Highway 199 Expressway Upgrade

Oregon Department of Transportation

SUPPLEMENTAL
Environmental Assessment

Highway 199
City of Grants Pass and Josephine County, Oregon

Federal Highway Administration **Oregon Department of Transportation**

November 2007

ALTERNATIVE FORMAT AVAILABILITY

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November 29, 2007

FILE CODE:

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 Supplemental 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.

All comments should be mailed or delivered to:

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Thank you,

John Vial
ODOT Interim Region Manager

COMMENTS DUE BY: _____

HIGHWAY 199 EXPRESSWAY UPGRADE PROJECT

City of Grants Pass and Josephine County
Key No. 14019

SUPPLEMENTAL 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

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Abstract:
The Federal Highway Administration (FHWA) and Oregon Department of Transportation (ODOT) propose three 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.

Two build alternatives, Alternatives A and C, and the No Build Alternative were analyzed, and the results of the analysis were published in the EA dated December 2006. A new alternative, the Working Group Alternative, was developed in response to public comments on the EA. This supplemental EA presents the analysis of the Working Group Alternative, several amendments to Alternatives A and C, and changes in the magnitude of impacts associated with the amendments.

The Working Group Alternative 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 Allen Creek Road and six travel lanes from Allen Creek 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, Dowell Road, Allen Creek Road, Redwood Avenue, Fairgrounds Road, and Ringuette Street. A new access road connecting Allen Creek Road to Pansy Lane would be constructed north of Redwood Avenue.

Alternative A, Alternative C and the Working Group Alternative 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 have been met through a *de minimis* finding.

Construction is expected to begin in Spring/Summer 2008. The approximate construction and right of way acquisition cost (2010 dollars) of the Working Group Alternative is $33.7 million. Comparative costs (2010 dollars) for Alternative A is $39.4 million and Alternative C is $38.7 million.

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ACRONYMS

Acronym or Abbreviation	Meaning
AADT	Annual Average Daily Traffic
ACCESS	Association of Concerned Citizens Endorsing Sensible (traffic) Solutions
API	Area of Potential Impact
BMX	Bicycle Motocross
CAC	Citizen Advisory Committee
CFR	Code of Federal Regulations
dBA	Decibel, A-weighted
DEQ	Department of Environmental Quality
DSL	Department of State Lands
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FHWA	Federal Highway Administration
ITS	Intelligent Transportation System
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MOE	Measure of Effectiveness
MPH	Miles per Hour
MSAT	Mobile Source Air Toxics
MTP	Master Transportation Plan
MVM	Million Vehicle Miles
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act

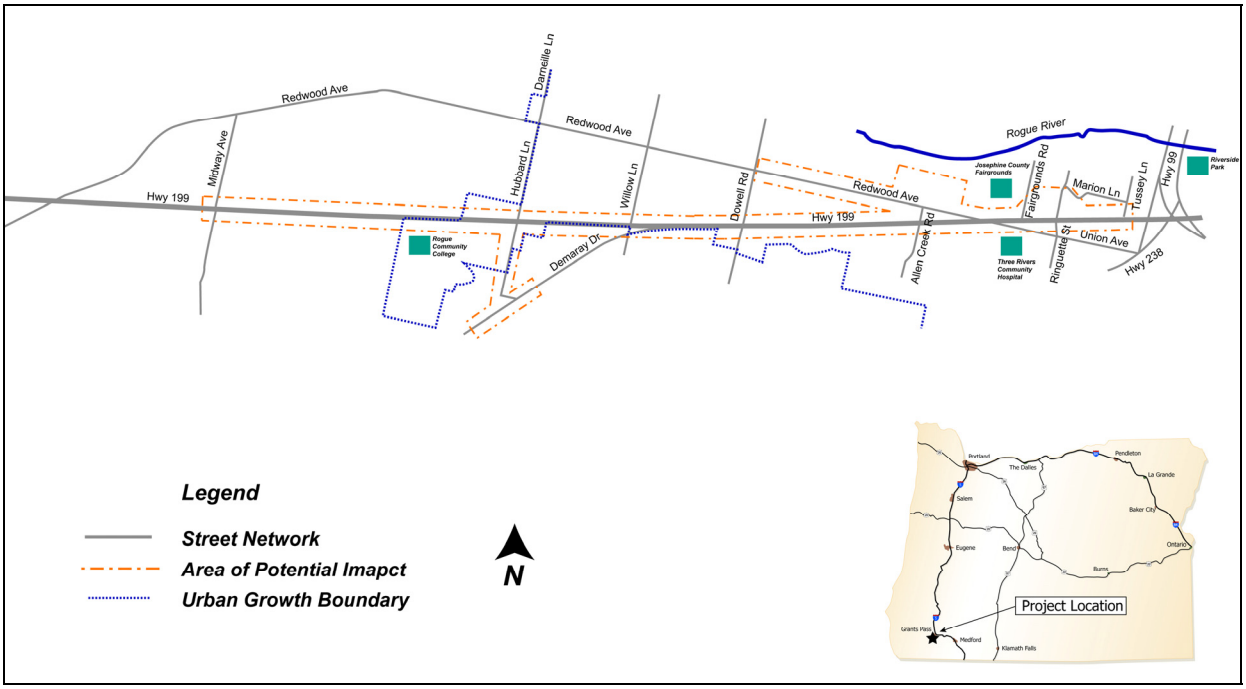
Acronym or Abbreviation	Meaning
NRHP	National Register of Historic Places
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
ORS	Oregon Revised Statutes
PDT	Project Development Team
PM_{10}	Particulate Matter Less than 10 Microns in Diameter
RPEC	Recognized and Potential Environmental Conditions
RCC	Rogue Community College
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
TSP	Transportation System Plan
TSS	Total Suspended Solids
USACE	U.S. Army Corps of Engineers
V/C	Volume to Capacity
VMT	Vehicle Miles Traveled
YMCA	Young Men's Christian Association

Executive Summary

This Supplemental Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA), as implemented by Council on Environmental Quality and Federal Highway Administration (FHWA) regulations (40 CFR 1500 and 23 CFR 771). The Supplemental EA discloses the potential environmental effects of a new alternative, the Working Group Alternative, for the Highway 199 Expressway Upgrade project in Grants Pass and Josephine County, Oregon (Exhibit 1). This Supplemental EA serves as a key source of information for public and agency review and input into the project.

Detailed descriptions of the No Build Alternative, Alternative A and Alternative C and associated effects on the environment are documented in the EA (2006).

EXHIBIT 1. PROJECT LOCATION



Organization of the Document

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

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 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 process undertaken to develop the Working Group Alternative and provides a detailed description of that alternative. Chapter 3 describes the potential long-term effects that the Working Group Alternative 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 from the time the EA was released for public comment in January 2007 through August 2007. Chapter 6 identifies references cited in the EA, and Chapter 7 is a glossary of terms.

Purpose and Need for the Project

For more information, please visit the project website:

http://egov.oregon.gov/ODOT/HWY/REGION3/h199e_index.shtml

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.

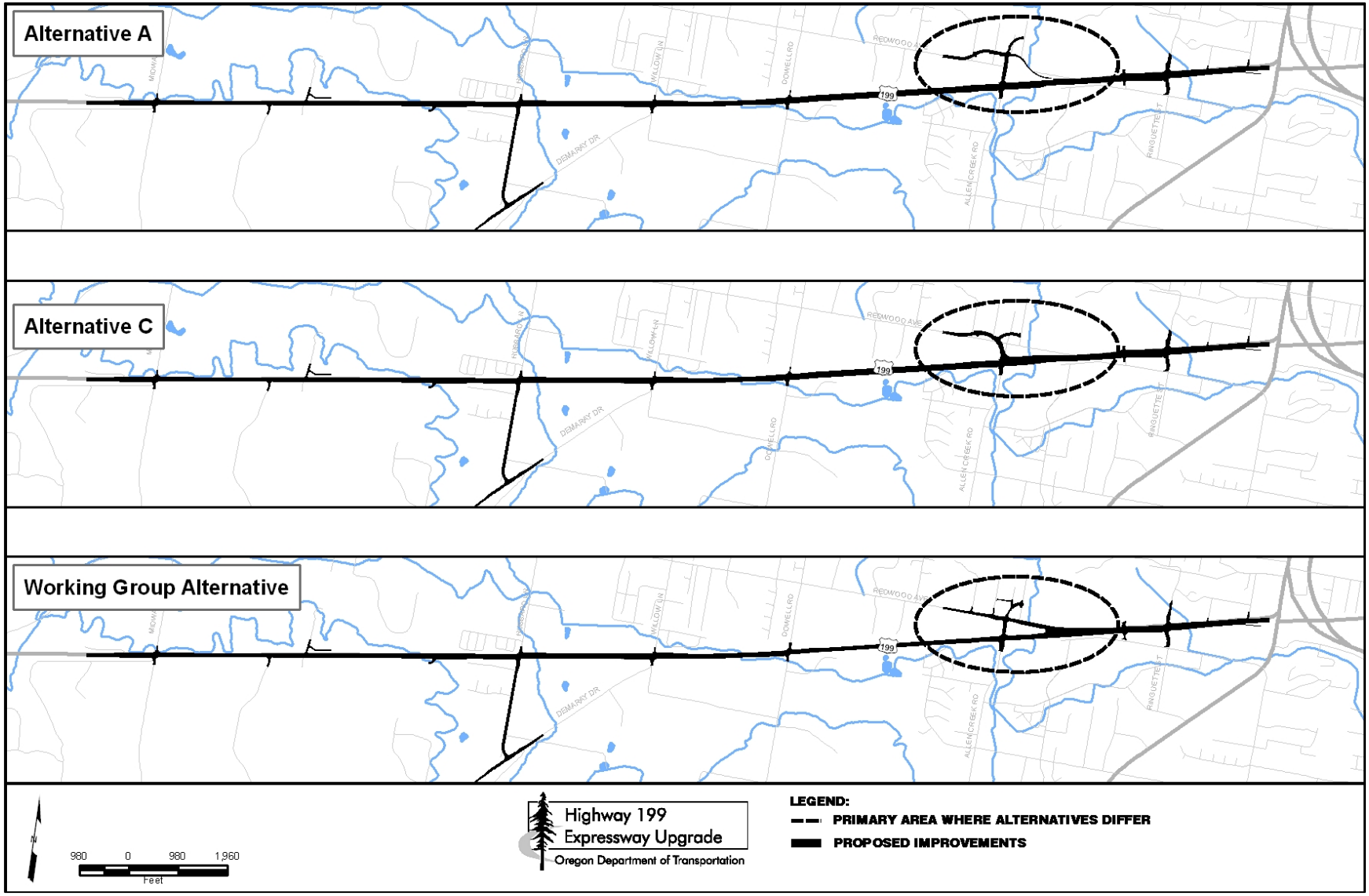
Summary of Alternatives

Exhibit 2 shows the general alignments of each build alternative:

- Alternative A
- Alternative C
- Working Group Alternative.

The primary area where the three alternatives differ is in the area bounded by Highway 199, Allen Creek Road, and Redwood Avenue. There are also minor differences in other locations.

EXHIBIT 2. ALTERNATIVE A, ALTERNATIVE C AND THE WORKING GROUP ALTERNATIVE



Alternatives A and C

Descriptions of Alternatives A and C are provided in the EA (December 2006). The only change made to these two alternatives relates to Phase 2 improvements. In the EA, Phase 1 included all improvements to Highway 199, the extension of Hubbard Lane south to Demaray Drive, the realignment of the Redwood Avenue intersection with Allen Creek Road, and the extension of Allen Creek Road north to Pansy Lane. Phase 2 included a possible new road connection between Pansy Lane and Tussey Lane north and roughly parallel to Highway 199.

Phase 2 was presented in the EA as a concept with no specific alignment defined. This concept could not be given more detail or determined necessary until the South Y Interchange project had defined a project purpose and need statement and subsequent alternatives were developed and analyzed to address that project's needs. Furthermore without a specific alignment, environmental impacts could not be adequately analyzed. As it became evident that Phase 2, a possible new road connection between Pansy Lane and Tussey Lane, would be dependent on the need for the South Y Interchange project, this phase was no longer considered a part of the Highway 199 Expressway Upgrade project. Alternatives A and C are redefined to include only the elements described as Phase 1 improvements.

Working Group Alternative

The Working Group Alternative 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 Allen Creek Road and six travel lanes from Allen Creek 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, Dowell Road, Allen Creek Road, Redwood Avenue, Fairgrounds Road, and Ringuette Street. A new access road connecting Allen Creek Road to Pansy Lane would be constructed north of Redwood Avenue. The new access road would provide access to the Young Men's Christian Association (YMCA), fairgrounds, and residential properties on Pansy and Flower Lanes.

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 by a gravel shoulder from Highway 199 between Rogue Community College and Nebraska Avenue, 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.

Summary of Potential Long-Term Effects and Mitigation Measures

The potential long-term effects to resources analyzed for the project are summarized in Exhibit 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.

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

Resource Element	No Build Alternative	Alternative A	Alternative C	Working Group Alternative
Air Quality				
Potential Effects	• Increased congestion, causing air pollution	• 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 PM_{10} (particulate matter less than 10 microns in diameter) National Ambient Air Quality Standards, or increase the frequency or severity of violation		
Mitigation Measures	• No mitigation identified	• None required		
Archaeology				
Potential Effects	• No effects identified	• 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	• No mitigation identified	• 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), 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		
Biology				
Potential Effects	• No effects identified	*Fisheries Resources/Water Quality* • No effect to water quality or geomorphology from net increase of impervious surface area *Wildlife Resources* • 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 protected nesting birds *Botanical Resources* • Minimal effects to non-Endangered Species Act (ESA) botanical species • No effects to ESA protected plant species • Trees would be removed		
Mitigation Measures	• No mitigation identified	• 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		
Hazardous Materials				
Potential Effects	• No negative effects would be realized	• 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	• No mitigation identified	• 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	• No effects identified	• 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	• No mitigation identified	• 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	Working Group Alternative
Land Use				
Potential Effects	• 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)	• 120 parcels affected by acquisition • Acquisitions: 2 full, 118 partial • No land use plan amendments of zone changes • 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	• 116 parcels affected by acquisition • Acquisitions: 2 full, 114 partial • No land use plan amendments of zone changes • 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	• 124 parcels affected by acquisition • Acquisitions: 0 full, 124 partial • No land use plan amendments of zone changes • 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	• No mitigation identified	• 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 • Coordinate with Josephine County and the Fair Board on alternative access to the fairgrounds.		
Noise				
Potential Effects	• 54 residences, 10 commercial sites, and the YMCA outdoor basketball courts would experience noise levels that approach or exceed the noise abatement criteria	• 51 residences, seven commercial sites, and the YMCA outdoor basketball courts would experience noise levels that approach or exceed the noise abatement criteria	• 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	• 50 residences, nine commercial sites, and the outdoor basketball courts at the YMCA would experience noise levels that approach or exceed the noise abatement criteria
Mitigation Measures	• No mitigation identified	• None proposed		
Right of Way Acquisition and Relocation				
Potential Effects	• No effects identified	• 120 parcels affected • Estimated total area required (not including temporary easements): 12.4 acres • 5 residential relocations • 8 commercial relocations • 2 full acquisitions • Cost: $17.1 million (2010 dollars)	• 116 parcels affected • Estimated total area required (not including temporary easements): 11.5 acres • 3 residential relocations • 9 commercial relocations • 2 full acquisitions Cost: $17.3 million (2010 dollars)	• 104 parcels affected • Estimated total area required (not including temporary easements): 9.5 acres • 3 residential relocations • 4 commercial relocations • 0 full acquisitions • Cost: $13.6 million (2010 dollars)
Mitigation Measures	• No mitigation identified	• 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	• No effects identified	• Sections of canals placed in culverts • Canals: *de minimis* use • Recreation field at Rogue Community College (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	• No mitigation identified	• 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	Working Group Alternative
Socioeconomics and Environmental Justice				
Potential Effects	• Continued unsafe, and potentially worsened, conditions for motorists, bicyclists, and pedestrians	• 5 residential relocations • 8 commercial relocations • Bicycle motocross (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	• 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	• 2 residential relocations • 6 commercial relocations • BMX course relocated • 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	• No mitigation identified	• 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		
Traffic and Transportation				
Potential Effects	• 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; 140 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 and the Working Group Alternative	• 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 an increased 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; 105 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 at Fairgrounds Road and Redwood Avenue • 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 6 and 7 minutes (30% eastbound and 50% westbound reductions) and travel delay by 5.5 and 7 minutes (39% eastbound and 75% westbound reductions) along Highway 199 • Increases average speed by 5 miles per hour (mph) and 16 mph (38% eastbound and 89% westbound increases) along Highway 199 • Decreases number of vehicle stops on Highway 199 by 48% • Eliminates major queuing along Highway 199 except at the South Y Interchange	• 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 an increased 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; 104 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 at Fairgrounds Road and Redwood Avenue • 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 5.5 and 6.5 minutes (28% eastbound and 46% westbound reductions) and travel delay by 5 and 7 minutes (36% eastbound and 75% westbound reductions) along Highway 199 • Increases average speed by 4 mph and 16 mph (31% eastbound and 89% westbound increases) along Highway 199 • Decreases number of vehicle stops on Highway 199 by 50% • Eliminates major queuing along Highway 199 except at the South Y Interchange	• 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 an increased 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; 114 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 and along Redwood Avenue would be a safety benefit • Decrease in crash rates would be expected • Reduces traffic flow interruptions at Fairgrounds Road • Provides safe, convenient bicycle and pedestrian travel, except when crossing the Redwood Avenue slip ramp • Improves bicycle and pedestrian facilities connectivity • Reduces conflicts between vehicle traffic and bicycle and pedestrian users, except at the Highway 199/Redwood Avenue intersection • Decreases overall travel time by 8 and 6.5 minutes (40% eastbound and 46% westbound reductions) and travel delay by 7.5 and 7 minutes (54% eastbound and 75% westbound reductions) along Highway 199 • Increases average speed by 8 mph and 16 mph (62% eastbound and 89% westbound increases) along Highway 199 • Decreases number of vehicle stops on Highway 199 by 52% • Eliminates major queuing along Highway 199 except at the South Y Interchange

Resource Element	No Build Alternative	Alternative A	Alternative C	Working Group Alternative
Traffic and Transportation continued				
Potential Effects continued		• Decreases travel time and travel delay by 30% and 37% respectively in the transportation study area • Travel distance in the transportations study area increases by 19% • Positive benefits would be realized under all measures of effectiveness, except vehicle miles traveled, over the No Build Alternative • Similar positive safety and operational benefit of adding lane capacity between Tussey Lane and Dowell Road with straightforward and intuitive lane configurations that promote efficient lane utilization and balance as in Alternative C • Similar positive operation and safety benefits as Alternative C, but more positive benefits than the Working Group Alternative • In comparison to the No Build Alternative, Alternative A results in overall improvements to Highway 199 and transportation system	• Decreases travel time and travel delay by 34% and 43% respectively in the transportation study area • Travel distance in the transportations study area increases by 26% • Positive benefits would be realized under all measures of effectiveness, except vehicle miles traveled, over the No Build Alternative • Similar positive safety and operational benefit of adding lane capacity between Tussey Lane and Dowell Road with straightforward and intuitive lane configurations that promote efficient lane utilization and balance as in Alternative A • Similar positive operation and safety benefits as Alternative A, but more positive benefits than the Working Group Alternative • In comparison to the No Build Alternative, Alternative C results in overall improvements to Highway 199 and transportation system	• Decreases travel time and travel delay by 32% and 40% respectively in the transportation study area • Travel distance in the transportations study area increases by 24% • Positive benefits would be realized under all measures of effectiveness, except vehicle miles traveled, over the No Build Alternative • Increases safety hazards and operational challenges between Fairgrounds Road and just west of Allen Creek Road on Highway 199 with additional weaving and merging within a one-half mile distance; driver confusion with added, dropped and trap lanes; poor lane utilization by through traffic; substandard signal spacing; and lack of one left turn movement at the signalized intersection of Highway 199 and Allen Creek Road • Less positive benefits than Alternatives A and C • In comparison to the No Build Alternative, the Working Group Alternative results in overall improvements to Highway 199 and transportation system
Mitigation Measures	• No mitigation identified	• Implement a Mobility Plan and Traffic Control Plan • Implement a Transportation Management Plan	• Implement a Mobility Plan and Traffic Control Plan • Implement a Transportation Management Plan	• Implement a Mobility Plan and Traffic Control Plan • Implement a Transportation Management Plan
Visual				
Potential Effects	• Visually distracting traffic congestion in the API would worsen over time • Increased light and glare from cars and trucks • Increased visual disorder	• 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	• No mitigation identified	• 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		
Water				
Potential Effects	• 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	• 12.4 acres of new right of way, with 5.5 acres associated with expanding the Highway 199 and 6.9 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 • 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	• 11.4 acres of new right of way, with 6 acres associated with expanding the Highway 199 and 5.4 acres associated with the modifications to the local street network • 8.6 acres of net new impervious for the Highway 199 and 2.8 acres of net new impervious for the local street network. The total amount of net new impervious is 11.4 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	• 9.4 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 • 4.1 acres of net new impervious for the Highway 199 and 4.1 acres of net new impervious for the local street network. The total amount of net new impervious is 8.2 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
Mitigation Measures	• No mitigation identified	• Route runoff from 10.3 acres of impervious surface through new stormwater treatment facilities	• Route runoff from 10.7 acres of impervious surface through new stormwater treatment facilities	• Route runoff from 10.5 acres of impervious surface through new stormwater treatment facilities

Resource Element	No Build Alternative	Alternative A	Alternative C	Working Group Alternative
Wetlands				
Potential Effects	• No effects identified	• 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	• 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	• 0.49 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
Mitigation Measures	• No mitigation identified	• 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).

This **supplemental** environmental assessment is being prepared to evaluate the impacts of a new alternative called the **Working Group Alternative** that has been added to the range of alternatives considered for the Highway 199 Expressway Upgrade Project.

Both the supplemental environmental assessment (September 2007) and the environmental assessment (December 2006) 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 will be prepared, or if greater environmental review is needed in the form of an environmental impact statement.

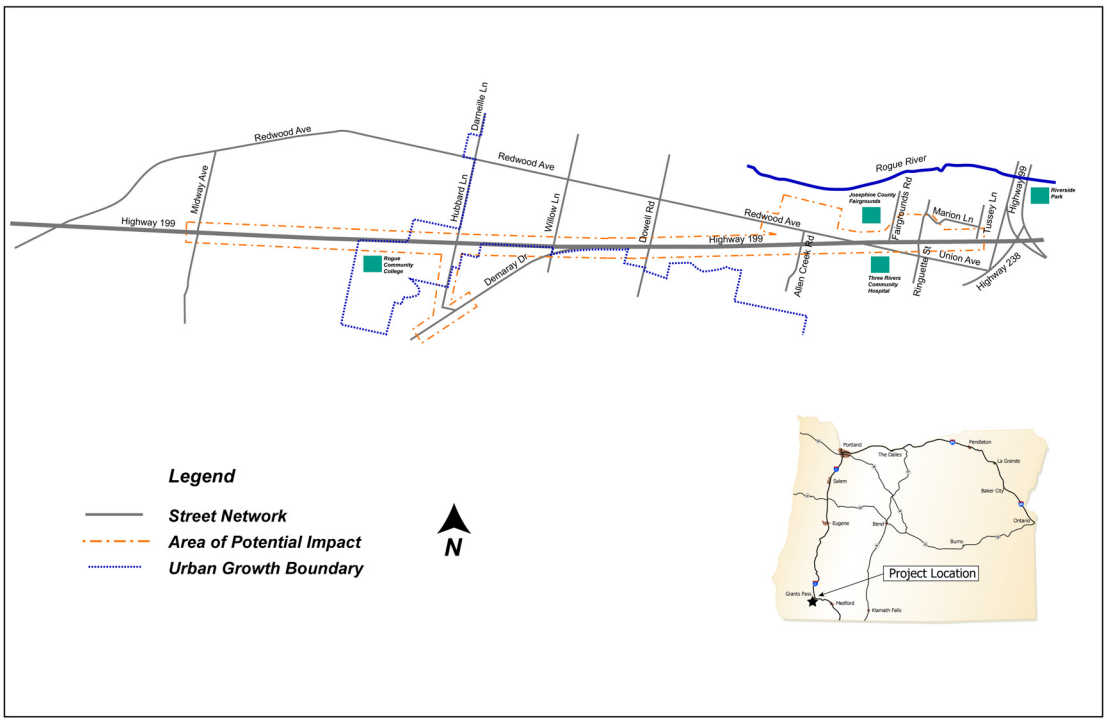
1.1 Project Identification and Description

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 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

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



Please refer to the environmental assessment (December 2006) for a detailed description of the API.

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.

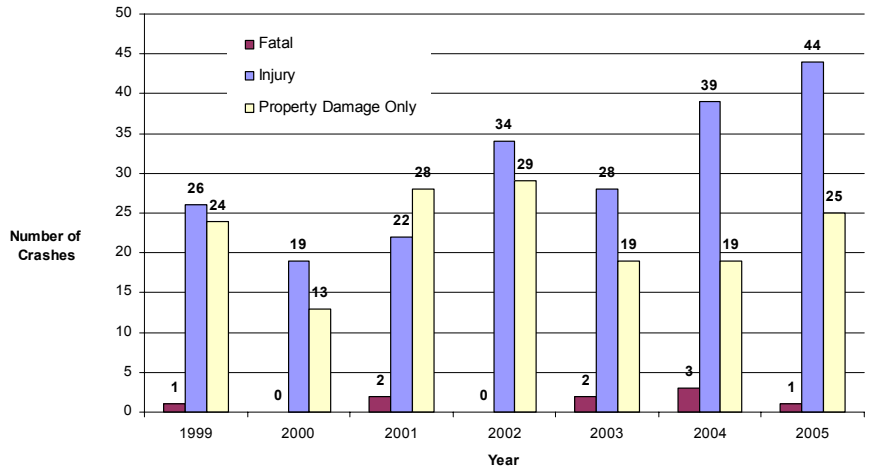
1.3 Project Need

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

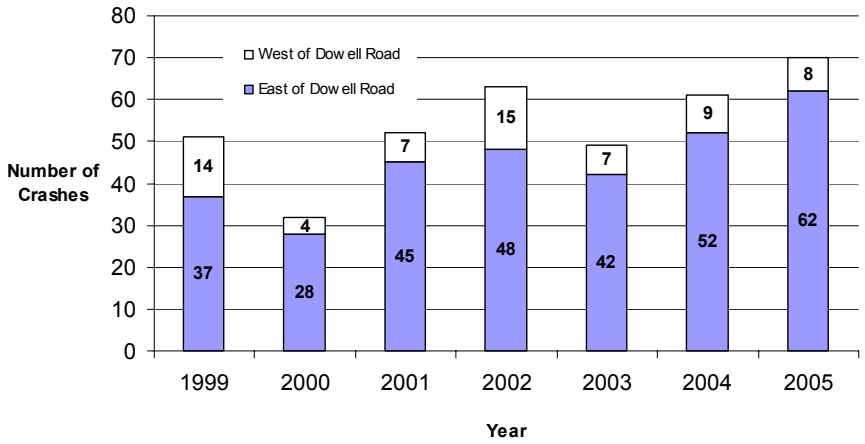
There have been 378 crashes reported within the limits of the project between January 1, 1999, and December 31, 2005. Of these reported crashes, 2 percent included fatalities, 56 percent involved injuries, and 42 percent involved property damage only (Exhibit 1-3).

