

APPENDIX B

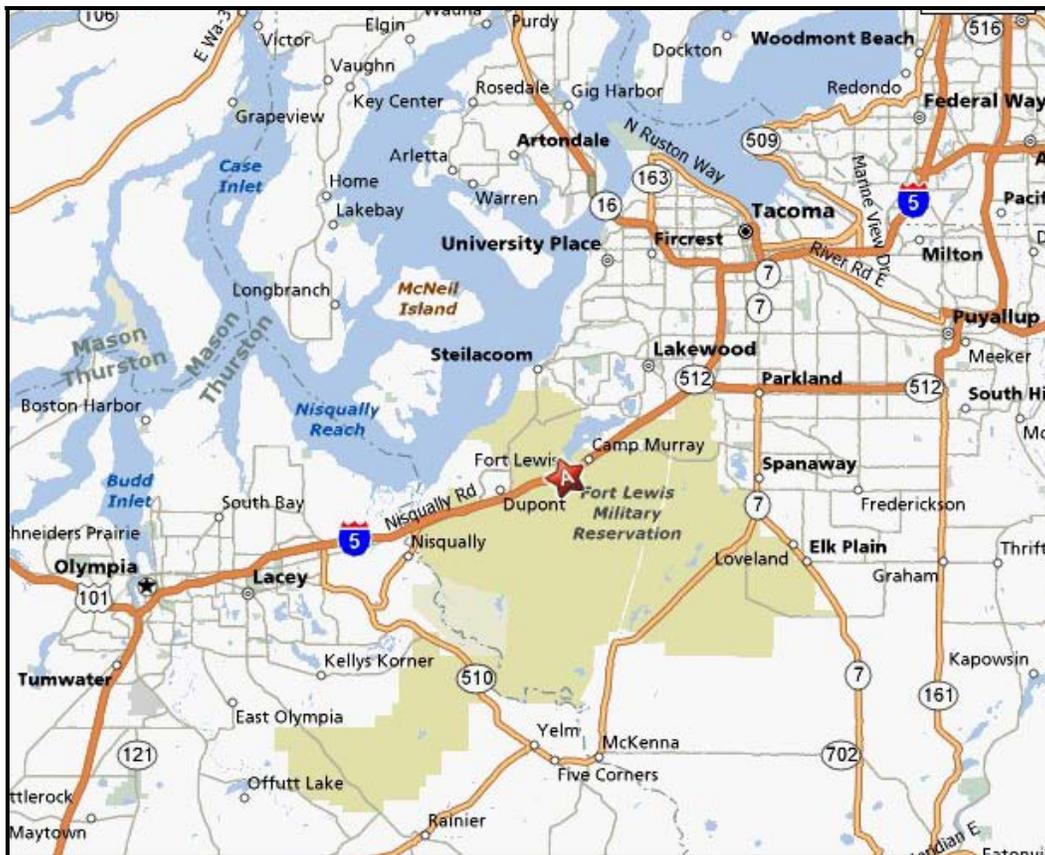
INTRODUCTION

Communities surrounding Ft. Lewis and McChord AFB will experience a significant rate of population growth and economic expansion during the next six to ten years due to a variety of Department of Defense initiatives. State and local officials, in conjunction with Departments of Defense and Army personnel, have been discussing and evaluating how expansion at Ft. Lewis and McChord AFB might impact these communities.

This proposal centers around the development of an operational traffic model and transportation alternatives analysis that will be synchronized with the realignment schedule that Fort Lewis officials are currently planning with McChord Air Force Base. By January 2010, McChord will relocate the installation management functions to Ft. Lewis and establish Joint Base Lewis-McChord. The analysis of transportation impacts, specifically of traffic along the I-5 corridor, have been identified as the most pressing need, and is therefore addressed first. Growth management planning will occur on a broader scale after initiation of the transportation alternatives effort.

LOCATION AND STUDY AREA

Fort Lewis is located on 136 square miles in Pierce and Thurston Counties, in the south-Puget Sound area of Washington State.





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The installation is adjacent to the City of Lakewood, Town of Dupont and Town of Steilacoom, and has significant impacts on other neighboring jurisdictions including the cities of Tacoma, Lacey, Yelm, Olympia and unincorporated areas of Pierce County and Thurston County.

