Appendix A
Methods & Assumptions Document

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Washington State Department of Transportation

I-5 Joint Base Lewis-McChord Vicinity Interchange Justification Report & Environmental Documentation

Methods & Assumptions Document

Prepared for: Washington State Department of Transportation

Prepared by: H.W. Lochner, Inc. & Shea Carr Jewell, Inc.

In association with:

The Transpo Group, Inc.

Shannon & Wilson, Inc.

April 2013

LOCHNER

SHEA - CARR - JEWELL

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Figures

Methods and Assumptions

1. Stakeholder Acceptance

"The undersigned parties, including all members of the team from WSDOT, FHWA and the Local Agencies, concur with the Interchange Justification Report Methods and Assumptions for the I-5 Joint Base Lewis-McChord Vicinity Interchange Justification Report (I-5 JBLM Vicinity IJR) as presented in this document." The signature pages for each jurisdiction are attached at the back of this document.

STAKEHOLDER ACCEPTANCE

Joint Base Lewis-McChord

_____
Signature

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Title

_____
Date

City of DuPont

_____
Signature

_____
Title

_____
Date

Camp Murray

_____
Signature

_____
Title

_____
Date

SEE ATTACHED AGENCY SIGNATURE PAGES

Town of Steilacoom

_____
Signature

_____
Title

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Date

City of Lakewood

_____
Signature

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Title

_____
Date

Pierce County

_____
Signature

_____
Title

_____
Date

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Thurston Regional Planning Council

Signature

Title

Date

WSDOT – HQ Traffic Office

Signature

Title

Date

Puget Sound Regional Council

Signature

Title

Date

WSDOT – HQ Development Division

Signature

Title

Date

SEE ATTACHED AGENCY SIGNATURE PAGES

WSDOT – Olympic Region

Signature

Title

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WSDOT – HQ Access and Hearings

Signature

Title

Date

WSDOT – Olympic Region Traffic Office

Signature

Title

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FHWA

Signature

Title

Date

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2. Introduction and Project Description

Interstate 5 (I-5) is a national highway of strategic importance as it travels from the US/Mexican Border to the US/Canadian border. It is the primary highway for the movement of goods and people traveling north and south on the west coast of the United States. In Washington, I-5 links key population centers Vancouver, Olympia, Tacoma, Seattle, Everett and Bellingham.

Over the past several years, traffic has increased along the entire I-5 corridor from Mexico to Canada. Within our study area in south Pierce County, traffic has also grown, as Joint Base Lewis-McChord (JBLM) has evolved into a strategic military base, Camp Murray has expanded, and the communities of Lakewood, DuPont and Steilacoom have grown. These area changes have added to the increased through-traffic along the I-5 corridor from Olympia to Seattle. Because of the presence of secured military bases on both sides of I-5, there are no routes to use without extended detours to bypass the military bases. Congestion along I-5 through the JBLM vicinity has become a daily occurrence with ramp traffic backing onto the I-5 mainline causing delays and safety issues.

The I-5 JBLM Vicinity IJR Project will include:

- Development of an I-5 Interstate Corridor Plan from the I-5/Center Drive Interchange to the I-5/Gravelly Lake Road Interchange;
- Development of a corridor-wide Interchange Justification Report for revisions to the I-5/Steilacoom-DuPont Road Interchange, I-5/Main Gate Interchange, I-5/Berkeley Street Interchange, and I-5/Thorne Lane Interchange;
- Prioritization of interstate improvements; and
- Preparation of the Environmental Documentation and associated preliminary engineering for highest priority improvements.

