the water has been contaminated with the fecal material of man or other animals
Federal actions	Includes projects that receive federal funding or require a federal permit.
Finding of effect (FOE)	A Finding of Effect is prepared when, during the Section 106 process, a cultural or historic resource (district, site, building, structure, or object) has been identified as either listed in or eligible for listing in the NRHP. The purpose of the FOE is to determine whether the action will have No Historic Properties Affected, No Adverse Effect, or an Adverse Effect on the identified resource. If the FOE results in a finding of Adverse Effect on the cultural or historic resource, the Section 106 process continues, and, through consultation with the SHPO, ways to minimize the effect on the resource are explored. This is sometimes referred to as “mitigation.”
500-year floodplain	This is the boundary of the flood that has a 0.2 percent chance of being equaled or exceeded in any given year. Officially termed the 0.2 percent annual chance floodplain.
Fuel used	The total number of gallons used during the peak hour. It is a measure of travel distance, speed, and delay.
Geomorphology	The scientific study of landforms, including their description, distribution, and the processes that create and affect them.
Groundwater	Water found below the water table.
Hazardous material	In a broad sense, any substance or mixture of substances having properties capable of producing adverse health or safety effects.
Housing of last resort	A term from the Uniform Relocation Act for when, to provide comparable decent, safe and sanitary housing within a person’s financial means, replacement housing payments may exceed the maximum amount typically allowed.
Hydric soils	A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions (a situation where oxygen is absent) that favor the growth and regeneration of plants that are adapted to grow in water or very wet environments.

Term	Definition
Hydrocarbon	Any of a class of compounds containing only hydrogen and carbon.
Hydrophytic vegetation	Plants that are adapted to grow and thrive in water or very wet soil conditions.
Impervious surface	Any surface, such as a rooftop, sidewalk, road, parking lot, and compacted urban soils, that prevents rain from passing through or penetrating and moving into soils as it would naturally.
Indirect effects	Indirect effects occur as a result of the project, but take place later in time than the initial project.
Intactness	The integrity of visual order in the natural and human-created landscape, and the extent to which the landscape is free from visual encroachment. Intactness considers the overall intactness of the view and the level of encroachment upon the view.
Leaking underground Storage Tank (LUST)	Refers to sites (mostly gas stations) with leaking underground fuel storage tanks that are cleaned up under the supervision of DEQ's Underground Storage Tank Program.
Level of service (LOS)	A qualitative rating of the effectiveness of a highway facility in serving traffic. It characterizes traffic flow conditions in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort and convenience. Six levels of service are defined, ranging from A (full free flow traffic) to F (complete gridlock). The most commonly desired LOS is C, which signifies full but constant traffic flow with only occasional interruptions.
Limited english proficiency	An individual who speaks a language other than English at home and speaks English "not well" or "not at all."
Loam	Loam is soil composed of sand, silt, and clay in relatively even concentration.
Local use	Short vehicle trips that people take in their community, such as to go the hospital, local businesses, residences, or the community college.
Low income	An individual whose income was below the poverty level in 1999 (the most recent census data).

Term	Definition
Maintenance area	An area that has previously violated air quality standards for one or more of the principal pollutants (carbon monoxide, lead, nitrogen dioxide, particulate matter (PM ₁₀ and PM _{2.5}), ozone, and sulfur dioxides), but now meets air quality standards and has an approved Clean Air Act section 175(a) maintenance plan.
Median barrier	A median barrier is typically a 3- to 4-foot-high concrete barrier that controls traffic movements.
Memorandum of agreement (MOA)	A memorandum of agreement (MOA) is the, often, final step in the Section 106 process. In the event of an adverse Finding of Effect, mitigation measures are agreed upon to minimize the effects on the cultural or historic resource. The MOA is formally written and signed by the consulting parties. In the event that ACHP has chosen not to participate, the federal agency and the SHPO are the consulting parties. A MOA is a legally binding document.
Minority	An individual who is: 1) Black – a person having origins in any of the black racial groups of Africa, 2) Hispanic – a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race, 3) Asian – a person having origins in any of the original peoples of the Far East, Southeast Asia or the Indian subcontinent, or 4) American Indian and Alaskan Native – a person having origins in any of the original people of North America who maintains cultural identification through tribal affiliation or community recognition.
Mitigation	The measures that could be taken to lessen the negative effects predicted for each resource. These measures may include reducing or minimizing a specific negative effect, avoiding it completely, or rectifying or compensating for the negative effect.
National Ambient Air Quality Standards (NAAQS)	The National Ambient Air Quality Standards are the maximum allowable level, averaged over a specific time period, for a certain air pollutant in the outdoor air.
National Register of Historic Places (NRHP)	A list of districts, sites, buildings, structures, and objects maintained by the National Park Service, each determined by the National Park Service to be of historic, cultural, architectural, archaeological, or engineering significance at the national, state, or local level.

Term	Definition
95th Percentile Queue Length	The length of or number of vehicles that has only a 5 percent chance of being exceeded during the analysis time period (in this case, 2025 PM peak hour). It is used for determining the appropriate length of turn pockets.
Nitrogen oxides (NOx)	Nitrogen oxides are a major air pollutant. It forms when nitric oxide from combustion engines mixes with oxygen in the atmosphere. It is a component of smog and, in the presence of sunlight; it reacts with oxygen to form ozone.
Noise abatement criteria (NAC)	FHWA has defined noise levels for various activities or land uses which represent traffic noise levels which identify highway noise impacts. The NAC for ODOT is 2 dBA less than FHWA's criteria.
Nonattainment area	A geographic region designated by EPA in which federal air quality standards are not or were not met by a certain date. There are six air pollutants that are monitored; particulate matter (PM), carbon monoxide (CO), ozone (O ₃), nitrogen dioxide (NO ₂), sulfur dioxide (SO ₂) and lead (Pb).
Number of stops per vehicle	The transportation model totals the number of times a vehicle must stop for traffic congestion at an intersection. This does not include stopping that is required for a stop sign or a red light but does include stopping for a traffic backup caused by congestion at an intersection. The measure is calculated by dividing the total number of stops by the total number of vehicles in the model.
Ozone	Ozone is a highly reactive form of oxygen that occurs mostly in the earth's upper atmosphere.
Partially controlled intersection	A partially controlled intersection is an intersection that has stop signs only on the side streets or the intersecting local roads.
Particulate matter	Particulate matter includes both naturally occurring and man-made particles with a diameter less than 10 microns or 2.5 microns respectively. Sources of particulate matter include sea salt, pollen, road dust, and agricultural dust.
Petroleum	An oily naturally occurring liquid that is a form of bitumen or a mixture of various hydrocarbons: used as fuel or separated by distillation into gasoline, etc.
Pollutant	Any substance that upon reaching the environment (soil, water, or air), is degrading in effect so as to impair the environment.

Term	Definition
Pollutant loading	The total mass of pollutant introduced into a system during a specified event or period of time.
Queue	A waiting line of vehicles.
Queues greater than two blocks (600 feet)	This measure is determined by examining queues either calculated in the traffic model using the traffic capacity module or the traffic simulation model runs.
Raised curb median	A raised curb median is an approximately 6-or 8-inch-high curb that emphasizes travel and turn-lane edges, delineates pedestrian walkways, controls drainage, assists in access control, and inhibits mid-block left turns.
Reconnaissance	A general survey of a region.
Residents	Those whose primary residence is within the project area.
Right of way	Right of way is the land set aside for use as a public road or highway. Rights of way are purchased (acquired) prior to the construction of a new road. Usually enough extra land is purchased for the purpose of providing safety clearances, building retaining walls, and implementing other mitigation features.
Riparian areas	Areas that are connected with or immediately adjacent to the banks of a stream.
Section 106 of the National Historic Preservation Act (NHPA) of 1966	Section 106 of the NHPA applies to undertakings by any federal agency, undertakings receiving federal assistance, and undertakings requiring the issuance of a license from any federal agency. In the event of any of the above undertakings, the head of the acting, assisting, or licensing federal agency must "take into account" the possible effects the undertaking will have on any district, site, building, structure or object that is included in or is eligible for inclusion in the NRHP prior to the approval of expenditure of federal funds or issuance of a license. In addition, the head of any such agency must afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking.

Term	Definition
Section 4(f) of the U.S. Department of Transportation Act of 1966 and Determination of <i>de minimis</i>	<p>Section 4(f) states that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, wildlife and waterfowl refuge of national, State, or local significance, land of an historic site of national, State, or local significance only if there is no “prudent and feasible alternative” to using that land, and the program or project includes all possible planning to minimize harm to the public land involved.</p> <p>Under Section 4(f), any project which required the use of the above described public properties was considered to have an “adverse impact” on the public property, requiring the consideration of all prudent and feasible alternatives. Section 6009(a) of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005, amends Section 4(f) to include an alternative impact finding of <i>de minimis</i> for projects in which the federal agency involved is either the Federal Highways Administration (FHWA) or the Federal Transit Administration (FTA). A <i>de minimis</i> impact as relating to historic properties may be made when the process required by Section 106 of the NHPA results in a determination of No Adverse Effect or No Historic Properties Affected, the SHPO and ACHP (if participating) is notified of FHWA’s or FTA’s intent to make a <i>de minimis</i> finding, and FHWA or FTA has considered the views of other parties consulting in the Section 106 process. If a <i>de minimis</i> impact finding is made, the project may move forward without investigation of all other prudent and feasible alternatives.</p>
Section 6(f)	<p>Section 6(f) of the Land and Water Conservation Fund Act provides additional protection of recreational resources. Under this Act, any recreational lands that were purchased or improved with Land and Water Conservation funds are protected from conversion to non-public outdoor recreational uses. The Secretary of Interior’s approval is required to convert Land and Water Conservation funded lands from recreational uses. Conversions would be granted only if: 1) it complies with existing comprehensive statewide outdoor recreation plans, and 2) substitution of other equivalent recreation properties is assured.</p>
Sediment	<p>A general term for any unconsolidated particulate material that is carried by or has been deposited by an agent of transport, such as water, ice or wind.</p>

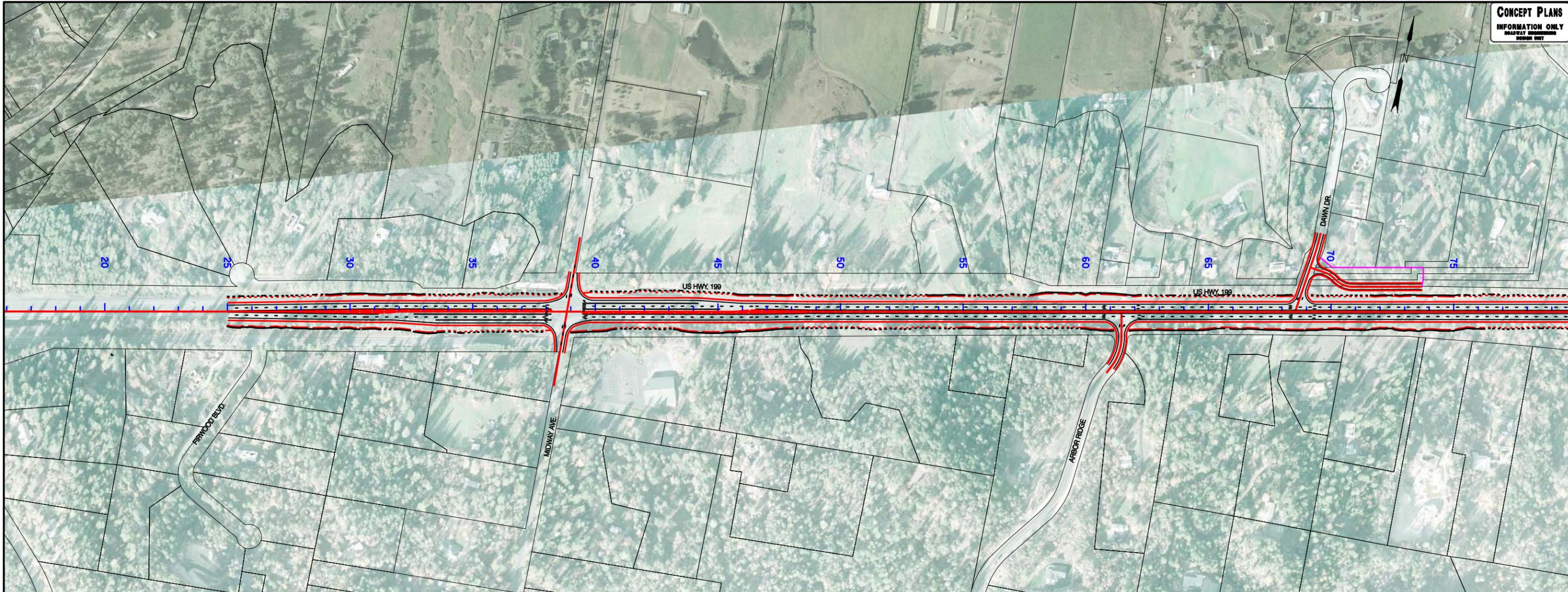
Term	Definition
Smog	Smog is air pollution resulting when hydrocarbon and nitrogen oxides are exposed to sunlight. Sunlight turns these compounds into more harmful chemicals. Smog is often used in a more general sense to refer to any visible air pollution, especially at levels high enough to reduce visibility and to cause irritation to eyes, lungs, etc.
Soil	The portion of the earth's surface consisting of disintegrated rock and humus.
Spill prevention, control, and countermeasures (SPCC)	A spill prevention, control, and countermeasures (SPCC) plan includes site information regarding hazardous materials, spill prevention and containment methods, response procedures, and equipment and material to carry out preventive and response measures. SPCC plans ensure that all harmful and/or deleterious materials are properly stored and contained.
Stormwater runoff	Stormwater runoff is the portion of precipitation (rainwater or snowmelt) that does not naturally seep into the ground or evaporate, but flows overland via ditches, surface flow, pipes, or other features into a defined surface water or treatment facility.
Temporary erosion and sediment control (TESC)	A temporary erosion and sediment control (TESC) plan includes measures that may include, but are not limited to, the following (as necessary, depending on site conditions): temporary plastic cover, coir fabric (and/or wattles), seeding and mulching, temporary vegetated filter strips (i.e., for construction site stormwater control), slope drains, silt fence, sand, or geotextile-encased triangular silt dikes. The purpose of such a plan is to prevent and minimize erosion or sediment laden run-off from leaving the project area or entering any adjacent waterway.
Total maximum daily loads (TMDLs)	A total maximum daily load (TMDL) is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.
Total suspended solids	Total quantity of dispersed solids, such as fine material or soil particles, carried within a stream.
Travel delay	The additional amount of time to travel through an intersection or over a segment of corridor compared to uncongested traffic conditions. This measure represents the average delay encountered by a vehicle traveling through the API during the peak hour. This is measured by direction.

Term	Definition
Travel distance	The total vehicle-miles of travel during the peak hour in the transportation model. This includes all vehicles making trips in the model and captures only the portion of those trips made within the transportation study area.
Travel time (in the API)	The average travel time from one end of the API to the opposite end during the peak hour. This is measured by direction.
Travel time (in the transportation study area)	The total vehicle-hours of travel during the peak hour in the transportation model. This includes all vehicles making trips in the model and captures only the portion of those trips made within the transportation study area.
Uncontrolled access	An access point onto the highway or local jurisdiction roadway that has no signage or signals to control vehicles entering or leaving a parcel.
Uncontrolled intersection	An uncontrolled intersection is an intersection that has no signage or signals but where the basic right of way rule controls who has the right of way at the intersection (first at the intersection has the right of way but yield to the right if two vehicles approach at the same time).
Uniform Relocation Assistance and Real Property Acquisition Policies Act	The Uniform Relocation Assistance and Real Property Acquisition Policies Act requires that comparable decent, safe, and sanitary replacement housing within a person's financial means be made available before that person may be displaced. When such housing cannot be provided by using replacement housing payments, the Uniform Relocation Act provides for "housing of last resort."
Unity	The degree to which the visual resources of the landscape join together to form a coherent, harmonious visual pattern. Unity refers to the compositional harmony or compatibility between landscape elements. Unity considers the overall unity of a view as well as the unity between manmade and natural resources.

Term	Definition
Visual quality	<p>Visual quality is determined by computing the average of the view's vividness, intactness, and unity.</p> $\text{Visual Quality} = \frac{\text{Vividness} + \text{Intactness} + \text{Unity}}{3}$ <p>The change in visual quality that results from the project is determined by the difference between the visual quality of the existing view and the visual quality of the proposed view.</p>
Vividness	<p>Memorability of the visual impression received from contrasting landscape elements as they combine to form a striking and distinctive visual pattern. Four components constitute vividness: landform, vegetation, water, and manmade development.</p>
Volume to capacity (v/c) ratio	<p>A measurement of highway/roadway service quality that compares the number of vehicles using or expected to use a given road or segment of road (the volume) with the number of vehicles that the facility is designed to handle safely (the capacity).</p>
Wetlands	<p>Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal conditions do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. In these areas, filling and development are regulated by state and federal laws.</p>

APPENDIX A

Design Plan Sheets



LEGEND:

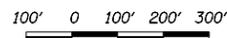
- Top of Cut
- - - Bottom of Fill
- New R/W
- - - Environmental Impact Area
- Retaining Wall



Signal



Signal would be local jurisdiction's responsibility



OREGON DEPARTMENT OF TRANSPORTATION
 ROADWAY ENGINEERING SECTION

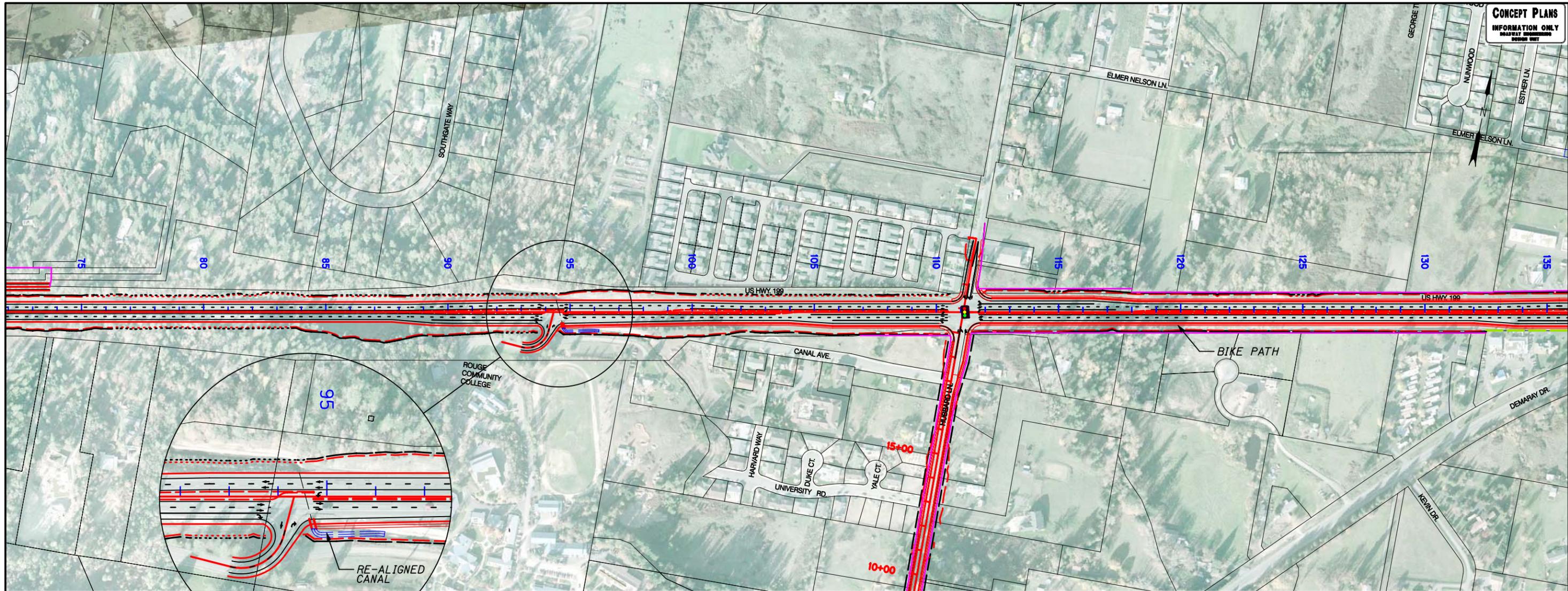
**HIGHWAY 199 EXPRESSWAY UPGRADE
 ALTERNATIVE - A
 REDWOOD HIGHWAY**

JOSEPHINE COUNTY

DATE: 11/27/06

SHEET
 NO.

EVA101



NOTE:

THE SECTION OF HUBBARD LANE RUNNING BETWEEN HWY 199 AND THE REALIGNED INTERSECTION WITH DEMARAY DRIVE IS ASSUMED TO BE BUILT TO THE CITY COLLECTOR STANDARD WITH A PROPOSED 60 FOOT RIGHT-OF-WAY SECTION.

SIGNAL AT HIGHWAY 199/HUBBARD LANE INTERSECTION WOULD BE INSTALLED WHEN SIGNAL WARRANTS ARE MET.

LEGEND:

- Top of Cut
- Bottom of Fill
- New R/W
- Environmental Impact Area
- Retaining Wall



Signal



Signal would be local jurisdiction's responsibility



OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

HIGHWAY 199 EXPRESSWAY UPGRADE
ALTERNATIVE - A
REDWOOD HIGHWAY

JOSEPHINE COUNTY

DATE: 11/27/06

SHEET NO.

EVA102



LEGEND:

- Top of Cut
- Bottom of Fill
- New R/W
- Environmental Impact Area
- Retaining Wall
- Signal
- Signal would be local jurisdiction's responsibility

NOTE:

THE SECTION OF HUBBARD LANE RUNNING BETWEEN HWY 199 AND THE REALIGNED INTERSECTION WITH DEMARAY DRIVE IS ASSUMED TO BE BUILT TO THE CITY COLLECTOR STANDARD WITH A PROPOSED 60 FOOT RIGHT-OF-WAY SECTION.



OREGON DEPARTMENT OF TRANSPORTATION
 ROADWAY ENGINEERING SECTION

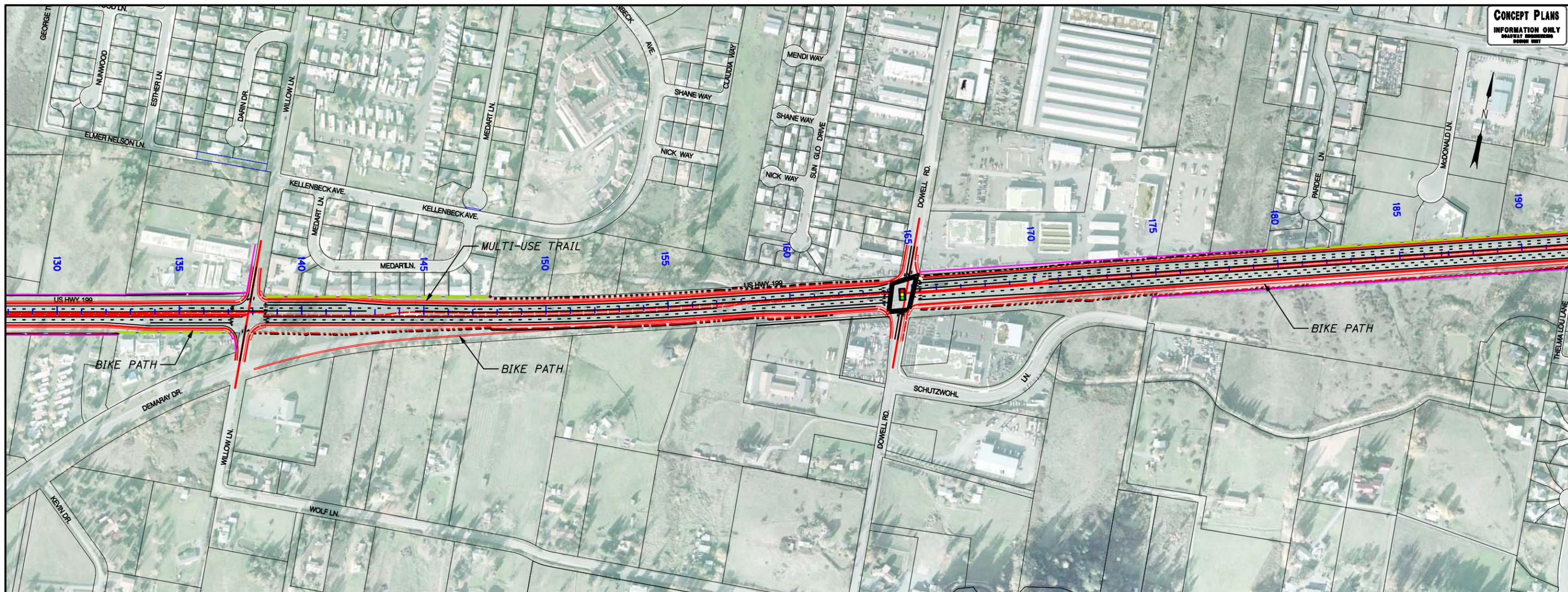
**HIGHWAY 199 EXPRESSWAY UPGRADE
 ALTERNATIVE - A
 REDWOOD HIGHWAY**

JOSEPHINE COUNTY

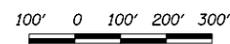
DATE: 11/27/06

SHEET NO.