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.

Unrestricted access on Highway 199 near Tussey Lane

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 between the 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 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. 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 2008. The future improvements implemented at the South Y interchange would not affect the independent utility and benefit that the Highway 199 Expressway Upgrade project would have on Highway 199.

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.

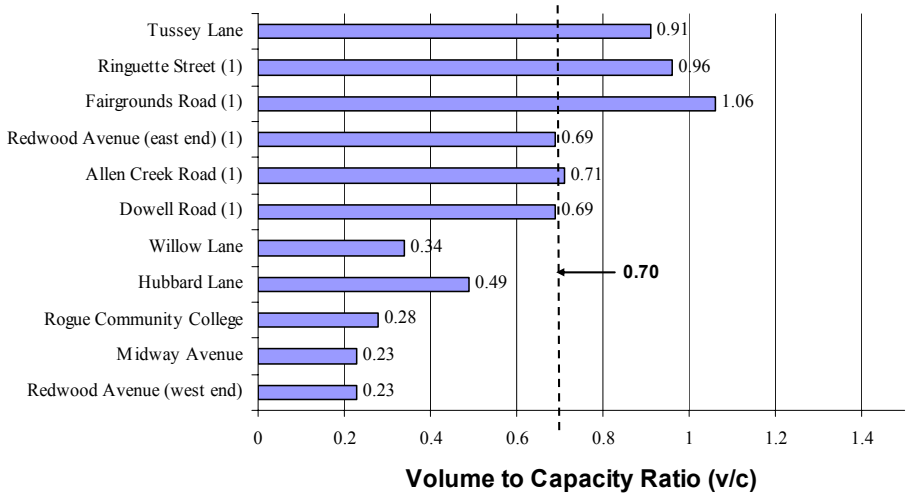
Freight Movement

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.

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 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

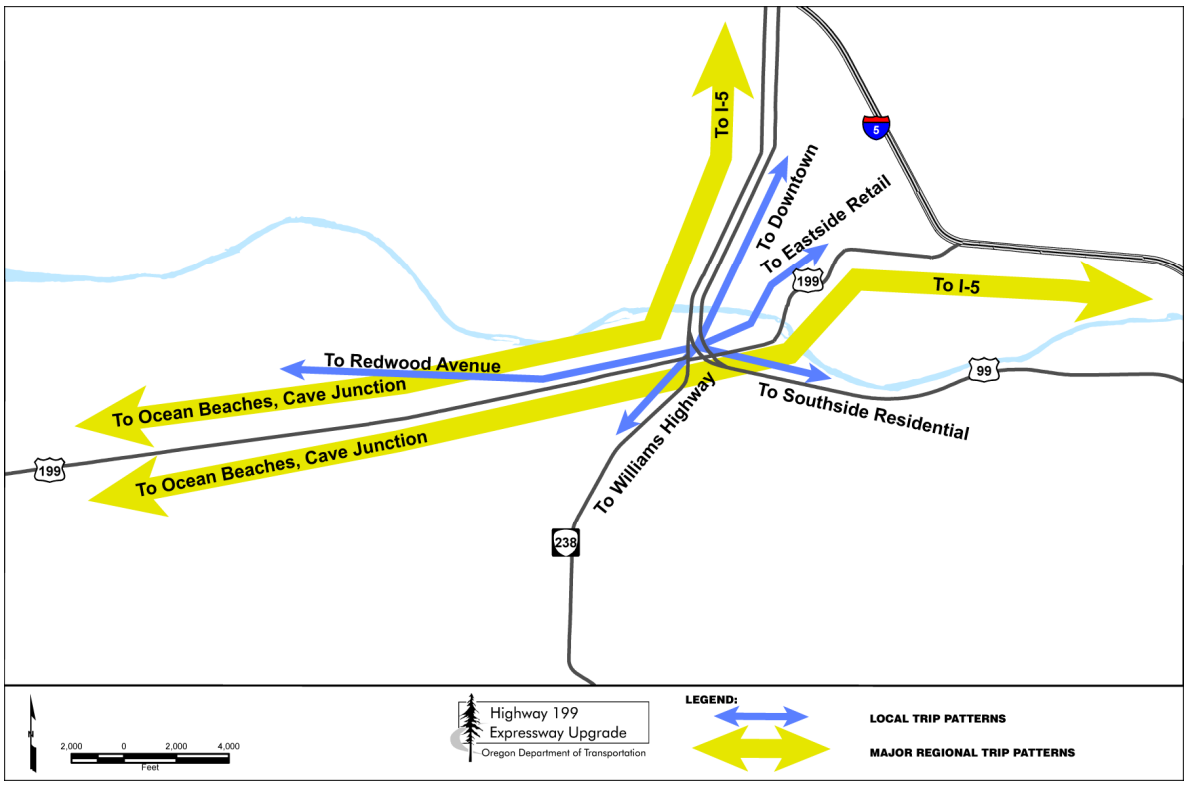
Highway 199 is currently not functioning as an expressway as defined by the OHP. The 1999 OHP defines an expressway as a highway that provides for safe and efficient high speed and high volume traffic movements. The primary function of an expressway is for interurban travel and connections to ports and 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 major regional through trips and local trips. Regional trips on Highway 199 tend to flow between I-5 and the Oregon Coast. Local users are using Highway 199 to make short trips, such as to the hospital, local businesses, or community college located next to the highway. Local users are often making more turning movements onto and off of the highway, which puts local use in conflict with regional through users and 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.

Lack of median on Highway 199 in the west segment is a safety concern.

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
- 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 (2025) 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

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 NEPA Scoping Summary

Please refer to the Environmental Assessment (EA) Chapter 1 (December 2006) for a summary of the NEPA scoping process conducted from December 2004 to March 2005.

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

1.6 Public Comment on the Environmental Assessment

The EA was released for public review during a 30-day comment period that began on January 22, 2007 and ended February 22, 2007. ODOT held a public hearing on February 8, 2007 to present information on the project and analysis documented in the EA as well as gather public input. Eighty-five public comments were submitted to ODOT via letters, comment forms distributed at the public hearing, oral testimony that was recorded verbatim by

Oregon-licensed court recorders at the public hearing, and e-mail. All comments were logged and categorized into common topic areas, including:

- Alternatives A and C
- Environment
- Environmental Assessment Process
- Josephine County Fairgrounds
- Right of Way Acquisition and Access Management
- Safety
- Traffic Analysis.

ODOT responded to comments by topic area and prepared a memorandum to document these responses. As the public will have an opportunity to review this Supplemental EA and provide comments, ODOT will prepare a final response to comment memorandum and include the memorandum as part of the Revised EA, which documents the selection of a preferred alternative.

In addition to these topic areas, comments were also received on a proposal presented by a group of local citizens known as the Association of Concerned Citizens Endorsing Sensible (traffic) Solutions (ACCESS). In March 2007, ODOT evaluated the ACCESS proposal. The results of the ACCESS proposal analysis (ODOT, 2007a) and responses to comments (ODOT, 2007b) were documented, distributed to the project's CAC and PDT. These documents as well as the full set of public comments received during the EA public review period are posted on the project website at:

http://www.oregon.gov/ODOT/HWY/REGION3/h199e_index.shtml

Another outcome of the public comment period on the EA was the City of Grants Pass formation of an independent Working Group. The Working Group was organized in February 2007 to engage in a parallel process to the EA to examine additional alternatives for the eastern segment of the Highway 199 Expressway Upgrade project. The Working Group met periodically from February to July 2007. Their process resulted in a new alternative that was then presented to the Highway 199 Expressway Upgrade project CAC and PDT. In

August 2007, the PDT voted to include the Working Group Alternative into the range of alternatives to be evaluated in the EA.

This Supplemental EA describes the Working Group Alternative and the corresponding environmental analysis conducted on this alternative.

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 chapter amends the description of Alternatives A and C, provides an overview of the screening process that was applied to the Working Group Alternative, and identifies features of the Working Group Alternative.

2.1 Alternatives A and C

Descriptions of Alternatives A and C are provided in the EA (December 2006). The only change made to these two alternatives relates to Phase 2 improvements. In the EA, Phase 1 included all improvements to Highway 199, the extension of Hubbard Lane south to Demaray Drive, the realignment of the Redwood Avenue intersection with Allen Creek Road, and the extension of Allen Creek Road north to Pansy Lane. Phase 2 included a possible new road connection between Pansy Lane and Tussey Lane north and roughly parallel to Highway 199.

Phase 2 was originally considered part of the Highway 199 Expressway Upgrade project since it was originally expected to primarily address congestion on Highway 199. Phase 2 was presented in the EA as a concept with no specific alignment defined in an effort to disclose possible future improvements to Highway 199 and associated impacts. However, during the EA public review period, the project team recognized that the Phase 2 concept could not be given more detail or determined necessary until the South Y Interchange project had defined a project purpose and need statement and subsequent alternatives were developed and analyzed to address

that project's needs. Furthermore without a specific alignment, environmental impacts could not be adequately analyzed. As it became evident that Phase 2, a possible new road connection between Pansy Lane and Tussey Lane, would be dependent on the need for the South Y Interchange project, this phase was no longer considered a part of the Highway 199 Expressway Upgrade project. Alternatives A and C are redefined to include only the elements described as Phase 1 improvements.

2.2 Development of Working Group Alternative

The City of Grants Pass established a Working Group and conducted a parallel effort to develop new alternatives during the period beginning February 2007 and ending August 2007. Members of the Working Group included:

- City of Grants Pass
- Josephine County
- Josephine County Fair Board
- Grants Pass Chamber of Commerce
- ACCESS, a local citizen-based group
- ODOT
- General public.

The Working Group considered a variety of alternatives, including at-grade intersections, grade-separated intersections, different lane configurations on Highway 199 and local streets, and assorted signalized intersections on Highway 199. The Working Group focused on alternatives that would address local circulation and street network integration. The alternatives development process used by the Working Group included the following steps:

- Define technical guidelines and overall vision
- Brainstorm conceptual alternatives
- Compare advantages and disadvantages of conceptual alternatives across the technical guidelines and overall vision

- Coordinate with ODOT on design feasibility and traffic operations performance
- Select alternative(s) to forward for Highway 199 Expressway Upgrade project CAC and PDT consideration or be withdrawn from further study.

The Working Group effort resulted in one new alternative that was endorsed by the Grants Pass City Council and recommended for consideration by the Highway 199 Expressway Upgrade project CAC and PDT (City of Grants Pass, 2007). In July and early August, ODOT conducted traffic analysis on the Working Group Alternative, refined the design of this alternative to optimize traffic operational performance, and ensured the Working Group Alternative would meet the project's purpose and need. The modified Working Group Alternative was then presented to the CAC and PDT in August 2007. The PDT voted to forward the modified Working Group Alternative for further environmental analysis.

2.3 Working Group Alternative

The Working Group Alternative is identical to Alternatives A and C for much of its alignment. The alternatives differ on:

- Highway 199 between Dowell Road and Allen Creek Road
- The triangular section bounded by Highway 199, Allen Creek Road, and Redwood Avenue, including the three signals at each point of the triangle
- The intersection of Highway 199 and Ringuette Street.

The general alignment of the Working Group Alternative is shown in Exhibit 2-1. Detailed maps showing the proposed improvements for the Working Group Alternative are located in Appendix A. Further detail description of the Working Group Alternative follows.

Maps of the Working Group Alternative

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

Midway Avenue to Dowell Road

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

EXHIBIT 2-1. WORKING GROUP ALTERNATIVE

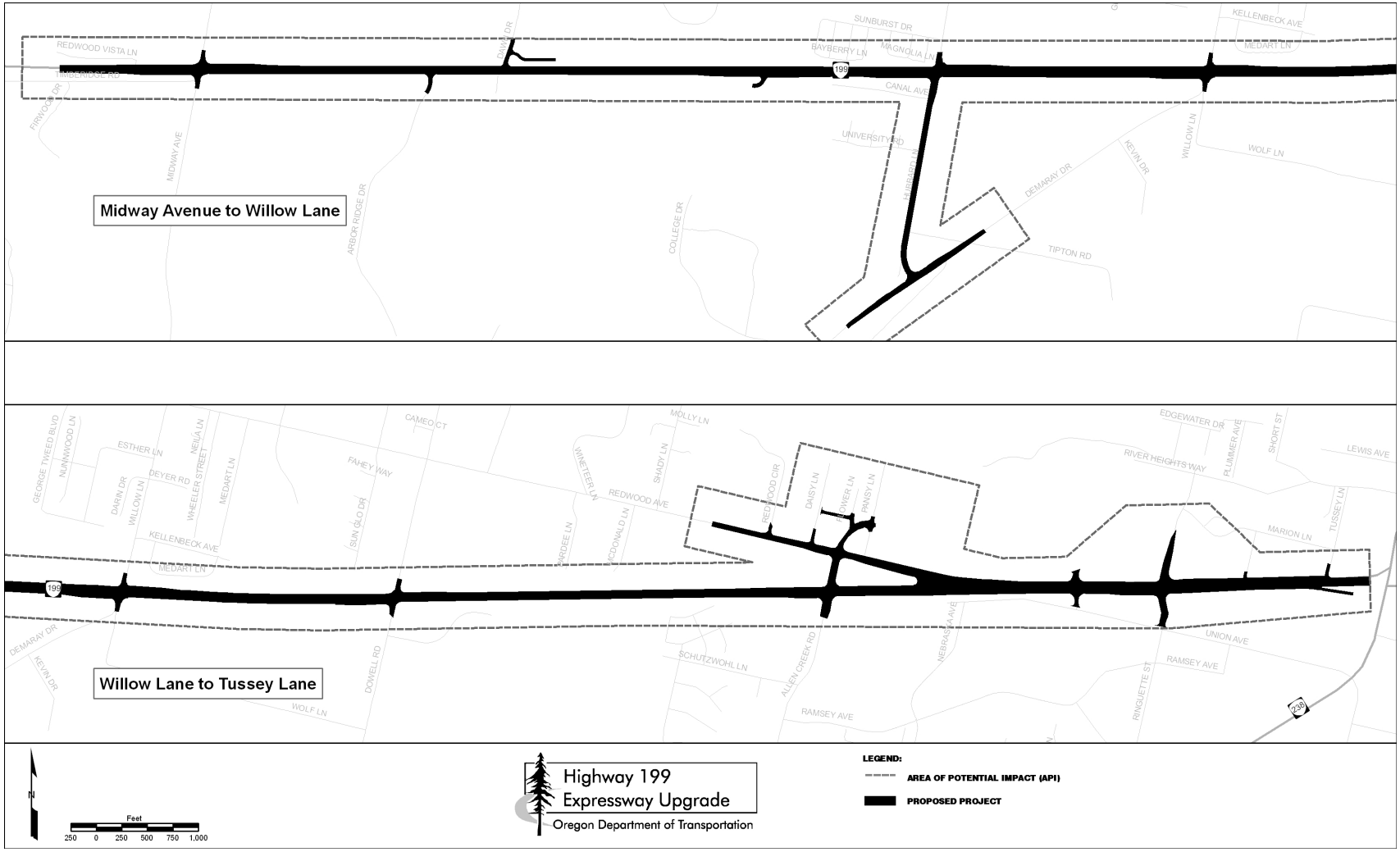
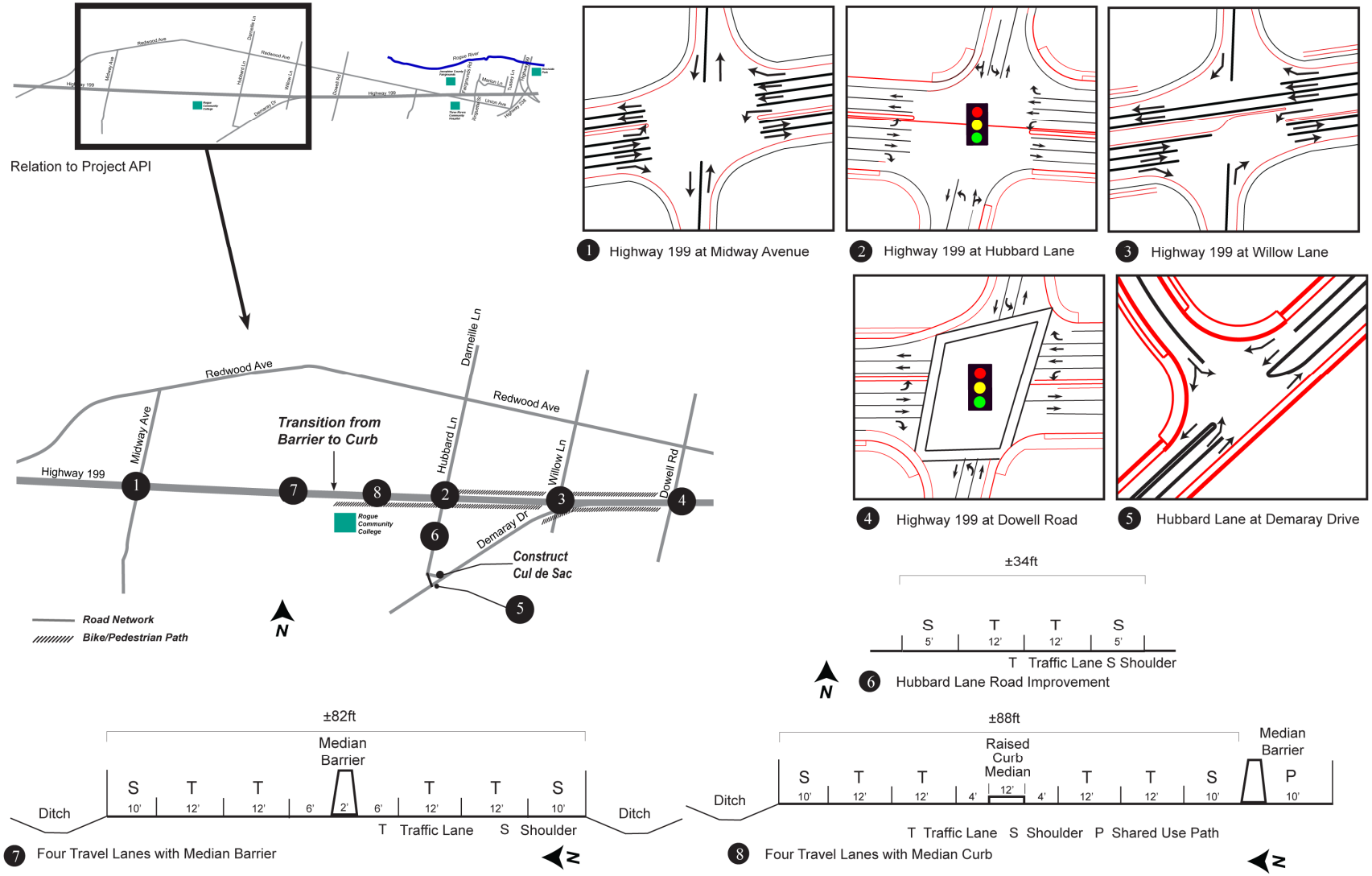


EXHIBIT 2-2. WORKING GROUP ALTERNATIVE BETWEEN MIDWAY AVENUE AND DOWELL ROAD



- 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 2-2 illustrate these typical road sections.

- The existing configuration of Highway 199 at the 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 2-2, Inset 1). Traffic on Midway Avenue would be able to make left and right turns onto Highway 199 or cross Highway 199 to continue north or south on Midway Avenue. Improvements to this intersection would include widening Highway 199 to accommodate u-turn movements for westbound and eastbound Highway 199 traffic.

- 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.

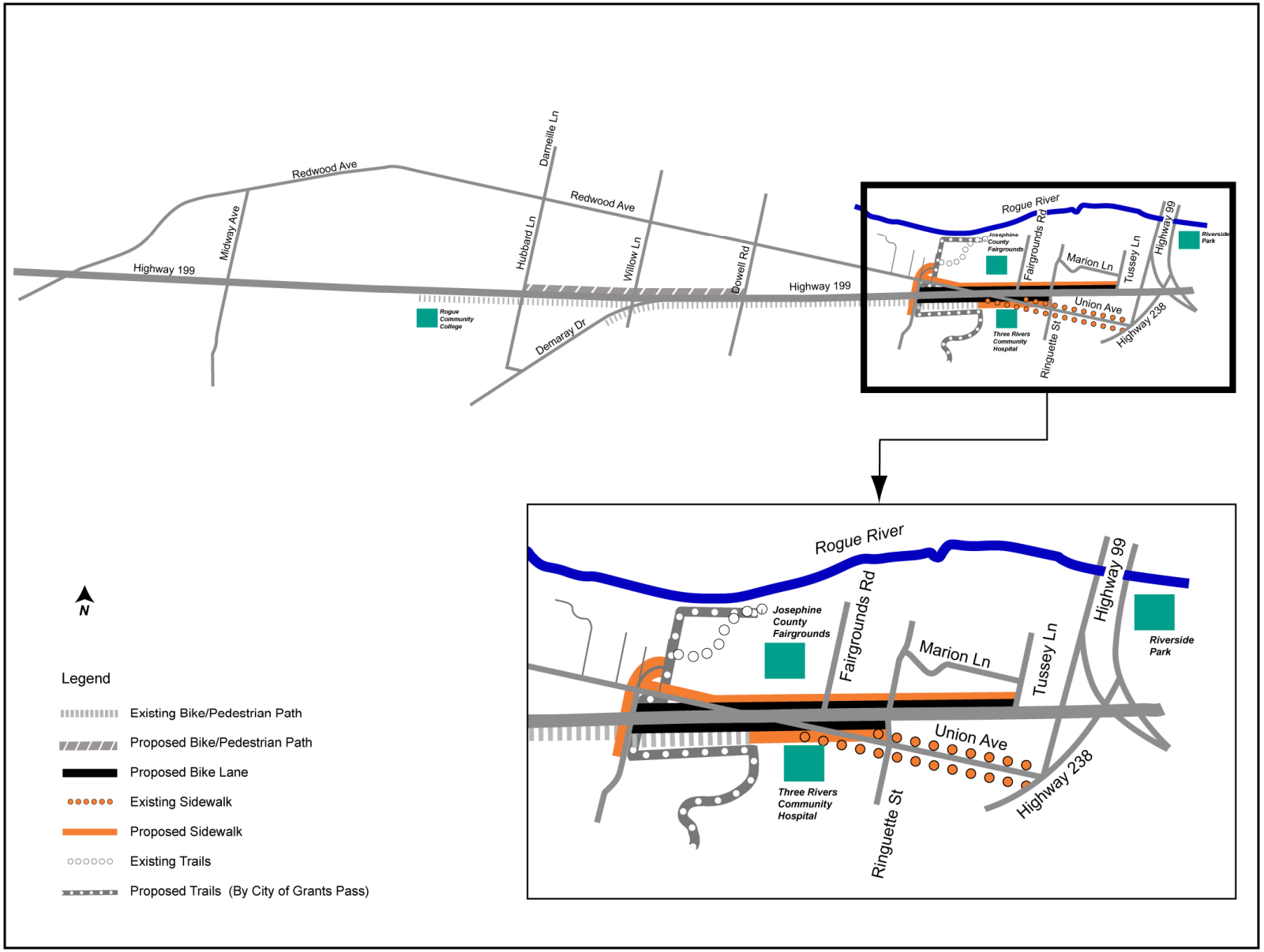
- The entrance to Rogue Community College from eastbound Highway 199 would have a deceleration lane for right turns into the college. Entrance to the college from westbound on Highway 199 would be from a left-turn-only lane. Exit from the college would be right out only. A portion of the South Highline 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 accommodated. This intersection would be constructed to accommodate a future traffic signal once traffic conditions warrant signal installation (Exhibit 2-2, Inset 2).

- Hubbard Lane would be improved to City of Grants Pass design standards south of Highway 199 (Exhibit 2-2, Inset 6). The southern-most 400 feet of Hubbard Lane would be realigned to create a new intersection with Demaray Drive (Exhibit 2-2, 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 2-3 provides an overview of existing and proposed bike/pedestrian facilities.
- 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 2-2, 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.

EXHIBIT 2-3. EXISTING AND PROPOSED BIKE/PEDESTRIAN FACILITIES



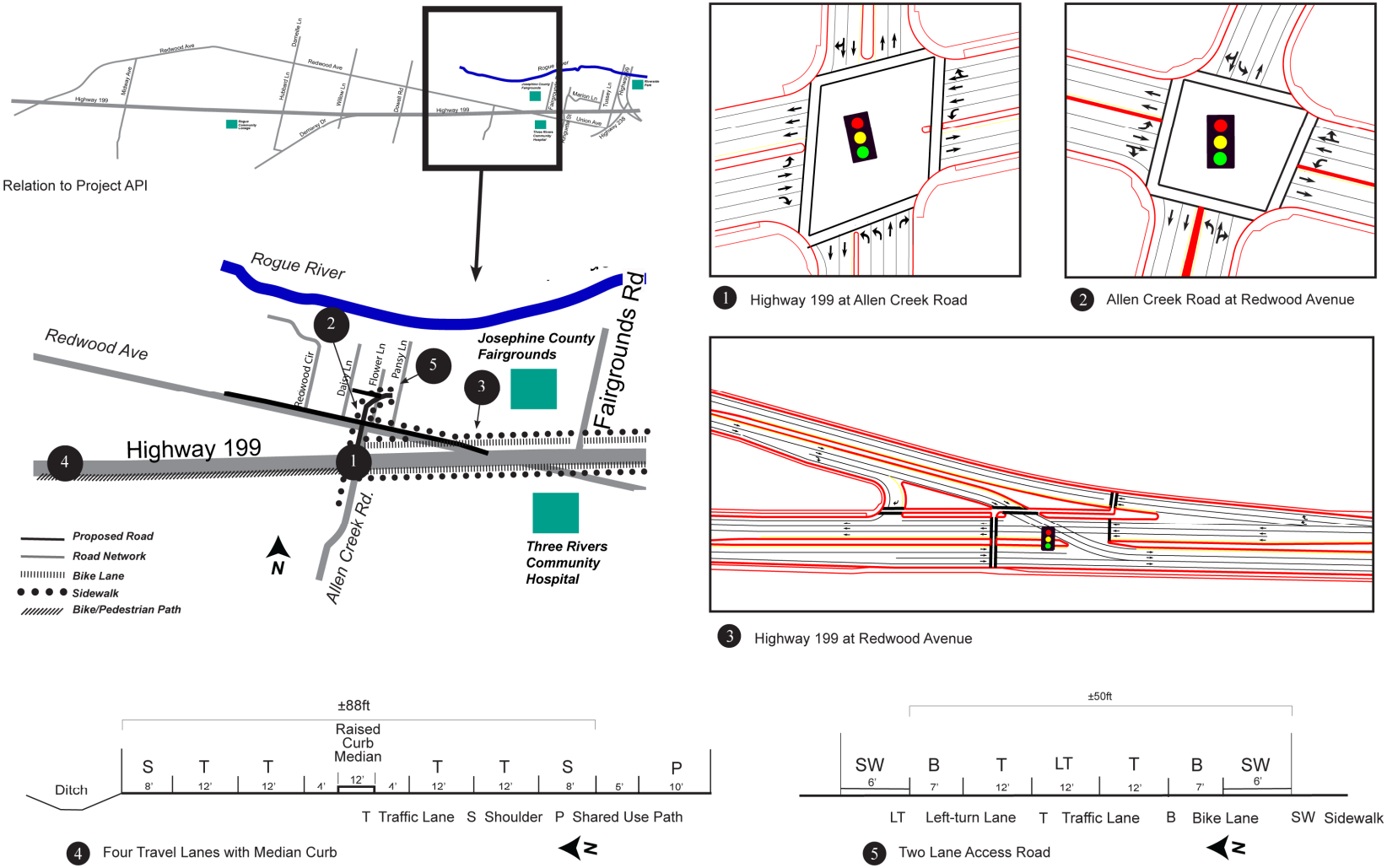
Dowell Road to Fairgrounds Road

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

- At Dowell Road, Highway 199 would continue east with four travel lanes with raised curb median between the eastbound and westbound lanes (Exhibit 2-4, Inset 4). Deceleration lanes would provide protected right turns from Highway 199 to northbound and southbound Dowell Road.
- The intersection of Highway 199 and Allen Creek Road (Exhibit 2-4, Inset 1) would remain signalized and include the following features:
  - Eastbound Highway 199 would have two through lanes, one left-turn-only lane, and one right-turn-only lane.
  - Westbound Highway 199 would have three through lanes, with the right lane also allowing for right turns, and one left-turn-only lane. The far right through lane ends west of Allen Creek Road by merging with the center through lane.
  - 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 through lane and one combined through lane and right-turn lane. No left-turns would be allowed from southbound Allen Creek Road to eastbound Highway 199.
- Sidewalks would be added on both sides of Allen Creek Road. The intersection at Allen Creek Road and Redwood Avenue (Exhibit 2-4, Inset 2) would be signalized and:
  - Northbound on Allen Creek Road would have one combined through lane and right-turn lane, and one left-turn-only lane.

