

I-5 JBLM Vicinity Congestion Relief Project

REVISED ENVIRONMENTAL ASSESSMENT / FONSI
MAY 2017



Washington State
Department of Transportation



U.S. Department of Transportation
Federal Highway
Administration

IMPORTANT

HOW TO READ THIS DOCUMENT

This EA provides a tiered environmental review of improvements to I-5 between Gravelly Lake Drive (Exit 124) and Mounts Road (Exit 116). This means a corridor level analysis is provided for the portion of the project in which a specific construction footprint has not yet been determined (the South Study Area) and project specific impacts are evaluated for the portion of the project in which a construction footprint is known (the North Study Area). When reading the document it is important to keep in mind that project specific analysis is only presented for the North Study Area Build Alternative. The content of each chapter is discussed briefly below.

CHAPTER 1 – Introduction & Need and Purpose of the Project

The North and South Study Areas are defined here. Discussion of the NEPA strategy for this project and more information on tiered environmental analysis can be found in this chapter.

CHAPTER 2 – Project Setting, the Planning Process & Public Outreach

Background information regarding the project setting, previous planning efforts and how the project responded to outreach efforts can be found in this chapter.

CHAPTER 3 – Description of the Alternatives

Specific information regarding what the Build Alternative in the North Study Area would include is presented here. Possible improvements in the South Study Area are described as well.

CHAPTER 4 – North Study Area Analysis

Detailed analysis of the environmental impacts associated with construction of the Build Alternative in the North Study Area are addressed here. These impacts are compared to what would occur if the Build Alternative were not constructed (the No Build Alternative). Mitigation measures for impacts associated with the Build Alternative are also presented in this chapter.

CHAPTER 5 – South Study Area Analysis

Potential improvements in the South Study Area are discussed at a corridor level. Specific impacts are not addressed because at this time a construction footprint has not been defined in the South Study Area.



**U.S. Department of Transportation
Federal Highway Administration**

FINDING OF NO SIGNIFICANT IMPACT

For

**Interstate 5
JBLM Congestion Relief Project**

Pierce County, Washington

Issued Pursuant to 42 U.S.C. 4332 (2)(c) and 23 U.S.C. 128 (a)

This action complies with Executive Order 11988, Floodplain Management, Executive Order 11990, Protection of Wetlands, the Farmland Protection Act of 1981, the National Historic Preservation Act, and Executive Order 12898, Environmental Justice.

May 2017

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1.0 INTRODUCTION

The Washington State Department of Transportation (WSDOT) is proposing improvements along Interstate 5 (I-5) in the vicinity of Joint Base Lewis-McChord (JBLM) in southern Pierce County to reduce traffic congestion and improve person and freight mobility.

FHWA and WSDOT prepared an Environmental Assessment (EA) to analyze and document whether the Project would have significant effects on the environment. This Finding of No Significant Impact (FONSI) is made based on the information in the EA and has been prepared by FHWA and WSDOT to comply with the National Environmental Policy Act of 1969 (42 U.S.C § 4321) (NEPA), FHWA's Procedures for Considering Environmental Impacts (64 Fed. Reg. 28545, May 6, 1999), and other related laws. WSDOT will use FHWA's decision documentation and other supporting documentation to satisfy the Washington State Environmental Policy Act (SEPA) (WAC 197-11).

Focused outreach to agencies, stakeholders, Tribes, and the public was integral to the Project planning and development of the Build Alternative. Outreach has taken a variety of forms including scoping meetings, stakeholder meetings, direct agency coordination, briefing and listening sessions, media, open houses, neighborhood meetings, and the Project website. Themes that emerged from community engagement included improving existing interchange designs, elevating the role of transit, improving the local transportation system, providing more travel options for JBLM personnel, sensitivity to adjacent neighborhoods, and avoiding property impacts. Detailed information on community outreach is included in Chapter 2 (Setting, Planning, & Outreach) of the EA and in Appendix F (Public Engagement) of the EA. The EA for the Project was published on October 17, 2016 and made available to the public review and comment pursuant to USDOT regulations implementing NEPA (23 C.F.R. Section 771.119). Public and agency comments and responses are included in Appendix G of the EA. Agency and Tribal correspondence is included in Appendix E. The final version of the EA is available to the public on WSDOT's Project website at:

<http://www.wsdot.wa.gov/Projects/I5/JBLMImprovements/>

2.0 DESCRIPTION OF PROPOSED ACTION

Congested traffic along I-5 in the JBLM vicinity, characterized by stop-and-go conditions, has become commonplace during weekday morning (AM) and evening (PM) peak periods, as well as weekend afternoons during summer months. Contributors to the traffic demand are both regional and local. Most of the traffic growth in the Project corridor occurred before 2003, and is associated with significant growth in Thurston and Pierce counties. Additionally, JBLM, a secure military facility, has become the biggest

military installation on the West Coast and affects peak period traffic congestion levels. Existing weekday peak period travel demand along I-5 exceeds available capacity in several locations. Congestion during the PM peak period often lasts up to three hours and is expected to increase to nearly six hours by 2040.

The purpose of the proposed action is to reduce chronic traffic congestion and improve person and freight mobility along I-5 in the vicinity of JBLM while continuing to maintain access to the communities and military installations neighboring the freeway. The proposed Project would improve I-5 through the JBLM area and relieve existing and expected future congestion on I-5 within the vicinity of JBLM, improve local and mainline system efficiency, enhance mobility, improve safety, and increase transit and Transportation Demand Management (TDM) opportunities by reducing I-5 travel times and improving accessibility at Thorne Lane and Berkeley Street.

3.0 NEPA STRATEGY

This EA is applying a tiered environmental review. The first tier is a broad corridor level discussion of potential improvements and environmental issues. A second tier includes project specific improvements and project specific environmental analysis. In this EA, environmental review has progressed to a second tier for the North Study Area. The proposed improvements in the North Study Area are referred to as the Build Alternative described below. Analysis for the South Study Area has progressed only to the first corridor level where specific footprint improvements are not currently defined. Second tier analysis for the South Study Area will be presented in a separate environmental document.

3.1 Build Alternative

The Build Alternative would construct an additional northbound and southbound travel lane on I-5 between the vicinity of Thorne Lane and the vicinity of Steilacoom-DuPont Road. It would also construct auxiliary lanes between the Berkeley Street northbound on-ramp and the Thorne Lane northbound off-ramp, and between the Thorne Lane northbound on-ramp and the Gravelly Lake Drive northbound off-ramp. The Thorne Lane and Berkeley Street overpasses would be replaced to allow for the widening of I-5 and to provide grade-separation with the Sound Transit rail line. A new local road connection for southbound traffic traveling between Gravelly Lake Drive and Thorne Lane would be constructed to improve connectivity between the Tillicum neighborhood and the rest of Lakewood. A shared use bicycle and pedestrian path would be constructed through the Project corridor, with some segments local road networks, and a new segment that would parallel I-5 adjacent to JBLM.