EVA103



NOTE:
 EXISTING SIGNAL ON HIGHWAY 199 AT DOWELL ROAD WOULD REMAIN.
 EXISTING INTERSECTION TREATMENT ON HWY 199 AT WILLOW LANE WOULD REMAIN.



LEGEND:

- Top of Cut
- Bottom of Fill
- New R/W
- Environmental Impact Area
- Retaining Wall
- Signal
- Signal would be local jurisdiction's responsibility

OREGON DEPARTMENT OF TRANSPORTATION
 ROADWAY ENGINEERING SECTION

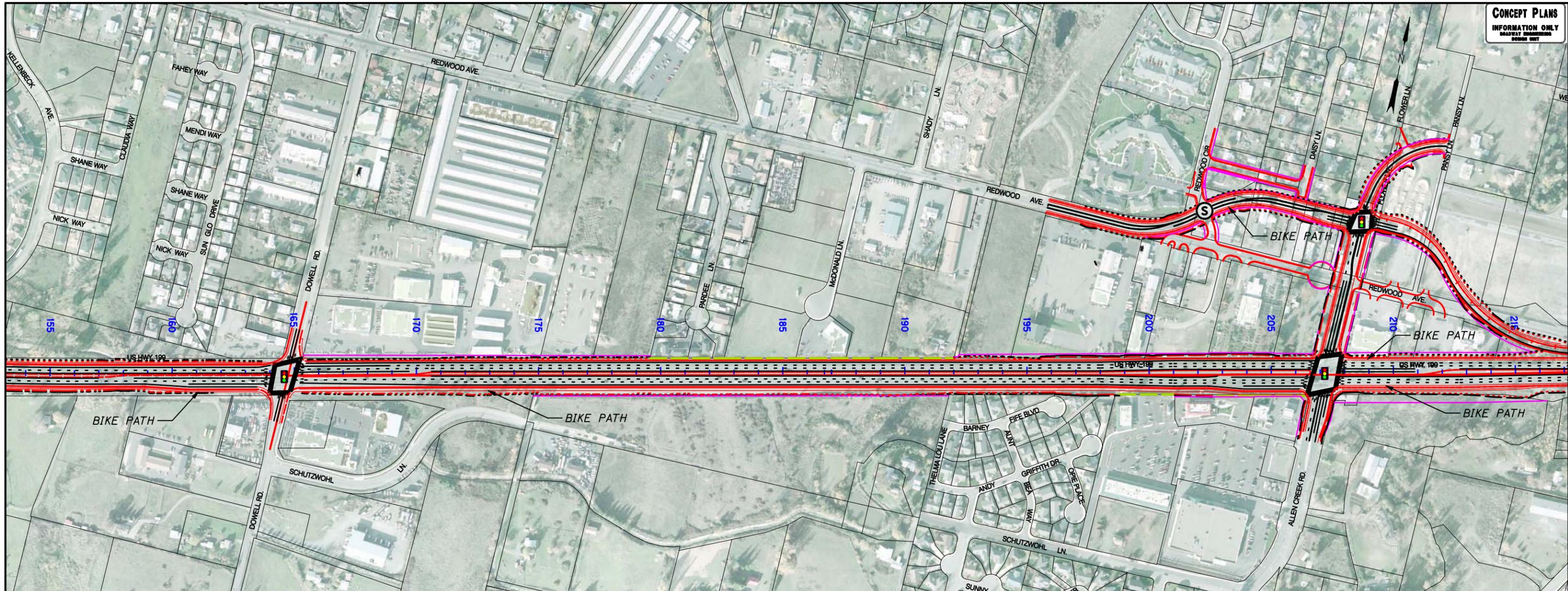
**HIGHWAY 199 EXPRESSWAY UPGRADE
 ALTERNATIVE - A
 REDWOOD HIGHWAY**

JOSEPHINE COUNTY

DATE: 11/27/06

SHEET NO.

EVA104



NOTE:

ODOT WILL BUILD REDWOOD AVENUE/ALLEN CREEK REALIGNMENT TO ARTERIAL STANDARD.

EXISTING SIGNALS ON HIGHWAY 199 AT DOWELL ROAD AND ALLEN CREEK ROAD WOULD REMAIN.

PROPOSED SIGNAL AT THE ALLEN CREEK ROAD AND REDWOOD AVENUE INTERSECTION WOULD BE INSTALLED AS PART OF PROJECT.

PROPOSED SIGNAL AT THE REDWOOD AVENUE AND REDWOOD CIRCLE INTERSECTION WOULD BE THE RESPONSIBILITY OF THE LOCAL JURISDICTION.

LEGEND:

- Top of Cut
- - - Bottom of Fill
- New R/W
- Environmental Impact Area
- Retaining Wall



Signal



Signal would be local jurisdiction's responsibility



OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

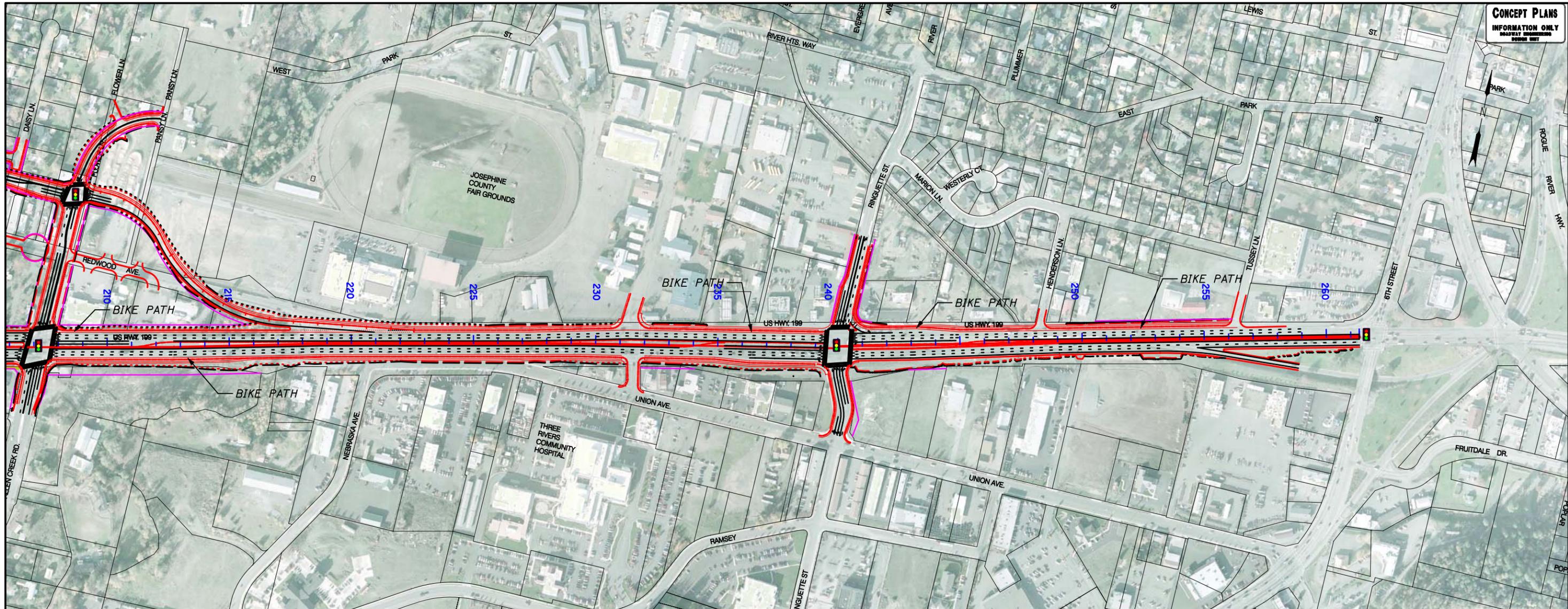
HIGHWAY 199 EXPRESSWAY UPGRADE
ALTERNATIVE - A
REDWOOD HIGHWAY

JOSEPHINE COUNTY

DATE: 11/27/06

SHEET NO.

EVA105



CONCEPT PLANS
INFORMATION ONLY
ROADWAY ENGINEERING
NOVEMBER 2007

NOTE:

ODOT WILL BUILD REDWOOD AVENUE/ALLEN CREEK REALIGNMENT TO ARTERIAL STANDARD.

EXISTING SIGNALS ON HIGHWAY 199 AT REDWOOD AVENUE AND FAIRGROUNDS ROAD WOULD BE REMOVED.

EXISTING SIGNALS ON HIGHWAY 199 AT RINGUETTE STREET AND 6TH STREET WOULD REMAIN.

LEGEND:

- Top of Cut
- Bottom of Fill
- New R/W
- Environmental Impact Area
- Retaining Wall



Signal



Signal would be local jurisdiction's responsibility



OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

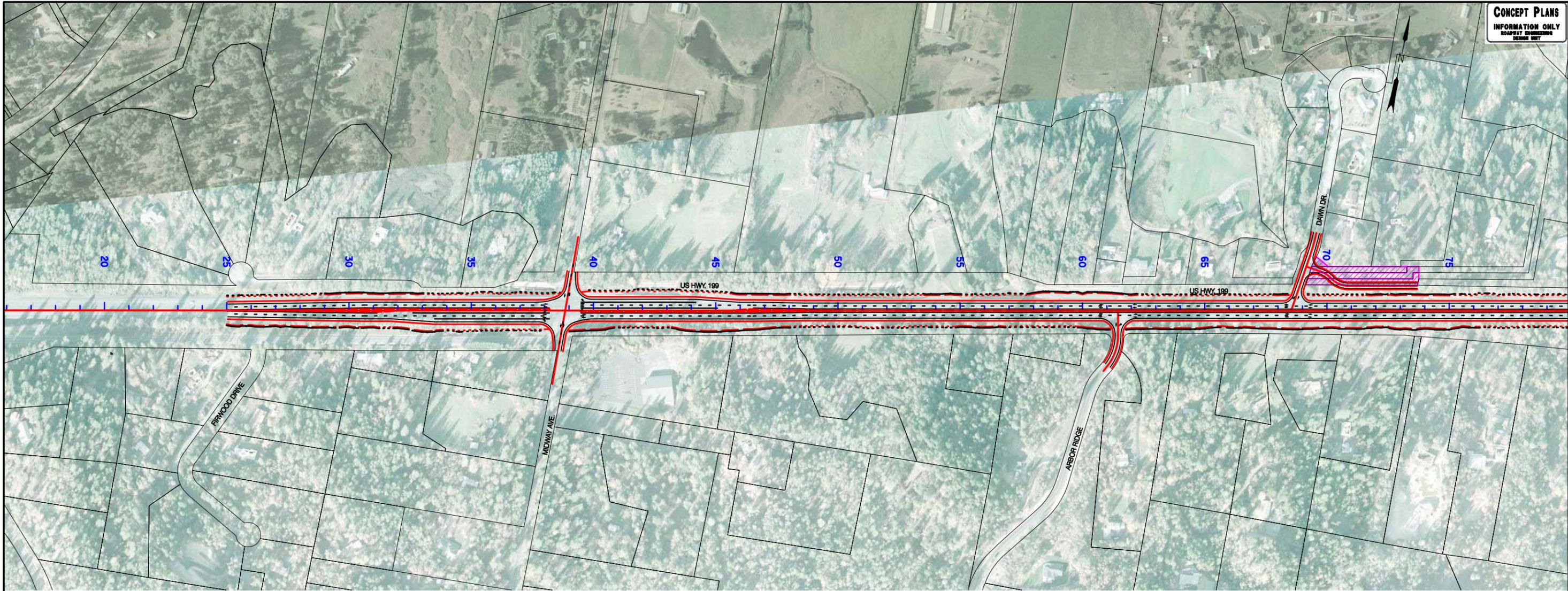
**HIGHWAY 199 EXPRESSWAY UPGRADE
ALTERNATIVE - A
REDWOOD HIGHWAY**

JOSEPHINE COUNTY

DATE: 11/27/06

SHEET NO.

EVA106



LEGEND:

- Top of Cut
- - - Bottom of Fill
- New R/W
- - - Environmental Impact Area
- Retaining Wall
- Signal
- Signal would be local jurisdiction's responsibility



OREGON DEPARTMENT OF TRANSPORTATION
 ROADWAY ENGINEERING SECTION

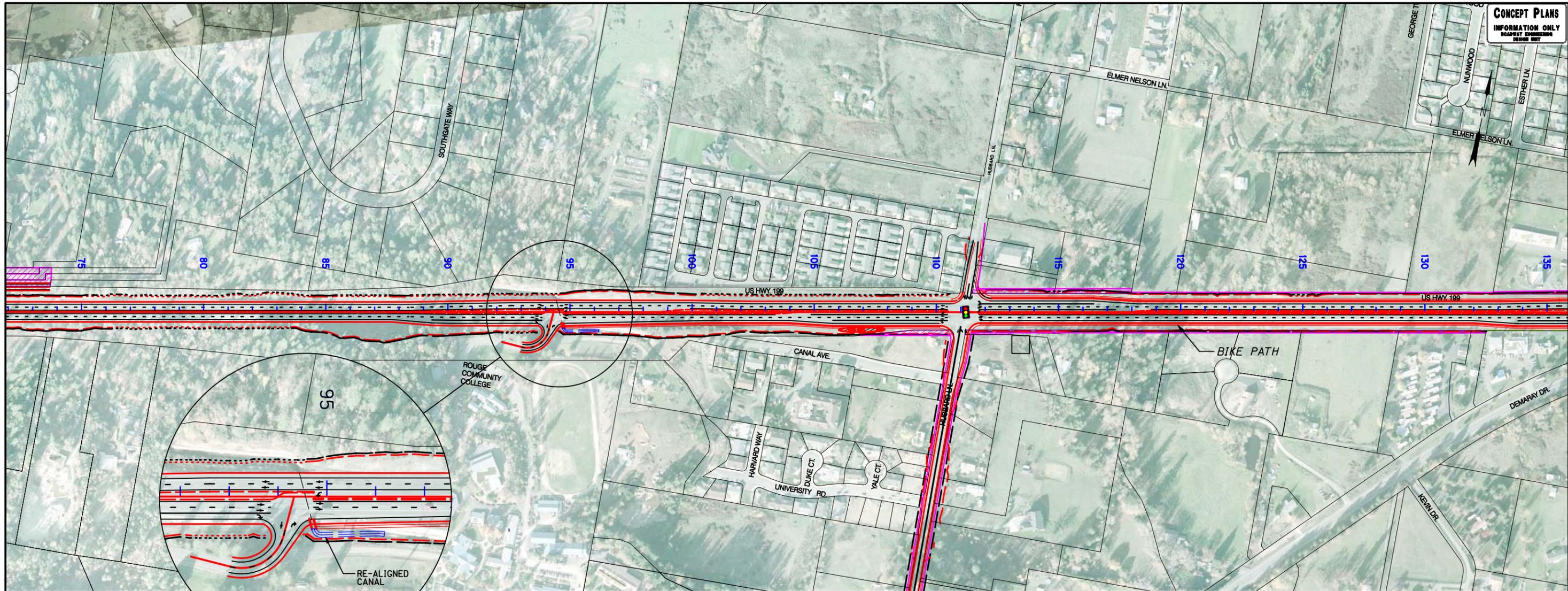
**HIGHWAY 199 EXPRESSWAY UPGRADE
 ALTERNATIVE - C
 REDWOOD HIGHWAY**

JOSEPHINE COUNTY

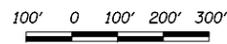
DATE: 11/27/06

SHEET
 NO.

EVC101



NOTE:
 THE SECTION OF HUBBARD LANE RUNNING BETWEEN HWY 199 AND THE REALIGNED INTERSECTION WITH DEMARAY DRIVE IS ASSUMED TO BE BUILT TO THE CITY COLLECTOR STANDARD WITH A PROPOSED 60 FOOT RIGHT-OF-WAY SECTION.
 SIGNAL AT HIGHWAY 199/HUBBARD LANE INTERSECTION WOULD BE INSTALLED WHEN SIGNAL WARRANTS ARE MET.



- LEGEND:**
- Top of Cut
 - - - Bottom of Fill
 - New R/W
 - - - Environmental Impact Area
 - - - Retaining Wall
 - 🚦 Signal
 - Ⓢ Signal would be local jurisdiction's responsibility

OREGON DEPARTMENT OF TRANSPORTATION
 ROADWAY ENGINEERING SECTION

**HIGHWAY 199 EXPRESSWAY UPGRADE
 ALTERNATIVE - C
 REDWOOD HIGHWAY**

JOSEPHINE COUNTY

DATE: 11/27/06

SHEET NO.

EVC102



LEGEND:

- Top of Cut
- Bottom of Fill
- New R/W
- Environmental Impact Area
- Retaining Wall
- Signal
- Signal would be local jurisdiction's responsibility

NOTE:

THE SECTION OF HUBBARD LANE RUNNING BETWEEN HWY 199 AND THE REALIGNED INTERSECTION WITH DEMARAY DRIVE IS ASSUMED TO BE BUILT TO THE CITY COLLECTOR STANDARD WITH A PROPOSED 60 FOOT RIGHT-OF-WAY SECTION.



OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

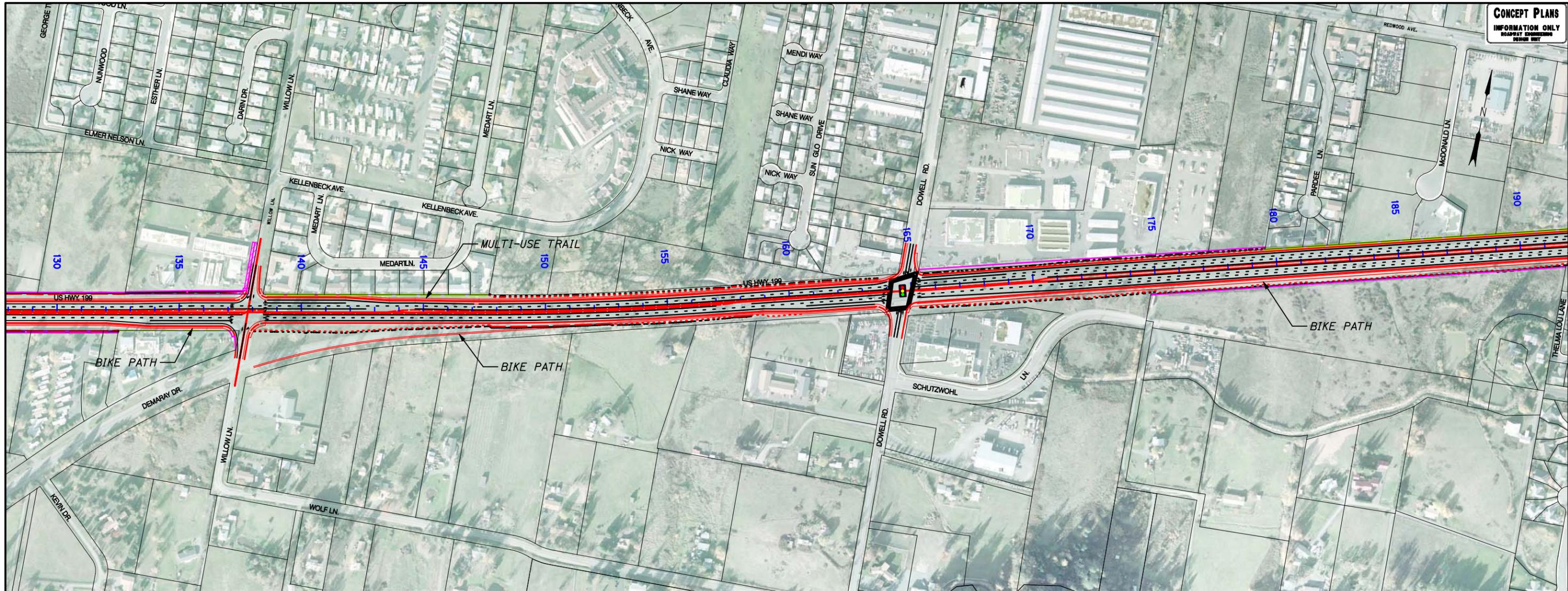
**HIGHWAY 199 EXPRESSWAY UPGRADE
ALTERNATIVE - C
REDWOOD HIGHWAY**

JOSEPHINE COUNTY

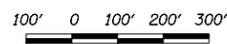
DATE: 11/27/06

SHEET NO.

EVC103



NOTE:
EXISTING SIGNAL ON HIGHWAY 199 AT DOWELL ROAD WOULD REMAIN.
EXISTING INTERSECTION TREATMENT ON HWY 199 AT WILLOW LANE WOULD REMAIN.