Interstate 5, adjacent to Ft. Lewis, divides the installation into North Fort and Main Post. The Seattle Tacoma International Airport (SeaTac) is approximately 1 hour north of the installation and the ports of Tacoma and Olympia are used by the military for logistical operations.

BACKGROUND

Fort Lewis has a rich and expansive history. Named after Meriwether Lewis of the Lewis and Clark expedition, it is one of the largest and most modern military reservations in the United States. Consisting of 87,000 acres of prairie land cut from the glacier-flattened Nisqually Plain, Fort Lewis is the premier military installation in the Northwest and is the most requested duty station in the Army. Fort Lewis began as Camp Lewis in 1917 when the citizens of Pierce County voted by an eight to one margin to bond themselves for \$2 million to buy the necessary land. In 1981, Fort Lewis became home to I Corps. This senior headquarters is involved in the operation and training of active, reserve, and National Guard units from Alaska to Alabama, and from Pennsylvania to Puerto Rico.

The principal Fort Lewis maneuver units are the 3rd Brigade, 4th Brigade and 5th Brigade of the 2nd Infantry Division. It is also home to the 593d Corps Support Group, the 555th Engineer Group, the 1st MP Brigade (Provisional), the I Corps NCO Academy, Headquarters, Fourth ROTC Region, the 1st Personnel Support Group, 1st Special Forces Group (Airborne), 2d Battalion (Ranger), 75th Infantry, and Headquarters, 5th Army (West).

Soldiers receive medical care through Madigan Army Medical Center. Fort Lewis is also adjacent to McChord Air Force Base, the home of the C-17 transport fleet.

The population of Ft. Lewis in 2001 was 18,000. By 2005 the population had swelled to 25,000 soldiers and civilian workers. Military planners now expect this total to be more than 32,000 by 2012. The post also supports 120,000(+) retirees and more than 29,000 family members living both on and off base.

POPULATION

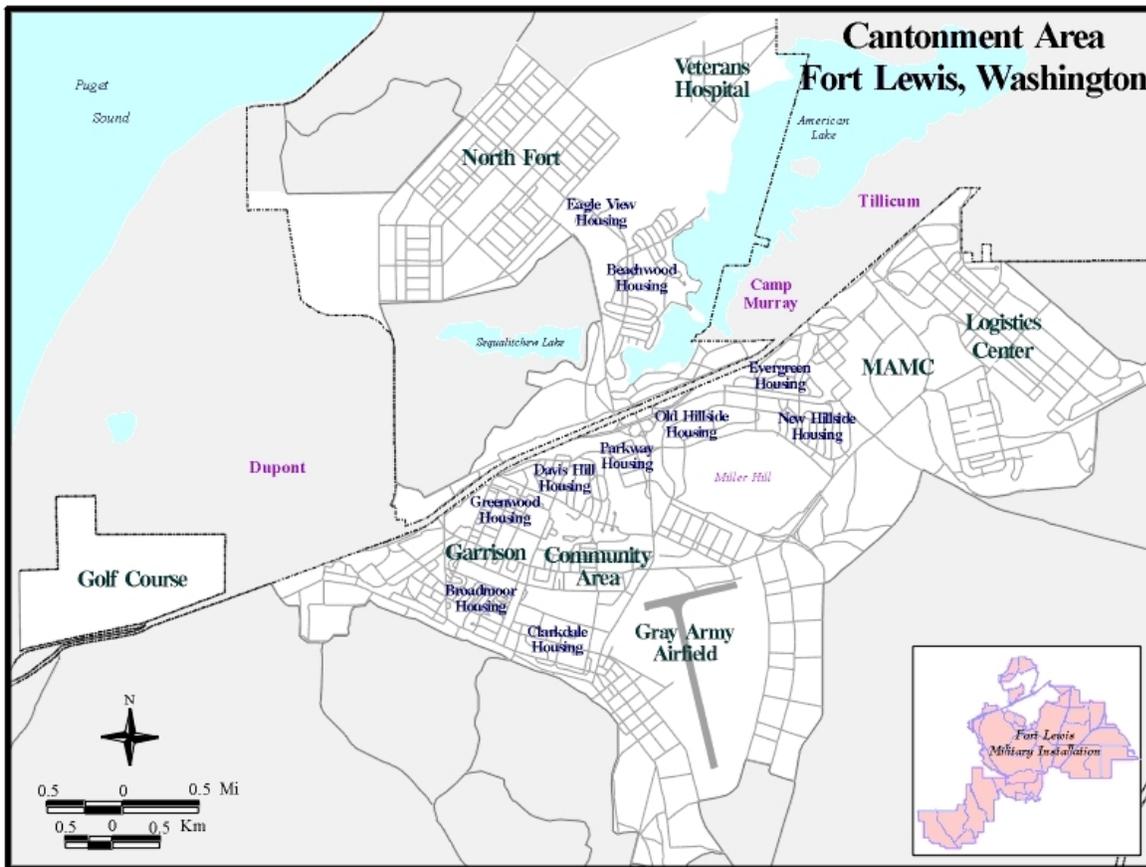
Population in the central Puget Sound region experienced steady growth this decade. As of April 1, 2008, the region's population was estimated to have reached 3,633,000, an increase of 50,100 persons or 1.39 percent over the previous year.

