



Final

I-5 JBLM Vicinity Congestion Relief Study

**Phase 2A Alternative Analysis
Development and Screening of Multimodal
Options**

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Draft Phase 2A Alternative Analysis

Development and Screening of Multimodal Options

Project Information

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1. INTRODUCTION

1.1 Background

The planning, preliminary design, and environmental work to address existing and expected future congestion problems along Interstate 5 (I-5) through the Joint Base Lewis-McChord (JBLM) study area is being conducted by WSDOT in cooperation with project stakeholders. The objective of this study is to identify facilities and strategies to relieve chronic traffic congestion, and improve people and freight mobility along Interstate 5 in the vicinity of JBLM while providing access to the communities and military installations neighboring the freeway.

In Phase 1 the study team prepared a vision and improvement strategy (framework plan) for the I-5 corridor to meet 2040 travel demand. The framework plan defined scenarios for reducing congestion and managing demand for travel along this portion of I-5. Scenarios considered and evaluated during Phase 1 centered on various strategies along the freeway mainline and at the focus interchanges. They were developed to help alleviate current and future chronic levels of traffic congestion. Phase 1 work was completed in December 2013, and results are documented in the *I-5 JBLM Vicinity IJR and Environmental Documentation, Phase 1 – Corridor Plan Feasibility Study*.

Phase 2 of the planning study is conducting a multi-modal corridor alternative analysis. This includes evaluating local connectivity options to address the objectives of the project, developing alternative packages of selected options, and determining the most promising set of possible improvements. This effort is being conducted in two sub-phases; 2A and 2B. Phase 2A, involved identification and screening of possible improvement options. The results of this sub-phase are summarized in this report. Phase 2B will include a detailed analysis of the improvement options identified in 2A that best meet the goals for the project and will be advanced as multimodal alternatives for evaluation through the NEPA and Interchange Justification Report (IJR) processes.

Phase 3 will include preparation of an Alternatives Analysis for both NEPA documentation and completion of a project IJR.

1.2 Context and Purpose of this Report

The purpose of this report is to document the analysis process of Phase 2A, and to identify key findings, conclusions and recommendations. The report focuses on:

- Identification of various multimodal and local connectivity options,
- Screening of these options against a series of high level criteria, and
- Determination of options to advance for further evaluation.

The recommended options from Phase 2A will be combined with the recommendations from Phase 1 and carried forward for alternatives analysis in Phase 2B. It should be noted that Phase 1 scenarios for the I-5 mainline and interchanges are not affected by the Phase 2A screening process described in this report as they were screened separately in Phase 1. In Phase 2B, when the Phase 1 and Phase 2A options are combined, they may very likely influence one another.

1.3 Report Content and Organization

This report is organized into seven chapters, the first of which is this Introduction.

Chapter 2 discusses the study process and analysis methods used to complete Phase 2A. A two-step process was undertaken that included a fatal flaw assessment (Step 1) and a high-level screening to

identify options that would likely have a reasonable benefit toward reducing I-5 congestion and increasing mobility along the I-5 corridor (Step 2).

Chapter 3 presents a summary of the process used to identify a range of multimodal and local connectivity options including a series of brainstorming meetings with project stakeholders. Options were classified into six categories including: Access to I-5, Local Street Connectivity, JBLM Street Connectivity, Scenario Modeling Inputs (to test analysis sensitivity), Transit, and Transportation Demand Management/Transportation System Management and Operations (TDM/TSMO).

Chapter 4 discusses the development of screening criteria for Steps 1 and 2 of the analysis process. Also included in the chapter is a Project Definition Statement that provided guidance in developing and screening various options by clearly articulating the overall purpose of the I-5 JBLM project.

Chapter 5 summarizes the results of the screening process for both Steps 1 and 2.

Chapter 6 highlights the public outreach and engagement activities conducted during Phase 2A including involvement by the stakeholder support committees, a briefing with elected officials in the corridor, project “listening posts”, media and website communications, and a public open house.

Chapter 7 presents recommendations of those options that will be carried forward into Phase 2B for further analysis. Additionally, it provides a brief overview of the goal and intent of Phase 2B in narrowing the alternatives to a shortlist of three or four multimodal alternatives that can be carried into the NEPA environmental analysis. Chapter 7 also presents a short discussion of the development of the refined analysis tools being used to support the Phase 2B planning effort and throughout the remainder of the *I-5 JBLM Vicinity Congestion Relief Study*.

1.4 Study Area

Figure 1-1 illustrates both the corridor focus area along I-5 between the Mounts Road and SR 512 interchanges (the primary study area of the Phase 1 analysis), and the larger influence area that is included in the analysis conducted during Phase 2. Many of the options suggested for consideration during Phase 2A are located outside of the I-5 focus corridor area, involving local roads, state highways and public transportation systems that are within the influence area but can be some distance from I-5.

Figure 1-1. Analysis Influence Area



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2. STUDY PROCESS AND ANALYSIS METHODS

This chapter describes the methodology employed to develop and evaluate the Phase 2A multimodal options. Included in the chapter is:

- A summary of the processes used to **brainstorm** a wide variety of actions and strategies to meet project objectives focusing on improving local connections and multimodal transportation options.
- Highlights of the **screening process** used to identify those most likely to meaningfully contribute to addressing the objectives of the I-5 JBLM study.
- A description of the **evaluation criteria** developed to screen the various options and strategies.

2.1 Identification of Brainstormed Options

In March, 2014, five meetings were held with project stakeholders to brainstorm options and strategies to improve existing and potential future congestion and to address mobility needs along I-5 through the JBLM study area. The meetings included officials and staff from the following stakeholder groups:

- March 17th – City of DuPont, Town of Steilacoom, Pierce County and the Nisqually Tribe
- March 18th – City of Lakewood
- March 19th – JBLM
- March 20th – WSDOT and FHWA
- March 25th – InterCity Transit, Pierce Transit, Sound Transit, JBLM CTR and facility staff, WSDOT CTR and Thurston Regional Planning Council



A similar opportunity was provided to the public-at-large during the study's initial public open house on June 11th, 2014 at Eagle's Pride Golf Course near the south end of the study area. More than 100 citizens attended and several new ideas were added to those already collected during the brainstorming process undertaken with project stakeholders.

The Federal Highway Administration (FHWA) and WSDOT staff also participated in each of these meetings. At each meeting suggested ideas and comments were recorded on flip charts and in a matrix similar to the one shown in Figure 2-1. After collecting ideas at these meetings, they were classified into one of six categories including:

- I-5 Access Options
- Off-Base Local Connectivity Options (roads open to the general public)
- On-Base Local Connectivity Options (roads **not** open to the general public)
- Scenario Modeling Input Options (sensitivity tests)
- Transit Options
- Transportation Demand Management/Transportation System Management & Operations Options (TDM/TSMO)

Figure 2-1. Phase 2A Screening Categories

Phase 1 - Advanced		Phase 2 - Initial Screening of Additional Alternatives				
Mainline Scenarios	Access to Interstate	Local Connectivity		Scenario "Inputs"	Transit	TDM
		JBLM On-Base Roadways	Off-Base Roadways			
<ul style="list-style-type: none"> Scenario 3 - 3 general purpose lanes and 1 HOV lane with CD Roads Scenario 4 - 4 general purpose and 1 HOV lane 	<p>Example:</p> <ul style="list-style-type: none"> HOV only access to/from interchanges (with and with out HOV Lane) 	<p>Example:</p> <ul style="list-style-type: none"> Joint Base Connector for internal circulation 	<p>Example:</p> <ul style="list-style-type: none"> Gravelly to Thorne Connector 	<p>Example:</p> <ul style="list-style-type: none"> Use higher lane capacity/throughput for traffic modeling applications 	<p>Example:</p> <ul style="list-style-type: none"> How many buses required to reduce vehicle travel demand on I-5? 	<p>Example:</p> <ul style="list-style-type: none"> High Occupancy Toll (HOT) Lanes
Interchange Concepts						
<ul style="list-style-type: none"> Berkeley A - Tight Diamond Berkeley B - SPUJ Main A - Full clover leaf with rail grade separated SB off-ramp Main B - Diverging Diamond with realigned I-5 and inter-base connection Main C - Tight diamond with realigned I-5 and inter-base connection Main D - Tight Diamond with realigned I-5 and inter-base connection with both existing gates 						

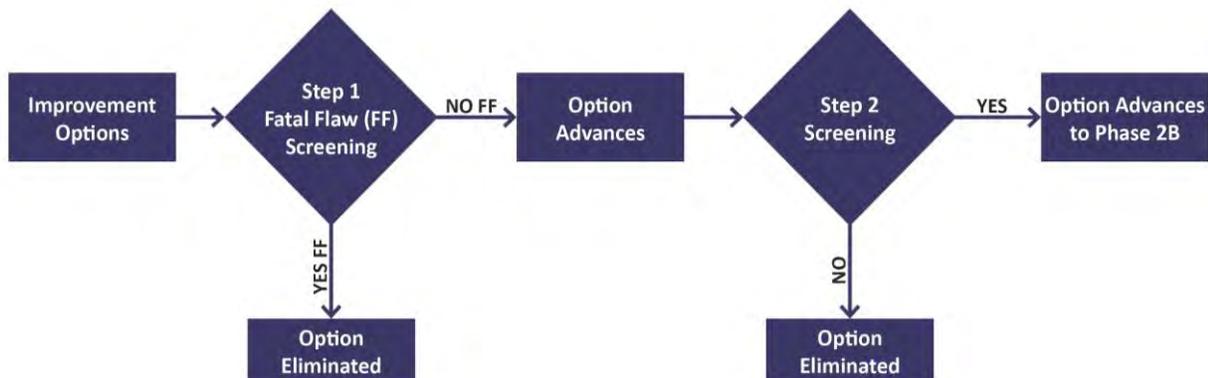
The full list of potential options has been categorized as noted above and is presented in Chapter 3. Each of these options was assessed using the screening process described below.

2.2 Development of a Screening Process

During the Phase 2A screening process, a high level evaluation was conducted to assess the merits of each brainstormed option independently from the other options. This process did not involve a comparison of options against each other, but simply a screening to identify the brainstormed options that had a reasonable potential to meaningfully contribute to relieving congestion on I-5.

The Phase 2A screening process involved a two-step evaluation as illustrated in Figure 2-2. Step 1 evaluated whether the option was fatally flawed. Step 2 included a high-level technical review of the options that advanced from Step 1 to determine if an option would reasonably reduce traffic congestion in the I-5 corridor. Options that passed Step 2 will advance to Phase 2B where they will be further evaluated and combined into alternative packages. This process is more fully described in Section 4.

Figure 2-2. Phase 2A Evaluation Process



The two step evaluation was applied to the following categories of improvements:

- I-5 Access Options
- Off-Base Local Connectivity Options

- On-Base Local Connectivity Options

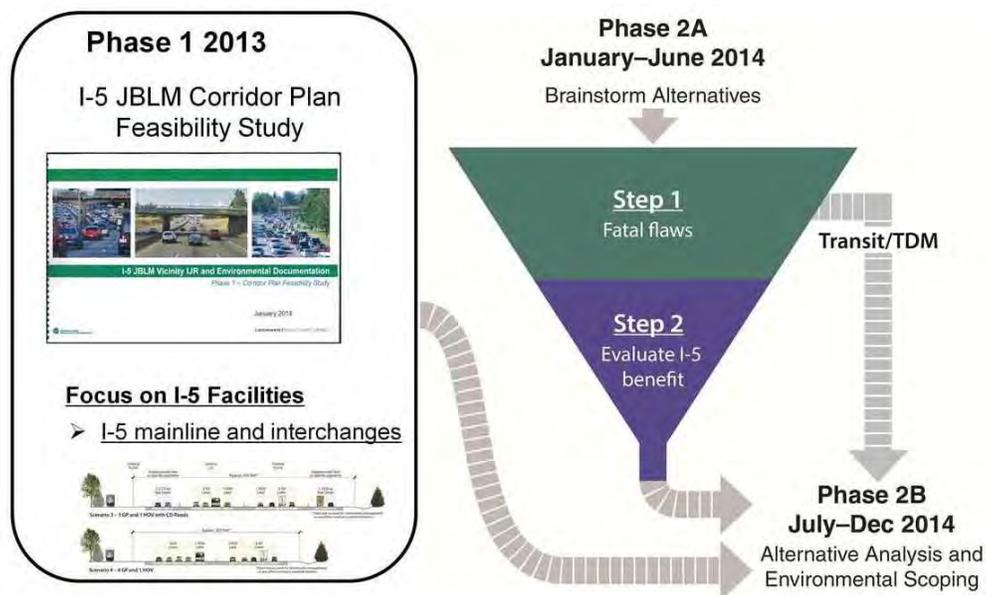
Brainstormed options related to scenario modeling inputs, transit operations, or TDM/TSMO were screened under Step 1 with the most effective options passing directly to Phase 2B because the modeling tools needed to evaluate their effectiveness were not available in Phase 2A. The modeling tools necessary to screen these options were being developed in Phase 2A making deferral of the screening for these options necessary.

Screening criteria were developed in consultation with a Screening Criteria Focus Group that included representatives from WSDOT, Thurston Regional Planning Council, City of Lakewood, JBLM, and FHWA. This group met twice during March 2014 (March 17th and March 27th) to discuss the screening process and appropriate criteria. A key element in the development of the criteria was comparison with a concise statement that defines the overall objectives of the I-5 JBLM study. The statement of project objectives and the development of screening criteria are discussed more fully in Chapter 4. Chapter 5 discusses the results of the screening process using these criteria, which was presented and discussed with both the Technical Support Group and Executive Stakeholder Committee during April of 2014. The Executive Stakeholder Committee endorsed the screening process and applicable criteria.

2.3 Integration of Phase 1 and Phase 2A Options

The graphic below (Figure 2-3) illustrates the process to be used to integrate the results of Phase 1 with Phase 2A. It should be noted that, while all brainstormed options were evaluated during the Step 1 screening, only the options addressing I-5 Access, Off-Base Local Connectivity and On-Base Local Connectivity were assessed in Step 2. Transit, TDM and TSMO options were passed directly to Phase 2B for consideration as multimodal options.

Figure 2-3. Integration of Phase 1 and Phase 2A



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3. DEVELOPMENT OF BRAINSTORMED OPTIONS

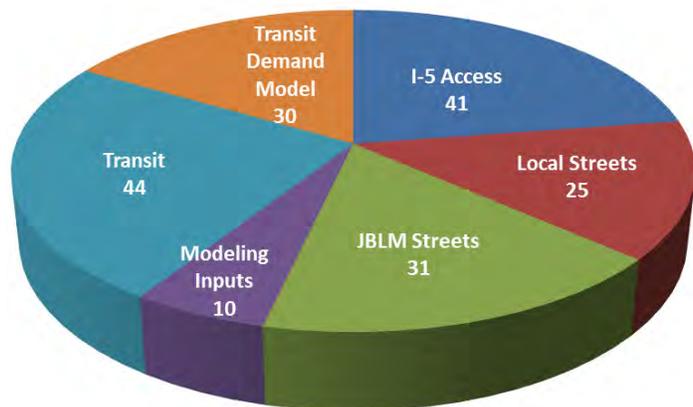
3.1 Overview

Between March 17th and March 25th of 2014, five meetings were held with project stakeholders to brainstorm options that could improve existing and potential future congestion, and address mobility needs along I-5 through the JBLM study area. The meetings were attended by officials and staff from the Cities of DuPont and Lakewood, the Town of Steilacoom, Pierce County, the Nisqually tribe, JBLM, Pierce Transit, InterCity Transit, Sound Transit, and the Thurston Regional Planning Council. Staff from the Federal Highway Administration and WSDOT also participated in these meetings. In addition a public open house was held on June 11th 2014 at which additional ideas were developed.

At each meeting suggested ideas and comments were recorded on flip charts and in a matrix that categorized ideas into six groups including:

- Category A: I-5 Access Options
- Category B: Off-Base Local Connectivity Options (open to general public)
- Category C: On-Base Local Connectivity Options (**not** open to general public)
- Category D: Scenario Input Options (sensitivity tests)
- Category E: Transit Options
- Category F: TDM/TSM Options

Figure 3-1. Brainstormed Options by Category



In total, 181 options were identified during brainstorming meetings and the public open house. As illustrated in Figure 3-1, the number of transit options (44) exceeded the total in any of the other categories, followed closely by options for modified I-5 access (41). Ten options were suggested under the category for Scenario Inputs. These options largely involved the sensitivity of travel forecasts or various operational parameters.

The six categories and suggested options are discussed below. Appendix A includes a detailed list of the brainstormed options organized by category including ideas generated by project stakeholders and by the public through the June 11th Open House and project website (as discussed in Chapter 6)..

3.2 Category A: Access to I-5

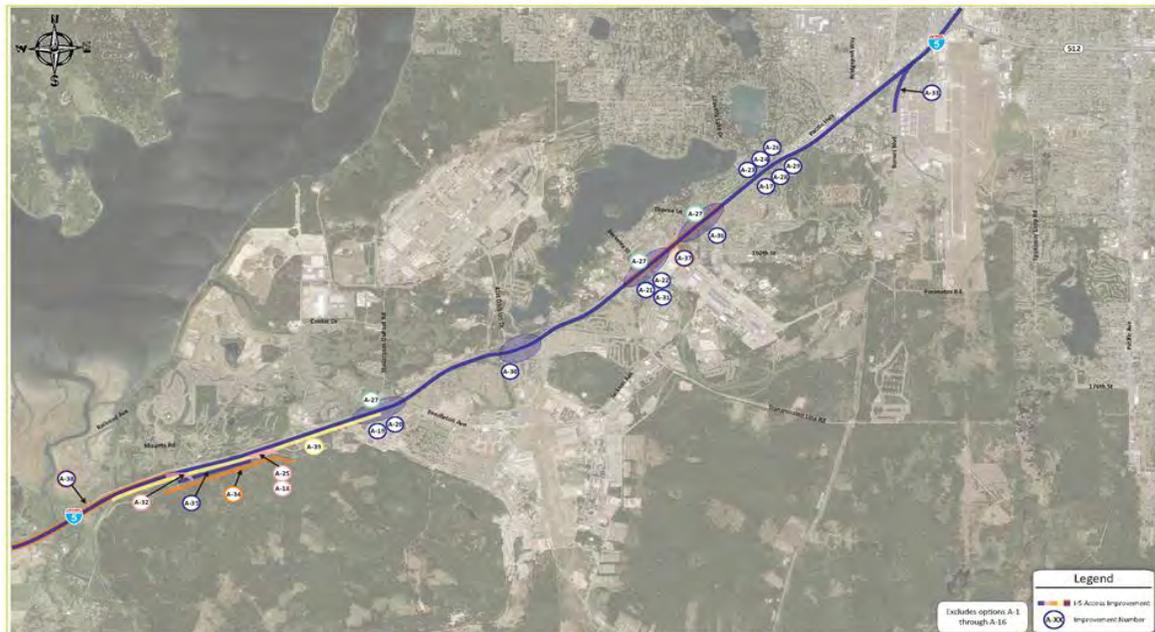
Forty-one options for revising access to I-5 beyond those ideas considered during Phase 1 of the study were included in Category A. These options are illustrated in Figure 3-2 and are summarized below by general category of improvement suggestions:

- Close an interchange (see Chapter 5 for the full size graphics of illustrated options)
- Convert an interchange to HOV-only use
- Modify interchanges to achieve different objectives
 - Direct access to JBLM

- Relocated access to JBLM
 - HOV bypass lanes
 - Allow outbound traffic only at Main Gate interchange
 - Build Berkeley and Thorne interchange tunnels
 - Build a southbound flyover at Mounts Road interchange
 - Close Mounts Road interchange and build a new local road between Old Pacific Highway and Center Drive
 - Route northbound entering traffic from Mounts Road through the weigh station to access I-5 at Center Drive
 - Add new northbound on-ramp at Barnes Road
 - Redesign Exit 119 to restrict movement
- Change the I-5 mainline
 - Add new lanes on I-5 to achieve different objectives (i.e., separate regional and local traffic, accommodate HOVs with access to all or only one interchange, accommodate High Occupancy Trolled (HOT) lanes or, enhance freight mobility)
 - Double deck I-5
 - Replace Thorne and Berkeley overcrossings to allow for peak period hard shoulder running (interim solution)
 - Build new I-5 alignment with a high bridge over the Nisqually Delta to reduce hill climbs in both directions



Figure 3-2. Category A: Access to I-5

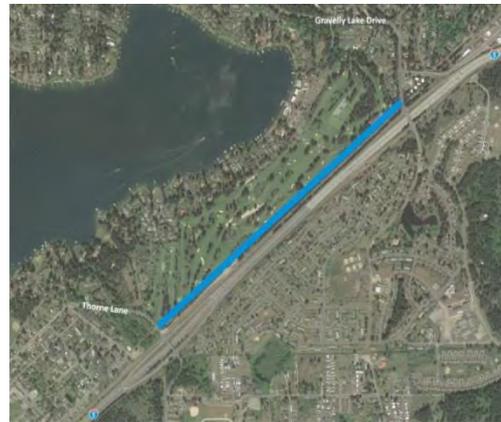


- Improve truck access to/from I-5, remove/modify the weigh station, add a northbound climbing lane for slow-moving trucks between the BNSF bridge and the Steilacoom-DuPont Road interchange
- Build railroad grade-separations adjacent to the interchanges at Berkeley Street, Thorne Lane and Steilacoom-DuPont Road

3.3 Category B: Local (Off-Base) Street Connectivity

Local street connections, improvements, and new local streets that could potentially attract local trips away from the freeway were placed in Category B. These options are illustrated in Figure 3-3. Twenty-five options were suggested during the brainstorming effort and are summarized below:

- DuPont/Steilacoom Streets
 - Hoffman Hill Blvd connection and improvements to Mounts Road
 - Remove truck restrictions on Center Drive
 - New road through Eagles Pride Golf Course between Mounts Road and McNeil Drive.
 - New road along Home Course, Hoffman Hill Boulevard to Center Drive
 - Frontage roads along I-5 between Exit 114 and 119
 - Haskell Street connection (NW Landing to Old DuPont)
 - Widen Steilacoom-DuPont Road
 - Enhance Steilacoom street system
- Lakewood Streets
 - Gravelly Thorne connector
 - Improve North Gate Road, Edgewood and Washington Street to accommodate increased traffic
 - More local street connections over I-5
 - Barnes Road extension over I-5 to Pacific Highway
 - Murray Road/150th Street SW improvements
- Pierce County and Other Locations
 - Improve Old Pacific Highway, Mounts to Nisqually Valley
 - Widen SR 507 and improve the intersection with SR 702
 - Build new road consistent with the eastern end of proposed SR 704, Cross Base alignment/176th Street SW
 - Increase speeds on Perimeter Road (Joint Base Connector to Military Road)



Gravelly Thorne Connector

Figure 3-3. Category B: Local Off-Base Street Connectivity



3.4 Category C: JBLM (On-Base) Street Connectivity

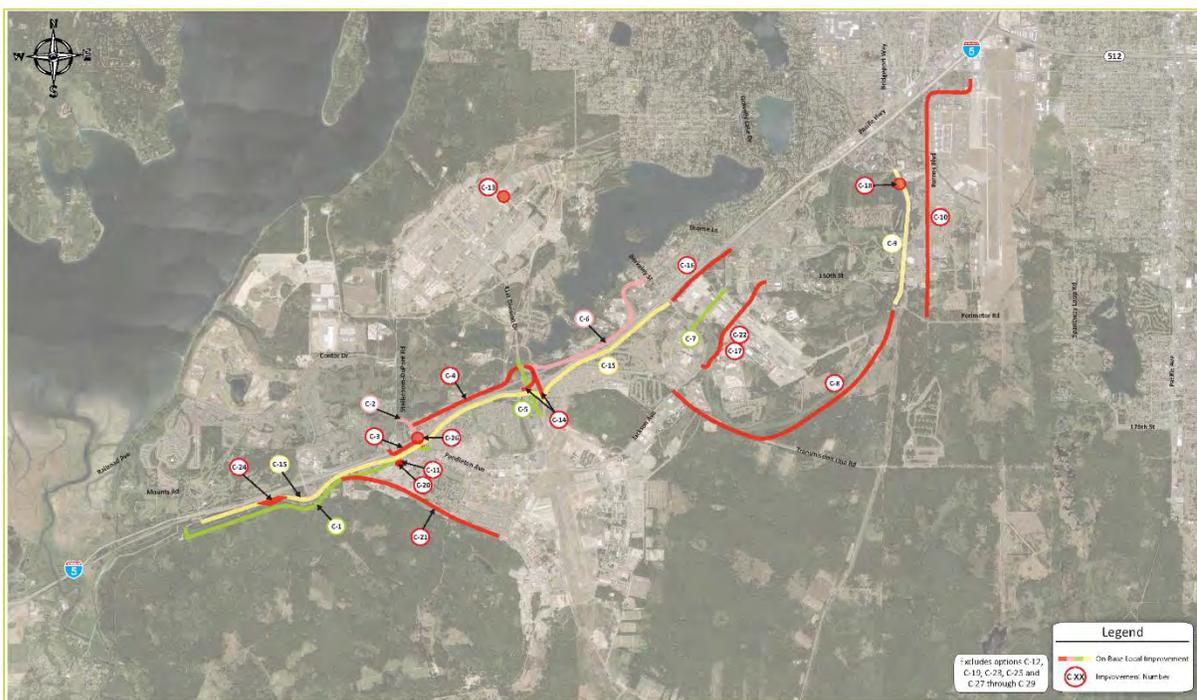
Street improvements within the JBLM secured perimeter that could potentially reduce congestion and improve mobility on I-5 by were placed in Category C and are illustrated in Figure 3-4. The intent of these improvements is to contain more JBLM trips on-base instead of using the freeway. Thirty-one options were suggested during the brainstorming effort which can generally be described as follows.

- New or improved roads
 - Improve Railroad Avenue between Nisqually Gate and extend to Pendleton Avenue on the east side of I-5
 - Improve Main Street between Pendleton Avenue and 41st Division Drive
 - Build the Joint Base Connector between Lewis Main and McChord Field
 - Extend South A Road to Jackson Avenue to improve the connection to the Logistics Gate
 - Extend Fairway Road in McChord area
 - Improve Barnes Road in the McChord area
 - Provide a new inter-base connector road from Lewis Main to Lewis North



- Extend Transmission Line Road to 176th
- Provide a new Joint Base connection through Logistics Center (tunnel)
- Add a new JBLM road crossing of I-5 to link east and west sides of facility
- Additions, modifications and/or relocations of Access Control Points (ACPs or JBLM gates)
 - Close Madigan Gate and build an extension road to Thorne Lane
 - Modify gates to accommodate added vehicle queuing, HOV bypass lanes, HOV-only access
 - Close D Gate (Lewis North) to improve local street operations

Figure 3-4. Category C: Local On-Base Street Connectivity



3.5 Category D: Scenario Inputs

Ideas regarding sensitivity of growth rates, and traffic modeling and operations analysis to different assumptions or parameters were placed in Category D. Ten options were suggested during the brainstorming effort that are generally described as follows.

- Assume higher hourly capacity for travel lanes on I-5 to potentially test the effects of greater operational efficiency
- Verify the population and employment forecasts assumed in the study area travel model to ensure that they are consistent with the recently completed JBLM master plan
- Revise the level of service standard on I-5 and accept more delay as a normal operating condition
- Increase JBLM resident population from the current 24% of military employees to 30% to reduce off-base peak period travel

- Evaluate effects on I-5 of regional Ports (Tacoma and Seattle) and industrial development
- Require all active duty personnel live on-base
- Assess impacts on the economic competitiveness of the region resulting from increasing delay of freight traffic
- “Right-size” planning projects
- Gain a better understanding of JBLM home-to-work trip patterns and magnitude
- Relocate JBLM off the I-5 corridor

3.6 Category E: Transit

Options related to improved transit service within the study area to reduce congestion and delays on I-5 were placed in Category E. Forty-four options were suggested during the brainstorming effort which can generally be described as follows.

- Expand off-Base bus service/operations
- Expand on-Base transit service
- Increase rail service
- Add rail service between Yelm and Puyallup
- Increase vanpooling
- Improve park-and-ride facilities
- Add transit stops and stations
- Address transit funding and organizational structure



3.7 Category F: Transportation Demand Management/Transportation System Management & Operations (TDM/TSMO)

Options that provide alternatives to non-Single Occupant Automobile use for travelers in and through the study area, and/or that improve the operational efficiency of the existing transportation system, were placed in Category F. Thirty options were suggested during the brainstorming effort which can generally be described as follows.

- Facilities to improve travel time competitiveness for High Occupancy Vehicles (HOVs) and/or to implement HOV facilities that require SOVs to pay to use (HOT or High Occupancy Toll facilities).
- Congestion pricing for all I-5 lanes
- Improvements to freeway and arterial operations
- Direct traffic with JBLM personnel instead of signals
- Transportation Demand Management / Commute Trip Reduction actions
- Incident management strategies
- Bicycle and small vehicle (golf cart) systems
- Ban all trucks over 12,000 GVW from I-5 during peak commute hours
- Land use strategies to reduce trips
- Parking strategies to encourage shared use vehicles

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4. DEVELOPMENT OF SCREENING CRITERIA

This chapter presents the methodology and screening criteria that was used to complete the Phase 2A evaluation. The chapter begins by presenting the Project Definition Statement, which describes the primary purpose of the I-5 JBLM study and serves as the basis for screening study options. The chapter also summarizes the two-step screening process and related criteria. As noted earlier, Phase 1 options for I-5 mainline and interchanges are on hold for future (Phase 2B) analysis and are not affected by the screening process described in this report.

4.1 Project Definition Statement

The project definition statement describes the objectives of the I-5 JBLM study to guide the screening of Phase 2 options. The statement also provides a short background on the primary nature of the corridor problems to be addressed.

What is the Objective of the Project?

The project will relieve chronic traffic congestion, and improve people and freight mobility along Interstate 5 in the vicinity of JBLM while providing access to the communities and military installations neighboring the freeway.

What is the Nature of the Problem?

Traffic volumes on the corridor increased by 73 percent between 1986 and 2011 resulting in daily heavy traffic congestion (stop-and-go conditions) levels during weekday morning and evening peak periods, as well as Sunday afternoons during summer months. Most of the traffic growth in the corridor occurred before 2003, and is a result of rapid growth in employment and the resident population in the state and region. JBLM, a secure military facility, is the largest single site employer in the state of Washington and is located along the study corridor.

Contributors to the demand for travel in the corridor are both regional and local. Factors contributing to the chronic traffic congestion include the following:

- There is heavy existing and expected future through traffic volume traveling between Lacey/Olympia and points south to Tacoma/Seattle and points north;
- The presence of military base security requirements, and environmental and right-of-way constraints, limit travel opportunities other than along I-5 through and within the area;
- There are nine closely spaced interchanges along I-5 within the eleven-mile study area. These are subject to high entering and exiting traffic volumes;
- There is a high volume of vehicle trips to/from the cities of DuPont and Lakewood, and JBLM that use Interstate 5;
- A high number of vehicles use I-5 for local and short distance travel in the project area; and
- There are two fewer travel lanes on I-5 south of the Thorne Lane Interchange than there are to the north (eight lanes north of Thorne Lane and six lanes south of Thorne Lane).

4.2 Phase 2A Screening Criteria

The initial review of the 181 options included two evaluation screens: a Fatal Flaw Screening and Screening to Measure Effectiveness in Addressing I-5 Congestion and Mobility.

4.2.1 Step 1 – Fatal Flaw Screening

Key Question: Is the option fatally-flawed and should it not be further considered?

The first screening step involved a qualitative review to determine if the option had any fatal flaws with respect to regulatory and legal considerations, operational or security feasibility, and general reasonableness and feasibility. Each option was reviewed independently to determine if it had merit as a stand-alone improvement. Results of this first step screening results were documented as:

-  Green – Passes the fatal flaw assessment, goes to next step
-  Yellow – Not enough information or there are likely issues/concerns, goes to the next step
-  Red – Option is fatally flawed and eliminated from further consideration
-  Blue – Already being evaluated or part of another option

If an option did not pass this fatal flaw screening and was flagged red, then the option was dropped from further consideration; however, an exception was made if the option was judged to have potential merit if combined with other options. This exception applied to 12 of the 181 evaluated options.

The following criteria were used for the fatal flaw screening:

- Regulatory/Legal – *Are there regulatory or legal requirements that would preclude the implementation of this option?* If No, then the option was flagged green. If yes, then the magnitude, nature or lack of flexibility to overcome or mitigate this issue determined whether an option was flagged as yellow or red. If it was judged to have minor issues then it was flagged yellow. If the option had serious regulatory/legal issues, then it was flagged red and eliminated from further consideration as a stand-alone option.
- Operating / Security Feasibility – *Are there operational or security reasons that would make the option infeasible to implement?* The operational and security assessment focused on three basic considerations:
 - Operational reasons associated with the I-5 mainline.
 - Operational reasons associated with the local street system (both local communities and JBLM) such as traffic overload on neighborhood streets.
 - Reasons associated with military security on JBLM and/or Camp Murray
- Reasonableness and Feasibility – *Would the option reasonably contribute to improving existing and potential future congestion and mobility problems on I-5 in the study area and/or is the option generally feasible to implement?*
- Potential for Combination with Other Options – *This criterion assessed if the option, when combined with another option(s) could have some reasonable potential for improving existing and potential future congestion and mobility problems on I-5 in the study area.*

4.2.2 Step 2 – Screening to Measure Effectiveness in Addressing I-5 Congestion and Mobility

Key Question: Does the option reasonably address I-5 congestion and mobility through the JBLM area while avoiding adverse local street impacts?

The second step of the Phase 2A screening process assessed the effectiveness of various options in relieving congestion and improving multimodal mobility along the I-5 corridor in the JBLM vicinity using both quantitative and qualitative information. Quantitative data were obtained from the updated 2014 travel demand model (which incorporates the data collected in the origin-destination study¹). By using the model base year for analysis, the benefit or impact of a proposed improvement option on today's congestion can be assessed by comparing no-build conditions in the base year and conditions with an option. Based on the comparison, a determination can be made as to whether an option would reasonably contribute to reducing congestion and improving mobility along I-5.

Quantitative criteria also addressed both traffic volumes and speeds, and focused on potential changes between the 2014 PM peak hour baseline condition and conditions with an option if it had been implemented in 2014. There were four proposed criteria for volumes and one criterion for speeds. Quantitative criteria were assessed for the three-hour PM peak period, though for ease of interpretation the resulting data were illustrated as a one-hour period. Qualitative criteria focused on other broad concerns or considerations, including Consistency with Plans and Policies, Known Environmental Issues and General Observations.

The following is a list of the criteria that were used in the second step of Phase 2A screening. The intended purpose of each criterion in conducting this high level screening is also noted.