LEGEND:

- Top of Cut
- Bottom of Fill
- New R/W
- Environmental Impact Area
- Retaining Wall
- Signal
- Signal would be local jurisdiction's responsibility

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

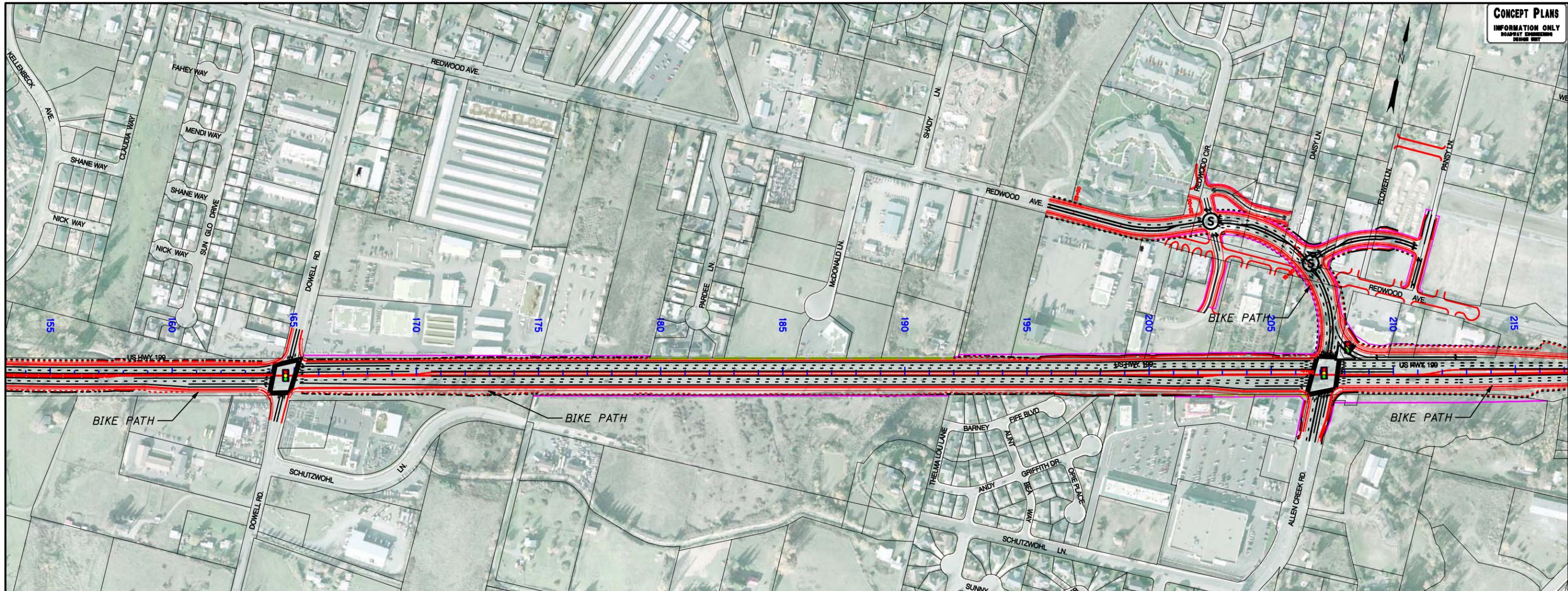
**HIGHWAY 199 EXPRESSWAY UPGRADE
ALTERNATIVE - C
REDWOOD HIGHWAY**

JOSEPHINE COUNTY

DATE: 11/27/06

SHEET NO.

EVC104



NOTE:

ODOT WILL BUILD REDWOOD AVENUE/ALLEN CREEK REALIGNMENT TO ARTERIAL STANDARD.

EXISTING SIGNALS ON HIGHWAY 199 AT DOWELL ROAD AND ALLEN CREEK ROAD INTERSECTION WOULD REMAIN.

PROPOSED SIGNALS AT THE ALLEN CREEK ROAD/REDWOOD AVENUE/ACCESS ROAD INTERSECTION AND THE REDWOOD AVENUE/REDWOOD CIRCLE INTERSECTION WOULD BE THE RESPONSIBILITY OF THE LOCAL JURISDICTION.

LEGEND:

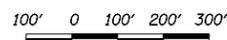
- Top of Cut
- - - - - Bottom of Fill
- New R/W
- Environmental Impact Area
- Retaining Wall



Signal



Signal would be local jurisdiction's responsibility



OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

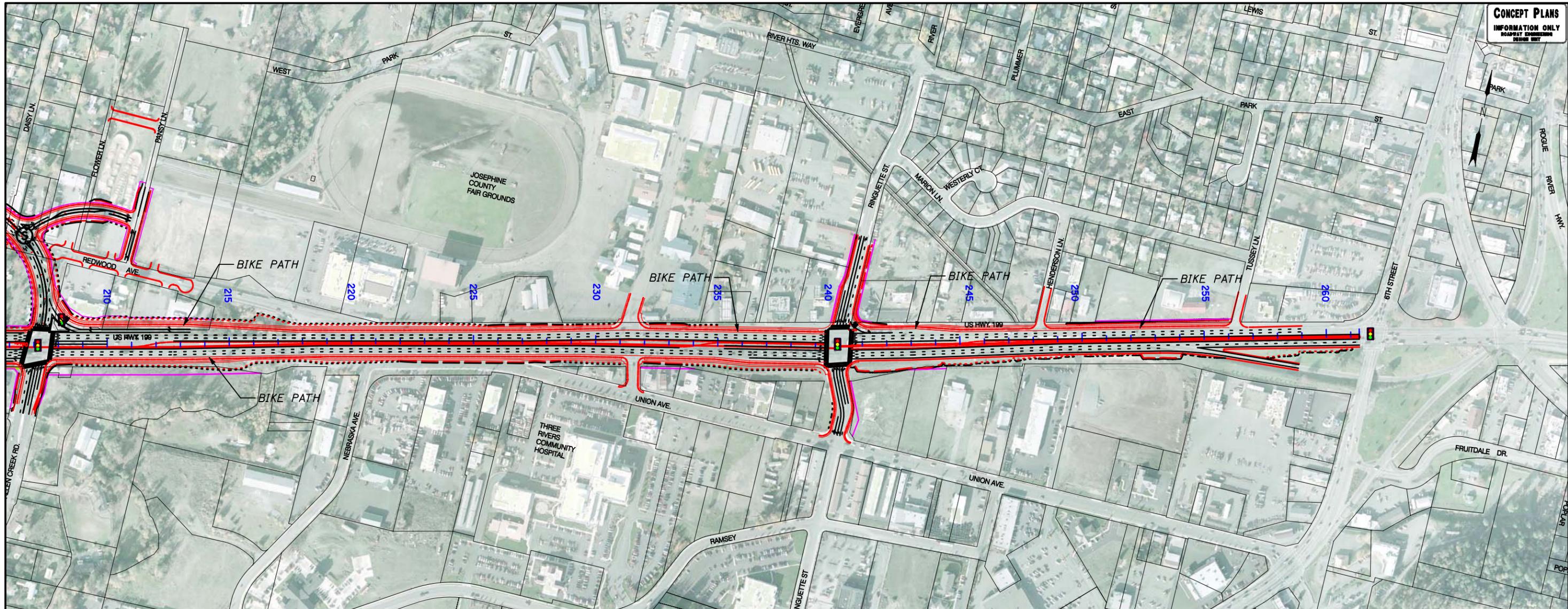
HIGHWAY 199 EXPRESSWAY UPGRADE
ALTERNATIVE - C
REDWOOD HIGHWAY

JOSEPHINE COUNTY

DATE: 11/27/06

SHEET NO.

EVC105



NOTE:

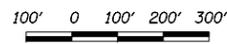
ODOT WILL BUILD REDWOOD AVENUE/ALLEN CREEK REALIGNMENT TO ARTERIAL STANDARD.

EXISTING SIGNALS ON HIGHWAY 199 AT REDWOOD AVENUE AND FAIRGROUNDS ROAD WOULD BE REMOVED.

EXISTING SIGNALS ON HIGHWAY 199 AT RINGUETTE STREET AND 6TH STREET WOULD REMAIN.

LEGEND:

- Top of Cut
- - - - - Bottom of Fill
- New R/W
- - - - - Environmental Impact Area
- Retaining Wall
- Signal
- Signal would be local jurisdiction's responsibility



OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

**HIGHWAY 199 EXPRESSWAY UPGRADE
ALTERNATIVE - C
REDWOOD HIGHWAY**

JOSEPHINE COUNTY

DATE: 11/27/06

SHEET NO.

EVC106

APPENDIX B

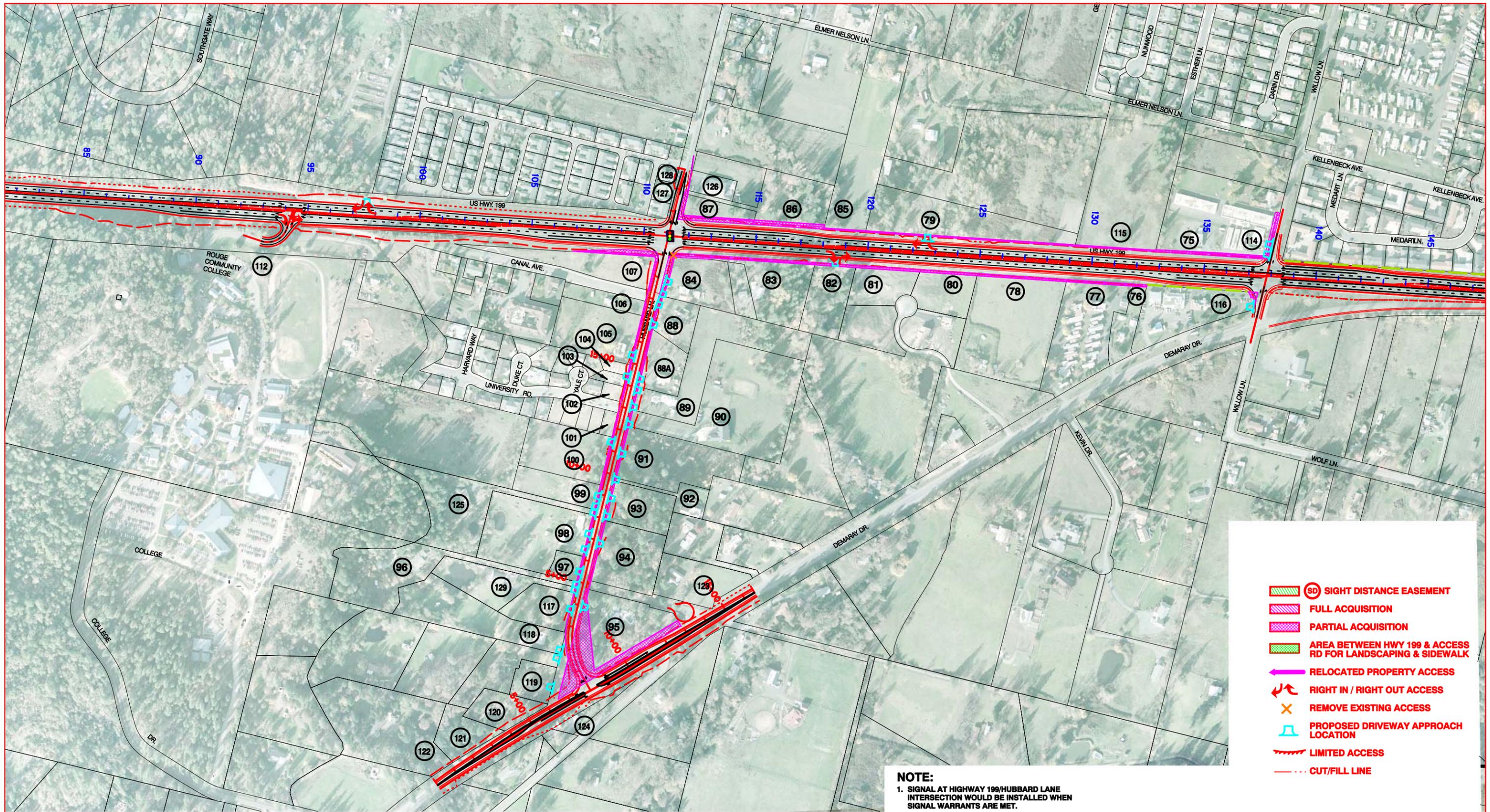
Access Management Plan Sheets



-  SD SIGHT DISTANCE EASEMENT
-  FULL ACQUISITION
-  PARTIAL ACQUISITION
-  AREA BETWEEN HWY 199 & ACCESS RD FOR LANDSCAPING & SIDEWALK
-  RELOCATED PROPERTY ACCESS
-  RIGHT IN / RIGHT OUT ACCESS
-  REMOVE EXISTING ACCESS
-  PROPOSED DRIVEWAY APPROACH LOCATION
-  LIMITED ACCESS
-  CUT/FILL LINE

NOTE:
 1. DRIVEWAYS CONSIDERED FULL ACCESS UNLESS OTHER IDENTIFICATION IS ADDED TO DRAWING.



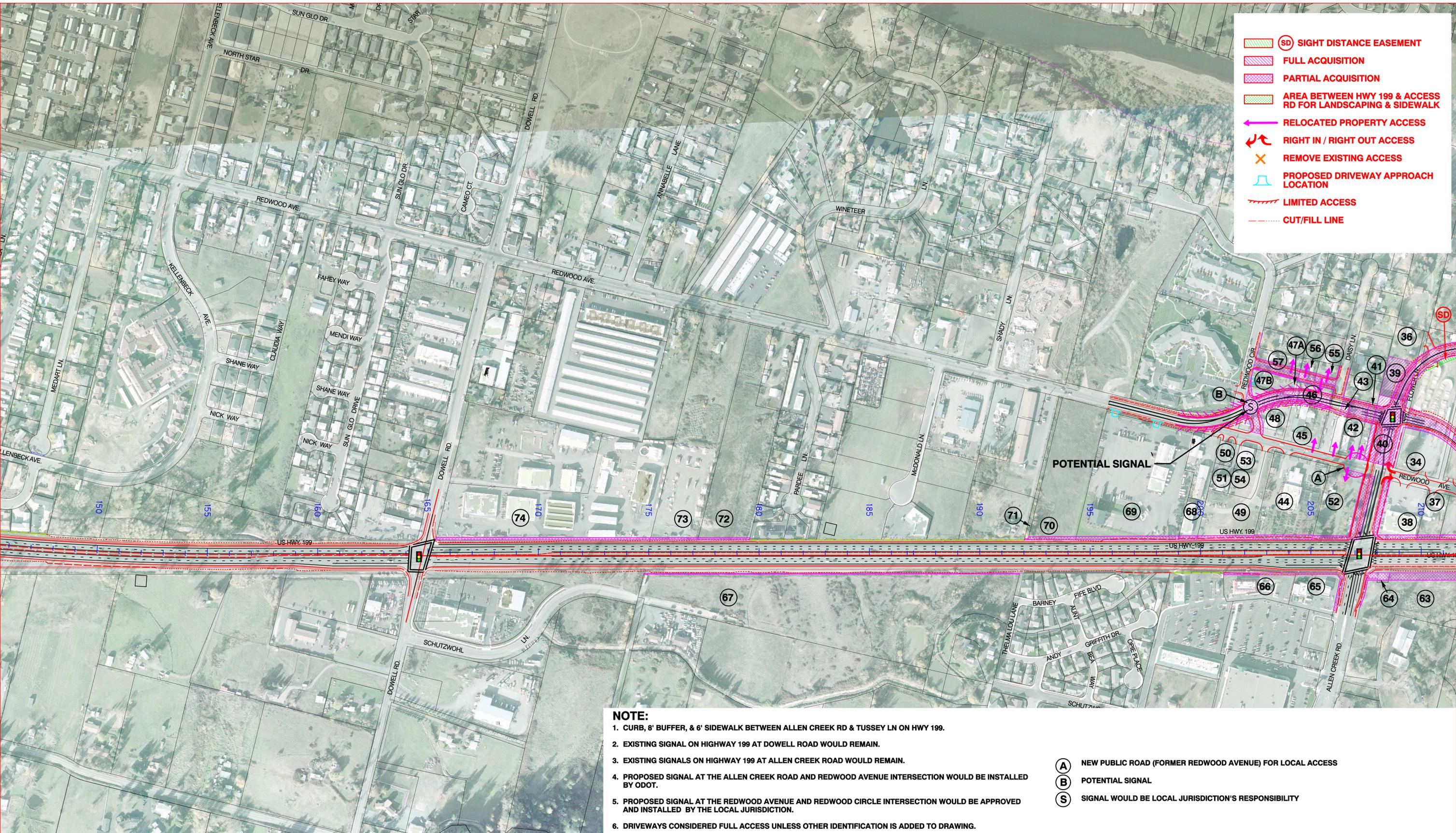


-  **SD** SIGHT DISTANCE EASEMENT
-  FULL ACQUISITION
-  PARTIAL ACQUISITION
-  AREA BETWEEN HWY 199 & ACCESS RD FOR LANDSCAPING & SIDEWALK
-  RELOCATED PROPERTY ACCESS
-  RIGHT IN / RIGHT OUT ACCESS
-  REMOVE EXISTING ACCESS
-  PROPOSED DRIVEWAY APPROACH LOCATION
-  LIMITED ACCESS
-  CUT/FILL LINE

NOTE:
 1. SIGNAL AT HIGHWAY 199/HUBBARD LANE INTERSECTION WOULD BE INSTALLED WHEN SIGNAL WARRANTS ARE MET.
 2. DRIVEWAYS CONSIDERED FULL ACCESS UNLESS OTHER IDENTIFICATION IS ADDED TO DRAWING.



-  **SD SIGHT DISTANCE EASEMENT**
-  **FULL ACQUISITION**
-  **PARTIAL ACQUISITION**
-  **AREA BETWEEN HWY 199 & ACCESS RD FOR LANDSCAPING & SIDEWALK**
-  **RELOCATED PROPERTY ACCESS**
-  **RIGHT IN / RIGHT OUT ACCESS**
-  **REMOVE EXISTING ACCESS**
-  **PROPOSED DRIVEWAY APPROACH LOCATION**
-  **LIMITED ACCESS**
-  **CUT/FILL LINE**



NOTE:

1. CURB, 8' BUFFER, & 6' SIDEWALK BETWEEN ALLEN CREEK RD & TUSSEY LN ON HWY 199.
2. EXISTING SIGNAL ON HIGHWAY 199 AT DOWELL ROAD WOULD REMAIN.
3. EXISTING SIGNALS ON HIGHWAY 199 AT ALLEN CREEK ROAD WOULD REMAIN.
4. PROPOSED SIGNAL AT THE ALLEN CREEK ROAD AND REDWOOD AVENUE INTERSECTION WOULD BE INSTALLED BY ODOT.
5. PROPOSED SIGNAL AT THE REDWOOD AVENUE AND REDWOOD CIRCLE INTERSECTION WOULD BE APPROVED AND INSTALLED BY THE LOCAL JURISDICTION.
6. DRIVEWAYS CONSIDERED FULL ACCESS UNLESS OTHER IDENTIFICATION IS ADDED TO DRAWING.

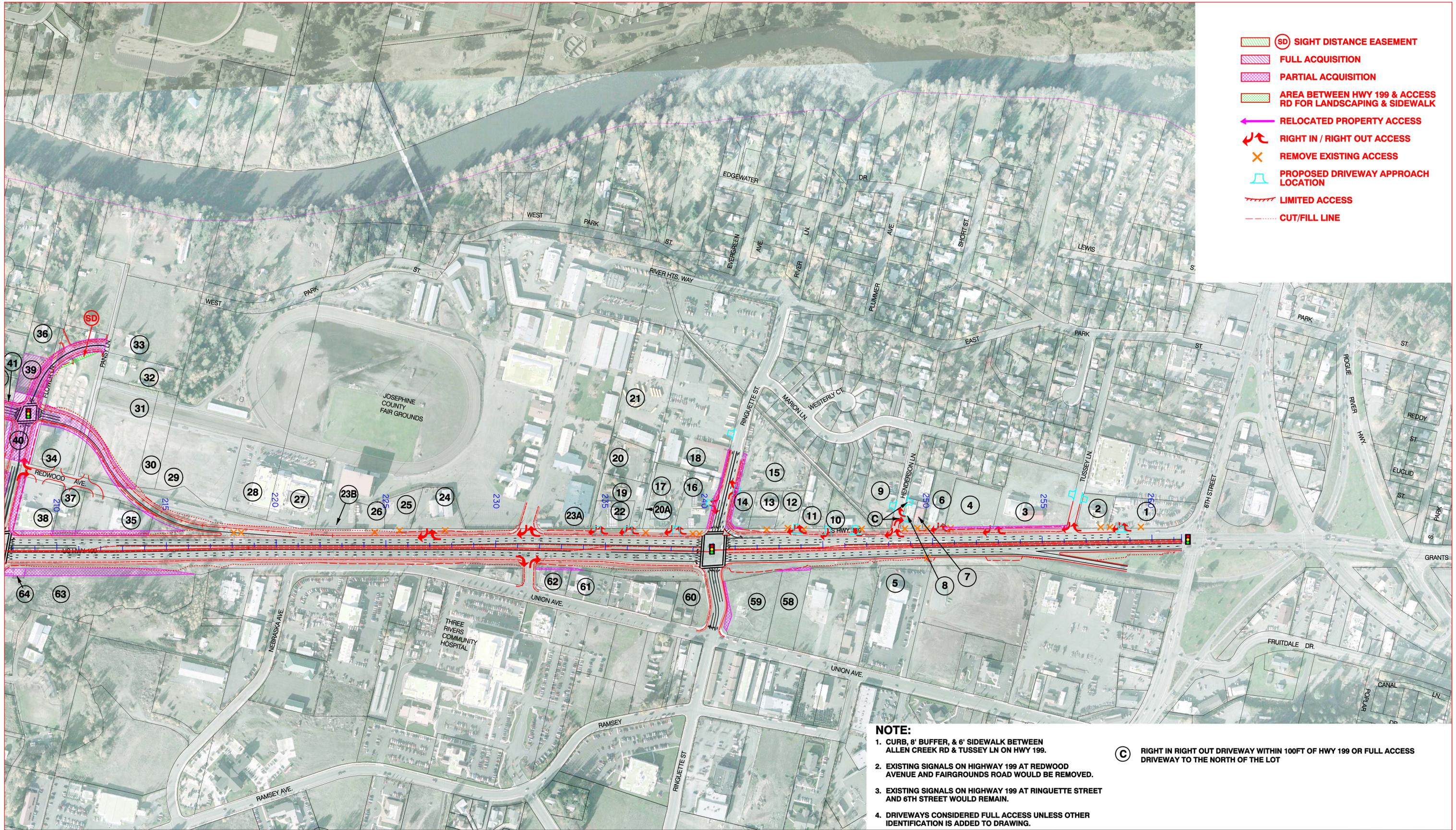
- (A)** NEW PUBLIC ROAD (FORMER REDWOOD AVENUE) FOR LOCAL ACCESS
- (B)** POTENTIAL SIGNAL
- (S)** SIGNAL WOULD BE LOCAL JURISDICTION'S RESPONSIBILITY



Date: 11/20/06

Highway 199 Expressway Project/ Access Management Strategy

Alternative A



- SD SIGHT DISTANCE EASEMENT
- FULL ACQUISITION
- PARTIAL ACQUISITION
- AREA BETWEEN HWY 199 & ACCESS RD FOR LANDSCAPING & SIDEWALK
- RELOCATED PROPERTY ACCESS
- RIGHT IN / RIGHT OUT ACCESS
- REMOVE EXISTING ACCESS
- PROPOSED DRIVEWAY APPROACH LOCATION
- LIMITED ACCESS
- CUT/FILL LINE

NOTE:

1. CURB, 8' BUFFER, & 6' SIDEWALK BETWEEN ALLEN CREEK RD & TUSSEY LN ON HWY 199.
2. EXISTING SIGNALS ON HIGHWAY 199 AT REDWOOD AVENUE AND FAIRGROUNDS ROAD WOULD BE REMOVED.
3. EXISTING SIGNALS ON HIGHWAY 199 AT RINGUETTE STREET AND 6TH STREET WOULD REMAIN.
4. DRIVEWAYS CONSIDERED FULL ACCESS UNLESS OTHER IDENTIFICATION IS ADDED TO DRAWING.