Purpose of the Project

The purpose of this project is to define improvements to relieve traffic congestion on the I-5 corridor in the JBLM vicinity with a focus on M.P. 119 to 124 including the interchanges with Steilacoom-DuPont Road, Main Gate, Berkeley Street, and Thorne Lane. A corridor Interchange Justification Report will be prepared addressing these four interchanges at a minimum. The IJR document will be developed in cooperation with the Federal Highway Administration (FHWA), WSDOT, JBLM, Camp Murray, Puget Sound Regional Council (PSRC), Thurston Regional Planning Council (TRPC), Pierce County, Intercity Transit, Pierce Transit, the Town of Steilacoom, and the cities of Lakewood, DuPont, and Lacey.

This project will then develop the necessary environmental documentation and preliminary engineering for the highest priority element(s) of the preferred solutions, as guided by the stakeholders.

The results of the Interchange Justification Report (IJR) and environmental documentation will enable the project stakeholders to assess options and opportunities to improve the transportation system within the study area, and solicit funds to implement the preferred solution in a logical manner. Specifically, the project will address:

- Relieving congestion on I-5 within the study area;
- Improving local and mainline system efficiency;
- Enhancing mobility;
- Improving safety and operations;
- Increasing transit and TDM opportunities.

Project Leads and Proponents

- Washington State Department of Transportation
- Federal Highway Administration
- Joint Base Lewis-McCord
- Camp Murray
- City of Lakewood
- City of DuPont
- Town of Steilacoom
- City of Lacey
- Pierce County
- Puget Sound Regional Council
- Thurston Regional Planning Council
- Intercity Transit
- Pierce Transit

Environmental Document Type

Depending on the selected project(s) and the degree of impacts, we are envisioning a Documented Environmental Classification Summary (DECS) or an Environmental Assessment (EA).

Level of Documentation

The proposed improvement options likely will include substantial revisions to the existing interchanges. As required by WSDOT's Design Manual Chapter 550 and FHWA, eight specific points will be addressed in the IJR. These policy points are:

(1) Policy Point 1: Need for the Access Point Revision - What are the current and projected needs? Why are the existing access points and the existing or improved local system unable to meet the proposal needs? Is the anticipated demand short or long trip?

- Using the Base Conditions operation analyses for 2013, 2020 and 2040 discuss the intersection and interstate deficiencies in access to the Interstate at the Thorne Lane, Berkeley Street, Main Gate and DuPont-Steilacoom Road interchanges.
- Using the collision analysis, discuss the existing safety issues along I-5 and at the Thorne Lane, Berkeley Street, Main Gate and DuPont-Steilacoom Road interchanges and what it may look like in the future if changes do not occur.

(2) Policy Point 2: Reasonable Alternatives - Describe the reasonable alternatives that have been evaluated.

- Discuss all alternatives developed as part of this IJR and explain how these alternatives met or did not meet the purpose of the improvement.
- Discuss why the selected alternative(s) were carried forward for further development.

(3) Policy Point 3: Operational and Collision Analyses - How will the proposal affect safety and traffic operations at year of opening and design year?

- Discuss the results of the intersection and interstate operational analyses for the opening year (2020) and design year (2040) for the recommended Build Alternatives for this IJR.
- Compare the results of the Build Alternatives with the Base Condition results, including the Thorne Lane, Berkeley Street, Main Gate and Steilacoom interchanges.
- Determine the effect of the Build Alternatives on the I-5 mainline operations and adjacent interchanges at Gravelly Lake Road, and Center Drive Interchanges. If the impacts extend further north and south, also analyze the impacts to Mounts Road Interchange, Bridgeport Way Interchange and the SR 512 Interchange.
- Discuss the collision analysis results for the Build Condition as compared to the Base Condition for the opening and design years.
- Discuss impacts to safety and operation of I-5.

(4) Policy Point 4: Access Connections and Design - Will the proposal provide fully directional interchanges connected to public streets or roads, spaced appropriately, and designed to full design level geometric control criteria?

- Discuss the geometric designs of the proposed improvements and show that all movements are included in the design.
- Prepare conceptual horizontal and vertical alignments showing the existing I-5 mainline, proposed ramps and existing cross roads for the selected alternative.
- Discuss design criteria, including ROW and access impacts.

