

**RECORD OF DECISION**  
**FEDERAL HIGHWAY ADMINISTRATION**  
**STATE ROUTE 704 (CROSS-BASE HIGHWAY)**  
**FHWA-WA-WA-EIS-98-3-F**  
**PIERCE COUNTY, WASHINGTON**  
July 2004

**I. INTRODUCTION**

The Federal Highway Administration (FHWA), the Washington State Department of Transportation (WSDOT), and Pierce County, in cooperation with the City of Lakewood and McChord Air Force Base (AFB) (U.S. Air Force), are planning to develop a new arterial roadway between Interstate 5 (I-5) and State Route (SR) 7 (Pacific Avenue). The agencies assisting FHWA on this project are the WSDOT Olympic Region and the Pierce County Department of Public Works and Utilities. FHWA is the lead Federal agency for the review process required by the National Environmental Policy Act (NEPA). A NEPA document is required before FHWA can consider a request to change access to Interstate 5 at the Thorne Lane Interchange, as well as approve Federal-Aid Highway funds for construction. Federal funding is likely to be pursued by the project proponents. In 2002, the planned highway was designated SR 704 by the Washington State Legislature.

A Final Environmental Impact Statement (FEIS) was released for public comment in September 2003. The comment period ended on November 14, 2003. A Draft Environmental Impact Statement (DEIS) was released in May 1998 and was supplemented in June 2002.

The South A alignment was identified as the preferred alternative in the 2002 Supplemental Draft Environmental Impact Statement (SDEIS). The project termini are the Thorne Lane interchange on I-5 and the intersection of 176th Street S and SR 7 to the east. The project spans 5.9 miles. The entire project is located in Pierce County in the State of Washington.

The Cross-Base Highway would provide a necessary link in the regional transportation system by connecting existing and future residential areas in mid-Pierce County and north Thurston County with two of the largest planned employment sites in Pierce County—Frederickson and DuPont. The proposed roadway would reduce current and projected traffic volumes and congestion, particularly during peak periods on existing roadways such as SR 7, SR 512, SR 507, Spanaway Loop Road S, and 174th Street S. All of these roads are projected to operate at, near, or above capacity in 2025 if additional east-west capacity is not added. The Pierce County Comprehensive Plan includes an arterial link between the mid-Pierce County area and the cities of Lakewood and DuPont. The construction of the Cross-Base Highway is identified as a “premier priority project” (highest priority) in the Pierce County Transportation Plan.

Although there is no direct roadway link between I-5 and SR 7 between the city of Lakewood and 176th Street S, an indirect link exists via Murray Road SW, 150th Street NW, Perimeter Road, Military Road S, and Spanaway Loop Road. The circuitous link currently provides the only normally unrestricted connection open to non-military personnel between I-5 and SR 7 across the military installations. Perimeter Road is under military jurisdiction and can be closed at their discretion to increase security. Shoulder widths vary, but are generally very narrow and inappropriate for pedestrian and bicycle travel.

The new roadway would provide four through lanes. Access would be limited to three signalized intersections (two in American Lake Gardens and one at Spanaway Loop Road S extension) and an interchange at “A” Street providing access to McChord AFB and Fort Lewis. The existing Thorne Lane interchange would be relocated 300 feet southwest and reconstructed to accommodate additional traffic, pass over the Burlington Northern Santa Fe (BNSF) railroad tracks southwest of I-5, and connect to a new

single-lane southbound connector road southwest of the BNSF railroad tracks between Gravelly Lake Drive and Thorne Lane (Gravelly-Thorne Connector). Ramp meters would be added for southbound traffic entering I-5 at the Bridgeport Way, Gravelly Lake, Thorne Lane, and Berkeley interchanges to lessen the traffic impacts to I-5. The intersection of 176th Street S and SR 7 would be expanded to include lanes for turning movements. On Fort Lewis, a new overcrossing of the BNSF tracks would be constructed. Lincoln Road would be realigned to connect with the new "A" Street interchange, and a new military access road between Fort Lewis and McChord AFB would be constructed under the new overcrossing and east of the BNSF right-of-way that passes through this area.