(C) RIGHT IN RIGHT OUT DRIVEWAY WITHIN 100FT OF HWY 199 OR FULL ACCESS DRIVEWAY TO THE NORTH OF THE LOT



Date: 11/20/06

Highway 199 Expressway Project/ Access Management Strategy

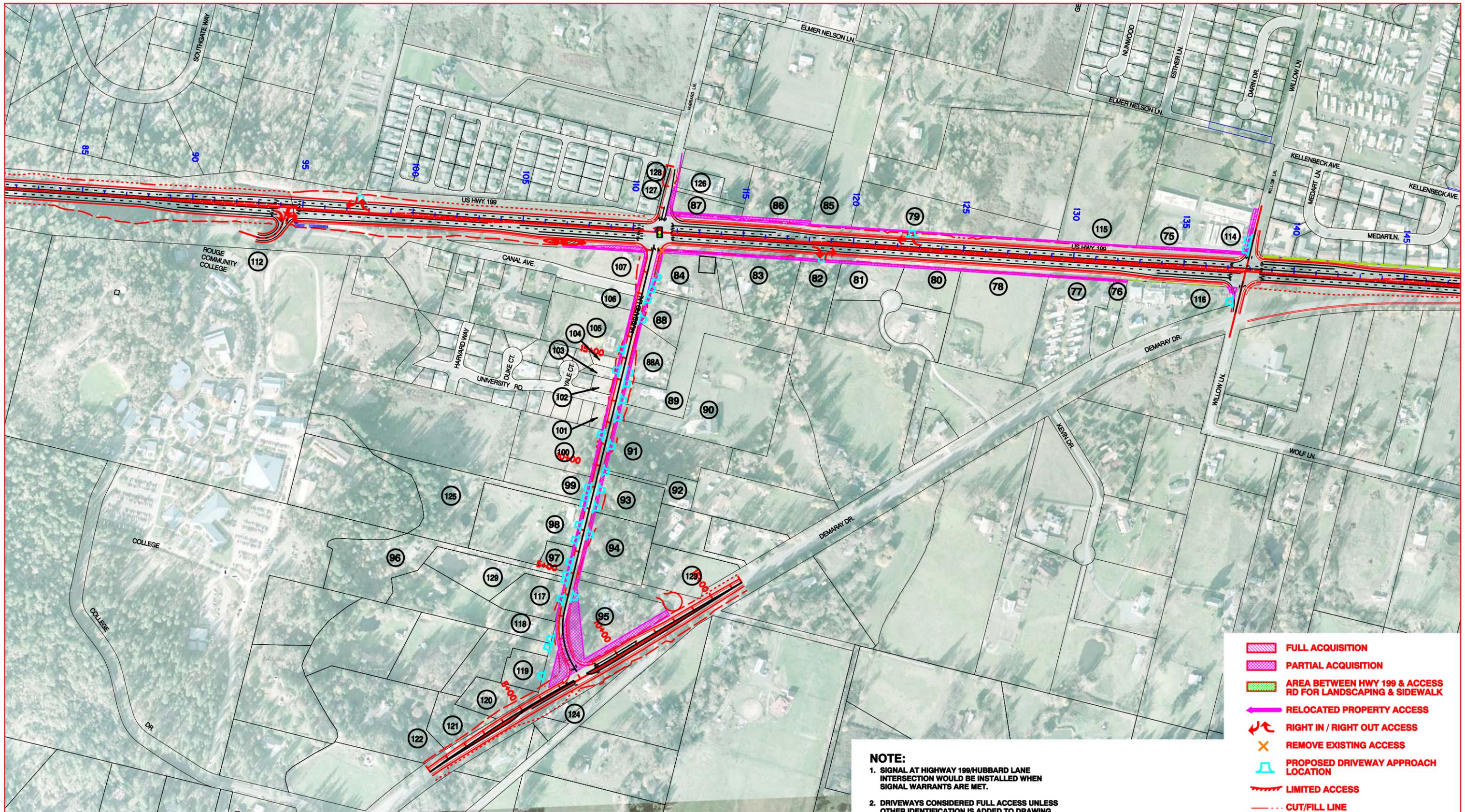
Alternative A



- FULL ACQUISITION
- PARTIAL ACQUISITION
- AREA BETWEEN HWY 199 & ACCESS RD FOR LANDSCAPING & SIDEWALK
- RELOCATED PROPERTY ACCESS
- RIGHT IN / RIGHT OUT ACCESS
- REMOVE EXISTING ACCESS
- PROPOSED DRIVEWAY APPROACH LOCATION
- LIMITED ACCESS
- CUT/FILL LINE

NOTE:
 1. DRIVEWAYS CONSIDERED FULL ACCESS UNLESS OTHER IDENTIFICATION IS ADDED TO DRAWING.



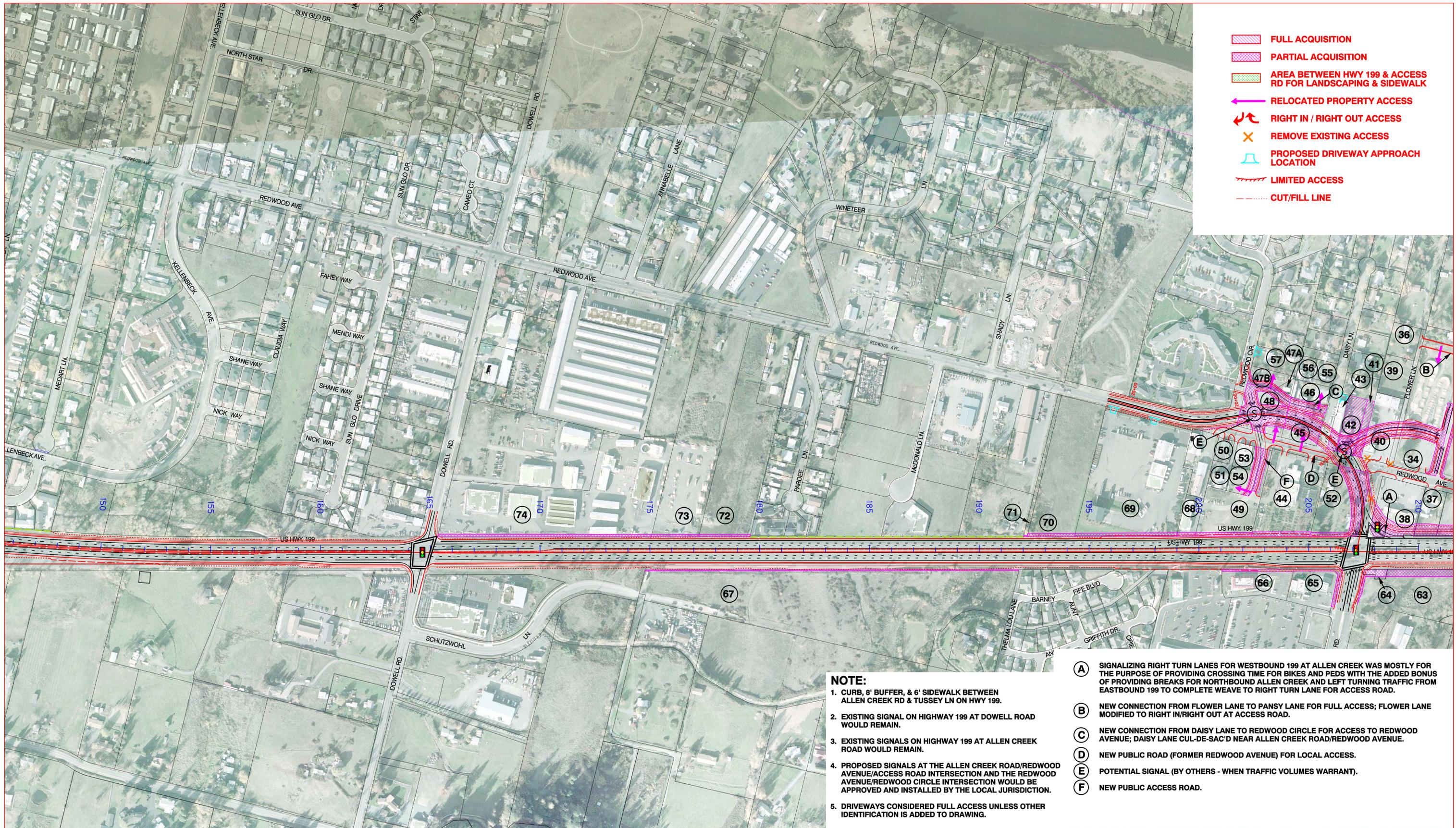


NOTE:
 1. SIGNAL AT HIGHWAY 199/HUBBARD LANE INTERSECTION WOULD BE INSTALLED WHEN SIGNAL WARRANTS ARE MET.
 2. DRIVEWAYS CONSIDERED FULL ACCESS UNLESS OTHER IDENTIFICATION IS ADDED TO DRAWING.

-  FULL ACQUISITION
-  PARTIAL ACQUISITION
-  AREA BETWEEN HWY 199 & ACCESS RD FOR LANDSCAPING & SIDEWALK
-  RELOCATED PROPERTY ACCESS
-  RIGHT IN / RIGHT OUT ACCESS
-  REMOVE EXISTING ACCESS
-  PROPOSED DRIVEWAY APPROACH LOCATION
-  LIMITED ACCESS
-  CUT/FILL LINE



-  FULL ACQUISITION
-  PARTIAL ACQUISITION
-  AREA BETWEEN HWY 199 & ACCESS RD FOR LANDSCAPING & SIDEWALK
-  RELOCATED PROPERTY ACCESS
-  RIGHT IN / RIGHT OUT ACCESS
-  REMOVE EXISTING ACCESS
-  PROPOSED DRIVEWAY APPROACH LOCATION
-  LIMITED ACCESS
-  CUT/FILL LINE

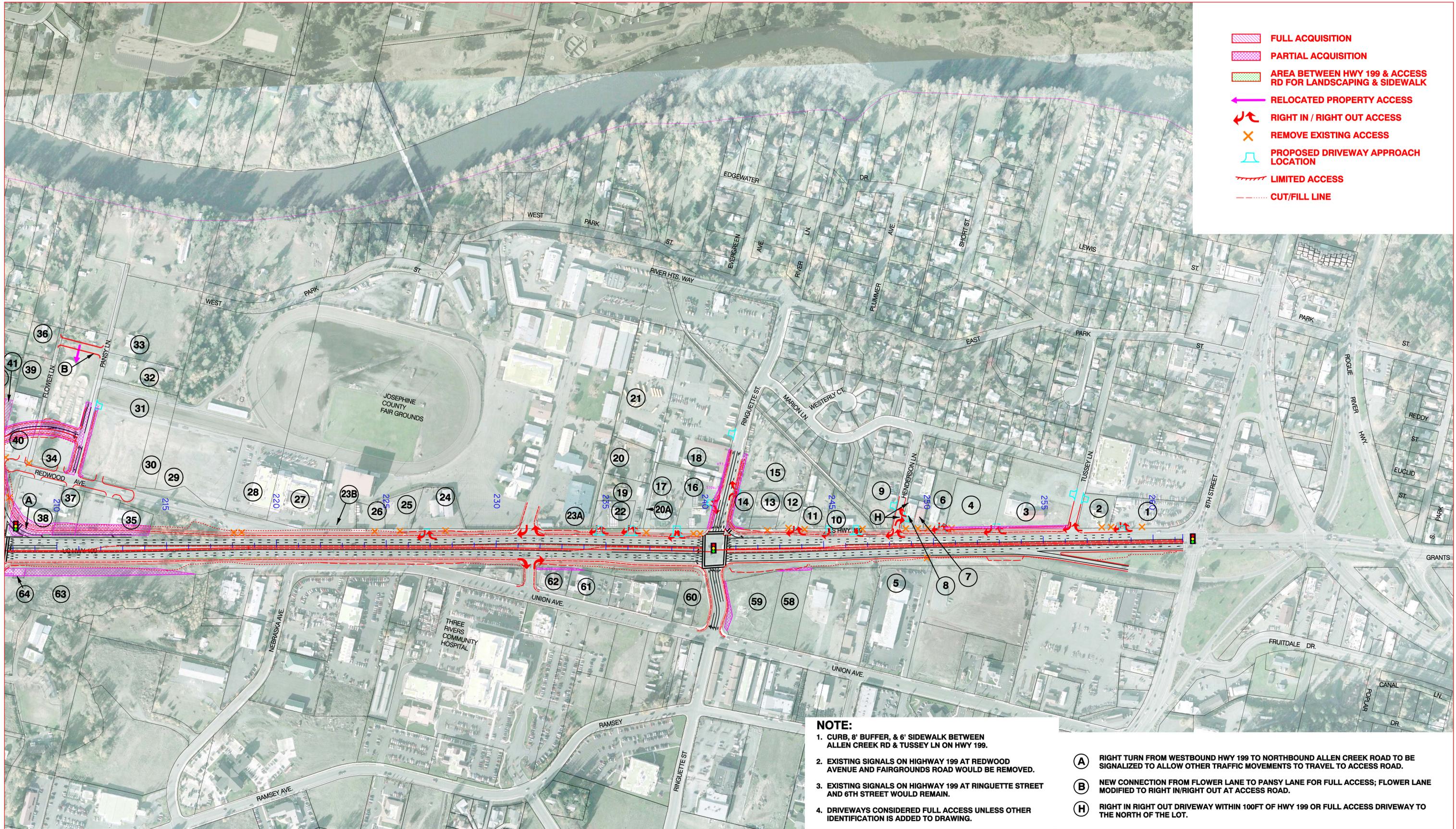


NOTE:

1. CURB, 8' BUFFER, & 6' SIDEWALK BETWEEN ALLEN CREEK RD & TUSSEY LN ON HWY 199.
2. EXISTING SIGNAL ON HIGHWAY 199 AT DOWELL ROAD WOULD REMAIN.
3. EXISTING SIGNALS ON HIGHWAY 199 AT ALLEN CREEK ROAD WOULD REMAIN.
4. PROPOSED SIGNALS AT THE ALLEN CREEK ROAD/REDWOOD AVENUE/ACCESS ROAD INTERSECTION AND THE REDWOOD AVENUE/REDWOOD CIRCLE INTERSECTION WOULD BE APPROVED AND INSTALLED BY THE LOCAL JURISDICTION.
5. DRIVEWAYS CONSIDERED FULL ACCESS UNLESS OTHER IDENTIFICATION IS ADDED TO DRAWING.

- (A)** SIGNALIZING RIGHT TURN LANES FOR WESTBOUND 199 AT ALLEN CREEK WAS MOSTLY FOR THE PURPOSE OF PROVIDING CROSSING TIME FOR BIKES AND PEDS WITH THE ADDED BONUS OF PROVIDING BREAKS FOR NORTHBOUND ALLEN CREEK AND LEFT TURNING TRAFFIC FROM EASTBOUND 199 TO COMPLETE WEAVE TO RIGHT TURN LANE FOR ACCESS ROAD.
- (B)** NEW CONNECTION FROM FLOWER LANE TO PANSY LANE FOR FULL ACCESS; FLOWER LANE MODIFIED TO RIGHT IN/RIGHT OUT AT ACCESS ROAD.
- (C)** NEW CONNECTION FROM DAISY LANE TO REDWOOD CIRCLE FOR ACCESS TO REDWOOD AVENUE; DAISY LANE CUL-DE-SAC'D NEAR ALLEN CREEK ROAD/REDWOOD AVENUE.
- (D)** NEW PUBLIC ROAD (FORMER REDWOOD AVENUE) FOR LOCAL ACCESS.
- (E)** POTENTIAL SIGNAL (BY OTHERS - WHEN TRAFFIC VOLUMES WARRANT).
- (F)** NEW PUBLIC ACCESS ROAD.

-  FULL ACQUISITION
-  PARTIAL ACQUISITION
-  AREA BETWEEN HWY 199 & ACCESS RD FOR LANDSCAPING & SIDEWALK
-  RELOCATED PROPERTY ACCESS
-  RIGHT IN / RIGHT OUT ACCESS
-  REMOVE EXISTING ACCESS
-  PROPOSED DRIVEWAY APPROACH LOCATION
-  LIMITED ACCESS
-  CUT/FILL LINE



NOTE:

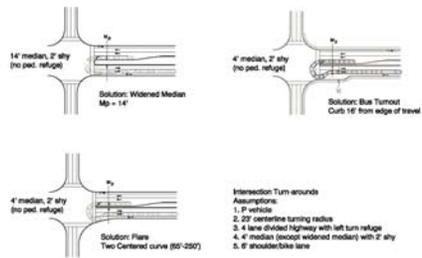
1. CURB, 8' BUFFER, & 6' SIDEWALK BETWEEN ALLEN CREEK RD & TUSSEY LN ON HWY 199.
2. EXISTING SIGNALS ON HIGHWAY 199 AT REDWOOD AVENUE AND FAIRGROUNDS ROAD WOULD BE REMOVED.
3. EXISTING SIGNALS ON HIGHWAY 199 AT RINGUETTE STREET AND 6TH STREET WOULD REMAIN.
4. DRIVEWAYS CONSIDERED FULL ACCESS UNLESS OTHER IDENTIFICATION IS ADDED TO DRAWING.

- (A)** RIGHT TURN FROM WESTBOUND HWY 199 TO NORTHBOUND ALLEN CREEK ROAD TO BE SIGNALIZED TO ALLOW OTHER TRAFFIC MOVEMENTS TO TRAVEL TO ACCESS ROAD.
- (B)** NEW CONNECTION FROM FLOWER LANE TO PANSY LANE FOR FULL ACCESS; FLOWER LANE MODIFIED TO RIGHT IN/RIGHT OUT AT ACCESS ROAD.
- (H)** RIGHT IN RIGHT OUT DRIVEWAY WITHIN 100FT OF HWY 199 OR FULL ACCESS DRIVEWAY TO THE NORTH OF THE LOT.

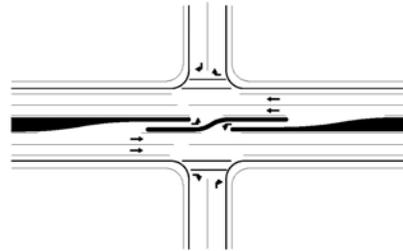


APPENDIX C

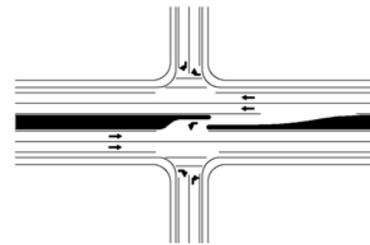
Alternatives Considered but Withdrawn



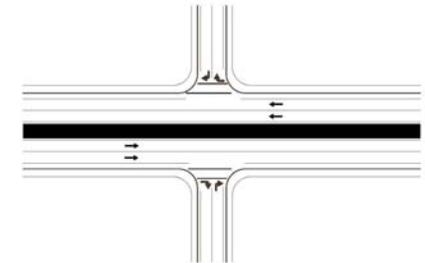
(A) U-Turn at Intersection



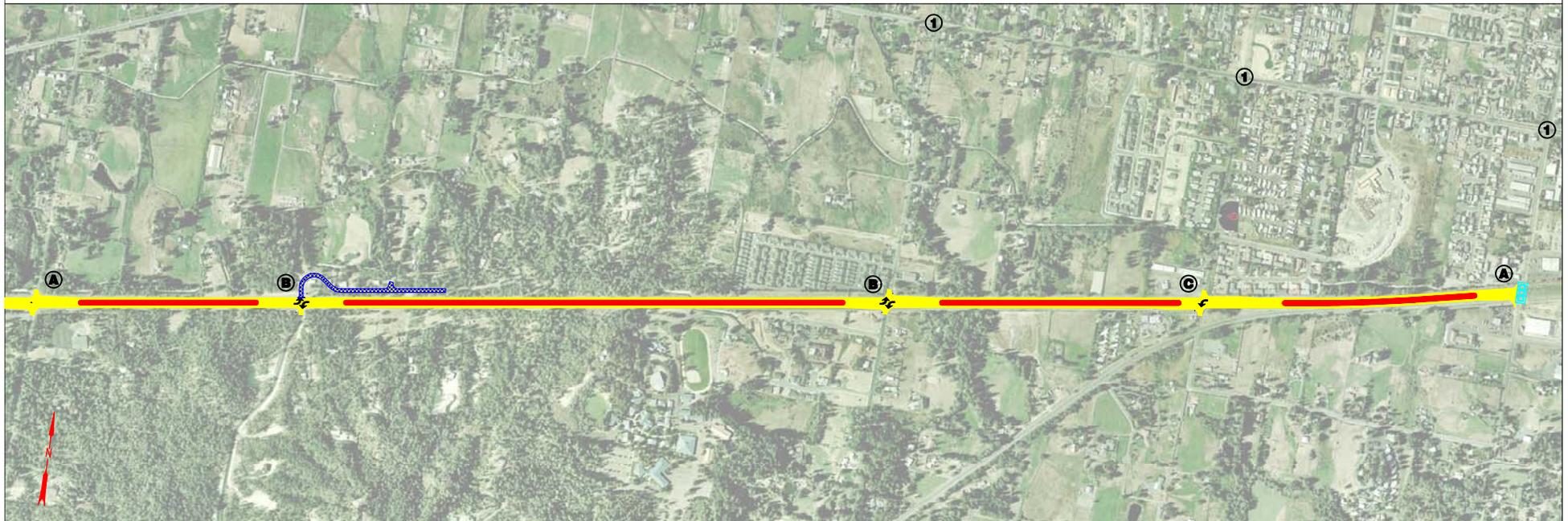
(B) Left Ingress from Both Directions



(C) Left Ingress from One Direction



(Typ) Raised Median



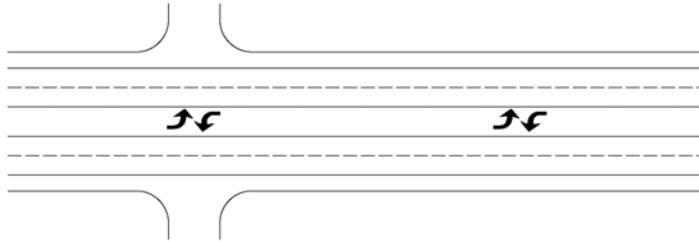
- FEATURES**
- U-Turn Permitted at Midway Ave. & Dowell Rd.
 - 4 Lane Section with Barrier (Entire Length)
 - Frontage Road Near Arbor Ridge Ln.

- NOTES**
- ① - Intersection Will Be Evaluated

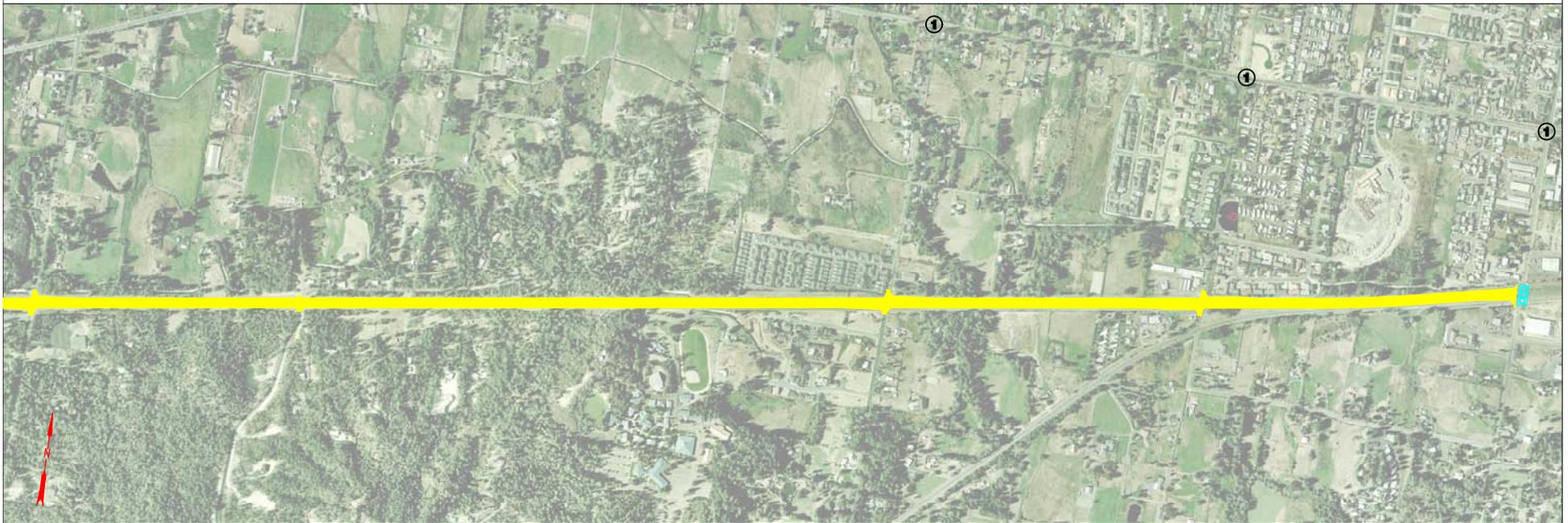


- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY

CONCEPT: WEST - 1
05/09/05

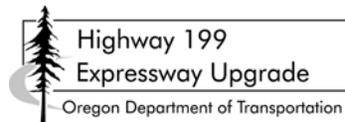


Typ Two-Way Left Turn Lane



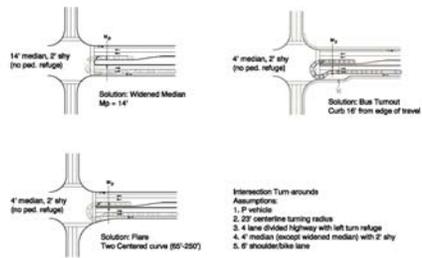
- FEATURES**
- Two Way Left Turn Lane Along Corridor
 - Remove Left Ingress Feature at Willow Ln.