(5) Policy Point 5: Land Use and Transportation Plans - Is the proposed access point revision compatible with all land use and transportation plans for the area?

- Summarize how current land use assumptions are included in the travel demand model.
- Discuss the improvement consistency with local, regional, and statewide transportation plans.

(6) Policy Point 6: Future Interchanges - Is the proposed access point revision compatible with a comprehensive network plan? Is the proposal compatible with other known new access points and known revisions to existing points?

- Discuss the improvement consistency with other planned interstate improvements included in the State-wide Highway System Plan and refer to a future interstate master plan, including impacts of the Cross-Base highway.

(7) Policy Point 7: Coordination - Are all coordinating projects and actions programmed and funded?

- Discuss plans of the local jurisdictions to provide other local improvements to support the interstate modifications and that they will commit to work with WSDOT to pursue funds for the interchange modifications.
- Discuss any previous commitments between agencies or private entities; i.e. financial, environmental, etc.

(8) Policy Point 8: Environmental Processes - What is the status of the proposal's environmental processes? This section should be something more than just a status report of the environmental process; it should be a brief summary of the environmental process.

- Discuss the environmental findings, such as endangered species, priority habitats, wetlands and streams in the area and what environmental permits may be needed to implement the improvements.
- Discuss any known social issues that could affect this proposal.
- Discuss any known or potential hazardous contamination in the area.
- Discuss (if necessary) if the location is within a non-attainment area for air quality.
- Discuss that the environmental process must have WSDOT approval prior to the final IJR approval.

3. Analysis Years/Periods

Operational analysis will include AM, Midday and PM peak hours for the following years:

- Existing Base Year - 2013
- Assumed Opening Year - 2020
- Horizon/Design Year – 2040

A sensitivity analysis will also be conducted to assess approximately ten percent higher through traffic volumes along I-5 to account for increased Friday afternoon or Sunday evening situations.

4. Project Study Area

The project study area for this *I-5 JBLM Vicinity IJR* will extend from the I-5/Center Drive Interchange on the south to the I-5/Gravelly Lake Road Interchange on the north as illustrated on Figure 1. This area will include the following intersections for analyses:

- Center Drive Interchange (Exit #118)
  - Northbound Ramps
  - (JBLM outbound gate)
  - Southbound Ramps
  - Wilmington Drive/Center Drive
- DuPont-Steilacoom Road Interchange (Exit #119)
  - Northbound Ramps
  - Southbound Ramps
  - Wilmington Dr./Barksdale Ave.

- Main Gate Interchange (Exit # 120)
  - Northbound Ramps
  - Southbound Ramps
  - JBLM Gates
- Berkeley Street Interchange (Exit #122)
  - Northbound Ramps
  - Southbound Ramps
  - Union Avenue/Berkeley Street
- Thorne Lane Interchange (Exit #123)
  - Northbound Ramps
  - Southbound Ramps
  - Union Avenue/Thorne Lane
- Gravelly Lake Drive Interchange (Exit #124)
  - Northbound Ramps
  - Southbound Ramps
  - Pacific Highway S/Gravelly Lake Dr.

If the traffic analyses and the volumes changes show that there are impacts to adjacent interchanges further north or south, then they will be included in the project impact analysis, including:

- Mounts Road Interchange (Exit #116)
  - Northbound Ramps
  - Southbound Ramps
- SR 512 Interchange (Exit #127)
  - Southbound Off-ramp
- Bridgeport Way Interchange (Exit #125)
  - Northbound Ramps
  - Southbound Ramps
  - Pacific Highway S/Bridgeport Way

The study area for the travel demand model will include most of Pierce County and the north portion of Thurston County.