Over the last eight years, Pierce County has grown by an annual rate of 1.87%, King County has grown annual at 1.06%, and Thurston County by 2.29%. The annual population growth for municipalities adjacent to these installations are varied, including the City of Tacoma at 0.6%, the Town of Steilacoom at 0.4%, and City of Lacey at 2.7%. Since 2000, the City of Lakewood's

population has increased by a total of just one tenth of one percent, from 58,293 to 58,950.¹ The rate of population growth in the south Puget Sound region has been fairly steady since the 2000 Census, but shows discernable population spikes after 2005 that correspond with the Defense-related growth at Ft. Lewis.

In 2005, the Department of the Army announced that troops stationed at Fort Lewis would expand significantly due to three Department of Defense initiatives: the transformation of units in the Army to Modular Forces (AMF), the implementation of 2005 Base Realignment and Closure (BRAC) decisions, and stationing changes based on the Integrated Global Presence and Basing Strategy (IGPBS).

It is projected that these three initiatives will result in an additional 8,200 active personnel at Ft. Lewis and nearly 2,000 new civilian positions will be created at the installation, bringing the number of civilian work force to more than 10,700. As Ft. Lewis and McChord AFB expand and military personnel and civilian workers relocate to the base, military dependents and economic migrants will also move into the region. At this time, accurate growth forecasts related to the expansion of Ft. Lewis is unknown but are estimated to increase the region's population by over 30,000 people. Personnel growth will present both opportunities and challenges to both



¹ Source: Census Bureau, Washington State Office of Financial Management, 2008.



installations and the communities in the surrounding region.

All of this growth will have significant impacts to quality of life for the communities within the Study Area. As new residents relocate to the region, they will affect the economy, housing markets, employment, retail businesses, social services, and governmental institutions.

GROWTH AND TRAFFIC CONGESTION ON INTERSTATE 5

An analysis of existing conditions in the study area shows that although the morning commute is heavy; the worst conditions are encountered during the evening rush hour. In the morning, volumes are very close to capacity. Under these conditions any minor incident creates delays. In the evening, volumes routinely exceed capacity and commuters experience stop-and-go conditions on a regular basis.

The figure below illustrates the existing level of service on I-5 through Fort Lewis. Level of Service (LOS) is a measure of traffic congestion. The calculation is a nationally accepted standard based on capacity and travel speed on the freeway. (The six ratings for multilane highways are described in the insert box below.) LOS D is the service goal set by the Puget Sound Regional Council for this area. The freeway segments between Thorne Lane and Fort Lewis Road currently do not meet the adopted LOS D standard during the PM peak commuting hours.

Level Of Service (LOS)

- A Free flow, unimpeded travel
- B Reasonable flow, minor restriction
- C Stable flow, reduced maneuverability
- D Maneuverability and speed noticeably reduced, congestion
- (LOS D is the level of service goal set by PSRC)**
- E Unstable flow, virtually no gaps for maneuvering, delays
- F Breakdown flow, extreme delay

North Thorne Lane

Traffic during peak gate usage has been continually backing up onto the Interstate-5 corridor. The City of Lakewood and the Washington State Department of Transportation (WSDOT) have documented increased congestion at the North Thorne Lane interchange primarily due to the lane reduction (four lanes to three lanes) on the main line. This congestion is most common in the southbound lanes during the PM commute. The northbound off ramp also backs-up as a result of the overall ramp congestion, but the traffic counts did not increase as dramatically.