- NOTES**
- ① - Intersection Will Be Evaluated

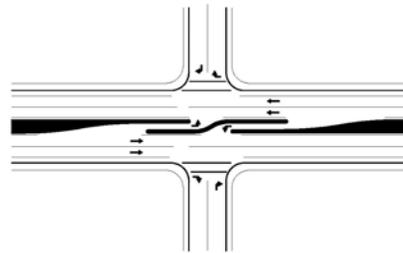


-  EXISTING / IMPROVED ROADWAY
-  NEW ROADWAY

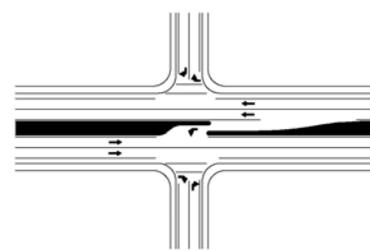
CONCEPT: WEST - 2
05/09/05



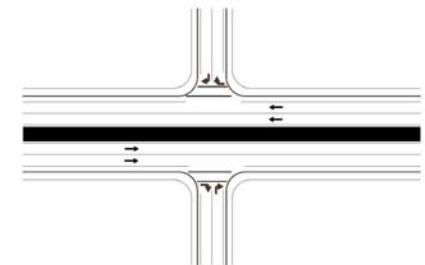
(A) U-Turn at Intersection



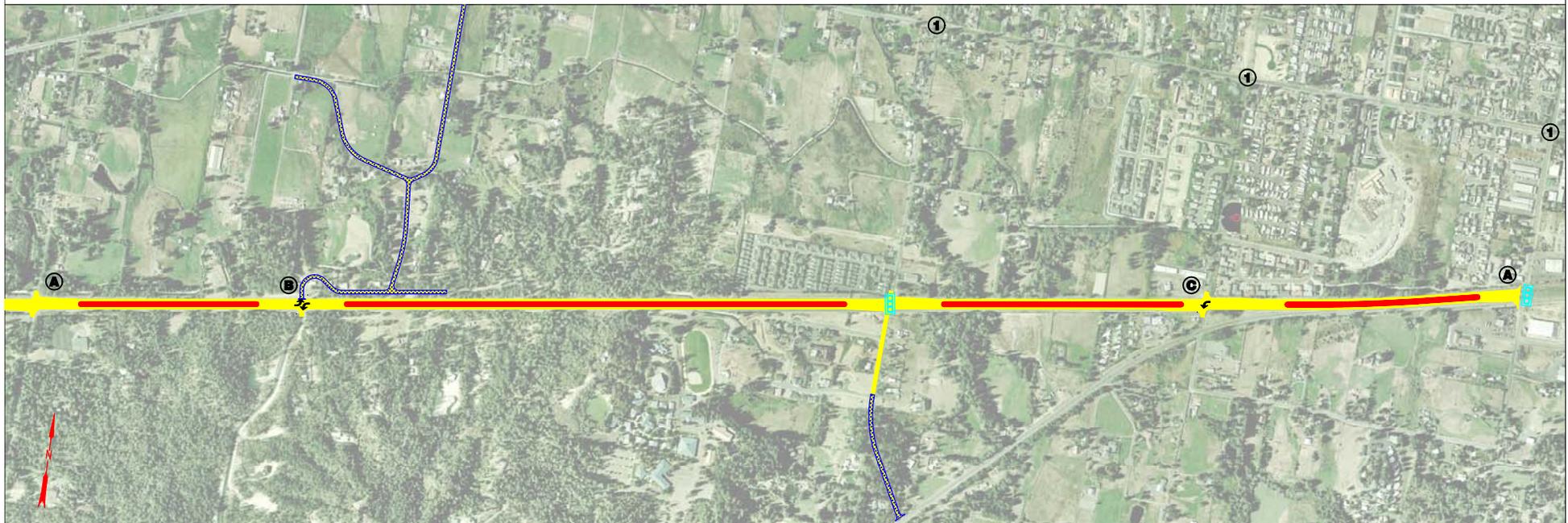
(B) Left Ingress from Both Directions



(C) Left Ingress from One Direction

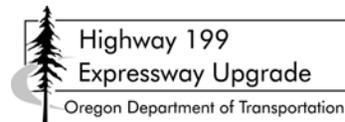


(Typ) Raised Median



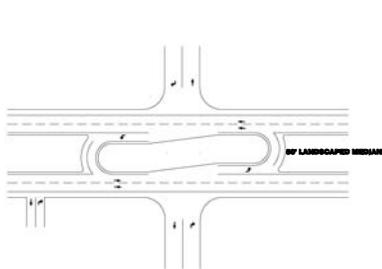
- FEATURES**
- New Signal at Hubbard Ln.
 - Frontage Road Near Arbor Ridge Dr.
 - Connect Dawn Dr. to Redwood Ave.
 - Extend / Improve Hubbard Ln. to Connect to Demaray Dr.
 - Median Entire Length. Breaks at Dawn Dr. / Arbor Ridge Dr., Hubbard Ln., & Willow Ln.
 - U-Turn Permitted at Midway Ave., Hubbard Ln., & Dowell Rd.

NOTES
 ① - Intersection Will Be Evaluated

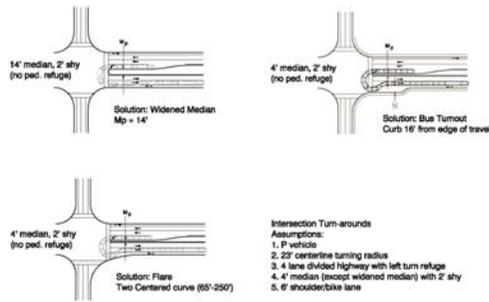


- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY

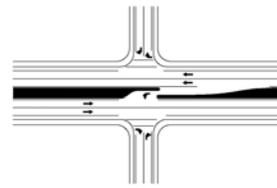
CONCEPT: WEST - 3
06/03/05



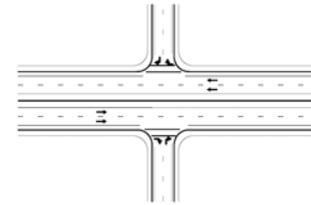
A Indirect Left Turn
 (Length of Indirect Left Turn Will Vary Dependunt Upon Traffic Analysis and Weaving Lengths)



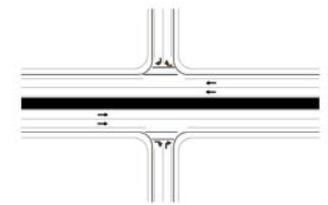
B U-Turn at Intersection



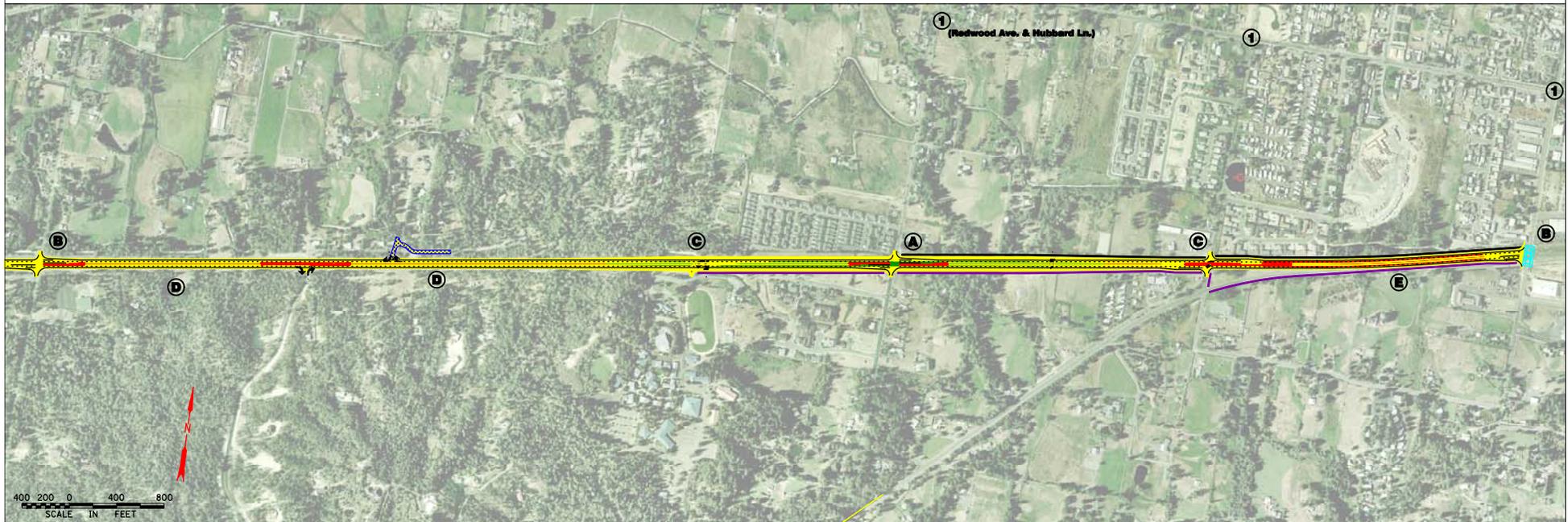
C Left Ingress from One Direction



D Median Barrier



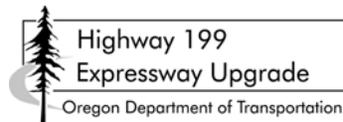
E Raised Median



- FEATURES**
- Wide Median Willow Ln to College Entrance
 - Frontage Road at Dawn Dr.
 - RIRO at Hubbard Ln.
 - Left Turn Ingress at College Includes U-Turn

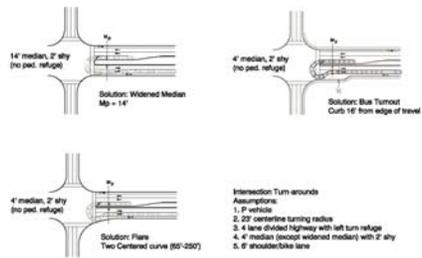
NOTES

① - Intersection Will Be Evaluated

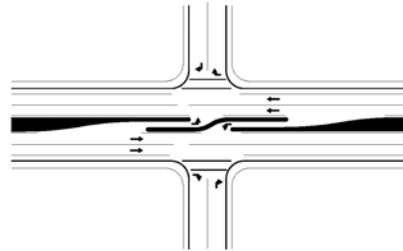


- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY
- EXISTING MULTI-USE PATH
- NEW MULTI-USE PATH
- LANDSCAPED MEDIAN

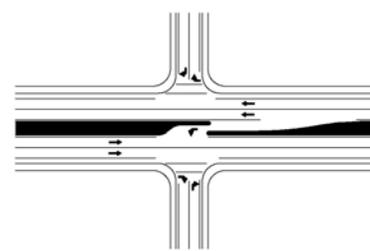
**CONCEPT: WEST - 4
 SEPTEMBER 2005**



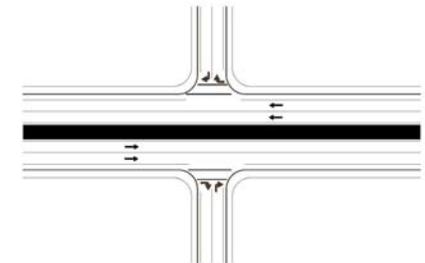
(A) U-Turn at Intersection



(B) Left Ingress from Both Directions



(C) Left Ingress from One Direction



(Typ) Raised Median



- FEATURES**
- Raised Median Dowell Rd. to Midway Ave.
 - Left Ingress SB at Willow Ln.
 - Signal at Hubbard Ln.
 - Extend / Improve Hubbard Ln. to Demaray Dr.
 - Left Ingress SB at RCC
 - Signal at Midway Ave.
 - U-Turns Allowed at Dowell Rd. and Midway Ave.

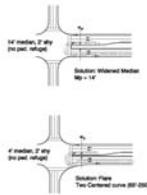
NOTES
 ① - Intersection Will Be Evaluated

OPTION
 - Under-Crossing at Willow Ln. if Grade Allows

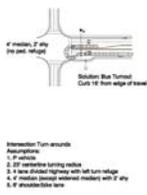


- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY

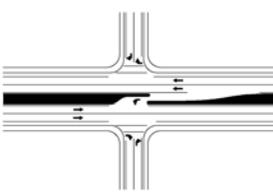
CONCEPT: WEST - 5
06/03/05



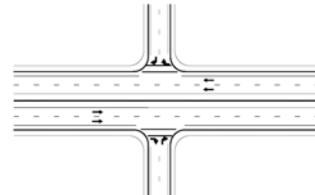
A U-Turn at Intersection



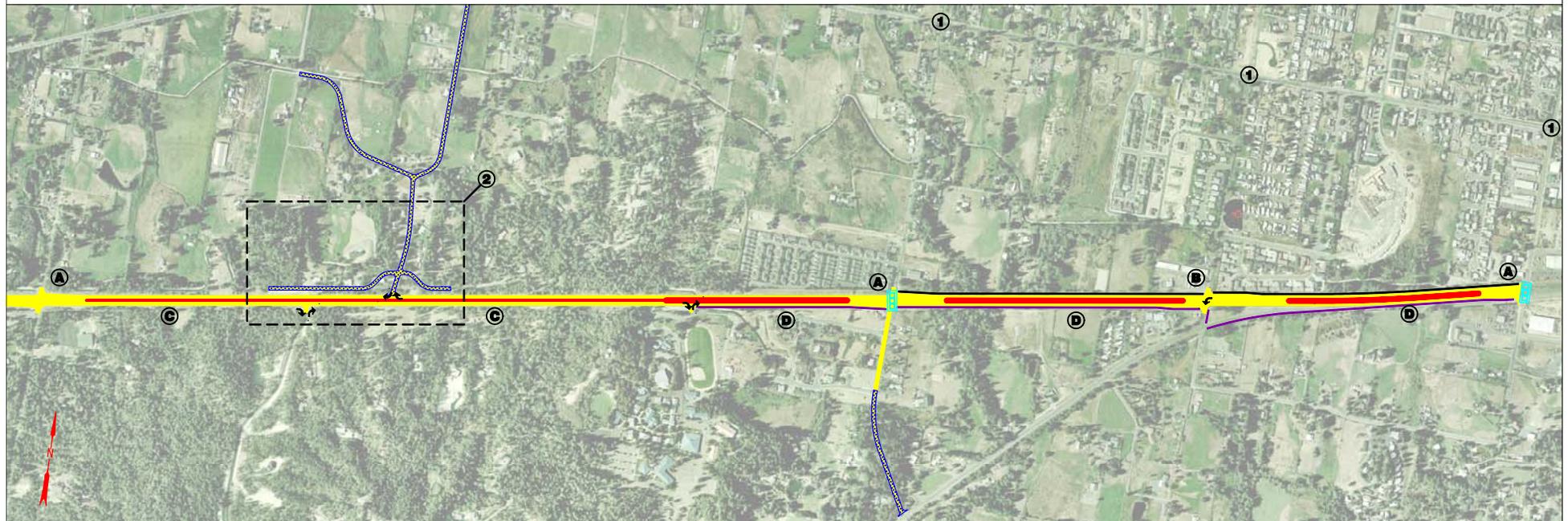
B Left Ingress from One Direction



C Median Barrier



D Raised Median



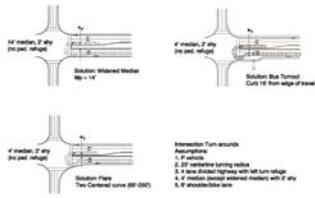
- FEATURES**
- U-Turn Permitted at Midway Ave., Hubbard Ln., & Dowell Rd.
 - 4 Lane Section with Barrier (Entire Length)
 - Frontage Road Near Arbor Ridge Dr.
 - Connect Hubbard Ln. to Demarsy Dr.

- NOTES**
- ① - Intersection Will Be Evaluated
 - ② - Further Analysis Required

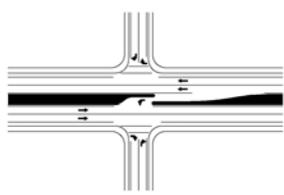
Highway 199
Expressway Upgrade
Oregon Department of Transportation

- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY
- EXISTING MULTI-USE PATH
- NEW MULTI-USE PATH

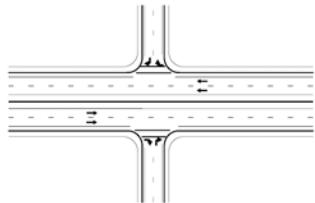
CONCEPT: WEST - 7
06/03/05



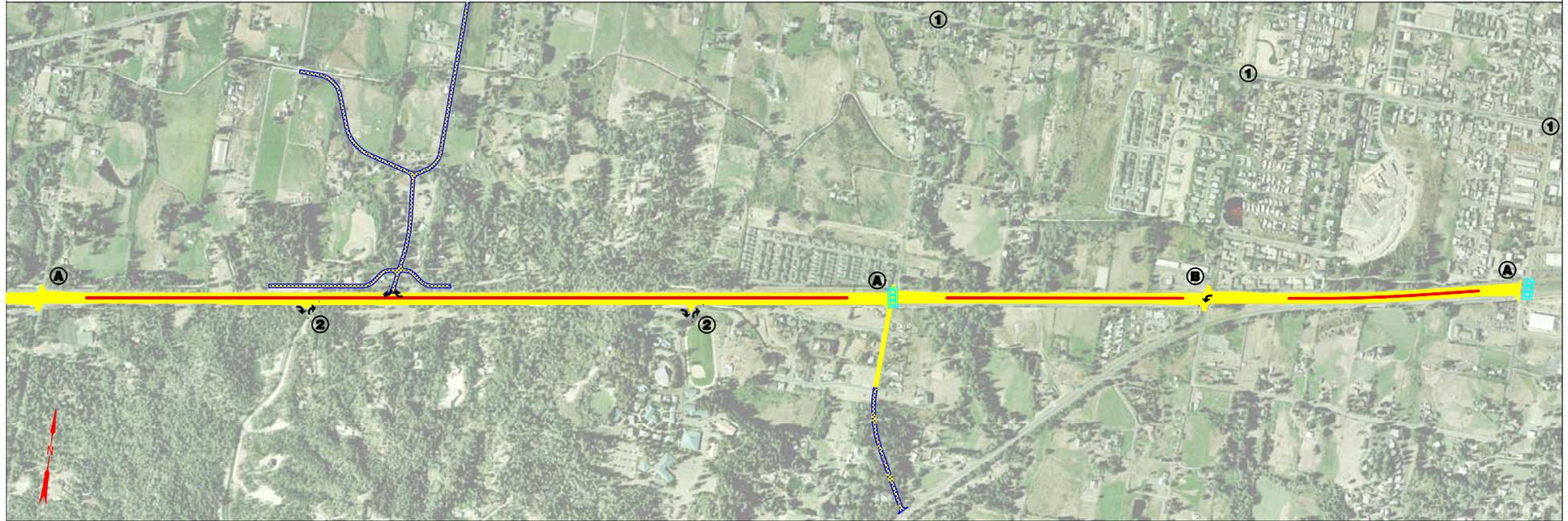
A U-Turn at Intersection



B Left Ingress from One Direction



Typ Median Barrier



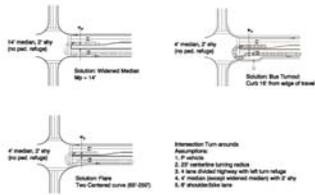
- FEATURES**
- U-Turn Permitted at Midway Ave., Hubbard Ln., & Dowell Rd.
 - 4 Lane Section with Barrier (Entire Length)
 - Connect Hubbard Ln. to Demaray Dr.
 - Frontage Road Near Dawn Dr. with Connections North to Redwood Ave.

- NOTES**
- ① - Intersection Will Be Evaluated
 - ② - RI / RO with Acceleration and Deceleration Lanes

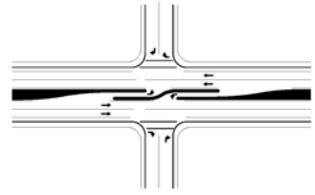

**Highway 199
Expressway Upgrade**
 Oregon Department of Transportation

 EXISTING / IMPROVED ROADWAY
 NEW ROADWAY

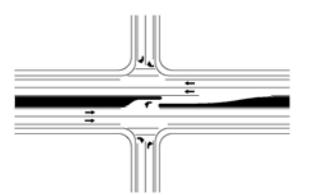
CONCEPT: WEST - CAC-1
06/03/05



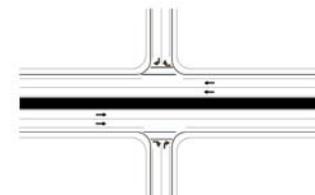
A U-Turn at Intersection



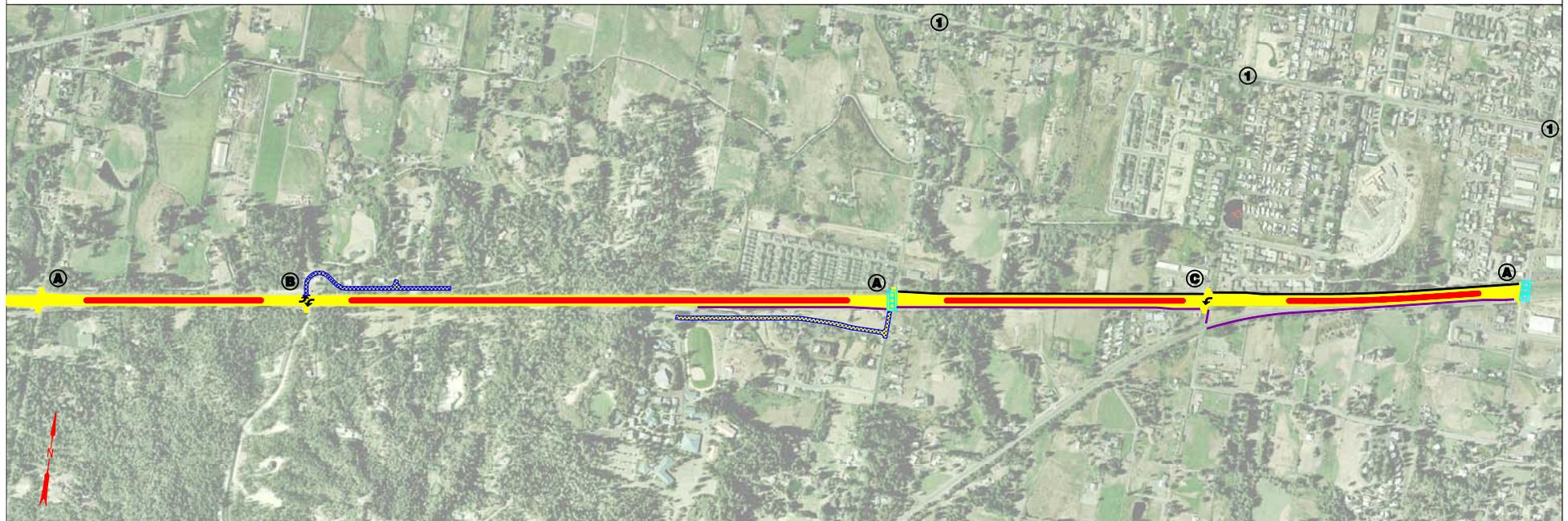
B Left Ingress from Both Directions



C Left Ingress from One Direction



Typ Raised Median



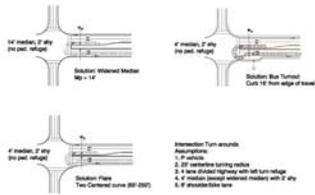
- FEATURES**
- U-Turn Permitted at Midway Ave., Hubbard Ln., & Dowell Rd.
 - 4 Lane Section with Barrier (Entire Length)
 - Frontage Road Near Arbor Ridge Ln.
 - Connect Hubbard Ln. to Demaray Dr.
 - Pedestrian/Bike Refuge at Willow Dr.
 - Close Existing Rogue Community College Entrance.
 - Local Road Extended to Allow Access from Hubbard Ln.