Access to the YMCA would be via a new access road that connects directly to Pansy Lane. The YMCA has an existing driveway on Pansy Lane which would enable transportation system linkage between the YMCA and Highway 199.

EXHIBIT 2-4. WORKING GROUP ALTERNATIVE BETWEEN DOWELL ROAD AND FAIRGROUNDS ROAD



- Eastbound Redwood Avenue would have one through lane, one combined through lane and right-turn lane, and one left-turn-only lane.
- Southbound from a new access road, there would be a single combined through lane and right-turn lane as well as one left-turn-only lane.
- Westbound Redwood Avenue would have one through lane, one combined through lane and right-turn lane, and one left-turn-only lane.

- The intersection of Highway 199 at Redwood Avenue (Exhibit 2-4, Inset 3) would remain signalized and be reconfigured to include:
  - Westbound Highway 199 approaching Redwood Avenue would have three lanes with the right lane as an exit-only lane, the center lane as a combined through and exit lane, and the left lane as a through lane.
  - Westbound Highway 199 just west of the Redwood Avenue exit would add a lane to the left of the two remaining through lanes. This added left lane would become a left through lane past Allen Creek Road. A left-turn lane would be added next to this left through lane approximately 400 feet prior to the Allen Creek Road intersection.
  - Eastbound Highway 199 would provide three through lanes. The right side through lane would be added between Allen Creek Road and Redwood Avenue.
  - Eastbound Redwood Avenue would have a right-turn-only lane to westbound Highway 199 and two left-turn-only lanes to eastbound Highway 199.
- Access to the Josephine County Fairgrounds, the Young Men's Christian Association (YMCA), other county-owned parcels east of the YMCA, and residential properties on Pansy and Flower Lanes would be from a new access road and Pansy Lane (Exhibit 2-4). The access road would extend north from the Allen Creek Road/Redwood Avenue signalized intersection, curve east, and connect to Pansy

Lane. An existing driveway on Pansy Lane would continue to provide access to the YMCA and the fairgrounds.

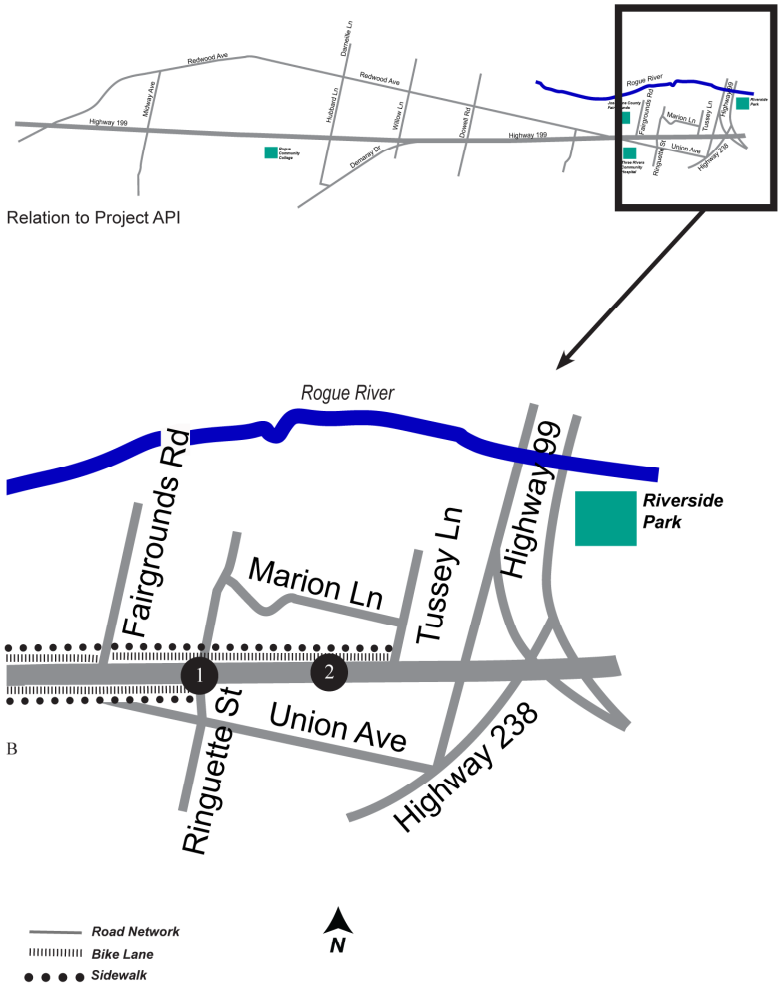
- The access road would have three lanes (one through lane north, one combined through lane and right-right turn lane south, and one center left-turn lane), paved shoulders and sidewalks on both sides of the road (Exhibit 2-4, Inset 5).
- Access to properties along Redwood Avenue from Highway 199 to just west of Daisy Lane would be right-in/right-out. One right-in/right-out access would be provided on southbound Allen Creek Road between Redwood Avenue and Highway 199.
- The Working Group Alternative includes constructing a new local street connector between Daisy Land and Flower Lane. Eastbound traffic originating on Daisy Lane would travel on this new connector to Flower Lane, travel south on the new Pansy Lane access road, and then connect to eastbound Redwood Avenue.
- The existing separated bicycle and pedestrian shared use path along the 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 (Exhibit 2-3).
- A bike lane along the north side of Highway 199 between Fairgrounds Road and the Redwood Avenue slip ramp would be striped on the roadway shoulder (Exhibit 2-3).
- A bike lane would be added along the south side of Highway 199 between Allen Creek Road and Fairgrounds Road and would be striped on the roadway shoulder (Exhibit 2-3).
- Sidewalk, separated by a planter strip, would be added to the north side of Highway 199 from Allen Creek Road to Fairgrounds Road. A sidewalk would be added to the south side of Highway 199 from Nebraska Avenue to Fairgrounds Road (Exhibit 2-3).

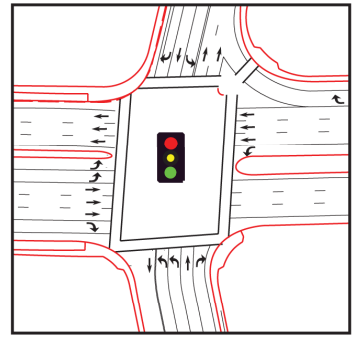
Fairgrounds Road to Tussey Lane

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

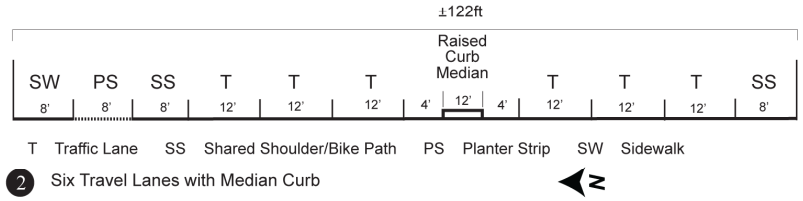
- This segment of Highway 199 would provide six travel lanes with raised curb median continuing between the eastbound and westbound lanes (Exhibit 2-5, Inset 2).
- Direct access to Highway 199 would be right in/right out only. Curb and a detached sidewalk would be constructed along the westbound portion of Highway 199. Access would be defined by driveways with some shared between parcels.
- 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 on both the north and south side of Highway 199.
- The intersection of Highway 199 and Ringuette Street(Exhibit 2-5, Inset 1) 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 right-turn-only lane.
  - Eastbound Highway 199 would have three through lanes, one left-turn-only lane, 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.
  - 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 (Exhibit 2-5, Inset 2).

EXHIBIT 2-5. WORKING GROUP ALTERNATIVE BETWEEN FAIRGROUNDS ROAD AND TUSSEY LANE





1 Highway 199 at Ringuette Street



2 Six Travel Lanes with Median Curb

- 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 new sidewalks along Ringuette Street and along the south side of Highway 199 would match in with existing sidewalks (Exhibit 2-3).
- The bike lane striped on the roadway shoulder along the north side of Highway 199, would extend from Fairgrounds Road to Tussey Lane. The bike lane striped on the roadway shoulder along the south side of Highway 199 would continue between Fairgrounds Road and the east end of the project (Exhibit 2-3).

2.4 Areas of Critical Concern and Alternatives Considered but Withdrawn

Please see the EA (December 2006) for a discussion on the following topics:

- Areas of Critical Concern and Controversial Issues
- Alternatives Considered but Withdrawn

There has been no change to the information presented in the EA on the above topics.

2.5 Required Permits and Planning Actions

Exhibit 2-6 is an updated list of the probable permits and planning actions that would be required for the project. These permits would be applicable to Alternative A, Alternative C, and the Working Group Alternative.

EXHIBIT 2-6. PERMITS AND PLANNING ACTIONS THAT MAY BE REQUIRED

Permit/Planning Action	Issuing Agency	Estimated Timeline
Section 4(f) *de minimis* 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 1200-CA	Oregon Department of Environmental Quality (DEQ)	Already obtained by ODOT for construction projects
Section 404 Permit	U.S. Army Corps of Engineers (USACE)	130 days (assuming issuance of a USACE General Permit)
Fill and Removal Permit	Oregon Department of State Lands (DSL)	130 days (assuming issuance of a state DSL General Authorization)
Section 401 Water Quality Certification	Oregon DEQ	130 days (concurrent with General Authorization/General Permit processing)
Section 106 Consultation	Oregon State Historic Preservation Office (SHPO)	30 days

CHAPTER 3. Affected Environment and Environmental Consequence

Chapter 3 presents an analysis of the potential effects of the Working Group Alternative on people and the environment.

Analysis of the Working Group Alternative uses the same Methods and Coordination and has the same Baseline Conditions, Temporary Effects, and Indirect and Cumulative Effects as Alternatives A and C. Please refer to the Highway 199 Expressway Upgrade Project EA (December 2006) for a discussion of these elements. This chapter only discusses the long-term effects on people and the environment associated with the Working Group Alternative, except in the traffic and transportation section where comparative analysis among the alternatives is provided. When quantitative data is provided for the Working Group Alternative similar data for Alternatives A and C is included.

Descriptions of Alternatives A and C are provided in the EA (December 2006). The only change made to these two alternatives relates to Phase 2 improvements. In the EA, Phase 1 included all improvements to Highway 199, the extension of Hubbard Lane south to Demaray Drive, the realignment of the Redwood Avenue intersection with Allen Creek Road, and the extension of Allen Creek Road north to Pansy Lane. Phase 2 included a possible new road connection between Pansy Lane and Tussey Lane north and roughly parallel to Highway 199.

Phase 2 was presented in the EA as a concept with no specific alignment defined. This concept could not be given more detail or determined necessary until the South Y Interchange project had defined a project purpose and need statement and subsequent alternatives were developed and analyzed to address that project's

needs. Furthermore without a specific alignment, environmental impacts could not be adequately analyzed. As it became evident that Phase 2, a possible new road connection between Pansy Lane and Tussey Lane, would be dependent on the need for the South Y Interchange project, this phase was no longer considered a part of the Highway 199 Expressway Upgrade project. Alternatives A and C are redefined to include only the elements described as Phase 1 improvements.

3.1 Air Quality

3.1.1 Long-Term Effects

Particulate Matter (PM_{10})

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 PM_{10}, 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 (2025) 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 annual average daily traffic (AADT), determined that the intersection of Highway 199 and Ringuette Street represents the worst case analysis area of the proposed project for the Working Group Alternative.

There are several factors that strongly indicate that the project, including selection of the Working Group Alternative, would not cause or exacerbate a violation of the National Ambient Air Quality Standards (NAAQS). These are as follows:

- No exceedances of the PM_{10} NAAQS have been recorded at any monitor in western Oregon in over 10 years

- No exceedances of the PM_{10} NAAQS have been recorded in the City of Grants Pass since 1988
- The AADT (80,000) and truck percentage (4.5%) 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
- PM_{10} 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 PM_{10} emissions.

Project Conformity with the State Implementation Plan
Based on the results of the PM_{10} 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 PM_{10} 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 to complete the regional conformity determination.

Therefore, project conformity with the State Implementation Plan (SIP) can not be established until regional conformity has been established.

Regionally Significant

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

SIP

Required by Section 110 of the Clean Air Act, the SIP outlines adopted federally approved control strategies to minimize air pollution. SIPs generally establish limits or work practice standards to minimize emissions of the criteria pollutants or their precursors.

Mobile Source Air Toxics

As the Working Group Alternative fits the definition of a project with low potential Mobile Source Air Toxics (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 Ringuette Street) is 80,000 in 2010 and 102,700 in 2025, which are below the FHWA criterion, the Working Group Alternative like 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 (VMT). Because the estimated VMT under each of the alternatives is nearly the same (Exhibit 3-1), varying by approximately two to four percent between the Working Group Alternative and Alternatives A and C, it is expected there would be no appreciable difference in overall MSAT emissions generated in the API between the three 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.

Exhibit 3-1. Modeled PM Peak Vehicles Miles of Travel (2025)

Alternative	VMT
No Build	15,500
Alternative A	18,370
Alternative C	19,550
Working Group Alternative	19,150

Source: Transportation Section of the Environmental Assessment

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 Environmental Protection Agency (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.

3.2 Archaeology

3.2.1 Long-Term Effects

The Working Group Alternative would have no long-term effects to archaeological resources as stated in the Highway 199 Expressway Upgrade Project EA (December 2006).

3.3 Biology

3.3.1 Long-Term Effects

Fisheries Resources/Water Quality

Potential effects to fisheries and water quality from the Working Group Alternative would include increased 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. The Working Group Alternative 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.

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.

The amount of impervious surface treated through new stormwater treatment facilities for the Working Group Alternative would be approximately 8.2 acres. The Working Group Alternative would treat stormwater runoff from net new impervious surface to a 'no effect' level for water quality and quantity.

EA Comparison

The difference among Alternative A, Alternative C and the Working Group Alternative is insignificant from a water quality perspective for Sand Creek, Allen Creek, and Sparrowhawk Creek. Therefore, potential impacts to Endangered Species Act (ESA)-protected Coho salmon would be expected to be the same for Alternative A, Alternative C and the Working Group Alternative.

Wildlife Resources

The Working Group Alternative 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.

The Working Group Alternative would require removing selected trees in the APE. 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.

Botanical Resources

The Working Group Alternative would result in no negative effects to sensitive or listed botanical resources in the APE.

3.4 Hazardous Materials

3.4.1 Long-Term Effects

Long-term effects and benefits to and from Recognized and Potential Environmental Conditions (RPEC) sites may occur in the API as a result of the project. The locations of these sites are shown on Exhibits 3-4 and 3-5 of the EA (December 2006). 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.

3.5 Historic Resources

3.5.1 Long-Term Effects

The long-term effects and benefits of the Working Group Alternative on historic resources are similar throughout the APE. No long-term effects would occur to any significant historic-period buildings, including houses and commercial buildings, because there are no buildings in the APE that are eligible for listing in the National Register of Historic Places (NRHP).

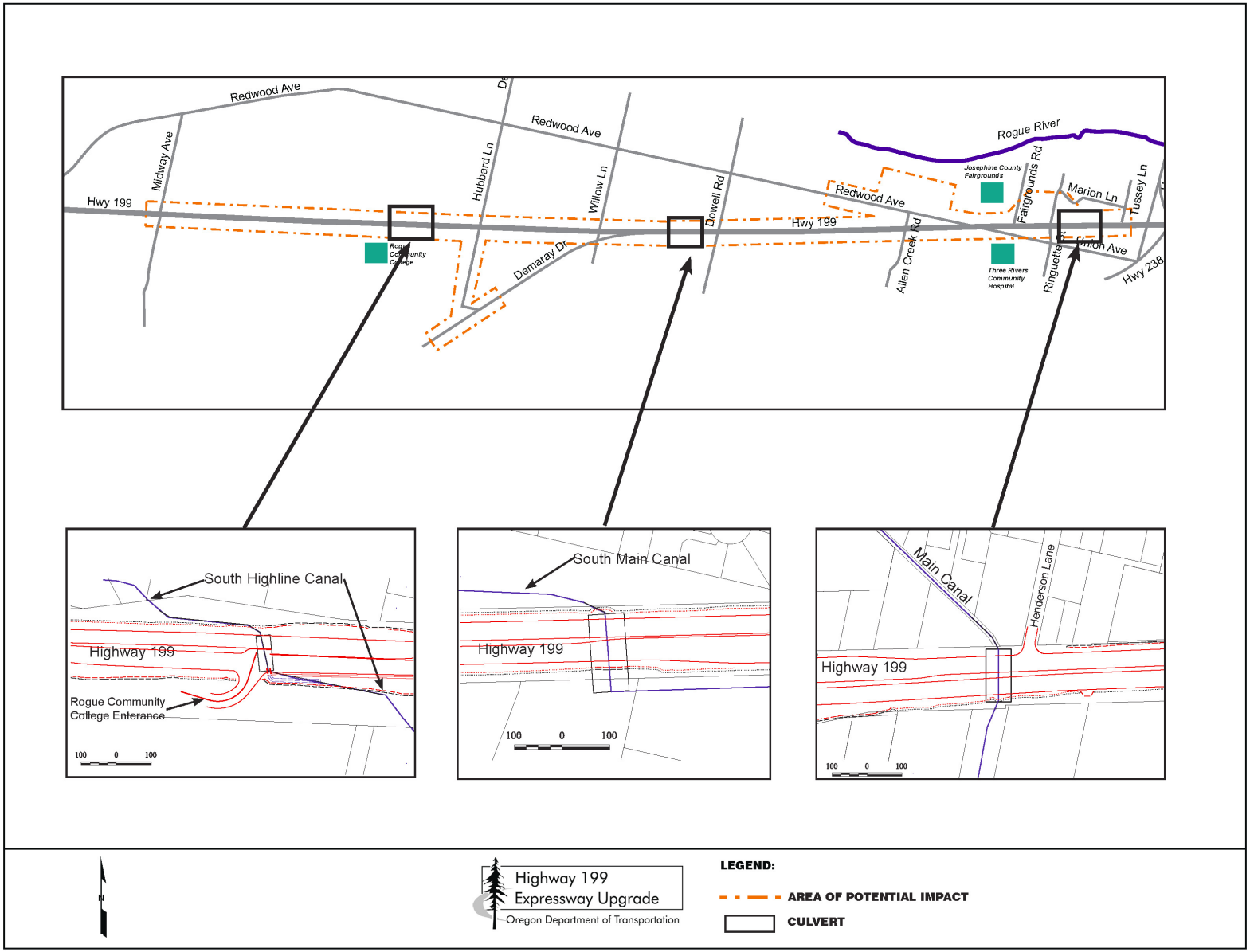
South Highline Canal/culvert across Redwood Avenue from the Rogue Community College entrance, looking south.

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 3-2).

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.

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).

Exhibit 3-2. Three Areas of Potential Effects to Significant Canal Resources



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.

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.

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.

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

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 roadway 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.

3.6 Land Use

3.6.1 Long-Term Effects

Working Group Alternative

As shown in Exhibit 3-3 the Working Group Alternative would affect 104 parcels. The Working Group Alternative would require no full parcel acquisitions. For all of the alternatives the majority of partial acquisitions would occur between Dowell Road and Fairgrounds Road.

Exhibit 3-3. Anticipated Number of Acquisitions per Alternative

Acquisition Type	Number of Acquisitions		
	Alternative A	Alternative C	Working Group Alternative
Full	2	2	0
Partial and/or Driveway Modifications	118	114	104
Total	**120**	**116**	**104**

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

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. The Working Group Alternative would not require any land use plan amendments, zone changes, or land use permits.

Oregon Statewide Planning Goal 12, Transportation

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

The safety improvements and reduction in traffic congestion associated with the Working Group 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 Master Transportation Plan (MTP), and the Josephine County Rural Transportation System Plan (TSP).

3.7 Noise

3.7.1 Long-Term Effects

Working Group Alternative

Under the Working Group Alternative future conditions, 50 residences, 9 commercial sites, and the outdoor basketball courts at the YMCA would experience noise levels that approach or exceed the noise abatement criteria (Exhibit 3-4, Exhibit 3-5, and Exhibit 3-6). Noise levels for the Working Group Alternative are predicted to range from 50 to 72 dBA. The increase in noise level is due to increased traffic volumes to the roadway network, reconfiguration of roadways and/or new roadways. Noise levels are predicted to increase by zero to three decibels at most locations, which is not perceptible to the average human ear.

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 3-4. Locations where Predicted Noise Levels Approach or Exceed the Noise Abatement Criteria – Midway Avenue to Dowell Road

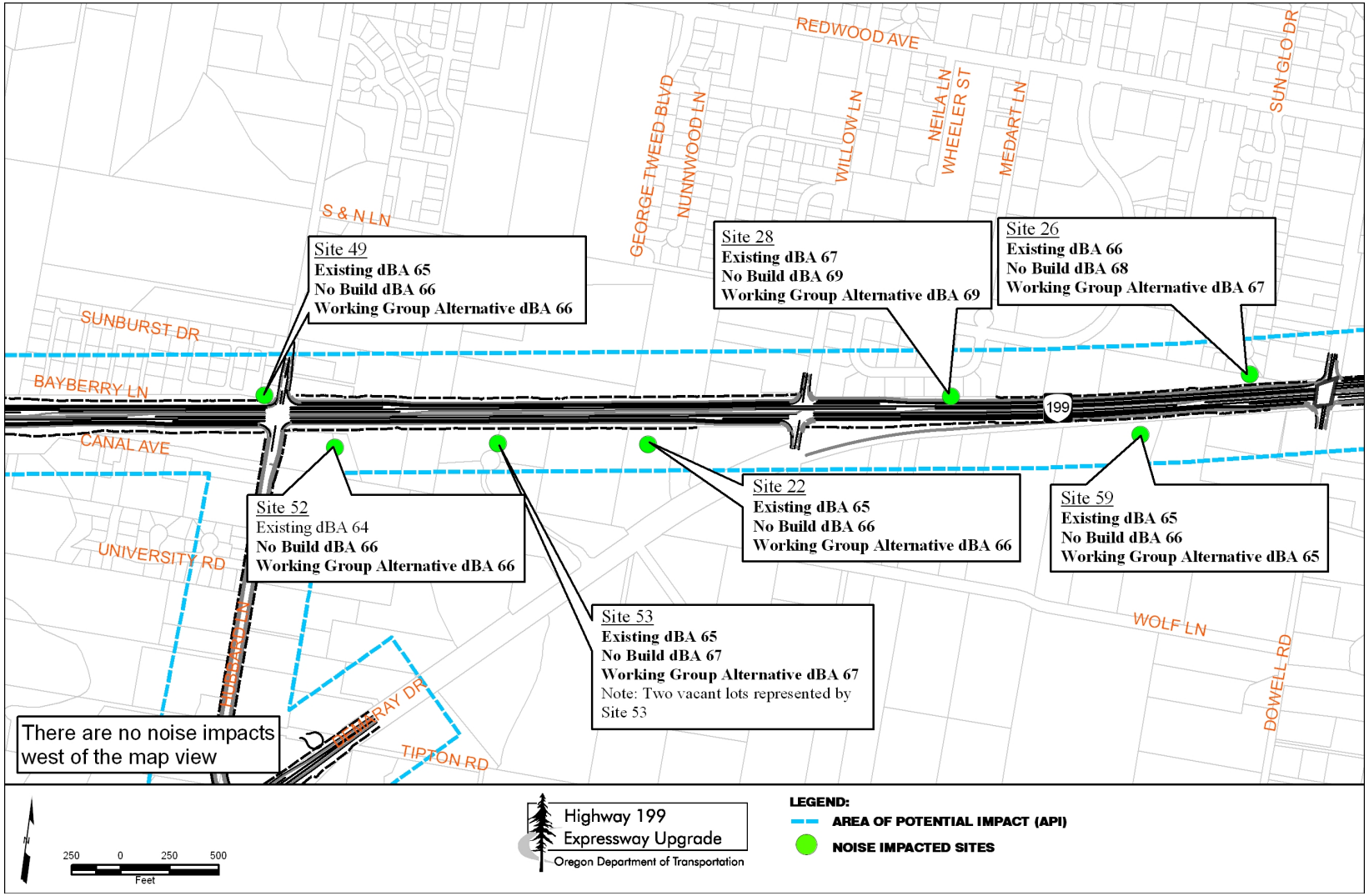


Exhibit 3-5. Locations where Predicted Noise Levels Approach or Exceed the Noise Abatement Criteria – Dowell Road to Fairgrounds Road