5. Traffic Operations Analysis

For interstate highway operations, the *2010 Highway Capacity Manual* (HCM) using the associated *Highway Capacity* software (HCS) (version 6.4) will be used to analyze mainline, merge/diverge connections and weaves situations. Average vehicle speed and density will be used as performance measures for the HCS analysis. For the three analysis years, AM, Midday and PM peak hour analyses will be performed.

For ramp terminal/surface street operations, intersections will be analyzed as follows:

- Synchro 8.0 software will be used to analyze the operations of signalized intersections.
- Synchro 8.0 software or HCS will be used to analyze unsignalized intersections.
- SIDRA 5.1 software package using standard model with HCS on will be used to analyze roundabout controlled intersections.
- SimTraffic software will be used to check Synchro results for ramp queuing.

For the preferred alternative, a simulation model capable of analyzing freeway and geometry between intersections and interchanges, including weaving sections and multiple vehicle classes will be used. VISSIM was selected for the simulation of the preferred alternative because it meets these needs while also providing animation graphics. The following VISSIM simulations will be prepared:

- Existing Year 2013 PM Peak Period (for model calibration)

- Design Year 2040 PM Peak Period for the Base Conditions
- Design Year 2040 PM Peak Period for the preferred alternative
- Design Year 2013 AM Peak Period (for model calibration)
- Design Year 2040 AM Peak Period for the Base Conditions
- Design Year 2040 AM Peak Period for the preferred alternative

For this report, the operational analysis area will include the I-5 corridor between Mounts Road and SR 512 interchanges and all ramp terminals.

6. Travel Forecast

The existing I-5/JBLM/Lakewood model developed for the *I-5 Alternatives Analysis Study* and consistent with the PSRC regional model will be utilized to develop forecasts for 2020 (year of opening) and 2040 (design year). In addition, the recent results and modeling efforts completed for the Lacey Area IJR will be used to help reconcile the differences between the PSRC and TRPC travel demand forecasts. This will include a more refined post-processing effort and rationale in balancing the vehicle demand and trips entering and exiting the Pierce/Thurston County line.

The 2020 model will include all local and regionally funded improvements and the 2040 model will include projects adopted in the region's Metropolitan Transportation Plan. Travel forecasts for the AM, mid-day, and PM peak periods and hours will be prepared.

Model Overview

The I-5/JBLM/Lakewood model was selected as the preferred model because it was specifically developed to support evaluation of I-5 mainline and interchange concepts in the JBLM vicinity. The available models in the area such as the PSRC, Pierce County, and TRPC models were not sufficiently refined in and around JBLM, Camp Murray, DuPont, and Lakewood to allow for the level of detail needed for an accurate assessment of I-5 and the area's transportation system. The I-5/JBLM/Lakewood model is a refined version of Pierce County's regional EMME model, but has been converted to the VISUM software platform. Transportation Analysis Zones (TAZs) have been subdivided to better model traffic patterns in the area and between major subareas of JBLM. Travel characteristics specific to the area have been introduced along with specific trip purposes and distribution for JBLM related travel to better model each of the interchanges and installation points of entry.

The model study area includes most of Pierce County, and some major highways and arterials in northeastern Thurston County. The base year model will be calibrated for AM, mid-day, and PM peak periods based on traffic counts collected during those times. Model parameters (screen lines, trip distribution, time-of day, etc.) will be validated based on FHWA guidelines. Consistency with PSRC and TRPC assumptions will be part of the model validation process. Given the recent work that has been competed for the Lacey Area IJR, the model calibration and post-processing will be sensitive to the travel forecast imbalance between the Pierce and Thurston county boundaries. The IJR team will work closely with TRPC and PSRC to solidify the model results to ensure a more accurate representation of

future travel characteristics are developed for this study. Testing of future scenarios will be conducted to review model sensitivity to changes in travel demand or the model network.