- NOTES**
- ① - Intersection Will Be Evaluated

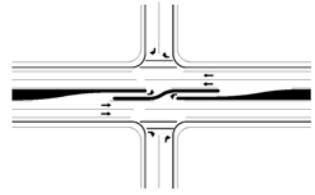
Highway 199
 Expressway Upgrade
 Oregon Department of Transportation

- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY
- EXISTING MULTI-USE PATH
- NEW MULTI-USE PATH

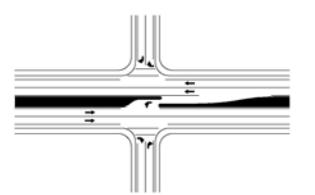
CONCEPT: WEST - CAC-2
06/03/05



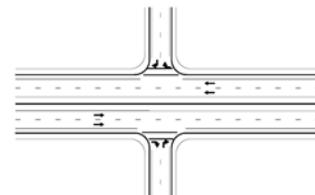
A U-Turn at Intersection



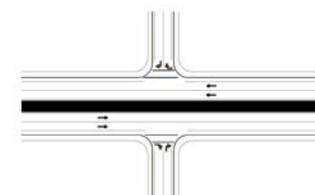
B Left Ingress from Both Directions



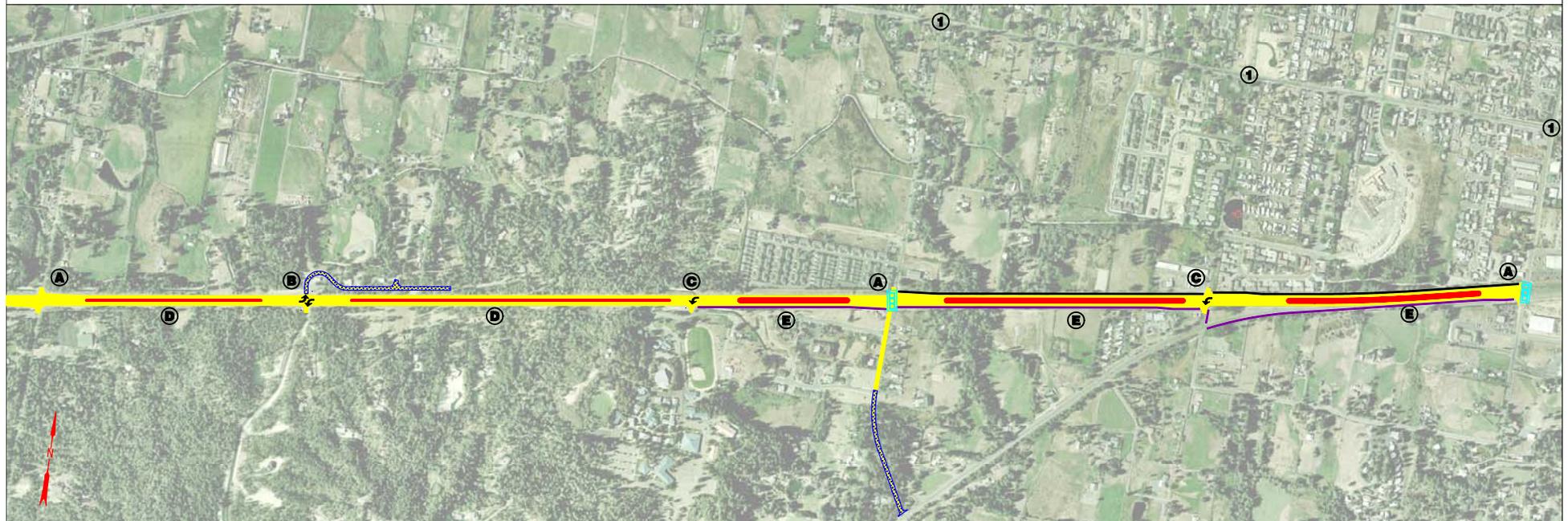
C Left Ingress from One Direction



D Median Barrier



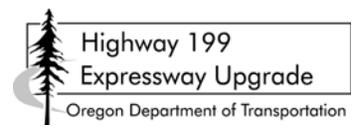
E Raised Median



- FEATURES**
- U-Turn Permitted at Midway Ave., Hubbard Ln., & Dowell Rd.
 - 4 Lane Section with Barrier (Entire Length)
 - Frontage Road Near Arbor Ridge Ln.
 - Connect Hubbard Ln. to Demarsy Dr.

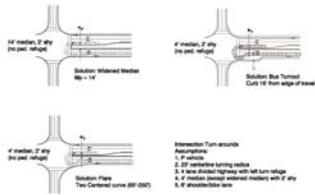
NOTES

① - Intersection Will Be Evaluated

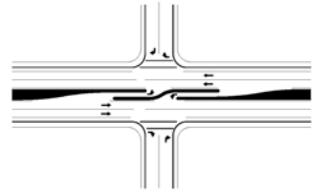


- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY
- EXISTING MULTI-USE PATH
- NEW MULTI-USE PATH

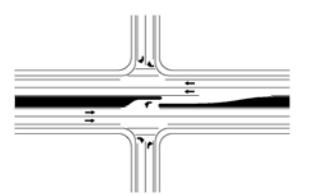
CONCEPT: WEST - PDT-1
06/03/05



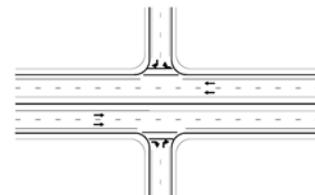
A U-Turn at Intersection



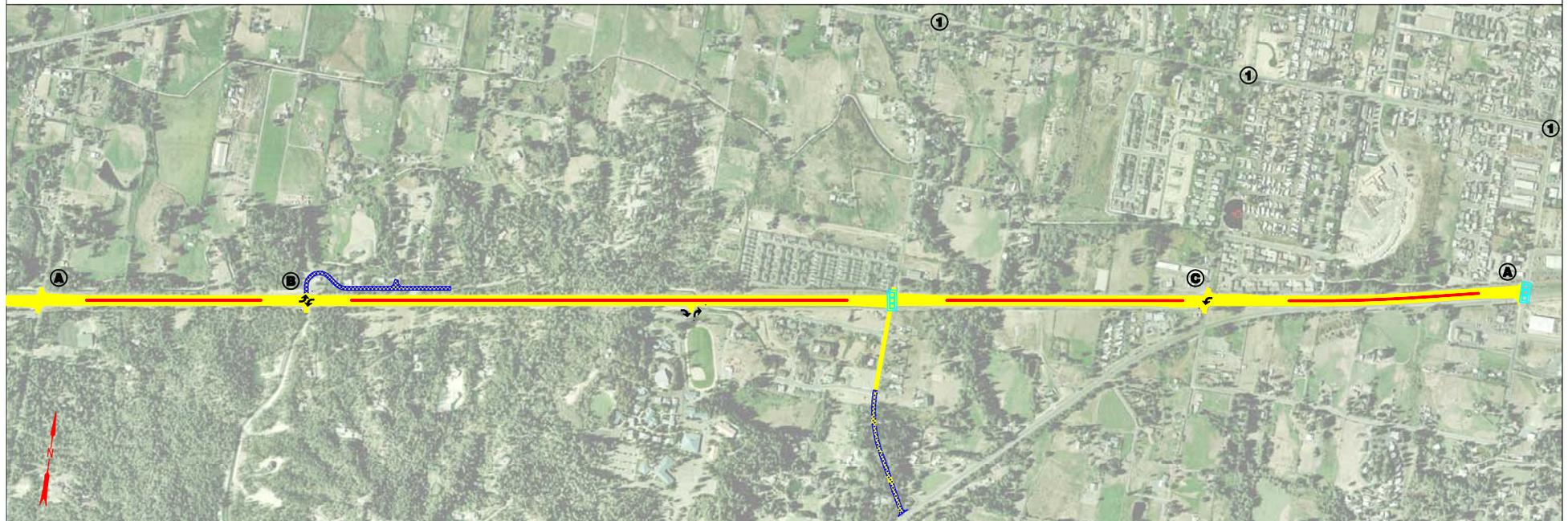
B Left Ingress from Both Directions



C Left Ingress from One Direction



Typ Median Barrier



- FEATURES**
- U-Turn Permitted at Midway Ave. & Dowell Rd.
 - 4 Lane Section with Barrier (Entire Length)
 - Frontage Road Near Arbor Ridge Ln.
 - Connect Hubbard Ln. to Demaray Dr.
 - R/VRO at Rogue Community College
 - Pedestrian/Bike Refuge at Hubbard Ln.
 - School Bus Turnouts at Arbor Ridge Dr.

NOTES

① - Intersection Will Be Evaluated

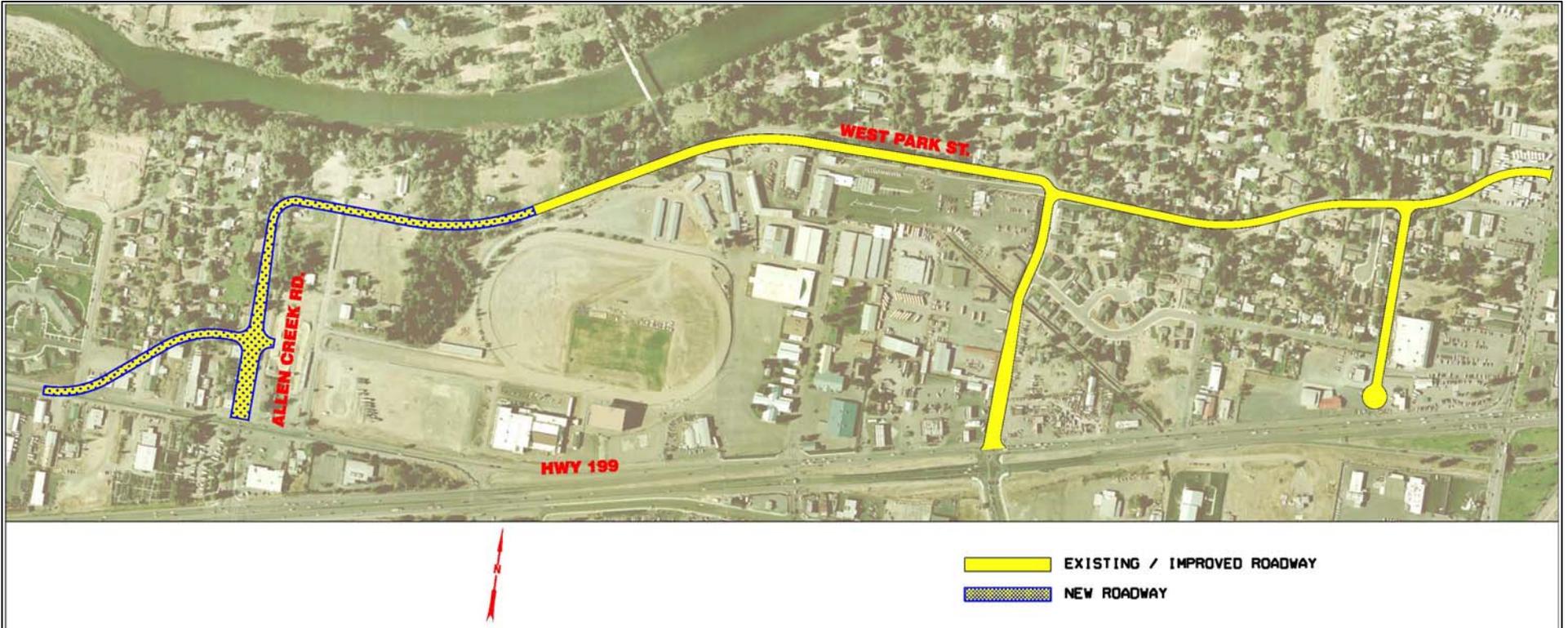
Highway 199
Expressway Upgrade

Oregon Department of Transportation

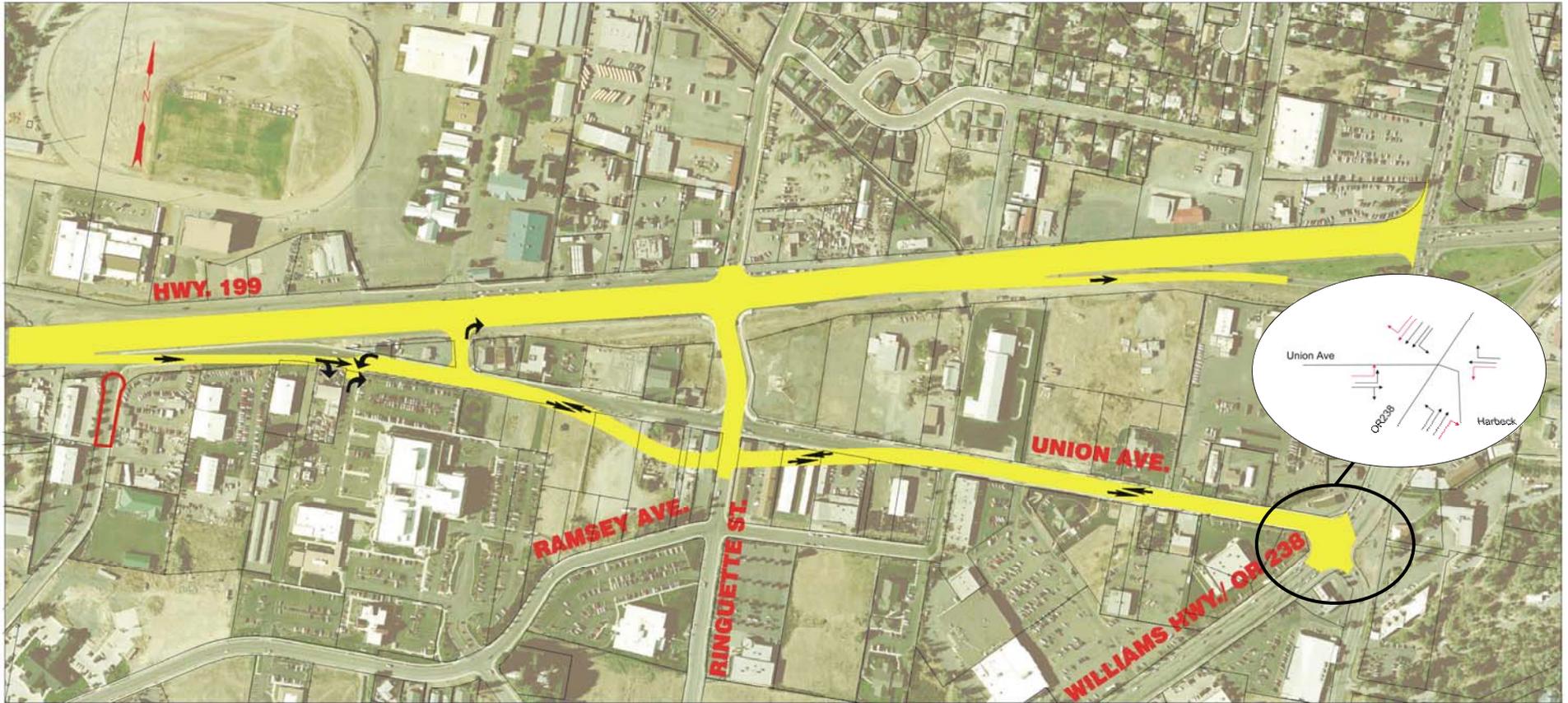
- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY

CONCEPT: WEST - PDT-2
06/03/05

West Park Connector Concept



Union Slip Ramp Concept





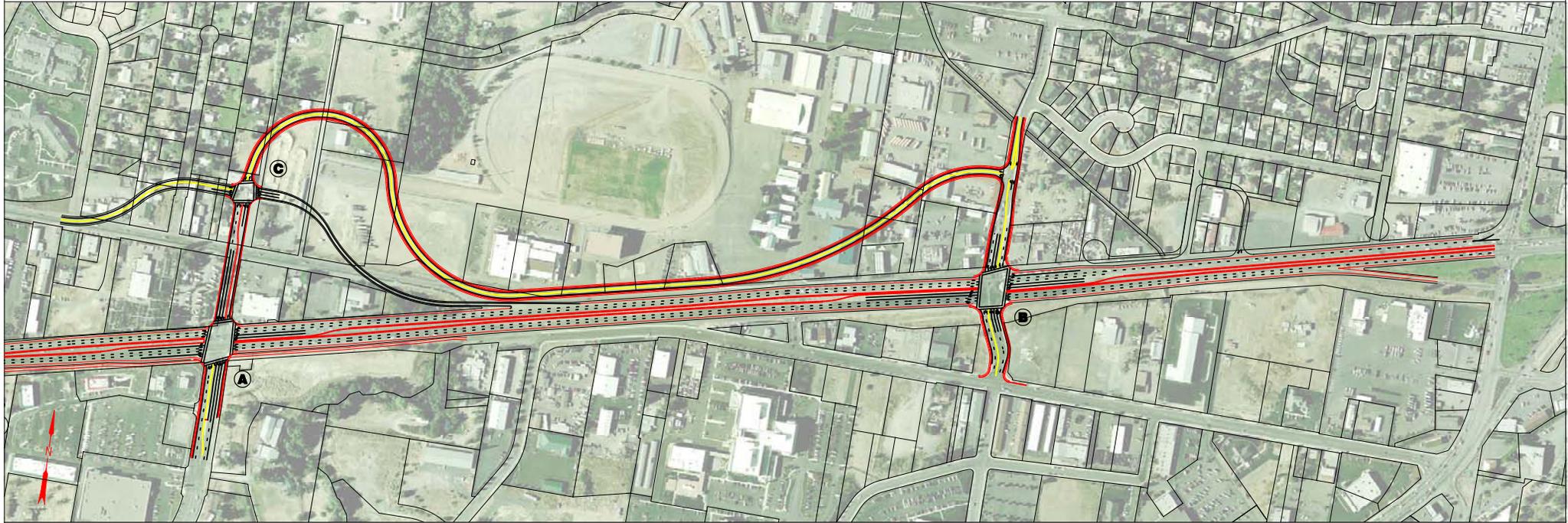
A HWY 199 at ALLEN CREEK



B HWY 199 at RINGUETTE



C REDWOOD at ALLEN CREEK

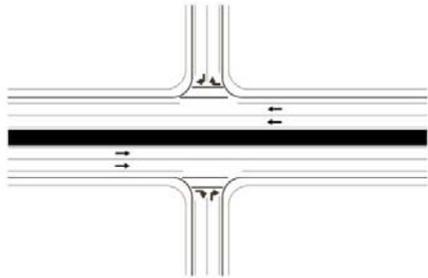


- FEATURES**
- No U-Turns at Signals
 - Access Closed from Hwy. 199 to Tussey Ln.


**Highway 199
Expressway Upgrade**
 Oregon Department of Transportation

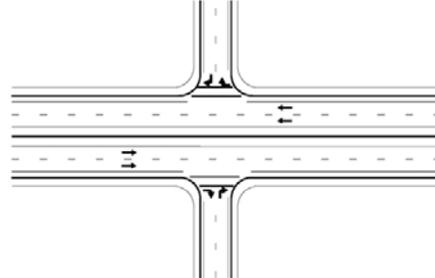


CONCEPT: EAST - 2
10/07/05

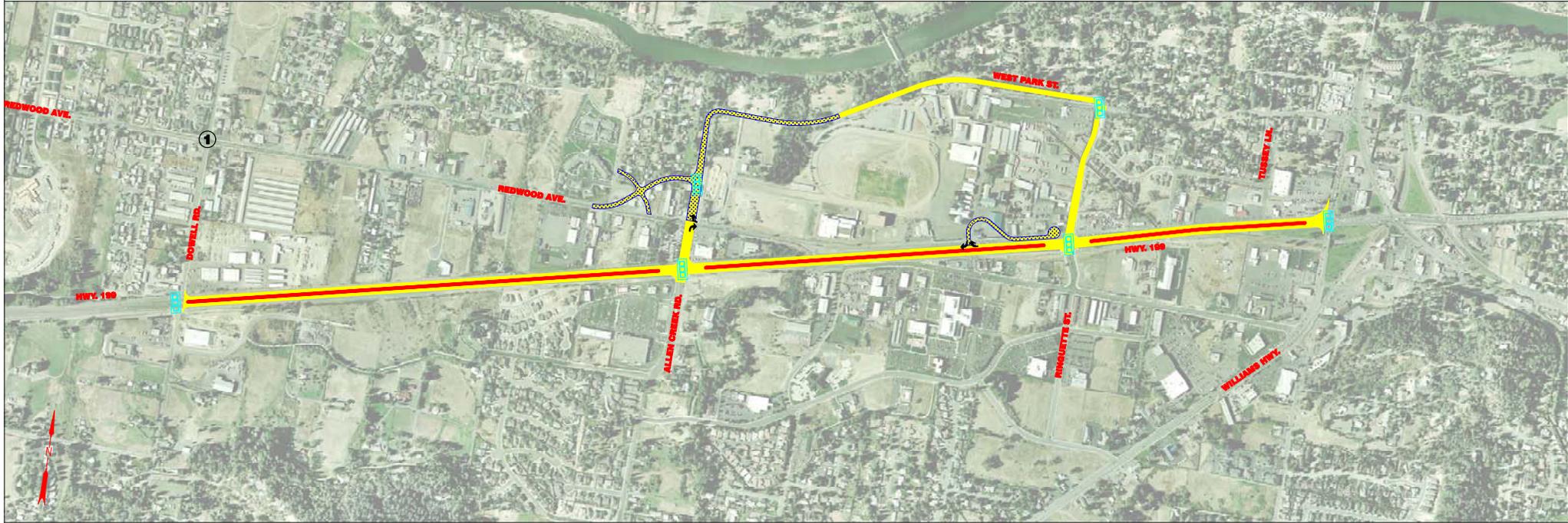


Typ Raised Median

OR

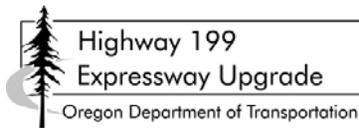


Typ Median Barrier



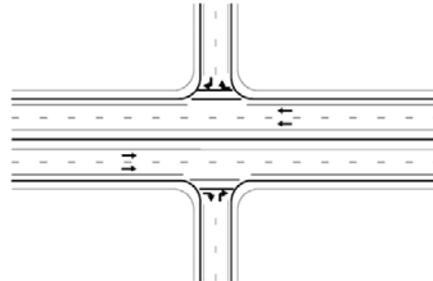
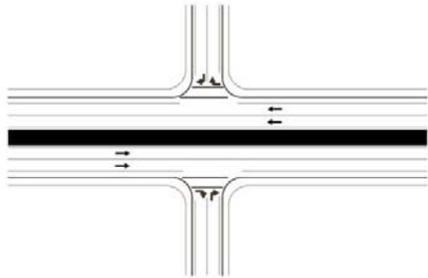
FEATURES
 - U-Turn Allowed at Allen Creek Rd.