<u>Step 2 Screening Criteria</u>	<u>Purpose</u>
Change in Traffic Volumes in General Purpose Lanes along I-5 Mainline	Determine degree of potential effectiveness in addressing congestion/mobility needs of I-5
Change in Traffic Volumes at I-5 interchanges	Determine magnitude of potential impacts at I-5 interchanges – collectively and specifically
Change in Local Off-Base Street Traffic Volume	Determine degree of potential benefits/ impacts on local streets in study area. Seek to avoid major negative impacts
Change in Local On-Base Street Traffic Volume	Determine degree of potential benefits/ impacts on streets within JBLM. Seek to avoid major negative impacts
Change in Speed in General Purpose Lanes along I-5	Determine degree of potential effectiveness in addressing congestion/mobility needs of I-5
Consistency with Plans and Policies	Identify potential magnitude of adopted Plan or policy changes that might be needed to advance an option
Readily Apparent Environmental Impacts	At a scanning level, identify potential impacts to be avoided, minimized or mitigated
General Comments	Address any issue of importance not previously covered

¹ See *I-5 JBLM Vicinity Congestion Relief Study Travel Patterns and Characteristics*, WSDOT Olympic Region, June 2014

The quantitative data used in estimating performance were obtained from the enhanced 2014 I-5 JBLM travel demand model (incorporating recently gathered origin-destination data). These data have not been refined to directly correlate to existing speeds or volumes, but were used to assess the general benefit of the proposed improvement. A more detailed analysis will be conducted during Phase 2B through the use of a mesoscopic travel demand model. For the Phase 2A, Step 2 analysis, traffic volume information was treated only as relative data for use in comparing an option to the 2014 baseline condition. Some of the criteria below were not applicable for all brainstormed options. For this second-step evaluation, these criteria were applied as discussed below.

- **Change in Traffic Volumes in General Purpose (GP) Lanes along I-5 and at Interchanges:** The average change in directional peak hour traffic volumes along I-5 was calculated using the 2014 PM peak period travel demand model between the Mounts Road and Bridgeport Way interchanges, and comparing the results to the projected 2014 PM peak hour volumes with a specific option. The maximum volume change location along I-5 was also identified. These data were considered a representative measure for both person and truck mobility.

Because the existing high level of entering and exiting traffic affects I-5 operations, the absolute change in total interchange volumes was similarly calculated for all on and off ramps to determine whether the option would result in any significant change in these volumes (and, thus, affect potential levels of congestion). The location with the maximum change in interchange volumes was also determined.

In general, a decrease in volume signified improved I-5 operations; whereas, an increase in volume can result in increased congestion along portions of the I-5 mainline.

- **Change in Local Off-Base Street Volume:** To assess the impact of the various options relative to local off-Base street volumes (i.e., traffic on roads outside of JBLM), two screenlines were used; one through the Lakewood area and one through the DuPont area (see Figures 4-1 and 4-2, respectively).

Lakewood Area Screenline

- Pacific Highway north of Gravelly Lake Dr.
- Nyanza Road north of Gravelly Lake Dr.
- North Gate/Huggins-Meyer Rd. south of Washington Blvd

DuPont Area Screenline

- Steilacoom-DuPont Road North of Pendleton Ave.
- Center Drive north of Haskell Street
- McNeil Street south of Bobs Hallow Lane

Traffic volumes for each option on the roadways crossing this line were totaled by direction and compared to baseline conditions. This analysis provided a means of comparing aggregated changes in travel usage on local roadways associated with the various brainstormed options. An aggregation of these data is appropriate for this level of screening. More detailed and specific intersection and/or roadway operations analysis will be conducted in Phase 2B.

For each screenline, the modeled volumes during the PM peak hour were used to assess the change in local traffic. It should be noted that if an option improves traffic operations and mobility on I-5 but has significant impacts on local streets, this was considered to be a potential fatal flaw. Alternatively, options that improved local traffic circulation without benefiting I-5 would not meet the objectives of this project and typically were not carried forward.

Traffic estimates from the 2014 baseline travel demand model without the option were compared to traffic estimates from the 2014 baseline travel demand model with the option. The streets and locations used for these screenlines are listed below.

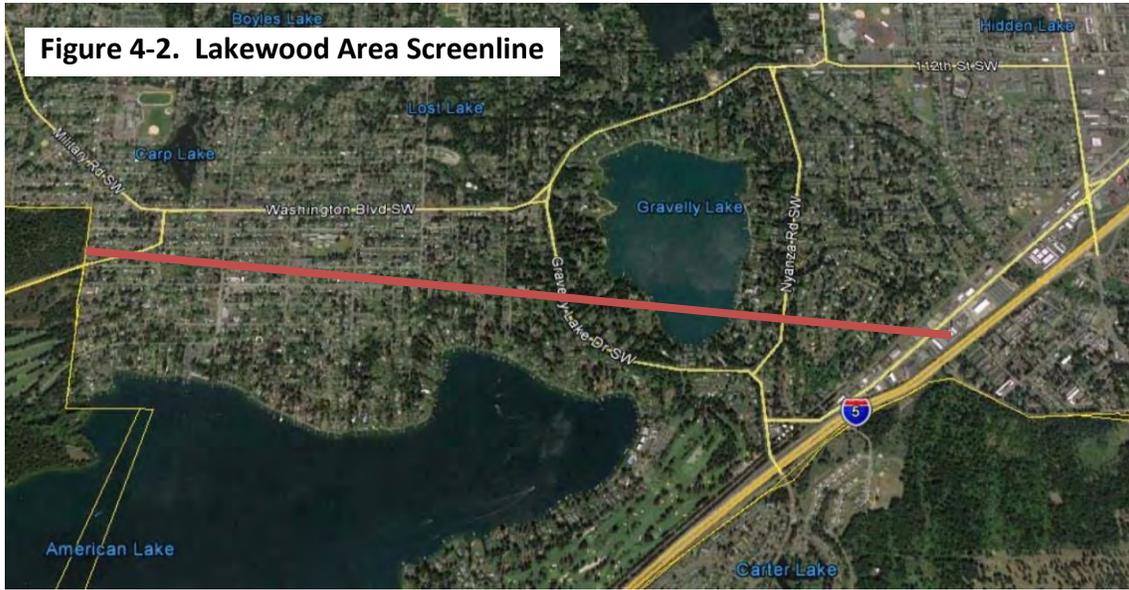


Figure 4-2. Lakewood Area Screenline

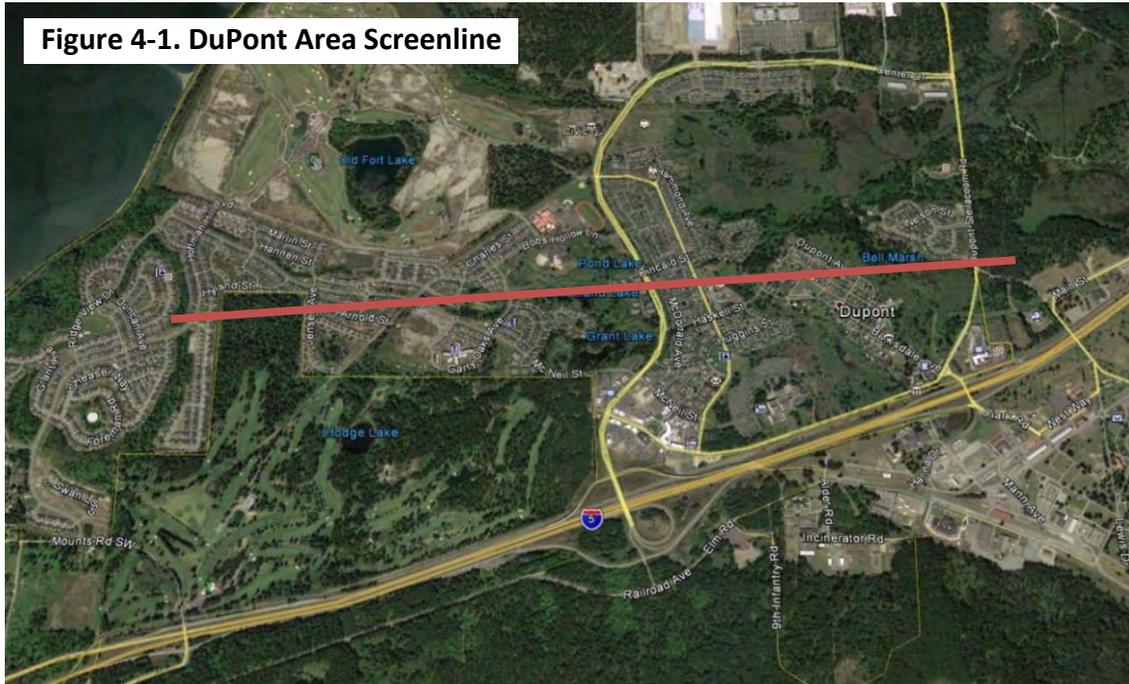


Figure 4-1. DuPont Area Screenline

In general, higher traffic volumes across the off-Base screenlines were interpreted to indicate that more trips would use local roadways to access their destination or for longer portions of their travel, thus reducing trips on I-5. Lower volumes across the off-Base screenlines may indicate that more trips would use I-5; however, large increases in traffic across the off-Base screenlines may also result in added congestion on local streets.

- Change in Local On-Base Street Volume:** To assess the impact to local on-Base street volumes (i.e., traffic circulating within the JBLM perimeter), three additional screenlines were used; one through the McChord Field area, one through the Lewis Main area, and one through the Lewis

North area (see Figures 4-3, and 4-4, respectively). For each screenline, the modeled volumes during the PM peak hour were used to assess changes in local on-Base traffic. Traffic estimates from the 2014 baseline travel demand model without the option were compared to traffic estimates from the 2014 baseline travel demand model with the option. The streets and locations used for these screenlines are listed below.

McChord Field Screenline

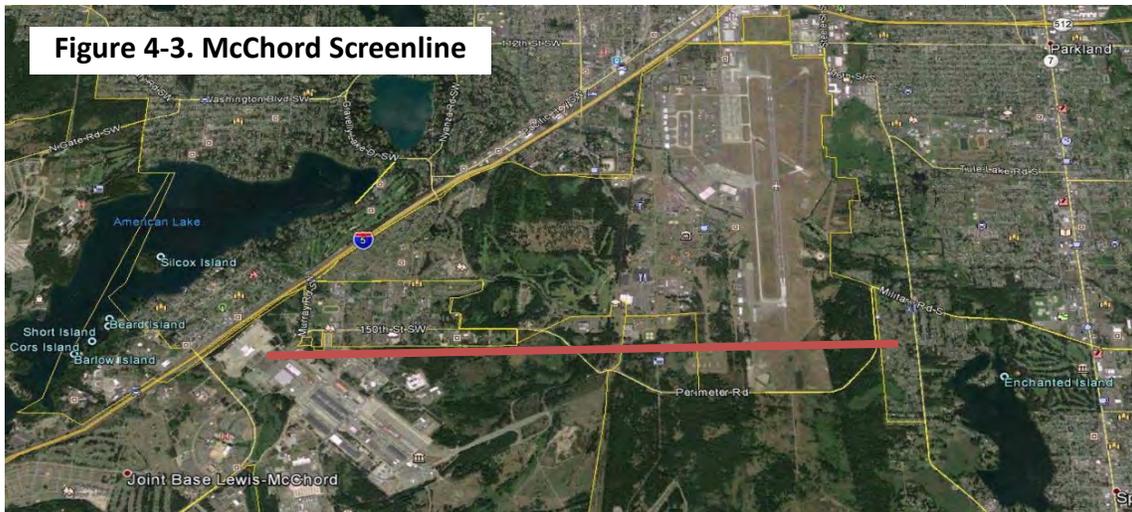
- Murray Road south of 150th Avenue
- 150th Avenue north of Lincoln Road
- E. Lincoln Road north of Perimeter Road
- Barnes Road south of Lincoln Blvd SW
- Perimeter Road south of Military Road

Lewis Main Screenline

- Clark Road east of I-5
- Pendleton Avenue east of I-5
- 41st Division Drive east of I-5
- Jackson Avenue east of I-5
- Elm Road / Railroad Avenue

Lewis North Screenline

- Steilacoom-DuPont Rd. near future Integrity Gate
- Vancouver Road
- 41st Division Drive



In general, the JBLM screenlines were designed to capture changes in major traffic movement patterns on the Base. The McChord Field screenline is intended to identify major travel patterns paralleling I-5, largely between Lewis Main and McChord Field. Higher traffic volumes across this screenline were interpreted as showing that more trips would use internal base roads to travel north and south between the Army and Air Force installations, and may indicate that fewer local trips would be made on I-5. Lower volumes on this on-base screenline may indicate more trips on I-5.

Conversely, the Lewis Main screenline was developed to gauge the number of Lewis Main trips crossing or accessing I-5. For this screenline, higher traffic volumes across the screenline were interpreted as showing more traffic crossing or accessing I-5 than using internal base roads. Lower traffic volumes across this screenline may indicate a higher usage of internal base roads

and fewer trips on I-5 or more trips would use on-base roadways for longer portions of their travel.



Similarly, the Lewis North screenline was also developed to gauge the amount of Lewis North trips entering and leaving Lewis North. For this screenline, higher traffic volumes across the screenline would show more traffic entering and leaving that may cross or access I-5 than using internal base roads. Lower traffic volumes across this screenline may indicate a higher usage of internal base roads and fewer trips on I-5 or more trips using on-base roadways for longer portions of their travel.

- **Change in Speed in General Purpose Lanes along I-5:** The average change in I-5 PM peak period speed was calculated along I-5 between the Mounts Road and Bridgeport Way interchanges using travel speeds from the existing 2014 PM peak period travel demand model and comparing these speeds to projected 2014 PM peak period speeds with the option. The location with the maximum change in speed along I-5 was also identified and the change calculated. These data were considered to be representative measures for both passenger and truck travel.

In general, an increase in speed may signify better operations along I-5; whereas, a decrease in speed might signify poorer I-5 operations.

- **Other Considerations:** These are described in the bullets below.
 - **Consistency with Adopted Plans and Policies:** This criterion determined if the option is currently on and/or consistent with existing short-range or long-range state, regional or local plans. The following Plans were reviewed:
 - WSDOT's Highway System Plan
 - WSDOT's Capital Improvement and Preservation Program
 - The Washington Transportation Plan
 - Lakewood's Comprehensive Plan
 - Lakewood's Six-Year Improvement Plan
 - Steilacoom's Comprehensive Plan
 - Steilacoom's Six-Year Improvement Plan

- DuPont’s Comprehensive Plan
- DuPont’s Six-Year Improvement Plan
- Pierce County’s Comprehensive Plan
- Pierce County’s Six-Year Improvement Plan
- PSRC’s Comprehensive Plan
- JBLM’s Master Plan
- Pierce Transit Plans
- InterCity Transit Plans
- Sound Transit Plans
- Camp Murray Plans

Consistency with these plans would demonstrate that the option has agency and public acceptance and support. Not being included in these plans does not eliminate the option, but it shows that more agency and public review is required to gain their support for the option.

- Readily Apparent Environmental Impacts: This criterion is a qualitative assessment based on available environmental data at hand or quickly gathered to determine if there are potential environmental resources or considerations that would be significantly affected by the implementation of the option. These issues may include: wetlands and streams, federally listed species, hazardous materials, cultural/historic resources, socio-economics and environmental justice.

In general, a higher level of known environmental impacts indicates more mitigation may be required along with potentially higher cost; whereas, a lower level of known environmental impact may require lesser mitigation and lower cost.

- General Comments: This analysis included a qualitative assessment of other considerations and challenges, such as general economic benefits, community impacts, political issues, changes in policies, or the potential for cumulative benefits when an option is combined with other options.

All quantitative and qualitative information developed for the Step 2 screening was summarized in the template form presented in Figure 4-5. One of these forms was prepared for each option considered under Step 2, and completed forms are included in Appendix D.

Project Screening Thresholds

Project screening thresholds describe when an option is considered to be sufficiently effective to warrant being carried forward into Phase 2B. These thresholds were applied only to quantitative criteria and provided the basis for categorizing options as:

- Beneficial to I-5, minimal adverse effects on local streets 
- Minimal benefit to I-5 
- Little or no benefit to I-5, possible adverse impact to I-5 or local streets 

These categories are described below in Figure 4-6 for criteria that measure volumes or speeds.

Figure 4-5. Step 2 Screening Data Form



**I-5 JBLM Alternatives Analysis
Screening Evaluation Form**

**Summary of Phase 2A Step 2
Screening Results**

Option Number & Name:			Option Map:			
Option Category:						
Option Limits:						
Option Description:						
Criteria	Location	2013 PM Peak Hour Baseline Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volumes in GP Lanes (NB & SB)</i>	Along Corridor					
<i>Maximum Volume Change Location in GP Lanes (NB & SB)</i>	Specific Location					
<i>Total Volumes at All Interchanges</i>	Ons					
	Offs					
<i>Interchange(s) with Maximum Volume Change</i>	Location	Ons				
		Offs				
<i>Local Street Volume-Off Base Screenline</i>	Lakewood Screenline					
<i>Local Street Volume-Off Base Screenline</i>	DuPont Screenline					
<i>Local Street Volume – On Base Screenline</i>	McChord Field Screenline					
<i>Local Street Volume – On Base Screenline</i>	Lewis Main Screenline					
<i>Local Street Volume – On Base Screenline</i>	Lewis North Screenline					
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor					
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Specific Location					
<i>Consistency with Plans & Policies</i>						
<i>Known Environmental Issues</i>						
<i>General Comments</i>						
Conclusion:						
Combination Potential						

Figure 4-6. Step 2 Quantitative Screening Thresholds

<u>Decrease in GP Mainline Volumes</u>		<u>Increase in GP Mainline Speeds</u>		<u>Increase in Off-Base and Lewis Main & Lewis North Screenline Volumes</u>		<u>Increase in McChord Screenline Volumes</u>	
 < 300 vph	 < +5 mph	 > 600 vph	 < 150 vph				
 300 to 900 vph	 +5 to +10 mph	 300 to 600 vph	 150 to 300 vph				
 > 900 vph	 > +10 mph	 < 300 vph	 > 300 vph				

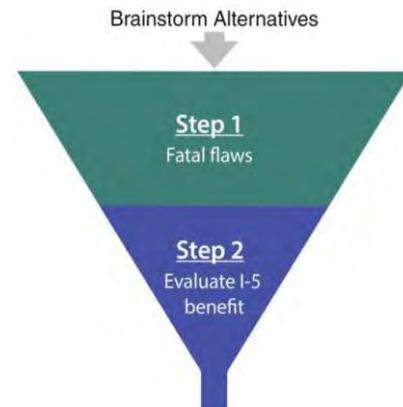
For the qualitative criteria, the same Step 1 and 2 assessment approach was used where conclusions were expressed as:

- **Green** – Provides benefit with minimal impacts, passes to Phase 2B
- **Yellow** – Appears to provide some benefit but not enough information is currently available or there are likely issues/concerns, but will advance to Phase 2B for further analysis
- **Red** – Provides little benefit and/or contains serious impacts, option is eliminated from further consideration

5. SCREENING RESULTS

5.1 Overview

All of the 181 options identified, 173 from the five brainstorming sessions, as well as the eight new options identified at the June 11th public Open House, were evaluated using the Step 1 screening process. For the Step 2 screening process only the surviving options in Category A (I-5 Access Options), Category B (Off-Base Local Connectivity Options), and Category C (On-Base Local Connectivity Options) were evaluated. Category D, E and F options (respectively, Scenario Modeling Inputs, Transit and Transportation Demand Management/Operations) that passed Step 1 screening were automatically passed to Phase 2B. In future analyses, the newly available forecasting and analysis tools will be used to conduct more detailed evaluations of the benefits and impacts associated with these actions.



With completion of the Phase 2A process, options still under consideration will be advanced to Phase 2B. During Phase 2B, these options will be combined with other brainstormed options and the recommendations from Phase 1 (I-5 mainline and interchange improvements) to form alternative improvement packages. These packages will be evaluated using a range of technical analysis tools and in-depth criteria that will be developed in consultation with project stakeholders in the next phase of work.

5.2 Step 1 (Fatal Flaw) Screening Results

The breakdown of Step 1 screening results is shown in Table 5-1 below. Out of the 181 options that came out of the various brainstorming sessions and the June 11th public open house, fifty-one passed the fatal flaw screening as potential stand-alone options to be further evaluated in Step 2. Twelve passed fatal flaw screening if they were combined with another option and thirty-six were eliminated from further consideration. A significant share of the options were grouped with each other since many had similar elements, or it was determined that they would be a logical part of any package of improvement options that would be carried forward and did not need to be further evaluated. For example, ‘Improve bus service to JBLM’, and ‘Improve bus service to Thurston County’ were assigned specific routing and headways and grouped together with other general transit service improvements for analysis in Phase 2B.



More detailed information about the analysis of the options in Categories A through F is presented in Tables 5-2 through 5-7. Maps showing the location and general limits of many options are presented in Figures 5-1 through 5-4. This information is supported by detailed matrices included in Appendix B.

Table 5-1. Summary of Phase 2A, Step 1 (Fatal Flaw) Screening Results

Category	Advance	Failed Step 1 (Fatally Flawed)		Already Considered	Grouped with Other Options*	Total Screened
		Could Combine	Eliminate			
A – I-5 Access	10	7	16	8	0	41
B – Local Public Streets	18	0	3	1	3	25
C – Local JBLM Streets	16	1	5	8	1	31
D – Inputs	0	3	3	4	0	10
E – Transit	6	1	11	10	16	44
F – TDM/TSMO	1	3	6	8	12	30
Totals	51	15	44	39	32	181

*Not included in the following tables. See Appendix B for a full list of options

Table 5-2. Step 1 Screening Results for Category A: I-5 Access Options

Category A - I-5 Access



Passed Step 1 (fatal flaw) screen

Will go through Step 2 screening.

#	Option Name
A-4	Close Main Gate Interchange
A-12	HOV only Access at Main Gate Interchange
A-13	HOV only Access at Berkeley Street Interchange
A-15	HOV only Access at Gravelly Lake Drive Interchange
A-17	Barrier Separated Express Lanes on I-5
A-25	Move Weigh Station
A-30	Remove I-5 off-ramps at Main Gate Interchange, Improve Steilacoom-DuPont and Berkeley Interchanges
A-34	Close Mounts Road Interchange and add new public road from Mounts Road to Center Drive
A-35	Re-route NB on-ramp from Mounts Road through Weigh Station and connect to Center Drive on-ramp
A-39	Add I-5 Northbound Climbing Lane

Failed Step 1 (fatal flaw) screen

May be considered in Phase 2B in combination with other options.

#	Option Name
A-1	Close Mounts Road Interchange
A-5	Close Berkeley Street Interchange
A-6	Close Thorne Lane Interchange
A-7	Close Gravelly Lake Dr. Interchange
A-14	HOV only Access at Thorne Lane Interchange
A-22	Texas Tee at Berkeley Interchange
A-23	Add Freight Only Lanes to I-5

No potential for combination with other options

#	Option Name
A-2	Close Center Drive Interchange
A-3	Close Steilacoom-DuPont Interchange
A-8	Close Bridgeport Way Interchange
A-9	HOV only Access at Mounts Road Interchange
A-10	HOV only Access at Center Drive Interchange
A-11	HOV only Access at Steilacoom-DuPont Interchange
A-16	HOV only Access at Bridgeport Way Interchange
A-18	Access to JBLM through weigh station
A-19	Truck Only Access at Steilacoom-DuPont Interchange
A-21	Add Direct Access Ramps from I-5 to Madigan Hospital
A-28	Double Deck I-5 through project area
A-32	Add SB Fly-over at Mounts Road Interchange
A-33	Add new on-ramp from Barnes Blvd
A-38	New I-5 bridge from Mounts Road to north of Meridian
15A	Build Berkeley & Thorne interchange tunnels
18A	Redesign Exit 119 to restrict movements

Included with Another Option Already being Considered

#	Option Name
A-20	Improve Truck Access at Steilacoom-DuPont Interchange
A-24	HOV By-pass Ramps at all Interchanges
A-26	HOV only lanes from Tacoma to Thurston County
A-27	Railroad grade separations at Berkeley, Thorne and Steilacoom-DuPont Interchanges
A-29	Barrier Separated HOV Lanes with only one access point in project area
A-31	Check I-5 Sight-Distance at Berkeley Interchange
A-36	Incentivise use of Thorne Lane Interchange
A-37	Replace Berkeley Street and Thorne Lane Interchanges to allow hard shoulder running

Color Key

	Passes fatal flaw assessment, proceeds for further analysis
	Not enough information to determine effectiveness, advances to Step 2 for further analysis
	Fatally-flawed as a stand alone solution. May have potential when combined with other options
	Already a component of other options being studied

Figure 5-1. I-5 Access Improvement Opt

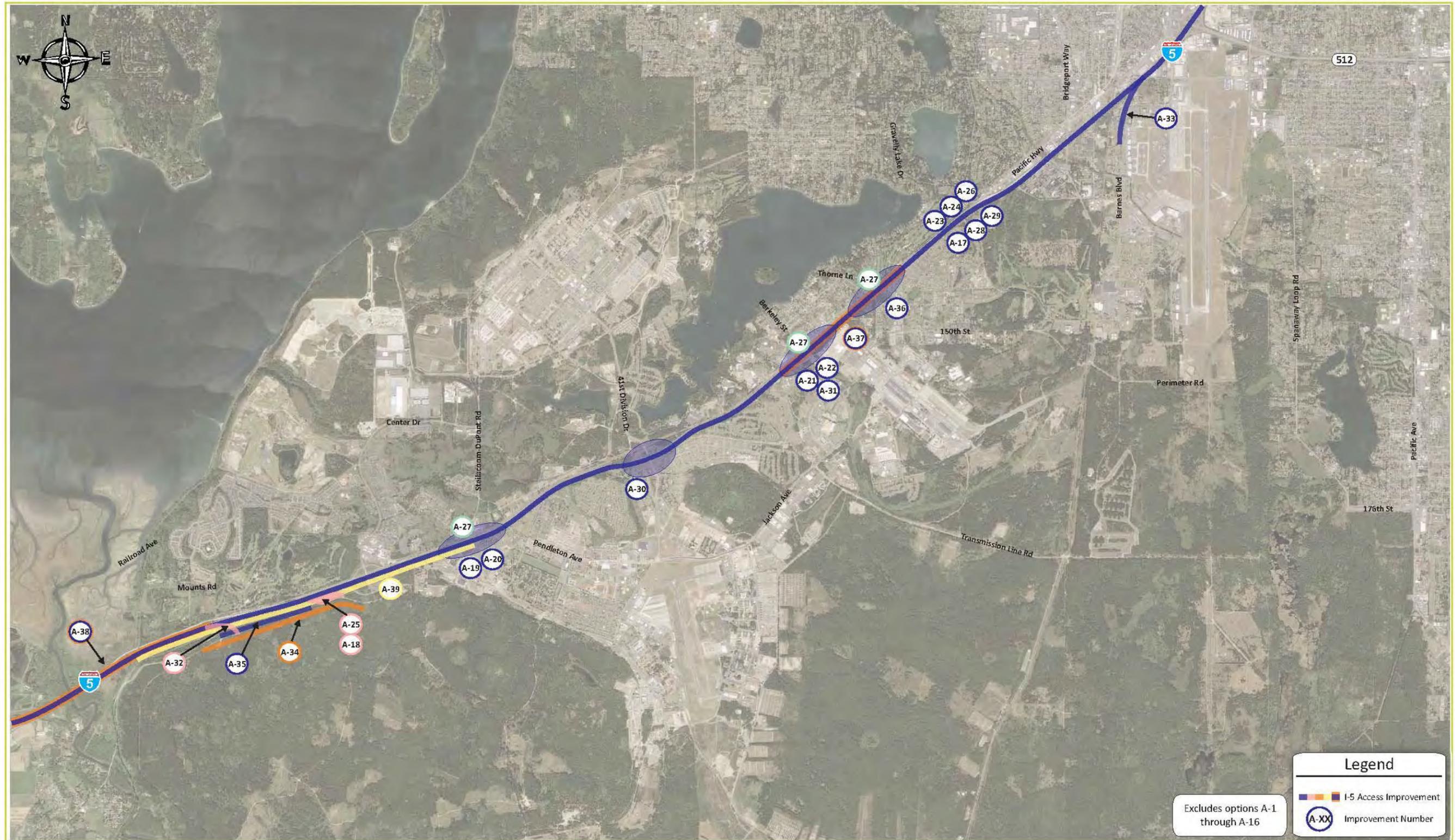


Table 5-3. Step 1 Screening Results for Category B: Local Connectivity Off-Base Options

Category B - Local Connectivity - Off-Base



Passed Step 1 (fatal flaw) screen

Will go through screening Step 2.

#	Option Name
B-1	Hoffman Hill Boulevard Extension
B-3	Gravelly Lake Connector
B-4	Remove truck Restrictions on Center Drive
B-5	Improve Old Pacific Highway, Kuhlman Road to 7th Avenue
B-6	Improve Old Pacific Highway, Mounts Road to Nisqually River
B-7	New Road through Eagles Pride Golf Course
B-8	New Road along Home Course between McNeil and Center
B-9	Haskell Street Connection
B-10	Improve Steilacoom-DuPont Road
B-11a	Murray Road/150th Street SW Improvements, I-5 to Perimeter Road
B-12	North Gate Road/Edgewood/ Washington Street Improvements
B-13	Improve SR 507, JBLM East Gate through McKenna
B-15	Add more local street connections over I-5
B-16	Barnes Blvd Extension from Barnes/West intersection to Pacific Highway
B-17	New higher speed road from Joint Base Connector Road to 176th Street SE @ SR 7
B-17a	New higher speed road from Joint Base Connector Road to 176th Street SE @ SR 7 plus Joint Base Connector Road
B-21	Railroad Avenue/Perimeter Road, Mounts Road to Center Drive
B-22	Perimeter Road - McChord Field, Joint Base Connector to Military Road

Failed Step 1 (fatal flaw) screen

May be considered in Phase 2B in combination with other options.

#	Option Name
NONE	

No potential for combination with other options

#	Option Name
B-2	Improve Portland Avenue for higher speeds
B-18	New Highway, Tumwater to Puyallup
16B	Add frontage roads along I-5 between Exits 114 & 119

Included with Another Option Already being Considered

#	Option Name
B-20	Enhance Steilacoom road system

Color Key

●	Passes fatal flaw assessment, proceeds for further analysis
●	Not enough information to determine effectiveness, advances to Step 2 for further analysis
●	Fatally-flawed as a stand alone solution. May have potential when combined with other options
●	Already a component of other options being studied

Figure 5-2. Off-Base Local Improvement Options (Open to General Public)

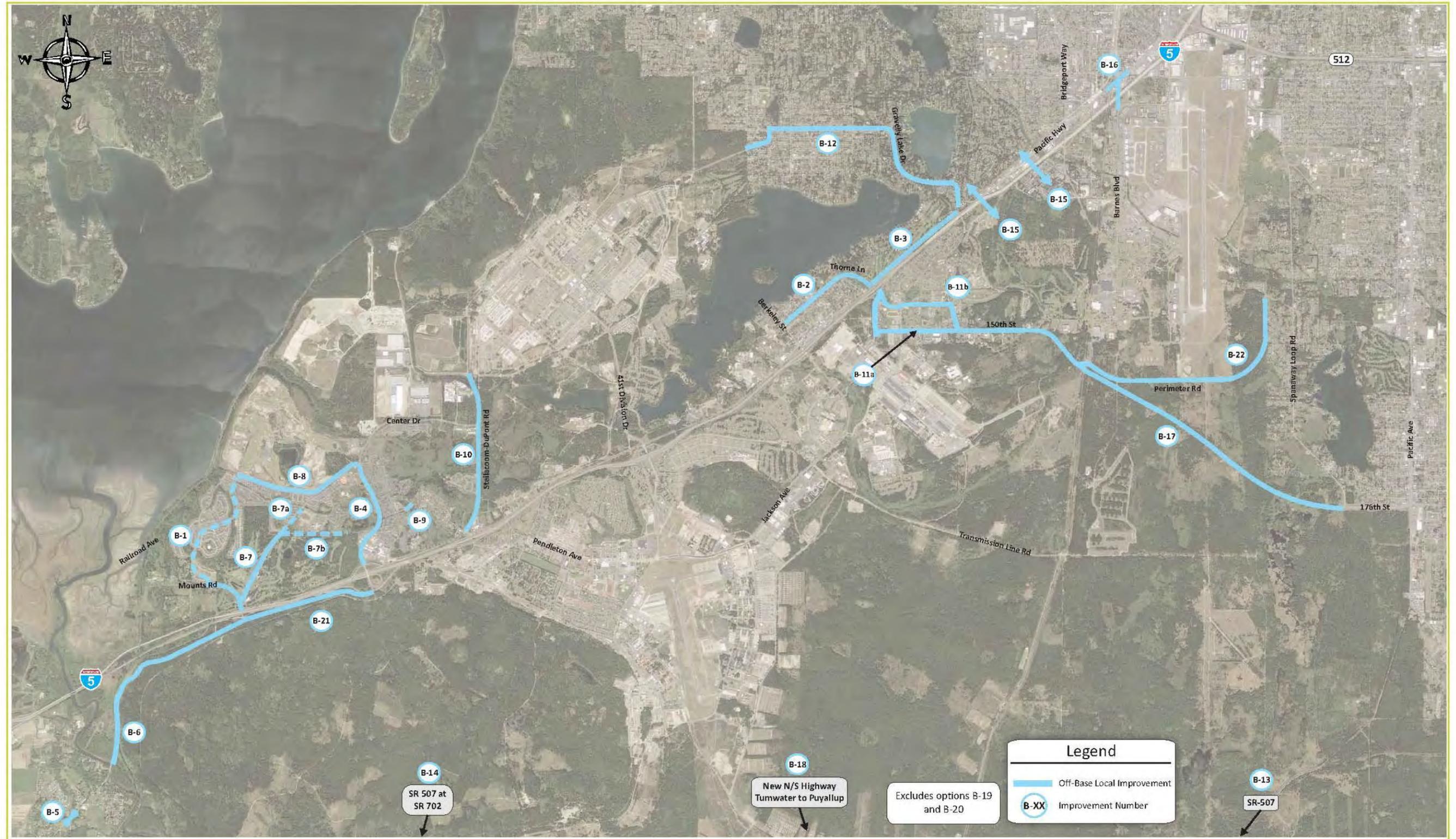


Table 5-4. Step 1 Screening Results for Category C: Local Connectivity On-Base Options

Category C - Local Connectivity - On-Base



Passed Step 1 (fatal flaw) screen

Will go through screening Step 2.