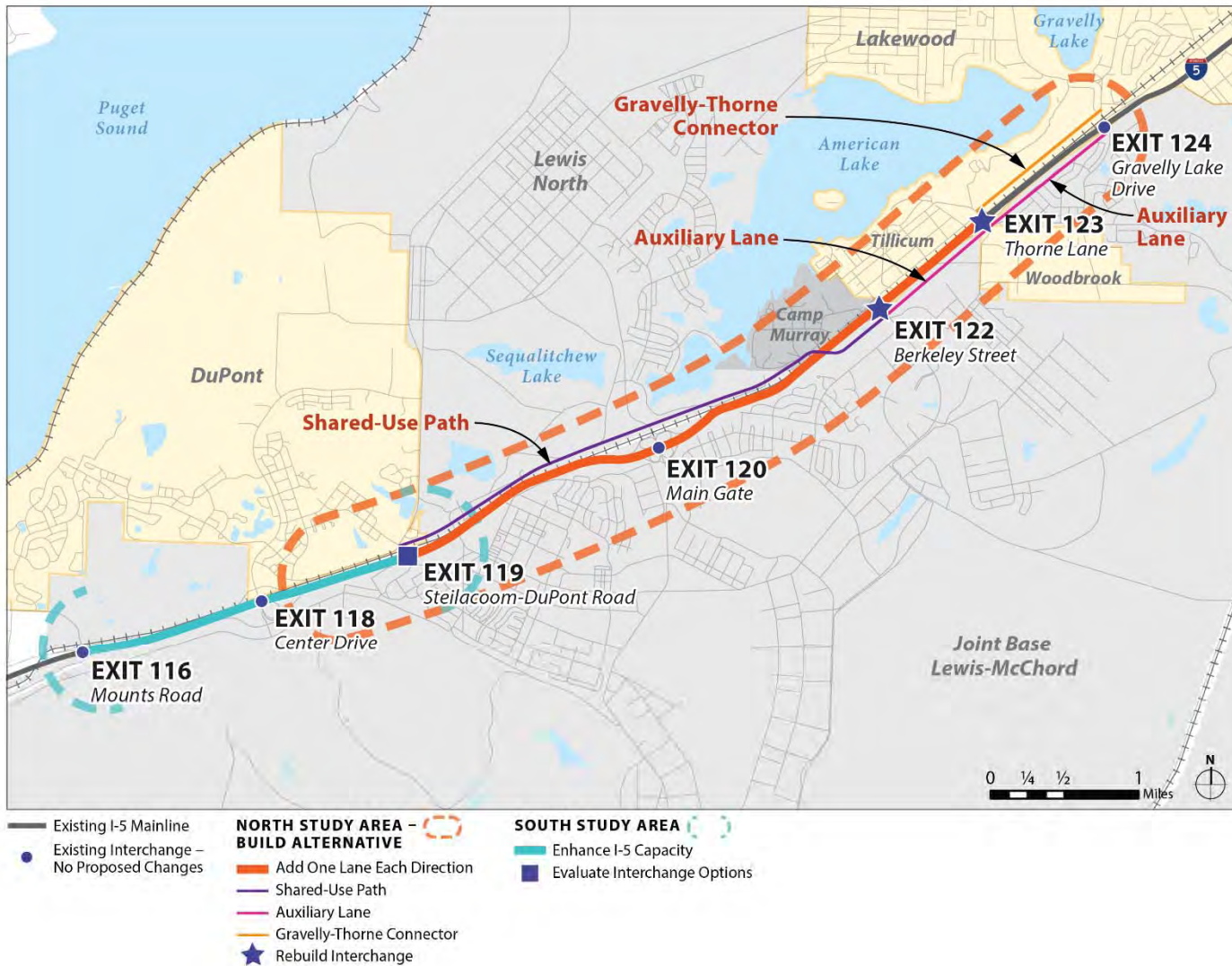


Figure 1. Proposed Build Alternative and South Study Area

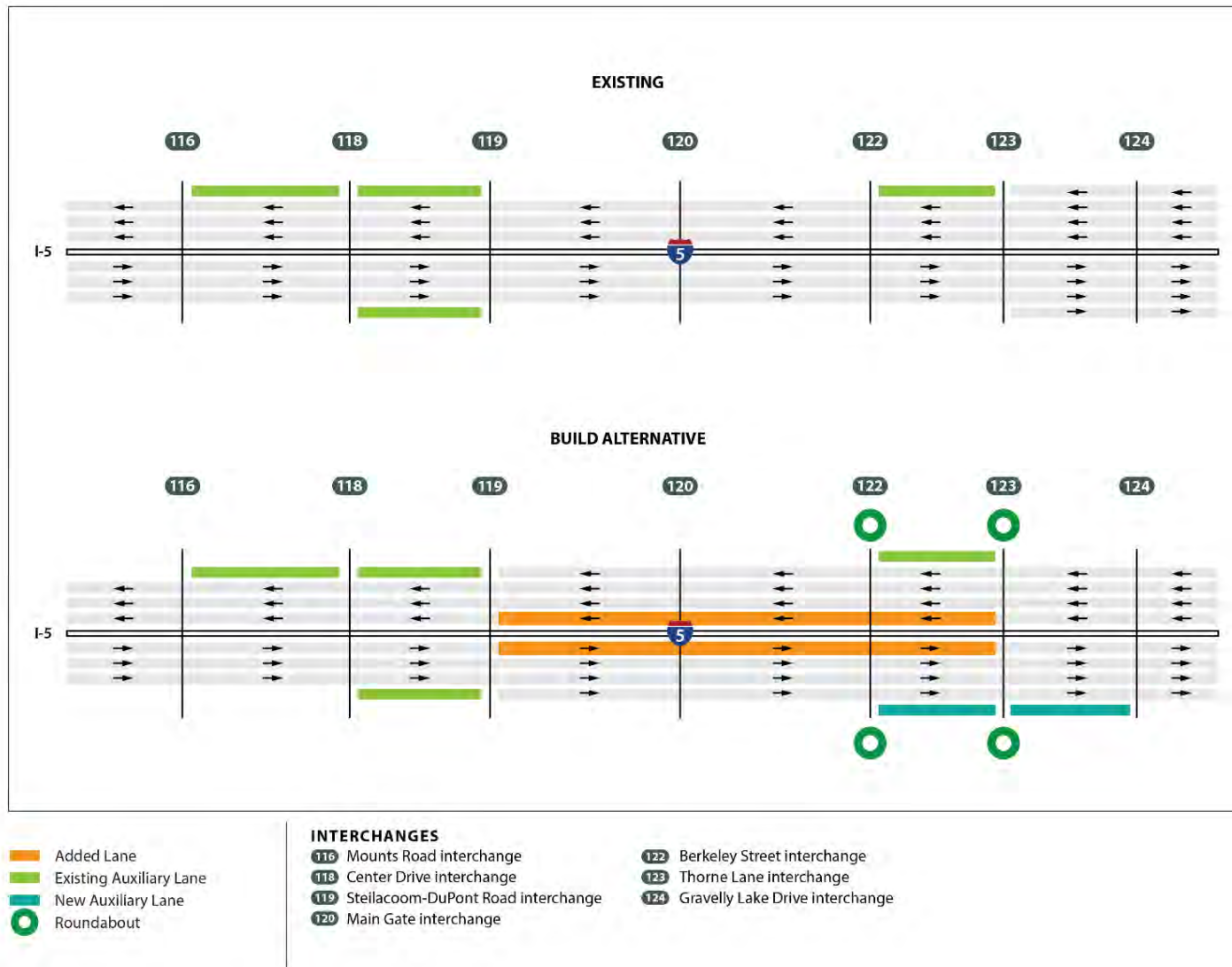


Figure 2. I-5 Mainline Travel Lanes – Existing and Build Alternative

4.0 EA COORDINATION AND COMMENTS

A focused public outreach effort has been integral to defining the Build Alternative. Stakeholder feedback has been sought and used to identify improvement options, create and apply screening tools to evaluate potential solutions, and work through challenging design and environmental issues to ensure Project design reflects the needs of both I-5 users and the communities immediately adjacent to the freeway.