NOTES
 ① - Intersection will be Evaluated
 2 - Proposed Signal Locations Pending Traffic Analysis and Modeling



 EXISTING / IMPROVED ROADWAY
 NEW ROADWAY

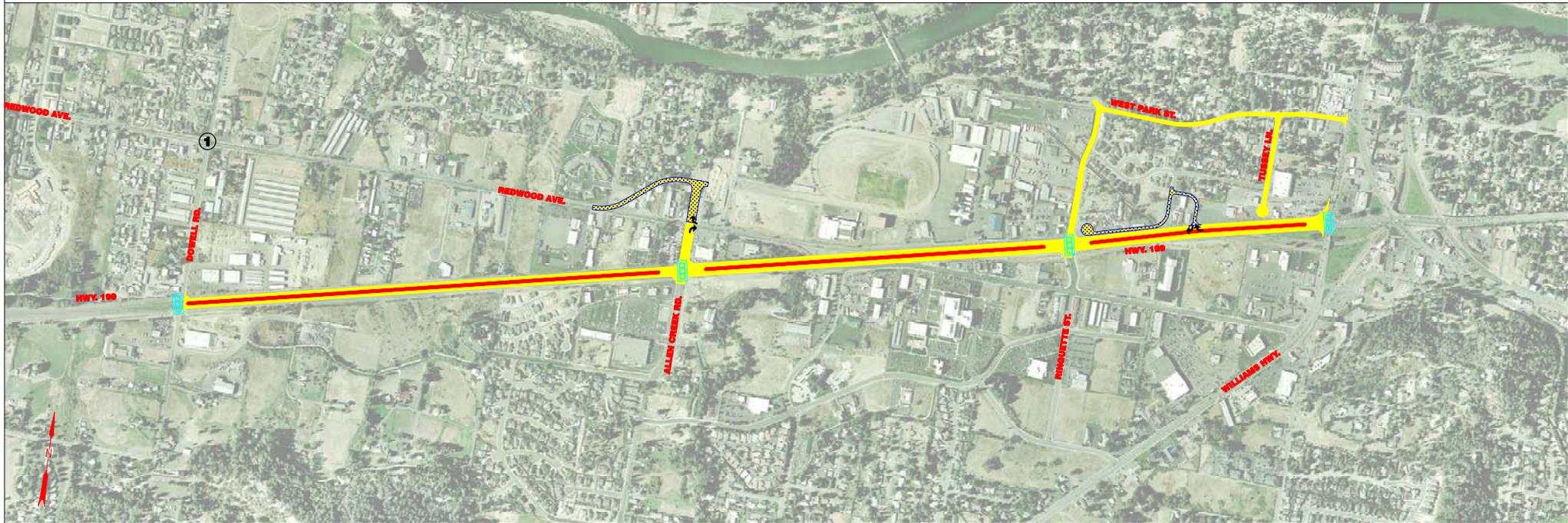
CONCEPT: EAST - 3
05/09/05



Typ Raised Median
 (3 Lanes Each Direction Between Allen Creek Rd. & Tussey Ln.)

OR

Typ Median Barrier



- FEATURES**
- No U-Turns at Signals
 - Access Closed from Hwy. 199 to Tussey Ln.
 - 6 Lane Section with Barrier Allen Creek Rd. to Tussey Ln., 4 Lane Section with Barrier Elsewhere

- NOTES**
- ① - Intersection will be Evaluated
 - 2 - Proposed Signal Locations Pending Traffic Analysis and Modeling

Highway 199
 Expressway Upgrade
 Oregon Department of Transportation

- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY

CONCEPT: EAST - 4
05/09/05



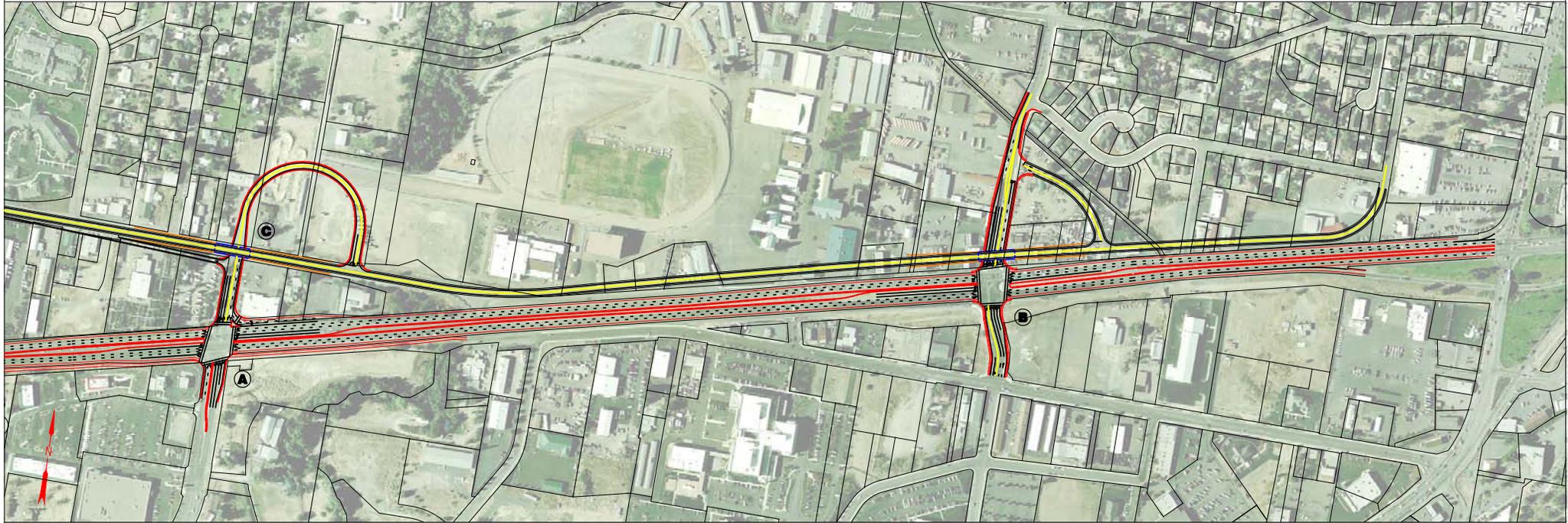
A HWY 199 at ALLEN CREEK



B HWY 199 at RINGUETTE



C REDWOOD at ALLEN CREEK

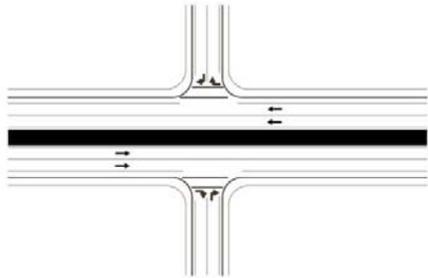


FEATURES
 - Frontage Road Bridges at Ringuette St. and
 Allen Creek Rd.

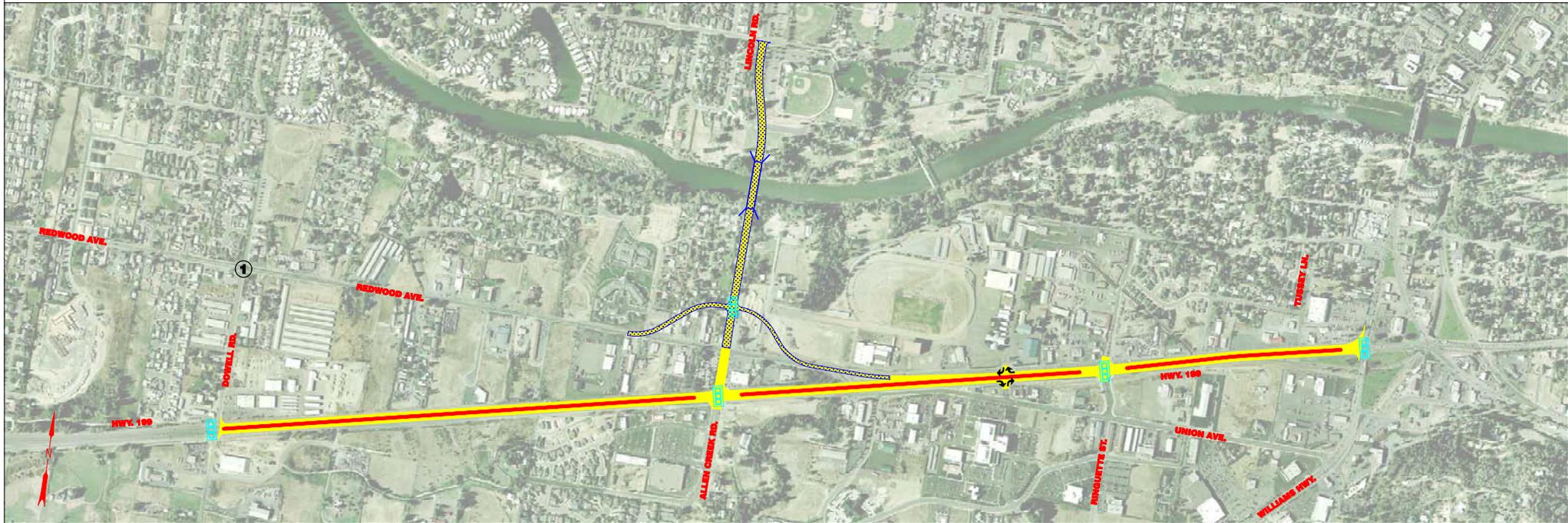

**Highway 199
 Expressway Upgrade**
 Oregon Department of Transportation

200 100 0 200 400
 SCALE IN FEET

CONCEPT: EAST - 5
10/07/05



Typ Raised Median

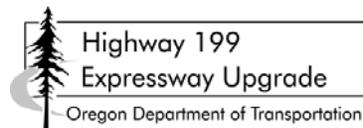


FEATURES

- U-Turn Permitted at Ringuette St. Only
- Extend Allen Creek Rd. to Lincoln Rd., New Rogue River Crossing
- Rogue River Bridge and Allen Creek Rd. Extension Have 4 Travel Lanes

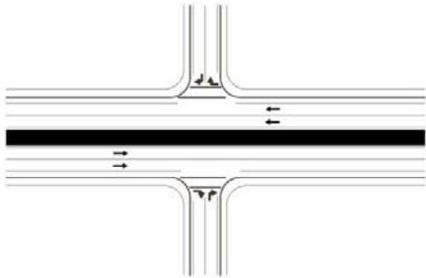
NOTES

- ① - Intersection will be Evaluated
- 2 - Proposed Signal Locations Pending Traffic Analysis and Modeling

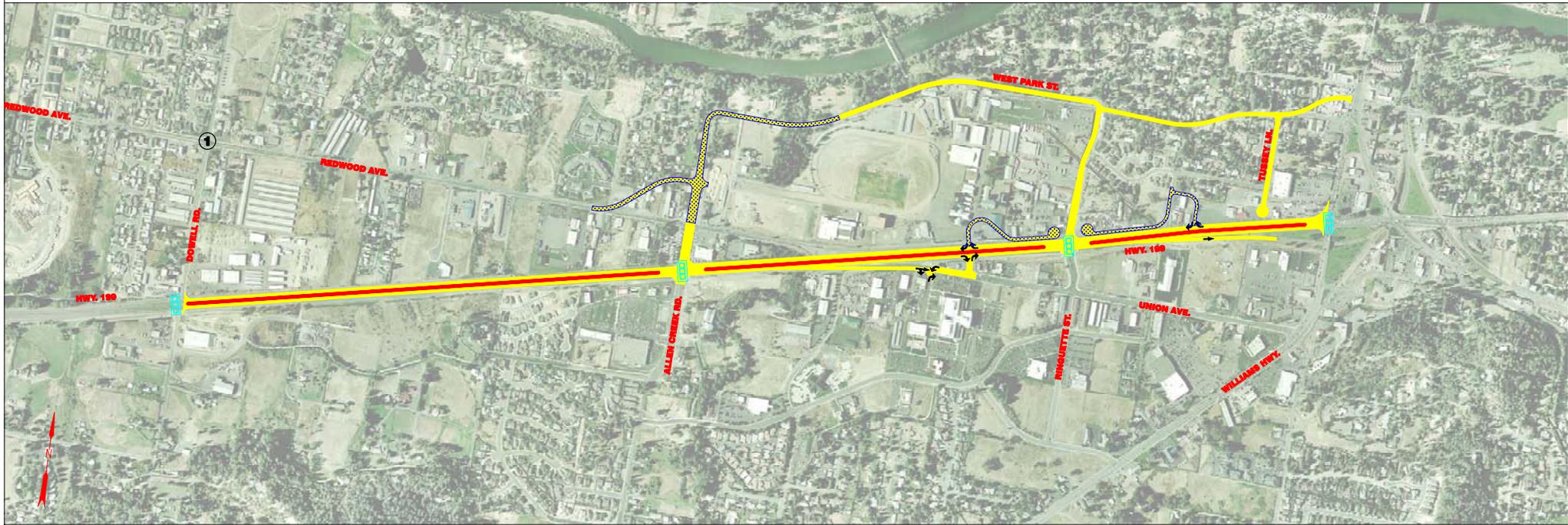


- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY

CONCEPT: EAST - 6
08/09/05



Typ Raised Median
 (3 Lanes WB Between Allen Creek Rd. & Tussey Ln.)



- FEATURES**
- Develop / Improve West Park St.
 - Add WB Lane on Hwy 199 Between Tussey Ln. and Allen Creek Rd. (3 WB Lanes Total)
 - One-Way Slip Ramp from EB Hwy 199 to Union Ave.
 - Lengthen Ramp from EB Hwy 199 to Interchange
 - U-Turn Permitted at Ringuette St. Only

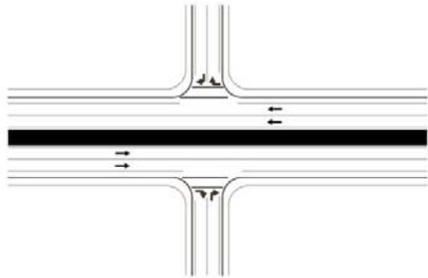
- NOTES**
- ① - Intersection will be Evaluated
 - ② - Proposed Signal Locations Pending Traffic Analysis and Modeling

Highway 199
 Expressway Upgrade
 Oregon Department of Transportation

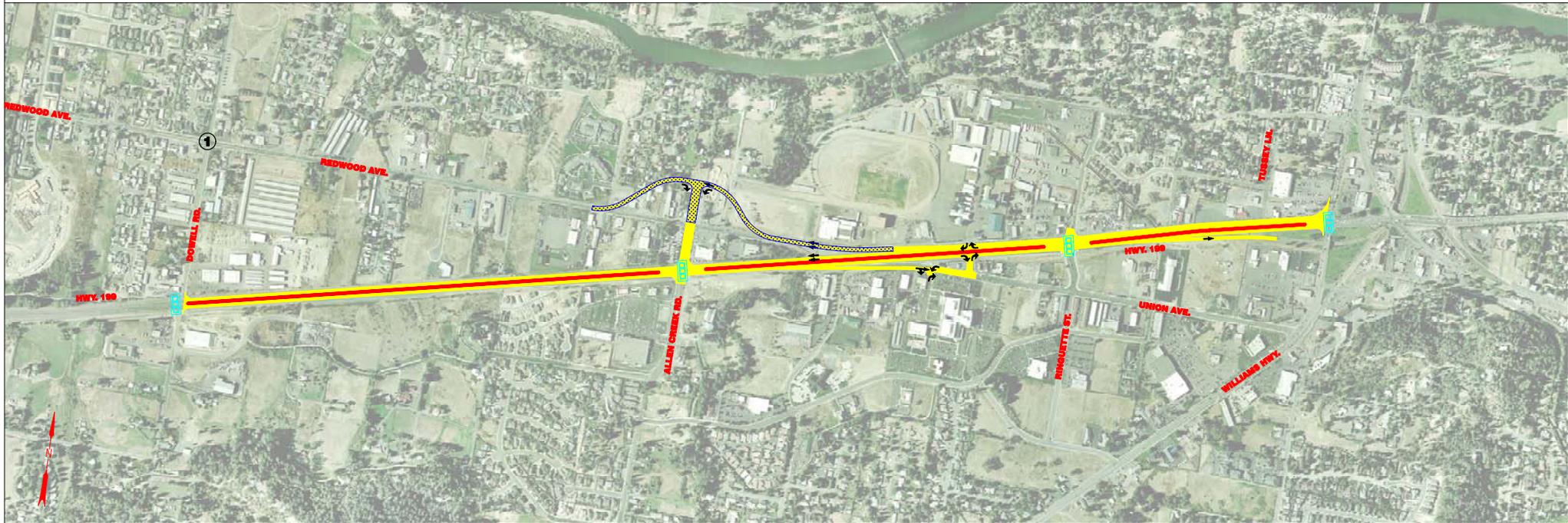
EXISTING / IMPROVED ROADWAY

NEW ROADWAY

CONCEPT: EAST - CAC-1A
06/03/05



Typ Raised Median
 (4 Lanes WB Between Allen Creek Rd. & Tussey Ln.)



- FEATURES**
- Add 2 WB Lanes on Hwy 199 Between Tussey Ln. and Redwood Ave. (4 WB Lanes Total)
 - One-Way Slip Ramp from EB Hwy 199 to Union Ave.
 - Lengthen Ramp from EB Hwy 199 to Interchange
 - U-Turn Permitted at Ringuette St. Only

- NOTES**
- ① - Intersection will be Evaluated
 - 2 - Proposed Signal Locations Pending Traffic Analysis and Modeling


**Highway 199
 Expressway Upgrade**
 Oregon Department of Transportation

-  EXISTING / IMPROVED ROADWAY
-  NEW ROADWAY

CONCEPT: EAST - CAC-1B
06/03/05



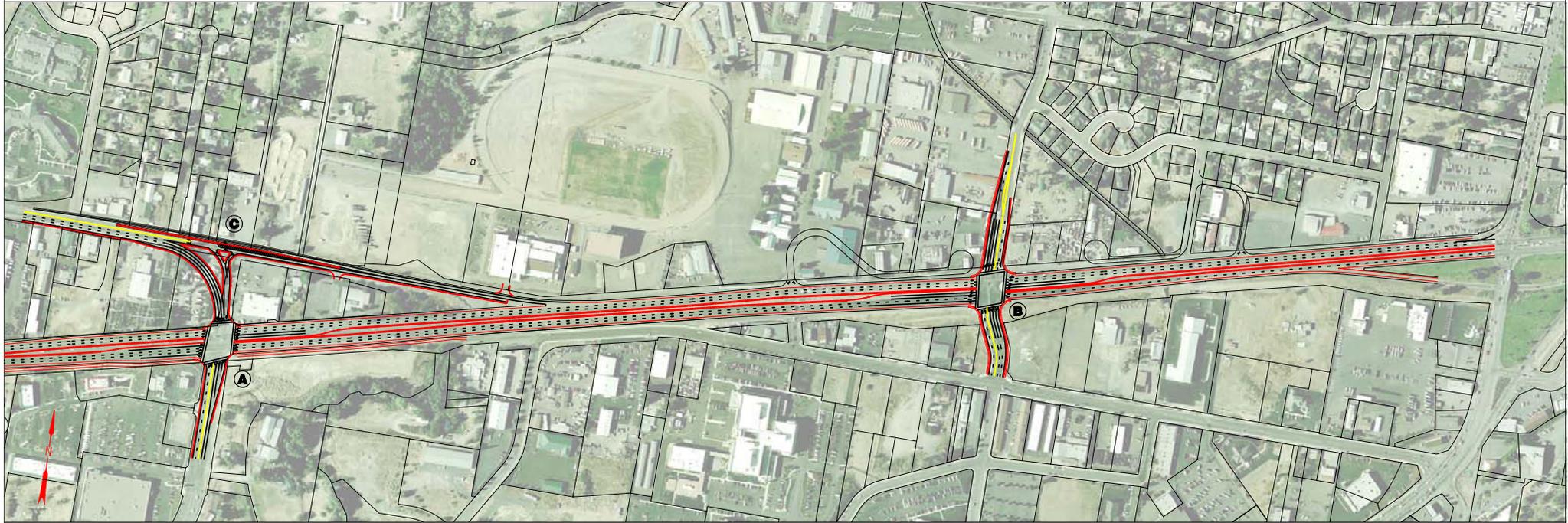
A HWY 199 at ALLEN CREEK



B HWY 199 at RINGUETTE

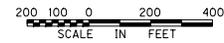


C REDWOOD at ALLEN CREEK

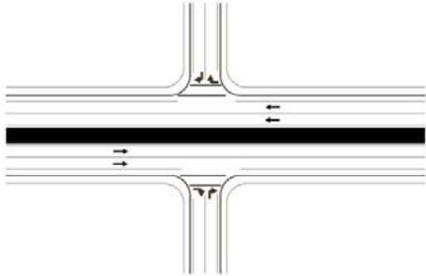


FEATURES

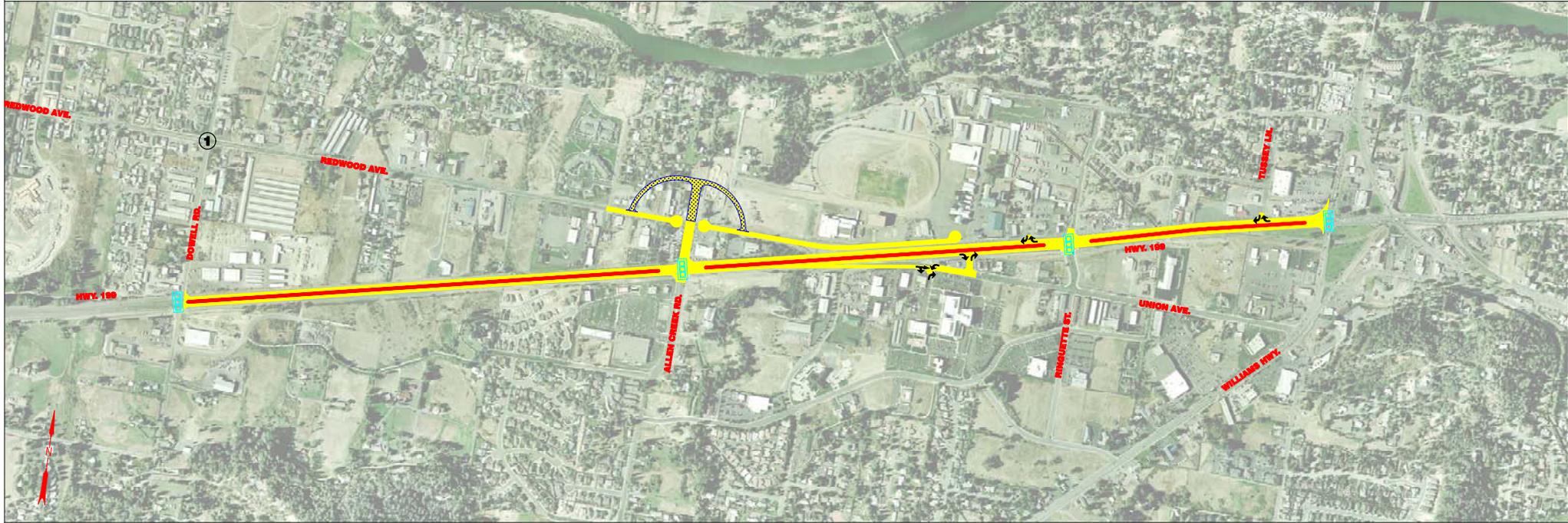
- Align Redwood Ave with Allen Creek Rd.
- No U-Turns at Signals



CONCEPT: EAST - CAC-2
10/07/05



Typ Raised Median
 (3 Lanes WB Between Allen Creek Rd. & Tussey Ln.)