Freeway Traffic Forecasts

Forecasts will be developed for SOV and HOV classes of vehicles. Truck volumes will be estimated based upon available truck counts and existing truck percentages. HOV 2+ and HOV 3+ trip tables will be prepared based on PSRC model assumptions for each of the model time periods. In regards to transit, the VISUM model will not provide direct model data for transit vehicles, but it will be flexible to transit-related assumptions. The person-trip mode-split factors come from the PSRC model, and future year mode splits will reflect PSRC anticipated changes to transit in the future. For the I-5 JBLM specific zones, adjustments can be made to the mode split or time-of-day factors based on various transit scenario assumptions. The effect on traffic volumes will be scaled accordingly.

Interchange & Intersection Traffic Forecasts

Future interchange and intersection traffic volumes will be developed using travel forecasts from the model. The model travel forecasts for each time period will be post-processed and translated into vehicle volumes for use in the operations analysis. The interchange and intersection volumes will be balanced using the freeway ramp volumes as control totals.

7. Highway Network Assumptions

The following baseline conditions are assumed:

- 2013 Base Conditions
  - Existing Highway Network
- 2020 Base Conditions
  - Funded Tiger III Improvements
  - Funded TIP improvements from Local Jurisdictions
  - Funded STIP improvements
  - Funded JBLM Improvements
  - Funded rail improvements
  - Funded inter-regional transit and vanpool service
- 2040 Base Conditions
  - Same as 2020 Base Conditions.
  - Cross-Base Highway is not included as part of the base conditions.
- Modified 2040 Base with Unfunded Local Improvements
  - Local Improvements from the Long Range Regional Transportation Plan will be reviewed by the technical support group and selected improvements will be included.
  - Cross-Base Highway improvement will be analyzed for conditions with and without the corridor.

8. Build Highway Network Assumptions

- Build Alternatives 2020
  - Use same local highway network as developed for the 2020 Base Conditions.
  - Modify I-5 mainlines and ramps as approved by Stakeholders
- Build Alternatives 2040
  - Use same local highway network as developed for the Modified 2040 Base Conditions with and without the Cross-Base Highway.
  - Modify I-5 mainlines and ramps as approved by Stakeholders

9. Safety Issues

This IJR will use the current Collision Analysis Location/Collision Analysis Corridor (CAL/CAC) criteria and the Intersection Analysis Location (IAL) criteria for state highways within the project area. In addition, the collision rates along local streets will be estimated using available local collision data. Types of accidents and contributing factors to collisions will also be summarized by location. The most recent five years of available collision data will be used for this analysis. This corridor-specific information as well as statewide system collision statistics will be used in a predictive collision analysis effort to estimate any change in the level of safety for the interstate and connecting roadways.

Procedures developed in the Highway Safety Manual will be investigated for potential use in predicting future safety assessments of the preferred Build Alternative.

10. Deviations/Justifications

At this point in the process, there are no deviations identified. Deviations may be indentified through the various study results, and will be documented as they arise.

11. Selection of Measures of Effectiveness (MOE)

The metrics to be used to demonstrate how the proposal will accomplish the stated objectives will be aligned with the provisions outlined in the *Moving Washington* initiative. These metrics may include but not be limited to the following:

1. Traffic Operations along I-5 (Travel time and density)
2. Traffic Operations at ramp terminals (Average intersection delay and 95% queue lengths)
3. Impacts critical environmental habitat (Area impacted).
4. Safety Analysis Results (Accident Potential/Risk Reduction).
5. Travel time savings for freight movement
6. Reduction in SOV trips (identify goal) through increased TDM and transit ridership
7. Effect of “Managed Lanes” compared to general purpose (peak period SOV)
8. Design Standards/Deviations
9. Right of Way/Access Impacts

The list of criteria will be finalized as the evaluation methodology is developed with approval of the Stakeholders.