Public outreach has taken a variety of forms, including: public project open houses, neighborhood meetings and briefings; work sessions for elected officials to which the public was invited; media outreach; and regular updates to the WSDOT Project website. The EA was open for public and agency review between October 17th and November 22nd of 2016. Some public comments addressed project elements such as specific interchange designs. Another subset of comments questioned project costs and/or benefits of parts or all of the project. Several comments asserted a relationship between this project and the unfunded SR 704 Crossbase Highway Project. Comments also included concerns about various resources or disciplines such as air quality, environmental justice, noise, public engagement, oak habitat, and wetlands. In most cases, responses entailed clarifying for the commenter where the information could be found in the EA document, underlying discipline study, or in some other supporting documentation. In a few instances, the Revised EA has been enhanced with additional or clearer information. For example, the Revised EA includes additional information about how construction impacts to air quality will be minimized. The document also adds clarity concerning how public issues and themes were resolved throughout public involvement (Appendix F). Comments and responses are included in Appendix G of the attached Revised EA for the project. Some of the responses indicate where resultant changes are reflected in the body of the Revised EA.

There has been no disagreement among participants to date that there is a problem that must be addressed. From there, opinions diverged about the nature of the problem and the strategies to address it. Some common topics that surfaced from community engagement included 1) current lane configuration is inefficient; 2) existing interchange designs can be improved; 3) transit should play a more important role in I-5 mobility; 4) improvements are needed to the local transportation system; 5) people who work at JBLM need more travel options; 6) improvements must be sensitive to adjacent neighborhoods; and 7) property impacts should be avoided. Public engagement on these themes informed the Build Alternative in ways that are described in Appendix F of the EA.

An open house/public hearing was held on November 7, 2016. The legal ad notice of the availability of the Environmental Assessment was published on October 17, 2016. The legal ad was followed by display ads published in local newspapers. A postcard notice mailing was sent to the project's mailing list that was developed at the project onset and modified with new recipients as project development progressed. The hearing was held at The McGavick Conference Center in Lakewood, Washington. An open house format provided for informal drop-in attendance by the public. The public was encouraged to view exhibits at informational stations staffed by WSDOT and consultant project team staff. A Court Reporter was available to accept oral comments for those who wanted

to provide comments in a more formal manner. Comment forms were also provided for those who wanted to provide written comments. In addition to comments received at the public meeting, comments were received in the mail, through e-mail transmittal, and through the project website. At the conclusion of the comment period five agencies, one Tribe, and 34 public citizens provided comments.

5.0 DETERMINATIONS AND FINDINGS

5.1 ESA Compliance

A biological assessment was prepared to evaluate project effects on species protected under the Endangered Species Act. For National Marine Fisheries Service regulated species a determination of “no effect” was made due to lack of species presence. The United States Fish and Wildlife Service submitted a letter dated August 31, 2016 concurring with the effect determination of “may affect, not likely to affect” for water howellia (*Howellia aquatilis*) and one of four listed species of Mazama pocket gopher (*Thomomys mazama glacialis*).

5.2 Section 106 Compliance

Temporary Effects

Potential temporary impacts to some of the 15 sites recommended eligible for, or previously listed on, the National Register of Historic Places (NHRP) are expected. Expected short term effects include noise, dust, mud, vibration, traffic congestion, construction traffic, loss of parking and limited access to buildings.

Long-term Effects

Four sites will have direct impacts including impacts from roadway and shared use path construction and a minor erosion of setting. The Build Alternative will directly impact the Greene Park and Murray Farmstead Archeological sites. Impacts to these sites will be avoided, minimized or are otherwise not considered to be adverse. In their already existing state, the archeological materials at these sites do not retain their integrity to convey the significance of the archeological sites.

The Department of Archaeology and Historic Preservation has reviewed the documentation on cultural resources in conformance with Section 106 of the National Historic Preservation Act (as amended) and its implementing regulations 36 CFR 800. The Department of Archaeology and Historic Preservation concurred with a finding of no adverse effect on February 13, 2017 for the Build Alternative. A project specific programmatic agreement was executed to address the south study area portion of the project on May 17th, 2017.

5.3 Section 4(f)

Temporary Effects

There would be short-term, temporary construction impacts associated with site access needed for construction of the bike-pedestrian path and fencing installation at Greene Park. The temporary use for construction access would be low impact, minor, and would be considered a *de minimis* use.

Long-term Effects and Mitigation

The Build Alternative would require a permanent incorporation of 1.59 acres of the 60-acre Greene Park Archaeological site for construction of a paved bike-pedestrian path. The alignment of the path is along a historic age road and roadbed within Greene Park. The JBLM Cultural Resources Report (2017) concluded that the historic-age road and roadbed, as well as archaeological material in the roadbed, do not retain their integrity to convey the significance of the historic archaeological site. To avoid potential impacts to cultural resources through Greene Park, the path would be constructed on fill without requiring excavation. Fence installation would occur adjacent to path to maintain JBLM security.

The use of the Greene Park Archaeological site will not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f). Due to the minor nature of the impacts, FHWA has concluded that incorporation of the site via permanent easement is a *de minimis* impact.

The final alignment of the bike-pedestrian path was determined through coordination with JBLM and took in to consideration the level of impact on other Section 4(f) resources. Additionally, the path construction avoids ground disturbance through Greene Park minimizing impacts to archaeological resources. The temporary construction impacts would be minimized by limiting the construction access to the minimum area necessary to construct the path and fence, by implementation of standard best management practices, by providing cultural resource training to contractor staff, and by restoring any area to pre-use condition.

5.4 Environmental Justice

Executive Order 12898 provides that "each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minorities and low-income populations." The Department of Transportation's Order to Address Environmental Justice in Minority Populations and Low-Income Populations similarly requires and FHWA to explicitly consider human health and environmental effects related to projects that may have a disproportionately high and adverse effect on minority and low-income populations. It also requires them to implement procedures to provide "meaningful opportunities for public involvement" by members of these populations during project planning and development (DOT Order No. 5680.1).