- FEATURES**
- Added Lane WB Between Ringuette St. and Allen Creek Rd. (3 WB Lanes Total)
 - One-Way Slip Ramp from EB Hwy 199 to Union Ave.
 - No U-Turns at Signals

- NOTES**
- ① - Intersection will be Evaluated
 - 2 - Proposed Signal Locations Pending Traffic Analysis and Modeling

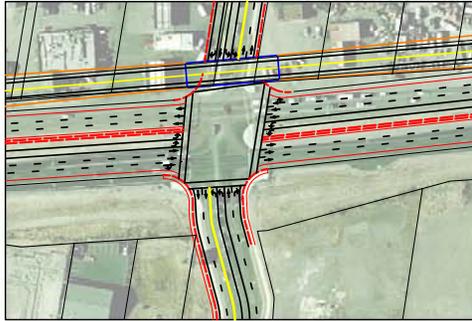


- EXISTING / IMPROVED ROADWAY
- NEW ROADWAY

CONCEPT: EAST - PDT-1
06/21/05



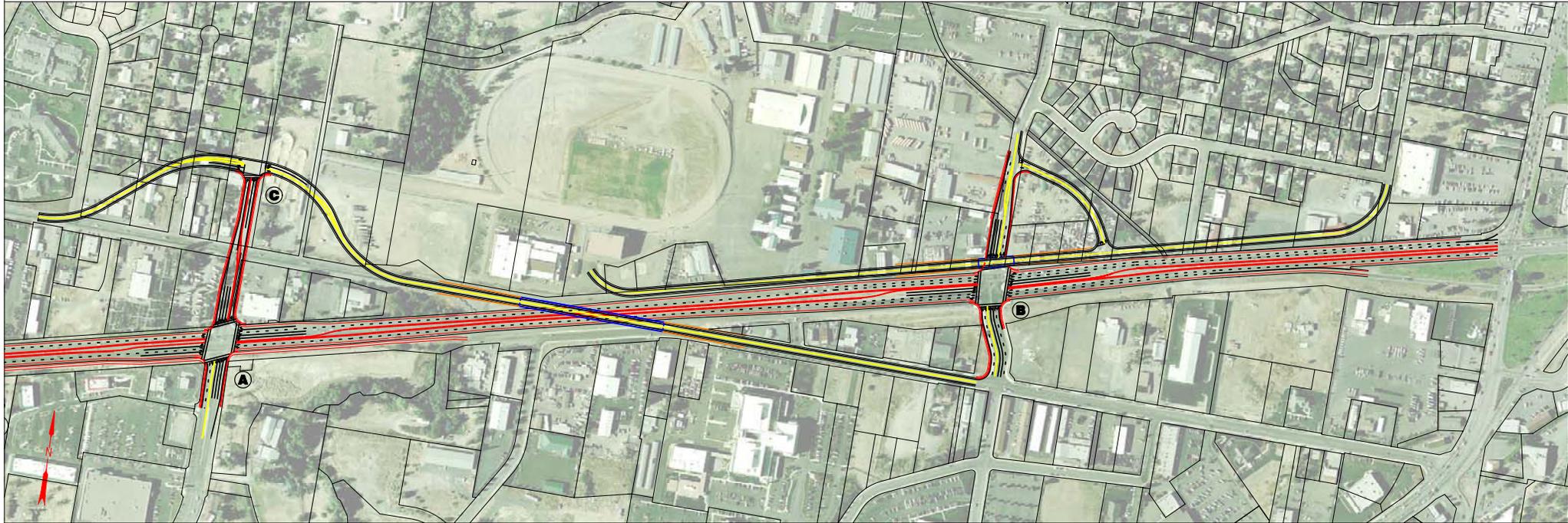
A HWY 199 at ALLEN CREEK



B HWY 199 at RINGUETTE



C REDWOOD at ALLEN CREEK



FEATURES

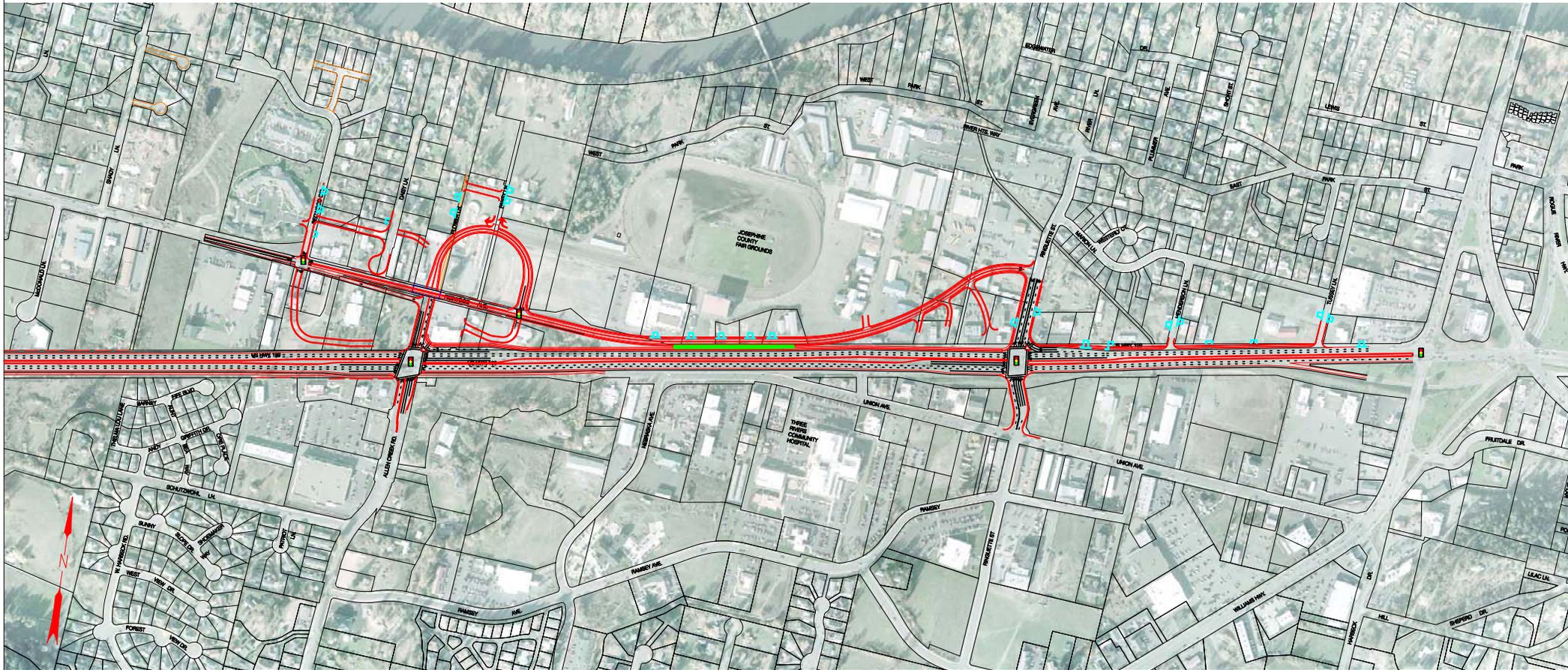
- Frontage Road Between Tussey Ln. & Fairgrounds
- Frontage Road Bridge at Ringuette St.
- Connect Redwood Ave., Add Bridge Over Hwy 199
- No U-Turns at Signals



Highway 199
Expressway Upgrade
Oregon Department of Transportation

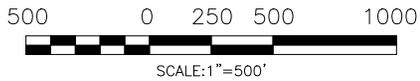


CONCEPT: EAST - PDT-2
10/07/05




Highway 199
Expressway Upgrade
 Oregon Department of Transportation

NOTE:
CURB, 6' BUFFER, & 6' SIDEWALK BETWEEN
ALLEN CREEK RD & TUSSEY LN - NORTH SIDE OF HWY 199



LEGEND

-  TRAFFIC SIGNAL
-  PROPOSED PHASE 1 DRIVEWAY APPROACH LOCATION
-  AREA BETWEEN HWY 199 AND ACCESS ROAD FOR LANDSCAPE AND SIDEWALK
-  Phase 1

ALTERNATIVE B
Phase 1
JULY 2006

APPENDIX D

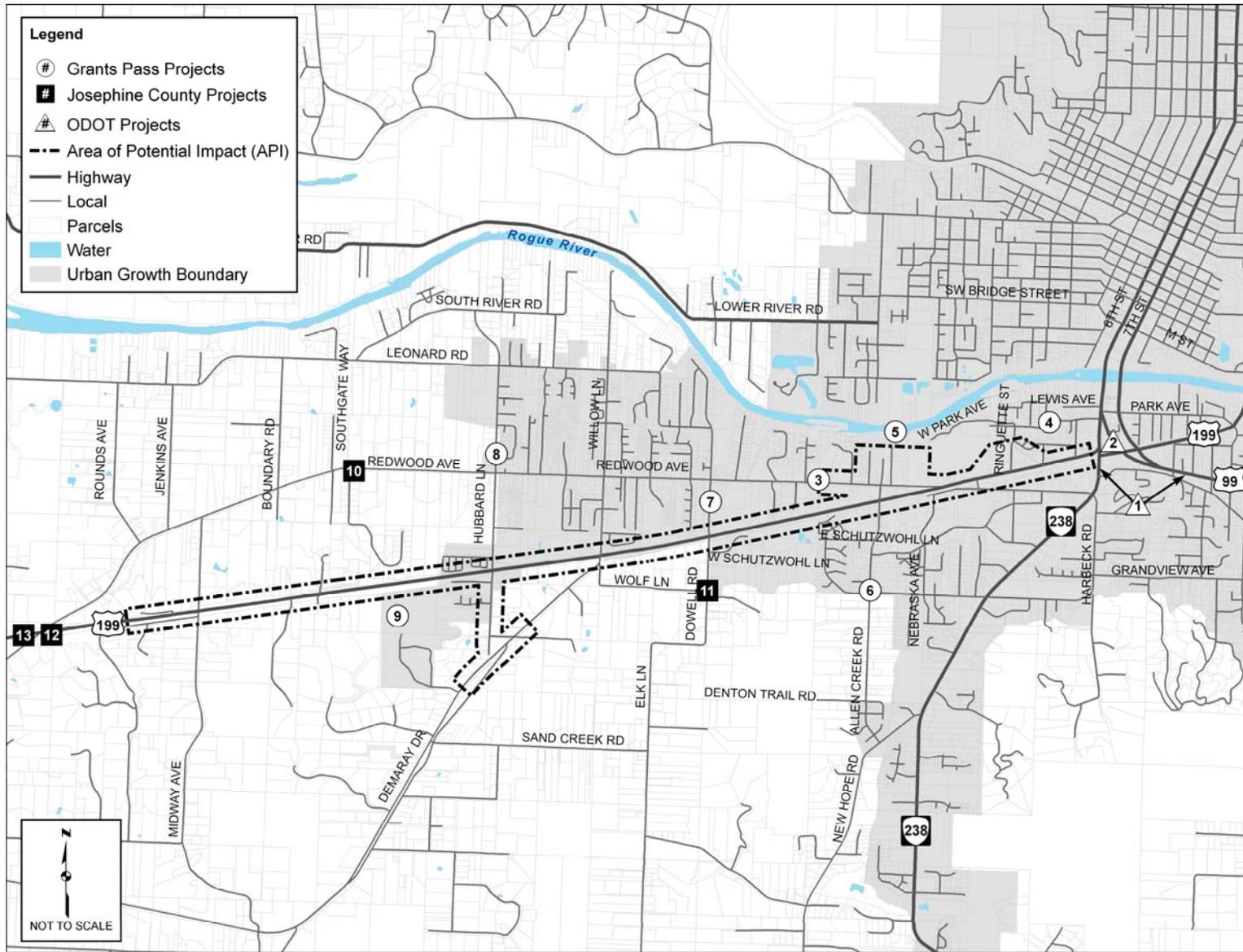
Projects Considered for Indirect and Cumulative Effects Analysis

The following is a list of planned and considered improvements in and near the API that were considered for the indirect and cumulative effects analysis.

Map Identification	Agency	Improvement	Approximate Location	Description
1	ODOT	OR 99/OR 238 Paving	OR 99 south of Highway 199 to MP 1.39 OR 238 south of Highway 199 to MP 1.7	Repave and construct bicycle and pedestrian facilities on OR 99 (MP 0 to 1.39) and OR 238 (MP 0 to MP 1.7)
2	ODOT	South Y Interchange	Grant Pass	Planning study to examine ways to address congestion at the South Y Interchange (OR 238/OR 99/Highway 199).
3	City of Grants Pass	Redwood Avenue (Redwood Circle to Dowell Road)	Redwood Avenue, Grants Pass	Reconstruction of Redwood Avenue, to include two travel lanes, center turn lane, and bicycle and pedestrian facilities
4	City of Grants Pass	West Park Improvement Project	West Park Street from 6 th Street to Ringuette Street	Improve West Park Street from 6 th Street to Ringuette Street by constructing curb, gutter, sidewalks and bicycle lanes
5	City of Grants Pass	Fourth Bridge	Rogue River between Allen Creek Road and Ironwood Drive in Grants Pass	New bridge across the Rogue River possibly connecting Allen Creek Road, Flower Lane, and Ironwood Drive
6	City of Grants Pass	Allen Creek Road Widening	Between Redwood Avenue and Denton Trail Road in both Grants Pass and unincorporated Josephine County	Provide 70 feet right of way. Reconstruct as 48 foot wide arterial street with sidewalks and bike lanes on both sides from Redwood Avenue south to Denton Trail Road
7	City of Grants Pass	Dowell Road Improvements	Between Leonard Avenue and Schutzwahl Road in Grants Pass.	Schutzwahl Road to Redwood Avenue: Install sidewalks on both sides from Leonard Avenue to Redwood Avenue. From Highway 199 to Schutzwahl Road full reconstruction providing a 48 foot wide collector with continuous two way left turn lanes, bike lanes, and side walks on both sides
8	City of Grants Pass	Hubbard Lane Improvements	Between Redwood Highway to Redwood Lane	Reconstruct street to 42 feet wide with bike lanes and sidewalks on both side
9	City of Grants Pass	Rogue Community College Multi-Use Path	Rogue Community College Campus in Grants Pass	Construct new multi-use path through the campus

Map Identification	Agency	Improvement	Approximate Location	Description
10	Josephine County	Redwood Avenue at Southgate Way	Josephine County	Trim/eliminate trees obscuring site distance
11	Josephine County	Dowell Road at Wolf Lane	Josephine County	Intersection improvements
12	Josephine County	Highway 199 at Redwood Avenue	Josephine County	Channelize northbound and southbound approaches to provide separate twin lanes
13	Josephine County	Highway 199 at Redwood Avenue	Josephine County	Install left turn lane on Redwood Avenue

The locations of planned and considered improvements are mapped below.



APPENDIX E

List of Technical Reports and Studies Prepared for this Project

The following baseline reports, technical reports, and studies were prepared for the Highway 199 Expressway Upgrade Project. This EA was developed based on the information contained in those reports and studies. These reports and studies are available from ODOT's project website (http://www.oregon.gov/ODOT/HWY/REGION3/h199e_index.shtml), or by contacting ODOT directly.

BASELINE REPORTS AND MEMORANDA

Archaeology	Socioeconomics
Biology	Transportation
Historic Resources	Visual Resources
Land Use	Water Resources
Section 4(f) and 6(f)	Wetlands and Water Resources

US Highway 199 Expressway Upgrade Hazardous Materials Corridor Study

Highway 199 Expressway Upgrade Project Supplemental Historic Resource Baseline Conditions Report: Alternatives A, B, and C

TECHNICAL REPORTS AND MEMORANDA

Air Quality	ROW Acquisition and Relocation
Archaeology	Section 4(f) and 6(f) Resources
Biology	Socioeconomics and Environmental Justice
Hazardous Materials	Traffic and Transportation
Historic Resources	Visual Quality
Land Use	Water Resources
Noise	Wetlands

ADDITIONAL REPORTS AND STUDIES

Highway 199 Expressway Upgrade Project Draft Access Management Strategy

Highway 199 Expressway Upgrade Project Stormwater Report

APPENDIX F

Distribution List

The following individuals, organizations, and establishments received copies of this EA.

FEDERAL AGENCIES

US Army Corps of Engineers
Environmental Protection Agency
Federal Highway Administration
NOAA, National Marine Fisheries Service (Portland)
US Department of Interior
US Fish and Wildlife Service

STATE OF OREGON AGENCIES

Department of Agriculture	Historic Preservation Office
Department of Environmental Quality	Parks and Recreation Department
Department of Fish and Wildlife	State Library
Department of Land Conservation and Development	State Police
Department of State Lands	Traffic Safety Commission
	Water Resources Department

COUNTIES/CITIES

City of Grants Pass City Manager	Josephine County Fair Board
City of Grants Pass Fire Department	Josephine County Planning Department
City of Grants Pass Mayor’s Office	Josephine County Public Works Department
City of Grants Pass Police Department	Josephine County School District
Josephine County Board of Commissioners	Josephine County Sheriff’s Office

OTHER ORGANIZATIONS

American Medical Response
Rural Metro Corporation (Private fire entity in Josephine County)
Three Rivers Community Hospital
Grants Pass Chamber of Commerce
Collaborative Environmental and Transportation Agreement for Streamlining (CETAS)

MEDIA

Grants Pass Daily Courier
Local Radio – KAJO

OTHER INTERESTED PARTIES

Copies of the EA were made available to other interested businesses, individuals, and non-profit organizations as requested.

APPENDIX G

List of Preparers

The following individuals were involved in preparing this EA.

Name Affiliation	Area of EA Responsibility	Education Certifications/Licenses	Years and Type of Experience
DOCUMENT PREPARATION AND REVIEW – ODOT			
Mike Baker ODOT	<i>Land Use, Socioeconomics</i>	B.S. Regional Planning	11: Transportation planning
Tobin Bottman ODOT	<i>Archaeology</i>	B.A., M.S. in Anthropology	5: Cultural resources management, Section 106
Ken Cannon ODOT	<i>Biology</i>	B.S. Zoology	33: Fish and wildlife technical and management experience
Bruce Carmichael ODOT	<i>Hydrology, Hydraulics, Stormwater</i>	B.S. Geology; B.S. Civil Engineering; M.S. Environmental Engineering; Texas P.E.; Oregon P.E.	11: 5 yrs. Hydraulics of pressure systems (potable water systems), groundwater production systems. 5 + yrs. Stormwater drainage, culverts, bridge hydraulics, water quality/detention systems, fish passage.
Jason Garwood ODOT	<i>Hazardous Materials</i>	B.S. Geology	2.5: Engineering, geology and hazardous materials investigations
Dave Goodwin ODOT	<i>Noise</i>	College course work. 21 year member AASHTO subcommittee on noise and vibration. Member Association of Engineering Employees	21: Noise modeling and noise programs 37: Transportation
Ron Hughes ODOT	<i>Access Management</i>	B.S. Civil Engineering	38: Civil engineering, urban infrastructure design, road design, and construction management.
Susan Landis ODOT	<i>Right of Way Acquisition and Relocation</i>	College course work. IRWA course work.	15: Right of way appraisal, acquisition, relocation
Brad Livingston ODOT	<i>Wetlands</i>	B.S. Environmental Resource Management	5.5: Wetlands
Jerry Marmon ODOT	<i>Section 4(f)/6(f)</i>	M.E.P. Environmental Planning; B.S. Environmental Science/Aquatic Biology	12: NEPA project management, natural resource management
Alex McMurry ODOT	<i>Historic</i>	MS Historic Preservation, BA Architecture	7: Cultural resources
Marina Orlando ODOT	<i>Air Quality</i>	A.S. Civil-Structural Engineering	23: Transportation, environmental and traffic engineering
Doug Sharp ODOT	<i>Water Quality</i>	B.S. Marketing	15: Water quality coordination

Name Affiliation	Area of EA Responsibility	Education Certifications/Licenses	Years and Type of Experience
Jason Sheadel ODOT	<i>Roadway Engineering</i>	A.S. and B.S. Civil Engineering Technology; Fundamentals of Engineering (FE)	10: 8 yrs. Field engineering, 2 yrs. Roadway design
Debbie Timms ODOT	<i>ODOT Project Leader</i>	B.S. Political Science, Minor in Geography	8: Project leader management
Dorothy Upton ODOT	<i>Traffic and Transportation</i>	BS Civil Engineering Oregon PE in Civil and Traffic	22: 17 yrs. traffic engineering and transportation analysis. 5 yrs. construction and design

DOCUMENT PREPARATION AND REVIEW – CONSULTANTS

Abby Caringula Parsons Brinckerhoff	<i>Access Management; Traffic Modeling</i>	M.S.E. Civil Engineering	2.5: 2.5 Transportation/traffic. 0.5 yrs. access management
Judith A. Chapman AINW	<i>Historic and Architectural Resources Section 106/NHPA</i>	M.A. Archeology, Architectural History, History	24: Architectural surveys, archaeology, historic context
Angela Findley Parsons Brinckerhoff	<i>Contractor Environmental Project Manager</i>	M.S. Forest Resources; B.A. Mathematics	13: NEPA project management
Peter Geiger Parsons Brinckerhoff	<i>Section 4(f)/6(f), Water Resources</i>	M.S. & B.S. Physics	18: NEPA project management, water quality, water resources, soils and geology, section 4(f)
Chuck Green Parsons Brinckerhoff	<i>Access Management; Traffic/Transportation</i>	M.S.E. Civil Engineering; Certificate of Graduate Transportation Studies; Oregon PE	24: 24 yrs. Transportation/traffic engineering and transportation planning. 12 yrs. access management planning
James Hencke Parsons Brinckerhoff	<i>Visual Quality</i>	B.S. Landscape Architecture	18: Landscape architecture, planning, visual, NEPA planning
Larissa King Rawlins Parsons Brinckerhoff	<i>Land Use, Socioeconomics, Environmental Justice</i>	B.A. Environmental Planning AICP	7: NEPA planning, land use, socioeconomics, environmental justice; urban development
Connie Kratovil Parsons Brinckerhoff	<i>Design Lead</i>	B.S. Civil Engineering Oregon PE Civil	26: Project management, highway design, NEPA compliance
Ginette Lalonde Parsons Brinckerhoff	<i>Air Quality</i>	B.S. Civil Engineering	8: Air Quality
Laurie Line Parsons Brinckerhoff	<i>Civil Design</i>	B.S. Civil Engineering w/specialty in Env Engineering	8: Roadway and drainage design
Scott Noel Parsons Brinckerhoff	<i>Noise, Land Use</i>	B.A. Environmental Planning	5: NEPA planning, noise, land use, section 4(f), GIS.
Scott Polzin Parsons Brinckerhoff	<i>NEPA Support</i>	M.C.R.P. Community and Regional Planning, B.S. Finance	11: NEPA project management, land use, section 4(f), recreation and visual

Name Affiliation	Area of EA Responsibility	Education Certifications/Licenses	Years and Type of Experience
Scott Smithline Parsons Brinckerhoff	<i>Noise</i>	B.S. Environmental Science	8: NEPA planning, noise
Joel Soden Parsons Brinckerhoff	<i>Air Quality</i>	M.S. Urban Affairs; B.S. Chemical Engineering Oregon PE	33: Air Quality
Stephanie Sprague Parsons Brinckerhoff	<i>Socioeconomics, Environmental Justice, Visual Quality</i>	M.S. Natural Resource Policy; B.S. Environmental Microbiology	6: NEPA planning, visual, socioeconomics, environmental justice, natural resource policy
Lawrence Spurgeon Parsons Brinckerhoff	<i>Air Quality, Noise</i>	M.S.E. Environmental Engineering; B.S. Industrial Engineering	12: Transportation air quality and noise