For the 12 months ending on September 30, 2007, Ft. Lewis's average weekly throughput at access points was roughly 263,000 vehicles. There are five access points along I-5. Starting from the north, they are Exit 123 (Logistics Center/Thorne Lane), Exit 122 (Madigan Army Medical Center), Exit 120 (Main Gate and North Fort Gate), and Exit 119 (Dupont Gate). Recently, a major unit redeployed from Iraq to Ft. Lewis and produced a dramatic increase in



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traffic from 5:30 AM to 7:00 AM Mondays through Fridays. At the end of 2007, the average had risen above 285,000 vehicles, inclusive of a low volume week during the Columbus Day holiday of 257,000 vehicles.

	Peak Hour Traffic: FY2003	Peak Hour Traffic: FY2006	% increase
Southbound Off Ramp	(morning peak) - 581	(morning peak) - 678	16.7
Northbound On Ramp	(evening peak) - 876	(evening peak) - 1068	21.9

Berkeley Street

Operations at the Berkeley Street interchange appear to trigger backups. In the morning, a large number of vehicles arriving from Tacoma exit I-5 at this interchange. Traffic signals have been installed at the ramp terminals to regulate flow but crossing traffic volumes are too high, and cars back up onto southbound I-5. In addition, the AM peak and PM peak now occur earlier and coincide with soldiers' work hours.

In the evening, the interchange fails in both directions. Over 900 vehicles per hour exit Fort Lewis and merge onto northbound I-5 causing delays on the mainline. Crossing traffic blocks southbound exiting cars that back up onto southbound I-5. This exacerbates congestion created by loss of the fourth southbound through lane at the Thorne Lane interchange. Vehicles back up across the bridge onto the local network because cars trying to turn onto southbound I-5 block traffic trying to cross the bridge to Tillicum.

As mentioned above, overall growth in the area is relatively flat at less than 1 percent annually for adjacent municipalities. There is continued growth in regional traffic on I-5 that has increased through traffic, but the congestion and backups at Berkeley, Main Gate, DuPont and Madigan are primarily related to installation growth.

At this time, accurate growth forecasts related to the expansion of Fort Lewis are unknown but are estimated to increase the region's population by over 30,000 people. Defense-related growth will present both opportunities and challenges to both Fort Lewis and the communities in the surrounding region.

The City of Lakewood and WSDOT have concerns for the traveling public's safety as well as the ability for the Fort and AFB to be able to access and deploy effectively. The proposed development of a Cross-Base Highway (SR-704) and interchange are anticipated to help alleviate some of these levels of service issues. The construction of Cross-Base Highway is found in WSDOT's 20 Year Transportation Plan but has not been funded.

Improvements to these priority intersections will enhance the Department of Defense Strategic Highway Network, as well as ensure Fort Lewis's fire and emergency services access to surrounding communities as part of its cooperative services agreements.



EXISTING TECHNICAL STUDIES

WSDOT I-5/Ft. Lewis Congestion Study

In 2005, WSDOT completed the *I-5/Ft. Lewis Congestion Study* which assessed a number of alternatives to reduce congestion along the I-5 corridor. The study recommended a number of short-term solutions to reduce congestion in the study area:

1. Installation of ramp meters at all of the interchanges through the study area,
2. Construction of an auxiliary lane between the Berkeley Street and the Thorne Lane interchanges,
3. Expanded Incident Response with early incident detection capabilities
4. These improvements would provide five to ten years of improvement for a cost of \$60 million dollars (in 2005 dollars).

The congestion study also recommended that additional detailed technical analysis would be required in order to find longer-term solutions:

1. An origin and destination study to determine the type, frequency and focus of travel in the corridor
2. An assessment of the local network to determine where completion or expansion of the existing system would provide alternate routes
3. An assessment of the benefits created by the expansion of alternate modes
4. A review of environmental constraints
5. Public involvement to ensure acceptability of the chosen solution.