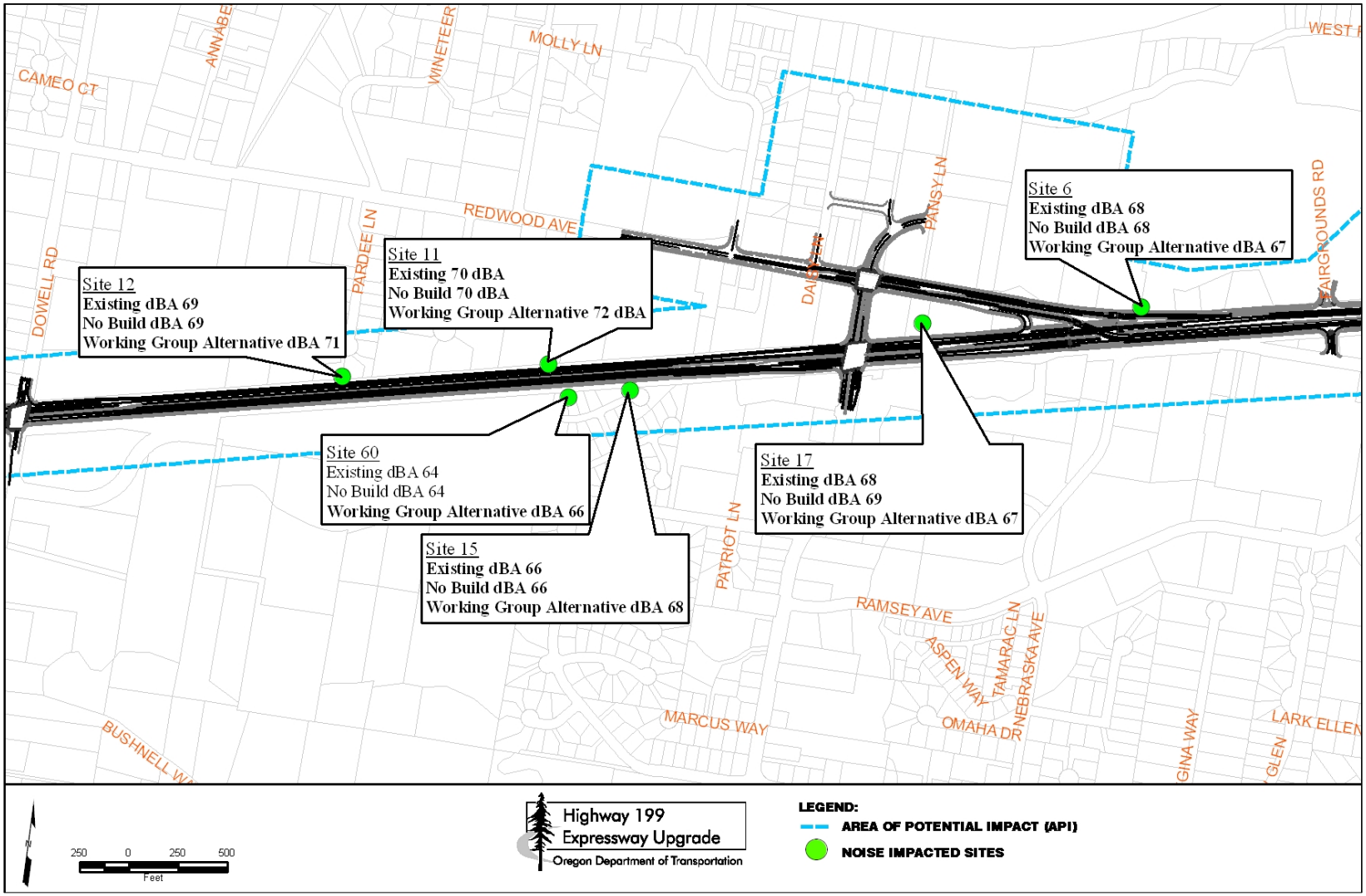
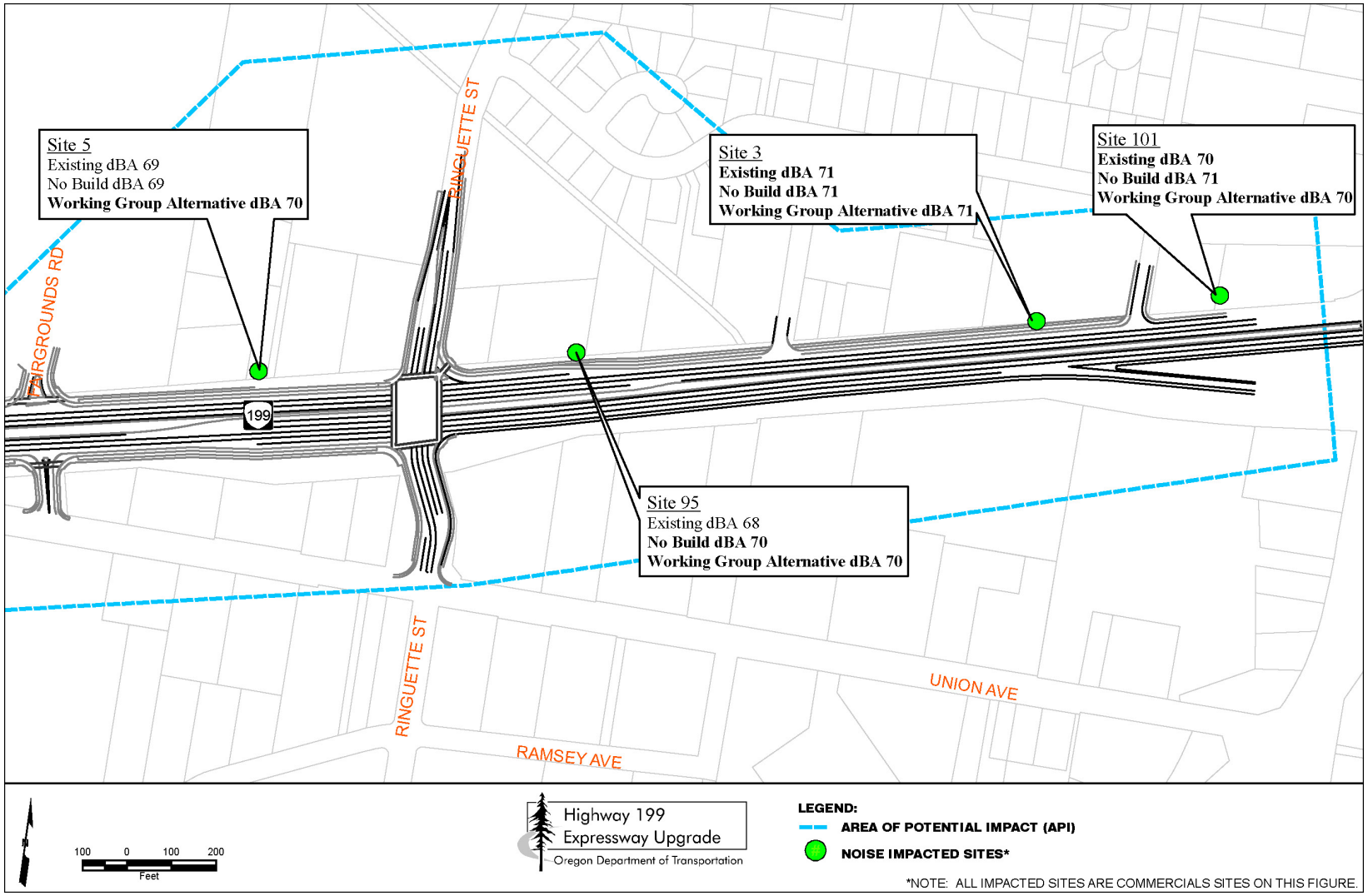


Exhibit 3-6. Locations where Predicted Noise Levels Approach or Exceed the Noise Abatement Criteria – Fairgrounds Road to Tussey Lane



3.8 Right of Way Acquisition and Relocation

3.8.1 Long-Term Effects

Working Group Alternative Commercial Relocations

Bear Distributions
Dan'l Boones Trading Post
Moser Paving Office
River City Bicycle Motocross (BMX)

Working Group Alternative

Under the Working Group Alternative, 104 parcels would be affected by partial acquisition, relocation, and/or driveway modifications. All of the acquisitions would be partial acquisitions which would require seven relocations. Three of the relocations would be residential, and four would be commercial.

The estimated total acquisition area required for the API is 9.5 acres, and is broken down as follows: 8.8 acres fee acquisition and 0.7 acre slope and utility easement.

The estimated cost of right of way acquisition between Midway Avenue and Dowell Road is $3.0 million, between Dowell Road and Fairgrounds Road is $9.6 million, and between Fairgrounds Road and Tussey Lane is $1.0 million. The total estimated cost of right of way acquisition for the API is $13.6 million (2010 dollars). Exhibit 3-7 provides a comparison of estimated acquisition area and cost between the Working Group Alternative and Alternatives A and C.

Exhibit 3-7. Estimated Right of Way Acquisition Area and Costs

	Working Group Alternative	Alternative A	Alternative C
Acquisition Area	9.5 acres	12.4 acres	11.5 acres
Cost of Acquisitions	$13.6 million	$15.2 million	$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.

3.9 Section 4(f) and 6(f)

3.9.1 Long-Term Effects

Working Group Alternative

The Working Group Alternative would affect the South Main Canal, the South Highline Canal, and the Main Canal (Exhibit 3-2). 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 amendment to Section 4(f) of the Department of Transportation Act of 1966. On June 11, 2007, FHWA concurred on this *de minimis* use of the three canals.

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. The Working Group Alternative, as well as Alternatives A and 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. The Working Group Alternative and Alternatives A and C 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 Trail.

The project would not affect the use or activities of the recreation field at Rogue Community College (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.

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

BMX Track

A privately owned BMX track will be displaced by the Working Group Alternative. Since the BMX track is privately-owned, there is 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" has completed the Section 4(f) evaluation process.

3.10 Socioeconomics and Environmental Justice

3.10.1 Long-Term Effects

Commercial Relocations associated with Working Group Alternative

Bear Distributions
Dan'l Boones Trading Post
Moser Paving Office
River City BMX

Working Group Alternative

The Working Group Alternative 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 Statues 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 three residential relocations and four commercial relocations under the Working Group Alternative (Exhibit 3-8).

Exhibit 3-8. Anticipated Number of Relocations per Alternative

Relocation Type	Number of Relocations		
	Alternative A	Alternative C	Working Group Alternative
Residential	5	3	3
Commercial	7	8	4
Total	**12**	**11**	**7**

Commercial relocations under the Working Group Alternative would include businesses in the following general categories: general retail, construction, and private recreation facility. One privately-owned recreational facility, the BMX course, would be relocated. No social- or health-related services or businesses would be relocated under the Working Group Alternative.

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 compared to the Josephine County average. Other relocations are proposed in census blocks that have a lower percentage of environmental justice populations than Josephine County. 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, and hazardous materials would minimize any adverse effects to both environmental justice and non-environmental justice populations.

3.11 Traffic and Transportation

3.11.1 Long-Term Effects

Working Group Alternative

Unique Design Elements

The Working Group Alternative is identical to Alternatives A and C from Midway Avenue to Dowell Road. East of Dowell Road, the Working Group Alternative differs from Alternatives A and C on the following design elements, which affect traffic operations:

- Highway 199 between Dowell Road and Allen Creek Road would retain four travel lanes once the westbound right lane drops just west of the Allen Creek Road intersection.
- The triangular road network where Highway 199, Allen Creek Road, and Redwood Avenue intersect would contain road widening and intersection improvements on existing road alignments.
  - Each roadway would be widened.

Maps of the Working Group Alternative

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

- Signals would be retained at the Highway 199 and Allen Creek Road intersection and the Highway 199 and Redwood Avenue intersection; however lane configurations would be expanded and modified from current traffic patterns.
- A new signal would be added at the intersection of Redwood Avenue and Allen Creek Road.

Raised median curb would be installed on Redwood Avenue from Highway 199 to just west of Daisy Lane, which would prohibit left turns except at Allen Creek Road. Private property access in the vicinity of the Allen Creek Road/Redwood Avenue intersection would be modified. The traffic models developed to analyze the Working Group Alternative reflect the revised access and traffic patterns.

Common Design Elements Shared with Alternatives A and C

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
- Willow Lane (westbound only)
- 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 along Highway 199 or at the unsignalized Highway 199/Midway Avenue intersection.

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 alternate access onto Demaray Drive and travel to Hubbard Lane where these trips can then turn left onto Highway 199 to travel west.

Congestion at Intersections

V/C ratios are one measure of congestion at intersections, which affect highway mobility. The OHP and Highway Design Manual (HDM) set mobility standards by road classification. The OHP sets mobility standards for existing transportation facilities, and therefore, the OHP is applicable to the existing Highway 199 which is included in the No Build Alternative. The HDM is the standard for transportation facilities that are designed and built in the future, including new and improved facilities; thus, the HDM is applicable to Alternative A, Alternative C, and the Working Group Alternative. In all cases, the mobility standard for state highways is measured in terms of the v/c ratio. And, for designated expressways such as Highway 199, the mobility standard is v/c = 0.70. For Highways 99 and 238, the mobility standard is v/c = 0.85. Mobility standards for local streets are set by local transportation plans and typically use a Level of Service (LOS) rating. The mobility standard for Redwood Avenue, Union Avenue and Demaray Drive is LOS D. Thus, traffic conditions exceed mobility standards when the v/c ratio is greater than 0.70 on Highway 199 and greater than 0.85 on Highways 99 and 238 as well as when LOS E or F occurs on local streets.

Traffic models were developed to project future traffic conditions for each alternative. These models reflect the access and traffic circulation modifications associated with each alternative and other committed transportation improvements in the vicinity. Exhibit 3-9 compares the year 2025 v/c ratios and LOS at several intersections between the Working Group Alternative, Alternatives A and C, and the No Build Alternative.

For the Working Group Alternative (as well as Alternatives A and C), most of the intersections along Highway 199 show improvement in mobility (v/c ratio decreases) when compared to the No Build Alternative. The following conclusions can be draw about future congestion at these intersections:

- **Highway 199/Midway Avenue, Highway 199/Arbor Ridge Drive, and Highway 199/Dawn Drive:** Each of these intersections operate well below the mobility standard and perform similarly to the No Build Alternative.

Updated V/C Ratios

Additional traffic analysis was performed in 2007, which generated updated v/c ratios for Alternatives A and C as well as new v/c ratios for the Working Group Alternative. Updated v/c ratios for Alternatives A and C are included in Exhibit 3-9.

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.

Exhibit 3-9. 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		Working Group Alternative 2025	
	V/C Ratios	LOS	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	--	0.27 SB	--
Midway Avenue*	0.23 WB	--	0.24 WB	--	0.24 WB	--	0.24 WB	--
Arbor Ridge/Dawn Drive*	0.33 WB	--	0.34 WB	--	0.34 WB	--	0.34 WB	--
RCC Entrance*	0.39 NB	--	0.26 WB	--	0.26 WB	--	0.26 WB	--
Hubbard Lane*	0.83 SB	--	0.46 SB L[1]	--	0.46 SB L[1]	--	0.46 SB L[1]	--
Willow Lane*	0.38 WB	--	0.38 WB	--	0.38 WB	--	0.38 WB	--
Dowell Road	0.80	--	0.72	--	0.73	--	0.73	--
Allen Creek Road	0.85	--	0.82	--	0.75[2]	--	0.75	--
Redwood Avenue (east)	0.86	--	N/A	--	N/A	--	0.67	--
Fairgrounds Road*	1.00	--	0.60 WB	--	0.60 WB	--	0.60 WB	--
Ringuette Street	1.30	--	0.79	--	0.79	--	0.82[4]	--
Henderson Lane	1.04 WB	--	0.62 WB	--	0.62 WB	--	0.62 WB	--
Tussey Lane	0.78 WB	--	0.62 WB	--	0.62 WB	--	0.62 WB	--
Highway 99 (6th Street)	1.68[3]	--	1.72	--	1.72	--	1.72	--
Highway 238 at								
Union Avenue/Harbeck	1.16	--	1.03	--	1.03	--	1.03	--
Redwood Avenue at								
Midway Avenue*	--	A (EB)	--	A (EB)	--	A (EB)	--	A (EB)
Hubbard Lane*	--	C (NB & SB)	--	C (NB & SB)	--	C (NB & SB)	--	C (NB & SB)
Willow Lane*	--	F (SB)	--	F (SB)	--	F (SB)	--	F (SB)
Dowell Road	--	C	--	B	--	B	--	B
Allen Creek Road	--	F (NB) *	--	D	--	B	--	B
Union Avenue at								
Ringuette Street*	--	F (EB)	--	F (EB)	--	F (EB)	--	F (EB)
Demaray Drive at								
Hubbard Lane*	--	B (SB)	--	B (SB)	--	B (SB)	--	B (SB)
Willow Lane*	--	C (NB)	--	C (NB)	--	C (NB)	--	C (NB)

The critical link for each v/c ratio is noted as NB – northbound, WB – westbound, SB – southbound, and EB – eastbound; and in some cases the specific critical turn movement is noted as 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, C and Working Group Alternative) 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] This reflects the unsignalized condition of Highway 199/Hubbard Lane intersection

[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.

[3] No Build uses the existing 150 second traffic signal cycle length. Alternatives A, C and Working Group Alternative use a 120 second traffic signal cycle length.

[4] Upstream signal (Redwood Avenue East) influence causes higher v/c ratio than Alternatives A and C even with the same volumes and land configurations.

- **Highway 199/RCC Entrance:** The RCC entrance road would result in an improved mobility (lower v/c ratio) compared to the No Build Alternative 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. Trips could also reach westbound Highway 199 by exiting the college on Demaray Drive, traveling to Hubbard Lane, and then turning left from Hubbard Lane to westbound Highway 199.
- **Highway 199/Hubbard Lane:** The intersection of Highway 199 and Hubbard Lane would result in improved mobility (lower v/c ratio) 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. When signal warrants are met at some point during the design life of the project, a signal may be installed at this intersection.
- **Highway 199/Willow Lane:** The intersection of Highway 199 and Willow Lane would continue to operate well below the mobility standard because left turns from northbound and southbound Willow Lane and eastbound Highway 199 have been eliminated (westbound Highway 199 to southbound Willow Lane is the only left turn movement allowed at this intersection) and the intersection can handle the volumes in the current configuration even with increased traffic.
- **Highway 199/Fairgrounds Road:** The signal at this intersection would be removed and would only allow right turns in and out of Fairgrounds Road at Highway 199. This modification would improve mobility (lower v/c ratio) at this intersection when compared to the No Build Alternative.
- **Highway 199/Henderson Lane and Highway 199/Tussey Lane:** The Highway 199 intersections with Henderson Lane and Tussey Lane improve mobility (lower v/c ratio) due to the additional capacity provided on Highway 199.
- **Highway 199/Highway 99 (Sixth Street):** As there are no improvements proposed at this intersection since it is associated with the South Y Interchange area, and since the No Build Alternative uses a 150 second traffic signal cycle

Updated Intersection Description

The description of the left turn movements at the Highway 199 and Willow Lane has been updated; this configuration is the same for Alternatives A and C.

length instead of the 120 second signal cycle length used in the traffic model for the Working Group Alternative and Alternatives A and C, there is a slight decrease in mobility (increased v/c ratio) when compared to the No Build Alternative. This intersection would continue to fail to meet the mobility standard until improvements to the entire interchange are made. Improvements at the South Y Interchange would address issues (primarily related to the north-south flow of traffic) that are independent of the east-west traffic issues that Highway 199 Expressway Upgrade project would address.

Four intersections under the Working Group Alternative, however, would exceed or approach the mobility standard (v/c = 0.70).

- **Highway 199/Dowell Road:** With the addition of through travel lanes for both eastbound and westbound Highway 199 at the intersection of Dowell Road, the v/c ratio decreases which relates to improved mobility, but continues to exceed the mobility standard and is nearly identical to Alternatives A and C. There is a slight analysis difference between developed exclusive turn lanes and when a continued lane drops. This accounts for the slight differences between the Working Group Alternative and Alternatives A and C.

- **Highway 199/Allen Creek Road and Highway 199/Redwood Avenue:** The v/c ratio for the Working Group Alternative (0.75) would be lower than Alternative A (0.82) and the No Build Alternative (0.85) at the Highway 199/Allen Creek Road intersection. This is due to the Working Group Alternative using two signals (Highway 199 at Allen Creek Road and Highway 199 at Redwood Avenue) to control traffic movements in this area, whereas all traffic movements in this area are handled by one signal (Highway 199 at Allen Creek Road) in Alternative A.

  The v/c ratio for the Working Group Alternative (0.75) would be the same as Alternative C (0.75) at the Highway 199/Allen Creek Road intersection even though each alternative has different traffic circulation patterns. Alternative C provides two right-turn-only lanes from westbound Highway 199 to northbound Allen Creek Road.

These two right-turn lanes would allow a substantial amount of the traffic volume to bypass most of the signal operation and in turn reduce the v/c ratio. In the Working Group Alternative, the same right-turn movement would be controlled by the signal; the traffic volumes would be much less since the majority of westbound traffic heading toward Redwood Avenue would have exited Highway 199 at the Highway 199/Redwood Avenue intersection. In addition, all eastbound Redwood Avenue traffic heading to Highway 199 would need to use the Highway 199/Redwood Avenue signal rather than the Highway 199 Allen Creek Road signal since left turns would not be allowed. These different traffic circulation patterns result in the Working Group Alternative having the same v/c ratio than Alternative C at the Highway 199/Allen Creek Road intersection.

In addition, the Working Group Alternative would retain the signalized intersection at Highway 199 and Redwood Avenue, whereas this signalized intersection would be removed under Alternatives A and C. This design difference coupled with Highway 199 having six lanes results in less congestion at this intersection under the Working Group Alternative (v/c = 0.67). A ratio of 0.67 closely approaches the mobility standard but would still be lower than the No Build Alternative (v/c = 0.86). Under Alternatives A and C, there is no congestion at this location, since the intersection has been removed.

The close proximity and interdependency of the signals in the triangle area (Highway 199, Redwood Avenue, and Allen Creek Road) could be an operational concern under the Working Group Alternative. Historically, one failing intersection can be adjusted to reduce impacts on the main movements of the intersection. In the case of the Working Group Alternative when two or even three potentially near failing intersections are in close proximity it would be nearly impossible to balance the critical movements at each intersection. At that point the system would fail and would affect all users by backing up traffic in the section of Highway 199 between Allen Creek Road and Fairgrounds Road. When an intersection begins to fail under Alternatives

A and C the back-ups would be outside the area of Highway 199 that local and non-local users must all pass through.

Although the traffic analysis indicates the v/c ratios in the 'triangle' area of Highway 199, Allen Creek Road, and Redwood Avenue could operate similarly between the Working Group Alternative and Alternatives A and C, a caveat must be stated. The traffic model indicates that there must be three through lanes in place before the Highway 199/Redwood Avenue and after Highway 199/Allen Creek Road intersections under the Working Group Alternative for it to achieve similar v/c ratios as Alternatives A and C. To make the Working Group Alternative perform from a design standpoint, the three lanes are included throughout this section. However, this design required adding a new left through lane near Redwood Avenue to replace the right lane that became an exit-only lane (Exhibit 3-10). And, then to reduce Highway 199 to four travel lanes, the right lane just west of the Highway 199 and Allen Creek Road intersection is dropped by merging traffic into the center through lane.

From an operational standpoint, the lane configuration in this congested one-half mile segment of westbound Highway 199 from Fairgrounds Road to just past Allen Creek Road could be confusing and further diminish the operational effectiveness of the system. For example:

- In less than 500 feet the westbound Highway 199 right lane becomes a 'trap lane' for the Redwood Avenue slip ramp between Fairgrounds Road and Redwood Avenue creating a required weave for vehicles leaving the fairgrounds wishing to continue westbound on Highway 199. Trap lanes in general impact efficiency in a transportation system; this would be especially true with the high volume of traffic that is moving to Redwood Avenue from Highway 199 because vehicles would stack back along Highway 199 anticipating their upcoming turn. This lane would also be heavily loaded with local access movements between the east end of the corridor and Redwood Avenue.

Trap lane

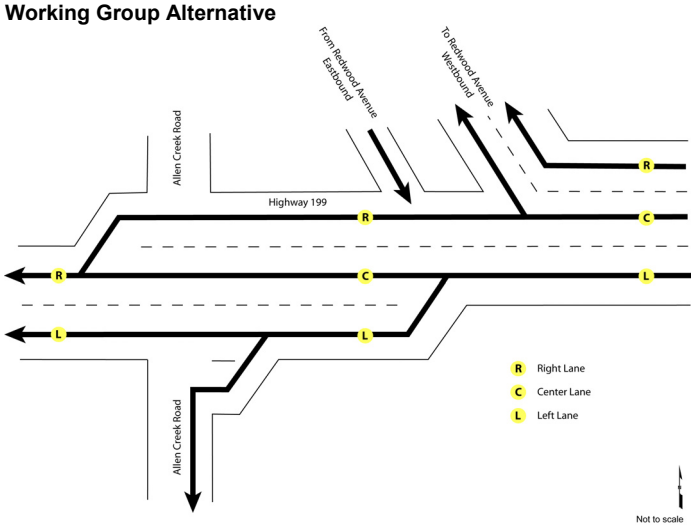
A lane which has been a through lane for some distance, typically at least one-half of a mile, and then either must turn left or turn right, or exit, at a succeeding intersection.

Add Lane

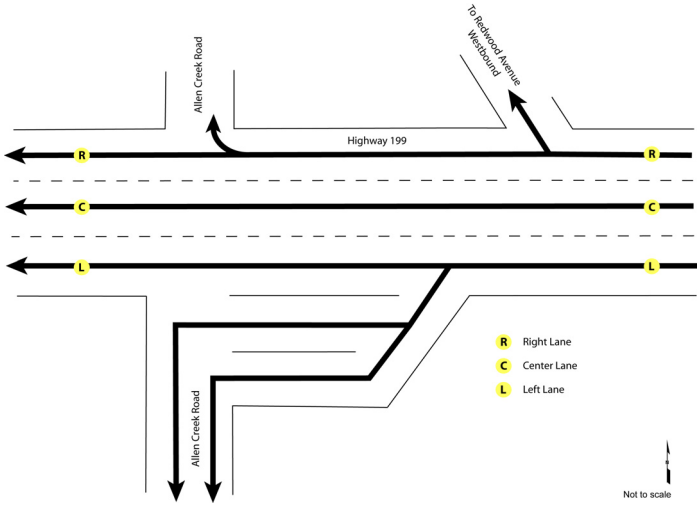
A travel lane that is added to the main roadway after it merges with that roadway, and continues for at least half a mile.

Exhibit 3-10. Westbound Highway 199 Lane Configurations

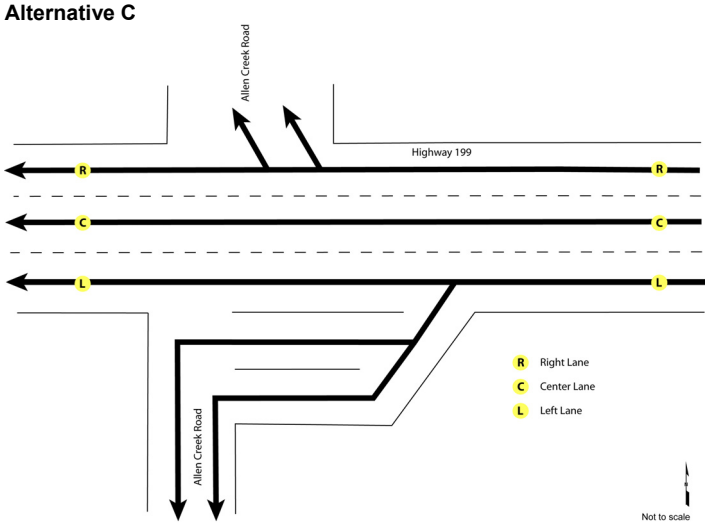
Working Group Alternative



Alternative A



Alternative C



- The westbound Highway 199 left through lane at Fairgrounds Road would become a right through lane west of Allen Creek Road if no lane changes were made by through moving traffic. This is not a typical situation faced by drivers. Many drivers would be required to make unnecessary lane changes to travel through the corridor and make turns at the intersections when compared to more typical lane configurations under Alternatives A and C (Exhibit 3-10).
- The westbound Highway 199 add lane to the left between the Redwood Avenue slip ramp and Redwood Avenue intersection becomes a through lane west of Allen Creek Road intersection. Lane utilization would be diminished for this lane through both the Redwood Avenue intersection and Allen Creek Road intersection because traffic moving through the system is required to compete for the same lanes as vehicles entering the left turn pocket for southbound Allen Creek Road.