12. Resolution of Late Comments

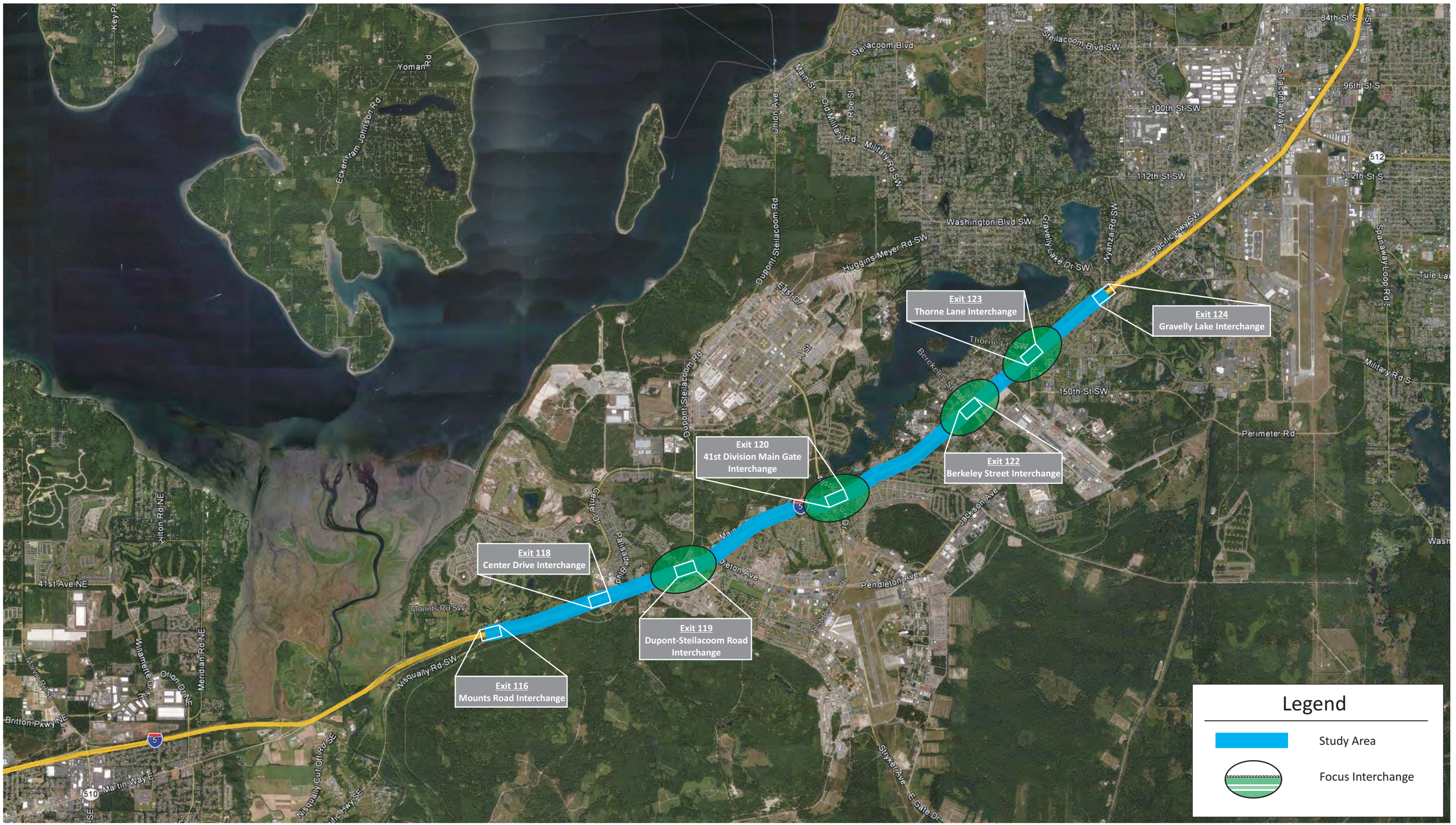
From time to time, ideas or suggestions arise late in the evaluation or documentation process. Some of these late emerging ideas may have merit and added benefits to the project, but be difficult to incorporate in the on-going process. It is understood that new ideas may bring value to the final outcomes and therefore should not be automatically dismissed because of the sequence of events and timing of the information. Specific protocols will be in place to allow new ideas and information to be "vetted" and reviewed for consideration, as follows:

> If new ideas and information are brought forward, they will be first discussed between WSDOT's Project Manager and the Consultant's Project Manager who will determine its merits. If they decide that the new idea has merit it will be referred to WSDOT/FHWA Core Team to decide how the new idea should be addressed in the IJR and environmental process. If the WSDOT and Consultant Project Managers decide that the idea has little merit, it will be added under policy point 2, if appropriate, and addressed as an idea considered.
>
> For ideas that have already been considered and dismissed, but there is new interest in re-consideration, the WSDOT's Project Manager and the Consultant's Project Manager will determine if reintroducing the idea has merits. If they decide that the new idea has merit the idea will be referred to WSDOT/FHWA Core Team to decide how the revised idea should be addressed in the IJR and environmental process.
>
> If a new idea and/or prior information is brought forward during a stakeholder meeting, the content of this information will not be fully discussed if it impacts the scheduled agenda. The Consultant's Project Manager will note the comments and content of the information and will assure that review of the new information will follow the approved protocols for consideration.

A log of all late ideas and suggestions will be maintained by the Consultant's Project Manager who will briefly summarize the idea or concept and show its status.

13. Conclusion

This study will review and analyze options for improving access to the Interstate system without degrading the mainline freeway or off-ramp operations and safety. While degradation of the Interstate system is not an acceptable outcome, there may be localized areas where degradation may occur due to system tradeoffs. Engineering judgment will be applied to arrive at the best overall set of improvements practical within the study area. This will be accomplished by thoroughly evaluating specific MOEs that are in alignment with the stated goals and the *Moving Washington* initiative.



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Methods & Assumptions Document
Project Study Area

I-5 JBLM Vicinity

Interchange Justification Report & Environmental Documentation

Stakeholder Acceptance

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Joint Base Lewis-McChord

Signature

Thomas Knight, Chief of Staff, Joint Base HQs, JBLM

Title

14 May 2013

Date

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Camp Murray

Signature

Planning and Programming Chief
Title

9 May 2013
Date

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City of DuPont

Signature

Mayor of DuPont

Title

July 16, 2013

Date

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Town of Steilacoom

Ron Lucas
Signature

MAYOR, TOWN OF STEILACOOM
Title

5/09/2013
Date

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Pierce County

Pat McCarthy

Signature

Executive

Title

5-13-13

Date

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Thurston Regional Planning Council

Signature

Executive Director

Title

July 11, 2013

Date

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Puget Sound Regional Council

Signature

Director of Integrated Planning

Title

July 11, 2013

Date

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WSDOT – Olympic Region

Signature

REGION ADMINISTRATOR

Title

MAY 13, 2013

Date

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WSDOT – Olympic Region Traffic

Signature

Region Traffic Engineer

Title

May 14, 2013

Date

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WSDOT – HQ Access and Hearings

Signature

Development Services & Access Mgr

Title

June 28, 2013

Date

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Stakeholder Acceptance

"The undersigned party, in partnership with all members of the team from WSDOT, FHWA and the Local Agencies, concur with the Methods & Assumptions Document for the I-5 Joint Base Lewis-McChord Vicinity Interchange Justification Report (I-5 JBLM Vicinity IJR) as presented in this document."

Federal Highway Administration

Daniel M. Mathis
Signature

Division Administrator
Title

July 16, 2013
Date

(1) Participation on the Stakeholders Committee and/or signing of this document does not constitute approval of the I-5 JBLM Vicinity IJR.

(2) All members of the Stakeholder Committee will accept this document as a guide and reference as the study progresses through the various stages of project development. If there are any agreed upon changes to the parameters set forth in this document a revision will be created, endorsed and signed by all the stakeholders.