#	Option Name
C-1	Railroad Avenue, Nisqually Road to Pendleton Avenue
C-3	Reconfigure DuPont ACP
C-4	Main Street, Pendleton Avenue to 41st Division Drive
C-6	NCO Beach Road, 41st Division Drive to Berkeley Street
C-7	South A Road Extension, Jackson Road to Logistics Gate
C-8	Joint Base Connector, Jackson Road to Perimeter Road - McChord Field
C-9	Fairway Road Extension, Joint Base Connector to Bridgeport Way
C-10	Barnes Road Improvements, Perimeter Road to Union Avenue (McChord North Gate)
C-11	Relocate DuPont Access Control Point (ACP)
C-13	JBLM D Street Gate to Lewis North
C-15	New arterial, Mounts Road to Madigan Hospital vicinity
C-16	New JBLM collector street, Madigan to Thorne Lane
C-20	Modify DuPont Gate
C-21	New JBLM collector street, DuPont Gate to East Gate
C-26	Pendleton Avenue
C-30	On JBLM arterial roads at signalized intersections

Failed Step 1 (fatal flaw) screen

#	Option Name	#	Option Name
C-19	JBLM Gates along I-5	C-2	Pendleton Avenue ACP
		C-17	New JBLM collector street, Madigan to Cross Base Highway
		C-22	Joint Base Connector Road, Lewis Main to McChord
		C-23	JBLM Security
		5C	Extend Transmission Line Rd to 176th Street SE

Included with Another Option Already being Considered

#	Option Name
C-5	Interbase Connector at Main Gate Interchange, East side of I-5 to west side of I-5
C-12	JBLM ACPs at various locations
C-14	HOV-only Gate to JBLM (consider Lewis Main ACP)
C-18	McChord North Gate vicinity
C-25	Add JBLM ACP(s)
C-27	I-5 Crossings within JBLM
C-28	JBLM Commercial truck access
C-29	Relocate JBLM commercial truck access

Color Key

●	Passes fatal flaw assessment, proceeds for further analysis
●	Not enough information to determine effectiveness, advances to Step 2 for further analysis
●	Fatally-flawed as a stand alone solution. May have potential when combined with other options
●	Already a component of other options being studied

Figure 5-3. On-Base Local Improvement Options (Not Open to General Public)

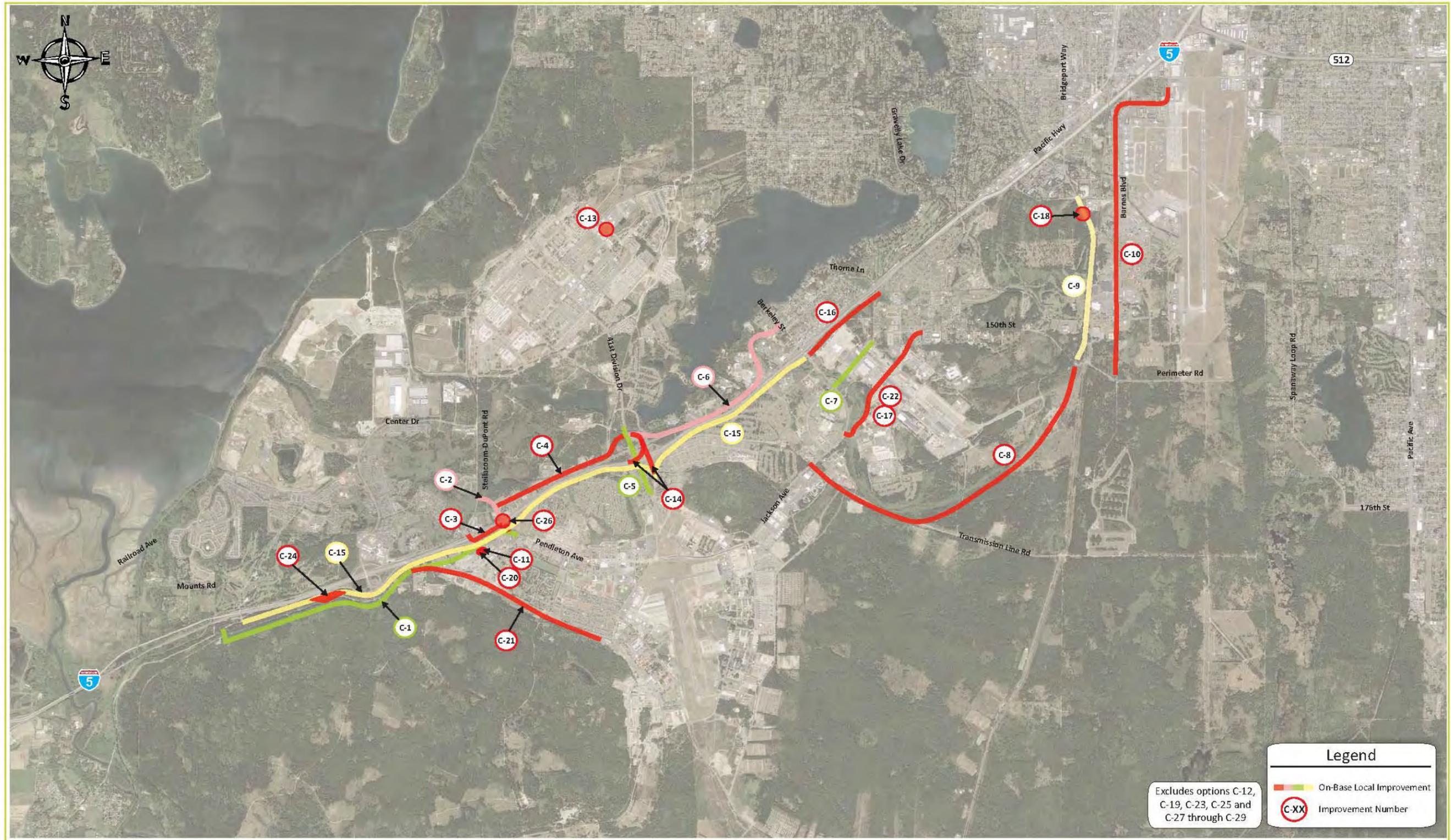


Figure 5-4. Combined Local Connectivity Options

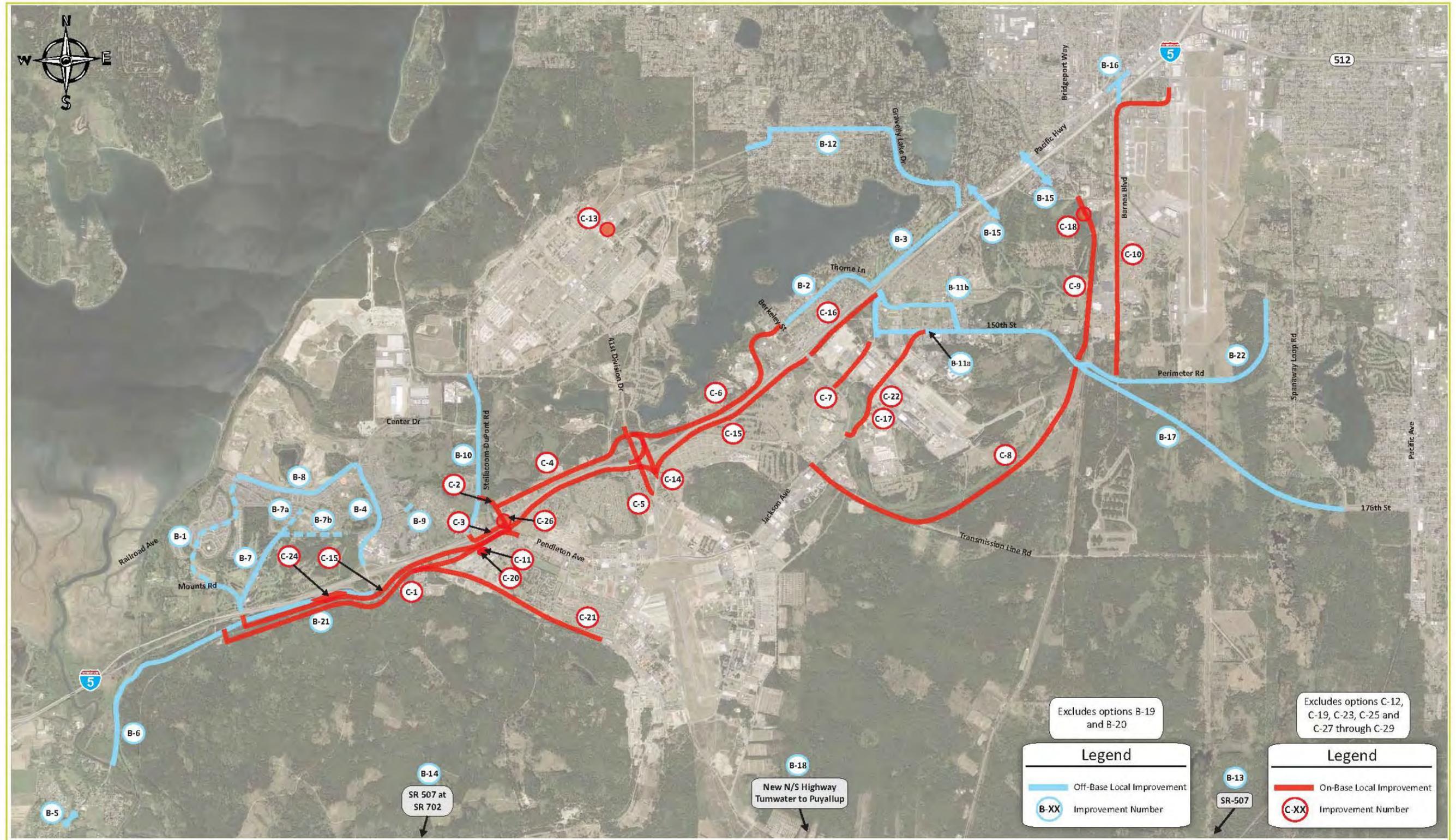


Table 5-5. Step 1 Screening Results for Category D: Scenario Modeling Inputs

Category D - Scenario Modeling Inputs



Passed Step 1 (fatal flaw) screen

● Will go directly to Phase 2B analysis.

#	Option Name
D-1	Higher Lane capacity
D-2	Confirm population/ employments estimates with PSRC and OFM totals
D-3	Revise Level of Service standard

Failed Step 1 (fatal flaw) screen

● May be considered in Phase 2B in combination with other options.

#	Option Name
	NONE

● No potential for combination with other options

#	Option Name
D-4	Adjust JBLM On-base population
D-9	Relocate JBLM
3D	Provide on-base housing for all active duty personnel

Included with Another Option Already being Considered

#	Option Name
D-5	Economic competitiveness assumptions
D-6	Increased truck freight activity
D-7	Right Sizing Planned Projects
D-8	O/D Survey

Color Key

●	Passes fatal flaw assessment, proceeds for further analysis
●	Not enough information to determine effectiveness, advances to next phase for further analysis
●	Fatally-flawed as a stand alone solution. May have potential when combined with other options
●	Already a component of other options being studied

Table 5-6. Step 1 Screening Results for Category E: Transit Options

Category E - Transit



Passed Step 1 (fatal flaw) screen

Will go directly to Phase 2B analysis.

#	Option Name
E-1	Increase bus service in the corridor and to JBLM
E-7	Increase attractiveness of vanpools to JBLM and through the corridor
E-16	Increase Sounder commuter rail service to Lakewood Station
E-19	Add commuter rail stops in JBLM and DuPont
E-23	Enhance existing shuttle bus system internal to JBLM
E-24	Create a specialized transit system to and from JBLM with security checks at point of embarkation

Failed Step 1 (fatal flaw) screen

May be considered in Phase 2B in combination with other options.

#	Option Name
E-29	Implement Hard Shoulder Running on I-5 through study area for transit vehicles only.

No potential for combination with other options

#	Option Name
E-5	Service to DuPont park-and-ride - internal transit circulator within DuPont
E-6	Reinstate Mosquito Fleet on Puget Sound
E-14	JBLM light rail
E-17	Extend Sounder commuter rail via spur line into JBLM at Center Drive
E-20	Create an Amtrak stop in Lakewood
E-22	Construct park-and-ride lot at Main Gate
E-25	Construct park-and-ride lot at Mounts Road Interchange
E-35	Install signs that tell drivers when park-and-ride lots are full
E-36	Implement Bus Rapid Transit in the I-5 corridor
E-39	Route buses carrying civilians thru JBLM during I-5 incidents (incentivize bus use due to faster travel through corridor during major traffic events)
12E	Add rail service between Yelm and Puyallup

Included with Another Option Already being Considered

#	Option Name
E-21	Implement state funding for interregional transit service, make cost-sharing of this service more equitable
E-26	Create a common fare structure for all transit systems serving the project area
E-28	Use Mass Transportation Benefit Program to help fund bus routes on JBLM (pool the unused money to fund this service - see example from Presidio of Monterey)
E-30	Expand funding for Sound Transit service into Thurston County
E-31	Create a new regional transit authority for Thurston County
E-32	Impacts)
E-37	Use veterans with access to/from JBLM to drive shuttle buses on base
E-38	Create transit/waiting amenities at transfer stations
E-40	Repurpose vanpool vehicles on JBLM to shuttles during the workday. Create an account to charge shuttle miles
E-41	Resolve issues with shuttle bus drivers on JBLM (recently assigned six of ten drivers to other duties)

Color Key

●	Passes fatal flaw assessment, proceeds for further analysis
●	Not enough information to determine effectiveness, advances to next phase for further analysis
●	Fatally-flawed as a stand alone solution. May have potential when combined with other options
●	Already a component of other options being studied

Table 5-7. Step 1 Screening Results for Category F: TDM/TSMO

Category F - Transportation Demand Management (TDM)/Transportation System Management & Operations (TSMO)



Passed Step 1 (fatal flaw) screen

- Will go directly to Phase 2B analysis.

#	Option Name
F-21	Institute congestion pricing on all lanes of I-5 from Thurston County to Tacoma

Failed Step 1 (fatal flaw) screen

- May be considered in Phase 2B in combination with other options.

#	Option Name
F-6	Convert an existing lane on I-5 to HOT
F-16	Allow narrower lane widths and shoulder widths on I-5 to accommodate added travel lanes
F-19	Institute flex time on JBLM

- No potential for combination with other options

#	Option Name
F-2	Restrict lane changing on I-5 through study area
F-5	Convert an existing lane on I-5 to HOV
F-8	Permit golf cart use on public streets to transit hubs throughout DuPont
F-23	Install variable speed limit signs like the ones on I-5 in Seattle
15F	Direct traffic with JBLM personnel instead of signals
19F	Ban all trucks over 12,000 GVW from I-5 during peak commute hours

Included with Another Option Already being Considered

#	Option Name
F-1	HOT lanes, Mounts Road to Thorne Lane
F-4	Implement a robust incident management plan in the corridor
F-10	Increase JBLM land use densities
F-11	Improve bicycle access and circulation to and within JBLM
F-13	Institute "Blue Bike" program to encourage vanpooling, transit, rideshare to/from work
F-15	Implement HOV only lane at ACPs with HOV direct access at ramps
F-17	Develop regional access facility for bicyclists and pedestrians
F-25	Incentivize ridesharing for major employers in the corridor or who use the corridor to get to work

Color Key

●	Passes fatal flaw assessment, proceeds for further analysis
●	Not enough information to determine effectiveness, advances to next phase for further analysis
●	Fatally-flawed as a stand alone solution. May have potential when combined with other options
●	Already a component of other options being studied

5.3 Step 2 (Effectiveness) Screening Results

Forty-four options under Categories A through C that passed Step 1 screening were analyzed in greater detail in Step 2. Out of this total, only one passed as a stand-alone option for consideration in Phase 2B (i.e., option that provides separate barrier-separated express lanes). Twenty-eight of the forty-four options were identified as having potential for reducing congestion and improving mobility along I-5 in the study area if combined with other improvements. These may be



considered as part of alternative packages in the next study phase. Fifteen of the forty-four options were eliminated from further consideration. Table 5-8 presents a summary of the results of Step 2 screening. Full documentation of the findings and conclusions of Step 2 are presented in matrices in Appendix C. These matrices are supported by detailed technical information developed for each option screened under Step 2 is included in Appendix D.

Table 5-8. Summary of Phase 2A, Step 2 Screening Results

Category	Total Screened	Passed Step 2 as Stand-alone Option	Could Combine	Failed Step 2
A – I-5 Access	10	1	7	2
B – Local Public Streets	18	0	9	9
C – Local JBLM Streets	16	0	12	4
Totals	44	1	28	15

Note: Categories E and F were not screened under Step 2 but pass directly to Phase 2B.

Tables 5-9 through 5-11 present a more detailed summary of the results of Step 2 screening, indicating results for each specific improvement option that was considered. The location of the options included in Step 2 screening is presented in Figure 5-5.

Table 5-9. Step 2 Screening Results for Category A: I-5 Access Options

Category A - I-5 Access																	
																	
Advance to Phase 2B as Stand Alone Option																	
	<table border="1"> <thead> <tr> <th>#</th> <th>Option Name</th> </tr> </thead> <tbody> <tr> <td>YES A-17</td> <td>Barrier Separated Express Lanes on I-5</td> </tr> </tbody> </table>	#	Option Name	YES A-17	Barrier Separated Express Lanes on I-5												
#	Option Name																
YES A-17	Barrier Separated Express Lanes on I-5																
Available in Phase 2B in Possible Combination																	
	<table border="1"> <thead> <tr> <th>#</th> <th>Option Name</th> </tr> </thead> <tbody> <tr> <td>YES A-4</td> <td>Close Main Gate Interchange</td> </tr> <tr> <td>YES A-12</td> <td>HOV only Access at Main Gate Interchange</td> </tr> <tr> <td>YES A-13</td> <td>HOV only Access at Berkeley Street Interchange</td> </tr> <tr> <td>YES A-25</td> <td>Move Weigh Station</td> </tr> <tr> <td>YES A-30</td> <td>Remove I-5 off-ramps at Main Gate Interchange, Improve Steilacoom-DuPont and Berkeley Interchanges</td> </tr> <tr> <td>YES A-34</td> <td>Close Mounts Road Interchange and add new public road from Mounts Road to Center Drive</td> </tr> <tr> <td>YES A-39</td> <td>Add I-5 Northbound Climbing Lane</td> </tr> </tbody> </table>	#	Option Name	YES A-4	Close Main Gate Interchange	YES A-12	HOV only Access at Main Gate Interchange	YES A-13	HOV only Access at Berkeley Street Interchange	YES A-25	Move Weigh Station	YES A-30	Remove I-5 off-ramps at Main Gate Interchange, Improve Steilacoom-DuPont and Berkeley Interchanges	YES A-34	Close Mounts Road Interchange and add new public road from Mounts Road to Center Drive	YES A-39	Add I-5 Northbound Climbing Lane
#	Option Name																
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YES A-39	Add I-5 Northbound Climbing Lane																
Do Not Advance to Phase 2B either as Stand Alone or in Combination																	
	<table border="1"> <thead> <tr> <th>#</th> <th>Option Name</th> </tr> </thead> <tbody> <tr> <td>NO A-15</td> <td>HOV only Access at Gravelly Lake Drive Interchange</td> </tr> <tr> <td>NO A-35</td> <td>Re-route NB on-ramp from Mounts Road through Weigh Station and connect to Center Drive on-ramp</td> </tr> </tbody> </table>	#	Option Name	NO A-15	HOV only Access at Gravelly Lake Drive Interchange	NO A-35	Re-route NB on-ramp from Mounts Road through Weigh Station and connect to Center Drive on-ramp										
#	Option Name																
NO A-15	HOV only Access at Gravelly Lake Drive Interchange																
NO A-35	Re-route NB on-ramp from Mounts Road through Weigh Station and connect to Center Drive on-ramp																

As indicated in Table 5-9, the one option advanced as a stand-alone improvement is the concept of building two barrier-separated express lanes on I-5 through the study area. (This concept was analyzed

as general purpose lanes due to model limitations). In reality they would most likely be implemented as managed lanes. The next phase of work will model both managed lanes and general purpose lanes. No stand-alone improvements were identified under Categories B or C as shown in Tables 5-10 and 5-11.

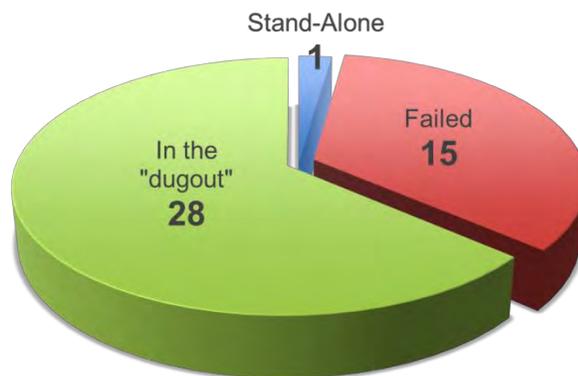
Table 5-10. Step 2 Screening Results for Category B: Local Connectivity Off-Base Options

Category B - Local Connectivity - Off-Base		
Advance to Phase 2B as Stand Alone Option		
#	Option Name	
No stand alone options advanced.		
Available in Phase 2B in Possible Combination		
#	Option Name	
YES	B-1	Hoffman Hill Boulevard Extension
YES	B-3	Gravelly Lake Connector
YES	B-10	Improve Steilacoom-DuPont Road
YES	B-11a	Murray Road/150th Street SW Improvements, I-5 to Perimeter Road
YES	B-13	Improve SR 507, JBLM East Gate through McKenna
YES	B-16	Barnes Blvd Extension from Barnes/West intersection to Pacific Highway
YES	B-17	New higher speed road from Joint Base Connector Road to 176th Street SE @ SR 7
YES	B-17a	Joint Base Connector Road plus new higher speed road from Connector to 176th Street SE @ SR 7
YES	B-22	Perimeter Road - McChord Field, Joint Base Connector to Military Road
Do Not Advance to Phase 2B either as Stand Alone or in Combination		
#	Option Name	
NO	B-4	Remove truck restrictions on Center Drive
NO	B-5	Improve Old Pacific Highway, Kuhlman Road to 7th Avenue
NO	B-6	Improve Old Pacific Highway, Mounts Road to Nisqually River
NO	B-7	New Road through Eagles Pride Golf Course
NO	B-8	New Road along Home Course between McNeil and Center
NO	B-9	Haskell Street Connection
NO	B-12	North Gate Road/Edgewood/ Washington Street Improvements
NO	B-15	Add more local street connections over I-5
NO	B-21	Railroad Avenue/Perimeter Road, Mounts Road to Center Drive

Table 5-11. Step 2 Screening Results for Category C: Local Connectivity On-Base Options

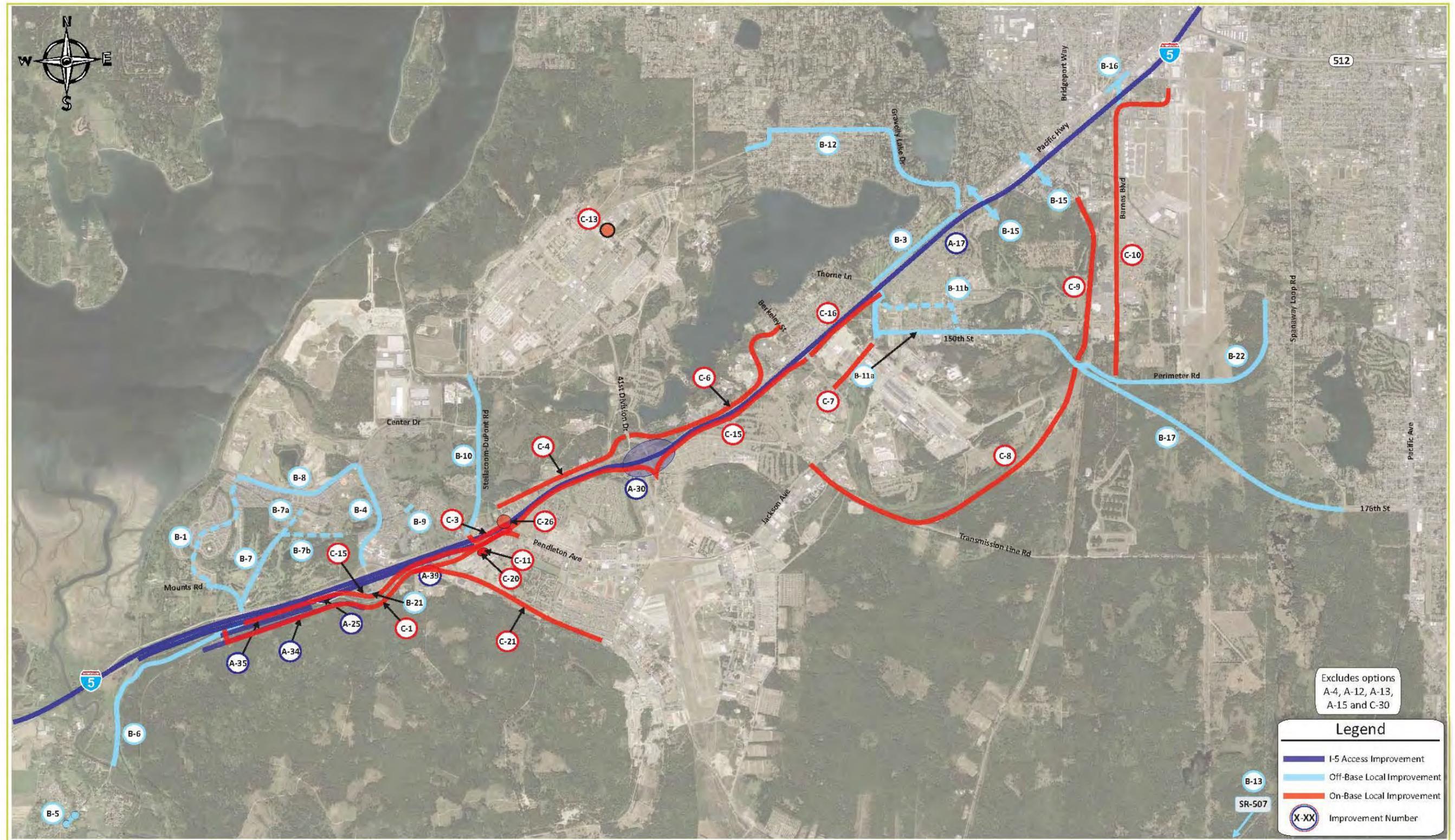
Category C - Local Connectivity - On-Base	
	
Advance to Phase 2B as Stand Alone Option	
#	Option Name
No stand alone options advanced.	
Available in Phase 2B in Possible Combination	
#	Option Name
YES	C-1 Railroad Avenue, Nisqually Road to Pendleton Avenue
YES	C-3 Reconfigure DuPont ACP
YES	C-7 South A Road Extension, Jackson Road to Logistics Gate
YES	C-8 Joint Base Connector, Jackson Road to Perimeter Road - McChord Field
YES	C-9 Fairway Road Extension, Joint Base Connector to Bridgeport Way
YES	C-10 Barnes Road Improvements, Perimeter Road to Union Avenue (McChord North Gate)
YES	C-11 Relocate DuPont Access Control Point (ACP)
YES	C-15 New arterial, Mounts Road to Madigan Hospital vicinity
YES	C-16 New JBLM collector street, Madigan to Thorne Lane
YES	C-21 New JBLM collector street, DuPont Gate to East Gate
YES	C-26 Pendleton Avenue
YES	C-30 On JBLM arterial roads at signalized intersections
Do Not Advance to Phase 2B either as Stand Alone or in Combination	
#	Option Name
NO	C-4 Main Street, Pendleton Avenue to 41st Division Drive
NO	C-6 NCO Beach Road, 41st Division Drive to Berkeley Street
NO	C-13 JBLM D Street Gate to Lewis North
NO	C-20 Modify DuPont Gate

In summary, of the forty-four options studied in Step 2, one emerged as having potential to relieve I-5 congestion on its own, 28 are set aside for further consideration as part of comprehensive improvement alternatives and 15 were eliminated.



* Transit and TDM/TSMO passed directly to Phase 2B

Figure 5-5. Options Screened Under Step 2



6. STAKEHOLDER AND PUBLIC OUTREACH

6.1 Overview

Stakeholder and public outreach conducted during the course of the Phase 2A study process included a variety of meetings, briefings and a public Open House. Additionally, information about the study was made widely available through media and website outreach. A summary of stakeholder involvement activities and community engagement is presented in this chapter. Comments and suggestions made during the meetings, through communications with WSDOT staff, via the WSDOT project website were collected and reviewed by the project team.

6.2 Stakeholder Meetings

During the course of Phase 2A, several meetings were held with the project's Technical Support Group and Executive Stakeholder Committee to review and provide input on the study process and results. A short discussion of these meetings is presented below including both meeting purpose and accomplishments.

Technical Support Group

Phase 2A of the I-5 JBLM Vicinity Congestion Relief Study was initiated at a joint meeting of the Technical Support Group and the Executive Committee held on February 26, 2014. The purpose of this meeting was to provide a recap of the results of Phase 1 and to discuss the planning process moving forward. Emphasis in Phase 2A was on bringing the level of detail and understanding of potential multimodal and local street connectivity improvements in the corridor to a point comparable with the Phase 1 effort on the I-5 mainline and at key interchanges. The meeting provided highlights of the new work including travel surveys and an Origin/Destination study to be conducted along the corridor. The process to identify, screen and select additional corridor options was also discussed.



Two additional Technical Support Group meetings were held during Phase 2A. The first of these meetings was held on April 16, 2014. At this meeting, the Committee reviewed and discussed results from the corridor travel surveys that were conducted during February and March, draft evaluation criteria, and a proposed evaluation process for the brainstormed multimodal improvement options. At the second meeting, held on May 15, 2014, initial results from Step 1 of the two step screening process were presented. These initial results included potential improvements related to local streets, I-5 access, transit and Transportation Demand Management/Transportation System Management & Operations (TDM/TSMO). Details related to the upcoming June project Open House were also discussed.

The final meeting of Phase 2A was a joint meeting of the Technical Support Group and the Executive Stakeholder Committee. This meeting was held on June 25, 2014, and focused on the results of the Step 2 screening process including options identified for further consideration during Phase 2B. Results of the June public Open House were also discussed.

Executive Stakeholder Committee

In addition to the joint meetings held with the Technical Support Group, two other meetings were held with the project's Executive Stakeholder Committee. These meetings were held on April 18th and May 25th of 2014, with meeting content generally paralleling the material presented in the Technical Support Group meetings immediately preceding them. The Executive Stakeholder Committee was briefed and endorsed the screening criteria used in Steps 1 and 2 of the brainstormed options evaluation.

6.3 Elected Officials Briefing

On May 28, 2014, a briefing was held for the benefit of elected officials who had interest in the study. Individuals invited to the briefing included representatives of local, state and federal legislative bodies. The primary purpose of the briefing was to ensure that decision-makers were fully informed about the project in preparation for the upcoming Open House. Background information on project need, findings and recommendations to date, and the path forward were discussed. Key questions focused on timing for developing a cost estimate for I-5 corridor improvements and initiating implementation of improvements on the corridor.

6.4 Listening Posts

To provide an opportunity for Technical Working Group or Executive Stakeholder Committee members to address any detailed questions they might have about project status or current work efforts, two "listening posts" were held during Phase 2A. These meetings were held on May 19th and June 18th and were facilitated by WSDOT and consultant team staff.

6.5 Website

The WSDOT website has a page dedicated to the I-5 JBLM Vicinity Congestion Relief Study. The page is regularly updated to include new information and links to project documents, including the Phase 1 Corridor Plan Feasibility Study and Summary Report, the Travel Patterns and Characteristics Report, and graphics related to the project that were presented at the project Open House (addressed in the section below). In addition, the Open House was advertised extensively on the WSDOT website. Each traffic camera page that included cameras in the JBLM vicinity included a brightly colored notice alerting viewers to the June 11 Open House and providing a link to additional information.



6.6 Public Open House

On June 11, 2014, a public Open House was held in the study. The purpose of this event was to provide the public with information about study efforts, and to provide an opportunity to receive comments on needs, desires, preferences and concerns. The Open House was extensively advertised through press releases, the WSDOT project website and traffic cam web page for the Tacoma/South Pierce County area (see illustration), school flyers, city newsletters sent to all residents, list serve emails, and was covered by local and Seattle radio and news stations. A shuttle bus from Lacey and Lakewood transit centers was also provided for those who needed transportation to the open house site.

Nearly 100 citizens attended the Open House, which was staffed by representatives from WSDOT, FHWA, Thurston Regional Planning Council, JBLM, InterCity and Pierce Transit, and the consultant team. The Open House was set up with 15 stations where project history, purpose and current findings and conclusions were discussed. Most attendees received one-on-one attention from project team members who provided answers to questions and accepted citizen input.

Input from the Open House

Open House attendees were asked to provide written comments related to their ideas and concerns on flip charts next to each station. Nearly 100 unique comments were received that expressed:



- Preferences or opposition to specific “brainstormed” improvement ideas
- Identification of problems with the transportation system that they were experiencing.
- Input on a variety of improvement ideas. Most of these ideas had already been considered and screened during the two-step evaluation process described in this report.
- A few new ideas were identified, eight of which were evaluated using the Phase 2A screening process.

Each of the comments received from the public was included in a matrix organized by project type using the six categories previously described. A response to each comment was prepared by the study team, and appropriate action to carry the input forward in the planning process was determined. A summary of the comments organized by category is presented below. Details relative to each comment are included in Appendix A.

Category A – I-5 Access

A variety of comments were received related to actions directly affecting I-5. The study team determined that all of these comments were in some manner similar to the options brainstormed by the stakeholder groups. Ideas submitted included:

- Need for separation between I-5 through traffic and traffic entering/exiting the freeway. Some of the ideas suggested included: auxiliary lanes, dedicated lanes, separation of on and off movements, express lanes, etc. One comment expressed appreciation for the recent change to add a southbound auxiliary lane between the Thorne Lane and Berkeley Street interchanges.
- Some preferences were expressed for certain interchange concepts that had been developed during Phase 1 of the study (i.e., relocated diamond at Exit 119, diamond at Exit 120 with inter-base connector).
- Several interchange problems were identified.
- A variety of comments were made related to specific potential roadway changes including:
 - Expressions of support for road/rail grade separations near interchanges.
 - Support of HOV or managed lanes on I-5 from Fife to and through the study area.

- Moving the weigh station to reduce perceived conflicts with slow-moving northbound traffic on the hill coming out of the Nisqually Delta.
 - Closing the Mounts Road interchange.
 - Turning all lanes on I-5 into HOT lanes during commute periods.
 - Redesigning Exit 120 to provide for a single entrance/exit for JBLM.
 - Widening the Nisqually Bridges to accommodate traffic using any new improvements on I-5 near JBLM.
- The need to move quickly to recommend and implement actions to address existing and growing congestion in the corridor.

Category B – Local Off-Base Connectivity (Open to General Public)

- Preferences were expressed on local street options including both likes and dislikes, particularly in the vicinity of the proposed Cross-Base Highway.
- Existing traffic problems were identified in several locations (i.e., related to Amazon in DuPont, the American Lake Conference Center and nearby recreational uses in Lakewood).
- One suggestion included extending Military Road directly east from Perimeter Road (e.g., as a wider, higher speed facility) to connect with SR 7.
- Another option involved improving roads on the east side of JBLM, including SR 507 as an inter-county, divided highway.

One new option was identified that involved developing a frontage road along I-5 between Exit 114 (Nisqually) and Exit 119 (Steilacoom-DuPont Road).

Category C – Local On-Base Connectivity (Not Open to General Public)

- A few suggestions were identified for improving connectivity within JBLM. These included:
 - Opening more gates to outbound traffic.
 - Opening Ammo Dump Road from Barnes Gate Road to the corner of Transmission Line Road and East Gate Road.
 - Removing the Barnes Road Gate to open up Barnes Road from the current gate to Transmission Line Road. It would be necessary to mitigate for the presence of the ammo dump.
 - Using automated, transponder-like devices to enter/exit JBLM to speed up traffic. This would function like the auto-read ID cards currently used at gates during the off-peak.