FHWA finds that the Build Alternative would result in both beneficial effects and adverse effects that can be minimized and mitigated. The Build Alternative would generally reduce congestion and improve connectivity for residents and businesses throughout the corridor. It would improve access to Woodbrook to support planned industrial development. It would provide multimodal connectivity and enhance safety, particularly for low-income residents of Tillicum and Woodbrook. All new interchange structures would provide improved bicycle and pedestrian facilities. For residents in Woodbrook, improving the non-motorized connection across I-5 into Tillicum would be a benefit, particularly for those with no access or limited access to a vehicle. The Build Alternative would also include a new local street, the Gravelly-Thorne connector, linking southbound traffic from Lakewood to Tillicum.

6.0 ENVIRONMENTAL COMMITMENTS

The environmental commitments described below have been identified as the practicable means to avoid and minimize effects from the Project.

Table 1. Environmental Commitments

Resource	Commitments
Air Quality	<ul style="list-style-type: none">◆ WSDOT will comply with the procedures outline in the Memorandum of Agreement between WSDOT and the PSCAA for controlling fugitive dust and will employ the following types of actions where warranted by site conditions:<ul style="list-style-type: none">-Design construction phases to keep disturbed areas to a minimum-Cover dirt, gravel, and debris piles as needed to reduce dust and wind-blown debris-Spray exposed soil with water or other dust suppressant. Use only allowed dust suppressants.-Plant vegetative cover as soon as possible after grading-Minimize dust emissions during transport of excavated or fill materials by wetting down loads or by ensuring adequate freeboard (space from the top of the material to the top of the truck bed) on trucks.-Promptly clean up spills of transported material on public roads-Restrict traffic on site to reduce soil upheaval and the tracking of material onto roadways-Place quarry spall aprons or wheel washers where trucks enter public roads to remove particulate matter from vehicles before it is carried off site-Locate construction equipment and staging areas away from sensitive receptors as practical and in consideration of potential effects on other resources-Develop streamlined staging/work zone areas to minimize construction equipment back-ups and idling-Minimize hours of operation near sensitive receptor areas and route the diesel truck traffic away from sensitive receptor areas-Minimize delays to traffic during peak travel times-Educate vehicle operators to shut off equipment when not in active use to reduce idling-Use cleaner fuels and newer equipment with add-on emission controls as appropriate

Table 1. Environmental Commitments	
Resource	Commitments
Noise	<ul style="list-style-type: none"> ◆ Noise abatement walls are proposed at several locations to mitigate modeled existing and future noise levels. ◆ Construction noise levels could be mitigated by using best management practices (BMP's) such as use of mufflers and engine enclosures on heavy equipment, use of the quietest equipment available near sensitive receivers, and/or limiting equipment idling time.
Socioeconomic and Environmental Justice	<ul style="list-style-type: none"> ◆ Direct compensation to individuals whose property must be purchased for WSDOT to use in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act (as amended). Tenants as well as land owners would be compensated. ◆ The new Berkeley Street Bridge to be constructed will retain the designation and signing as "Freedom Bridge" in accordance with Transportation Commission Policy and Procedure. ◆ Focused community engagement in the Tillicum community will continue through final design of the Project.
Transportation	<ul style="list-style-type: none"> ◆ During construction on-ramps and off-ramps at Thorne Lane and Berkeley Street would be scheduled for closures one interchange at a time such that the other interchange continues to provide local access. ◆ Temporary northbound on-ramps and off-ramps would be provided around construction sites to maintain access to neighborhoods and military installations. ◆ Three lanes of I-5 would be kept open in both northbound and southbound directions on I-5 during daytime and peak travel times. ◆ As part of the I-5 widening project, a Transportation Management Plan (TMP) will be implemented to address safety and mobility through the construction zone. The TMP will guide public information strategies as well as opportunities for stakeholder involvement in traffic management as the project evolves.

Table 1. Environmental Commitments	
Resource	Commitments
Geology and Soils	<ul style="list-style-type: none"> ◆ Fill material would be placed in small batches and compacted in accordance with WSDOT specifications. ◆ Cut slopes would be of limited height and slope to minimize erosion and maximize stability. ◆ BMP's to minimize erosion including covering exposed slopes with plastic, installing drains and/or limiting soil moving to dry weather conditions would be implemented. ◆ Long-term mitigation to minimize soil erosion and maximize slope stability would include replanting vegetation (including mulching or hydroseeding), as well as replanting. ◆ Structures such as new overpasses would be designed to meet current seismic (earthquake) standards.
Water Resources	<ul style="list-style-type: none"> ◆ A Temporary Erosion and Sediment Control Plan and a Spill Prevention, Control and Countermeasures Plan would be implemented to protect surface water and groundwater resources. ◆ BMP's such as controlling sediment-laden runoff from entering streams or drainage inlets near work areas, and use of filter fabric downstream of all exposed slopes, would be used. ◆ Stormwater treatment facilities such as swales and infiltration ponds would also be constructed to treat runoff. ◆ If floodplain areas are impacted, compensatory flood storage would be provided. ◆ Work near surface water bodies may also be limited to dry weather periods to minimize impacts to streams and floodplains. ◆ The Murray Creek Steam Buffer will be enhanced with plantings with input and coordination from JBLM Natural Resources staff. Buffer enhancement will mitigate for the minor encroachment of a storm pond facility in an unvegetated portion of the Murray Creek Stream buffer near the JBLM Madigan Gate. A net gain in stream buffer functions is expected.

Table 1. Environmental Commitments	
Resource	Commitments
Wetlands	<ul style="list-style-type: none"> ◆ Mitigation would occur to compensate for the 0.06 acres of permanent wetland impacts. Types of mitigation that may be used include restoration of disturbed wetland and buffer areas, or compensatory mitigation through the Pierce County In-Lieu Fee Program for impacts to areas that cannot be restored due to fill or other permanent feature.
Fish, Wildlife, and Vegetation	<ul style="list-style-type: none"> ◆ Clearing limits would be limited to the minimum area necessary and marked with construction fencing. ◆ Staging areas would be a minimum of 300 feet from wetlands or streams wherever possible. ◆ The shared use path would be designed and constructed to avoid native tree removal. ◆ Construction activities near the osprey nest should be scheduled to avoid the breeding season if practicable. ◆ Coordination with USFWS would occur to conduct Mazama Pocket Gopher surveys during the 2017 field season (June 1 to October 31). Should evidence of pocket gophers be found in the Project Area, potential impacts would be re-evaluated, and USFWS consulted as necessary. ◆ Native vegetation removal, particularly trees, will be minimized to the extent possible. Temporarily disturbed areas will be restored to an equal or better condition consistent with WSDOT's Roadside Policy Manual. ◆ Further project development will identify impact to oak habitat and develop appropriate mitigation.