I-5 Joint Base Lewis-McChord Vicinity Interchange Justification Report & Environmental Documentation

Methods & Assumptions Document

Revisions

The Methods & Assumptions Document for the I-5 JBLM Vicinity IJR and Environmental Documentation was originally developed and signed in April 2013. Since that time the project has evolved through the original Feasibility Study and Multi-modal Alternatives Analysis phases. During these phases several assumptions, forecasting tools and analysis methods have been revised to address the specific needs identified in the I-5 corridor, as well as the overall direction of the project. As a result, the information and guidelines discussed in the original Methods & Assumptions Document has also changed and discussed with the Stakeholders' Technical Group. The following is a summary of these revisions:

- The IJR for this study is focused on improvements for the Thorne Lane and Berkeley Street interchanges and its study area is concentrated between the Main Gate Interchange and the Gravelly Lake Drive Interchange.
- The Environmental Assessment document is focused on the Build Alternative which extends with transition improvements from the Center Drive Interchange to the Gravelly Lake Drive Interchange.
- Because of possible changes to the location of the DuPont Access Control Point to JBLM, the southern portion of the I-5 corridor (DuPont-Steilacoom Road to Mounts Road) will be addressed as a corridor level evaluation document. Detailed analysis of this area will be conducted in a separate study with resulting interchange changes evaluated in a separate IJR.
- The Project Proponents have been expanded to include the City of Yelm and the Nisqually Tribe.
- Travel forecasts are being developed by a series of inter-related travel models, including a macroscopic travel model, a transit sketch planning model, and a mesoscopic travel model.
- Because the *Highway Capacity Manual* (HCM) methodology is limited in assessing over-saturated traffic flow conditions, such as exists along I-5 through the JBLM area, the density calculations using in the HCM procedures do not show the true traffic conditions along the I-5 mainline. As a result, performance measures from the Mesoscopic Mode are used to assess I-5 traffic operations, as well as the method of assessing travel speeds developed in WSDOT's *Highway System Plan 2007-2026*.
- The No Build Alternative assumes improvements identified in the State STIP and local agencies' TIPs.
- Other local improvements are identified through a series of focus group meeting with stakeholders as well as through a public open house.

- Intersection traffic analysis for the IJR will be limited to the Gravelly Lake Drive, Thorne Lane, Berkeley Street and Main Gate interchanges and related intersections.
- Intersections at DuPont-Steilacoom Road and Center Drive interchanges will be assessed in the South Study area documents. Detailed analysis will be conducted in a separate study.
- No changes to the Bridgeport Way, SR 512 and Mounts Road interchanges are assumed as part of the Build Alternative.
- The Build Highway Network assumptions will include
    - An added northbound lane from DuPont-Steilacoom Road Interchange to the Thorne Lane Interchange
    - An added southbound lane from south of the Gravelly Lake Drive Interchange to the Center Drive Interchange
    - An northbound auxiliary lane between the Berkeley Street Interchange and the Thorne Lane Interchange
    - The following existing auxiliary lanes will be maintained:
        - Southbound between Thorne Lane and Berkeley Street Interchanges and between Center Drive and Mounts Road Interchanges
        - Northbound between Center Drive and DuPont-Steilacoom Road Interchanges
    - The following interchanges will be relocated and reconfigured to be tight-diamond interchanges with roundabouts at the ramp terminals and grade-separated over the adjacent rail line:
        - Thorne Lane Interchange
        - Berkeley Street Interchanges
    - A Gravelly Lake Drive to Thorne Lane connector west of the rail line will be provided as a southbound connection between Lakewood and the Tillicum and Woodbrook neighborhoods.
    - A northbound auxiliary lane will be added between the Thorne Lane Interchange and the Gravelly Lake Drive Interchange.
    - A bicycle/pedestrian path will be extended along I-5 between the DuPont-Steilacoom Road to Berkeley Street.