## II. PURPOSE AND NEED

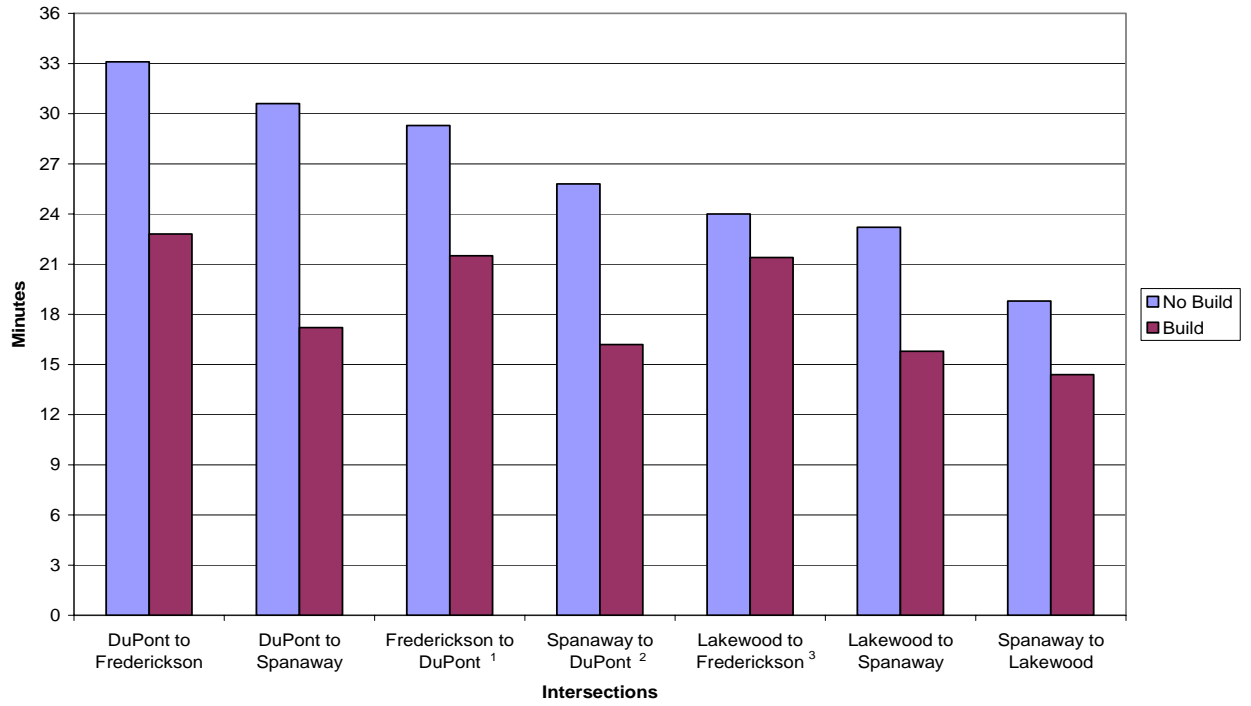
The purpose of the proposed action is to improve transportation system linkage and current and future capacity between Pierce County and destinations along the I-5 corridor for the efficient movement of people and goods. These areas are expected to grow substantially and are designated by local and regional land use plans as centers for future development. In general, the purpose of the project is to address the following needs:

- Reduce current and future projected traffic volumes and congestion, particularly during peak periods, on existing roadways such as SR 7, SR 512, SR 507, Spanaway Loop Road S, and 174th Street S. All of these facilities are projected to operate at, near, or over capacity in the year 2025 if additional east-west capacity is not added. Table 1.3-1 in the FEIS, summarizing 2025 No Build and Build PM peak-hour traffic conditions, shows that roadway links near the proposed Cross-Base Highway would experience increasing congestion both with and without the project. The reductions in the volume-to-capacity (V/C) ratios shown are substantial. For instance, the 0.14 reduction in V/C ratio on eastbound SR 512 east of I-5 represents a decrease of approximately 800 vehicles during the PM peak hour. Similarly, the V/C decreases shown for other facilities are a result of the following decreases in vehicular trips: approximately 470 vehicles per hour (vph) on Spanaway Loop Road, 290 vph on SR 7, and 350 vph on Canyon Road. Table 1.3-1 indicates that V/C ratios would improve for five of the critical roadway links in the project vicinity with the Build Alternatives.
- Full implementation of Pierce County's Comprehensive Plan assumes an arterial link between the mid-Pierce County area and the cities of Lakewood and DuPont. This connecting link is needed to provide a more direct route and shorter travel times between residences in Pierce County and employment and shopping opportunities in Lakewood and DuPont. The second of two bar charts below summarizes the existing and future number of daily trips that would be served by the Cross Base Highway. There is substantial trip growth expected in each of the four origin/destination pairs evaluated. Three of these four areas are designated as major urban centers (Lakewood) or employment centers (Frederickson and DuPont) in the Pierce County Comprehensive Plan. The first bar chart below shows the anticipated travel time differences with and without the proposed Cross-Base Highway project in 2025.

A new arterial would:

- Provide a more direct east-west connection for efficient movement of freight and goods between I-5 (north and south), SR 7, SR 161, and the Frederickson, North McChord, and Thun Field employment centers. All of these centers rely on moving freight by truck in a timely manner, and the proposed roadway would significantly improve freight mobility to these areas. The travel time reductions resulting from the proposed Cross-Base Highway project shown in the first bar chart below would also benefit freight and goods movement. Regional freight and goods movement between I-5 to and from the south and the Frederickson area would benefit from a 6- to 11-minute reduction in travel time.

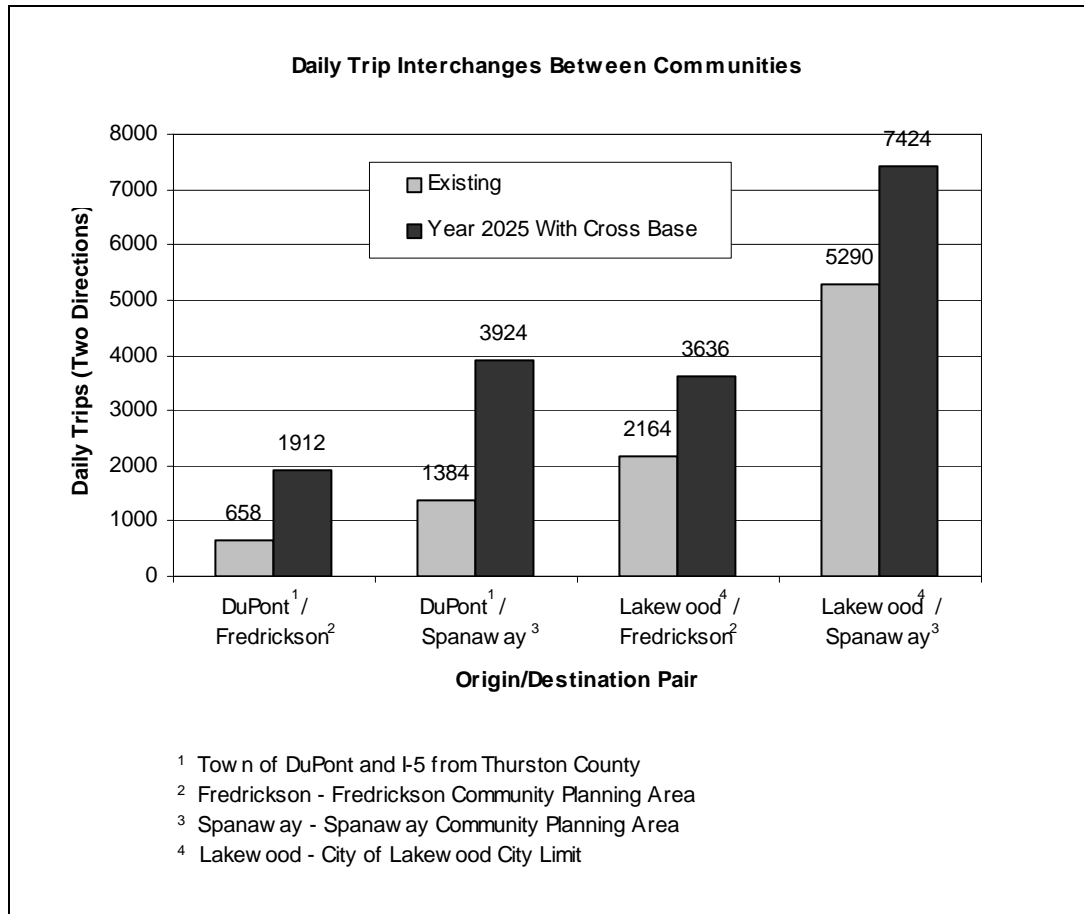
PM Peak-Hour Travel Time Differences in 2025