Ft. Lewis Comprehensive Installation Traffic/Transportation Study

Earlier this year, the Ft. Lewis Public Works Department contracted with consulting firms AHBL and Transpo Group to complete a *Fort Lewis Comprehensive Installation Traffic/Transportation Study*.

The study focuses on correcting any deficiencies associated with geometric roadway alignments, traffic operations at intersections and along major roadways, continuity of pedestrian and bicycle circulation systems throughout the installation, and an assessment of Access Control Point capacity needs based upon future projections. The study forecasts conditions for a 2015 horizon year and accounts for anticipated growth in base personnel and changes in land uses identified through the master planning process.

Nine short term improvements are identified which would address the immediate needs of the installation, correct existing deficiencies and could be implemented to provide immediate improvements at a low-cost (\$750,000 or less). Based on a detailed analysis of the existing motorized facilities under future conditions, seventeen on-post study intersections and several roadway segments were identified as deficient by year 2015.

The study reports that:

The interchanges along I-5 that provide access to Fort Lewis (at Berkeley Street near Madigan, 41st Division Drive, and DuPont-Steilacoom Road) are anticipated to operate poorly under future conditions. Several previous studies have examined ways to improve congestion along Interstate 5 and at the interchanges (*WSDOT I-5/Fort Lewis Congestion Study, Urban Collaborative – Gate Alternative Analysis*). These previous studies have identified several projects that would improve interchange operations. However, no long-



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range (20 to 30 years) detailed analysis considering increases in base personnel, local land use plans for adjacent cities and the operation of the Access Control Points has been completed. Improvements are needed at the I-5 interchanges, as identified in this report, and any detailed recommended improvements would need to consider a long-range scope beyond what this current study has examined. Future interchange options need to be evaluated in more detail with consideration given to operational and design details.

The formal process for this analysis as required by the Washington Department of Transportation (WSDOT) and the Federal Highway Administration (FHWA) is called an Interchange Justification Report (IJR). This process is best done in collaboration with WSDOT and should be initiated to identify and evaluate options with oversight and acceptance of key assumption by WSDOT staff. (page xii, Executive Summary)

Cross Base Highway (SR704)

Finally, Study Area recommendations were made as part of the Cross-Base Highway NEPA FEIS documentation, completed in 2004. When complete, the Cross-base Highway (SR 704) will provide regional travelers with a new six-mile-long, multi-lane divided highway beginning at the I-5 Thorne Lane Interchange at the west end and connect to 176th Street at SR 7 at the east end.

This new alternate east-west route will ease congestion on I-5, SR 512, SR 7, Spanaway Loop Road, and 174th Street, by providing a route through the Fort Lewis and McChord military bases. The FEIS found that the project would:

1. Reduce traffic volumes and congestion on existing roadways such as SR 7, SR 512, SR 507, Spanaway Loop Road, and 174th Street South.
2. Provide a direct arterial link in the mid-Pierce County area in proximity with the Cities of Lakewood and DuPont for the movements of vehicles, public transit, freight, pedestrian and bicycle traffic.
3. Improve public safety by providing faster and direct emergency vehicle access between Pierce County and medical facilities such as Madigan Army Hospital.
4. Improve access to and between the military installations by providing an exclusive roadway between Fort Lewis Military Reservation and McChord Air Force Base.

OBJECTIVES AND NEED FOR ADDITIONAL ASSISTANCE

The technical studies listed above are a critical beginning to the search for a solution to the congested I-5 corridor through Ft. Lewis. What has not been assessed is the ability of the local major streets, collectors, arterials, roads and highways to handle the increased traffic volumes due to expected installation growth as well as travel routes from major housing projects being established. WSDOT has identified the need for a traffic model and analysis that would determine which transportation issues represent the highest priorities in the corridor, which strategies hold the most promise for addressing them, and how these strategies would best be phased in short and long term.

Paula Hammond, Secretary of the Washington State Department of Transportation, has reviewed and identified this study as an important priority for the state. However, in a September 30, 2008 letter Sec. Hammond reports that WSDOT "does not currently have funds to study this corridor, and we do not anticipate that the study will be funded during the 2009



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legislative session.” Without federal assistance to complete the technical studies requested in this application, the proposed planning will not be possible.

The City of Lakewood, in conjunction with our regional partners, requests OEA funding to take the next steps toward addressing Ft. Lewis and McChord AFB traffic and transportation challenges.