Table 1. Environmental Commitments	
Resource	Commitments
Hazardous Materials	<ul style="list-style-type: none"> ◆ A Spill Prevention Plan, Containment, and Countermeasures (SPCC) plan will be developed before construction activities in accordance with WSDOT Standard Specifications Section 1-07.15. The SPCC plan aims to eliminate spills and provides a procedure to deal with spills if they occur. ◆ During construction, BMP's would be implemented to address the potential for spills. If hazardous materials are encountered during construction, the effects would be mitigated using measures described in WSDOT's standard Hazardous Materials Impacts and Mitigation Measures table. ◆ WSDOT is committed to coordinating closely with JBLM with respect to the IRP infiltration galleries. The WSDOT project team has and would continue meeting with JBLM public works to coordinate.
Visual Quality	<ul style="list-style-type: none"> ◆ Potential mitigation measures for impacts to visual quality may include minimization of tree and shrub removal needed to construct noise barriers, application of aesthetic treatments to build bridges and walls, replanting of trees removed for construction in accordance with the Roadside Policy Manual, and special planting standards for restoration of wetlands and buffers.

Table 1. Environmental Commitments

Resource	Commitments
Cultural Resources	<ul style="list-style-type: none">◆ An archaeological monitoring and unanticipated discovery plan will be prepared, in consultation with the SHPO and other consulting parties, prior to commencement of project construction. The plan will include procedures for archaeological monitoring at site 45PI00521, the Murray Farmstead, in areas where ground-disturbing activities will occur in proximity to known, significant archaeological deposits. The plan will also outline procedures to be followed if any unanticipated cultural resources are discovered during project construction.◆ Potential vibration effects to the Salvation Army Red Shield Inn will be avoided by 1) prohibiting dynamic compaction within 100 feet of any portion of the building, and 2) prohibiting loaded trucks within 20 feet of the building.◆ In order to minimize effects to archaeological site 45PI01316 (Greene Park), the proposed bicycle/pedestrian path through the site will be constructed on fill without cutting into the site.◆ Minor excavation associated with fence installation in 45P101316 (Greene Park) will be monitored by a professional archeologist.◆ Temporary construction impacts within the boundaries of the Greene Park archeological site will be avoided and minimized to the greatest extent practicable.◆ If any changes to the project design within the North Study Area occur subsequent to this Agreement being executed, FHWA and WSDOT will ensure that the effects of those changes on historic properties are taken into account in accordance with 36 CFR § 800. If an adverse effect is found, FHWA and WSDOT will consult further to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate adverse effects on historic properties. If the agency official and the SHPO agree on how the adverse effects will be resolved, a memorandum of agreement will be executed in accordance with 36 CFR § 800.6(b).

Table 1. Environmental Commitments	
Resource	Commitments
Utilities	<ul style="list-style-type: none"> ◆ Early and frequent communication with utility companies would happen during design of the Build Alternative. Relocation and/or mitigation plans for existing utilities would be designed as needed between the project team and utility provider.
Economics	<ul style="list-style-type: none"> ◆ A staged approach to construction of the Thorne Lane and Berkeley Street interchange ramps would be implemented in order to ensure continual access to the Tillicum commercial core from I-5. Drivers on I-5 would be notified of temporary access changes to Tillicum using variable message signs adjacent to I-5 during construction. ◆ A Traffic Management Plan would be prepared to document these mitigation measures and others that may be identified during design of the proposed improvements, and to establish traffic-related requirements that the build contractor must implement during construction.

7.0 CONCLUSION

As described in the EA and further in this FONSI, the proposed Build Alternative is located in the North Study Area and would provide relief to the chronic congestion on I-5 in the JBLM vicinity. The completed Project would provide an additional lane in each direction on I-5 between Thorne Lane (Exit 123) and Steilacoom-DuPont Road (Exit 119). It would also replace the existing Thorne Lane and Berkeley Street (Exit 122) interchanges to accommodate the extra lanes on I-5, improve traffic operations at the interchanges, provide pedestrian and bicycle facilities, and provide grade-separation with the Sound Transit rail line. In 2020, the Build Alternative would reduce PM peak period travel times by approximately 13 minutes for northbound traffic between Center Drive (Exit 118) and Gravelly Lake, and by approximately 24 minutes southbound between Gravelly Lake Drive (Exit 124) and the Main Gate/41st Division Drive interchange (Exit 120). Between Main Gate/41st Division Drive and Steilacoom-DuPont Road, southbound travel time benefits decline due to congestion associated with the reduction from four to three travel lanes in the vicinity of Center Drive.

FHWA finds that the I-5 JBLM Vicinity Congestion Relief Project satisfies the requirements of FHWA's NEPA "Procedures for Considering Environmental Impacts" (64 FR 28545, May 26, 1999) and NEPA (42 USC § 4321) and the Project would have no foreseeable significant impact on the quality of the human or natural environment provided it is implemented in accordance with the commitments identified in this FONSI. As the Project sponsor, WSDOT is responsible for ensuring all environmental commitments identified in Section 6.0 above are fully implemented. The EA provides sufficient evidence and analysis for FHWA to determine that an environmental impact statement is not required for the Project as presented.



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05/23/2017
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Pierce County, Washington

Revised Environmental Assessment / FONSI

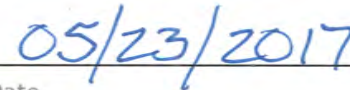
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By the

U.S. Department of Transportation – Federal Highway Administration
and Washington State Department of Transportation



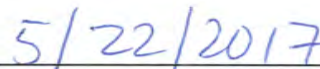
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Washington State Department of Transportation



Date

Abstract:

The I-5 JBLM Vicinity Congestion Relief Project is located in western Washington in southern Pierce County. In accordance with the National Environmental Policy Act, this environmental assessment evaluates the environmental effects of the proposed Build Alternative and No Build Alternative. The Project includes a North Study Area located between the vicinity of Thorne Lane (Exit 123) and Steilacoom-DuPont Road (Exit 119) and a South Study Area between the vicinity of Steilacoom-DuPont Road and Mounts Road (Exit 116). In the North Study Area, an additional northbound and southbound travel lane on I-5 would be constructed between the vicinity of Thorne Lane and Steilacoom-DuPont Road. In order to build additional travel lanes on I-5, both the Thorne Lane and Berkeley Street (Exit 122) interchanges must be rebuilt because their current configuration restricts I-5 to three lanes in each direction. A shared use pedestrian and bicycle path and a new local roadway connecting Gravelly Lake Drive and Thorne Lane would also be constructed. In the South Study Area, construction of additional capacity on I-5 and associated improvements to interchanges is anticipated. Final configuration of improvements in the South Study Area is under development and anticipated to be determined by early 2017.

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Copies of this revised EA are available from WSDOT (360-570-6700) at a cost to cover printing and mailing.



Americans with Disabilities Act (ADA) Information

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It is the Washington State Department of Transportation's (WSDOT) policy to assure that no person shall, on the basis of disability, be excluded from participation in, be denied the benefits of, or otherwise discriminated against under any of its programs, services, or activities. Any person who believes their Americans with Disabilities protection has been violated, may file a complaint with WSDOT's Office of Equal Opportunity (OEO). For additional information regarding ADA complaint procedures and/or information regarding our non-discrimination obligations, please contact Larry Watkinson WSDOT's ADA Compliance Manager at wsdotada@wsdot.wa.gov or by calling toll free, 855-362-4ADA(4232).