<sup>1</sup> The Frederickson area was assumed to be at the Canyon Road E/176th Street E intersection.

<sup>2</sup> The Spanaway area was assumed to be at the SR 7/176th Street E intersection.

<sup>3</sup> The Lakewood area was assumed to be at the Bridgeport Way/Lakewood Drive intersection.



- Improve public transit access between I-5 and SR 7 and to McChord AFB, Fort Lewis, and American Lake Gardens. Pierce Transit routes would benefit from the increased accessibility between I-5 and SR 7 and to McChord AFB and Fort Lewis. Better transit service could, in turn, help reduce single-occupancy vehicle use and further reduce congestion.
- Enable provision of regional express bus service on the Cross-Base Highway project, as included in the Sound Transit *Sound Move* Plan. This new service would connect to the Commuter Rail station in Lakewood, providing high-capacity transit access to Seattle and Everett.
- Improve pedestrian safety in American Lake Gardens by reducing pass-through traffic. American Lake Gardens would also benefit from improved access to employment centers in mid-Pierce County.
- Improve public safety by providing faster emergency vehicle access. Faster and more direct emergency access to Pierce County and to medical facilities such as the Madigan Army Hospital would improve public health and safety. Travel time reductions would vary from 11 to 44 percent on the seven different roadway segments analyzed (see Table 1.3-2 in the FEIS). This reduction would increase public safety and welfare by decreasing emergency vehicle response times to and from the hospital.
- Improve regional bicycle travel between the mid-Pierce County area and other parts of the county.

- Improve access to and between the military installations by providing an exclusive roadway passing under the proposed BNSF overcrossing. This would reduce the military installations' dependence on I-5 for troop and supply movement.

Existing east-west arterials in the study area connecting to I-5 are limited to SR 512 north of McChord AFB in Pierce County (at Exit 127 on I-5) and SR 510, which connects to I-5 south of Fort Lewis in Thurston County at Exit 111. These east-west routes and the north-south connecting routes are becoming increasingly congested, as they provide the only access between growing areas in mid-Pierce County and activity centers in Pierce County and beyond. SR 704 would complete an important missing link in the regional roadway network.

SR 512 is a limited-access highway that connects SR 7 and I-5. SR 7 provides access to the east side of McChord AFB and Fort Lewis. SR 510 provides an alternative access to the east side of the military installations from the south via SR 507 and SR 7. This alternative access provided by SR 510 is a long, indirect route between mid-Pierce County and north Thurston County and Olympia. A local circuitous east-west road system provides access between mid-Pierce County and the I-5 corridor via Murray Road SW, 150th Street SW, Perimeter Road, Old Military Road S, Spanaway Loop Road S, and 174th Street S (see Figure 1.1-2 in the FEIS). Perimeter Road is under military jurisdiction and is subject to closure by McChord AFB and Fort Lewis at their discretion. In the past, this route has been closed for military training or troop and supply movement during national emergencies. The Pierce County Transportation Plan identifies 176th Street E as a major arterial planned for future improvement from SR 7 to SR 162. The limited east-west access and circuitous nature of existing routes result in poor transportation system linkage. The poor system linkage, currently and in the future has or would have these effects in the study area:

- The limited number of east-west arterials connecting to I-5 creates additional congestion on other roads in the study area by forcing traffic onto these few corridors. This congestion hinders the movement of people and goods both within and to and from the mid-Pierce County area.
- Emergency vehicle access to Pierce County, and to medical facilities such as Madigan Army Hospital, is currently limited to the circuitous route between Fort Lewis and McChord AFB from I-5 and SR 512 or the local road systems described above. Spanaway Loop Road/Steele Street, SR 7, Canyon Road E, and SR 161 (Meridian Avenue) are the existing north-south roadways connecting the mid-Pierce County area with SR 512.
- Direct access to either military installation is limited from the mid-Pierce County area, particularly for those military personnel required to live within 20 minutes' travel time of their assigned post. The McChord AFB East Gate provides reasonable access from the mid-Pierce County area; however, this gate is planned for closure, with or without the project. The Fort Lewis East Gate on SR 507 is a long distance from the main Logistics Center and the Madigan Hospital area.
- Pierce Transit does not currently operate direct transit routes between I-5 and SR 7 through McChord AFB and Fort Lewis. Public transit between Pierce County and the I-5 corridor follows SR 7 to the Parkland Transit Center, where passengers can transfer for travel to Tacoma Mall, Puyallup, or Lakewood.
- Freight and goods moving to and between the Frederickson, North McChord, and Thun Field employment centers are currently impeded by the lack of east-west roadways between I-5 and SR 7, and further east to SR 161. All of these areas are designated as large planned employment centers by the Pierce County Comprehensive Plan. The lack of a direct east-west transportation facility in this area limits the movement of goods and increases the cost of moving goods for many Pierce County businesses and ultimately the general public.

- Regional bicycle travel between the mid-Pierce County area and other sub-areas is constrained by the lack of appropriate facilities and routes. The Pierce County Non-motorized Transportation Plan identifies the Cross-Base Highway project corridor as a premier priority project for regional bicycle trips.
- Access to and between the military installations for military personnel during national emergencies can be impeded by traffic congestion on I-5.

The two existing east-west routes on SR 512 and SR 510 are operating at, or are approaching, design capacity during peak periods. SR 512 interchanges at I-5 and SR 7 are presently operating at or over capacity. Arterials leading to SR 512, including SR 7, are also operating at or over capacity. The SR 510 interchange with I-5 and portions of SR 510 in Thurston County are operating over capacity and would continue to do so even with proposed improvements to reconstruct the I-5/SR 510 interchange, due to the proposed land use changes occurring under the Thurston County and Pierce County Comprehensive Plans.

Traffic volumes and congestion are projected to continue to increase over time. By 2025, most of the freeway and arterial street systems will operate at level of service (LOS) F conditions with V/C ratios well above 1.0. This means congested conditions during most of the day. PM peak-hour LOS and V/C ratios would worsen from existing conditions to 2025 No Build conditions, and congested conditions would continue to spread beyond peak hour to several hours of the day. In 2025, six of the seven roadways analyzed would be at V/C ratios significantly higher than 1.0, with LOS at E or F.

Fort Lewis and McChord are two of the area's largest employers; however, the city of DuPont and the Frederickson community are also large employment centers and are growing rapidly consistent with local growth management plans. By 2025, SR 512 east of I-5 and west of SR 7 will be operating at or over capacity for extended periods of the day. These forced flow conditions will also occur at the I-5/SR 510 interchange. The resultant delays in traveling through these congested intersections and roadways would encourage drivers to seek the alternative circuitous route via Murray Road SW, 150th Street SW, Perimeter Road, Military Road S, Spanaway Loop Road S, and 174th Street S. The military can close this route to increase security. This circuitous link currently carries about 4,500 vehicles per day and provides the only normally unrestricted connection open to non-military personnel between I-5 and SR 7 across the military installations. As noted above, Perimeter Road is under military jurisdiction and can be closed at their discretion to increase security. Shoulder widths vary, but are generally very narrow and inappropriate for pedestrian and bicycle travel.

The overall type and intensity of development in areas served by the proposed Cross-Base Highway depends on compliance with the Pierce County Comprehensive Plan and zoning and environmental regulations. Assumptions for population, households, and employment used for forecasting both No Build and Build traffic volumes were based on regional and local forecasts and allocations developed by the Puget Sound Regional Council (PSRC) and the Pierce County Comprehensive Plan. Traffic modeling of the No Build Alternative also incorporated all planned roadway improvement projects identified in the Pierce County Comprehensive Plan as listed in Table 2.2-1, p. 2-13 of the FEIS and some roadway improvements identified in PSRC's *Destination 2030*. These improvements are planned to occur with or without the construction of the Cross-Base Highway.