I-5/Mounts Road to SR 512 Alternatives Analysis and Traffic Model

The work effort will focus on the development of a detailed operational traffic model of I-5 mainline freeway ramps and the adjacent arterial network, as well as appropriate and necessary traffic forecasts needed to support that model.

The project will provide an assessment of current traffic conditions; determine future transportation needs of the expected population increase; determine short term and long term priorities within the study area to accommodate the rapid influx of people; identify resource needs and potential sources; provide a coordinated action plan; and assure informed decision making. This effort will establish the regional context for more detailed actions by protecting critical natural environments, managing resources, directing growth and providing a coordination plan for providing regional services in an efficient and effective manner.

Baseline travel demand forecasts will be developed based upon the model. A future year forecast will be developed for the AM and PM peak hour period and both PM and AM peak hour forecasts will be developed for the freeway mainline, ramps and local intersections within the study area.

Short term recommendations from the I-5 Fort Lewis Congestion Study, Fort Lewis Gate Study and other local agency plans will be tested and refined in order to determine the most feasible and economical improvements necessary to enhance and maintain safety and efficiency on I-5. Agencies participating in the study will be able to use the study results to support WSDOT efforts as well as to prioritize and fund their own infrastructure investments. In short, the traffic model will be able to determine if the local road system is sufficient to alleviate I-5 congestion and if not, what alternatives exist that would alleviate the congestion caused by the growth of Joint Base Lewis-McChord.

The proposed Transportation Alternative Analysis and Operational Traffic Model is not intended to supersede existing procedures and policies governing the mandates of the different service providers but to complement studies that have already been completed and provide an assessment and coordinated action plan to address the transportation needs of the Region for this important corridor.

PROJECT ORGANIZATION AND MANAGEMENT

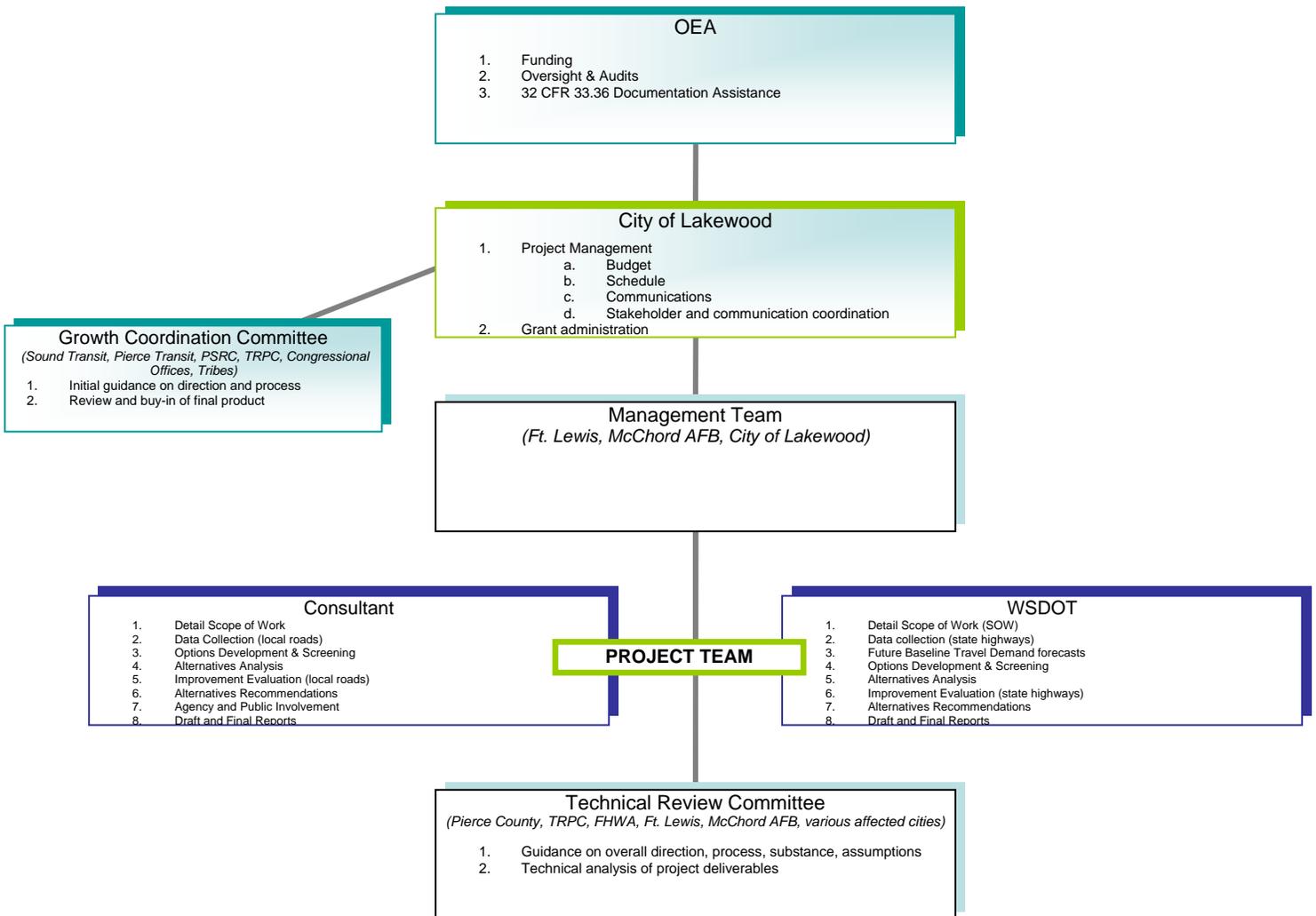
The City of Lakewood will act as the local responsible agency and will lead this planning effort. Upon receiving grant approval, the City will join with technical staff from Ft. Lewis and McChord AFB to form the Management Team, which will adopt a communication plan and will issue a Request for Proposal to select a Consultant to assist the team with this planning effort. The consultant selection process will comply with the procurement standards in CFR 32 Part 33,