Lane Utilization

A factor which shows whether or not a uniform percentage of vehicles would be using specific lane types (through lanes, turn lanes); where there is lane imbalance, the lane utilization factor should be adjusted to reflect instance where one or more lanes may be carrying a higher-than-expected share of vehicles, potentially due to lane imbalances or other downstream traffic factors.

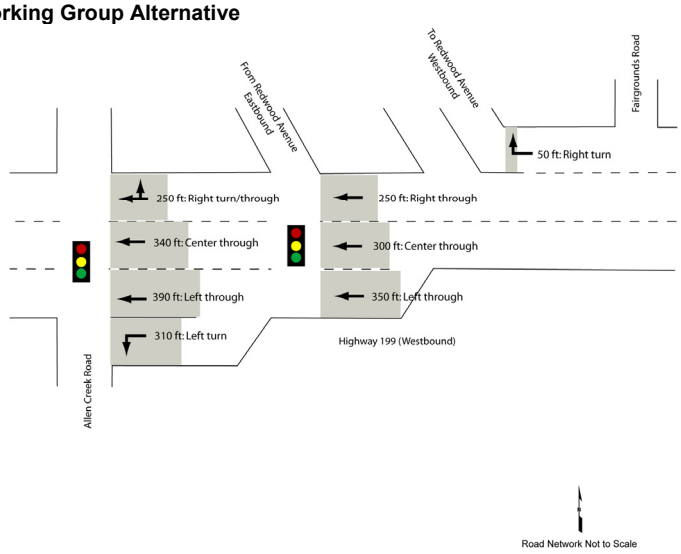
Lane Imbalance

This occurs where a higher proportion of vehicles may use one lane over an adjacent lane.

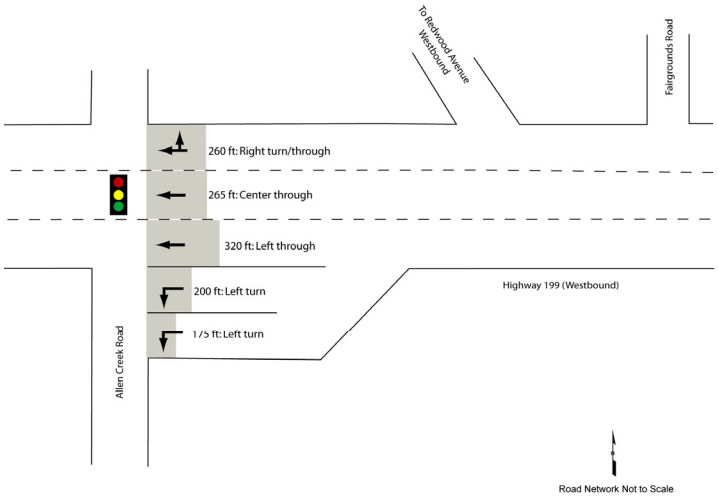
The Working Group Alternative traffic model presents a 'snapshot' of the intersections, and assumes there are adequate lanes connecting the points, so there is adequate capacity in the section when report the v/c ratios. In reality, the lane capacity would not be fully utilized since many vehicles would likely stay in a queue rather than change lanes just past the intersection. This situation would result in imbalanced lane utilization with the three through lanes having queues ranging from 250-390 feet in the Working Group Alternative compared to the more balanced utilization of 260-320 feet in Alternative A and 230 feet in Alternative C. Exhibit 3-11 depicts these values (summarized from the various traffic analysis files).

Exhibit 3-11. Westbound Highway 199 Lane Utilization and Queuing (Summarized for Traffic Analysis Output Files)

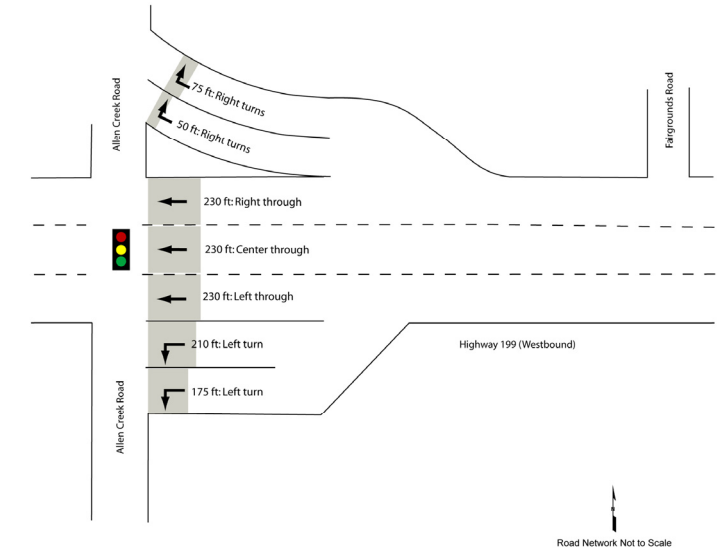
Working Group Alternative



Alternative A



Alternative C



Working Group Alternative: Design Option Considered

A single left turn lane from eastbound Highway 199 to northbound Ringuette Street was originally evaluated for the Working Group Alternative to reduce acquiring additional right of way on the northeast corner of the intersection. This option, however, resulted in the Working Group Alternative generating a v/c ratio of 0.98 at the Highway 199/Ringuette Street intersection. A v/c ratio of 0.98 would result in capacity failure, would not meet the project purpose and need, and likely would not receive ODOT design exception approval. Thus, the design was modified to include the same improvements as Alternatives A and C, which are expected to receive ODOT design exception approval.

- **Highway 199/Ringuette Street:** The Working Group Alternative would have the same Highway 199/Ringuette Street intersection configuration as Alternatives A and C. Mobility would be improved compared to the No Build Alternative; however, this intersection would still exceed the mobility standard with a 0.82 v/c ratio. Even with the same volumes and lane configurations, the Working Group Alternative would have a higher v/c ratio at this intersection than Alternatives A and C (0.79) due to the signal at Highway 199/Redwood Avenue eastbound.

On the local system, two of the three intersections (Redwood Avenue/Willow Lane (LOS F) and Union Avenue/Ringuette Street (LOS F)) that failed the LOS D standard in the No Build Alternative would continue to fail under the Working Group Alternative as well as Alternatives A and C (Exhibit 3-9). The exception is the Redwood Avenue/Allen Creek Road intersection which would be replaced with a modified and signalized intersection that improves the LOS to B under the Working Group Alternative and Alternative C and LOS D under Alternative A; all three are satisfactory levels. The Working Group Alternative (as well as Alternatives A and C) would not decrease the level of service on the local street network when compared to the No Build Alternative.

Safety

Crashes often occur when vehicles enter and exit access points to the highway, including driveways and intersections with local streets. These types of crashes are typically rear-end, turning, backing, and angle crashes. Crashes also occur when vehicles stop and start at traffic signals; crashes occurring at intersections often are rear-end and turning crashes.

Merge

The point where traffic from an adjacent lane, a ramp or intersecting road joins the main road, such as Highway 199, as the intersecting lane ends.

Weave

A short segment of roadway or freeway, typically less than half a mile, where some or all of the traffic must change lanes either to exit from the main roadway, or to enter the roadway and continue without exiting at the succeeding off-ramps.

Conditions commonly used to characterize safety include:

- Conflict points
- Signal spacing
- Number of vehicle stops
- Merge and weave movements.

The Working Group Alternative (as well as Alternatives A and C) include access management improvements that reduce the number of

intersections and the number of driveways by adding curb, vegetative planter strips, and sidewalks along Highway 199 between Allen Creek Road and Tussey Lane (Exhibit 3-12). This treatment would reduce the conflicts points by half at driveways and stop-controlled intersections from 50 conflict points (No Build Alternative) to 24-25 conflict points (Alternative A, Alternative C, and the Working Group Alternative); and therefore, would reduce the crash potential at these access points. It is expected that a reduced number of conflict points would reduce crashes; thereby increasing safety along the highway.

Updated Conflict Point Counts

Additional traffic analysis was performed in 2007, which generated updated conflict point counts for Alternatives A and C as well as new conflict point counts for the Working Group Alternative.

Exhibit 3-12. Conflict Points between Allen Creek Road and Tussey Lane

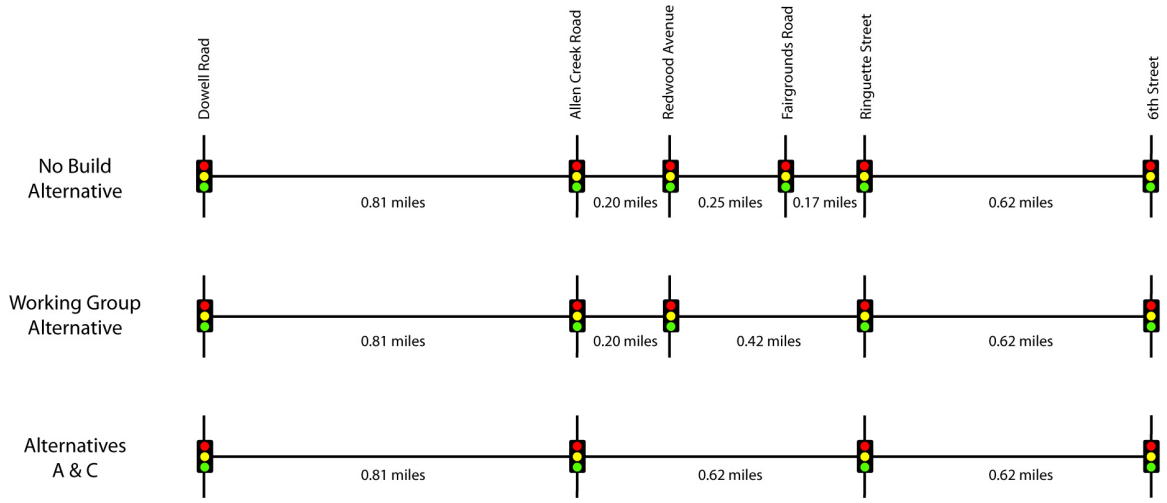
Conflict Point Type	Number of Conflict Points			
	No Build Alternative	Alternative A	Alternative C	Working Group Alternative
Driveways and Stop-Controlled Intersections	50	25	24	24
Signalized Intersections	90	80	80	90
Total	**140**	**105**	**104**	**114**

The No Build Alternative would retain four signalized intersections between Allen Creek Road and Tussey Lane on Highway 199 (Exhibit 3-13), including signals at Ringuette Street, Fairgrounds Road, Redwood Avenue, and Allen Creek Road. In the Working Group Alternative, three of the four signals would remain, with the Fairgrounds Road intersection signal removed. Alternatives A and C would only retain the two signals at Ringuette Street and Allen Creek Road.

Conflict points for each intersection depend on the number of lanes and the associated turning movements. In the No Build Alternative, Highway 199 would retain four travel lanes, whereas Highway 199 would have six travel lanes in the Working Group Alternative, Alternative A and Alternative C. Thus, the number of conflict points for each intersection in the No Build Alternative would be less than the other alternatives since there are fewer lanes on Highway 199. When comparing the Working Group Alternative to the No Build Alternative, the one less signalized intersection offsets the additional travel lanes. The net result is that the No Build Alternative and Working Group Alternative have the same number of signalized intersection conflict points (Exhibit 3-12). Under Alternatives A and

C, there would be two less signalized intersections, when compared with the No Build Alternative, which would result in a net decrease in conflict points throughout the corridor at signalized intersections.

Exhibit 3-13. Location and Spacing of Signalized Intersections



The number of signals on the corridor also reduces the potential for crashes to occur as vehicles slow and stop when a signal turns red. Fewer signals translate to fewer vehicle stops and reduced potential for red-light running or rear-end crashes. With one less signal than the No Build Alternative, the Working Group Alternative would reduce vehicle stops and associated safety concerns; however Alternatives A and C would also remove the Redwood Avenue signal which further reduces the number of vehicle stops. The number of vehicle stops also translates to queuing and traffic flow interruptions. The risk of crashes increases as vehicles approach queues. Thus, the fewer signals along Highway 199 would improve vehicles ability to smoothly progress through signals and reduce the opportunities for vehicle queuing and the associated potential for crashes. While the Working Group Alternative would provide a benefit from improved progression and reduced queuing compared to the No Build Alternative, increased benefits would result from Alternatives A and C with the removal of an additional signal.

Safety issues are also associated with merging (entering/exiting through lanes to access turn lanes, driveways and intersections) and weaving (changing lanes). The Working Group Alternative would create additional weaving and merging movements in the roughly

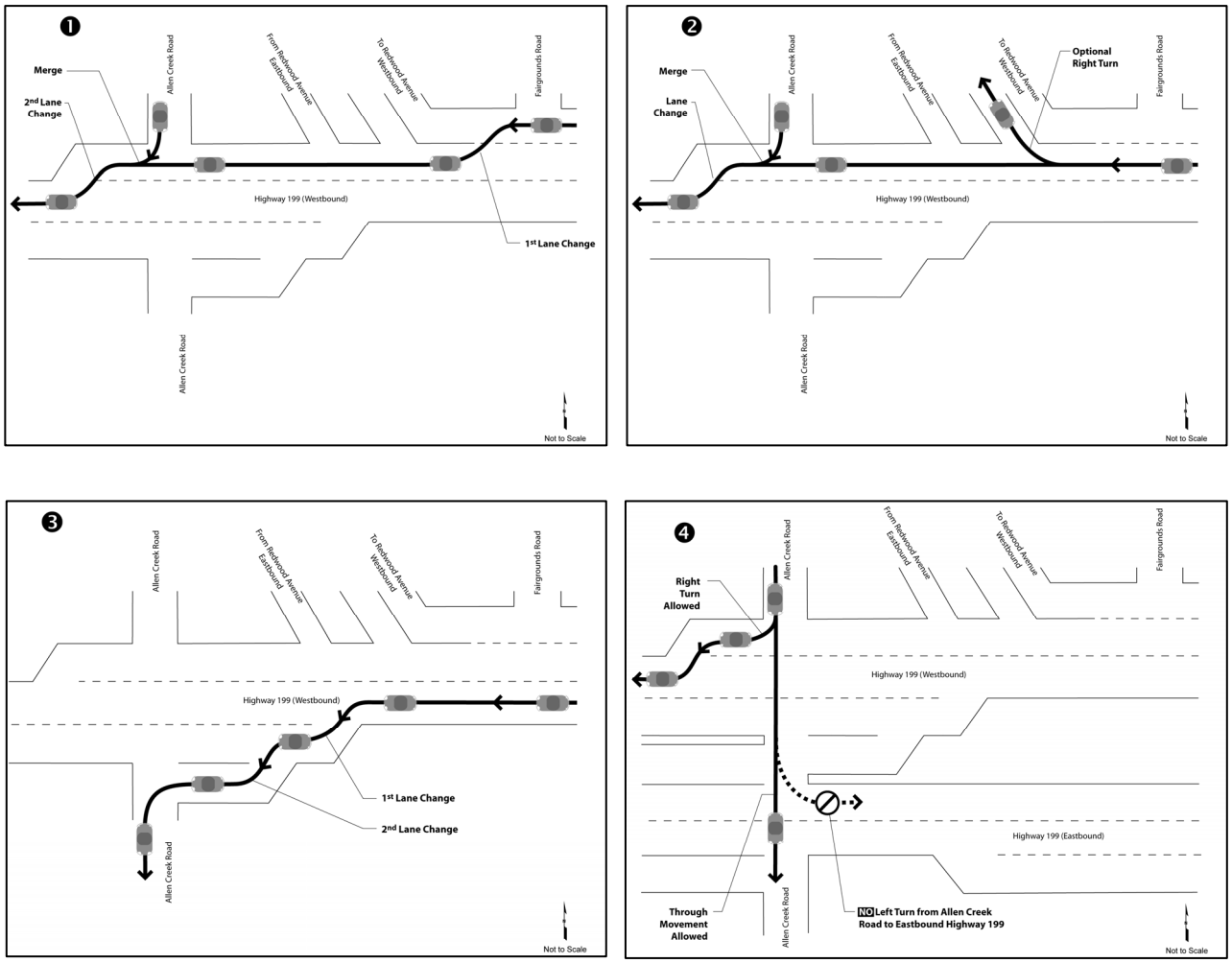
one-half mile area between Allen Creek Road and the Fairgrounds Road that would not occur under Alternatives A and C. As illustrated in Exhibit 3-14, the additional safety issues associated with weaving and merging under the Working Group Alternative include:

- Vehicles traveling in the westbound Highway 199 right lane at Fairgrounds Road would need to change lanes twice to avoid drop lanes and be able to stay in a lane that proceeds west to Dowell Road (Exhibit 3-14, Inset 1).
- The westbound Highway 199 center through lane at Fairgrounds Road would become an optional right turn at the Redwood Avenue slip ramp and ultimately would end as a drop lane west of Allen Creek Road (Exhibit 3-14, Inset 2). This creates a situation where any vehicle traveling in the center through lane must make some kind of lane change to either stay on Highway 199 or exit. This also could introduce a merge hazard west of Allen Creek Road for Highway 199 through traffic and southbound Allen Creek Road right turn traffic.
- Vehicles traveling in the westbound Highway 199 left through lane at Fairgrounds Road would be required to make two lane changes in order to make a left turn at Allen Creek Road (Exhibit 3-14, Inset 3). It is more common for this movement to require only one lane change.
- The southbound Allen Creek Road to eastbound Highway 199 movement is not provided by the Working Group Alternative. Other than signing to route traffic east on Redwood Avenue to reach eastbound Highway 199, there is no physical way to stop this movement that has been historically provided. This creates a safety concern of trying to change an established habit. In addition, drivers would expect to be able to turn left at a signalized intersection when the opposing traffic is allowed a left turn on to westbound Highway 199 (Exhibit 3-14, Inset 4).

Drop Lane

A travel lane which abruptly ends, either by merging or by becoming a lane that must turn left or turn right.

Exhibit 3-14. Weaving and Merging Movements for the Working Group Alternative



The compromises on design standard elements under the Working Group Alternative, such as signal spacing, weaving distances, merge distances, and design speed, would decrease the safety value of this alternative compared to Alternatives A and C. For example, along westbound on Highway 199 between Fairgrounds Road and the Redwood Avenue slip ramp the merge and weave distance is roughly half of the standard design distance. Drivers turning right onto westbound Highway 199 from Fairgrounds Road would have roughly 250 feet to merge with through traffic and drivers on westbound Highway 199 exiting onto the Redwood Avenue slip ramp have half the standard distance to weave with the entering traffic from Fairgrounds Road. This shortened distance could result

in safety problems with erratic driver behavior as weaving and merging in this congested section is constrained. Since Highway 199 functions as an arterial, drivers expect to drive a certain speed. Reduced merge lane distances and design speeds would not likely change the speed that drivers expect to travel, but does compromise decision and reaction times, resulting in compounded safety concerns.

Circulation: Highway 199, Redwood Avenue, and Allen Creek Road Vicinity

Access changes could potentially cause residents and other motorists to take different and potentially longer routes (out-of-direction travel) to and from neighborhoods and homes, businesses, or recreational facilities. In addition, right-in and right-out movements onto major streets such as Highway 199, Redwood Avenue, and Allen Creek Road would affect various parcels under each of the alternatives.

In general, there are two zones of properties in the area north of Highway 199 and on either side of Allen Creek Road that would have their access and circulation patterns altered such that out of direction travel would be required to enter or leave the zone. Zone A includes parcels south of Redwood Avenue and east of Allen Creek Road and Zone B includes parcels south of Redwood Avenue and west of Allen Creek Road. Exhibit 3-15 shows the out of direction travel under the Working Group Alternative, Alternative A, and Alternative C. Under the Working Group Alternative, out of direction travel would occur when vehicles travel to and from Zone A and Zone B. Under Alternative A out of direction travel would only occur when vehicles travel to and from Zone A. No out of direction travel would occur under Alternative C.

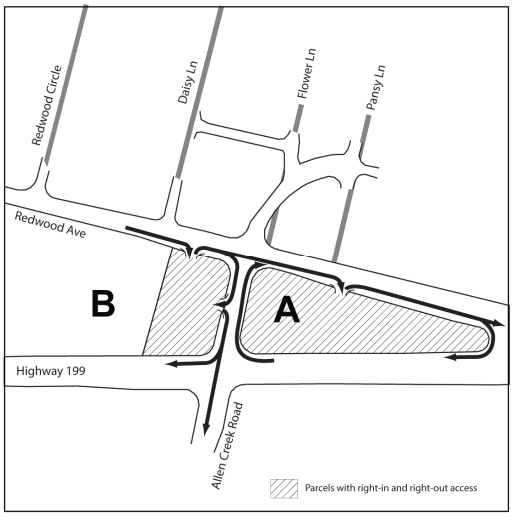
Out of Direction Travel

Trips that must travel away from their intended direction of travel in order to then continue on their travel path toward their destination, as opposed to what would appear to be a "straight line" travel path toward their destination.

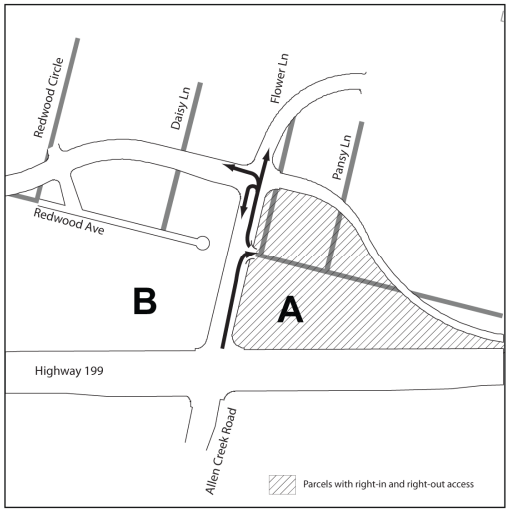
Under Alternatives A (Zone B) and C (Zones A and B), access to businesses located near the intersections of Highway 199 and Redwood Avenue with Allen Creek Road would remain but would be provided via new local streets, rather than directly onto Redwood Avenue. When these local streets connect to Redwood Avenue, left and right turns would be permitted, so there would be no out of direction travel.

Exhibit 3-15. Out of Direction Travel

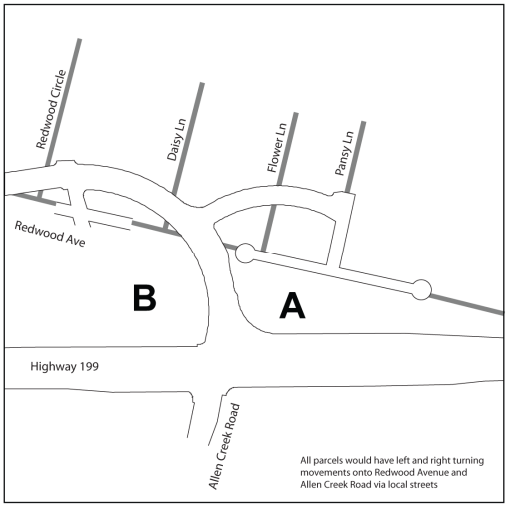
Working Group Alternative



Alternative A



Alternative C



Circulation: Josephine County Fairgrounds Vicinity

The signal at Highway 199 and Fairgrounds Road, which currently allows left turns into and out of the Josephine County Fairgrounds main entrance, would be removed to improve safety and provide greater mobility along Highway 199 for local users traveling between residences, businesses and other community destinations as well as for through traffic. Traffic turning right off Highway 199 or right onto Highway 199 would be unchanged.

Josephine County has plans to develop an internal circulation plan for the fairgrounds. Once this circulation plan is developed, traffic that previously made left turns into and out of the fairgrounds on Highway 199 could potentially have one or two new access points as shown in Exhibit 3-16. The two possible access locations could be: 1) a driveway connection to Pansy Lane that connects to Allen Creek Road and a signalized intersection with Highway 199; and 2) a rear entrance from West Park Street that connects to Ringuette Street, which also has a signalized intersection with Highway 199. These two potential access points would provide reasonable access in to and out of the Josephine County Fairgrounds.

Access Impacts to Josephine County Fairgrounds from Alternatives A and C

Alternatives A and C would result in the same effects to the access in to and out of the Josephine County Fairgrounds as realized under the Working Group Alternative.

Measures of Effectiveness

Exhibit 3-17 provides a comparison of the measures of effectiveness (MOE) findings under the Working Group Alternative (as well as Alternatives A and C) with the No Build Alternative.

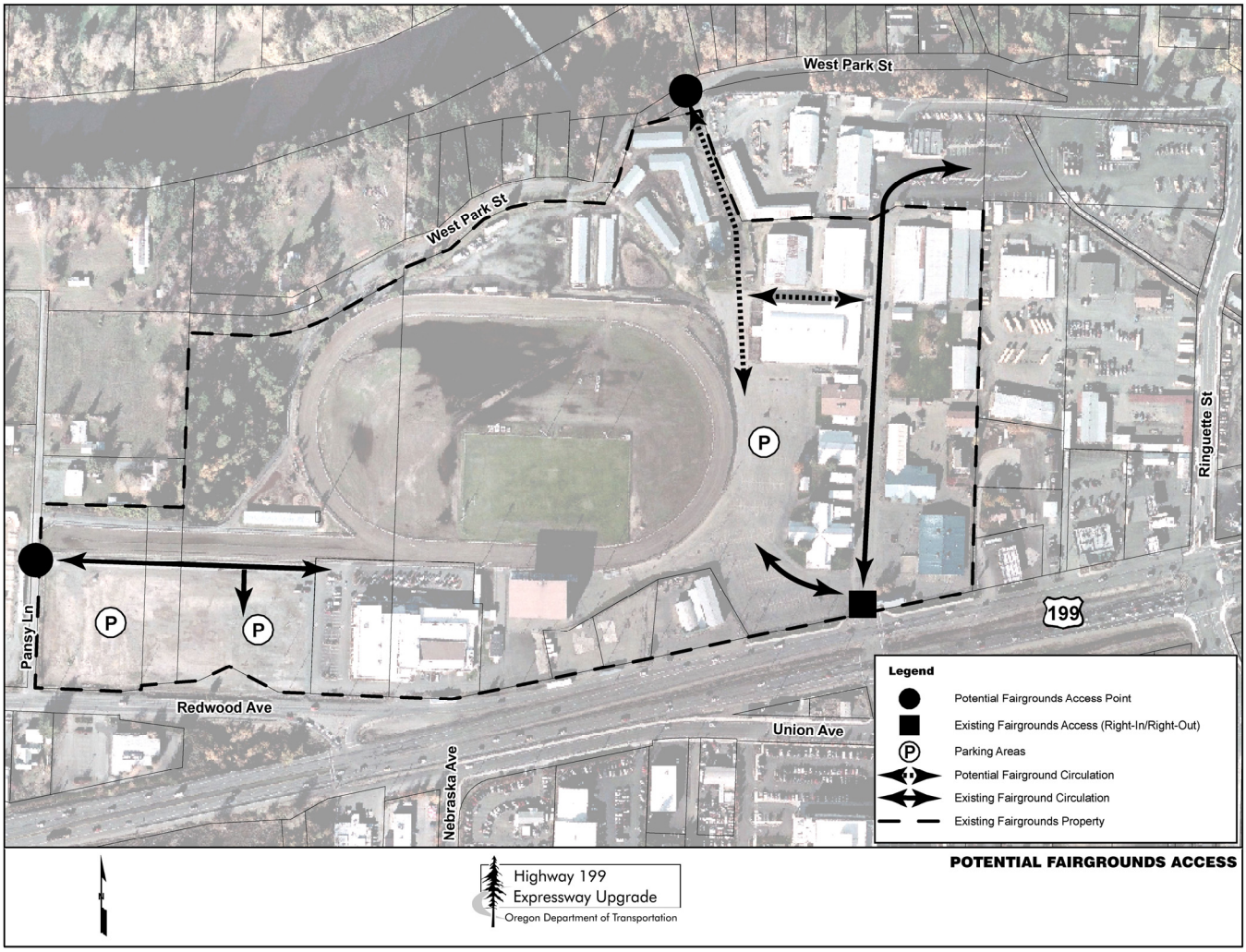
Updated Measures of Effectiveness

Additional traffic analysis was performed in 2007, which generated updated MOEs for Alternatives A and C as well as new MOEs for the Working Group Alternative. Updated MOEs for Alternatives A and C are included in Exhibit 3-17.