In 1990, PSRC adopted VISION 2020, the King, Kitsap, Pierce, and Snohomish Counties' integrated long-range growth management, economic, and transportation plan for the central Puget Sound region. The plan calls for growth containment, limiting urban sprawl from extending into existing farmlands, and preserving open space. The VISION 2020 strategy concentrates new employment into major activity centers that are connected by a regional multi-modal transportation system. Within Pierce County, major

growth is directed to urban centers in Tacoma and Lakewood and large planned employment centers; three of them (Frederickson, Thun Field, and North McChord) would be served by the proposed Cross-Base Highway project.

The VISION 2020 plan outlines the regional long-term growth management, economic, and transportation strategies for the Puget Sound region, including the project area. *Destination 2030* is the Metropolitan Transportation Plan for the Puget Sound region and the transportation element of VISION 2020. *Destination 2030* was adopted by PSRC in 2001, and the plan lays out a program for addressing transportation problems by investing in more roads, more transit, better traffic management, and improved linkages between use and transportation. In total, the plan identifies over 2,200 specific projects that will improve roads, transit, and ferry service. Because VISION 2020 is an integrated growth management, economic, and transportation strategy, the *Destination 2030* policy framework comprises general, regional framework policies from each of these areas, as well as more specific transportation policies.

At the regional level, the proposed Cross-Base Highway project is listed as a proposed facility improvement to complete a missing link and provide additional transportation capacity in PSRC's *Destination 2030*. While *Destination 2030* primarily emphasizes alternative transportation modes such as transit, carpooling, vanpooling, bicycling, and walking, the Cross-Base Highway project is identified as one of the few remaining missing links in the highway system. The Cross-Base Highway project has regional benefits for the movement of freight and goods between the mid-Pierce County area and other parts of the Puget Sound region and the Pacific Northwest.

### III. DECISION

The Selected Alternative for the SR 704 (Cross-Base Highway) project is the South A alignment, which was identified as the preferred alternative in both the 2002 SDEIS and the 2003 FEIS. The South A alignment traverses 5.9 miles from the Thorne Lane interchange on I-5 to the intersection of 176th Street S and SR 7.

The FEIS considered both potential construction and operational impacts to the man-made and natural environments both from a No Build Alternative and from a range of Build Alternative alignments. The selection of the preferred alternative (South A alignment) stemmed from the impacts analysis and the necessity to minimize environmental impacts resulting from the location of the alignment and in consideration of the habitat and the mitigation that could be effectively used to minimize impacts. The Selected Alternative supports the Pierce County Transportation Plan as well as the Pierce County Comprehensive Plan that was developed in accordance with the Growth Management Plan and approved for consistency by PSRC, the metropolitan planning organization for King, Pierce, Kitsap, and Snohomish Counties.

From the I-5 Thorne Lane interchange, the Selected Alternative alignment proceeds in a southerly direction between Murray Road SW and the Woodbrook Middle School property. The alignment continues south past 150th Street SW, then curves to the east onto Fort Lewis parallel to the City of Lakewood/Fort Lewis property boundary. The alignment curves south to avoid Lake Mondress and then proceeds southeast from the BNSF railroad crossing, south of the McChord AFB runway. The Selected Alternative would skirt the north side of Spanaway Marsh, cross Coffee Creek, and pass to the south of the existing 176th Street S roadway. The existing 176th Street S would remain intact from west of 8th Avenue Court S to 4th Avenue S, providing access to residential properties to the north. The alignment would then turn north, terminating at the expanded intersection of 176th Street S and SR 7.