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Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments, Subpart A, General Section 33.36 Procurement. The Washington State Department of Transportation is expected to provide substantial technical assistance to the City in the development of the operational traffic model and transportation alternatives analysis.

The consultant and WSDOT will form the Project Team, and will prepare a coordinated Work Plan including a refined scope, schedule, budget, and project organization chart following OEA's project approval. The Project Team will be responsible for the tasks and work products identified in the SOW and will report to the Management Team.



Two committees will be formed for this project. A Technical Review Committee will be convened to assist the Management Team and the Project Team in reviewing the process, assumptions, and overall direction of the traffic model analysis and the transportation alternatives analysis. The Technical Review Committee will be made up of technical staff from



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participating regional agencies, including Federal Highways Administration, various affected city governments, Pierce County, Thurston Regional Planning Council, and others will meet regularly to review project deliverables.

A Growth Coordination Committee will also be established to provide initial guidance on overall direction and will provide a high-level review of the final deliverables. The committee will help ensure that the strategies reviewed as part of the study are representative of the range of alternatives likely to address the most critical transportation issues of interest within the study area. The committee will be made up of decision makers or their appointed representatives of adjacent or affected jurisdictions, including DuPont, Steilacoom, Pierce County, Lacey, Sound Transit, Pierce Transit, Puget Sound Regional Council, Ft. Lewis, McChord, Thurston Regional Planning Council, tribes, Congressional Offices, and WSDOT Modal representatives.

INTEGRATING THE I-5 STUDY & FUTURE GROWTH COORDINATION PLANS

The purpose of this proposal is to refine the operational traffic model and transportation alternatives analysis for the I-5 corridor between SR 512 and Mounts Rd to capture the Ft. Lewis and McChord AFB growth expected as part of AMF, BRAC and IGPBS.

The City also intends to address the other subject areas where base growth will adversely impact local systems and infrastructure. This study, called the *Ft. Lewis & McChord AFB Growth Coordination Plan*, will identify and analyze community “gaps” that exist in the region in regard to being able to properly handle the base anticipated growth. The *Growth Coordination Plan* would provide planning documents and coordination strategies that can be used directly by local agencies for implementation of various planning and zoning actions, capital improvement and program planning, applications for construction funding and other improvement grants, and for developing regional planning organizations for ongoing regional coordination, communication and monitoring. The functional areas are expected to include affordable housing, education system condition and capacity, workforce development and transportation impacts other than along the I-5 corridor.