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ACRONYMS

A

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ACP	Access Control Point (military installation gate)
ACS	American Community Survey
AMTRAK	American Railroad Passenger Corporation
APE	Area of Potential Effects
APPS	Aquatic Protection Permitting System
ASTM	American Society for Testing & Materials

B

BA	Biological Assessment
Blue MAC	Bluetooth Detection Unit
BMPs	Best Management Practices
BNSF	Burlington Northern Santa Fe (railroad)

C

CAA	Clean Air Act
CAO	Critical Areas Ordinance
CAS	Collision Analysis Segment
CAVFS	Compost Amended Vegetated Filter Strips
CCDP	Concrete Containment and Disposal Plan

C/D	Collector/Distributor (road)
CFR	Code of Federal Regulations
CICABS	Continuous Inflow Compost-Amended Biofiltration Swale
CO	Carbon Monoxide
CSCSL	Confirmed and Suspected Contaminated Sites List
CWA	Clean Water Act
CWPP	Pierce County Countywide Planning Policies

D

DAHP	Department of Archaeology and Historic Preservation
dB	Decibel
dBA	Decibels on the A scale (human hearing range)
DMC	DuPont Municipal Code
DOE	Washington State Department of Ecology
DOH	Washington State Department of Health

E

EA	Environmental Assessment
EB	Eastbound
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	Environmental Protection Agency
ES	Executive Stakeholder Committee
ESA	Endangered Species Act

F

FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FINDS	Facility Index System/Facility Registry System
FIRMs	Flood Insurance Rate Maps
FONSI	Finding of No Significant Impact

G

GCP	JBLM Growth Coordination Plan
GHG	Greenhouse Gas
GIS	Geographic Information System
GMA	Growth Management Act
GP	General Purpose (travel lane)

H

HC	Hydrocarbons
HCM	Highway Capacity Manual
HGM	Hydrogeomorphic
HOT	High Occupancy Toll (travel lane)
HOV	High Occupancy Vehicle
HRM	Highway Runoff Manual
HPA	Hydraulic Project Approval
HSP	Highway System Plan
HSS	Highway of Statewide Significance

I

I-5	Interstate 5
IJR	Interchange Justification Report
ILF	In-Lieu Fee Program
ISATe	Enhanced Interchange Safety Analysis Tool

IT Intercity Transit
ITS Intelligent Transportation Systems

J

JARPA Joint Aquatic Resource
Permits Application
JBLM Joint Base Lewis-McChord
JLUS JBLM Joint Land Use Study

L

LCP Lakewood Comprehensive Plan
LEP Limited English Proficiency
Leq Equivalent Sound Level
LMC Lakewood Municipal Code
LOS Level of Service
LWCF Land and Water Conservation Fund

M

MBTA Migratory Bird Treaty Act
MEV Million Entering Vehicles
MP Milepost
MSAT Mobile Source Air Toxic
MTCA Model Toxics Control Act
Cleanup Regulations
MVMT Million Vehicle Miles of Travel

N

NAAQS National Ambient Air Quality
Standards
NAC Noise Abatement Criteria
NB Northbound
NCHRP National Cooperative Highway
Research Program

NEPA National Environmental Policy Act
NFIP National Flood Insurance Program
NHP Natural Heritage Program
NHS National Highway System
NMFS National Marine Fisheries Service
NO₂ Nitrogen Dioxide
NOAA National Oceanic and
Atmospheric Administration
NOx Nitrogen Oxides
NPDES National Pollutant Discharge
Elimination System
NPL National Priority List
(contaminated sites)
NPS National Park Service
NRHP National Register of Historic Places
NWI National Wetland Inventory

O

O/D Origin/Destination
OHWM Ordinary High Water Mark

P

PDRBP Point Defiance Rail Bypass Project
PEL Planning & Environmental Linkage
PGIS Pollution Generating Impervious
Surfaces
PPM Parts per Million
PSRC Puget Sound Regional Council
PSCAA Puget Sound Clean Air Agency
PT Pierce Transit
P&T Pump-and-Treat

Q

Qf Man-made Fill
Qgd Glacial Drift
Qgt Glacial Till
QI Soft Fine-grained Sediment
Qp Peat
Qa Alluvium Sand

R

RCRA Resource Conservation and Recovery
Act
RCW Revised Code of Washington
RI/FS Remedial Investigation/Feasibility
Study
[ROD Record of Decision](#)

S

SB Southbound
SDP Site Development Plan
(Camp Murray)
SEPA State Environmental Policy Act
SFHA Special Flood Hazard Area
SHPO State Historic Preservation Office
SIP State Implementation Plan
(for air quality)
SMA Shoreline Management Act
SOV Single Occupant Vehicle
SPCC Spill Prevention Control and
Countermeasures
SR State Route
ST Sound Transit
STIP Six-Year Transportation
Improvement Program

SWPPP Stormwater Pollution
Prevention Plan

T

TAZ Transportation Analysis Zone
TCE Trichloroethylene
TDM Transportation Demand
Management
TESC Temporary Erosion and Sediment
Control
TIGER III Transportation Investment
Generating Economic Recovery
(federal grant-funding program,
third series)
TIP Transportation Improvement
Program
TMP Traffic Management Plan
TNM Traffic Noise Model
TOT Time of Travel
TRB Transportation Research Board
TRPC Thurston Regional Planning Council
TS Technical Stakeholder Committee
TSS Total Suspended Solids

U

UDP Unanticipated Discovery Plan
USACE U.S. Army Corps of Engineers
USC United States Code
USDA U.S. Department of Agriculture
USDOT U.S. Department of Transportation
USFWS U.S. Fish & Wildlife Service
UST Underground Storage Tank
VMT Vehicle Miles of Travel

W

WAC Washington Administrative Code
WASIST Washington State Intersection
Screening Tool
WB Westbound
WDFW Washington State Department
of Fish & Wildlife
WDNR Washington State Department of
Natural Resources
WHPA Wellhead Protection Area
WRIA Water Resource Inventory Area
WSDOT Washington State Department of
Transportation
WTP Washington Transportation Plan
WWI World War I
WWII World War II

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GLOSSARY

Area of Potential Effect (APE): The area within which historic properties, and archaeological resources if they are present, could be directly or indirectly affected by the project.

At-Grade: At the same level.

Attainment: An area with concentrations of criteria pollutants that are below the levels established by the NAAQS.

Auxiliary Lane: Can improve safety and reduce congestion by accommodating cars and trucks entering or exiting the highway or traveling short distances between adjacent interchanges, and reduce conflicting weaving and merging movements.

Average Daily Traffic (ADT): The average number of vehicles passing a certain point on a highway, road, or street each day.

Background Contributions (or Concentrations): Concentrations of carbon monoxide that exist in a geographic area and are not specifically attributable to vehicles operating on nearby roads. Background contributions are assumed to be present in the air quality analysis model based on guidance from state of Washington.

Best Management Practices (BMPs): Environmental protection tools that have been determined to be the most effective, practical means of avoiding or reducing environmental impacts.