The South A alignment includes the following:

- Four through travel lanes plus turn lanes at intersections.
- Access at three at-grade signalized intersections (two in American Lake Gardens and one at Spanaway Loop Road S extension) and an interchange at “A” Street.
- A reconstructed Thorne Lane interchange to accommodate additional traffic and relocation of the interchange 300 feet southwest.
- A single-lane, one-way, southbound local access roadway (i.e., the Gravelly-Thorne Connector) that would connect Gravelly Lake Drive to the Cross-Base Highway at Thorne Lane.
- Southbound ramp meters at the Bridgeport Way, Gravelly Lake, Thorne Lane, and Berkeley interchanges.

The South A alignment was selected primarily for the following reasons:

- The South B alignment, while avoiding impacts to resources protected by Section 4(f) of the 1966 Transportation Act (Section 4 (f)), is not a feasible alternative because Fort Lewis will not provide the necessary easement for the new roadway. This alignment also displaces more housing units in American Lake Gardens than the South A alignment.
- The South alignment would displace the American Lake South School (a site eligible for the National Register of Historic Places and a Section 4(f) resource) and displaces the most housing units in American Lake Gardens.
- The South A alignment displaces the least number of housing units in American Lake Gardens and avoids the American Lake South School. While this alignment would pass through the west side of the recreational field associated with Woodbrook Middle School (a Section 4(f) resource), the recreational field can be relocated nearby. Both the American Lake South School and the Woodbrook Middle School and recreational fields belong to the Clover Park School District. The District prefers the South A alignment, provided that noise mitigation is provided for the Woodbrook Middle School and its affected recreational facilities are replaced.

The mitigation commitments are identified in Section VI, Summary of Environmental Impacts and Mitigation Measures. These mitigation measures will be incorporated during the design, construction, or operational phases of the project, as appropriate.

#### **IV. OTHER ALTERNATIVES CONSIDERED**

A detailed screening process was undertaken in which 14 different alignments were initially considered for study in the 1998 DEIS. Based on the DEIS evaluations, 10 of these alignments were rejected. Two additional alignments were considered but rejected in the 2002 SDEIS. The 2002 SDEIS also dropped the South Central alignment from detailed consideration.

The range of alternatives evaluated during the planning process for this project included a full suite of elements, such as improvements to other roadways and a variety of transportation demand management (TDM) and transportation system management (TSM) strategies, to try to address the need for the project and avoid the construction of a new roadway in the project area.

The primary reasons for rejecting alternatives included impacts to military base operations, disproportionately high or adverse impacts to minority or low-income populations, substantial disruption to local travel patterns, greater impacts to the natural environment, and higher costs. The Alternatives Considered But Rejected table below in Section V shows the range of alternatives considered and the reasons they were not carried forward.



### No Build Alternative

Under the No Build Alternative, the Cross-Base Highway would not be constructed; however, other planned roadway improvements would be implemented, as well as other reasonably foreseeable projects such as the development of an industrial complex on Fort Lewis, the relocation of the McChord AFB runway, and the development of master planned communities in mid-Pierce County. These developments would add to the roadway capacity demands in the mid-Pierce County area. In addition, the increases in population and employment projected for the study area, based on regional and local planning, would still occur.

### TDM/TSM Alternative

With the No Build Alternative, the combination of all planned or approved roadway improvements and TDM/TSM strategies (including employer-based programs, support facilities, telecommunications, and land use strategies) were analyzed in the traffic volume forecasts and LOS analysis results in Chapter 1 of the FEIS. These data indicate that something beyond approved TDM/TSM strategies is needed to satisfy the purpose and need for the project, because traffic congestion in the mid-Pierce County area would increase substantially.

From a travel demand and congestion reduction perspective, the TDM/TSM Alternative achieved some systemwide results; however, the alternative was eliminated from further consideration because it did not address the purpose of the project or satisfy many of the basic transportation improvement needs that are satisfied by the Build Alternative. The TDM/TSM Alternative does not increase the transportation system linkage and capacity between mid-Pierce County and destinations along the I-5 corridor nearly as much as the Build Alternatives.

### Build Alternatives

Of the three Build Alternatives considered in the 2003 FEIS (South, South A, and South B alignments), the South and South B alignments were eliminated due to adverse impacts.

The three alignments vary only in the American Lake Gardens area between I-5 and Woodbrook Road SW. East of Woodbrook Road SW, only one alignment alternative was considered in detail due to the significant built and natural environment constraints in this portion of the project area.