Positive benefits would be realized under the Working Group Alternative and both Alternatives A and C in all measured categories over the No Build Alternative, with the exception of VMT.

Differences in VMT would likely be due to more traffic attracted to the study area under Alternatives A and C and the Working Group Alternative as well as 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. Slightly longer trip lengths due to access management would also result in VMT differences. Increases in VMT would be more than offset by reductions in travel time, delay, fuel consumption, and pollutants.

Exhibit 3-16. Potential Future Access Points to Josephine County Fairgrounds



Please note this fairgrounds circulation plan is conceptual and represents one possible set of access points and internal travel patterns.
This conceptual plan is presented for general purposes and may not represent actual plans Josephine County or the Fair Board may implement in the future.

Exhibit 3-17. Comparison of Measures of Effectiveness

MOE	Findings per Alternative			
	No Build Alternative	Alternative A	Alternative C	Working Group Alternative
Highway 199 MOEs (Year 2025 PM peak hour)[1]				
Travel Time (Minutes per trip: South Y Interchange to Midway Avenue)				
Eastbound	20[2]	14[2] (30% decrease)	14 1/2[2] (28% decrease)	12[3] (40% decrease)
Westbound	14	7 (50% decrease)	7 1/2 (46% decrease)	7 1/2 (46% decrease)
Travel Delay (Minutes per vehicle: South Y Interchange to Midway Avenue)				
Eastbound	14[4]	8 1/2 (39% decrease)	9 (36% decrease)	6 1/2[3] (54% decrease)
Westbound	9	2 (75% decrease)	2 (75% decrease)	2 (75% decrease)
Average Speed (miles per hour (mph))				
Eastbound	13	18 (38% increase)	17 (31% increase)	21 (62% increase)
Westbound	18	34 (89% increase)	34 (89% increase)	34 (89% increase)
Number of Stopped Vehicles				
Total Vehicle Stops	12,600	6,490 (48% decrease)	6,340 (50% decrease)	6,110 (52% decrease)
Queues greater than two blocks (600 feet)				
Eastbound	• Redwood Avenue[5] • Fairgrounds Road • Ringuette Street • South Y Interchange	• South Y Interchange (through Ringuette Street)	• South Y Interchange (through Ringuette Street	• South Y Interchange (through Ringuette Street)
Westbound	• Ringuette Street • Redwood Avenue	• Not applicable	• Not applicable	• Not applicable
Transportation Study Area Measures				
Travel time (vehicle hours)	3,410	2,380 (30% decrease)	2,250 (34% decrease)	2,300[4] (32% decrease)
Travel distance (vehicle miles traveled)	15,500[6]	18,370 (19% increase)	19,550 (26% increase)	19,150 (24% increase)
Total delay (vehicle hours)	2,980	1,870 (37% decrease)	1,690 (43% decrease)	1,780 (40% decrease)
Environmental Measures in the Transportation Study Area				
Number of stops per vehicle[7]	4.1	3.4 (17% decrease)	3.1 (24% decrease)	3.8 (7% decrease)
Fuel used (gallons)	2,820[6]	2,410 (15% decrease)	2,370 (16% decrease)	2,440 (13% decrease)
CO emissions (kilograms)	213[6]	186 (13% decrease)	182 (15% decrease)	190 (11% decrease)

Percent increase/decrease compared to the No Build Alternative is shown in parentheses.

[1] Can be broken into segments

[2] Large traffic backup caused by South Y Interchange congestion affects eastbound travel time

[3] The additional signal at Redwood Avenue in the Working Group Alternative meters eastbound traffic so that it reduces the eastbound traffic queues and delays approaching the South Y Interchange when compared to Alternatives A and C

[4] It takes 20 minutes to travel the corridor eastbound, 14 minutes is taken up by slowing or being stopped due to traffic congestion (eastbound, mostly approaching the South Y Interchange)

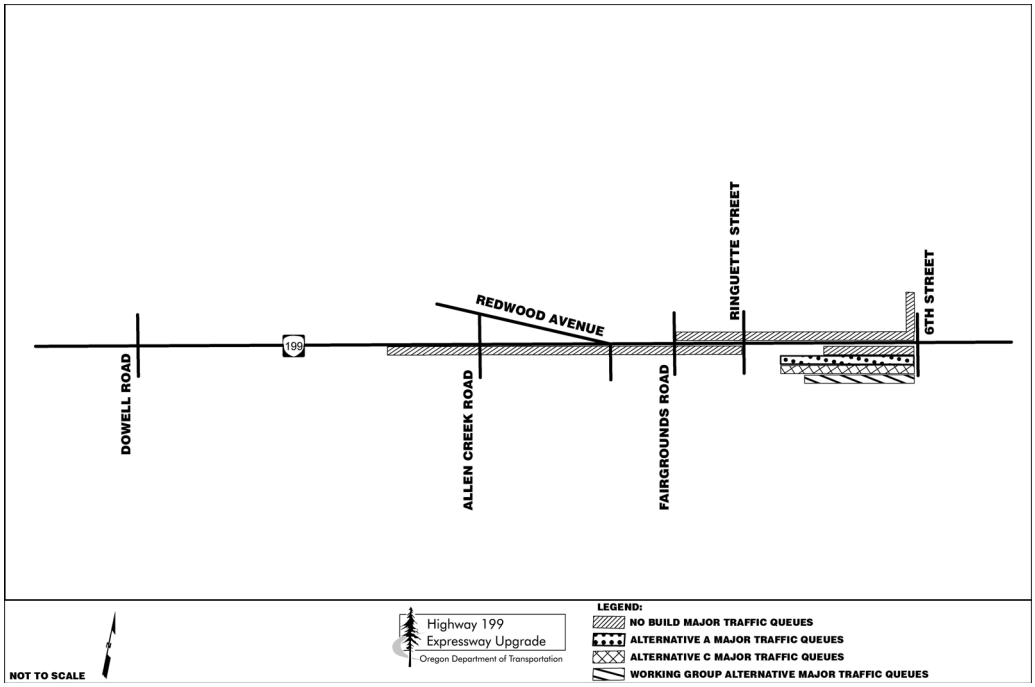
[5] No Build also experiences queuing on northbound Allen Creek Road approaching Redwood Avenue that extends through the Highway 199 intersection.

[6] Substantial queuing within the Highway 199 corridor in the No Build model prevents many vehicles from entering the model, thus underestimating some of the No Build measures such as travel distance, fuel used and CO emissions.

[7] Measures the number of times an average vehicle must completely stop for queued traffic approaching a traffic signal on its trip in the simulation model.

Exhibit 3-18 shows the intersections that would experience major queues during the 2025 PM peak hour. Alternatives A and C and the Working Group Alternative would eliminate the major queuing on Highway 199 at the intersection with Redwood Avenue, Fairgrounds Road, and Ringuette Street. However, the capacity increases (three travel lanes in each direction) under Alternatives A and C and the Working Group Alternative would allow more traffic to move through the corridor, which causes the eastbound Highway 199 queues at the South Y Interchange to be moderately longer than under the No Build Alternative.

Exhibit 3-18. Year 2025 PM Peak Hours Major Queues



In the No Build Alternative, signalized intersections would hold, or meter, traffic from flowing directly to the first South Y Interchange signal (Highway 199/Sixth Street). Under Alternatives A and C, two signals on Highway 199 would be removed; and therefore, traffic would move more efficiently since there would be fewer "meters" to delay traffic from approaching the South Y Interchange. This metering would result in queuing at the South Y Interchange rather than at other intersections. The Working Group would remove only one signal; therefore, some metering would occur at the Highway 199/Redwood Avenue intersection. As a result, less queuing at the South Y Interchange would result under the Working Group Alternative when compared to Alternatives A and C.

Metering

Metering is the timed or constrained flow of traffic leaving one intersection and arriving at another intersection. Traffic signals "meter" the traffic entering an intersection; ramp signals "meter" traffic entering a freeway.

A future project is proposed to improve the South Y Interchange, including reducing eastbound queues at Highway 199/Sixth Street. Thus, when those improvements are coupled with the Highway 199 Expressway Upgrade project improvements, it could be possible for Alternatives A and C to result in better overall flow for eastbound traffic moving to and through the South Y Interchange compared to the Working Group Alternative since the Working Group Alternative would retain an extra signal, or delay meter, at Highway 199/Redwood Avenue that the other alternatives would not include.

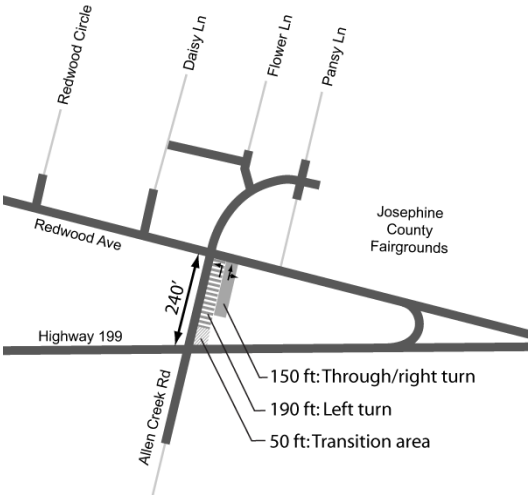
Still, even with congestion at the South Y Interchange, there would be overall improvements to the transportation system as well as improvements in the Highway 199 corridor as a result of Alternatives A and C and the Working Group Alternative.

Under the No Build Alternative, the queues at the Allen Creek Road/Redwood Avenue intersection would encroach into the Highway 199/Allen Creek Road intersection. Alternatives A and C and the Working Group Alternative would have varying results for traffic queues along northbound Allen Creek Road between Highway 199 and Redwood Avenue. In the Working Group Alternative, the 2025 northbound Allen Creek Road traffic queue, when combined with a standard 50-foot transition zone where vehicles move into a turn lane, would fill the entire distance between Highway 199 and Redwood Avenue (Exhibit 3-19). With no additional storage capacity this could result in traffic backing up along Highway 199 and on Allen Creek Road south of Highway 199.

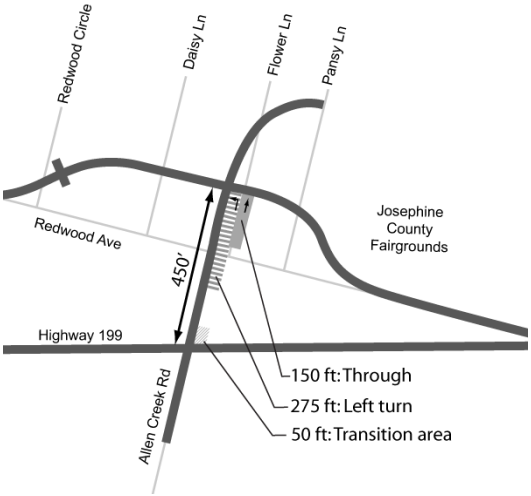
Alternatives A and C would also remove the queue encroachment into the Highway 199/Allen Creek Road intersection (Exhibit 3-19). Alternatives A and C, however, would have the additional storage capacity at year 2025 since they each would provide more distance between Redwood Avenue and Highway 199, which would provide more flexibility in handling additional growth. The Working Group Alternative would not have this flexibility unless additional right of way was acquired along Redwood Avenue.

Exhibit 3-19. Northbound Allen Creek Road Queues

Working Group Alternative



Alternative A



Alternative C

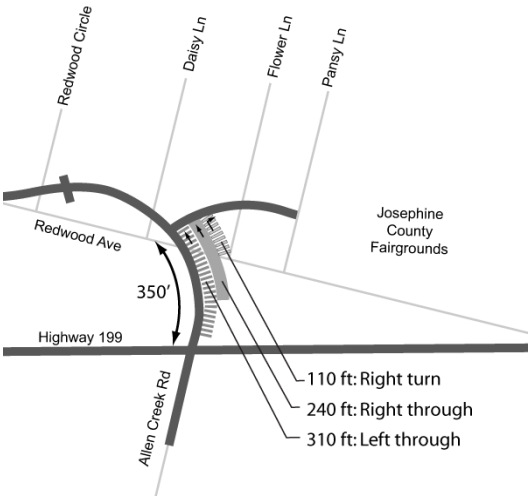
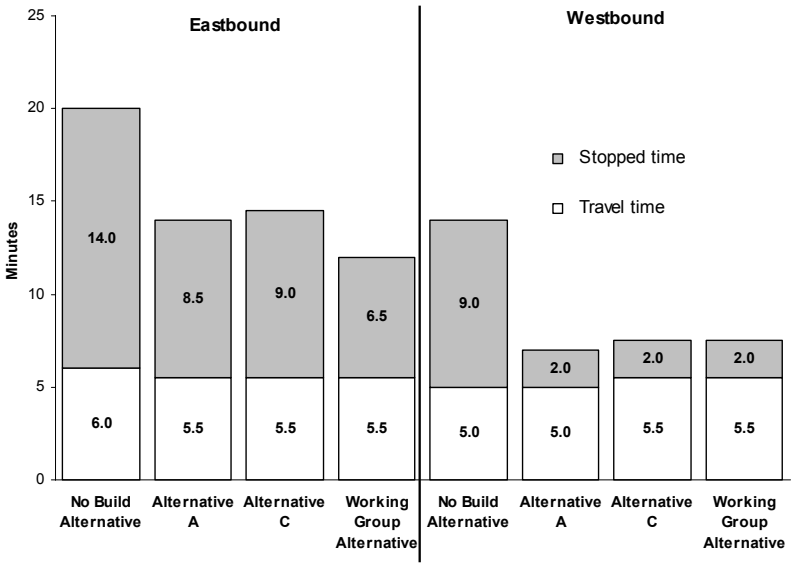


Exhibit 3-20 shows the total travel time (minutes per trip), breaking out travel time and stopped time, westbound and eastbound between Midway Avenue and the South Y Interchange. The Working Group Alternative reduces eastbound PM peak hour travel time to 12 minutes per trip, 2 and 2.5 minutes shorter than under Alternatives A and C respectively; however, the westbound PM peak hour travel time would be 0.5 minutes longer than Alternatives A and the same as Alternative C.

Exhibit 3-20. Year 2025 PM Peak Hour Travel Time



Alternatives A and C and the Working Group Alternative would result in measurable improvements over the No Build Alternative, on the order of approximately 30-34 percent in terms of travel time (vehicle hours) and 37-43 percent in terms of travel delay (vehicle hours). In terms of fuel consumption, Alternatives A and C and the Working Group Alternative would result in an improvement of approximately 13-16 percent and in terms of air pollutant emissions, the three alternatives would result in improvements on the order of approximately 11-15 percent.

While the Working Group Alternative would make similar or slightly better improvements in eastbound travel time and travel delay over the No Build Alternative as compared to Alternatives A and C, the Working Group Alternative design would result in a number of adverse operational issues that would not occur under Alternatives A and C.

Alternatives A and C

As described in Chapter 2, Alternatives A and C would also provide similar pedestrian and bicycle facility improvements and would result in the same positive effects realized under the Working Group Alternative.

Pedestrian and Bicycle Facilities

As described in Chapter 2, a number of pedestrian and bicycle improvements would be constructed as a result of the Working Group Alternative. These improvements include separated paths, dedicated bike lanes and sidewalks; some of which would be separated from Highway 199 by a planter strip.

One pedestrian and bicycle safety issue that would arise from the design of the Working Group is the need for pedestrians and bicyclists to cross the Highway 199/Redwood Avenue intersection and the two-lane Redwood Avenue slip ramp; this safety issue would not be present under Alternatives A and C.

Still, the overall increased availability of these facilities for alternate modes of transportation would result in a positive effect by providing improved safety, access, and connectivity for pedestrians and bicyclist.

3.12 Visual Quality

3.12.1 Long-Term Effects

Working Group Alternative

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

The existing and proposed visual quality scores are compared by landscape unit (see sidebar). The effects to visual resources and overall visual quality between Midway Avenue and Dowell Road would be the same for all build 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 impacts to visual resources would be substantial enough to decrease the visual quality scores of the views in this segment.

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

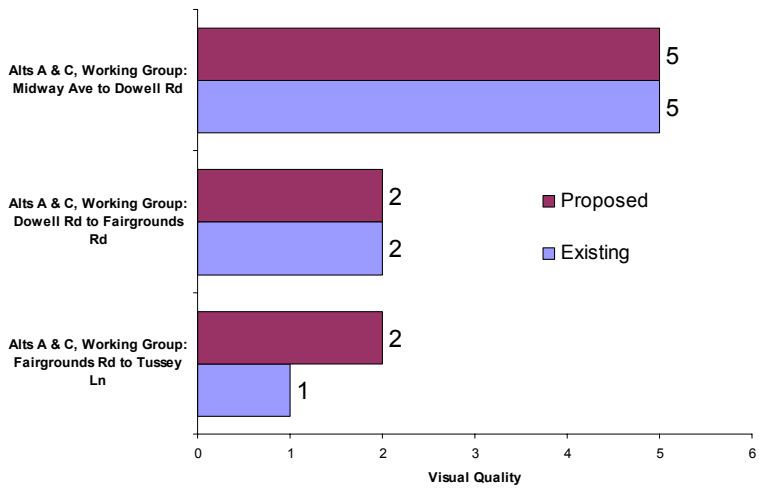
Between Dowell Road and Fairgrounds Road, the effects to visual resources and views would be slightly different under Alternatives A and C and the Working Group Alternative. Individual views would experience different visual effects depending on the alternative. The Working Group Alternative would likely require installing two or three sign bridges that span all westbound Highway 199 lanes. These aerial sign bridges would be a visually distracting element that would encroach upon the intactness of the surrounding view. 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 all build 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 all build 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 3-21). 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.

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

Exhibit 3-21. Comparison of Visual Quality Scores



3.13 Water Resources

3.13.1 Long-Term Effects

Working Group Alternative

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.

The Working Group Alternative would result in 9.5 acres of new right of way, with 4.6 acres associated with expanding Highway 199 (bringing the total to 121.1 acres) and 4.9 acres associated with the

Updated Impervious Surface Quantities and Stormwater Treatment

Additional water quality/quantity analysis was performed in 2007, which generated updated impervious surface and stormwater treatment data for Alternatives A and C as well as new data for the Working Group Alternative (Exhibit 3-22).

modifications to the local street network including the new connection to Pansy Lane (Exhibit 3-22). The Working Group Alternative would result in 8.9 acres of net new impervious surface and the total amount of impervious surface associated with this project would be 68.3 acres. A total of 8.8 acres of impervious surface would be routed through new stormwater treatment facilities. These facilities would treat the 4.8 acres of net new impervious surface for Highway 199 plus 4.0 acres of existing impervious for Highway 199. The 4.1 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.

Exhibit 3-22. Summary of Impervious Surface and Stormwater Treatment

	Highway 199	Local Streets	Total
Working Group Alternative			
New right of way	4.6 ac	4.9 ac	9.5 ac
Total right of way	n/a	n/a	121.1 ac
Impervious Surface	53.2 ac	15.1 ac	68.3 ac
Net New Impervious Surface	4.8 ac	4.1 ac	8.9 ac
Impervious Surface Treated by New Facility	4.8 ac	4.0 ac	8.8 ac
Alternative A			
New right of way	5.5 ac	6.9 ac	12.4 ac
Total right of way	n/a	n/a	124.0 ac
Impervious Surface	55.6 ac	15.0 ac	70.6 ac
Net New Impervious Surface	7.0 ac	4.2 ac	11.2 ac
Impervious Surface Treated by New Facility	7.0 ac	3.3 ac	10.3 ac
Alternative C			
New right of way	6.0 ac	5.4 ac	11.4 ac
Total right of way	n/a	n/a	125.5 ac
Impervious Surface	57.2 ac	14.4 ac	71.5 ac
Net New Impervious Surface	6.3 ac	2.7 ac	9.0 ac
Impervious Surface Treated by New Facility	6.3 ac	4.4 ac	10.7 ac

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. Due to the detention ponds there would be no change in the pre- and post-construction peak flows into receiving streams near the project. 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.

3.14 Wetlands

3.14.1 Long-Term Effects

Working Group Alternative

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. An unnamed perennial tributary west of Hubbard Lane would be impacted by extension of a culvert in this area. 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 Alternative A, Alternative C and the Working Group Alternative. No wetland or water resources impacts are anticipated at the Allen Creek Road intersection under the Working Group Alternative. Overall long term effects to wetlands are slightly less under the Working Group Alternative than both Alternatives A and C. The long term effects to forested, scrub-shrub and emergent wetlands are reduced slightly under the Working Group Alternative.

Exhibit 3-23 identifies approximate quantities of long-term effects to wetland resources by the alternative.

Exhibit 3-23. Approximate Long-term Effects to Wetland Resources

Resource	Approximate Area of Effect (acres)		
	Alternative A	Alternative C	Working Group Alternative
Palustrine Forested	0.55	0.55	0.49
Palustrine Scrub-Shrub	0.00	0.03	0
Palustrine Emergent	0.63	0.63	0.63
Sand Creek critical habitat	0.68	0.68	0.68
Riverine, Upper Perennial, Aquatic Bed	0.01	0.01	0.01
Palustrine Open Water/Aquatic Bed	0.07	0.07	0.07

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.

The Working Group Alternative uses the same Measures for Construction Plans and Specification as well as the same General Measures as Alternatives A and C. Please refer to the Highway 199 Expressway Upgrade Project EA (December 2006) for the following sections:

- Air Quality
- Archaeology
- Biology
- Hazardous Materials
- Historical and Cultural
- Land Use
- Right of Way Acquisition and Relocation
- Section 4(f) and 6(f)
- Socioeconomics and Environmental Justice
- Traffic and Transportation

- Visual
- Water
- Wetlands

4.1 Noise

4.1.1 Measures for Construction Plans and Specifications

The Working Group Alternative uses the same Measures for Construction Plans and Specification. Please refer to the Highway 199 Expressway Upgrade Project EA (December 2006).

4.1.2 General Measures

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.

Fifteen noise walls were considered for the Working Group Alternative. Areas where sites were predicted to approach or exceed the noise abatement criteria and where mitigation was considered are identified on Exhibit 4-2 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) – West of Dowell Road, when comparing the existing noise levels with the Working Group Alternative future noise levels, an increase is predicted of zero to two decibels by the

Year 2025. 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 2025 for most noise impact locations under the Working Group Alternative. A one to two 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]

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 that are zoned commercial or industrial but have an existing residence need to be evaluated for expected future use/activities.

Total Cost – For a noise barrier to be cost effective, it typically requires a minimum of three or more residences grouped closely together. The Working Group Alternative 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

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[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).

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 4-1 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 4-1. Summary of Evaluation Criteria

● = Does not support mitigation	Sites that Approach or Exceed the Noise Abatement Criteria																		
	Midway Avenue to Dowell Road							Dowell Road to Fairgrounds Road								Fairgrounds Road to Tussey Lane			
Evaluation Criteria	**49**	**52**	**53**	**22**	**28**	**59**	**26**	**12**	**11**	**60 and 15**	**9[1]**	**109[2]**	**110[2]**	**17**	**6**	**95**	**3**	**101**	**5[3]**
Change in noise levels, Existing to Future	●	●	●	●	●	●	●	●	●	●	●			●	●	●	●	●	
Date of Development (Post 1996)	●		●		●[4]		●	●		●	●								
Zoning (Commercial)		●[5]		●					●		●	●		●	●	●	●	●	●
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 5 is only an impact under the Working Group Alternative*
4. *Site 28 has a mix of development from Post and Pre 1996*
5. *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.

- The Working Group Alternative would not significantly change the horizontal or vertical alignment or increase the number of through traffic lanes on Highway 199 between Midway Avenue and Allen Creek Road. This applied to all sites approaching or exceeding the noise abatement criteria west of Allen Creek Road.

- Locations where the Working Group Alternative noise levels approach or exceed the noise abatement criteria would have similar results as the No Build Alternative in Year 2025. In many of these locations, there would be no increase in noise levels when comparing the Working Group Alternative to the No Build Alternative.
- 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.