Build Alternative: A program of improvements for I-5 in the vicinity of Joint Base Lewis-McChord as described in Chapter 3, Section 3.4 of this environmental assessment.

Cantonment: A permanent military installation.

Clear Zone: A clear roadside border area the intent of which is to provide as much clear, traversable area for a vehicle to recover as practicable given the function of the roadway and potential trade-offs.

Cloverleaf Interchange: A two-level interchange where left turns are handled by physically-separated, free-flowing ramps. When viewed from the air, this interchange resembles a four-leaf clover.

Collector-Distributor (CD): A roadway that typically parallels a higher capacity and/or limited access roadway. A CD road is designed to accommodate weaving and merging activity separately from the mainline of the higher capacity road and to

reduce the number of mainline entrances and exits.

Congestion Contour: Graphic illustration of the relationship between travel speed, duration of slow speeds, and the distance over which slow speeds are expected.

Construction Staging: A staging area is a designated area where vehicles, supplies, and construction equipment are positioned for access and use at a construction site.

Corridor Level Analysis: Environmental analysis that identifies a geographically-bounded area within which future proposed actions may be taken and identifies broad mitigation or conservation measures that could be applied during future environmental reviews.

Criteria Pollutant: Sulfur dioxide, nitrogen dioxide, ozone carbon monoxide, and lead.

Cultural Resource: Any district, site, building, structure, object, person or people, document or transitional place that may be important in American history or prehistory.

Cumulative Effect/Cumulative Impact: An impact on the environment which results from the incremental effect of an action when added to other past, present and reasonably foreseeable future actions

regardless of what agency or person undertakes such action.

Decibel (dB): A logarithmic based unit of measure of sound pressure.

Delay: The increased travel time experienced because of circumstances that impede the desirable movement of traffic.

Demand: The desire for travel by potential users of the transportation system.

De Minimis Impact: Impact that after taking into account avoidance, minimization and enhancement measures, results in no adverse effects to activities, features or attributes qualifying a park, recreation area or refuge for protection under Section 4(f).

Dewatering Plans: Prepared plans identifying the method of removal and disposal of water from groundwater or surface water intrusion on a construction site.

Diamond Interchange: The simplest and perhaps most common type of interchange. This type of interchange has two on-ramps and two off-ramps, and forms the shape of a diamond when viewed from the air.

Direct Effect/Direct Impact: An effect caused by an action or alternative and occurring at the same time and location.

Effects may be transportation-related, ecological, aesthetic, historic, cultural, economic, social or health-related.

Discharge: Runoff leaving an area via overland flow, built conveyance systems, or infiltration facilities.

Displacement: Removal of a business, residence or public facility from its existing location. For transportation improvements, this is generally the result of property acquisition for right of way or the elimination of access.

Diverging Diamond: A recently introduced interchange design which reconfigures the flow of traffic to eliminate left and right turn movements, reducing excessive signal phases and increasing the length of the green signal phase for through traffic.

Duration: The length of time of an event.

Ecosystem: A community of organisms interacting with each other, and the environment in which they live.

EDR Report: A list of databases searched for potential hazardous materials contamination, including selected detailed information from federal and state lists and maps illustrating identifiable sites within the indicated search radius, conducted by Environmental Data Resources, Inc. (EDR).

Effect: Something brought about by a cause or agent; a result. May be beneficial or detrimental.

Emission: Pollution discharged into the atmosphere from fixed or mobile sources.

Endangered Species: Any species that is in danger of extinction throughout all or a substantial portion of its range.

Endangered Species Act: Legislation adopted to prevent the extinction of plants or animals.

Environmental Justice (EJ): The provisions of Presidential Executive Order 12898 that requires each federal agency to address, as appropriate, disproportionately high and adverse health and/or environmental effects of a federal action on minority and/or low-income populations.

Environmental Justice Population: Refers collectively to the low-income and minority populations in a given area.

Floodplain: Any land area susceptible to being inundated by flood waters from any source.

Forb: Soft tissue annual or perennial plant that is not woody or a grass, such as a dandelion or buttercup.

General Purpose (GP) Lane: A freeway or arterial lane available for use by all traffic.

Grade-Separated: Separation of different flows of traffic using physical means. Roads, paths, railroads cross one another at different elevations typically by providing a bridge-like structure.

Greenhouse Gases (GHG): Greenhouse gases are gases that, when released into the atmosphere, contribute to global warming. They generally include six specific gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Note that greenhouse gases are not the only air pollutants of concern; others include carbon monoxide (CO) and particulate matter, which can affect human health.

Groundwater: That portion of water below the ground surface that is free flowing within the soil particles. Groundwater typically moves slowly, generally in a downhill direction because of gravity, and eventually enters into streams, lakes and oceans.

Hot-spot Analysis: Analysis of a specific location (often an intersection) that performs or is expected to perform below one or more accepted standards, generally for traffic congestion or air pollution.

High Occupancy Vehicle (HOV): Special designation for a bus, carpool, or vanpool provided to encourage an increase in ride-sharing and make the transportation system more efficient.

Impervious: Pavement, roofs, and other compacted or hardened areas that do not allow the passage of rainfall or runoff into the ground.

Independent Utility: Determinative of whether a project is “connected” to another action in such a way that a collective environmental impact assessment is required under NEPA.

Interchange Justification Report (IJR): Document used to justify a new access point or access point revision on existing limited access freeways and highways in Washington State.

Indirect Effect/Indirect Impact: An effect that occurs later in time or is removed in distance from the proposed action, but is still reasonably foreseeable. May include growth-inducing effects or other effects related to the pattern of land use, population density or growth rates, and related effects on air, water and other natural systems.

Lane Turbulence: Turbulence in the flow of traffic is characterized by changes in gaps between vehicles and the distribution of traffic over multiple lanes. Turbulence can result in braking, avoidance maneuvers or lane changes. It can be particularly pronounced in traffic flow around weaving segments, on-ramps and off-ramps.

Latent Demand: Pent up travel desire or demand that goes unsatisfied because there is not sufficient capacity on a roadway to accommodate it.

Lateral Spreading: Lateral movement of gently to steeply sloping soil caused by earthquake-induced liquefaction.

Level of Service (LOS): A qualitative measure of transportation system performance. LOS is most commonly used to describe roadway or intersection performance, but can also be applied to pedestrian, bicycle, transit, or other infrastructure elements. The American Association of State Highway and Transportation Officials defines the following levels of service for highway traffic flows: A= Free flow; B=Reasonably free flow; C=Stable flow; D=Approaching unstable flow; E=Unstable flow; and F=Forced or breakdown flow.

Liquefaction: A phenomenon in which the strength and stiffness of a saturated soil is reduced by earthquake shaking or other rapid loading.

Logical Termini: Rational beginning and end points for a transportation project to result in an improvement that functions efficiently and improves operations of the system, as well as for review of its environmental impacts.

Low Income: A household income that is at or below the federally designated poverty level for a given household size.