One new option was identified that involved extending Transmission Line Road south from its current terminus to 176th Street SE.

Category D – Scenario Inputs

- Under this category, some comments were made related to analysis assumptions, while others were related to the study of potential environmental impacts or to funding. Actions similar to these suggestions will likely be addressed during Phase 2B. Suggested actions included:
 - Evaluating a range of growth assumptions for JBLM to test the need for improvements (mentioned by 3 people).
 - Evaluating greenhouse gas emissions and/or assessing the carbon footprint of no build and build alternatives. The need to address Environmental Justice issues was also identified.

- Getting cost estimates done by end of 2014 for use in 2015 Legislative session was also advocated.

One suggestion was made to provide on-base housing for all active duty military personnel.

Category E – Transit

- About a dozen comments were made that reflected the need for more bus transit service in the corridor. These comments will provide useful input into the further refinement and evaluation of transit solutions that will be conducted in Phase 2B. Ideas included:
 - Integrating transit options.
 - Adding more service in general.
 - Adding more service between DuPont and Olympia/Tumwater.
 - Adding more service between Spanaway, South Hill and Parkland to JBLM.
 - Adding shuttle bus service between JBLM and parking lots at Lakewood and Lacey.
 - Improving on-base transit service.
 - Offering free fares for military personnel.
- Several comments were identified related to rail service in the corridor:
 - Adding an Amtrak stop at DuPont.
 - Extending Sounder service to Olympia.
 - Integrating Sound Transit rail with local bus service (both InterCity Transit and Pierce Transit) to/from JBLM.
 - Adding rail service between Yelm and Puyallup.

Category F – TDM/TSMO

- Several people suggested various TDM strategies that could be considered in developing a comprehensive TDM approach for the study area. These included:
 - Staggering work hours for JBLM military personnel.
 - Comparing costs of JBLM staggered work hours with highway improvement costs.
 - Providing better bike connectivity (over/under I-5, between Berkeley and Steilacoom-DuPont Road on west side of I-5, adding bike lanes to Steilacoom-DuPont Road).
 - Adding bike programs on JBLM.
 - Adding military-funded zip cars on JBLM.
- Several people suggested various TSMO strategies, some of which could be considered in developing improvement packages:
 - Keeping heavy vehicles in the right two lanes.
 - Increasing I-5 speeds to 65 mph.
 - Improving incident management to reduce problems with “rubbernecking” after collisions.
 - Adding Variable Message Signs to show time to various destinations similar to the signs on I-5 in King County.
 - Improving traffic management for vehicles exiting JBLM at Madigan gate and heading to I-5 southbound. Police traffic management instead of existing traffic signals.
 - Adding Intelligent Transportation System (ITS) equipment to provide advance notice to motorists to “stay left if through traffic” heading south from Bridgeport Way.
 - Improve signal synchronization in vicinity of ramps.
 - Synchronizing signals along SR 507.

- Use JBLM personnel to direct on-base traffic at congested intersections and not traffic signals.
- Ban all trucks over 12,000 GVW from I-5 during peak commute hours.

6.7 Media Outreach and Communications

Media outreach and communications for Phase 2A of the I-5 JBLM project was managed by WSDOT with support and assistance from the consultant project team. Activities included: preparation of press releases particularly focused on the June 11th Open House. A number of articles about I-5 through the JBLM area and the on-going study were published in local print media leading up to the Open House and after. KIRO Radio interviewed WSDOT Communications Claudia Bingham Baker regarding the project on June 7, 2014. The press release was picked up by KING 5 News and information about the open house was announced on the evening news broadcast in advance of the public meeting. Additionally, WSDOT maintains a Twitter feed that included references to the Open House, along with a project-specific website. Project-related materials including the Phase 1 Final Report and Executive Summary, and the material presented at the June 11th Open House have been posted to this website.

In addition to activities conducted by WSDOT, a number of other agencies have participated in public outreach and communications for the project. The Thurston County Economic Development Council and the Thurston Regional Planning Council used their internal email lists to inform the public about the project Open House as did InterCity Transit and Pierce Transit, Lakewood, DuPont and Steilacoom. Regular communications venues including mailings, newsletters and websites for several other agencies were also used to communicate project-related information. Included were the Cities of Lacey, Olympia, Tacoma, Lakewood and DuPont.

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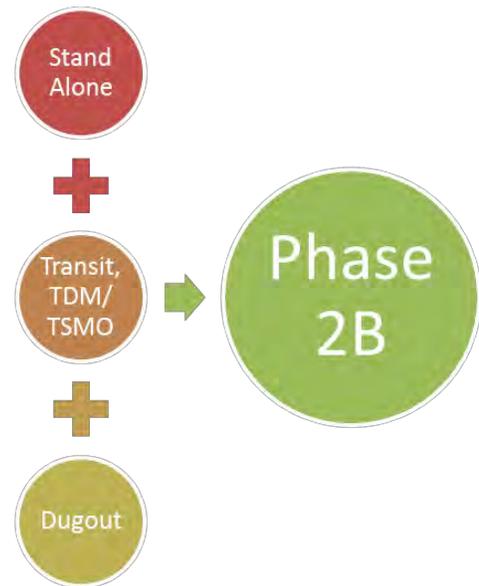
7. PATH FORWARD INTO PHASE 2B

This chapter presents the shortlist of multimodal and local connectivity options that will be carried forward for further consideration in Phase 2B of the *I-5 JBLM Vicinity Congestion Relief Study*. These options will be available in Phase 2B for possible combination and testing to develop three or four alternative packages that can be carried into a NEPA environmental analysis process.

7.1 Options to be Carried Forward into Phase 2B

The decision to carry forward a shortlist of multimodal and local connectivity options into Phase 2B focused on identifying options that could have the most benefit to reducing congestion on I-5 while minimizing adverse impacts on local streets and the environment. As illustrated in the graphic to the right, the process to establish this shortlist involved combining the options that passed either the Step 1 or Step 2 screening process to provide the basis for developing packaged alternatives for further, in-depth analysis during Phase 2B. Options to be evaluated as possible stand alone actions include:

- The addition of barrier-separated express lanes on I-5 for through-moving traffic. These lanes would be some form of managed lanes (A-17).
- Ten transit and/or TDM/TSMO options passed Step 1 and were forwarded directly to Phase 2B without further analysis. These options include various levels of transit service, vanpooling, signal synchronization and other actions to improve system efficiency.



Options that might be considered in combination with other actions include:

- Thirty-six options for street improvements including those related to enhanced or modified I-5 access, and connectivity/capacity improvements on local public or JBLM streets. These options may be called up for use in the packaged alternatives depending on their effectiveness in combination with other options.

Table 7-1 presents a summary of all Phase 2A options that will be carried forward into Phase 2B (Alternatives Analysis) for consideration in developing multimodal improvement packages to address I-5 congestion relief.

Figure 7-1. Options to be considered in Phase 2B

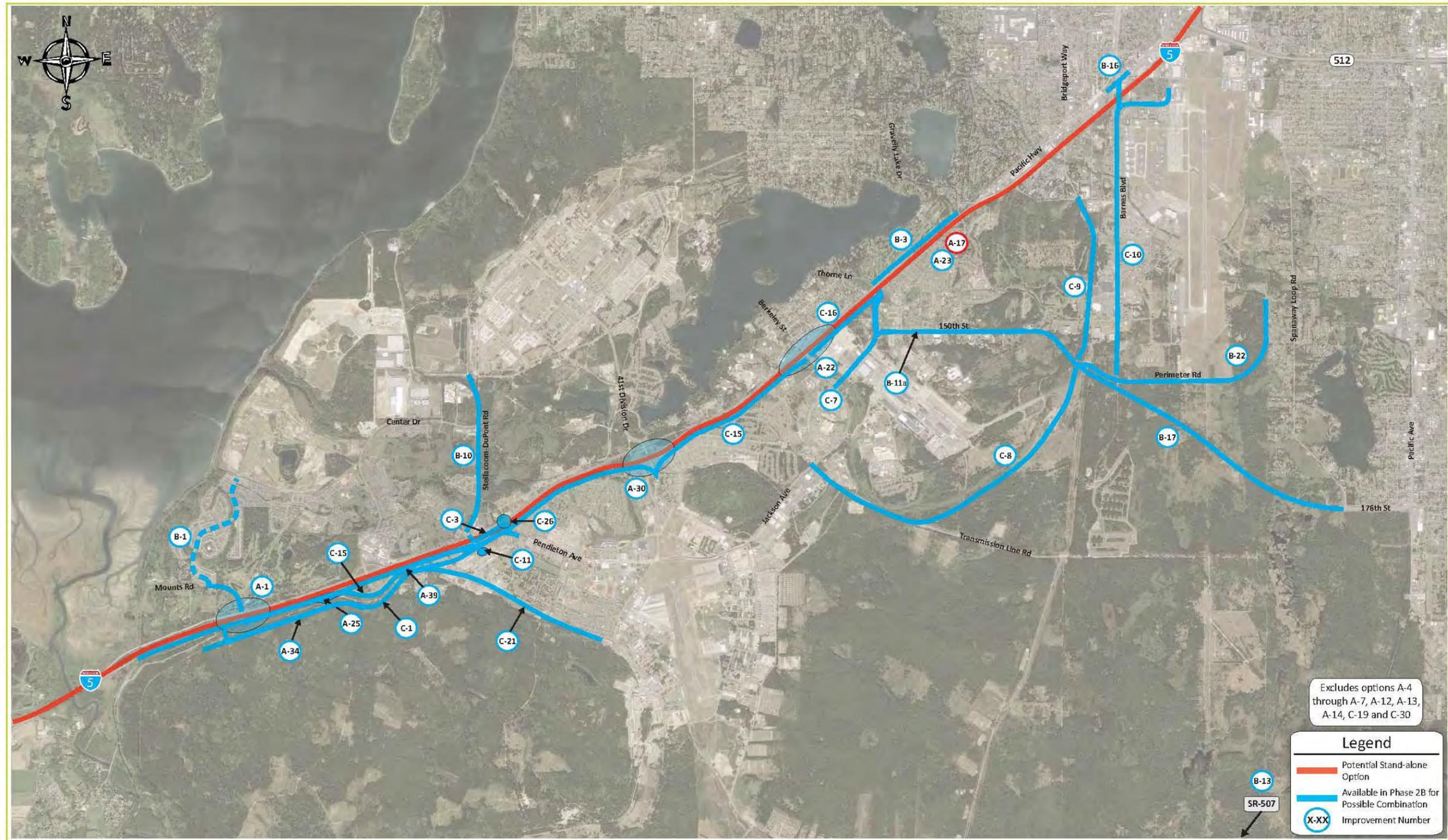


Table 7-1. Options to be Carried Forward into Phase 2B

No.	Name	Description	Stand-alone Options	Combination Potential	
				From Step 1	From Step 2
(A) I-5 Access Options					
A-1	Close Mounts Road Interchange	Remove all ramps but keep Mounts Road bridge over I-5		X	
A-4	Close Main Gate Interchange	Remove ramps but keep 41 st Division Drive bridge over I-5.			X
A-5	Close Berkeley Street Interchange	Remove all ramps but keep Berkeley Street bridge over I-5.		X	
A-6	Close Thorne Lane Interchange	Remove all ramps but keep Thorne Lane bridge over I-5.		X	
A-7	Close Gravelly Lake Drive Interchange	Remove all ramps but keep Gravelly Lake Drive bridge over I-5		X	
A-12	HOV only Access at Main Gate Interchange	Convert Main Gate Interchange to HOV use only without added HOV lanes.			X
A-13	HOV only Access at Berkeley Street Interchange	Convert Berkeley Street Interchange to HOV use only without added HOV lanes.			X
A-14	HOV only Access at Thorne Lane Interchange	Convert Thorne Lane Interchange to HOV use only without added HOV lanes.		X	
A-17	Barrier Separated Express GP Lanes on I-5	Add two center barrier-separated express GP lanes in each direction from Center Drive to Gravelly Lake Drive.	X		
A-22	Texas Tee at Berkeley Interchange	Construct Texas Tee at interchange to Madigan Gate.		X	
A-23	Add Freight Only Lanes to I-5	Add freight only lane in each direction.		X	
A-25	Move Weigh Station	Relocate weigh station from NB I-5 north of Mounts Road interchange.			X
A-30	Remove I-5 off-ramps at Main Gate Interchange, Improve Steilacoom-DuPont and Berkeley Interchanges	Remove I-5 off-ramps, retain on-ramps to allow outbound traffic only from JBLM, remove Liberty and 41 st Division ACPs. Enlarge DuPont and Madigan Gates and I-5 off-ramps at Steilacoom-DuPont and Berkeley I/Cs to accommodate shift in entering traffic.			X
A-34	Close Mounts Road Interchange and add new public road from Mounts Road to Center Drive	Close Mounts Road I/C but keep Mounts Road bridge over I-5. Build new public road alignment outside fence between Mounts Road and Center Drive on the east side of I-5.			X
A-39	Add I-5 Northbound Climbing Lane	Add a NB climbing lane between BNSF bridge and Steilacoom-DuPont interchange.			X
(B) Off-Base Local Connectivity Options (Open to the General Public)					
B-1	Hoffman Hill Boulevard Extension, Mounts Road Improvements	Improve and/or construct new 2-lane urban road connection for DuPont internal street system and improve Mounts Road (will require traffic calming of existing Hoffman Hill Blvd).			X
B-3	Gravelly Lake Connector	Build new 2-lane urban road west of and parallel to I-5 between Thorne Lane and Gravelly Lake Drive.			X

Table 7-1 Continued. Options to be Carried Forward into Phase 2B

No.	Name	Description	Stand-alone Options	Combination Potential	
				From Step 1	From Step 2
(B) Off-Base Local Connectivity Options (Open to the General Public) Continued					
B-10	Improve Steilacoom-DuPont Road	Improve Steilacoom-DuPont Road from I-5 to Integrity Gate to 4-lane urban street with turn lane channelization where needed.			X
B-11a	Murray Road/150 th Street SW Improvements, I-5 to Perimeter Road	Realign roads on east side of I-5 and improve to four lane cross-section to facilitate freight movement (whole area is zoned Light Industrial).			X
B-13	Improve SR 507, JBLM East Gate through McKenna	Improve 507 to four lanes and county roads to create attractive route into base for major volumes that come from east. Congestion on 507 encourages traffic to use I-5 and Mounts Road to access Yelm area. Traffic causes travel between McKenna and Roy to take 40 minutes instead of 6.			X
B-16	Barnes Blvd Extension from Barnes/West intersection to Pacific Highway	Construct new freeway overcrossing with no on or off-ramps. Eliminate North Gate and route all traffic to a new Barnes Gate.			X
B-17	New higher speed road from Joint Base Connector Road to 176 th Street SE @ SR 7	Construct new highway/higher speed arterial road between Joint Base Connector Road and 176 th Street SE @ SR 7 (along proposed eastern portion of the Cross Base Highway alignment).			X
B-17a	Joint Base Connector Road plus new higher speed road from Connector to 176 th Street SE @ SR 7	Construct both Joint Base Connector Road and new highway/higher speed arterial road between Connector Road to 176 th Street SE @ SR 7 (along proposed eastern portion of the Cross Base Highway alignment).			X
B-22	Perimeter Road – McChord Field, Joint Base Connector to Military Road	Increase roadway speed to 50 mph, develop higher speed connection to Joint Base Connector road			X
(C) On-Base Local Connectivity Options (Not Open to the General Public)					
C-1	Railroad Avenue, Nisqually Road to Pendleton Avenue	Improve JBLM southerly road on east side of I-5 and add connection to Clark Road east of Center Drive interchange with extension further north along east side of freeway to Pendleton Avenue			X
C-3	Reconfigure DuPont ACP	Extend road from Steilacoom-DuPont Road to Pendleton Avenue and re-configure DuPont ACP			X
C-7	South A Road Extension, Jackson Road to Logistics Gate	Extend South A Road west of existing terminus at Jackson Road on JBLM to connect with the Logistics Gate at Murray Road, improve Murray Road for higher speed traffic to I-5/Thorne Lane I/C.			X

Table 7-1 Continued. Options to be Carried Forward into Phase 2B

No.	Name	Description	Stand-alone Options	Combination Potential	
				From Step 1	From Step 2
(C) On- Base Local Connectivity Options (Not Open to the General Public) Continued					
C-8	Joint Base Connector, Jackson Road to Perimeter Road – McChord Field	Build 4-lane higher speed connection between Fort Lewis and McChord Field per JBLM plans			X
C-9	Fairway Road Extension, Joint Base Connector to Bridgeport Way	Improve and extend Fairway Road as 2-lane higher speed road			X
C-10	Barnes Road Improvements, Perimeter Road to Union Avenue (McChord North Gate)	Improve Barnes Road as 4-lane facility			X
C-11	Relocate DuPont Access Control Point (ACP)	Move DuPont ACP to Center Drive			X
C-15	New arterial, Mounts Road to Madigan Hospital vicinity	Construct new four-lane urban road and new gate at Mounts Road			X
C-16	New JBLM collector street, Madigan to Thorne Lane	Close Jackson Avenue at Interchange and build a new collector street on JBLM to link Madigan to Thorne Lane			X
C-19	JBLM Gates along I-5	Reevaluate all gates to JBLM along I-5 to create three major entry points at Center, Thorne and Barnes/Bridgeport		X	
C-21	New JBLM collector street, DuPont Gate to East Gate	Construct new two-lane road to edge of cantonment area. Follow rail line and combat vehicle trail			X
C-26	Pendleton Avenue	Improve Pendleton and fix height restriction under I-5 to allow better east/west connections on JBLM			X
C-30	On JBLM arterial roads at signalized intersections	Synchronize existing traffic signal operations			X
(D) Scenario Input Options					
D-1	Higher Lane Capacity	Base operational analysis of the I-5 corridor on higher per lane per hour capacities to reflect increased operational efficiencies over time		X	
D-2	Confirm population/employment estimates with PSRC and OFM totals	Verify consistency of 2040 assumed demographic and socio-economic data with PSRC/OFM		X	
D-3	Revise Level of Service standard	Assume that LOS E is acceptable for interstate operations		X	
(E) Transit Options					
E-1	Increase bus service to JBLM and through Corridor	Provide peak period commuter express bus service to various destinations on 15 or 30 minute headways.	X		

Table 7-1 Continued. Options to be Carried Forward into Phase 2B

No.	Name	Description	Stand-alone Options	Combination Potential	
				From Step 1	From Step 2
(E) Transit Options Continued					
E-7	Increase attractiveness of vanpools on JBLM and through corridor	Provide the following vanpool options: - Double the number of existing vanpools to/from JBLM - Consider worker/drive buses	X		
E-16	Sounder Rail Service	Increase Sounder commuter rail service to Lakewood Station from the north	X		
E-19	Commuter Rail	Add commuter rail stops in JBLM vicinity and DuPont	X		
E-23	JBLM shuttle	Modify existing shuttle bus system internal to JBLM to match schedules of commuter service and serve major destinations.	X		
E-24	Transit service to/from JBLM	Create a specialized transit system to and from JBLM with security checks at a single point of embarkation. Could be a JBLM-specific park-and-ride.	X		
E-29	Interim Transit Support Facilities	As an interim solution, institute hard shoulder running on I-5 through study area but only for transit vehicles		X	
(F) TDM/TSMO Options					
F-6	I-5 corridor HOV lanes through study area	Convert an existing lane on I-5 to HOT		X	
F-16	Lane narrowing in I-5 Corridor through study area	Allow narrower lane widths and shoulder widths on I-5		X	
F-21	Congestion Pricing	Institute congestion pricing on all lanes of I-5 from Thurston County to Tacoma		X	

Many of the options suggested during the brainstorming effort involve actions that could be taken by either WSDOT or JBLM. These include actions to improve visibility, to improve on-base Commute Trip reduction efforts, or other actions. Options that specifically relate to the operational and/or system maintenance/management responsibilities of these two governmental entities will be forwarded to directly to the appropriate staff for consideration.

7.2 Discussion of the Analysis Tools

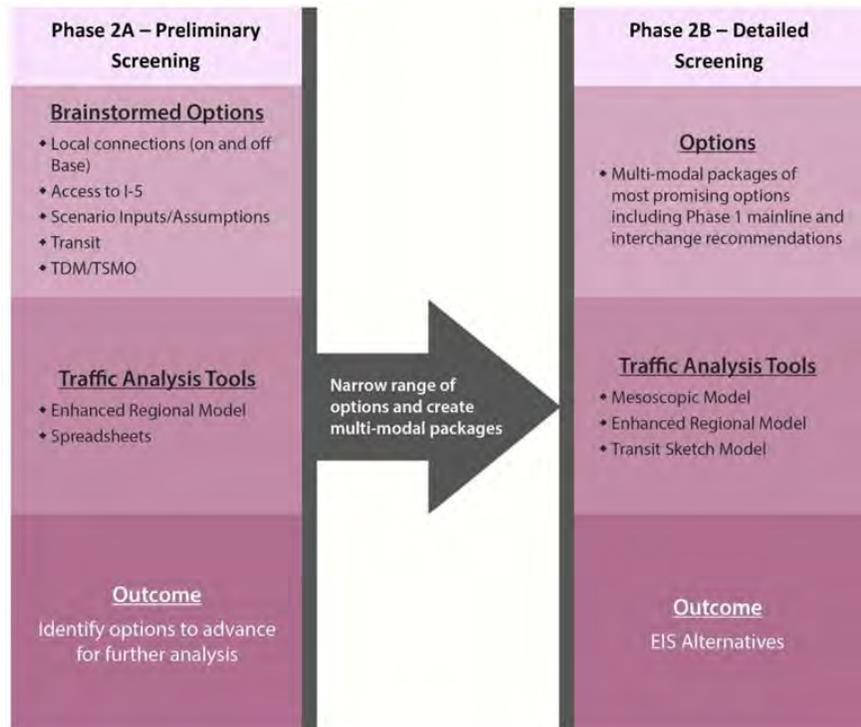
To conduct the analysis required in Phase 2B and to narrow the list of potential improvement options into a series of multimodal alternatives for NEPA review, a series of enhanced analysis tools were developed. These included:

- **An enhanced 2014 area-wide travel demand model** for use in forecasting base year, 2020 and 2040 traffic volumes on I-5 and local streets for the No Build condition, as well as for conditions with various improvement

packages that are being assembled and tested to determine their overall effectiveness. An area-wide travel demand model was initially developed for use in Phase 1 of the *I-5 JBLM Vicinity Congestion Relief Study* using information available from the Puget Sound Regional Council and Thurston Regional Planning Council. Recognizing that this model had limitations in terms of its effectiveness in forecasting trips on JBLM roads and through the base’s Access Control Points (ACPs), the model was enhanced using a substantial volume of data regarding localized travel patterns that was obtained through an origin/destination study conducted during Phase 2A. Calibration of this model to existing travel patterns and 2014 peak period traffic volumes has been completed, making this model the most reliable forecasting tool currently available for use in the study area.

- **A mesoscopic operations model** for use in evaluating traffic performance on I-5, at key interchanges, and on local/JBLM streets. A mesoscopic model is a dynamic tool that adjusts the traffic volume forecasts from the area-wide model to reflect actual or expected operational conditions and capacity limitations. This model will be able to provide information on projected freeway speeds, interchange queues or delays including the effects of ramp meters, JBLM gate processing queues, and the size and extent to which peak period congestion might spread into non-peak hours. This model will be used to test initial combinations of options with results both informing and providing guidance to the development of the three or four multimodal alternatives that will be forwarded into the NEPA evaluation process.
- **A transit sketch and HOV planning model** that will be used to evaluate effectiveness of the various transit and HOV strategies under consideration in the development of multimodal alternatives. This tool was developed using a series of integrated spreadsheets that estimate potential transit and HOV demand for a variety of trip origins and destinations throughout the

Figure 7-2. Work Process Overview



study area. For example, the tool can be used to assess the expected change in transit ridership between Olympia and Tacoma with additional and more frequent service improvements. Trips to/from the study area including the cities of DuPont and Lakewood, and JBLM can also be assessed based on varying service levels. As the level of trip-making on transit increases in the corridor, the potential reduction in vehicular trips can be calculated and the effect of transit or HOV enhancements on I-5 traffic performance can be determined. The model will also improve understanding of the size and location of potential transit and HOV markets and the effectiveness of various infrastructure and operational investments.

These models will be used in a series of sequential and interactive steps to assess the effectiveness of multimodal alternatives. The effectiveness and reliability of these models rests on the extensive data collection effort undertaken during Phase 2A. This data collection provided the information necessary to understand how traffic moves within the corridor including trip purposes, trip origins and destinations, vehicle occupancy and other factors.

7.3 Travel Surveys to Support the Development of Analysis Tools

As noted above, the enhancement of the traffic operational analysis tools that will be used in Phase 2B relies heavily on data collected during Phase 2A. These data were collected in early 2014, with results published independently in a report entitled *I-5 JBLM Vicinity Congestion Relief Study, Travel Patterns and Characteristics* (June 2014). Data collected and described in this report include:

- A survey of trip origin and destination patterns in the study area using an automated data collection process
- A survey of vehicle occupancy at JBLM ACPs (gates)

This information augments data collected earlier by others that evaluated travel patterns along I-5 itself, assessed the magnitude and type of trip-making by households in Thurston County, and identified travel needs and issues for JBLM.

Key findings from the 2014 travel surveys include:

- There is a significant amount of interchange to interchange activity along the corridor. For example, at the Gravelly Lake Drive and Thorne Lane interchanges, where the highest level of trip-making between interchanges occurs, 245 vehicles made this movement during the PM peak hour.
- Up to 15 percent of mainline traffic volumes during the PM peak hour consists of short trips made between closely-spaced interchanges.
- Travel between JBLM gates ranges between 1 to 6 percent of the mainline traffic volumes depending on highway segment.



This information has been used to:

- Calibrate and validate the I-5 JBLM vicinity corridor traffic models.
- Identify local improvement alternatives to address short-tripping.
- Evaluate potential improvement concepts to understand their effectiveness in reducing short-tripping.

APPENDIX A
LIST OF BRAINSTORMED OPTIONS

Appendix A: I-5 JBLM Alternatives Analysis - Compiled Brainstorming Results

Participating Agencies: City of DuPont, City of Lakewood, Town of Steilacoom, Pierce County, Nisqually Tribe, WSDOT, FHWA, JBLM, Intercity Transit, Pierce Transit, Sound Transit, TRPC (also includes ideas from consultant team)

Phase 1 - Advanced	Phase 2 - Initial Screening of Additional Alternatives					
Mainline Scenarios	A-Access to Interstate	Local Connectivity		D-Scenario "Inputs"	E-Transit	F-TDM/TSMO
		B-Off-Base Roadways	C-JBLM On-Base Roadways			
<ul style="list-style-type: none"> • Scenario 3 - 3 general purpose lanes and 1 HOV lane with CD Roads 	Close one interchange on I-5 in study area but retain bridge overcrossing (eight locations)	Hoffman Hill Blvd Extension - connect missing link between Mounts road and Hoffman Hill Road, improve Mounts Road (may need traffic calming)	Railroad Avenue / Perimeter Road, improve along east side of I-5 north of Nisqually gate, add connection to Clark Road east of Center Drive interchange, and extend north to Pendleton	Increase 2040 lane capacity assumptions for I-5	Increase bus service from Olympia/Lacey, DuPont, Lakewood and Tacoma to JBLM Gates. Add internal JBLM bus service.	Add center HOT lane to I-5 for 3+ carpools, and tolling SOVs
<ul style="list-style-type: none"> • Scenario 4 - 4 general purpose and 1 HOV lane 	Convert one existing interchange to HOV-only use, no HOV lanes on I-5 mainline (eight locations)	Improve Portland Avenue for higher speeds	Extend Pendleton Avenue to Steilacoom-DuPont Road and improve from Perimeter Road to Main Street, add new ACP near Steilacoom-DuPont Road	Verify model population and employment data as consistent with PSRC 2040 forecasts	Increase peak period bus service from Olympia/Lacey with stops at DuPont and Lakewood to Tacoma and north	Restrict lane changing on I-5 through study area
Interchange Concepts	Build Barrier-Separated Managed Lanes (2 in each direction) on I-5 through study area	Gravelly Lake Connector - new 2-lane urban road between Thorne Lane and Gravelly Lake Drive	Extend road from Steilacoom-DuPont Road to Pendleton and reconfigure DuPont ACP	Evaluate what is an acceptable LOS on I-5	Provide a minimum of peak period trips in peak direction	Flex time for JBLM and other employers on corridor
<ul style="list-style-type: none"> • Berkeley A - Tight Diamond 	Create access road through weigh station for general purpose traffic to access Steilacoom-DuPont interchange/DuPont gate	Remove restriction on truck traffic between Palisade Blvd & I-5 on Center Drive	Improve Main Street to a higher speed 2-lane road west of and parallel to I-5 from Pendleton Road to 41st Division	Increase JBLM on-base resident population from 24% to 30%.	Increase Pierce Transit service south to Olympia in weekday AM and PM peak periods	Implement a robust incident management plan on the corridor. Install alternate route signage that can be used during major events on I-5
<ul style="list-style-type: none"> • Berkeley B - SPUI 	Convert Steilacoom/DuPont Interchange to truck only access	Improve road / intersections of Old Pacific Highway between Kuhlman Road and 7th Avenue in Nisqually Valley to serve as bypass of I-5 (neighborhood issues)	Build new interbase connector road including bridge over I-5 between Lewis Main and Lewis North near Main Gate interchange. Would not require using ACPs.	Examine economic competitiveness impacts of limited freight mobility on I-5 to Port of Seattle and Port of Tacoma	Provide internal transit circulator in DuPont to offer access to regional transit via DuPont park-and-ride	Convert an existing lane on I-5 to HOV
<ul style="list-style-type: none"> • Main A - Full clover leaf with rail grade separated SB off-ramp 	Make improvements at DuPont/Steilacoom Interchange aimed at truck access	Improve Old Pacific Highway, Mounts Road to Nisqually to facilitate better traffic movement toward Yelm and serve as I-5 bypass	Improve 2-lane NCO Beach Road from 41st Division north, then build 2-lane connection to Field Artillery Trail in Camp Murray with new JBLM ACP, then Armor Drive to Camp Murray Main Gate	Evaluate potential impacts of Port / industrial area master plan development	Develop water access routes like the Mosquito Fleet	Convert an existing lane on I-5 to HOT
<ul style="list-style-type: none"> • Main B - Diverging Diamond with realigned I-5 and inter-base connection 	Construct a multi-lane direct access ramp to major employer (Madigan)	Construct new road alignment through Eagles Pride Golf Course, connecting Mounts Road and McNeil Street	Extend South A Road west of existing terminus at Jackson Road to connect with Logistics Gate at Murray Road, improve Murray Road for higher speed traffic to I-5/Thorne interchange	Look at 20 year phasing with 10 year right sizing of projects	Increase number and attractiveness of existing vanpools to/from JBLM	Create trip rationing system for I-5 (first 10 peak hour trips on I-5 per month are free, additional trips tolled)
<ul style="list-style-type: none"> • Main C - Tight diamond with realigned I-5 and inter-base connection 	Construct a Texas T at Madigan	New road alignment from McNeil to Center along Home Course (planned future road in DuPont plans)	Build Joint Base Connector (4-lane, high speed) between Lewis and McChord	Survey JBLM personnel regarding Origin/Destination home to work to get better data regarding likely driving routes to and from work	Increase existing Sound Transit service into Thurston County	Institute a pilot project that allows people to drive golf carts to transit hubs - DuPont would be an ideal location for such a pilot project
<ul style="list-style-type: none"> • Main D - Tight Diamond with realigned I-5 and inter-base connection with both existing gates 	Add freight only lanes on I-5 through corridor	Connect NW Landing to Old DuPont via existing emergency vehicle restricted roadway (Haskell Street)	Build Fairway Road extension as 2-lane road from Joint Base Connector to Bridgeport Way	Relocate JBLM to somewhere else in Washington State	Improve/enlarge DuPont park-and-ride and make connection to JBLM through existing tunnel under I-5	Synchronize existing JBLM traffic signal operations
<ul style="list-style-type: none"> • Steilacoom-DuPont A - Offset Diverging diamond 	Construct HOV bypass lanes at ramp meters (eight locations)	Widen DuPont-Steilacoom Road to 4 lanes between I-5 and Integrity Gate (Wharf)	Improve Barnes Road as 4-lane facility, Perimeter Road to Union Avenue	END OF SCENARIO INPUTS	Create program where vanpool vehicles on base during the day are repurposed to shuttle staff between destinations on base.	Build higher density development in JBLM along major transit corridors
<ul style="list-style-type: none"> • Steilacoom-DuPont B - Offset tight diamond 	Move the NB truck weigh station	Realign Murray Road/150th (east side of I-5) to facilitate freight movement and access to Spanaway/ Fredrickson (whole area is zoned Light Industrial) - widen to 4 lanes	Move DuPont ACP to Center Drive		Create flyer stop at DuPont Gate and Madigan Gate	Improve bicycle access to JBLM and within JBLM