Exhibit 4-2. Locations where Predicted Noise Levels Approach or Exceed the Noise Abatement Criteria – Midway Avenue to Dowell Road

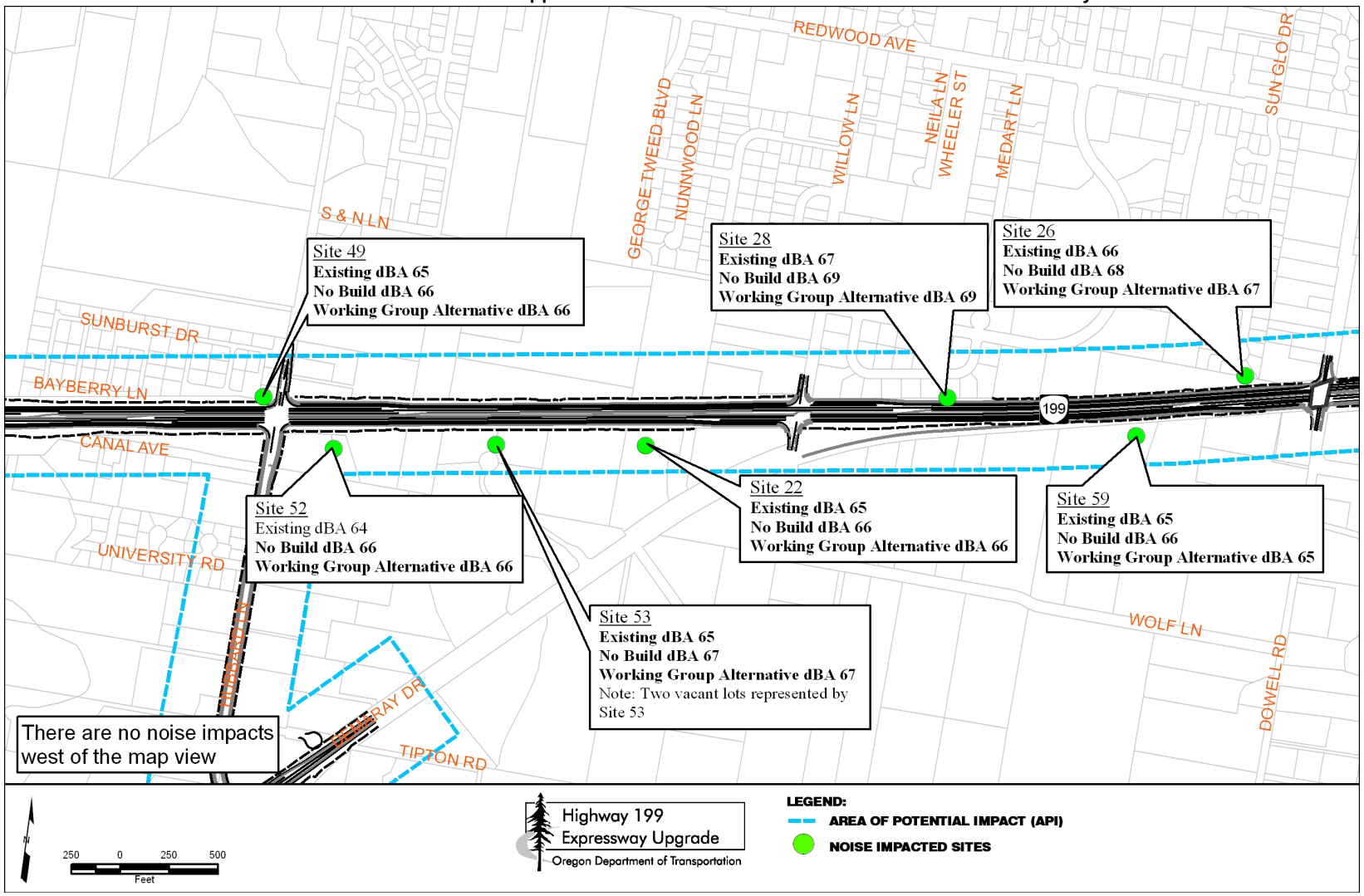


Exhibit 4-3. Locations where Predicted Noise Levels Approach or Exceed the Noise Abatement Criteria – Dowell Road to Fairgrounds Road

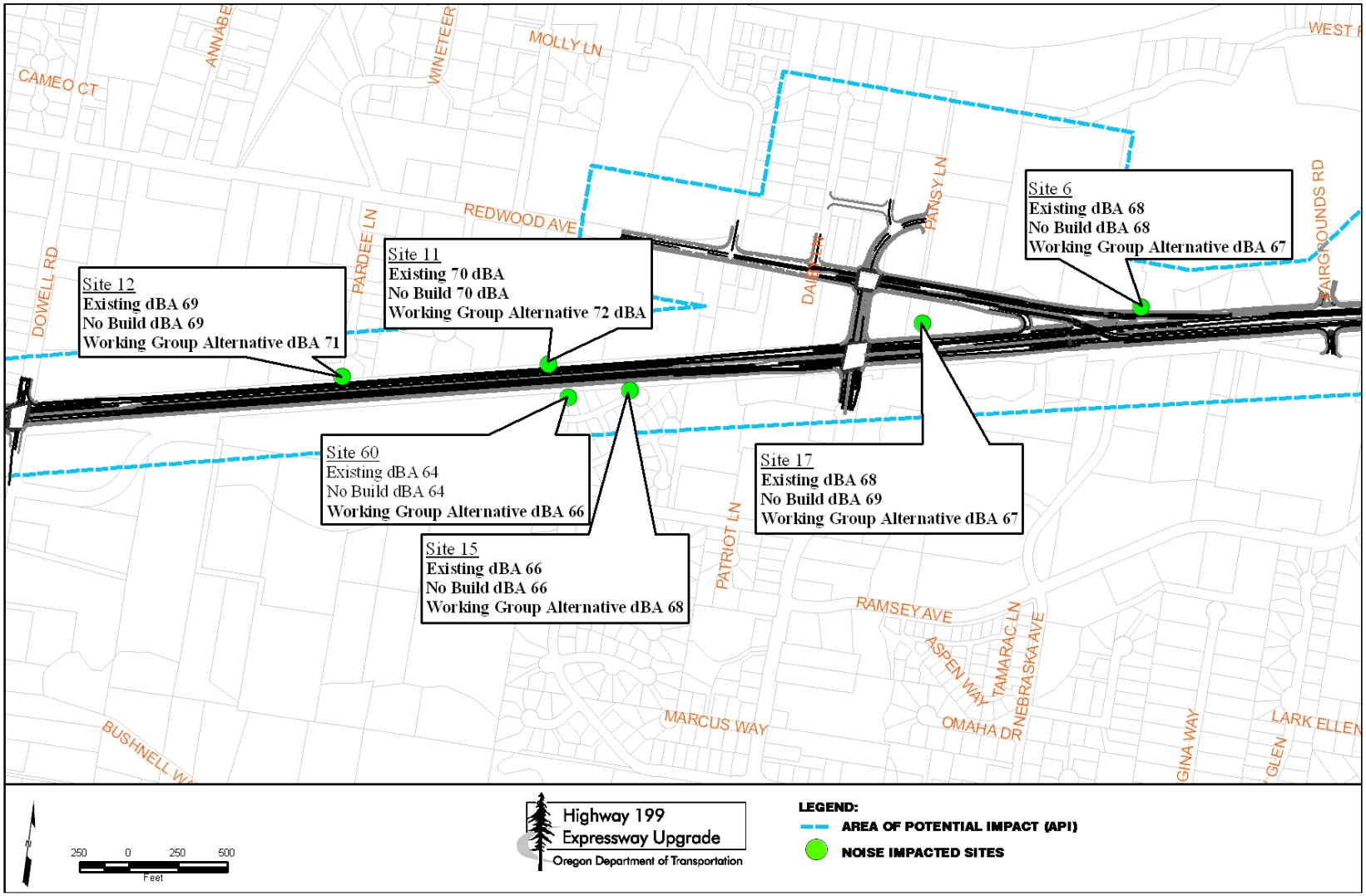
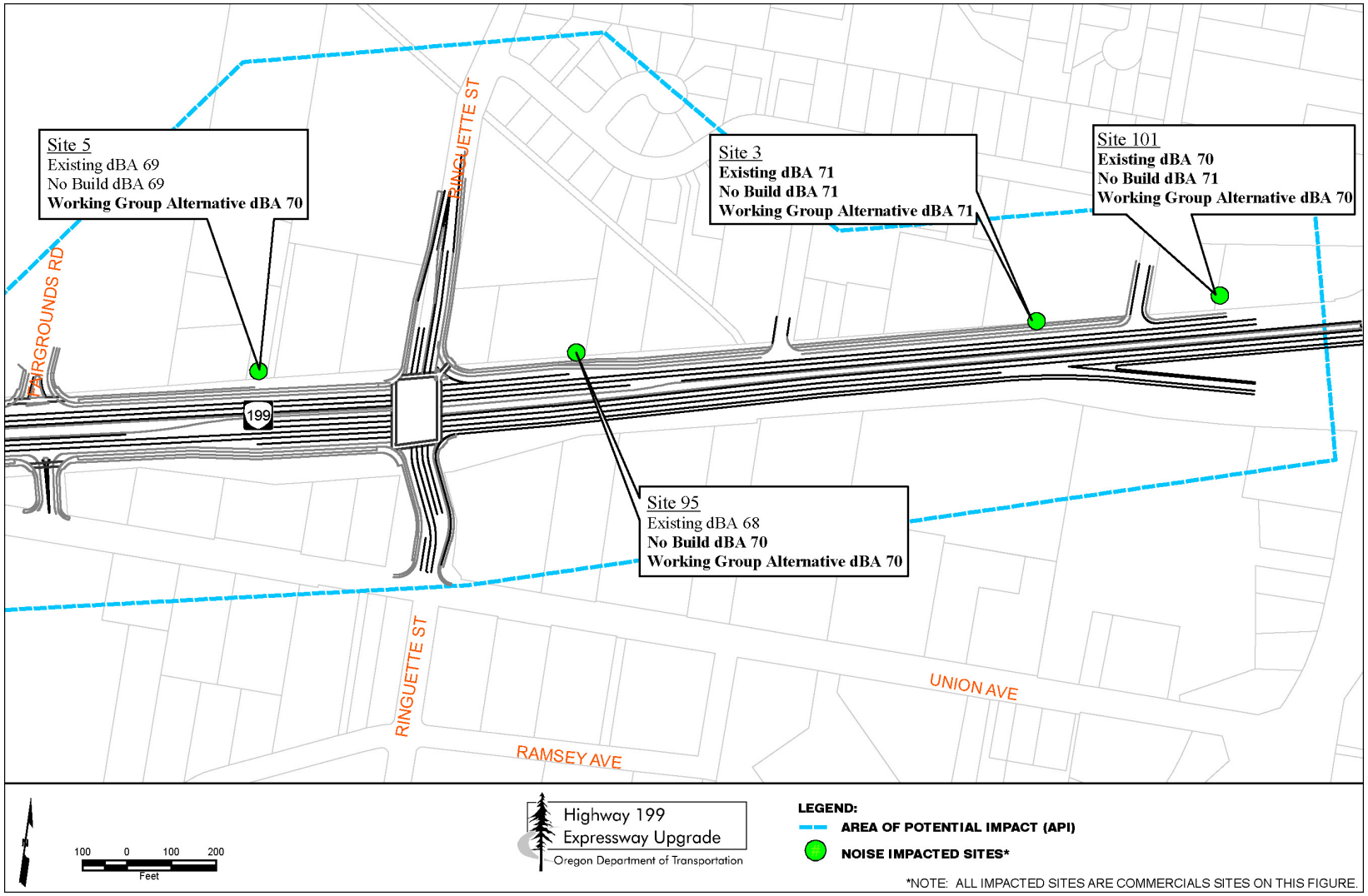


Exhibit 4-4. Locations where Predicted Noise Levels Approach or Exceed the Noise Abatement Criteria – Fairgrounds Road to Tussey Lane



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 during the time period from when the EA was released for public comment in January 2007 to when the Supplemental EA was prepared for public comment (October 2007).

Please refer to the EA (December 2006) for a description of public involvement and agency coordination that occurred from December 2004 to December 2006.

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

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

Citizens Advisory Committee

A 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.

In 2007, the CAC met 3 times between June and August; two of those meetings were joint meetings with the PDT. Two meetings were held at the Rogue Community College and one meeting was held at the City of Grants Pass City Council Chambers. The CAC's role after the Supplemental EA is released for public comment will be to make a recommendation to the PDT on the preferred alternative.

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

All decisions and determinations would be independently reviewed by the FHWA, which is the lead federal agency responsible for NEPA compliance.

Project Development Team

The PDT was assembled under direction of the ODOT Area Manager as a duty delegated by the ODOT Region 3 Manager and ODOT Director. The PDT was established 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 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. In 2007, the PDT also met 3 times between June and August; two of those meetings were joint meetings with the CAC. The PDT's role after the Supplemental EA is released for public comment will be to make a decision on the preferred alternative. All decisions and determinations would be independently reviewed by the FHWA, which is the lead federal agency responsible for NEPA compliance.

ODOT has coordinated with the following state and federal agencies throughout the project:

- **State of Oregon**: Oregon Department of Fish and Wildlife, Oregon DEQ, Oregon SHPO, Oregon DSL, Oregon Department of Land Conservation and Development.
- **Federal Agencies**: FHWA, U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. EPA, USACE.

City, County, and Other Coordination

In 2007, ODOT also coordinated with the City of Grants Pass and Josephine County through their representatives on the PDT as well as through participation on the City's Working Group. 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

YMCA, businesses, and Oregon state representatives to answer general questions and to discuss access and right of way acquisition.

For a discussion of coordination with other federal and state agencies, please see Chapter 5 of the EA (December 2006).

5.2 Public Involvement

For a discussion of public involvement activities from December 2004 to December 2007, please see Chapter 5 of the EA (December 2006).

In 2007, the EA was released for public review during a 30-day comment period that began on January 22nd and ended February 22nd. ODOT held a public hearing on February 8th to present information on the project and analysis documented in the EA as well as gather public input. During the 30-day comment period, ODOT received 85 public comments via letters, comment forms distributed at the public hearing, oral testimony that was recorded verbatim by Oregon-licensed court recorders at the public hearing, and e-mail. All comments were categorized into common topic areas, including:

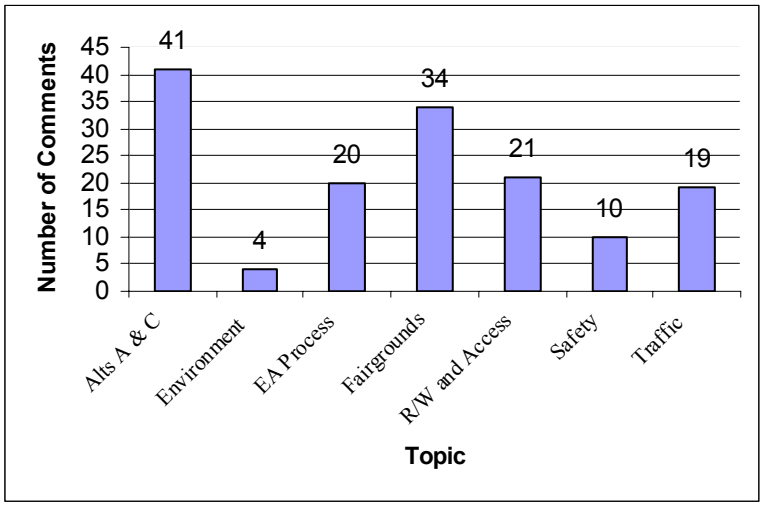
- Alternatives A and C
- Environment
- Environmental Assessment Process
- Josephine County Fairgrounds
- Right of Way Acquisition and Access Management
- Safety
- Traffic Analysis.

Most comments addressed more than one topic. The comments received during the EA comment period are summarized in Exhibit 5-1.

Highway 199 Public Involvement Activities in 2007

- Newspaper articles and advertisements, radio and television information broadcasts, and project website updates
- CAC and PDT meetings: 3 meetings between June and August
- Open House 3/Public Hearing: February 8, 2007
- Open House 4/Public Hearing: November 2007

EXHIBIT 5-1. SUMMARY OF PUBLIC COMMENTS ON THE EA



The fourth open house is scheduled for November 2007. There will be three main 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; 2) There will be a structured public hearing component to this meeting where the public can give formal testimony; and 3) A comparison of impacts for Alternative A, Alternative C, and the Working Group Alternative will be presented for public review. Public comments will be solicited for Alternative A, Alternative C, and the Working Group Alternative. All comments received on the EA (December 2006) and the Supplemental EA (November 2007) will be addressed in a final response to comment memorandum. This memorandum will be included in the Revised EA, which documents the selection of a preferred alternative

Highway 199 Expressway Upgrade Website

http://www.oregon.gov/ODOT/HWY/REGION3/h199e_index.shtml

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.

CHAPTER 6. References

The Supplemental EA uses the same references as those cited in the EA Chapter 6 References (2006) with the addition of the following:

City of Grants Pass. 2007. Letter from David W. Frasher, City of Grants Pass City Manager, Grants Pass, to ODOT. August 2, 2007.

ODOT. 2007a. *Analysis of the ACCESS Proposal*. Salem, Oregon. March 30, 2007.

ODOT. 2007b. *Responses to Public Comments on the Environmental Assessment*. Salem, Oregon. March 30, 2007.

CHAPTER 7. Glossary

The Supplemental EA uses the following terms that were not identified in the EA Chapter 7 Glossary (2006).

Term	Definition
Add lane	A travel lane that is added to the main roadway after it merges with that roadway, and continues for at least half a mile.
Drop lane	A travel lane which abruptly ends, either by merging or by becoming a lane that must turn left or turn right.
Lane imbalance	This occurs where a higher proportion of vehicles may use one lane over an adjacent lane.
Lane utilization	A factor which shows whether or not a uniform percentage of vehicles would be using specific lane types (through lanes, turn lanes); where there is lane imbalance, the lane utilization factor should be adjusted to reflect instance where one or more lanes may be carrying a higher-than-expected share of vehicles, potentially due to lane imbalances or other downstream traffic factors.
Merge	The point where traffic from an adjacent lane, a ramp or intersecting road joins the main road, such as Highway 199, as the intersecting lane ends.
Metering	Metering is the timed or constrained flow of traffic leaving one facility and attempting to enter another. Traffic signals “meter” the traffic entering an intersection; ramp signals “meter” traffic entering a freeway.
Out of direction travel	Trips that must travel away from their intended direction of travel in order to then continue on their travel path toward their destination, as opposed to what would appear to be a “straight line” travel path toward their destination.

Term	Definition
State Implementation Plan	Required by Section 110 of the Clean Air Act, the State Implementation Plan (SIP) outlines adopted federally approved control strategies to minimize air pollution. SIPs generally establish limits or work practice standards to minimize emissions of the criteria pollutants or their precursors.
Trap lane	A lane which has been a through lane for some distance, typically at least one-half of a mile, and then either must turn left or turn right, or exit, at a succeeding intersection.
Weave	A short segment of roadway or freeway, typically less than half a mile, where some or all of the traffic must change lanes either to exit from the main roadway, or to enter the roadway and continue without exiting at the succeeding off-ramp.

APPENDIX A

Design Plan Sheets

CONCEPT PLANS
INFORMATION ONLY
ROADWAY ENGINEERING
DESIGN UNIT

20
25
30
35
40
45

20+00
25+00
30+00
35+00
40+00
45+00

US HWY. 199

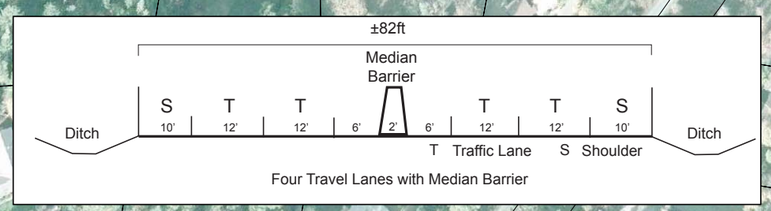
MIDWAY AVE.

TOP OF CUT

EX R/W

BOTTOM OF FILL

MATCH LINE - SHEET WG-2



LEGEND:

- TOP OF CUT
- BOTTOM OF FILL
- NEW R/W
- RETAINING WALL
- EDGE OF TRAVEL LANE
- CURB LINE
- CROSSWALK
- DRIVEWAY APPROACH

N

SCALE 1" = 100'

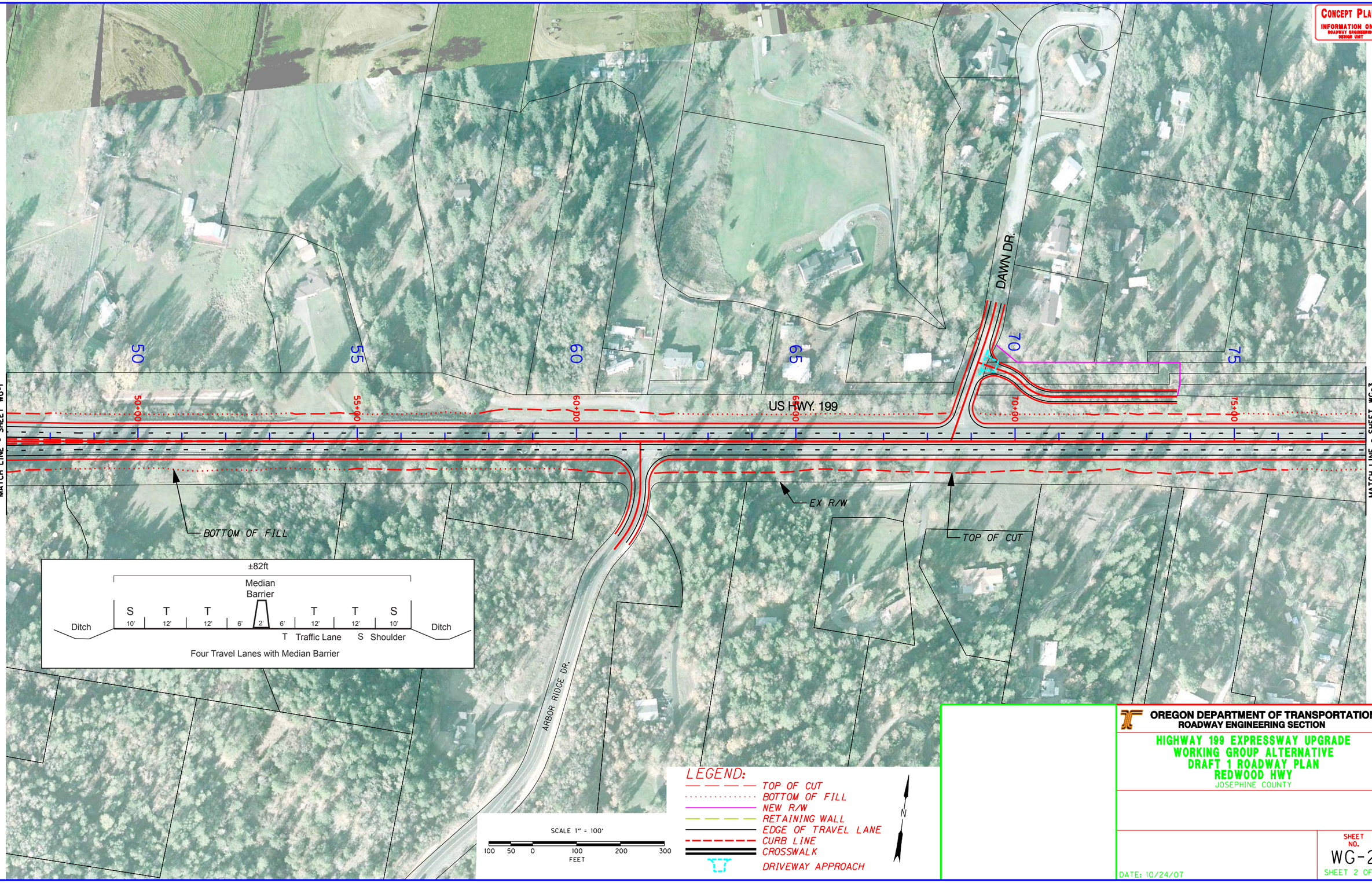
100 50 0 100 200 300
FEET

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

HIGHWAY 199 EXPRESSWAY UPGRADE
WORKING GROUP ALTERNATIVE
DRAFT 1 ROADWAY PLAN
REDWOOD HWY
JOSEPHINE COUNTY

DATE: 10/24/07

SHEET NO.
WG-1
SHEET 1 OF 11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INFORMATION ONLY
ROADWAY ENGINEERING DESIGN UNIT
MATCH LINE - SHEET WG-1
MATCH LINE - SHEET WG-3
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70
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55+00
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70+00
75+00
US HWY. 199
DAWN DR.
ARBOR RIDGE DR.
BOTTOM OF FILL
EX R/W
TOP OF CUT
±82ft
Median Barrier
S T T T T S
10' 12' 12' 6' 2' 6' 12' 12' 10'
Ditch
Ditch
T Traffic Lane
S Shoulder
Four Travel Lanes with Median Barrier
SCALE 1" = 100'
100 50 0 100 200 300
FEET
LEGEND:
TOP OF CUT
BOTTOM OF FILL
NEW R/W
RETAINING WALL
EDGE OF TRAVEL LANE
CURB LINE
CROSSWALK
DRIVEWAY APPROACH
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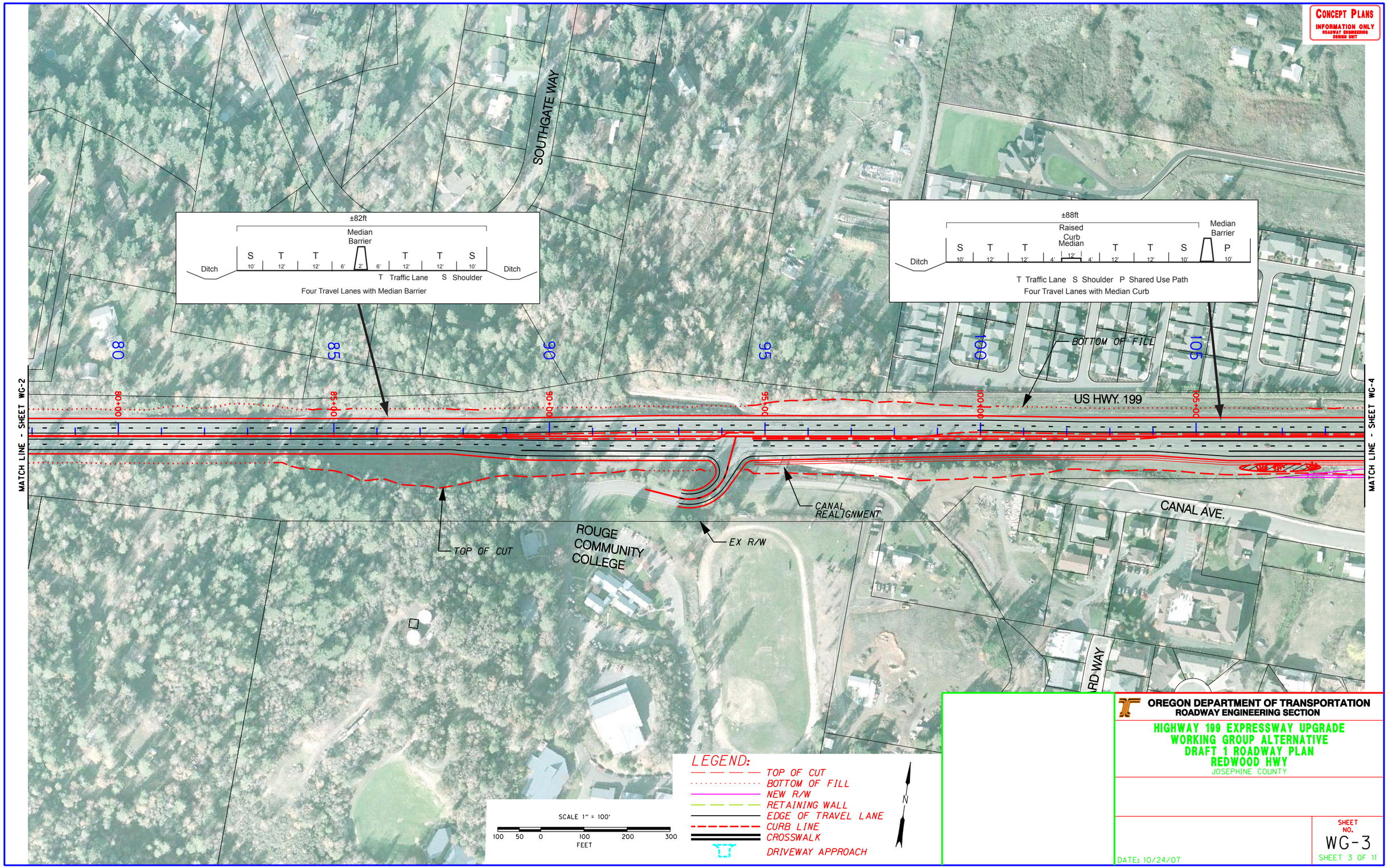
OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION
HIGHWAY 199 EXPRESSWAY UPGRADE
WORKING GROUP ALTERNATIVE
DRAFT 1 ROADWAY PLAN
REDWOOD HWY
JOSEPHINE COUNTY
DATE: 10/24/07
SHEET NO.
WG-2
SHEET 2 OF 11