Macroscopic (Macro) Model: A regional or sub-regional travel demand model used to develop travel forecasts along major streets and highways in a study area and to understand the travel pattern changes that would result from various alternative improvement packages.

Maintenance Area: An area that has a history of not meeting air quality standards for a particular air pollutant, but is now meeting the standards and has a maintenance plan for monitoring levels of that pollutant and ensuring continued conformity to the appropriate standards.

Mesoscopic (Meso) Model: A traffic simulation model developed to evaluate

a series of detailed transportation performance measures by which to compare the effects of alternative improvement options.

Mobile Source Air Toxics (MSATs): The Clean Air Act identifies 188 air toxics, of which MSATs are the subset emitted by mobile sources. Although MSATs pose potential public health concerns, there are no established regulatory limits for relevant MSAT pollutants.

Modeling: The use of statistics and mathematical equations to simulate and predict real events and processes such as future traffic volumes.

Mode Split: The percentage of total travel in a given area by different forms of transportation, typically single-occupant vehicles, high-occupancy vehicles (two or more persons in a car), transit, walk, and bicycle.

Moving Washington: A policy-based framework used in Washington State for making transparent, cost-effective decisions about transportation infrastructure improvements.

Multimodal: Refers to a transportation system, in whole or in part, that provides

for more than one mode or means of transportation.

National Ambient Air Quality Standards (NAAQS): Standards established by the U.S. Environmental Protection Agency under the Clean Air Act for pollutant concentrations in outside air throughout the country.

National Environmental Policy Act (NEPA): Established in 1969, this act requires public disclosure of all environmental, social, and economic impacts for federally funded projects with significant impacts.

National Register of Historic Places: Authorized under the National Historic Preservation Act of 1966, this is the nation's official list of properties and other cultural resources that are recognized as deserving protection.

No Build Alternative: The alternative under which the proposed project will not be built. The No Build Alternative is carried through the NEPA process and analyzed as a way to compare the effects of the proposed Build Alternative with what is likely to happen if the proposed project is not constructed.

Noise Wall: A wall designed to serve as a noise buffer between a noise source and affected residences or other sensitive noise receptors.

Non-Attainment Area: An area where concentrations of one or more criteria air quality pollutants are found to exceed the regulated or “threshold” level for one or more of the NAAQS.

PM_{2.5}: Particulate matter 2.5 microns or less in diameter.

PM₁₀: Particulate matter 10 microns or less in diameter.

Park-and-Ride: A facility where individuals can park their vehicle for the day and access public transportation or ride-share for the major portion of their trip.

Particulate Matter: A mixture of extremely small particles and liquid droplets suspended in the air. Components can include acids (e.g., sulfates and nitrates), organic chemicals, metals, and soil or dust particles. Particulate matter is classified according to particle size.

Peak Hour or Peak Period: Informally known as “rush hour,” this term refers to the time of the day when traffic volumes in an urban area are the highest and when travel patterns generate the most traffic, especially in a peak direction.

Pervious: Permeable ground or other surfaces that will absorb water.

Project-Specific Analysis: Environmental evaluation for projects in which the proposed construction limits and types are known. The evaluation considers the proposed construction and the specific impacts it would have on the natural and built environment.

Queuing: A line of waiting vehicles. Examples of common locations for queues to form include at a ramp meter, a traffic signal, or waiting to turn from a left turn lane.

Ramp Meter: A signaling device on a highway on-ramp, usually a red-green stoplight, that regulates the flow of traffic entering the highway. The signaling device is connected to a traffic sensor that registers the volume of traffic on the highway and adjusts the timing of the signal to allow smooth entry and merging of vehicles onto the highway.

Right of Way: Land purchased prior to construction of transportation improvements along with land for noise walls, retaining walls, stormwater facilities and other project elements.

Riparian Area: The land and habitat adjacent to water bodies that includes the transition area between an aquatic ecosystem and the nearby upland terrestrial ecosystem.

Roadway Control Zone: The area located in the highway right of way within which control zone guidelines govern the placement of above-ground utilities.

Section 106: That portion of the National Historic Preservation Act that requires federal agencies to identify and evaluate cultural resources and consider how their undertakings affect historic properties eligible for inclusion in the National Register of Historic Places.

Section 4(f): Section 4(f) of the U.S. Department of Transportation Act (49 USC 303) concerns the use of or impacts on any significant public park, recreation area, wildlife or waterfowl refuge, or historic site by a transportation project. Section 4(f) applies to impacts caused by programs and policies undertaken by the USDOT.

Section 6(f): Section 6(f) of the Land and Water Conservation Fund Act is similar to Section 4(f) but concerns only those parks and recreational facilities that have received funding through this act. While Section 4(f) applies only to USDOT actions, Section 6(f) applies to impacts caused by programs and policies of any federal agency.

Single Occupant Vehicle (SOV): A vehicle having one occupant (i.e., the driver).

Single-Point Urban Interchange (SPUI):

An interchange configuration that reduces the number of signals to one location in the center of an interchange rather than two signals as is common with the diamond configuration. Left turn movements are combined at a single point for more efficiency.

State Environmental Policy Act (SEPA):

Legislation adopted in Washington in 1974 that establishes an environmental review process for all development proposals and major planning studies prior to taking any action.

State Implementation Plan (SIP): A state plan prepared to comply with the federal Clean Air Act identifying how a state will attain and maintain the NAAQS. These plans are developed by state and local air quality management agencies and submitted to EPA for approval.

T1 Freight Corridor: A classification within the Washington State Freight and Goods Transportation System assigned to highways that carry more than ten million tons of freight annually.

Tiered Environmental Analysis: Rather than preparing a single environmental analysis as the basis for approving the entire

project, an agency conducts two or more rounds – or “tiers” – of environmental review.

Transportation Demand Management (TDM): Measures that seek to reduce the number of vehicles using the road system, especially single-occupant vehicles, by providing alternative options to single-occupant auto travel.

Throughput: The number of users being served at any time by the transportation system.

Terminus; Termini (pl): The beginning and end points of transportation projects are known as termini.

Vehicles Miles of Travel (VMT): The number of miles traveled per vehicle multiplied by the total number of vehicles.

View Shed: The area that can be seen from a given viewpoint or group of viewpoints. It is also the area from which that viewpoint or group of viewpoints can be seen.

Visual Quality: A subjective measure of the character of the visual environment.

Visual Resources: The collection of all features that can be seen in an area.

Water Quality: Refers to the characteristics of the water—for example, its temperature

and oxygen levels, how clear it is, and whether it contains pollutants.

Weaving: An undesirable situation in which traffic veering right and traffic veering left must cross paths within a limited distance to merge with traffic in an adjacent through lane.

Wetland: Areas that are inundated or saturated by surface water or groundwater at a frequency and for a duration sufficient to support under normal circumstances a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wetland Buffer: An area adjacent to a wetland that can reduce adverse impacts to the wetland’s ecological functions and values from development or construction activities. Wetland buffers can also provide support functions for species that live in and around wetlands, and reduce the impacts of human disturbance on the wetland.

Windshield Survey: Systematic observations made from a moving vehicle.