Phase 1 - Advanced	Phase 2 - Initial Screening of Additional Alternatives					
Mainline Scenarios	A-Access to Interstate	Local Connectivity		D-Scenario "Inputs"	E-Transit	F-TDM/TSMO
		B-Off-Base Roadways	C-JBLM On-Base Roadways			
• Steilacoom-DuPont C - SPUI	Reevaluate HOV Plan for I-5, consider providing HOV-only lanes from Tacoma to Thurston County	Similar to above- new road alignment through Light Industrial area in vicinity of 150th	Construct additional queue lanes at gates on JBLM that back up onto highway		Improve NB PM bus service from JBLM to provide direct connection mirroring AM service, rather than requiring a trip to Lakewood to catch a NB bus.	Change the SOV culture on JBLM
• Thorne A - Offset diverging diamond	Evaluate and/or provide grade separation at Berkeley,Thorne and Steilacoom-DuPont interchanges	North Gate Road / Edgewood/Washington Street - minor arterials but roads need improvement. Avoid making this a bypass route for I-5. Intersections need roundabouts or signals	Close D Street Gate when Integrity Gate opens to alleviate local road impacts from growth on Lewis North.	TRANSIT CONTINUED	Create a local bus connection from the Lakewood Transit Center to the DuPont Park & Ride - with underpass connection into JBLM	Institute a "blue bike" program on JBLM similar to that on McChord
• Thorne B - Offset tight diamond	Double deck I-5 through study area	Improve 507 to four lanes to create attractive route into base. Congestion on 507 encourages traffic to use I-5 and Mounts Road to access Yelm area. Traffic causes travel between Yelm and Roy to take 40 minutes instead of 6	Convert existing ACP to HOV access only (consider Lewis Main)	Expand funding for Sound Transit service into Thurston County	Create a light rail corridor inside JBLM parallel the freeway	Institute metered parking on base. Free parking available at ACP's, price to park increases the closer the parking space is to the destination - tiered parking
• Thorne C - Offset SPUI	Create a barrier-separated HOV lane that can only be entered/exited outside the project area - allow one exit to JBLM from the HOV lane	Improve 510/702 intersection	Construct 4 lane arterial from Mounts Road to Madigan Hospital vicinity. Construct new gate at Mounts Road entrance.	Create a new regional transit authority for Thurston County	Increase Park & Ride facilities on corridor to facilitate HOV	Create HOV only land at ACPs with HOV direct access at ramps
	Convert Liberty Gate (Main Gate) to allow outbound traffic only and preclude inbound traffic at this location. Enlarge DuPont/Steilacoom Gate and Madigan Gate to accommodate shift in entering traffic at these locations	Construct more local connections between JBLM and surrounding communities. This could be freeway overpasses with no on or off ramps.	Close Madigan Gate and build new collector on JBLM to connect Madigan to Logistics Gate (Thorne Lane)	Expand transit service in the project area as mitigation for an unspecified project (state can fund transit when mitigating for project impacts)	Increase Sound Transit commuter rail service to Lakewood	Allow narrower lane widths and shoulder widths on I-5
	Evaluate sight distance at Berkeley - traffic slows due to blind spot as highway rises (NB) and drivers cant see due to resulting blind spot at underpass	Connect Barnes to South Tacoma Way via freeway overpass with no on or off ramps. Eliminate North Gate and route traffic to Barnes Gate.	Close Madigan Gate and build new collector on JBLM to connect to eastern end of proposed Cross Base Highway alignment (construct new gate at Cross Base)	Better connections between JBLM and regional transit centers @ Lakewood & DuPont	Extend Sound Transit to DuPont	Bike/Pedestrian regional access facility
	Construct a 2 lane flyover for traffic exiting JBLM at Mounts Gate headed SB on I-5	Build new express route along alignment at the eastern end of the proposed Cross Base Highway	Route additional traffic on JBLM to McChord North Gate away from gates on I-5	Create a new transit center for JBLM at Main Gate, North Gate or Madigan Gate	Create a Sound Transit spur line into JBLM at Center Drive	Change physical training at JBLM - switch some groups from morning training to end of day
	Create a new NB onramp at Barnes Road and relocate JBLM North Gate	Build a new N/S freeway between Tumwater and Puyallup. This could be a new "Eastern I-5"	Reevaluate all gates to JBLM along I-5. Create 3 new major points of entry to JBLM at Center, Thorne and Barnes/ Bridgeport (close DuPont, Main Gate and Berkeley)	Install signs that tell drivers when park-and-ride lots are full	Create remote security checkpoints for HOV & Transit destined for JBLM	Staggered work hours for JBLM military personnel
	Close Mounts Road interchange and construct a new public road alignment (outside JBLM) between Mounts Road and Center Drive on the east side of I-5 (Perimeter Road)	Improve 176th from Spanaway to the Joint Base Connector road	Keep ACP at DuPont/Steilacoom but convert to local traffic only/out only	Bus Rapid Transit on corridor	Add commuter rail stops at JBLM and DuPont	Use competitions like the Net Zero program on JBLM to incentivize transit use/CTR etc
	Re-route NB entering traffic from Mounts Road through weigh station - trucks only or all traffic - enter at Center instead of Mounts	Construct enhanced transportation routes through Steilacoom	Construct new road connection - DuPont to East Gate at edge of cantonment area. Follow rail line and combat vehicle trail	Utilize veterans to drive shuttles on JBLM	Create an Amtrak stop in Lakewood	Institute congestion pricing on all lanes of I-5 from Thurston County to Tacoma
	Incentivize use of Thorne Lane interchange	Construct new public road corridor between Mounts Road and Center Drive on JBLM	Create new alignment for Joint Base Connector Road through Logistics area. Tunnel under Logistics field.	Create transfer/waiting amenities at transit stations	Implement state funding for interregional transit service - make cost sharing of this service more equitable	Change culture at JBLM away from new soldiers driving fancy cars. Disallow car dealers at new service member orientations

Phase 1 - Advanced	Phase 2 - Initial Screening of Additional Alternatives					
Mainline Scenarios	A-Access to Interstate	Local Connectivity		D-Scenario "Inputs"	E-Transit	F-TDM/TSMO
		B-Off-Base Roadways	C-JBLM On-Base Roadways			
	Replace Berkeley & Thorne overpasses to allow hard shoulder running during peak periods between Thorne and Mounts Road (short term solution)	Increase speeds on Perimeter Road from Joint Base Connector Road grade-separation to Military Road to 50 mph	Revise security process at JBLM	Route buses only (civilian) through JBLM during I-5 incidents (incentivize bus use due to faster travel through corridor during major traffic events)	Construct a Park & Ride at Main Gate and construct a flyer stop at the Main Gate exit	Install variable speed limit signs like the ones in Seattle on the corridor
	Construct long, high bridge across Nisqually Delta from Mounts Road vicinity to hill above Nisqually to flatten out truck climbs on both ends.		Remove weigh station & create a new ACP into JBLM at weigh station location	Repurpose vanpool vehicles on JBLM to shuttles during the workday. Create an account to charge shuttle miles.	Create a robust shuttle system on JBLM	Normalize hitchhiking on JBLM/Give a soldier a lift
	Add northbound truck climbing lane on I-5 from north of BNSF bridge to Steilacoom-DuPont interchange		Create additional gates/access to JBLM to reduce need to use I-5	Resolve issues with shuttle drivers on JBLM (recently reassigned 6 of ten drivers to other duties)	Create a specialized transit system to and from JBLM with security checks at point of embarkation	Incentivize ride sharing for major employers on the corridor or employers whose staff use the corridor to get to/from work
			Improve Pendleton and fix height restriction under I-5 to allow better east/west connections on JBLM	Opportunity for Shuttle Express to operate on JBLM	Create a Park & Ride on the property near Mounts Road that was previously planned to be a rest area	Wrap JBLM destined Vanpool vehicles in camouflage or patriotic designs to make them more appealing to soldiers
			Add new secure connections between JBLM east/west using local roads	Enhance DuPont park-and-ride facility to provide additional service to south (trains, transit)	Create a common fare structure for all transit systems serving the project area	Designate carpool parking at every building on JBLM and enforce
			Provide access into JBLM for commercial trucks from the weigh station		Worker/driver buses to/from JBLM	Flex cars on JBLM
			Improve transpiration connections on JBLM to communities to the east such as Yelm, Roy, McKenna and Spanaway		Use the Mass Transit Benefit Program to better utilize funding for bus routes on JBLM (pool the unused money to fund bus service on base - look at City of Monterey example)	Create a phone App for on-base ride sharing so vanpool and transit users have a way to get around base during the day
			Move commercial truck access to JBLM from Logistics Gate to the McChord truck access as Rainier Gate		As interim solution, institute hard shoulder running on I-5 through study area but only for transit vehicles	

DRAFT June 11, 2014 Open House Comments and Responses by Category

No.	Comment	Response
Category A: I-5 Access		
	<u>Interchanges</u>	
1A	I-5 NB merge from Steilacoom-DuPont is too short (2)	Phase 1 options will address this during design.
2A	Thorne Lane interchange is too large based on volumes shown	As the Phase 1 interchange concepts are further evaluated they will be designed to meet expected demand.
3A	Commentor liked the diamond interchange concept at Exit 120 with new interbase connector (2)	Comment noted.
4A	Commentor liked the relocated diamond interchange at Exit 119 (2)	Comment noted.
5A	Needs a separate road or expressway to merge military traffic onto I-5 heading north	Accommodation of traffic to/from JBLM ACPs will be a part of the Phase 1 interchange concepts as they are designed.
6A	Dedicate 2 right lanes on I-5 to accommodate traffic destined to/from Exits 114 - 127	While this could be a potential short-term measure to address separation of through from locally-destined traffic, in the longer term a concept similar to this was addressed in Phase 1 as part of a scenario where the inside lane converted to HOV/managed lane/through lane. The concept did not adequately address demand.
7A	Add more auxiliary lanes like the one recently added at Thorne Lane	Additional auxiliary lanes will be considered during the concept design of future options.
8A	Turning left off the Mounts Road northbound exit is too dangerous, especially when the Nisqually Gate lets out large volumes of traffic. Very difficult to either find a sufficient gap or to see on-coming vehicles clearly. (3)	This input will be forwarded to WSDOT operations staff. As appropriate, a short term safety improvement will be considered at this location.
9A	Provide better separation of entering and exiting traffic (2)	This was inherent in all Phase 1 scenarios.
10A	Grade separate Exit 119 from the railroad	This was included in Phase 1 concepts.
11A	Pending environmental studies, prioritize A-27 (grade separate Berkeley, Thorne and S-D interchanges from railroad) and A-30 (eliminate off-ramps at Main Gate) as low-hanging fruit.	These options are already under consideration.
12A	Need more auxiliary lanes	The addition of auxiliary lanes is inherent in the Phase 1 scenarios.
13A	Add I-5 express lanes	This is being studied as part of option A-17.
14A	Widen Nisqually Bridges	By itself, this would not improve congestion through the JBLM area. Widening of these bridges as been assumed as part of the analysis conducted in Phase 1 to fully assess the benefits of adding travel lanes including corridor HOV facilities. Thus, this action is consistent with the Phase 1 scenarios that are being advanced. Over time a strategic evaluation needs to be conducted of the larger corridor to more fully address this need.
15A	Rebuild Berkeley and Thorne interchanges with tunnels under I-5 and railroad	Conduct Step 1 screening
16A	Close Mounts Road interchange	This has already been considered as a part of Phase 2A.
17A	Need a regional solution not one that just focuses on JBLM area	Comment noted.
18A	Redesign Exit 119 to serve only JBLM and not Steilacoom-DuPont Road in/out of DuPont	Conduct Step 1 screening

No.	Comment	Response
19A	Redesign Exit 120 to provide just one access to/from JBLM	This was considered as part of the interchange concepts developed in Phase 1 and will be further evaluated in forthcoming project phases.
	<u>HOV / Managed Lanes</u>	
20A	Make HOV / managed lanes a priority (3)	Comment noted, further evaluation of HOV lanes will be conducted in upcoming project phases.
21A	HOV lanes would be a waste of space	Comment noted.
22A	Add more GP or express lanes	These actions will be further evaluated in upcoming project phases.
	<u>Other</u>	
23A	Close the weigh station, at least during commute times (2)	Option A-25 addresses potential relocation of the weigh station. Screening of this option identified a need to also consider adding heavy vehicle climbing lanes between the BNSF bridge and the Steilacoom-DuPont interchange. Relocation of the weigh station would require an independent study to identify a reasonable new location.
24A	Need one quick fix, something before fall.	The fully-funded projects from the TIGER III grant program will all be open by spring. These will include improved signage, ramp metering, congestion monitoring and a new southbound auxiliary lane between Thorne and Berkeley. Additionally, the City of Lakewood is leading a project to improve access to Madigan Hospital from the interchange.
Category B: Local Off-Base Options (Open to the General Public)		
1B	Commentors were opposed to B-3 (Gravelly-Thorne Connector) (14)	Comment noted.
2B	Commentors liked B-11 (Murray Road/150th Street SW improvements) (16)	Comment noted.
3B	Commentors saw no benefit with B-17 (new higher speed connector road from Joint Base Connector Road to SR 7 at 176th Street SE). They noted that it would impacts environmentally sensitive areas and may add more traffic to I-5 (15)	Comment noted.
4B	Commentor expressed concern about the magnitude of traffic to/from Amazon on Center Drive in DuPont	Comment noted.
5B	Commentors felt that B-22 (increasing the speed on Perimeter Road) was good (14)	Comment noted.
6B	Commentors noted that they didn't want the Cross Base Highway to be built (3)	Comment noted.
7B	Another commentor advocated for construction of the Cross Base Highway	Comment noted.
8B	Extend Military Road directly from intersection with Perimeter Road to SR 7 as a straight shot, consider as 4-lane road (2)	This could be an extension of option B-22 (increasing speeds on Perimeter Road). If option B-22 is included in the packaging of alternatives during project Phase 2B, then the addition of the segment along Military Road will be considered as suggested.
9B	B-17 is better than the existing road alignment (2)	Comment noted.

No.	Comment	Response
10B	Provide public access road to military museum	This improvement is not expected to be helpful to addressing I-5 congestion.
11B	B-10 (widening Steilacoom-DuPont Road) needs environmental study (Western Bluebirds cross the road, impacts north of Starbucks on S-D Road)	Comment noted. If this option is included in the packaged alternatives to be studied in Phase 2B, potential environmental impacts will be addressed.
12B	Look at access to American Lake Conference Center and other nearby recreational facilities	Improvements in this area are not expected to help address I-5 congestion.
13B	Commentor liked B-3 (Gravelly-Thorne Connector)	Comment noted.
14B	Commentor liked B-2 (improve Portland Avenue for higher speed traffic)	Comment noted.
15B	Commentor liked B-10 (widening Steilacoom-DuPont Road)	Comment noted.
16B	Need frontage roads along I-5 between Exit 114 and 119	Conduct Step 1 screening
17B	Need I-5 frontage roads	Frontage or collector/distributor roads were included in the freeway mainline concepts developed in Phase 1 and will be further explored in future project phases.
18B	Add new highway along east side of JBLM paralleling I-5	Already addressed as option B-18 which was not advanced due to incompatibility with existing/proposed land use patterns, potential property acquisition impacts and cost.
19B	Improve roads on the east side, including SR 507 as a intercounty, divided highway	Already addressed under option B-13. May be further considered in future project phases as part of a comprehensive improvement package.
Category C: Local On-Base Options (Not Open to the General Public)		
1C	Open more gates for egress to spread out traffic onto different roads	Comment noted. JBLM will be undertaking improvements to ACPs at Mounts Road, DuPont, and Center Drive.
2C	Support for building C-8	Comment noted
3C	Open Ammo dump road from Barnes Gate Road to corner of Transmission Line Road and East Gate Road	Sent to JBLM for consideration.
4C	Remove Barnes Road gate to open up Barnes Road to Transmission Line Road, mitigate for the ammo dump (same as above?)	Sent to JBLM for consideration.
5C	Extend Transmission Line Road all the way to 176th Street SE	Conduct Step 1 screening
6C	Add better on-base connectivity	Category C options were developed and are being evaluated to address that specific need.
7C	Widen East Gate Road and install signal at SR 507	C-21 addresses the need to provide improved access to East Gate. This improvement will be considered for inclusion in one or more sets of packaged improvements that will be further studied in future project phases. A traffic signal was recently installed.
8C	Use automated transponder-like devices to enter/exit JBLM to speed up traffic. This would function like the auto-read ID cards currently used at gates	This is a JBLM operational issue and not under the purview of WSDOT. Comment will be forwarded to JBLM for operational consideration.

No.	Comment	Response
Category D: Scenario Inputs		
	<u>Assumptions</u>	
1D	Consider existing and future land use	Existing and future land use is an inherent part of the travel demand models that will be used to develop traffic forecasts. These will be included in the Phase 2B effort.
2D	Consider range of JBLM growth scenarios (3)	These will be considered in future project phases.
3D	Provide on-base housing for all active duty personnel	Conduct Step 1 screening
	<u>Environmental Issues</u>	
4D	Consider environmental justice issues	Will be considered in future project phases.
5D	Clearly show GHG and carbon footprint for no action and each build alternative	Will consider Greenhouse Gas Emissions as part of the environmental evaluation conducted in future project phases.
	<u>Funding</u>	
7D	Get cost estimates done by end of 2014 so legislature can consider in 2015. Dedicate funding to I-5.	Comment noted.
8D	Close JBLM interchanges and force DoD to pay for traffic impacts before reopening	Comment noted.
Category E: Transit		
	<u>Bus Transit</u>	
1E	Take systems view to integrate transit options	A comprehensive set of transit improvements for the corridor will be considered in future project phases.
2E	Bus should be available to military for free at all times	Without a subsidy from JBLM, this option would place the burden of transit funding on other users and local governments. Consequences of free fare for selected trips can be evaluated during Phase 2B using transit sketch planning tool.
3E	Focus on public transit options, need more transit (5)	Will be considered in Phase 2B.
4E	Bus service to connect DuPont with Olympia and Tumwater	Will be considered in Phase 2B.
5E	Commuter bus service from Spanaway, South Hill and Parkland to JBLM	Will be considered in Phase 2B.
6E	Shuttle people to JBLM from parking structures in Lakewood and Lacey	This action was considered as part of option E-24 and is recommended for further study in future project phases.
7E	Need on-base transit	Will be considered in Phase 2B.
	<u>Rail Transit</u>	
8E	Integrate Sounder rail service with local bus service provided by Pierce Transit and Intercity Transit to accommodate travel need to/from JBLM	This action will be considered as part of the further development of option E-1.
9E	Add Amtrak stop at DuPont or Lakewood	This action was evaluated as part of option E-20 and was determined to be fatally-flawed due to Amtrak service issues.

No.	Comment	Response
10E	Extend Sounder to Olympia (6)	Olympia is not currently in the Sounder service area and would add significant costs to providing the existing service. Adding Thurston County to the Sounder service area would require a vote of the people, and could only provide service to the existing Amtrak station on the outskirts of town.
11E	Consider future light rail (3)	Was considered in E-14 and was identified as fatally-flawed due to low densities in the service area and high expected costs.
12E	Add rail service between Yelm and Puyallup	Conduct Step 1 screening
Category F: TDM/TSMO		
1F	<i>TDM</i> Institute flex time/staggered work hours for JBLM employees (5)	Already considered under option F-19. Civilians on base already have this option. Implementation for military personnel not under control of WSDOT or local governments.
2F	Compare the cost of staggering JBLM work hours with cost of highway improvements	Implementation of flex time already considered under option F-19. Not under control of WSDOT or local governments.
3F	Build better bike connectivity over/under I-5	This will be considered as part of design for highway and interchange improvements.
4F	Add better bike connectivity between Berkeley and Steilacoom-DuPont Road north of I-5.	This will be considered as part of design for highway and interchange improvements. Opportunities for development in Sound Transit rail right-of-way may be explored if a potential is identified.
5F	Add bike lanes to S-D Road	Bike connectivity to be further explored during future project design phases.
6F	Military-funded zip cars on-base	Was considered as part of F-28. May be further evaluated as part of a comprehensive CTR strategy for JBLM that will be further explored in future project phases.
7F	Bicycle programs on JBLM	Already considered as part of option F-13. May be further considered as part of a comprehensive CTR strategy for JBLM.
8F	Bike network drawn on map including facilities parallel to I-5	Bike connectivity will be further explored during design phases of the project.
9F	Specific proposal for flex time from website comments	Sent to JBLM for consideration,
<i>TSMO</i>		
10F	Keep trucks and buses in the slow lane (3)	Comment noted.
11F	Increase I-5 speed to 65 mph	Comment noted.
12F	Better management for traffic light from Madigan to SB I-5	This will be part of the pending Madigan access improvement project that is expected to be completed in late 2014.
13F	Additional ITS strategies to better manage incident "rubbernecking"	This was considered as part of option F-4. Incident management is an on-going activity of WSDOT and is not considered to be a commute period congestion management strategy.

No.	Comment	Response
14F	Implement additional ITS action to provide advance notice to "stay left if through traffic" heading SB from Bridgeport (2)	There is an existing sign on an overhead structure that advises of congestion when lights flash. WSDOT will investigate if this sign is effective and/or if the lights are flashing correctly. Comment will be forwarded to WSDOT operation staff.
15F	Direct traffic with JBLM personnel instead of signals	Conduct Step 1 screening.
16F	Use a pop-up screen to prevent accidents being viewed by public	This was considered as part of option F-4. Incident management is an on-going activity of WSDOT and is not considered to be a commute period congestion management strategy.
17F	Need Variable Message Signs showing travel time to various destinations	The pending TIGER III-funded improvement project will address this.
18F	Improve arterial signal synchronization in vicinity of ramps	All interchange area projects will have improved traffic control of some type. If traffic signals are added, they will be synchronized at the interchange. This comment will also be forwarded to WSDOT operations staff.
19F	Ban all trucks over 12,000 GVW from I-5 during peak commute hours	Conduct Step 1 screening.
20F	Add more ramp metering	Comment noted. This will be included in the pending TIGER III-funded improvement package.
22F	Opposes ramp metering	Comment noted.
23F	Synchronize signals along SR 507	Comment will be forwarded to WSDOT operations staff.
24F	Turn all lanes on I-5 into HOT lanes during commute hours	A congestion pricing strategy was proposed as part of Option F-21. This option will be carried forward and further studied in future project phases.

APPENDIX B
DETAILED SCREENING RESULTS FOR STEP 1

I-5 JBLM Vicinity Phase 2A Step 1 Screening Analysis

Category A: I-5 Access Options



Pass



Needs more information



Fail



Included with earlier/other options or to be incorporated automatically

No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Step 2?	Potential for Combination with Other Options	Comments
(A) I-5 Access Options										
A-1	Close Mounts Road Interchange	Remove all ramps but keep Mounts Road bridge over I-5								Red: Fails because Mounts Road provides access for residences and developments along Mounts Road west of I-5. Closing the interchange would require drivers to take a long circuitous route to the Nisqually Interchange for access to I-5. It would also lengthen response time for emergency vehicles to these developments, including the Eagles Point Golf course. This interchange also provides an emergency access across the Nisqually Delta if something happens to I-5. Blue: Consider in combination with A-34.
A-2	Close Center Drive Interchange	Remove all ramps but keep Center Drive bridge over I-5								Red: Fails because this interchange was constructed with private funds from Weyerhaeuser as mitigation for NW Landing developments. To remove it may require repayment of funds and may require new mitigation for area developments. Center Drive is also the primary access connection to DuPont; removing the interchange would require traffic from DuPont, Steilacoom, and the new Integrity Gate to access I-5 via the Steilacoom-DuPont Road interchange, overloading it and other two-lane local roads.
A-3	Close Steilacoom-DuPont Interchange	Remove all ramps but keep Steilacoom-DuPont bridge over I-5								Red: Fails because Steilacoom-DuPont Road Interchange is the primary access connection to the Town of Steilacoom, as well as to the new Integrity Gate to Lewis North. It also is the primary truck access point to the light industrial and warehouse area for DuPont. Removing this interchange would re-route all Steilacoom, Integrity Gate and truck traffic to Center Drive Interchange, over loading it. Failure forecast in prior analyses.
A-4	Close Main Gate Interchange	Remove all ramps but keep 41st Division Drive bridge over I-5								Yellow: Further evaluate. Note that closing this interchange would shift I-5 traffic to other interchanges and impact gate operations on 41st Division Drive and at Center Drive. Green: Consider in combination in Phase 2B.
A-5	Close Berkeley Street Interchange	Remove all ramps but keep Berkeley Street bridge over I-5								Red: Fails because the Berkeley Street Interchange is the primary access point to Camp Murray and Madigan Hospital. Closing the interchange will require most traffic to Camp Murray to use local streets through the Tillicum neighborhood from the Thorne Lane Interchange. It reduces the I-5 access points to the land locked Tillicum neighborhood to one location. It will also require longer travel times to Madigan area and longer emergency vehicle travel time to Madigan Hospital. Green: Further evaluate in combination with other options.
A-6	Close Thorne Lane Interchange	Remove all ramps but keep Thorne Lane bridge over I-5								Red: Fails because the Thorne Lane Interchange is the primary access point to Woodbrook and Tillicum neighborhood. Closing the interchange will require most Woodbrook traffic to travel through Spanaway or Tillicum neighborhood to the Berkeley Interchange. It reduces the I-5 access points to the land locked Tillicum neighborhood to one location. It will also lengthens the emergency response times to the Woodbrook neighborhood. Green: Further evaluate in combination with other options.
A-7	Close Gravelly Lake Drive Interchange	Remove all ramps but keep Gravelly Lake Drive bridge over I-5								Red: Fails because this interchange is the primary access to McChord housing, portions of Lakewood, Veteran's Hospital, Pierce College and the Town of Steilacoom. It would likely shift traffic to the Bridgeport Way Interchange, impacting heavily traveled Bridgeport Way and likely portions of Pacific Highway which recently was converted to a 3-lane cross-section as part of a road diet. Gravelly Lake Drive also has Lakewood's only grade-separation over the future Amtrak service line. Yellow: Consider in combination in Phase 2B.
A-8	Close Bridgeport Way Interchange	Remove all ramps but keep Bridgeport Way bridge over I-5								Red: Fails because the Bridgeport Way Interchange is a primary arterial into the City of Lakewood and to McChord's main gate. Closing this interchange would require a large amount of traffic to overload the SR 512 and Gravelly Lake Interchanges.
A-9	HOV only Access at Mounts Road Interchange	Convert Mounts Road Interchange to HOV use only without added HOV lanes								Red: Fails because Mounts Road provides access for residences and developments along Mounts Road west of I-5. Closing the interchange would require drivers to take a long circuitous route to the Nisqually Interchange for access to I-5. Emergency vehicles to these developments could use the HOV ramps to access the area.
A-10	HOV only Access at Center Drive Interchange	Convert Center Drive Interchange to HOV use only without added HOV lanes								Red: Fails because this interchange was constructed with private funds from Weyerhaeuser as mitigation for NW Landing developments. To limit its use to HOV only may require repayment of funds and may require new mitigation for area developments. Center Drive is also the primary access connection to DuPont; and changing it to HOV only would require SOV traffic from DuPont, Steilacoom, and the new Integrity Gate to access I-5 via the Steilacoom-DuPont Road interchange, over loading it and other two-lane local roads.
A-11	HOV only Access at Steilacoom-DuPont Interchange	Convert Steilacoom-DuPont Interchange to HOV use only without added HOV lanes								Red: Fails because Steilacoom-DuPont Road Interchange is the primary access connection to the Town of Steilacoom, as well as to the new Integrity Gate to Lewis North. It also is the primary truck access point to the light industrial and warehouse area for DuPont. Limiting this interchange to HOV only would re-route all SOV traffic from Steilacoom, Integrity Gate and truck traffic to Center Drive Interchange, potentially over loading it. Failure forecast in prior analyses.
A-12	HOV only Access at Main Gate Interchange	Convert Main Gate Interchange to HOV use only without added HOV lanes								Yellow: Further evaluate, note that option would limit I-5 access to Liberty Gate and 41st Division Gate to HOV only and shift SOV traffic to the Madigan and DuPont Gates. Green: Consider in combination in Phase 2B.
A-13	HOV only Access at Berkeley Street Interchange	Convert Berkeley Street Interchange to HOV use only without added HOV lanes								Yellow: Further evaluate. Note it would require all Camp Murray SOV traffic go thru Tillicum which would likely need additional mitigation. Green: Consider in combination in Phase 2B.

No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Step 2?	Potential for Combination with Other Options	Comments
(A) I-5 Access Options										
A-14	HOV only Access at Thorne Lane Interchange	Convert Thorne Lane Interchange to HOV use only without added HOV lanes								Red: Fails as a stand alone option because limiting the Thorne Lane Interchange to HOV only would require landlocked Woodbrook residents that drive alone and truck traffic to the Logistics Commercial Gate to travel east through Spanaway. Green: Further evaluate in combination with other options.
A-15	HOV only Access at Gravelly Lake Drive Interchange	Convert Gravelly Lake Drive Interchange to HOV use only without HOV lanes								Yellow: Further evaluate. This location is primary access for SOVs to McChord housing, SOV traffic would be shifted to other access points. Green: Consider in combination in Phase 2B.
A-16	HOV only Access at Bridgeport Way Interchange	Convert Bridgeport Way Interchange to HOV use only without HOV lanes								Red: Fails because the Bridgeport Way Interchange is a primary arterial into the City of Lakewood and to McChord's main gate. Limiting the interchange to HOV only would require a large amount of SOV traffic to overload the SR 512 and Gravelly Lake Interchanges.
A-17	Barrier Separated Express GP Lanes on I-5	Add two center barrier-separated express GP lanes in each direction from Center Drive to Gravelly Lake Drive								Green: Further evaluate. Could substantially improve operations in study area for through traffic, including trucks, with associated travel time and cost savings benefits.
A-18	Weigh Station Access to JBLM through weigh station, Mounts Road to Steilacoom-DuPont I/Cs	Create access around weigh station using weigh station roadways as a queue bypass for traffic heading to the Steilacoom-DuPont I/C								Red: Fails because it is considered not reasonable due to safety and operational considerations of mixing GP and truck traffic in this environment and would require all vehicles to drive across the scales that may be blocked while trucks are inspected.
A-19	Truck Only Access at Steilacoom-DuPont Interchange	Convert Steilacoom-DuPont interchange to truck only access								Red: Fails because it would shift all non-truck traffic from Steilacoom and from the Integrity Gate to Center Drive Interchange to reach I-5, potentially overloading this interchange. Failure forecast in prior analyses.
A-20	Improve Truck Access at Steilacoom-DuPont Interchange	Improve Steilacoom-DuPont interchange for better truck access								Blue: This option is inherent in any improvement project developed for the Steilacoom-DuPont Interchange and is not considered a stand alone project.
A-21	Add Direct Access Ramps (Flyover) from I-5 to Madigan Hospital/other JBLM sites	Construct multi-lane direct access ramp to major employer (e.g., Madigan)								Red: Fails because of military security issues which would require its own ACP in addition to the Madigan ACP.
A-22	Texas Tee at Berkeley Interchange	Construct Texas Tee at interchange to Madigan Gate								Red: Fails because it would eliminate access to Camp Murray and require drivers to travel through the Tillicum neighborhood to access Camp Murray. Green: Further evaluate in combination with other options.
A-23	Add Freight Only Lanes to I-5	Add freight only lane in each direction								Red: Fails because there would likely be insufficient volume to make for reasonable benefit relative to cost. Green: Further evaluate in combination with other options.
A-24	HOV By-pass Ramps at all Interchanges	Add HOV bypass lanes at ramp meters for all interchanges in study area								Blue: This option would be considered with any interchange improvement project and will be included in Phase 2B concepts where it will be further studied.
A-25	Move Weigh Station	Relocate weigh station from NB I-5 north of Mounts Road I/C								Yellow: Further evaluate. Question as to whether the weigh station is the major problem or the lack of a truck climbing lane on uphill slope from Nisqually Delta. Green: Consider in combination in Phase 2B.
A-26	HOV only lanes from Tacoma to Thurston County	Reevaluate HOV plan for 1-5 - need connectivity between Tacoma and project area								Blue: Phase 1 already studied the benefits of adding HOV lanes from current terminus into Thurston County. This issue will be further analyzed in Phase 2B.
A-27	Railroad at-grade separations at Berkeley, Thorne and Steilacoom-DuPont Interchanges	Evaluate and/or provide grade separation at Berkeley, Thorne and Steilacoom/DuPont								Blue: This has previously been evaluated and considered as part of interchange concepts in Phase 1. This option will be further studied in Phase 2B.
A-28	Double Deck I-5 through project area	Double deck freeway								Red: Fails because of extraordinary cost.
A-29	Barrier Separated HOV Lanes with only one access point in project area	Create an HOV lane that can only be entered/exited outside the project with one exit for JBLM								Blue: HOV lanes were studied in Phase 1 and will be further explored in Phase 2B. Option is inherent in A-17.
A-30	Remove I-5 off-ramps at Main Gate Interchange, Improve Steilacoom-DuPont and Berkeley Interchanges	Remove I-5 off-ramps, retain on-ramps to allow outbound traffic only from JBLM, remove Liberty and 41st Division ACPs. Enlarge DuPont and Madigan Gates and I-5 off-ramps at Steilacoom-DuPont and Berkeley I/Cs to accommodate shift in entering traffic.								Yellow: Further evaluate. Traffic shifts may require additional improvements to freeway and local streets to accommodate added traffic volumes. Would benefit JBLM by eliminating two ACPs and improving ease of movement between Lewis Main and Lewis North. Green: Consider in combination in Phase 2B.
A-31	Check I-5 Sight-Distance at Berkeley Interchange	Evaluate sight distance on freeway mainline, NB traffic slows at blind spot where highway rises in vicinity of the interchange bridge.								Blue: This option is inherent in any improvement project developed for I-5 in the vicinity of the Berkeley Street Interchange and is not considered a stand alone project.
A-32	Add SB Fly-over at Mounts Road Interchange	Construct 2-lane flyover to traffic exiting JBLM and heading south on I-5								Red: Fails because the likely cost/benefit ratio for this project would make it impractical due to low volumes and high cost. Would also require railroad structures to be rebuilt.
A-33	Add new on-ramp from Barnes Blvd	Construct new NB I-5 on-ramp from Barnes Blvd at I-5 between Bridgeport Way and SR 512								Red: Fails because it violates interchange spacing requirements in HDM and FHWA policy (less than 1 mile spacing) and would likely make existing congestion near the SR 512 interchange worse.

No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Step 2?	Potential for Combination with Other Options	Comments
(A) I-5 Access Options										
A-34	Close Mounts Road Interchange and add new public road from Mounts Road to Center Drive	Close Mounts Road I/C but keep Mounts Road bridge over I-5. Build new public road alignment outside fence between Mounts Road and Center Drive on the east side of I-5	G	Y	Y	G	G	Y	G	Yellow: Further evaluate. It would likely require an additional easement from JBLM. Closure of Mounts Road I/C could also impact the Nisqually fish hatchery to the south which requires daily access, and the proposed Nisqually cultural center which is under development. Additionally, this interchange provides the most direct route for tribe and public access from Yelm to I-5. Green: Consider in combination in Phase 2B.
A-35	Re-route NB on-ramp from Mounts Road through Weigh Station and connect to Center Drive on-ramp	Route NB traffic entering traffic at Mounts Road through weigh station (trucks only or all traffic), enter at Center Drive instead of Mounts Road	G	Y	Y	G	G	Y	G	Yellow: Further evaluate. It would require separation between trucks and cars. Green: Consider in combination in Phase 2B.
A-36	Thorne Lane Interchange	Incentivize use of Thorne Lane interchange	G	G	Y	G	Blue	Blue	Blue	Blue: This was included in Phase 1 with proposed interchange concepts
A-37	Replace Berkeley Street and Thorne Lane Interchanges to allow hard shoulder running	Replace Berkeley and Thorne overpasses to allow hard shoulder running between Thorne and Mounts Road (short-term solution)	G	G	G	G	Blue	Blue	Blue	Blue: Effects of this option were considered in Phase 1 and will be further evaluated in Phase 2B.
A-38	New I-5 bridge from Mounts Road to north of Meridian Crossing	Build long, high bridge to flatten out NB and SB truck climbs on both ends	G	G	G	G	R	R	R	Red: Fails because of the extraordinary cost.
A-39	Add I-5 Northbound Climbing Lane	Add a NB climbing lane between BNSF bridge and Steilacoom-DuPont I/C	G	G	G	G	G	G	G	Green: Further consider benefits of separating slow-moving truck traffic from travel stream.