The City will form the Growth Coordination Committee immediately following approval of the transportation proposal. At their first meeting, the GCC would be briefed on the transportation piece’s scope and timeline, as well as the timing and coordination needed for the larger piece that includes housing, education, workforce development and other transportation impacts. While the technical portions of the operational traffic model moved forward, the Growth Coordination Committee will continue to meet to address the other elements impacted by base growth (affordable housing, workforce development, education, other transportation challenges). The GCC will be a key partner in coordinating the visioning process and facilitating communication across the region. It is primarily tasked with preparation and approval of the study design to be used in the application for the larger *Growth Coordination Plan*.

This approach allows the region to move forward immediately to study the impacts of Ft. Lewis growth along the I-5 corridor. It also highlights the meaningful role of the Growth Coordination Committee in evaluating the operational traffic model and alternatives analysis process and then transitioning to the more time consuming task of preparing and approving the study design of



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the broader growth issues (housing, education, workforce development and others) resulting from the growth and joint basing at Ft. Lewis.

TIMEFRAME

The traffic model and alternative analysis will be completed within 18 months from notice of funding availability.

The estimated schedule for key deliverables is shown as follows:

Task One:	Project Management	January 2009 – June 2010
Task Two:	Existing Data Collection & Analysis	February 2009 – May 2009
Task Three:	Future Baseline Analysis	March 2009 – June 2009
Task Four:	Options and Screening	June 2009 – August 2009
Task Five:	Alternative Modeling	April 2009 – November 2009
Task Six:	Improvement Evaluation	October 2009 – January 2010
Task Seven:	Preferred Alternative	February 2010 – March 2010
Task Eight:	Agency and Public Involvement	January 2009 – June 2010
Task Nine:	Report Preparation	December 2009 – June 2010

BUDGET JUSTIFICATION

The City of Lakewood is seeking grant funds from OEA to obtain professional, consultant services to assist the completion of an Operational Traffic Model and Alternatives Analysis for the Interstate 5 corridor between SR 512 and Mounts Road.

The Washington State Department of Transportation has completed planning level cost estimates that put the total cost to complete the I-5 study at \$500,000. This estimate is based on recent traffic modeling work completed in the region, including work that was contracted out to private consultants. Hours and rates for WSDOT staff time and consultant time are shown in the cost estimate spreadsheet

WSDOT is funding the Non-Federal Match of 10 percent. Federal grant funds will be used to hire a consultant qualified in transportation analysis using procurement standards set forth in 32 CFR Part 33, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments, Section 33.36 Procurement, except where City of Lakewood procurements are more restrictive.

Following completion of the items listed in the Scope of Work, the City will turn over the Operations Traffic Model and Alternatives Analysis to WSDOT, which will own the data and be responsible for its future use.

REGIONAL IMPLEMENTATION

The Transportation Alternatives Analysis and Operational Traffic Model will provide planning documents and coordination strategies that can be used by local agencies for implementation of various planning and zoning actions, capital improvement and program planning, applications for construction funding and other improvement grants, and for developing regional planning organizations for ongoing regional coordination, communication and monitoring. The analysis



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will identify and analyze impacts related to anticipated growth at Ft. Lewis and McChord AFB, as well as other events and impacts not related to this action.

CONCLUSION

An effective and safe I-5 corridor is fundamental to the well being of the south Puget Sound communities and the military installations. The impacts of DOD-related growth at Fort Lewis and the associated population growth throughout the region will increase travel demands on a section of Interstate 5 that already serves large traffic volumes and is increasingly congested by trips to and between Fort Lewis and McChord AFB.

This study will provide the region with technical information concerning existing and future travel patterns and traffic conditions, capacity deficiencies and operational changes on Fort Lewis. Future travel patterns and traffic volumes will be determined for years 2015 and 2030 and prioritized improvements and phasing opportunities will be explored. Finally, planning level cost estimates for all recommended improvements will be established.

The information that will be derived by this process will help ensure that the traffic model and alternatives analysis will have the consensus of the region's community leadership, as well as the State of Washington. It will also provide Ft. Lewis, McChord AFB and the region with technical numbers to support recommended transportation improvements that will help address traffic impacts due to implementation of the planned growth.