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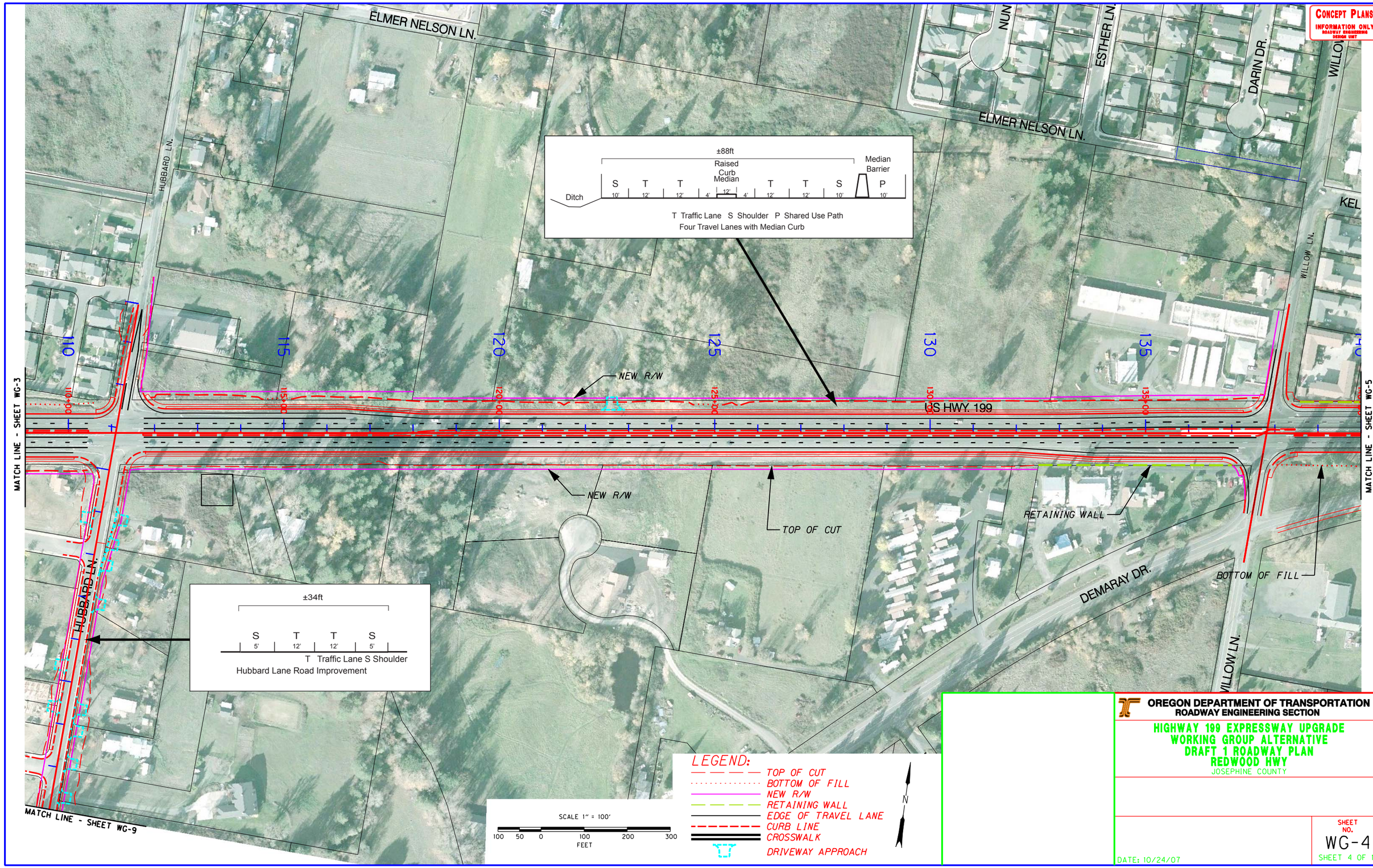
HIGHWAY 199 EXPRESSWAY UPGRADE
WORKING GROUP ALTERNATIVE
DRAFT 1 ROADWAY PLAN
REDWOOD HWY
JOSEPHINE COUNTY

DATE: 10/24/07

SHEET NO.
WG-3
SHEET 3 OF 11



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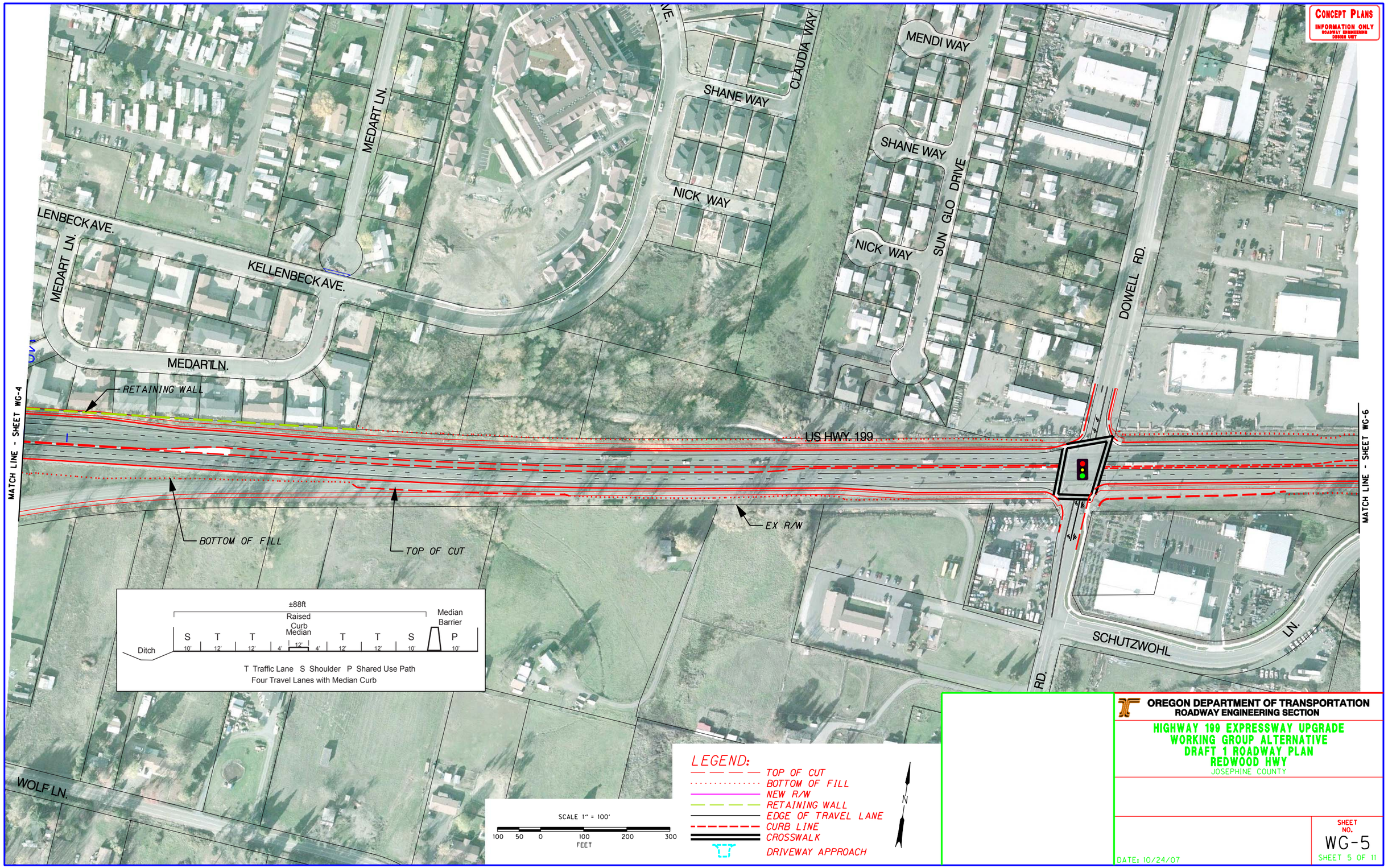
WORKING GROUP ALTERNATIVE
DRAFT 1 ROADWAY PLAN
REDWOOD HWY
JOSEPHINE COUNTY

DATE: 10/24/07

SHEET NO.
WG-4
SHEET 4 OF 11


CONCEPT PLANS
INFORMATION ONLY
ROADWAY ENGINEERING
DESIGN UNIT
MATCH LINE - SHEET WG-4
MATCH LINE - SHEET WG-6
KELLENBECK AVE.
MEDART LN.
MEDART LN.
MEDART LN.
SHANE WAY
CLAUDIA WAY
NICK WAY
MENDI WAY
SHANE WAY
NICK WAY
SUN GLO DRIVE
DOWELL RD.
US HWY. 199
RETAINING WALL
BOTTOM OF FILL
TOP OF CUT
EX R/W
SCHUTZWOHL
LN.
RD.
WOLF LN.
±88ft
Raised Curb Median
Median Barrier
Ditch
S 10'
T 12'
T 12'
4'
12'
4'
T 12'
T 12'
S 10'
P 10'
T Traffic Lane S Shoulder P Shared Use Path
Four Travel Lanes with Median Curb
SCALE 1" = 100'
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LEGEND:
TOP OF CUT
BOTTOM OF FILL
NEW R/W
RETAINING WALL
EDGE OF TRAVEL LANE
CURB LINE
CROSSWALK
DRIVEWAY APPROACH
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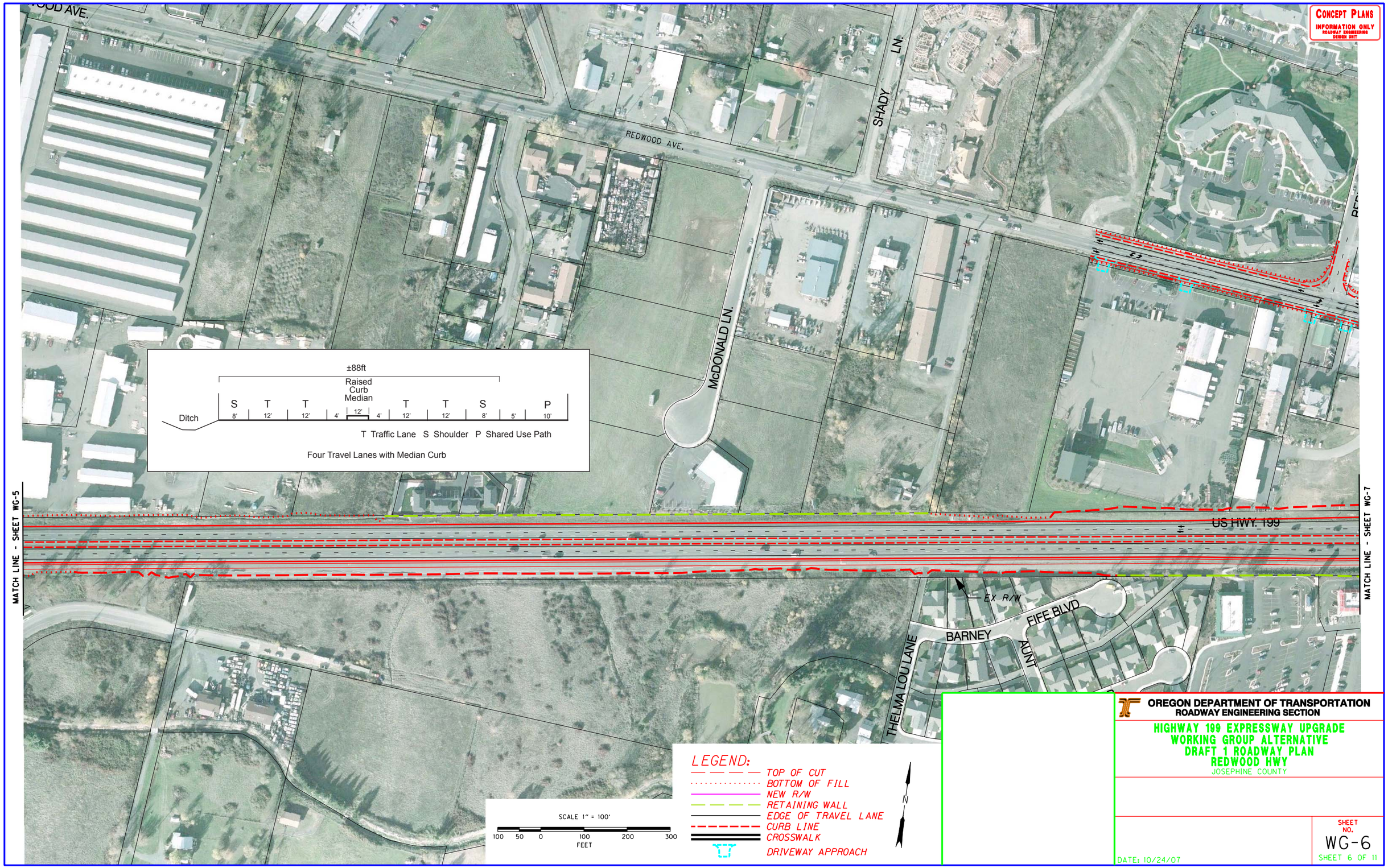
OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION
HIGHWAY 199 EXPRESSWAY UPGRADE
WORKING GROUP ALTERNATIVE
DRAFT 1 ROADWAY PLAN
REDWOOD HWY
JOSEPHINE COUNTY
SHEET NO.
WG-5
SHEET 5 OF 11
DATE: 10/24/07


CONCEPT PLANS
INFORMATION ONLY
ROADWAY ENGINEERING
DESIGN UNIT
REDWOOD AVE.
SHADY LN.
McDONALD LN.
US HWY. 199
EX R/W
FIFE BLVD
BARNEY
AUNT
THELMA LOU LANE
MATCH LINE - SHEET WG-5
MATCH LINE - SHEET WG-7
±88ft
Raised Curb Median
Ditch
S 8' T 12' T 12' 4' 12' 4' T 12' T 12' S 8' 5' P 10'
T Traffic Lane S Shoulder P Shared Use Path
Four Travel Lanes with Median Curb
LEGEND:
TOP OF CUT
BOTTOM OF FILL
NEW R/W
RETAINING WALL
EDGE OF TRAVEL LANE
CURB LINE
CROSSWALK
DRIVEWAY APPROACH
SCALE 1" = 100'
100 50 0 100 200 300
FEET
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OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION
HIGHWAY 199 EXPRESSWAY UPGRADE
WORKING GROUP ALTERNATIVE
DRAFT 1 ROADWAY PLAN
REDWOOD HWY
JOSEPHINE COUNTY
DATE: 10/24/07
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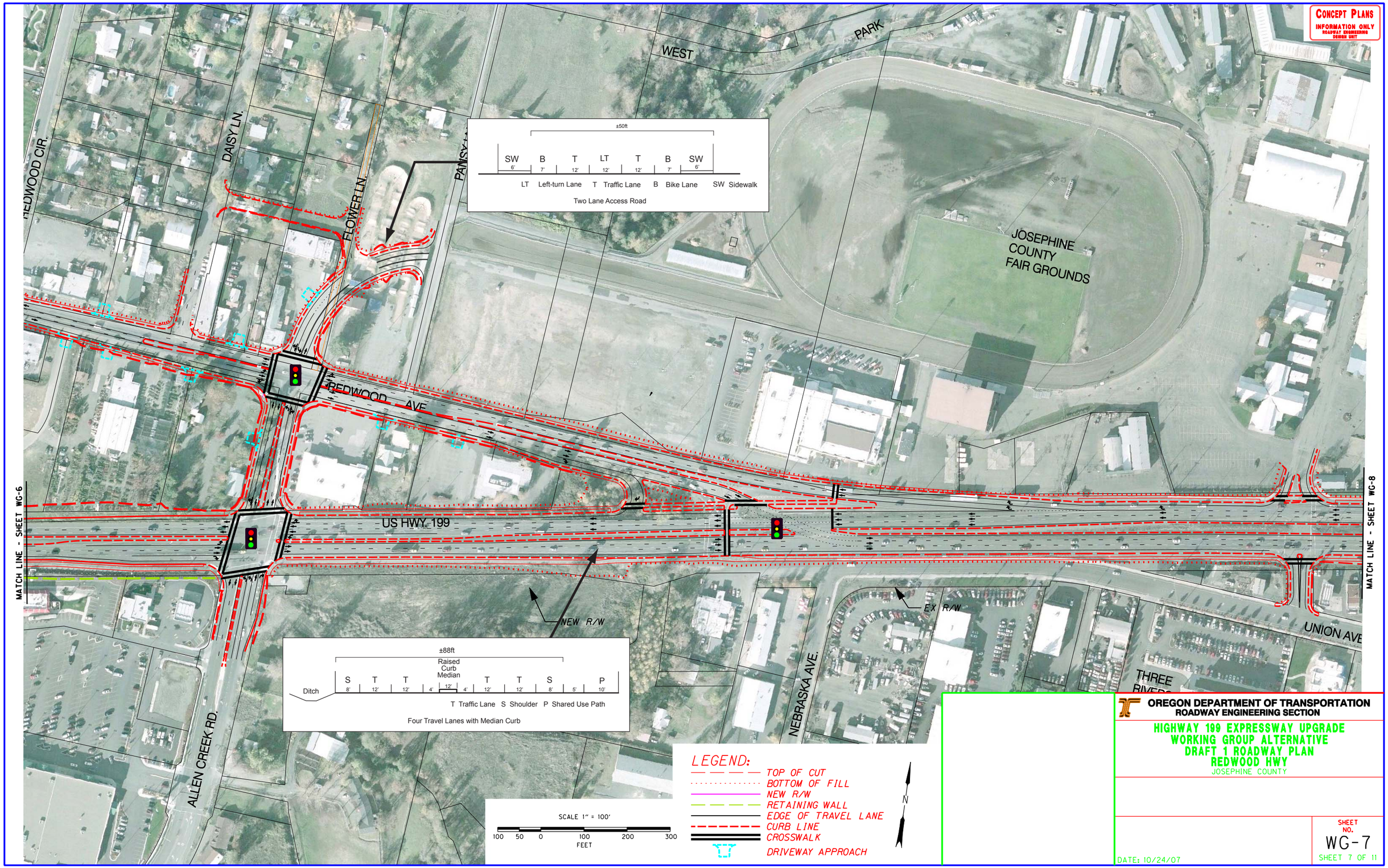
SHEET 6 OF 11



OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

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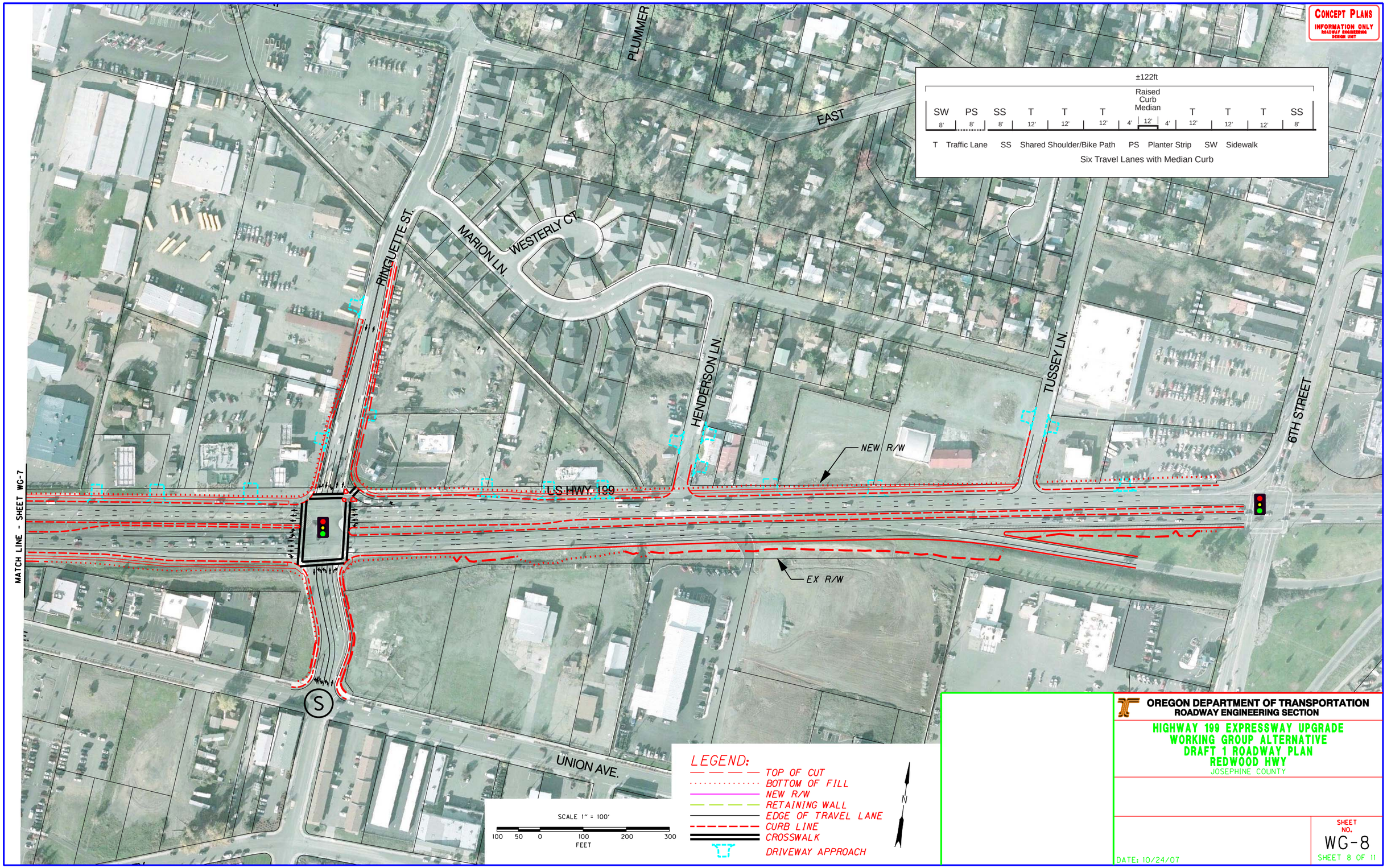
DRAFT 1 ROADWAY PLAN
REDWOOD HWY
JOSEPHINE COUNTY

DATE: 10/24/07

SHEET NO.
WG-7
SHEET 7 OF 11

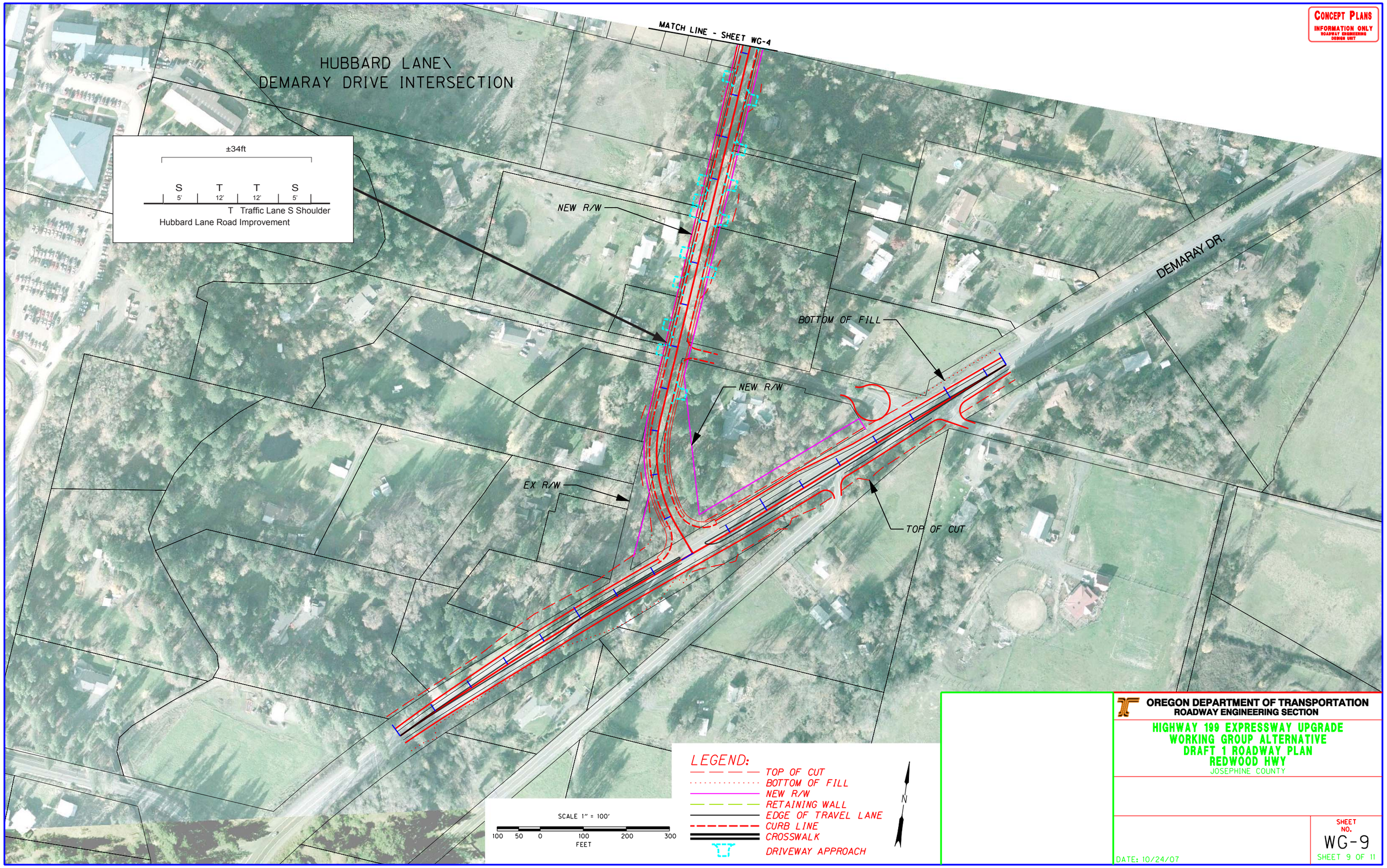


OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

HIGHWAY 199 EXPRESSWAY UPGRADE
WORKING GROUP ALTERNATIVE
DRAFT 1 ROADWAY PLAN
REDWOOD HWY
JOSEPHINE COUNTY

DATE: 10/24/07

SHEET NO.
WG-8
SHEET 8 OF 11


CONCEPT PLANS
INFORMATION ONLY
ROADWAY ENGINEERING DESIGN UNIT
HUBBARD LANE\
DEMARAY DRIVE INTERSECTION
MATCH LINE - SHEET WG-4
±34ft
S T T S
5' 12' 12' 5'
T Traffic Lane S Shoulder
Hubbard Lane Road Improvement
NEW R/W
NEW R/W
EX R/W
BOTTOM OF FILL
TOP OF CUT
DEMARAY DR.
LEGEND:
TOP OF CUT
BOTTOM OF FILL
NEW R/W
RETAINING WALL
EDGE OF TRAVEL LANE
CURB LINE
CROSSWALK
DRIVEWAY APPROACH
N
SCALE 1" = 100'
100 50 0 100 200 300
FEET
OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION
HIGHWAY 199 EXPRESSWAY UPGRADE
WORKING GROUP ALTERNATIVE
DRAFT 1 ROADWAY PLAN
REDWOOD HWY
JOSEPHINE COUNTY
DATE: 10/24/07
SHEET NO.
WG-9
SHEET 9 OF 11

APPENDIX B

Reserved

APPENDICES C - G

Please see the EA (December 2006) for the following information:

- Appendix C: Alternatives Considered but Withdrawn
- Appendix D: Projects Considered for Indirect and Cumulative Effects Analysis
- Appendix E: List of Technical Reports and Studies Prepared for this Project
- Appendix F: Distribution List
- Appendix G: List of Preparers

There has been no change to the information presented in these EA appendices.

The Supplemental EA will be distributed to the same individuals, organizations, and establishments as listed in Appendix F of the EA (December 2006).