I-5 JBLM Vicinity Phase 2A Step 1 Screening Analysis

Category B: Off-Base Local Connectivity Options (Open to the General Public)



No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Step 2?	Potential for Combination with Other Options	Comments
(B) Off-Base Local Connectivity O										
B-1	Hoffman Hill Boulevard Extension	Improve and/or construct new 2-lane urban road connection for DuPont internal street system and improve Mounts Road (will require traffic calming of existing Hoffman Hill Blvd)	G	Y	G	G	G	Y	G	Yellow: Further evaluate. More information on I-5 traffic changes is needed. Green: Consider in combination in Phase 2B.
B-2	Improve Portland Avenue for higher speeds	Improve portions of existing Portland Avenue SW and Thorne Lane to accommodate slightly higher speed traffic	Y	G	R	G	G	R	R	Red: Fails because of neighborhood traffic impacts. Recent changes to slow traffic on Portland Avenue were mitigation for the Camp Murray gate relocation.
B-3	Gravelly Lake Connector	Build new 2-lane urban road west of and parallel to I-5 between Thorne Lane and Gravelly Lake Drive	G	G	G	G	G	G	G	Green: Further evaluate. More information on I-5 traffic changes is needed.
B-4	Remove truck Restrictions on Center Drive	Remove restriction on truck traffic on Center Drive, Palisade to I-5	Y	G	Y	G	G	Y	G	Yellow: Further evaluate. This option may have community concerns about an increase in truck activity along Center Drive. Consider in combination in Phase 2B.
B-5	Improve Old Pacific Highway, Kuhlman Road to 7th Avenue	Improve roads/intersections in Nisqually Valley to facilitate bypass of I-5 (neighborhood issues) via Old Pacific Highway	G	G	Y	G	G	Y	G	Yellow: Further evaluate. This option may have no perceptible impact on I-5 traffic operations. Green: Consider in combination in Phase 2B.
B-6	Improve Old Pacific Highway, Mounts Road to Nisqually River	Improve highway to accommodate increased traffic volumes and relieve I-5	G	G	Y	G	G	Y	G	Yellow: Further evaluate. This option may have no perceptible impact on I-5 traffic operations. Green: Consider in combination in Phase 2B.
B-7	New Road through Eagles Pride Golf Course	Construct new 2-lane urban road through Eagles Pride Golf Course, connecting Mounts Road and McNeil Street or Center Drive	Y	Y	Y	G	G	Y	G	Yellow: Further evaluate. This option has potential golf course impacts with uncertain traffic operational benefits. Green: Consider in combination in Phase 2B.
B-8	New Road along Home Course between McNeil and Center	Construct new 2-lane urban road (planned future road in DuPont plans)	Y	G	Y	G	G	Y	G	Yellow: Further evaluate. This option has uncertain traffic operational benefits. Green: Consider in combination in Phase 2B.
B-9	Haskell Street Connection	Construct connection via existing emergency vehicle restricted roadway on Haskell Street from NW Landing to Old DuPont	G	G	Y	G	G	Y	G	Yellow: Further reevaluate. This option would increase local connectivity to distribute traffic, but has uncertain benefits to I-5. Green: Consider in combination in Phase 2B.
B-10	Improve Steilacoom-DuPont Road	Improve Steilacoom-DuPont Road from I-5 to Integrity Gate to 4-lane urban street with turn lane channelization where needed	G	G	Y	G	G	Y	G	Yellow: Further evaluate. This option will accommodate the potential for increased traffic associated with Integrity Gate. Green: Consider in combination in Phase 2B.
B-11a	Murray Road/150th Street SW Improvements, I-5 to Perimeter Road	Realign roads on east side of I-5 and improve to four lane cross-section to facilitate freight movement (whole area is zoned Light Industrial)	G	Y	Y	G	G	Y	G	Yellow: Further evaluate. Neighborhood is zoned for light industrial and the local school has been closed. As the area is in transition, increased traffic capacity and improved connectivity may be appropriate.
B-11b	150th Street SW vicinity improvements	Variation of B-11a - construct new road alignment through light industrial area	Combined with B-11a						Combined with B11a	
B-12	North Gate Road/Edgewood/Washington Street Improvements	Improve minor arterial roads from I-5 to North Gate/Edgewood intersection but avoid making this a bypass route for I-5. Intersections need roundabouts or signals	G	G	Y	G	G	Y	G	Yellow: Further evaluate. There are local concerns about this becoming a bypass route for I-5 when freeway is congested. Route currently exists. Green: Consider in combination in Phase 2B.
B-13	Improve SR 507, JBLM East Gate through McKenna	Improve 507 to four lanes and county roads to create attractive route into base for major volumes that come from east. Congestion on 507 encourages traffic to use I-5 and Mounts Road to access Yelm area. Traffic causes travel between McKenna and Roy to take 40 minutes instead of 6	G	G	Y	G	G	Y	G	Yellow: Further evaluate. This option requires evaluation of the potential to divert JBLM trips from I-5 to the east side. Improvements would accommodate a potential trip diversion. Green: Consider in combination in Phase 2B.
B-14	SR 507 at SR 702	Improve intersection	Linked to B-13						Linked to B-13	Green: Further evaluate. Part of assessment of SR 507 improvements, considers improvement needs at intersection with SR 702.
B-15	Add more local street connections over I-5	Add more crossings of I-5 between local communities to reduce volume of traffic using interchange bridges	G	Y	Y	Y	G	Y	G	Yellow: Further evaluate. The majority of land in local communities on both sides of I-5 is limited to the area north of Gravelly Lake Drive. There are three existing crossing in this area in addition to the interchange crossing. The Woodbridge and Tillicum neighborhoods already have the Thorne Lane/Murray Road connection. No other crossings seem to be appropriate. Green: Consider in combination in Phase 2B.
B-16	Barnes Blvd Extension from Barnes/West intersection to Pacific Highway	Construct new freeway overcrossing with no on or off-ramps. Eliminate North Gate and route all traffic to a new Barnes Gate.	G	G	G	G	G	G	G	Green: Further evaluate.

No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Step 2?	Potential for Combination with Other Options	Comments	
(B) Off-Base Local Connectivity O											
B-17	New higher speed road from Joint Base Connector Road to 176th Street SE @ SR 7	Construct new highway/higher speed arterial road between Joint Base Connector Road to 176th Street SE @ SR 7 (along proposed eastern portion of the Cross Base Highway alignment).	Y	G	Y	G	G	Y	G	Yellow: Further evaluate. This public access road could also serve the east side of JBLM via the Joint Base Connector Road. Note the Cross Base Highway project is currently under litigation. Green: Consider in combination in Phase 2B.	
B-18	New Highway, Tumwater to Puyallup	Build new north/south freeway (eastern complement to I-5 function)	G	G	Y	G	R	R	R	Red: Fails because it is unlikely that existing/proposed land use patterns would support such a facility. It is likely not feasible based on cost/benefit ratio and would require massive private property acquisitions and would likely have serious environmental impacts.	
B-19	176th Street S., Spanaway to Joint Base Connector	Improve 176th Street S., from Spanaway to Joint Base Connector to add capacity	Linked to B-17						Linked to B-17	Linked to B-17	This option is considered to be part of option B-17.
B-20	Enhance Steilacoom road system	Construct enhanced transportation routes through Steilacoom	G	G	Y	G	Blue	Blue	Blue	Blue: Steilacoom has already improved many of its roads as part of an on-going improvement program. As other options include local street improvements in this area, proceeding further with this concept is not recommended.	
B-21	Railroad Avenue/Perimeter Road, Mounts Road to Center Drive	Construct new public road corridor on JBLM	Y	G	G	Y	G	Y	G	Yellow: Further evaluate. It would require easement from JBLM and moving fence line. Additionally, the option may impact the JBLM training area. Green: Consider in combination in Phase 2B.	
B-22	Perimeter Road - McChord Field, Joint Base Connector to Military Road	Increase roadway speed to 50 mph, develop higher speed connection to Joint Base Connector road	G	G	G	G	G	G	G	Green: Further evaluate. There is one corner that must be signed for less than 50 mph.	

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Category C: On-Base Local Connectivity Options (Not Open to the General Public)



No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Step 2?	Potential for Combination with Other Options	Comments
(C) On-Base Local Connectivity Options (Not Open to the General Public)										
C-1	Railroad Avenue, Nisqually Road to Pendleton Avenue	Improve JBLM southerly road on east side of I-5 and add connection to Clark Road east of Center Drive Interchange with extension further north along east side of freeway to Pendleton Avenue	G	G	Y	Y	G	Y	G	Yellow: Further evaluate. This option may require modifications to the ACP near Mounts Road. Green: Consider in combination in Phase 2B.
C-2	Pendleton Avenue ACP, Steilacoom-DuPont Road to Perimeter Road	Extend Pendleton Avenue to Steilacoom-DuPont, improve Pendleton Avenue from Perimeter Road to Main Street, and add new ACP near Steilacoom-DuPont Road	G	G	Y	G	R	R	R	Red: Fails because establishment of new ACP is unlikely to be cost-effective. Access under Pendleton needs to be fully accessible to trucks.
C-3	Reconfigure DuPont ACP	Extend road from Steilacoom-DuPont Road to Pendleton Avenue and re-configure DuPont ACP	G	G	G	G	G	G	G	Green: Further evaluate. This improvement would function basically like a frontage road.
C-4	Main Street, Pendleton Avenue to 41st Division Drive	Improve Main Street to a higher speed 2-lane road west of and parallel to I-5 from Pendleton Road to 41st Division Drive	G	G	G	G	G	G	G	Green: Further evaluate. This improvement would function basically like a frontage road.
C-5	Interbase Connector at Main Gate Interchange, East side of I-5 to west side of I-5	Build new 2-lane connector road including bridge over I-5 to connect interbase trips without requiring entering/exiting ACPs	G	G	Y	G				Blue: This option was included in Phase 1 concepts for the I-5/Main Gate interchange.
C-6	NCO Beach Road, 41st Division Drive to Berkeley Street	Improve 2-lane NCO Beach Road from 41st Division Drive to north, then build 2-lane connection to Field Artillery Trail in Camp Murray with new JBLM ACP, then Armor Drive to Camp Murray Main Gate	G	G	Y	Y	G	Y	G	Yellow Further evaluate. This option would likely require significant reconstruction on Camp Murray. It may not have significant benefit for I-5, but it is feasible. Camp Murray may not agree to proceed with this option. Green: Consider in combination in Phase 2B.
C-7	South A Road Extension, Jackson Road to Logistics Gate	Extend South A Road west of existing terminus at Jackson Road on JBLM to connect with the Logistics Gate at Murray Road, improve Murray Road for higher speed traffic to I-5/Thorne Lane I/C.	G	G	Y	G	G	Y	G	Yellow: Further evaluate. This project is included in JBLM's Master Plan. Green: Consider in combination in Phase 2B.
C-8	Joint Base Connector, Jackson Road to Perimeter Road - McChord Field	Build 4-lane higher speed connection between Fort Lewis and McChord Field per JBLM plans	G	G	G	G	G	G	G	Green: Further evaluate.
C-9	Fairway Road Extension, Joint Base Connector to Bridgeport Way	Improve and extend Fairway Road as 2-lane higher speed road	G	G	G	G	G	G	G	Green: Further evaluate.
C-10	Barnes Road Improvements, Perimeter Road to Union Avenue (McChord North Gate)	Improve Barnes Road as 4-lane facility	G	G	Y	G	G	Y	G	Yellow: Further evaluate. This option may impact operations of local streets because of building proximity. Green: Consider in combination in Phase 2B.
C-11	Relocate DuPont Access Control Point (ACP)	Move DuPont ACP to Center Drive	G	Y	Y	G	G	Y	G	Yellow Further evaluate. Green: Consider in combination in Phase 2B.
C-12	JBLM ACPs at various locations	Construct additional queue lanes at gates on JBLM that back up onto highway	G	G	G	G				Blue: These improvements will be included in interchange improvements studied in Phase 2B
C-13	JBLM D Street Gate to Lewis North	Close D Street Gate when Integrity Gate (Wharf) opens to alleviate local road impacts from growth on Lewis North	G	Y	Y	G	G	Y	G	Yellow: Further evaluate. This option may impact I-5 by diverting JBLM/Lakewood traffic from local streets to I-5 to reach destinations. May also impact local streets in DuPont. Green: Consider in combination in Phase 2B.
C-14	HOV-only Gate to JBLM (consider Lewis Main ACP)	Convert existing ACP into HOV access only	G	Y	Y	G				Blue: Same as A12, consider in combination with other options.
C-15	New arterial, Mounts Road to Madigan Hospital vicinity	Construct new four-lane urban road and new gate at Mounts Road	G	Y	Y	G	G	Y	G	Yellow: Further evaluate. This option will need to remain within JBLM to be viable for on-base traffic movement. Alignment must navigate around existing or modified ACPs. Green: Consider in combination in Phase 2B.
C-16	New JBLM collector street, Madigan to Thorne Lane	Close Jackson Avenue at Interchange and build a new collector street on JBLM to link Madigan to Thorne Lane	G	Y	Y	G	G	Y	G	Yellow: Further evaluate. This option may impact I-5 and Murray Road with higher traffic volumes. Green: Consider in combination in Phase 2B.

No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Step 2?	Potential for Combination with Other Options	Comments
(C) On-Base Local Connectivity Options (Not Open to the General Pul										
C-17	New JBLM collector street, Madigan to Cross Base Highway alignment	Close Madigan Gate and build new collector street on JBLM to link Madigan to Cross Base Highway								Red: Fails because it was not considered feasible due to impact on Logistics Center.
C-18	McChord North Gate vicinity	Route additional traffic on JBLM to McChord North Gate and away from gates on I-5								Merged with C-9 and C-10, will not be treated as a stand alone option.
C-19	JBLM Gates along I-5	Reevaluate all gates to JBLM along I-5 to create three major entry points at Center, Thorne and Barnes/Bridgeport								Red: Fails because it would overload the current ACPs that operate independently. Green: It may have merits to be packaged with other options.
C-20	Modify DuPont Gate	Retain ACP at existing location but convert to local outbound traffic only								Yellow: Further evaluate. Inbound traffic must go to another ACP (like Main Gate or a modified Nisqually Gate). Green: Consider in combination in Phase 2B.
C-21	New JBLM collector street, DuPont Gate to East Gate	Construct new two-lane road to edge of cantonment area. Follow rail line and combat vehicle trail.								Yellow: Further evaluate. Green: Consider in combination in Phase 2B.
C-22	Joint Base Connector Road, Lewis Main to McChord	Create new alignment through Logistics area by tunneling under Logistics Center.								Red: Fails because tunneling not considered feasible in this area due, in part, to potential groundwater issues. Likely would have a poor benefit/cost ratio.
C-23	JBLM Security	Revise JBLM security procedures								Red: Fails because WSDOT and local communities have no control over such an action. Option will not be considered further.
C-24	New JBLM ACP	Remove weigh station and create a new ACP into JBLM at weigh station location	Linked to C11 & A25						Linked to C11 & A25	To be considered as part of analysis conducted for Options A-25 and/or C-11.
C-25	Add JBLM ACP(s)	Create additional gates/access to JBLM to reduce need to use I-5 (e.g., Roy Gate)								Blue: This option would be considered as part of other options that provide specific ACP changes, particularly in relation to increased eastside access.
C-26	Pendleton Avenue	Improve Pendleton and fix height restriction under I-5 to allow better east/west connections on JBLM								Green: Further evaluate.
C-27	I-5 Crossings within JBLM	Add new secure connections between JBLM east and west using local roads								Blue: Could only occur between Steilacoom-DuPont and Main Gate I/Cs. Need to consider possible options. This is likely included in the evaluation of interchanges that will be conducted in Phase 2B.
C-28	JBLM Commercial truck access	Provide access for commercial truck into JBLM from weigh station								Blue: Can't happen without an ACP, consider combining with other weigh station options.
C-29	Relocate JBLM commercial truck access	Move commercial truck access to JBLM from the Logistics Gate to the McChord truck access at Rainier Gate								Blue: Needs a follow up with JBLM staff to discuss how to deal with JBLM trucks.
C-30	On JBLM arterial roads at signalized intersections	Synchronize existing traffic signal operations								Green: Further evaluate.

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Category D: Scenario Input Options



No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Step 2?	Potential for Combination with Other Options	Comments
(D) Scenario Inputs Options										
D-1	Higher Lane capacity	Increase 2040 lane capacity	NA	NA	NA	NA	Y	Blue Circle	Y	Yellow: This will be included in analysis during Phase 2B.
D-2	Confirm population/ employments estimates with PSRC and OFM totals	Verify the model population and employment data is consistent with PSRC 2040 forecasts	NA	NA	NA	NA	Y	Blue Circle	Y	Yellow: Assumptions in new JBLM Master Plan are being assessed to ensure that forecasts used in modeling analysis are consistent (coordinate with PSRC).
D-3	Revise Level of Service standard	Assume LOS E is acceptable for Interstate operations	NA	NA	NA	NA	Y	Blue Circle	Y	Yellow: This will be included in analysis during Phase 2B.
D-4	Adjust JBLM on-base population	Increase JBLM on-base resident population from 24% to 30% of JBLM activity military personnel.	NA	NA	NA	NA	R	R	R	Red: Fails because JBLM on-base housing is currently at/or near capacity.
D-5	Economic competitiveness assumptions	Examine what economic competitiveness impacts of limited freight mobility on I-5 to Port of Seattle and Port of Tacoma	NA	NA	NA	NA	Blue Circle	Blue Circle	Blue Circle	Blue: Part of project objective, will not be considered as an independent option.
D-6	Increased truck freight activity	Evaluate potential impacts of Port / industrial area master plan development	NA	NA	NA	NA	Blue Circle	Blue Circle	Blue Circle	Blue: Part of project objective, will not be considered as an independent option.
D-7	Right Sizing Planned Projects	Look at 20-year phasing with 10-year "right sizing" of projects	NA	NA	NA	NA	Blue Circle	Blue Circle	Blue Circle	Blue: This will be included in analysis during Phase 2B.
D-8	O/D Survey	Survey JBLM personnel regarding origin and destination of home-to-work trips to better understanding driving routes	NA	NA	NA	NA	Blue Circle	Blue Circle	Blue Circle	Blue: Data collection and analysis has been completed and will be incorporated into analysis tools.
D-9	Relocate JBLM	Relocate JBLM elsewhere in the state	NA	NA	NA	NA	R	R	R	Red: Fails because it would be impractical and too costly to relocate the entire JBLM facility and it would have a drastic impact on the local community.

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Category E: Transit Options



Pass



Needs more information



Fail



Included with earlier/other options or to be incorporated automatically

No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Phase 2B?	Potential for Combination with Other Options	Comments	
Off-Base Transit Service / Operations											
E-1	Increase bus service to JBLM and through Corridor	Provide peak period commuter express bus service between 6 to 9 AM and 3:30 to 6:30 PM on 15 minute headways as follows: - Lacey to DuPont P&R to Main Gate to Lakewood - Lacey to Main Gate to Lakewood - Lacey to Yelm to East Gate to Spanaway or Puyallup - Lacey to SR 512 P&R to Downtown Tacoma - Spanaway to Lakewood to Lacey								Yellow: Advance to Phase 2B. Optimize transit routing using O/D data from transit model. Model external routes first, then in combination with internal JBLM routes and/or JBLM-destined charter service. Green: Consider in combination in Phase 2B.	
		Provide peak period commuter express bus service between 6 to 9 AM and 3:30 to 6:30 PM on 30 minute headways as follows: - Lacey to DuPont P&R to Main Gate to Lakewood - Lacey to Main Gate to Lakewood - Lacey to Yelm to East Gate to Spanaway or Puyallup - Lacey to SR 512 P&R to Downtown Tacoma - Spanaway to Lakewood to Lacey								Yellow: Advance to Phase 2B. Optimize transit routing using O/D data from transit model. Model external routes first, then in combination with internal JBLM routes and/or JBLM-destined charter service. Green: Consider in combination in Phase 2B.	
E-2	Increase bus service for through and I-E trips	Increase peak period bus service from Olympia/Lacey, with stops at DuPont and Lakewood to Tacoma and north (see PSRC tool to relate service to available FTA funding)	Combine with E-1								
E-4	Pierce Transit service south to Olympia	Increase Pierce Transit service south to Olympia in weekday AM and PM peak periods	Combine with E-1								
E-5	Service to DuPont park-and-ride	Provide internal transit circulator in DuPont to offer access to regional transit via DuPont park-and-ride								Red: Fails as there is potentially small demand and the effect on I-5 congestion would be minimal.	
E-6	Mosquito Fleet	Develop water access routes								Red: Fails as likely no appreciable benefit to I-5. Would require substantial infrastructure to connect major destinations, likely has a high capital and/or operational impact.	
E-8	Sound Transit service into Thurston County	Increase existing Sound Transit service into Thurston County	Combine with E-1								
E-12	Modify transit service to JBLM	Improve northbound transit service from JBLM to provide direct connection mirroring AM service, rather than requiring a trip to Lakewood to catch a NB bus	Combine with E-1								
E-13	Add local bus connection from Lakewood Transit Center to DuPont park-and-ride via JBLM	Create transit connection onto JBLM using freeway underpasses	Combine with E-1								
E-33	Connections to Transit Facilities	Provide better connections between JBLM and regional transit centers at Lakewood and DuPont	Combine with E-1								
E-36	Bus Rapid Transit	Implement Bus Rapid Transit in the I-5 corridor								Red: Fails as not considered reasonable in freeway corridor, BRT is an urban street solution.	
On-Base Transit Service / Operations											
E-3	JBLM-provided transit service to off-base park-and-ride lots	Provide a minimum of peak period trips in peak direction	Combine with E-23								
E-14	JBLM light rail	Create light rail corridor inside JBLM parallel to I-5								Red: Fails as not considered feasible or cost-effective in a relatively low density environment.	
E-17	JBLM Rail Service	Extend Sounder commuter rail via spur line into JBLM at Center Drive								Red: Fails as not considered feasible or cost-effective.	
E-18	JBLM Transit Service	Create remote security checkpoints for HOV and transit destined for JBLM	Combine with E-24								This option is similar enough to current operations that it should not be considered as a separate option.

No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Phase 2B?	Potential for Combination with Other Options	Comments
E-23	JBLM shuttle	Modify existing shuttle bus system internal to JBLM as follows: - Increase service between Lewis Main and Lewis North - Match 15 or 30-minute headways of corridor express bus service to JBLM and serve locations where regional service is provided to a flyer stop - Serve major internal destination like HQ building, both PXs, Madigan Hospital	G	G	G	G	G	G	G	Green: Advance to Phase 2B. Work with JBLM staff to map out possible routing, expect three internal routes could be developed, could include development of one or several major on-base transit facility(ies) to serve as a hub for on-base service (non domicile-related) and a connecting point for regional service.
E-24	Transit service to/from JBLM	Create a specialized transit system to and from JBLM with security checks at a single point of embarkation. Could be a JBLM-specific park&ride.	G	G	G	Y	Y	Y	G	Yellow: Advance to Phase 2B. May need to be charter service operating similar to existing vanpools. Don't worry about security considerations for now. Green: Consider in combination in Phase 2B.
E-39	JBLM Transit Service	Route buses carrying civilians thru JBLM only during I-5 incidents (incentivize bus use due to faster travel through corridor during major traffic events)	G	G	R	R	R	R	R	Red: Fails as unlikely to be feasible due to security constraints. Incident management is not a long-term solution, needs verification by JBLM.
E-40	JBLM shuttle	Repurpose vanpool vehicles on JBLM to shuttles during the workday. Create an account to charge shuttle miles	Y	G	G	G	Y			Blue: This is an implementation issue that will be considered as appropriate when preferred system alternatives are identified. Operations likely to increase costs to DoD.
E-41	JBLM Shuttle	Resolve issues with shuttle bus drivers on JBLM (recently assigned six of ten drivers to other duties)	G	G	G	G	Y			Blue: This is an implementation issue that will be considered as appropriate when preferred system alternatives are identified. Operations likely to increase costs to DoD.
E-42	JBLM shuttle	Explore opportunity for Shuttle Express to operate on JBLM	Combine with E-23							

Rail Service

E-16	Sounder Rail Service	Increase Sounder commuter rail service to Lakewood Station from the north	G	G	Y	G	Y	Y	G	Yellow: Advance to Phase 2B. Needs further consideration. Green: Consider in combination in Phase 2B.
E-19	Commuter Rail	Add commuter rail stops in JBLM vicinity and DuPont	G	G	Y	G	Y	Y	G	Yellow: Advance to Phase 2B. Should be further considered. Green: Consider in combination in Phase 2B.
E-20	Amtrak Improvements	Create an Amtrak stop in Lakewood	G	G	Y	G	R	R	R	Red: Fails as Amtrak would provide fewer peak period trains than commuter rail and would provide less benefit to I-5. Also expect that this option would require dropping a stop in another location.

Vanpools

E-7	Increase attractiveness of vanpools on JBLM	Provide the following vanpool options: - Double the number of existing vanpools to/from JBLM - Consider worker/driver buses	G	G	G	G	G	G	G	Green: Advance to Phase 2B. Need to verify funding availability
E-10	Repurposing of commuter vanpool vehicles during off-peak	Create program where vanpool vehicles on base during the day are repurposed to shuttle staff between destinations on base	Combine with E-7							
E-27	Worker-Driver buses	Institute program using worker/driver buses to/from JBLM	Combine with E-7							

Park-and-Ride

E-9	DuPont park-and-ride	Improve/enlarge park-and-ride lot and make connection to JBLM through existing tunnel under I-5	Combine with E-1								Consider doubling size of existing DuPont lot.
E-15	Park-and-Ride facilities	Increase park-and-ride facilities in I-5 corridor to facilitate HOV use. This option would focus on adding a park-and-ride lot in Yelm or in the SR 512 corridor near Parkland in conjunction with express bus service along SR 507. May also need to increase park&ride capacity in the I-5 corridor in Thurston County.	Combine with E-1								Test need for park-&-ride lots as part of transit route refinement.
E-22	JBLM park-and-ride	Construct park-and-ride lot at Main Gate	G	Y	G	G	R	R	R	Red: Fails as park-and-ride not appropriate at the destination.	
E-25	Mounts Road park-and-ride	Create a park-and-ride lot on property near the Mounts Road interchange (previously planned for a rest area)	G	G	Y	G	R	R	R	Red: Fails as this location is relatively close to major park&ride destination and would likely not be cost-effective relative to demand.	

No.	Name	Description	Regulatory/ Legal Issues	Operations on I- 5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Phase 2B?	Potential for Combination with Other Options	Comments	
E-35	Park-and-ride lot signage	Install signs that tell drivers when park-and-ride lots are full								Red: Fails as likely would have no appreciable effect on I-5 traffic levels. Do not consider this further as a stand alone option.	
E-43	DuPont park-and-ride	Enhance park-and-ride facility to provide additional service to the south (trains, transit)	Combine with E-1								
Transit Stops / Stations											
E-11	Add flyer stops along I-5	Create transit flyer stops along I-5 near Madigan and DuPont Gates	Combine with E-1								
E-34	New Transit Center	Create a new transit center for JBLM at Main Gate, North Gate or Madigan Gate	Combine with E-23								
E-38	Transit Amenities	Create transfer/waiting amenities at transit stations								Blue: These would be a design element of any transit station/center that is developed.	
Transit Funding / Organization											
E-21	Transit Funding	Implement state funding for interregional transit service, make cost-sharing of this service more equitable	NA	NA	NA	NA	NA			Blue: These are implementation considerations that can be considered when preferred transit solution(s) are identified.	
E-26	Transit Fare Structure	Create a common fare structure for all transit systems serving the project area	NA	NA	NA	NA	NA			Blue: These are implementation considerations that can be considered when preferred transit solution(s) are identified.	
E-28	Transit Funding	Use Mass Transportation Benefit Program to help fund bus routes on JBLM (pool the unused money to fund this service - see example from Presidio of Monterey)	NA	NA	NA	NA	NA			Blue: These are implementation considerations that can be considered when preferred transit solution(s) are identified.	
E-30	Sound Transit Funding	Expand funding for Sound Transit service into Thurston County	NA	NA	NA	NA	NA			Blue: These are implementation considerations that can be considered when preferred transit solution(s) are identified.	
E-31	Transit Organizational Structure changes	Create a new regional transit authority for Thurston County	NA	NA	NA	NA	NA			Blue: These are implementation considerations that can be considered when preferred transit solution(s) are identified.	
E-37	JBLM Transit Operators	Use veterans with access to/from JBLM to drive shuttle buses on base	NA	NA	NA	NA	NA			Blue: These are implementation considerations that can be considered when preferred transit solution(s) are identified.	
Other Transit-Related											
E-29	Interim Transit Support Facilities	As an interim solution, institute hard shoulder running on I-5 through study area but only for transit vehicles								Red: Fails as a stand alone option due to physical constraints to existing Thorne and Berkeley bridges. Green: Potential for combination with other options that would include widening of Berkeley and Thorne interchange bridges like A-37.	
E-32	Transit as Mitigation	Expand transit service in the project area as mitigation for an unspecified project (state can fund transit when mitigating project impacts)	NA	NA	NA	NA	NA			Blue: Mitigation options using transit will be considered in conjunction with overall project implementation as appropriate.	

Note: Options highlighted in blue are considered primary options to which other options would be added as indicated to establish a comprehensive approach.

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Category F: TDM and TSMO Options



Pass



Needs more information



Fail



Included with earlier/other options or to be incorporated automatically

No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Phase 2B?	Potential for Combination with Other Options	Comments	
HOV Facilities											
F-5	I-5 corridor through study area	Convert an existing lane on I-5 to HOV								Red: Fails as unlikely to be feasible due to existing high congestion levels.	
F-15	HOV Access at ACPs	Create an HOV only lane at ACPs with HOV direct access at ramps	Consider in combination with Options to add HOV access at interchanges							Blue: Consider in combination with options to add HOV access at interchanges	
HOT Facilities/Congestion Pricing											
F-1	HOT lanes, Mounts Road to Thorne Lane	Add a center HOT lane to I-5 for 3+ carpools and tolling SOVs	NA	NA	NA	NA	NA			Blue: Managed lane options identified in Phase 1 already address this. Will be considered during Phase 2B.	
F-6	I-5 corridor through study area	Convert an existing lane on I-5 to HOT								Red: Not permitted under FHWA guidelines, but these could be modified. Green: Consider in combination in Phase 2B if modification of federal policy becomes effective.	
F-21	Congestion Pricing	Institute congestion pricing on all lanes of I-5 from Thurston County to Tacoma								Yellow: Option is intended to encourage use of the highway during periods outside of peak periods when more roadway capacity is available. Green: Consider in combination in Phase 2B.	
Freeway Operations											
F-2	I-5 Operational Strategies	Restrict lane changing on I-5 through study area								Red: Fails as substantial expected operational impacts when applied to all lanes. As such, the option is not considered viable.	
F-4	I-5 corridor through study area	Implement a robust incident management plan in the corridor								Blue: On-going activity, won't affect operational analysis.	
F-16	I-5 Corridor through study area	Allow narrower lane widths and shoulder widths on I-5 to accommodate added travel lanes								Red: Fails as stand alone option as in Phase 1 analysis this was not considered feasible due to existing bridge widths. Green: Potential to combine with other options.	
F-23	Variable Speed signing	Install variable speed limit signs like the ones on I-5 in Seattle								Red: Option is not anticipated to benefit congestion on I-5 in this study area.	
Arterial Operations											
F-9	On JBLM arterial roads at signalized intersections	Synchronize existing traffic signal operations	Option moved to C-30								----
Travel Demand Management											
F-3	Develop flex time programs	Assume flex time programs are offered for JBLM and other employers in corridor	Combine with F-19								
F-7	I-5 corridor within study area	Create trip rationing system for I-5 (first 10 peak hour trips on I-5 per month are free, additional trips tolled)	Combine with F-21								
F-12	Encourage use of Non-SOV modes	Change SOV culture on JBLM	Combine with F-19								
F-18	JBLM Training Protocols	Change physical training to JBLM, switching some groups from morning to end of the day to reduce double trips during peak hours	Combine with F-19								
F-19	Encourage CTR on JBLM	Institute staggered or flexible work hours								Red: Fails as not under control of state/locals. Encourage JBLM staff to develop comprehensive program. Blue: Civilians on base already have flex time opportunities.	

No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Phase 2B?	Potential for Combination with Other Options	Comments		
F-20	Encourage CTR on JBLM	Use competitions like the Net Zero program on JBLM to incentivize use of transit and other CTR programs	Combine with F-19									
F-22	Encourage CTR on JBLM	Change culture at JBLM away from new soldiers driving SOVs. Discourage access of local car dealers to new service member orientation	Combine with F-19									
F-24	Encourage CTR on JBLM	Normalize hitchhiking on JBLM (e.g., "Give a Soldier a Lift")	Combine with F-19									
F-25	Ridesharing Incentives	Incentivize ride sharing for major employers in the corridor or employers whose staff use the corridor to get to/from work	NA	NA	NA	NA	NA			Blue: Part of statewide CTR program		
F-26	JBLM Vanpooling	Wrap JBLM vanpool vehicles in camouflage or patriotic designs to make them more appealing to soldiers	Combine with F-19									
F-28	Encourage CTR on JBLM	Provide flex cars on JBLM	Combine with F-19									
F-29	Encourage CTR on JBLM	Create a phone app for on-base rideshare so vanpool and transit users have a way to get around the base during the day	Combine with F-19									

Bicycle and Small Vehicle Systems

F-8	Permit golf cart use on public streets to transit hubs throughout DuPont	Related to other transit and TDM strategies, institute a pilot project that allows people to drive golf carts to transit hubs - DuPont would be an ideal location for such a pilot project								Red: Fails due to concern over speed differential between golf carts and motor vehicles, replaces SOVs with more SOVs, and no anticipated benefit to I-5.
F-11	JBLM bicycle access and circulation	Improve bicycle access and circulation within JBLM								Blue: Will be included as part of design
F-13	Blue Bike Program on JBLM	Institute "Blue Bike" program at Fort Lewis similar to McChord to encourage vanpooling, transit, rideshare to/from work								Blue: Option is supportive of enhanced vanpool operations to/from base and would be included in such.
F-17	Regional active transportation	Develop regional access facility for bicyclists and pedestrians								Blue: Option will be included as part of design for other options.

Land Use Strategies

F-10	Increase JBLM land use densities	Build higher density development in JBLM along major transit corridors								Blue: These actions are already happening under current JBLM plans.
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Parking Strategies

F-14	JBLM Parking Pricing Strategy	Institute metered parking on based, with free parking at ACPs. Price to park increases the closer the parking space is to the destination (tiered parking)	Combine with F-19									
F-27	Encourage CTR on JBLM	Designate carpool parking at every building on JBLM and enforce	Combine with F-19									

Note: Option highlighted in blue is considered a primary option to which other options would be added as indicated to establish a comprehensive approach.

**I-5 JBLM Vicinity Phase 2A Step 1 Screening Analysis
for Suggestions Received through Public Process, June 2014**



No.	Name	Description	Regulatory/ Legal Issues	Operations on I-5 Mainline	Operations on Local Streets	Military Security Issues	Reasonable/ Feasible	Advance to Step 2?	Potential for Combination with Other Options	Comments
(A) I-5 Access Options										
15A	Build Berkeley and Thorne Interchange Tunnels	Rebuild Berkeley and Thorne interchanges with tunnels under I-5 and railroad	G	G	R	R	R	R	R	Red: Fails because of potential significant impacts to local streets, JBLM streets and/or interchange ramps associated engineering and slope constraints. May have issues with location of JBLM ACPs and the processing of base traffic. Not considered to be reasonable or feasible.
18A	Redesign Exit 119 to Restrict Movements	Redesign Exit 119 to serve only JBLM and not Steilacoom-DuPont Road in/out of DuPont	G	Y	R	G	G	R	R	Red: Fails because of potential significant impacts on local streets. A similar action was considered as part of option A-3 although this option also closed the interchange to JBLM access. Preliminary analysis showed that there would be significant adverse local traffic impacts on streets leading to the adjacent interchanges. The option was considered fatally flawed as a result and will not be carried forward.
(B) Local Off-Base Connectivity Options (Open to the General Public)										
16B	Need frontage roads along I-5 between Exit 114 and 119	Add frontage roads along I-5 mainline between Exit 114 (Nisqually Road) and Exit 119 (Steilacoom-DuPont Road)	G	Y	Y	G	R	R	R	Red: Fails because of expected high cost and potential environmental impacts in the Nisqually Delta and elsewhere. Not considered to be reasonable or feasible.
(C) Local On-Base Connectivity Options (Not Open to the General Public)										
5C	Extend Transmission Line Road all the way to 176th Street SE	Extend Transmission Line Road from current terminus south to intersect 176th Street SE and provide more access/egress opportunities on the east side of JBLM	G	Y	Y	G	R	R	R	Red: Fails because of presence of significant wetland located within the proposed alignment for this project.
(D) Scenario Input Options										
3D	Provide on-base housing for all active duty personnel	Increase supply of on-base housing to accommodate all active duty personnel and reduce the need for peak period travel to/from the base.	Y	Y	Y	G	R	R	R	Red: Fails because JBLM is currently near capacity in terms of housing military employees on base, this would require construction of substantial new housing stock for which there may not be physical space on the base. Would require approval by DoD. It is not common for all active duty personnel to be housed on military installation in the US. This action may also have significant impacts on the local housing and/or business economy. It was identified as not reasonable or feasible.
(E) Transit Options										
12E	Add rail service between Yelm and Puyallup	Provide commuter rail service between Yelm and Puyallup to reduce travel demand in the I-5 corridor.	G	Y	R	G	G	R	R	Red: Fails because due to potentially significant impacts associated with cost, property acquisition, environment to develop a commuter rail system in this corridor. Not considered to be reasonable or feasible.
(F) TDM/TSMO Options										
15F	Direct traffic with JBLM personnel instead of signals	Use JBLM staff to direct traffic at congested intersections instead of signals, concern seems to be associated with the Madigan interchange area.	R	Y	Y	G	R	R	R	Red: Fails because likely inconsistent with current state law. If this comment related to the Madigan interchange area, it should be noted that an improvement will shortly be built. Thus additional improvements to address short-term signalization issues may not be reasonable or feasible. If the comment is related to using JBLM personnel to manage off-base traffic, the Dept of Defense has no legal authority to do so as this authority rests with the Washington State Patrol or local law enforcement.
19F	Ban all trucks over 12,000 GVW from I-5 during peak commute hours	Ban all trucks over 12,000 GVW from I-5 during peak commute hours as a means of reducing congestion due to speed differentials (particularly at the south end of the corridor) and due to the relative space used by large vehicles.	R	Y	G	G	R	R	R	Red: Fails because WSDOT has no legal authority to implement such a ban. Option is not considered to be reasonable or feasible.

APPENDIX C
DETAILED SCREENING RESULTS FOR STEP 2

I-5 JBLM Vicinity Phase 2A Step 2 Screening

Key Question: Does the Option Reasonably Address I-5 Congestion and Mobility Through the JBLM Area While Avoiding Adverse Local

Street impacts?



Advance



Advance - Issues/concerns but could advance



Does not advance

No.	Name	Description	Freeway Volumes	Freeway Speeds	Lakewood/DuPont/ Lewis Main & North Screenlines	McChord Screenline	Other Considerations	Advance to Phase 2B as Stand Alone	Available in Phase 2B for Possible Combination	Comments
(A) I-5 Access Options			Quantitative Driven				Qualitative Driven			
A-4	Close Main Gate Interchange	Remove all ramps but keep I-5 bridges on 41st Division Dr.						NO	YES	Not viable as a stand alone option. Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.
A-12	HOV only Access at Main Gate Interchange	Convert Main Gate I/C to HOV use only without added HOV lanes						NO	YES	Not viable as a stand alone option. Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.
A-13	HOV only Access at Berkeley Street Interchange	Convert Berkeley Street Interchange to HOV use only without added HOV lanes						NO	YES	Not viable as a stand alone option. Only viable in combination with local road improvements and/or as part of a revised Consolidated JBLM Gate access strategy.
A-15	HOV only Access at Gravelly Lake Drive Interchange	Convert Gravelly Lake Drive Interchange to HOV use only without HOV lanes						NO	NO	Not viable as a stand alone option or as combination. No existing or planned HOV facility to support change in access.
A-17	I-5 Barrier-Separated Express GP Lanes, Center Drive to Gravelly Lake Drive	Add two separated express GP lanes in each direction along I-5						YES	YES	Shows benefit for I-5 congestion.
A-25	Relocate Weigh Station from vicinity of Mounts Road Interchange	Relocate weigh station from NB I-5 north of Mounts Road I/C	Not Applicable					NO	YES	Not viable as a stand alone option. New location needs to be identified in combination with other options.
A-30	Remove entrance ramp at Main Gate Interchange and improve Steilacoom-DuPont and Berkeley I/Cs	Remove all off-ramps at Main Gate I/C and improve Steilacoom-DuPont and Berkeley I/Cs ramps						NO	YES	Not viable as a stand alone option. Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.
A-34	Close Mounts Road Interchange and add new public road	Close Mounts Road I/C and construct new public road alignment between Mounts Road and Perimeter Road on the east side of I-5						NO	YES	Not viable as a stand alone option as is does not improve overall I-5 travel speeds or reduce traffic volumes. Does provide limited I-5 congestion relief between Mounts Road and Center Drive but more analysis is needed. Improvement must be located outside of JBLM training area.
A-35	Re-route NB on-ramp at Mounts Road through Weigh Station and connect to Center Drive on-ramp	Route NB traffic at Mounts Road through weigh station (trucks only or all traffic), enter at Center Drive instead of Mounts Road						NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volumes or improve I-5 speeds. It also requires mixing of trucks in the weigh station with other vehicular traffic.
A-39	NB Climbing Lane	Add I-5 NB climbing lane from north of BN Railroad bridge to Steilacoom-DuPont I/C						NO	YES	Not viable as a stand alone option as it does not reduce traffic volumes and would result in only limited speed improvement. Can be combined with other I-5 improvement strategies.

Decrease in GP Mainline Volumes		Increase in GP Mainline Speeds		Increase in Off-Base and Lewis Main & Lewis North Screenline Volumes		Increase in McChord Screenline Volumes	
	< 300 vph		< +5 mph		> 600 vph		< 150 vph
	300 to 900 vph		+5 to +10 mph		300 to 600 vph		150 to 300 vph
	> 900 vph		> +10 mph		< 300 vph		> 300 vph

I-5 JBLM Vicinity Phase 2A Step 2 Screening

Key Question: Does the Option Reasonably Address I-5 Congestion and Mobility Through the JBLM Area While Avoiding Adverse Local Street impacts?

 Advance
  Advance - Issues/concerns but could advance
  Does not advance

No.	Name	Description	Freeway Volumes	Freeway Speeds	Lakewood/ DuPont/ Lewis Main & North Screenlines	McChord Screenline	Other Considerations	Advance to Phase 2B as Stand Alone	Available in Phase 2B for Possible Combination	Comments
(B) Off-Base Local Improvement Options (Open to the General Public)			Quantitative Driven				Qualitative Driven			
B-1	Hoffman Hill Boulevard Extension	Improve and/or construct new 2-lane urban road connection for DuPont internal street system						NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Does reduce traffic at the Center Drive Interchange.
B-3	Gravelly Lake Connector	Build new 2-lane urban road west of and parallel to I-5 between Thorne Ln and Gravelly Lake Dr						NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Does reduce traffic at the Thorne Lane and Gravelly Lane Drive Interchanges.
B-4	Remove Center Dr Truck Restrictions	Remove truck restrictions on Center Drive, Palisade to I-5						NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.
B-5	Improve Old Pacific Highway, Kuhlman Road to 7th Avenue	Improve roads/intersections in Nisqually Valley to facilitate bypass of I-5 (neighborhood issues) via Old Pacific Hwy, Kuhlman Rd to 7th Ave						NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.
B-6	Improve Old Pacific Highway, Mounts Road to Nisqually	Improve Old Pacific Highway, Mounts Road to Nisqually to accommodate increased traffic volumes and relieve I-5						NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.
B-7	New Road through Eagles Pride Golf Course	Construct new 2-lane urban road through Eagles Pride Golf Course, connecting Mounts Rd and McNeil St or Center Dr						NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.
B-8	New Road along Home Course between McNeil and Center	Construct new 2-lane urban road (planned future road in DuPont plans)						NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.
B-9	Haskell Street Connection	Construct connection via existing emergency vehicle restricted roadway on Haskell Street from NW Landing to Old DuPont						NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.
B-10	Improve Steilacoom-DuPont Road	Improve Steilacoom-DuPont Road from I-5 to Integrity Gate to 4-lane urban street with turn lane channelization where needed						NO	YES	Not viable as a stand alone option, as it does not reduce traffic volume or improve I-5 speeds. With new Integrity Gate it has potential to divert traffic from I-5.
B-11a	Murray Road/150th Street SW Improvements	Realign roads on east side of I-5 and improve to four lane cross-section to facilitate freight movement (whole area is zoned Light Industrial)						NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Could enhance east/west traffic through the Base. In combination it could reduce I-5 traffic by providing improved access to/from the east.
B-12	North Gate Road/Edgewood/ Washington Street Improvements	Improve minor arterial roads from I-5 to North Gate/Edgewood intersection but avoid making this a bypass route for I-5. Intersections need roundabouts or signals						NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.
B-13	Improve SR 507	Close Jackson Avenue at the interchange, keep the Madigan Gate and build new collector street on JBLM Jackson Avenue to Murray Road.						NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Could be combined with on-Base improvements that may re-direct traffic from I-5.
B-15	Add more local street connections over I-5	Add more crossings of I-5 between local communities to reduce volume of traffic using interchange bridges	Not Applicable				NO	NO	No viable additional crossing options were identified.	
B-16	Barnes Blvd Extension from Barnes/West intersection to Pacific Highway	Construct new freeway overcrossing with no on or off-ramps. Eliminate North Gate and route all traffic to Barnes Gate.						NO	YES	Not viable as a stand alone option. Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.
B-17	New high speed arterial from 150th Avenue to 176th Street (eastern portion of Cross-Base alignment)	Construct new highway/higher speed arterial road from 150th Avenue/Proposed Joint Base Connector to 176th Street (along proposed eastern portion of the Cross Base alignment)						NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. It does improve east/west Base movements.
B-17a	New high speed arterial from 150th Avenue to 176th Street plus Joint Base Connector Road	Construct new highway/higher speed arterial road from 150 Avenue/Proposed Joint Base Connector to 176th Street including Joint Base Connector Road.						NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. It does improve east/west Base movements.

No.	Name	Description	Freeway Volumes	Freeway Speeds	Lakewood/ DuPont/ Lewis Main & North Screenlines	McChord Screenline	Other Considerations	Advance to Phase 2B as Stand Alone	Available in Phase 2B for Possible Combination	Comments
(B) Off-Base Local Improvement Options (Open to the General Public)			Quantitative Driven				Qualitative Driven			
B-21	New Public Road between I-5 and Railroad Ave	Construct new public road corridor on JBLM, Mounts Rd to Center Dr						NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds. Improvement must be located outside of JBLM training area.
B-22	Perimeter Rd - McChord Field, Joint Base Connector to Military Rd	Increase roadway speed to 50 mph, develop higher speed connection to Joint Base Connector road with improved curvature geometry						NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. It does improve east/west Base movements.

Decrease in GP Mainline Volumes		Increase in GP Mainline Speeds		Increase in Off-Base and Lewis Main & Lewis North Screenline Volumes		Increase in McChord Screenline Volumes	
	< 300 vph		< +5 mph		> 600 vph		< 150 vph
	300 to 900 vph		+5 to +10 mph		300 to 600 vph		150 to 300 vph
	> 900 vph		> +10 mph		< 300 vph		> 300 vph

I-5 JBLM Vicinity Phase 2A Step 2 Screening

Key Question: Does the Option Reasonably Address I-5 Congestion and Mobility Through the JBLM Area While Avoiding Adverse Local Street impacts?



Advance



Advance - Issues/concerns but could advance



Does not advance

No.	Name	Description	Freeway Volumes	Freeway Speeds	Lakewood/DuPont/ Lewis Main & North Screenlines	McChord Screenline	Other Considerations	Advance to Phase 2B as Stand Alone	Available in Phase 2B for Possible Combination	Comments
(C) On-Base Local Improvement Options (Not Open to the General Public)			Quantitative Driven			Qualitative Driven				
C-1	Railroad Avenue, Nisqually Road to Pendleton Avenue	Improve JBLM southerly road on east side of I-5 and add connection to Clark Road east of Center Drive Interchange with extension further north along east side of freeway to Pendleton Avenue	○	○	●	○	Y	NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.
C-3	DuPont ACP	Extend road from Steilacoom-DuPont Road to Pendleton Avenue and re-configure DuPont ACP	○	○	●	○	Y	NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Will be considered as part of the I-5/Steilacoom-DuPont Road interchange improvement.
C-4	Main Street, Pendleton Avenue to 41st Division Drive	Improve Main Street to a higher speed 2-lane road west of and parallel to I-5 from Pendleton Road to 41 st Division Drive	○	○	●	○	R	NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds. Similar to other options that have better performance.
C-6	NCO Beach Road, 41st Division Drive to Berkeley Street	Improve 2-lane NCO Beach Road from 41 st Division Drive to north, then build 2-lane connection to Field Artillery Trail in Camp Murray with new JBLM ACP, then to Armor Drive to Camp Murray Main Gate	○	○	●	○	R	NO	NO	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Similar to other options that have better performance.
C-7	South A Road Extension, Jackson Road to Logistics Gate	Extend South A Road to Jackson Road to connect with the Logistics Gate at Murray Road, improve Murray Road for higher speed traffic to I-5/Thorne Lane I/C	○	○	●	◐	Y	NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Show limited improvement on I-5 between Berkeley Street and Thorne Lane.
C-8	Joint Base Connector, Jackson Road to Perimeter Road - McChord Field	Build 4-lane higher speed connection between Fort Lewis and McChord Field per JBLM plans	○	○	●	●	Y	NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Part of JBLM plans and has limited improvement to I-5.
C-9	Fairway Road Extension, Joint Base Connector to Bridgeport Way	Improve and extend Fairway Road as 2-lane higher speed road	○	○	●	●	Y	NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Does improve North/south travel on JBLM with limited improvement to I-5.
C-10	Barnes Road Improvements and Extension, Perimeter Road to Union Avenue (McChord North Gate)	Improve and extend Barnes Road as 4-lane facility	○	○	●	○	Y	NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. This option may show improvement with JBLM access revisions.
C-11	DuPont Access Control Point (ACP)	Move DuPont ACP to Center Drive	○	○	●	○	Y	NO	YES	Not viable as a stand alone option. Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.
C-13	JBLM D Street Gate to Lewis North	Close D Street Gate when Integrity Gate (Wharf) opens to alleviate local road impacts from growth on Lewis North	○	○	●	○	R	NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds. This option may encourage more traffic on I-5.
C-15	New arterial, Mounts Road to Madigan Hospital vicinity	Construct new four-lane urban road from Mounts Road to Jackson Avenue and new gate at Mounts Road	○	○	●	○	Y	NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improves I-5 speed. Need to work with JBLM to determine impacts to JBLM facilities.
C-16	New JBLM collector street, Madigan to Thorne Lane	Close Jackson Avenue at the interchange, keep the Madigan Gate and build new collector street on JBLM Jackson Avenue to Murray Road.	◐	◐	●	●	R	NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. Provides limited localized improvement to I-5, but need to be considered with new JBLM access strategy. Closes Jackson Avenue and impacts emergency access to Madigan Hospital requiring alternative access.
C-20	DuPont Gate	Revise ACP at existing location but convert to local outbound traffic only	○	○	●	○	R	NO	NO	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.
C-21	New JBLM collector street, DuPont Gate to East Gate	Construct new two-lane road to edge of cantonment area. Follow rail line and combat vehicle trail.	○	○	●	○	Y	NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds. It may improve east/west access to JBLM with other options.
C-26	Relocate JBLM commercial truck access	Move commercial truck access to JBLM from the Logistics Gate to the McChord truck access at Rainier Gate	○	○	○	○	Y	NO	YES	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speed. Can be included with other improvements to increase cross traffic in JBLM. Likely will be part of any mainline improvement.
C-30	On JBLM arterial roads at signalized intersections	Synchronize existing traffic signal operations	Not Applicable				NO	YES	Include with other options to improve traffic connections and operations within JBLM	

Decrease in GP Mainline Volumes		Increase in GP Mainline Speeds		Increase in Off-Base and Lewis Main & Lewis North Screenline Volumes		Increase in McChord Screenline Volumes	
○	< 300 vph	○	< +5 mph	○	> 600 vph	○	< 150 vph
◐	300 to 900 vph	◐	+5 to +10 mph	◐	300 to 600 vph	◐	150 to 300 vph
●	> 900 vph	●	> +10 mph	●	< 300 vph	●	> 300 vph

APPENDIX D
STEP 2 DATA SUMMARIES



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: A-4 Remove 41st Division Drive/Main Gate I/C Ramps	
Option Category: I-5 Access Options	
Option Limits: Vicinity of Main Gate Interchange	
Option Description: Close 41st Division Drive/Main Gate Interchange ramps while maintaining the I-5 Bridge over 41st Division Drive.	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	-80	-220	
Maximum Volume Change in GP Lanes (NB & SB)	Main Gate to Berkeley	5,240	4,640	-220	-940	
Total Volumes at All Interchanges	Ons	5,020	6,920	-250	-370	
	Offs	6,030	4,540	-270	-300	
Interchange(s) with Maximum Volume Change	Berkeley Street I/C	Ons	330	1,150	-60	400
		Offs	500	270	80	-140
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	130	170	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	40	90	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	30	110	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	310	-70	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	-450	-180	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	3	5	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Main Gate to Berkeley	29	43	6	10	
Consistency with Plans & Policies	Not in existing state or local plans. Would not be inconsistent with state highway policy					
Known Environmental Issues	No apparent environmental issues, impacts may be confined to construction-related issues associated with ramp demolition.					
General Comments	Closing this interchange would shift I-5 traffic to other interchanges and may impact gate operations on 41st Division Drive and at Center Drive. Will likely require changes to the JBLM internal roadway configurations and ACPs to provide for more traffic at other gates.					
Conclusion:	Not viable as a stand alone option.					
Combination Potential	Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: A-12 HOV Access Only at Main Gate I/C						
Option Category: I-5 Access Options						
Option Limits: Vicinity of Main Gate Interchange						
Option Description: Convert Main Gate Interchange to HOV use only without added HOV lanes						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	-50	-150	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Main Gate to Berkeley	5,240	4,640	-190	-690	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	-150	-270	
	Offs	6,030	4,540	-160	-210	
<i>Interchange(s) with Maximum Volume Change</i>	Berkeley Street I/C	Ons	330	1,150	-60	300
		Offs	500	270	50	-110
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	120	160	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	0	50	
<i>Local Street Volume - On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	20	70	
<i>Local Street Volume - On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	210	-20	
<i>Local Street Volume - On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	-350	-160	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	2	4	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Main Gate to Berkeley	29	43	5	8	
<i>Consistency with Plans & Policies</i>	Not in existing state or local plans. Unlikely to be consistent with state highway policy without added HOV lanes.					
<i>Known Environmental Issues</i>	No apparent environmental issues.					
<i>General Comments</i>	This option would limit I-5 access at Liberty Gate and 41st Division Gate to HOVs only, and shift SOV traffic to Madigan and DuPont Gates. This option would need to be paired with freeway HOV lanes to be effective.					
Conclusion:	Not viable as a stand alone option.					
Combination Potential	Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5

Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: A-13 HOV Only Access at Berkeley I/C						
Option Category: I-5 Access Options						
Option Limits: Vicinity of Berkeley Street Interchange						
Option Description: Convert Berkeley Street Interchange to HOV use only without added HOV lanes						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	-20	-10	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Berkeley to Thorne	5,410	5,520	-130	-400	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	-100	-130	
	Offs	6,030	4,540	-90	-130	
<i>Interchange(s) with Maximum Volume Change</i>	Thorne Lane I/C	Ons	290	700	30	490
		Offs	690	260	190	90
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	-20	-30	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	-10	-10	
<i>Local Street Volume - On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	60	370	
<i>Local Street Volume - On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	-110	-450	
<i>Local Street Volume - On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	20	0	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	1	2	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Berkeley to Thorne	24	21	4	10	
<i>Consistency with Plans & Policies</i>	Not in existing state or local plans. Unlikely to be consistent with state highway policy without added HOV lanes.					
<i>Known Environmental Issues</i>	No apparent environmental issues.					
<i>General Comments</i>	This option would require Camp Murray SOV traffic to go through Tillicum which would likely need additional mitigation. The option would need to be paired with freeway HOV lanes to be effective.					
Conclusion:	Not viable as a stand alone option.					
Combination Potential	Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: A-15 HOV Access Only at Gravelly Lake I/C						
Option Category: I-5 Access Options						
Option Limits: Vicinity of Gravelly Lake Drive Interchange						
Option Description: Convert Gravelly Lake Drive Interchange to HOV use only without added HOV lanes						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	-30	-20	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Gravelly Lake to Bridgeport Way	6,060	5,820	-230	-10	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	-140	-180	
	Offs	6,030	4,540	-190	-130	
<i>Interchange(s) with Maximum Volume Change</i>	Bridgeport Way I/C	Ons	740	790	160	150
		Offs	650	590	270	250
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	120	-30	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	10	30	
<i>Local Street Volume - On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	30	20	
<i>Local Street Volume - On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	0	0	
<i>Local Street Volume - On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	40	60	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	1	0	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Gravelly Lake to Bridgeport Way	46	48	2	0	
<i>Consistency with Plans & Policies</i>	Not in existing state or local plans. Unlikely to be consistent with state highway policy without added HOV lanes. HSP Tier III includes NB & SB HOV lanes and new I/C at Gravelly.					
<i>Known Environmental Issues</i>	No apparent environmental issues.					
<i>General Comments</i>	Primary access for SOVs to McChord housing. This traffic would shift to other access points. The option would need to be paired with freeway HOV lanes to be effective.					
Conclusion:	Not viable as a stand alone option or as combination.					
Combination Potential	No existing or planned HOV facility to support change in access.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: A-17 Barrier-Separated Express GP Lanes						
Option Category: I-5 Access Options						
Option Limits: Center Drive to Gravelly Lake Drive						
Option Description: Add two barrier-separated express (GP) lanes in each direction along I-5						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	-1,100	-1,120	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Center to Steilacoom-DuPont	5,740	3,620	-1,670	-1,740	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	400	160	
	Offs	6,030	4,540	340	210	
<i>Interchange(s) with Maximum Volume Change</i>	Main Gate I/C	Ons	310	1,280	230	200
		Offs	460	170	310	0
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	-80	-20	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	-140	0	
<i>Local Street Volume On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	-30	-20	
<i>Local Street Volume On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	-20	330	
<i>Local Street Volume On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	-130	-10	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	15	10	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Berkeley to Thorne	24	21	28	29	
<i>Consistency with Plans & Policies</i>	Not in existing state or local plans. Would not be inconsistent with state highway policy.					
<i>Known Environmental Issues</i>	With widening of freeway footprint there could be potential wetland, haz mat, floodplain, cultural resource and noise impacts. May also impact JBLM leased housing.					
<i>General Comments</i>	Could substantially improve operations in study area for through traffic, including trucks, with associated travel time and cost savings benefits.					
Conclusion:	Shows benefit to improve I-5 congestion.					
Combination Potential	Can be combined with other options.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: A-30 Remove I-5 off-ramps at Main Gate I/C, Improve Steilacoom-DuPont and Berkeley I/Cs						
Option Category: I-5 Access Options						
Option Limits: Vicinity of Main Gate, Steilacoom-DuPont and Berkeley Interchanges						
Option Description: Remove I-5 off-ramps, retain on-ramps to allow outbound traffic only from JBLM, remove Liberty and 41st Division ACPs. Enlarge DuPont and Madigan Gates and I-5 off-ramps at Steilacoom-DuPont and Berkeley I/Cs to accommodate shift in entering traffic.						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	-50	-40	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Main Gate to Berkeley	5,240	4,640	-300	0	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	-160	-50	
	Offs	6,030	4,540	-170	-50	
<i>Interchange(s) with Maximum Volume Change</i>	Steilacoom-DuPont I/C	Ons	860	410	20	-40
		Offs	220	500	110	120
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	50	30	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	-20	20	
<i>Local Street Volume - On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	10	-10	
<i>Local Street Volume - On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	40	40	
<i>Local Street Volume - On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	-20	-160	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	2	0	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Main Gate to Berkeley	29	43	8	0	
<i>Consistency with Plans & Policies</i>	Not in existing state or local plans. Would not be inconsistent with state highway policy.					
<i>Known Environmental Issues</i>	Modifications to DuPont and Madigan Gates will need to consider potential impacts to adjacent cultural/historic resources, and 4f resources associated Lewis Park. Impacts associated with Liberty and 41st Division Gate removal and removal of I-5 off-ramps may be confined to construction-related impacts.					
<i>General Comments</i>	The traffic shifts may require additional improvements to freeway and local streets to accommodate added traffic volumes. Would benefit JBLM by eliminating two ACPs and improving ease of movement between Lewis Main and Lewis North. Requires Visitor Center access and ACPs or ACP improvements at other locations.					
Conclusion:	Not viable as a stand alone option.					
Combination Potential	Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5

Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: A-34 Close Mounts Road I/C and Add New Public Road						
Option Category: I-5 Access Options						
Option Limits: Vicinity of Mounts Road Interchange						
Option Description: Close Mounts Road Interchange ramps while maintaining the Mounts Road bridge over I-5. Build new public road from Mounts Road to Center Drive on east side of I-5.						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	-70	-30	
Maximum Volume Change in GP Lanes (NB & SB)	Mounts to Center	5,830	3,650	-440	-160	
Total Volumes at All Interchanges	Ons	5,020	6,920	-100	-30	
	Offs	6,030	4,540	-120	-30	
Interchange(s) with Maximum Volume Change	Center Drive I/C	Ons	560	220	-140	140
		Offs	460	250	320	-20
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	-10	-10	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	10	10	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	20	20	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	1	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Mounts to Center	47	53	3	0	
Consistency with Plans & Policies	Not in existing state or local plans. Would not be inconsistent with state highway policy. Would likely require relocation of JBLM security fence and establishment of roadway easement which is not in JBLM plans.					
Known Environmental Issues	Unknown at this time.					
General Comments	Would likely require additional easement from JBLM.					
Conclusion:	Not viable as a stand alone option as is does not improve overall I-5 travel speeds or reduce traffic volumes.					
Combination Potential	Does provide limited I-5 congestion relief between Mounts Road and Center Drive but more analysis is needed. Improvement must be located outside of JBLM training area.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5

Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: A-35 Reroute NB on-ramp from Mounts thru Weigh Station & Connect to Center Drive						
Option Category: I-5 Access Options						
Option Limits: Vicinity of Mounts Road and Center Drive Interchanges						
Option Description: Route NB traffic entering traffic at Mounts Road through weigh station (trucks only or all traffic), enter at Center Drive instead of Mounts Road						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	-20	
Maximum Volume Change in GP Lanes (NB & SB)	Mounts to Center	5,830	3,650	0	-160	
Total Volumes at All Interchanges	Ons	5,020	6,920	10	150	
	Offs	6,030	4,540	20	-10	
Interchange(s) with Maximum Volume Change	Center Drive I/C	Ons	560	220	0	160
		Offs	460	250	10	-20
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	0	0	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Mounts to Center	47	53	0	1	
Consistency with Plans & Policies	Not in existing state or local plans. Likely inconsistent with state highway policy related to routing non-weigh station traffic through this facility due to potential safety issues or damage to scales.					
Known Environmental Issues	Unknown at this time.					
General Comments	Would require separation between trucks and cars. Must avoid having cars pass over the truck scales or interfering in any way with weigh station operations.					
Conclusion:	Not viable as a stand alone option or in combination as it does not reduce travvic volumes or improve I-5 speeds.					
Combination Potential	No to be considered because it requires mixing of trucks to weigh station with other vehicle traffic.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5

Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: A-39 Add Northbound Truck Climbing Lane						
Option Category: I-5 Access Options						
Option Limits: BNSF Railroad Bridge to Steilacoom-DuPont Road Interchange						
Option Description: Add northbound truck climbing lane						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	0	0	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Mounts to Center	5,830	3,650	0	10	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	0	0	
	Offs	6,030	4,540	0	0	
<i>Interchange(s) with Maximum Volume Change</i>	Mounts Road I/C	Ons	0	170	0	0
		Offs	450	10	0	-10
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	0	0	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	0	0	
<i>Local Street Volume - On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	0	0	
<i>Local Street Volume - On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	10	-10	
<i>Local Street Volume - On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	0	0	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Mounts to Center	47	53	0	4	
<i>Consistency with Plans & Policies</i>	Not in existing state or local plans. Would not be inconsistent with state highway policy.					
<i>Known Environmental Issues</i>	Unknown at this time.					
<i>General Comments</i>	This may be a more effective option than moving the weigh station as suggested under option A-25.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volumes and results in only limited speed improvement.					
Combination Potential	Can be combined with other I-5 improvement strategies.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5

Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: **B-1
Mounts Road Improvements/Hoffman Hill Boulevard Extension**

Option Category: **Off-Base Local**

Option Limits: **Mounts Road to Hoffman Hill Boulevard, DuPont**

Option Description:
Improve and/or construct new 2-lane urban road connection for DuPont internal street system (will require traffic calming of existing Hoffman Hill Blvd)



Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option	
		SB vph	NB vph	SB vph	NB vph
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	30	0
Maximum Volume Change in GP Lanes (NB & SB)	Mounts to Center	5,830	3,650	180	30
Total Volumes at All Interchanges	Ons	5,020	6,920	100	0
	Offs	6,030	4,540	100	0
Interchange(s) with Maximum Volume Change	Mounts Road I/C	Ons	170	60	100
		Offs	450	10	230
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	-10	10
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	-440	-500
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	30	-20
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	-20	0
		SB mph	NB mph	SB mph	NB mph
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Mounts to Center	47	53	-2	0
Consistency with Plans & Policies	Study of Hoffman Hill Blvd extension is included in the DuPont 2014-2019 CIP. Need for traffic calming on existing Hoffman Hill Blvd (25 mph residential) has been identified. Improvement to Mounts Road would be needed due to poor pavement quality, but not in current plan.				
Known Environmental Issues	Unknown at this time.				
General Comments	Would require reconstruction of I-5/Mounts Road interchange, could reduce traffic volumes at Center Drive interchange. Could increase local traffic volumes on Hoffman Hill Blvd. Quantitative data along I-5 is needed to determine effectiveness.				
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.				
Combination Potential	Has combination potential because it reduces traffic at the Center Drive Interchange.				

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-3 Gravelly Lake Connector						
Option Category: Off-Base Local						
Option Limits: Gravelly Lake Drive to Thorne Lane						
Option Description: Build new 2-lane urban road west of and parallel to I-5 between Thorne Lane and Gravelly Lake Drive						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	-30	
Maximum Volume Change in GP Lanes (NB & SB)	Thorne to Gravelly Lake	5,810	5,960	-30	-150	
Total Volumes at All Interchanges	Ons	5,020	6,920	-60	-140	
	Offs	6,030	4,540	-60	-130	
Interchange(s) with Maximum Volume Change	Thorne Lane I/C	Ons	290	700	0	-130
		Offs	690	260	-30	-20
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	-10	80	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	-10	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	10	-30	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	-10	40	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	0	-20	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Thorne to Gravelly Lake	48	47	0	1	
Consistency with Plans & Policies	Two-way connector between Tillicum and Gravelly Lake Drive included in Lakewood 2014-2019 CIP.					
Known Environmental Issues	Close proximity to existing Category IV wetland near Thorne Lane that will require setback. The area north of this wetland has not yet been reviewed and additional environmental issues may be present.					
General Comments	May see localized traffic benefit between the Thorne Lane and Gravelly Lake Drive interchanges. Potential impact to private golf course.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	It has combination potential because it reduces traffic at the Thorne Lane and Gravelly Lane Drive Interchanges.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-4 Remove Center Drive Truck Restrictions						
Option Category: Off-Base Local						
Option Limits: Center Drive from I-5 to Palisade						
Option Description: Remove truck restrictions on Center Drive						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	-10	
Maximum Volume Change in GP Lanes (NB & SB)	Center to Steilacoom-DuPont	5,740	3,620	30	-70	
Total Volumes at All Interchanges	Ons	5,020	6,920	10	0	
	Offs	6,030	4,540	10	0	
Interchange(s) with Maximum Volume Change	Center Drive I/C	Ons	560	220	-20	0
		Offs	460	250	10	70
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	10	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	-20	20	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	0	10	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Center to Steilacoom-DuPont	48	56	0	0	
Consistency with Plans & Policies	Not in DuPont plans or CIP.					
Known Environmental Issues	May have localized traffic impacts.					
General Comments						
Conclusion:	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Not to be further considered because of the little impact to I-5.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5

Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-5 Improve Old Pacific Highway, Kuhlman Road to 7th Avenue					
Option Category: Off-Base Local					
Option Limits: Kuhlman Road to 7th Avenue					
Option Description: Improve roads/intersections in Nisqually Valley to facilitate bypass of I-5					
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option	
		SB vph	NB vph	SB vph	NB vph
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	0
Maximum Volume Change in GP Lanes (NB & SB)	Mounts to center	5,830	3,650	-10	0
Total Volumes at All Interchanges	Ons	5,020	6,920	-10	0
	Offs	6,030	4,540	0	0
Interchange(s) with Maximum Volume Change	Center Drive I/C	Ons	220	-10	0
		Offs	250	0	0
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	10
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	0	0
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0
		SB mph	NB mph	SB mph	NB mph
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Location	No Change in Speeds			
Consistency with Plans & Policies	Not in Pierce County TIP.				
Known Environmental Issues	Unknown at this time.				
General Comments	Potential traffic effects on community of Nisqually. It may have no perceptible effect on I-5 traffic congestion.				
Conclusion:	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.				
Combination Potential	Not to be further considered because of the little impact to I-5.				

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-6 Improve Old Pacific Highway, Mounts Road to Nisqually River	
Option Category: Off-Base Local	
Option Limits: Mounts Road to Nisqually River	
Option Description: Improve highway to accommodate increased traffic volumes and relieve I-5	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option	
		SB vph	NB vph	SB vph	NB vph
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	10	0
Maximum Volume Change in GP Lanes (NB & SB)	Mounts to center	5,830	3,650	10	0
Total Volumes at All Interchanges	Ons	5,020	6,920	0	0
	Offs	6,030	4,540	0	0
Interchange(s) with Maximum Volume Change	Mounts Road I/C	Ons	170	0	0
		Offs	450	10	10
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	0	0
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0
		SB mph	NB mph	SB mph	NB mph
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Location	Change < 0.5 mph			
Consistency with Plans & Policies	Pierce County TIP includes improvements to Nisqually Road at Mounts Road gate including traffic signal and turn lane(s).				
Known Environmental Issues	Unknown at this time.				
General Comments	Potential traffic effects on community of Nisqually. It may have no perceptible effect on I-5 traffic congestion.				
Conclusion:	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.				
Combination Potential	Not to be further considered because of the little impact to I-5.				

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-7 New Road through Eagles Pride Golf Course						
Option Category: Off-Base Local						
Option Limits: Mounts Road to McNeill Street or Center Drive						
Option Description: Construct new 2-lane urban road through Eagles Pride Golf Course						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	0	-10	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Mounts to center	5,830	3,650	0	-90	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	0	-10	
	Offs	6,030	4,540	0	0	
<i>Interchange(s) with Maximum Volume Change</i>	Center Drive I/C	Ons	560	220	0	0
		Offs	460	250	10	-100
<i>Local Street Volume-Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	0	0	
<i>Local Street Volume-Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	0	-70	
<i>Local Street Volume-On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	0	0	
<i>Local Street Volume-On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	10	-10	
<i>Local Street Volume-On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	0	0	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Mounts to Center	47	53	0	1	
<i>Consistency with Plans & Policies</i>	Not in DuPont CIP					
<i>Known Environmental Issues</i>	Golf course impact, will need further investigation to determine if this is a 4f impact.					
<i>General Comments</i>	Uncertain traffic operational benefits with potential golf course impacts.					
Conclusion:	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Not to be further considered because of the little impact to I-5.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-8 New Street Along Home Course between McNeil and Center					
Option Category: Off-Base Local					
Option Limits: McNeill Street and Center Drive					
Option Description: Construct new 2-lane urban road (planned future road by City of DuPont)					
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option	
		SB vph	NB vph	SB vph	NB vph
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	-10	0
Maximum Volume Change in GP Lanes (NB & SB)	Center to Steilacoom-DuPont	5,740	3,620	-20	0
Total Volumes at All Interchanges	Ons	5,020	6,920	-20	0
	Offs	6,030	4,540	-30	0
Interchange(s) with Maximum Volume Change	Center Drive I/C	Ons	220	0	0
		Offs	460	250	-30
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	-50
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	0	10
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0
		SB mph	NB mph	SB mph	NB mph
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	1	0
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Steilacoom-DuPont to Main Gate	33	54	1	0
Consistency with Plans & Policies	Not in DuPont plans or CIP.				
Known Environmental Issues	Unknown at this time.				
General Comments	Uncertain traffic operational benefits.				
Conclusion:	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.				
Combination Potential	Not to be further considered because of the little impact to I-5.				

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-9 Haskell Street Connection	
Option Category: Off-Base Local	
Option Limits: NW Landing to Old DuPont	
Option Description: Construct connection via existing emergency vehicle restricted road on Haskell Street	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	10	-10	
Maximum Volume Change in GP Lanes (NB & SB)	Berkeley to Thorne	5,410	5,520	140	0	
Total Volumes at All Interchanges	Ons	5,020	6,920	-40	-20	
	Offs	6,030	4,540	-50	-20	
Interchange(s) with Maximum Volume Change	Center Drive I/C	Ons	560	220	0	-40
		Offs	460	250	-90	0
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	-20	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	-20	20	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Center to Steilacoom-DuPont	48	56	1	0	
Consistency with Plans & Policies	Not in DuPont plans or CIP.					
Known Environmental Issues	Unknown at this time.					
General Comments	It would increase local connectivity to distribute traffic, but has uncertain benefits to I-5. Potential concern about neighborhood traffic intrusion and impacts to quality of life in old DuPont.					
Conclusion:	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Not to be further considered because of the little impact to I-5.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-10 Improve Steilacoom-DuPont Road	
Option Category: Off-Base Local	
Option Limits: I-5 to Integrity Gate	
Option Description: Improve road to 4-lane urban street with turn lane channelization where needed	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	20	0	
Maximum Volume Change in GP Lanes (NB & SB)	Berkeley to Thorne	5,410	5,520	140	0	
Total Volumes at All Interchanges	Ons	5,020	6,920	10	-10	
	Offs	6,030	4,540	10	-10	
Interchange(s) with Maximum Volume Change	Center Drive I/C	Ons	560	220	30	0
		Offs	460	250	20	0
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	-10	-20	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	10	-10	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	-10	-10	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Location	Changes < 0.5 mph				
Consistency with Plans & Policies	Widening of Steilacoom-DuPont Road between Center and 750 feet south to add two NB turn lanes at Center is included in the DuPont 2014-2019 CIP. Project to widen this road is in the PSRC 2040 Plan but is undefined.					
Known Environmental Issues	Road alignment crosses or parallels existing wetlands and 100-year flood plain. Two gas stations are mapped at the south end of the alignment and may require additional analysis. The remainder of the alignment has not yet been assessed.					
General Comments	It will accommodate potential for increased traffic associated with Integrity Gate opening. Potential concern about impacts associated with increased traffic volumes and possible speeding.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Has combination potential with new Integrity Gate. It has potential to divert traffic from I-5.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: **B-11a**
Murray Road/150th Street SW Improvements

Option Category: **Off-Base Local**

Option Limits: **I-5 to Perimeter Road**

Option Description:
Realign roads on east side of I-5 and improve to four lane cross-section to facilitate freight movement and access to Spanaway/Fredrickson



Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	0	
Maximum Volume Change in GP Lanes (NB & SB)	Gravelly Lake to Bridgeport Way	6,060	5,820	-30	20	
Total Volumes at All Interchanges	Ons	5,020	6,920	0	30	
	Offs	6,030	4,540	0	30	
Interchange(s) with Maximum Volume Change	Thorne Lane I/C	Ons	290	700	30	70
		Offs	690	260	10	30
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	10	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	120	140	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	-30	-50	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Location	Changes < 0.5 mph				
Consistency with Plans & Policies	Widening of Murray Road and 150th Street included as a multi-phase project in Lakewood CIP. Would provide capacity for Woodbrook industrial development.					
Known Environmental Issues	Unknown at this time.					
General Comments	Neighborhood zoned for light industrial and local school is closed. Area is in transition, increased traffic capacity and improved connectivity may be appropriate.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Has combination potential to improve east-west movements through JBLM which may divert traffic from I-5.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis
Screening Evaluation Form

Summary of Phase 2A
Step 2 Screening Results

Option Number & Name: B-12 North Gate Road/Edgewood/Washington Street Improvements	
Option Category: Off-Base Local	
Option Limits: I-5 to North Gate/Edgewood intersection	
Option Description: Improve minor arterial roads but avoid making this a bypass route for I-5, Add signals or roundabouts as appropriate.	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option	
		SB vph	NB vph	SB vph	NB vph
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	0
Maximum Volume Change in GP Lanes (NB & SB)	Gravelly Lake to Bridgeport Way	6,060	5,820	0	0
Total Volumes at All Interchanges	Ons	5,020	6,920	0	0
	Offs	6,030	4,540	0	0
Interchange(s) with Maximum Volume Change	Location	Ons	0	0	Changes < 5 vehicles
		Offs	0	0	Changes < 5 vehicles
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	10	-330
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	0	0
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0
		SB mph	NB mph	SB mph	NB mph
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Location	Changes < 0.5 mph			
Consistency with Plans & Policies	Not in Lakewood plans or CIP.				
Known Environmental Issues	Unknown at this time.				
General Comments	Route currently exists, but there are local concerns about this becoming a bypass route for I-5 when freeway is congested.				
Conclusion:	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.				
Combination Potential	Not to be further considered because of the little impact to I-5.				

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-13 Improve SR 507	
Option Category: Off-Base Local	
Option Limits: JBLM East Gate Road through McKenna	
Option Description: Improve SR 507 and related county roads/intersections to create an attractive route for JBLM traffic to/from east to access Yelm area. Include improvements to intersection of SR 507 and SR 702.	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	-30	-10	
Maximum Volume Change in GP Lanes (NB & SB)	Mounts to Center	5,830	3,650	-60	-30	
Total Volumes at All Interchanges	Ons	5,020	6,920	-10	0	
	Offs	6,030	4,540	-10	-10	
Interchange(s) with Maximum Volume Change	Mounts Road I/C	Ons	0	170	0	0
		Offs	450	10	-40	0
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	-10	-10	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	-10	0	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	0	10	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	-20	-10	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	-10	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	1	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Main Gate to Berkeley	29	43	1	0	
Consistency with Plans & Policies	Effort underway to develop new highway to connect SR 510 and SR 507 within City of Yelm. Will Allow traffic to move more efficiently between Spanaway, Roy and McKenna in Pierce County and destinations in Thurston County.					
Known Environmental Issues	Unknown at this time.					
General Comments	This option requires evaluation of potential to divert JBLM trips from I-5 to the east side and the need for improvements to accommodate this.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Could be combined with On-base improvements that may re-direct traffic from I-5.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-16 Barnes Road Extension	
Option Category: Off-Base Local	
Option Limits: Barnes/West intersection to Pacific Highway	
Option Description: Construct new freeway overcrossing with no on- or off-ramps. Eliminate North Gate, reroute all traffic through new Barnes Gate.	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	0	
Maximum Volume Change in GP Lanes (NB & SB)	Gravelly lake to Bridgeport Way	6,060	5,820	0	40	
Total Volumes at All Interchanges	Ons	5,020	6,920	-20	-70	
	Offs	6,030	4,540	-40	-50	
Interchange(s) with Maximum Volume Change	Bridgeport Way I/C	Ons	740	790	-10	-120
		Offs	650	590	-30	0
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	-10	-60	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	-20	-10	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	0	-10	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	10	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Location	Changes < 0.5 mph				
Consistency with Plans & Policies	No viable added freeway crossing can be identified. This option should be dropped from further consideration.					
Known Environmental Issues	Unknown at this time.					
General Comments	Would primarily benefit JBLM traffic, but could also reduce volumes to/from North Gate that presently impact I-5/SR 512 interchange operations.					
Conclusion:	Not viable as a stand alone option.					
Combination Potential	Only viable in combination as part of a revised Consolidated JBLM Gate access strategy.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-17 New Higher Speed Road along Eastern Alignment of Cross Base Highway						
Option Category: Off-Base Local						
Option Limits: Joint Base Connector Road to 176th Street SE at SR 7						
Option Description: Construct new highway/higher speed arterial road from the proposed Joint Base Connector/150th Avenue to 176th Street (similar to the eastern portion of Cross Base alignment).						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	40	
Maximum Volume Change in GP Lanes (NB & SB)	Gravelly Lake to Bridgeport Way	6,060	5,820	-80	-90	
Total Volumes at All Interchanges	Ons	5,020	6,920	40	30	
	Offs	6,030	4,540	0	140	
Interchange(s) with Maximum Volume Change	Thorne Lane I/C	Ons	290	700	30	10
		Offs	690	260	20	160
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	40	-40	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	10	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	-90	-240	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	70	80	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	0	20	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	-1	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Thorne to Gravelly Lake	48	47	0	2	
Consistency with Plans & Policies	Highway alignment identified in PSRC 2040 Plan as the Cross Base Highway. This proposed project would have different characteristics/limits and a different objective than the Cross-Base Highway.					
Known Environmental Issues	Unknown at this time. Listed Threatened and Endangered species are known to be present in this area. Additionally, the Cross Base Highway EIS identified multiple other environmental issues. The EIS ROD and associated lawsuit was put on hold until such time as the project moves forward.					
General Comments	This public access road could also serve the east side of JBLM via the Joint Base Connector Road.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	It does have potential to improve east-west base movements with other options.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: **B-17a**
New Higher Speed Road along Eastern Alignment of Cross Base Highway

Option Category: **Off-Base Local**

Option Limits: **Joint Base Connector Road to 176th Street SE at SR 7**

Option Description:
Construct new highway/higher speed arterial road from the proposed Joint Base Connector/150th Avenue to 176th Street (similar to the eastern portion of Cross Base alignment). Option includes Joint Base Collector.



Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	-10	0	
Maximum Volume Change in GP Lanes (NB & SB)	Gravelly Lake to Bridgeport Way	6,060	5,820	-130	-180	
Total Volumes at All Interchanges	Ons	5,020	6,920	-10	-140	
	Offs	6,030	4,540	-50	-30	
Interchange(s) with Maximum Volume Change	Thorne Lane I/C	Ons	290	700	70	-10
		Offs	690	260	-10	160
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	40	-70	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	-10	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	190	-40	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	10	-100	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	10	-10	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Thorne to Gravelly Lake	48	47	1	2	
Consistency with Plans & Policies	Highway alignment identified in PSRC 2040 Plan as the Cross Base Highway. This proposed project would have different characteristics/limits and a different objective than the Cross-Base Highway.					
Known Environmental Issues	Unknown at this time. Listed Threatened and Endangered species are known to be present in this area. Additionally, the Cross Base Highway EIS identified multiple other environmental issues. The EIS ROD and associated lawsuit was put on hold until such time as the project moves forward.					
General Comments	This public access road could also serve the east side of JBLM via the Joint Base Connector Road.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	It does have potential to improve east-west base movements with other options.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis
Screening Evaluation Form

Summary of Phase 2A
Step 2 Screening Results

Option Number & Name: B-21 Railroad Avenue/Perimeter Road	
Option Category: Off-Base Local	
Option Limits: Mounts Road to Center Drive	
Option Description: Construct new public road corridor on JBLM (outside security fence)	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	0	
Maximum Volume Change in GP Lanes (NB & SB)	Specific Location	0	0	Changes < 5 vehicles		
Total Volumes at All Interchanges	Ons	5,020	6,920	0	0	
	Offs	6,030	4,540	0	0	
Interchange(s) with Maximum Volume Change	Location	Ons	0	0	Changes < 5 vehicles	
		Offs	0	0	Changes < 5 vehicles	
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	0	0	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Location	Changes < 0.5 mph				
Consistency with Plans & Policies	Not in any state or local plans.					
Known Environmental Issues	Unknown at this time.					
General Comments	It would require easement from JBLM and moving fence line and may impact JBLM training area.					
Conclusion:	Not viable as a stand alone option or in combination as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Not to be further considered because of the little impact to I-5.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: B-22 Perimeter Road - McChord Field						
Option Category: Off-Base Local						
Option Limits: Joint Base Connector to Military Road						
Option Description: Increase roadway speed to 50 mph, develop higher speed connection to Joint Base Connector road.						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	-10	0	
Maximum Volume Change in GP Lanes (NB & SB)	Thorne to Gravelly lake	5,810	5,960	-50	-80	
Total Volumes at All Interchanges	Ons	5,020	6,920	-20	10	
	Offs	6,030	4,540	-20	40	
Interchange(s) with Maximum Volume Change	SR 512	Ons	1,560	1,720	-40	0
		Offs	1,990	1,880	10	-70
Local Street Volume-Off-Base Screenline	Lakewood Screenline	1,470	2,120	-10	-60	
Local Street Volume-Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0	
Local Street Volume-On-Base Screenline	McChord Field Screenline	1,420	1,680	210	290	
Local Street Volume-On-Base Screenline	Lewis Main Screenline	2,200	3,670	20	10	
Local Street Volume-On-Base Screenline	Lewis North Screenline	1,860	1,130	10	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	-1	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Gravelly Lake to Bridgeport Way	46	48	1	1	
Consistency with Plans & Policies	Not on any state or local plans. Would need to address safety issues at sharp curve where Perimeter Road becomes Military Road.					
Known Environmental Issues	Unknown at this time.					
General Comments	The sharp corner where Perimeter Road becomes Military Road must be signed for less than 50 mph.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	It does have potential to improve east-west base movements with other options.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-1 Railroad Avenue Improvements	
Option Category: On-Base Local Connectivity Options	
Option Limits: Nisqually Road to Pendleton Avenue	
Option Description: Improve JBLM southerly road on east side of I-5 and add connection to Clark Road east of Center Drive I/C with extension further north along east side of freeway to Pendleton Avenue	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	-10	0	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Center to Steilacoom-DuPont	5,740	3,620	-50	10	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	0	0	
	Offs	6,030	4,540	-10	-10	
<i>Interchange(s) with Maximum Volume Change</i>	Center Drive I/C	Ons	560	220	40	0
		Offs	460	250	10	0
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	0	0	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	0	0	
<i>Local Street Volume - On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	0	0	
<i>Local Street Volume - On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	100	-70	
<i>Local Street Volume - On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	1	0	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Steilacoom-DuPont to Main Gate	33	54	1	0	
<i>Consistency with Plans & Policies</i>	Not in JBLM Master Plan					
<i>Known Environmental Issues</i>	Unknown at this time.					
<i>General Comments</i>	May require modifications to the ACP near Mounts Road.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Can be considered in combination of a revised Consolidated JBLM Gate access strategy.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-3 DuPont ACP						
Option Category: On-Base Local Connectivity Options						
Option Limits: Steilacoom-DuPont Road to Pendleton Avenue						
Option Description: Extend road from Steilacoom DuPont Road to Pendleton Avenue and reconfigure ACP						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	-10	-10	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Center to Steilacoom-DuPont	5,740	3,620	-40	0	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	20	-30	
	Offs	6,030	4,540	20	-30	
<i>Interchange(s) with Maximum Volume Change</i>	Steilacoom I/C	Ons	860	410	-40	-30
		Offs	220	500	-20	-20
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	0	0	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	-10	0	
<i>Local Street Volume - On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	0	0	
<i>Local Street Volume - On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	60	-100	
<i>Local Street Volume - On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	0	0	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Steilacoom-DuPont to Main Gate	33	54	1	0	
<i>Consistency with Plans & Policies</i>	Not in JBLM Master Plan.					
<i>Known Environmental Issues</i>	Modifications to DuPont Gate will need to consider potential impacts to adjacent cultural/historic resources.					
<i>General Comments</i>	The improvement would function basically like a frontage road. It will be considered as part of the I-5/Steilacoom-DuPont Road interchange improvement.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Can be considered in combination of a revised Consolidated JBLM Gate access strategy.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-4 Main Street Improvements	
Option Category: On-Base Local Connectivity Options	
Option Limits: Pendleton Avenue to 41st Division Drive	
Option Description: Improve Main Street to higher speed 2-lane road west of and parallel to I-5.	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	0	0	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Steilacoom-DuPont to Main Gate	5,090	3,530	-20	-10	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	-20	-10	
	Offs	6,030	4,540	-20	-10	
<i>Interchange(s) with Maximum Volume Change</i>	Main Gate I/C	Ons	310	1,280	-20	0
		Offs	460	170	0	-10
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	0	10	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	0	0	
<i>Local Street Volume - On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	0	0	
<i>Local Street Volume - On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	20	10	
<i>Local Street Volume - On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	10	0	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	0	0	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Steilacoom-DuPont to Main Gate	Change < 0.5 mph				
<i>Consistency with Plans & Policies</i>	Not in JBLM Master Plan.					
<i>Known Environmental Issues</i>	No apparent environmental issues if roadway widening does not occur. With roadway widening, there may be potential T&E species impacts.					
<i>General Comments</i>	This option is intended to provide a higher speed connection to O's and D's on the west side of I-5 and to reduce demand for freeway travel. It would likely require significant reconstruction on Camp Murray. It may not have significant benefit for I-5, but it's feasible. Camp Murray may not agree to proceed with this option.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Not to be further considered because of the little impact to I-5, and other options provide the same function with better results.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-6 NCO Beach Road Improvements						
Option Category: On-Base Local Connectivity Options						
Option Limits: 41st Division Drive to Berkeley Street						
Option Description: Improve 2-lane NCO Beach Road from 41st Division Drive north, then build 2-lane connection to Field Artillery Trail in Camp Murray with new JBLM ACP, then Armor Drive to Camp Murray Main Gate.						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	0	0	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Main Gate to Berkeley	5,240	4,640	-30	-20	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	-10	-10	
	Offs	6,030	4,540	-10	-10	
<i>Interchange(s) with Maximum Volume Change</i>	Berkeley Street I/C	Ons	330	1,150	-30	0
		Offs	500	270	0	-20
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	0	0	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	0	0	
<i>Local Street Volume - On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	0	0	
<i>Local Street Volume - On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	10	0	
<i>Local Street Volume - On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	30	10	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	0	0	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Main Gate to Berkeley	29	43	1	0	
<i>Consistency with Plans & Policies</i>	Not in JBLM Master Plan.					
<i>Known Environmental Issues</i>	Road modifications will need to consider potential impacts to Camp Murray Historic District. This would also likely have additional Environmental Justice considerations.					
<i>General Comments</i>	Potential traffic impacts in Tillicum neighborhood. Camp Murray restricted south gate access opening in the AM to reduce this impact.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Not to be further considered because of the little impact to I-5, and other options provide the same function with better results.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-7 South A Road Extension						
Option Category: On-Base Local Connectivity Options						
Option Limits: Jackson Road to Logistics Gate						
Option Description: Extend South A Road west of existing terminus at Jackson Road to connect with Logistics Gate at Murray Road, improve Murray Road for higher speed traffic to I-5/Thorne Lane I/C						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	0	
Maximum Volume Change in GP Lanes (NB & SB)	Berkeley to Thorne	5,410	5,520	-60	-170	
Total Volumes at All Interchanges	Ons	5,020	6,920	0	70	
	Offs	6,030	4,540	80	70	
Interchange(s) with Maximum Volume Change	Thorne Lane I/C	Ons	290	700	-40	180
		Offs	690	260	40	-40
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	-20	-10	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	0	-10	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	70	290	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	40	-180	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	20	-10	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	1	1	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Berkeley to Thorne	24	21	2	4	
Consistency with Plans & Policies	Identified as JBLM improvement need.					
Known Environmental Issues	Unknown at this time.					
General Comments	Could be issues with adding traffic through Logistics Center					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	It has combination potential because it shows limited improvement on I-5 between Berkeley Street and Thorne Lane.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5

Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-8 Joint Base Connector						
Option Category: On-Base Local Connectivity Options						
Option Limits: Perimeter Road to McChord Field						
Option Description: Build 4-lane higher speed connection between Lewis Main and McChord Field per JBLM plans						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	-30	-20	
Maximum Volume Change in GP Lanes (NB & SB)	Thorne to Gravelly Lake	5,810	5,960	-80	-70	
Total Volumes at All Interchanges	Ons	5,020	6,920	-80	-70	
	Offs	6,030	4,540	-80	-70	
Interchange(s) with Maximum Volume Change	Thorne Lane I/C	Ons	290	700	-10	-30
		Offs	690	260	-30	0
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	-10	-20	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	550	510	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	-60	-40	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	0	-10	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	1	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Berkeley to Thorne	24	21	1	1	
Consistency with Plans & Policies	Phase 1 currently funded, Phase 2 remains under consideration for development with timing unknown.					
Known Environmental Issues	Unknown at this time.					
General Comments						
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	It has combination potential because it shows limited improvement on I-5 between Berkeley Street and Thorne Lane and is part of JBLM plans.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-9 Fairway Road Extension						
Option Category: On-Base Local Connectivity Options						
Option Limits: Joint Base Connector to Bridgeport Way						
Option Description: Improve and extend Fairway Road as 2-lane higher speed facility						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	-40	-50	
Maximum Volume Change in GP Lanes (NB & SB)	Thorne to Gravelly Lake	5,810	5,960	-120	-220	
Total Volumes at All Interchanges	Ons	5,020	6,920	-110	-160	
	Offs	6,030	4,540	-120	-130	
Interchange(s) with Maximum Volume Change	Berkeley Street I/C	Ons	330	1,150	0	-110
		Offs	500	270	-70	10
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	-30	-110	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	0	-10	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	450	400	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	-90	-210	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	10	-30	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	1	1	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Berkeley to Thorne	24	21	2	3	
Consistency with Plans & Policies	Not in JBLM Master Plan.					
Known Environmental Issues	Unknown at this time.					
General Comments						
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	It has combination potential because it shows limited improvement on I-5 between Thorne Lane and Gravelly Lake Drive and improves north-south travel on JBLM.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5

Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-10 Barnes Road Improvements						
Option Category: On-Base Local Connectivity Options						
Option Limits: Perimeter Road to Union Avenue (McChord North Gate)						
Option Description: Improve Barnes Road as 4-lane facility						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	0	
Maximum Volume Change in GP Lanes (NB & SB)	Berkeley to Thorne	5,410	5,520	0	0	
Total Volumes at All Interchanges	Ons	5,020	6,920	0	0	
	Offs	6,030	4,540	0	0	
Interchange(s) with Maximum Volume Change	Berkeley Street I/C	Ons	330	1,150	0	0
		Offs	500	270	0	0
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	0	0	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Specific Location	No Change in Speeds				
Consistency with Plans & Policies	Identified as a JBLM improvement need.					
Known Environmental Issues	Unknown at this time.					
General Comments	This option may impact the operation of local streets due to the proximity of buildings.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	It has combination potential with revised Base access strategies, especially with a new Barnes Gate with tie to Old Pacific Highway.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-11 Relocate DuPont ACP						
Option Category: On-Base Local Connectivity Options						
Option Limits: Vicinity of DuPont Gate						
Option Description: Move DuPont ACP to Center Drive						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
<i>Average Volume in GP Lanes (NB & SB)</i>	Along Corridor	5,540	4,560	-20	-60	
<i>Maximum Volume Change in GP Lanes (NB & SB)</i>	Center to Steilacoom-DuPont	5,740	3,620	-290	-110	
<i>Total Volumes at All Interchanges</i>	Ons	5,020	6,920	-20	-30	
	Offs	6,030	4,540	-30	-30	
<i>Interchange(s) with Maximum Volume Change</i>	Steilacoom I/C	Ons	860	410	-480	-140
		Offs	220	500	-20	-190
<i>Local Street Volume Off-Base Screenline</i>	Lakewood Screenline	1,470	2,120	10	0	
<i>Local Street Volume Off-Base Screenline</i>	DuPont Screenline	1,240	1,160	20	50	
<i>Local Street Volume - On-Base Screenline</i>	McChord Field Screenline	1,420	1,680	0	-10	
<i>Local Street Volume - On-Base Screenline</i>	Lewis Main Screenline	2,200	3,670	120	-220	
<i>Local Street Volume - On-Base Screenline</i>	Lewis North Screenline	1,860	1,130	10	20	
		SB mph	NB mph	SB mph	NB mph	
<i>Average Speed in GP Lanes (NB & SB)</i>	Along Corridor	36	44	-1	0	
<i>Location with Maximum Change in Speed in GP Lanes (NB & SB)</i>	Steilacoom-DuPont to Main Gate	33	54	-5	0	
<i>Consistency with Plans & Policies</i>	Not in JBLM Master Plan					
<i>Known Environmental Issues</i>	Modifications to DuPont Gate will need to consider potential impacts to adjacent cultural/historic resources. Impacts in the vicinity of Center Drive are unknown at this time.					
<i>General Comments</i>	Will require modifications to Center Drive interchange to accommodate ACP access/egress. May also require local street improvements to accommodate shift in traffic.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Can be considered in combination of a revised Consolidated JBLM Gate access strategy.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-13 Close JCLM D Gate						
Option Category: On-Base Local Connectivity Options						
Option Limits: Vicinity of D Gate						
Option Description: Close D Gate when Integrity (Wharf) Gate opens to alleviate local road impacts from growth on Lewis North.						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	20	60	
Maximum Volume Change in GP Lanes (NB & SB)	Thorne to Gravelly Lake	5,810	5,960	80	200	
Total Volumes at All Interchanges	Ons	5,020	6,920	40	150	
	Offs	6,030	4,540	50	110	
Interchange(s) with Maximum Volume Change	Main Gate I/C	Ons	310	1,280	20	190
		Offs	460	170	90	0
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	-140	-180	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	30	110	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	-10	60	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	10	-60	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	240	110	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	-2	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Main Gate to Berkeley	29	43	-1	-3	
Consistency with Plans & Policies	Not in JBLM Master Plan.					
Known Environmental Issues	Unknown at this time.					
General Comments	This option may impact I-5 by diverting JBLM/Lakewood traffic from local streets to I-5 to reach destinations. May also impact local streets in DuPont.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Not to be further considered because it has the potential to increase travel on I-5 and reduce I-5 speeds.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-15 New JBLM Arterial Street	
Option Category: On-Base Local Connectivity Options	
Option Limits: Mounts Road to Madigan Hospital Vicinity	
Option Description: Construct new four-lane urban road and new gate to Mounts Road	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	20	0	
Maximum Volume Change in GP Lanes (NB & SB)	Mounts to Center	5,830	3,650	80	10	
Total Volumes at All Interchanges	Ons	5,020	6,920	50	10	
	Offs	6,030	4,540	50	10	
Interchange(s) with Maximum Volume Change	Mounts Road I/C	Ons	0	170	0	0
		Offs	450	10	80	-10
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	10	0	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	-100	50	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Mounts to Center	47	53	-1	0	
Consistency with Plans & Policies	Not in JBLM Master Plan.					
Known Environmental Issues	Road extension will need to consider potential impacts to adjacent cultural/historic resources south of Jackson Avenue and east of I-5, in vicinity of Steilacoom-DuPont Road interchange, and through JBLM historic district north of Steilacoom-DuPont interchange and east of I-5. Potential impacts south of Steilacoom-DuPont Road interchange are unknown at this time.					
General Comments	This option will need to remain within JBLM to be viable for on-base traffic movement. Alignment must navigate around existing or modified ACPs.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Can be considered in combination of a revised Consolidated JBLM Gate access strategy.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5

Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-16 New JBLM Collector Street						
Option Category: On-Base Local Connectivity Options						
Option Limits: Madigan to Thorne Lane						
Option Description: Close Madigan Gate (Berkeley Street) and build new collector road to link Madigan to Logistics Gate (Murray Road/Thorne Lane I/C)						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	-20	-10	
Maximum Volume Change in GP Lanes (NB & SB)	Berkeley to Thorne	5,410	5,520	-220	-490	
Total Volumes at All Interchanges	Ons	5,020	6,920	-170	-170	
	Offs	6,030	4,540	-150	-170	
Interchange(s) with Maximum Volume Change	Berkeley Street I/C	Ons	330	1,150	-230	-910
		Offs	500	270	-470	-160
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	-20	-20	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	-10	-10	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	300	800	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	-380	-930	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	20	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	1	2	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Berkeley to Thorne	24	21	6	13	
Consistency with Plans & Policies	Not in JBLM Master Plan.					
Known Environmental Issues	Potential hazardous materials issues and historic/cultural resources on east side of I-5 in this area.					
General Comments	This option may impact I-5 and Murray Road by increasing traffic volumes. Closes Jackson Avenue and impacts emergency access to Madigan Hospital requiring alternative access.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Can be considered in combination of a revised Consolidated JBLM Gate access strategy.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5

Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-20 Modify DuPont Gate	
Option Category: On-Base Local Connectivity Options	
Option Limits: Vicinity of DuPont Gate	
Option Description: Retain ACP at existing location but convert to local outbound traffic only	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	-10	
Maximum Volume Change in GP Lanes (NB & SB)	Mounts to Center	5,830	3,650	10	-120	
Total Volumes at All Interchanges	Ons	5,020	6,920	10	10	
	Offs	6,030	4,540	10	20	
Interchange(s) with Maximum Volume Change	Steilacoom I/C	Ons	860	410	10	40
		Offs	220	500	-40	-210
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	10	-20	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	-20	0	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	-120	120	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	0	10	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Steilacoom-DuPont to Main Gate	33	54	1	-1	
Consistency with Plans & Policies	Not in JBLM Master Plan.					
Known Environmental Issues	Modifications to DuPont Gate will need to consider potential impacts to cultural/historic resources. There may also be Environmental Justice issues that require consideration.					
General Comments	Inbound traffic must use another ACP (like Main Gate or a modified Nisqually Gate).					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Not to be considered further because other gate changes seems to have better impact to I-5.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-21 New JBLM Collector Street	
Option Category: On-Base Local Connectivity Options	
Option Limits: DuPont Gate to East Gate	
Option Description: Construct new 2-lane road to edge of cantonment area. Follow rail line and combat vehicle trail.	

Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	10	0	
Maximum Volume Change in GP Lanes (NB & SB)	Center to Steilacoom-DuPont	5,740	3,620	20	10	
Total Volumes at All Interchanges	Ons	5,020	6,920	-10	-10	
	Offs	6,030	4,540	0	-10	
Interchange(s) with Maximum Volume Change	Center Drive I/C	Ons	560	220	-30	0
		Offs	460	250	0	0
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	0	-10	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	-30	30	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	10	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Specific Location	Change < 0.5 mph				
Consistency with Plans & Policies	Not in JBLM Master Plan.					
Known Environmental Issues	Unknown at this time.					
General Comments						
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	It has combination potential because it may increase east-west traffic away from I-5 with better eastside improvements.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets



I-5 JBLM Alternatives Analysis Screening Evaluation Form

Summary of Phase 2A Step 2 Screening Results

Option Number & Name: C-26 Pendleton Avenue Improvement						
Option Category: On-Base Local Connectivity Options						
Option Limits: Under I-5						
Option Description: Improve Pendleton Avenue and fix height restriction under I-5 to allow better east/west connections on JBLM.						
Criteria	Location	2013 PM Peak Hour Base Conditions		Change with Option		
		SB vph	NB vph	SB vph	NB vph	
Average Volume in GP Lanes (NB & SB)	Along Corridor	5,540	4,560	0	0	
Maximum Volume Change in GP Lanes (NB & SB)	Center to Steilacoom-DuPont	5,740	3,620	0	0	
Total Volumes at All Interchanges	Ons	5,020	6,920	0	0	
	Offs	6,030	4,540	0	0	
Interchange(s) with Maximum Volume Change	Location	Ons	560	220	No Change	
		Offs	460	250	No Change	
Local Street Volume Off-Base Screenline	Lakewood Screenline	1,470	2,120	0	0	
Local Street Volume Off-Base Screenline	DuPont Screenline	1,240	1,160	0	0	
Local Street Volume - On-Base Screenline	McChord Field Screenline	1,420	1,680	0	0	
Local Street Volume - On-Base Screenline	Lewis Main Screenline	2,200	3,670	0	0	
Local Street Volume - On-Base Screenline	Lewis North Screenline	1,860	1,130	0	0	
		SB mph	NB mph	SB mph	NB mph	
Average Speed in GP Lanes (NB & SB)	Along Corridor	36	44	0	0	
Location with Maximum Change in Speed in GP Lanes (NB & SB)	Specific Location	No Change in Speeds				
Consistency with Plans & Policies	Not in JBLM Master Plan.					
Known Environmental Issues	Unknown at this time.					
General Comments	Likely will be part of any mainline improvement.					
Conclusion:	Not viable as a stand alone option as it does not reduce traffic volume or improve I-5 speeds.					
Combination Potential	Can be combined with other improvement to reduce crossing traffic at other access points.					

Relative to I-5 and McChord Screenline: Red = Poorest, Yellow = Moderate, Green = Highest benefit to I-5
 Relative to Other Screenlines: Red = Highest, Yellow = Moderate, Green = Lowest Impacts to Local Streets