Although both the South and South A alignments directly affect recreational or historic resources protected by Section 4(f) (see Section VII.F, Determination of Findings and FEIS Chapter 5), the South alignment would pass through the American Lake South School, which is eligible for the National Register of Historic Places, and the effect of the project would constitute a use under Section 4(f).

The South B alignment passes west of Murray Road SW on Fort Lewis property and avoids impacts to any Section 4(f) resources. However, this alternative was eliminated because Fort Lewis will not provide an easement for the new roadway in this area. Because military property cannot be acquired through condemnation, and Fort Lewis has repeatedly stated that the property is not available for roadway use, the South B alignment is not a feasible alternative.

While both the South and South A alignments affect Section 4(f) resources and a portion of American Lake Gardens, South A has fewer impacts that can be more effectively mitigated.

## **V. PRIMARY REASONS FOR SELECTING THE PREFERRED ALTERNATIVE**

The South A alignment was selected as the preferred alternative because, of the feasible alignments, it has the least use of Section 4(f) resources and other impacts to the local community. Of the three alignments under consideration, both the South and South A alignments directly affect recreational or historic resources protected by Section 4(f). The South alignment would pass through the American Lake South School, which is eligible for the National Register of Historic Places. The South A alignment would pass through the west side of the recreation field associated with Woodbrook Middle School, used for a variety of community sports activities. The Clover Park School District owns both the American Lake South School and the recreation field.

The South B alignment passes west of Murray Road SW on Fort Lewis property and avoids use of any Section 4(f) resources. However, Fort Lewis will not provide an easement for the new roadway in this area. Because military property cannot be acquired through condemnation, the South B alignment is not a feasible alternative. Correspondence from the military related to these issues is included in Appendix H of the FEIS.

The South Central alignment also avoids use of any Section 4(f) resources, but has disproportionately high and adverse impacts to minority and low-income populations in American Lake Gardens and, therefore, is not a prudent alternative. These impacts to the community include displacing over 300 housing units and dividing the community in two. Because of these impacts, the South Central alignment was dropped from consideration after the 1998 DEIS as being imprudent and causing community disruption of an extraordinary magnitude.

There would be a use of Section 4(f) resources with both the South and South A alignments, however, the South A alignment use can be minimized, whereas South alignment use of Section 4(f) resources cannot. The South A alignment passes through part of a recreational field that can be relocated nearby, resulting in no net loss of recreational capacity and minimizing use of the resource. With the South alignment, the American Lake South School (a historic resource) would be demolished or possibly moved to a new location. Moving the building would not provide complete mitigation, since part of its historical significance derives from its current setting. Thus the South alignment cannot avoid using a Section 4(f) resource. The South A alignment also has fewer residential displacements (10 compared to 42 for the South alignment) and leaves most parcels along Murray Road SW intact. The Clover Park School District prefers the South A alignment, provided noise mitigation is provided for Woodbrook Middle School and lost recreational facilities are replaced. Noise mitigation was found to be reasonable and feasible per current WSDOT policy.

Therefore, between the two feasible alignments that use 4(f) resources, South A has the least net 4 (f) use and lower impacts to other relevant resources.

Alternatives Considered but Rejected

The Alternatives Considered but Rejected table below provides the range of alternatives considered (14) and the reasons they were not carried forward.

**Alternatives Considered But Rejected**

Alignment or Alternative	Reasons for Rejection
TDM/TSM Alternative Transportation Demand Management/Transportation System Management	<ul style="list-style-type: none"> <li>• Eliminated from further consideration because it did not address the purpose of the project or satisfy many of the basic transportation improvement needs that are satisfied by the Build Alternatives.</li> <li>• Does not increase the transportation system linkage and capacity between mid-Pierce County and destinations along the I-5 corridor nearly as much as the Build Alternatives (from 1 to 7 percent versus 11 to 44 percent).</li> </ul>
South Central alignment	<ul style="list-style-type: none"> <li>• Not evaluated in the FEIS because it would displace more than one-quarter of the households in the American Lake Gardens neighborhood, causing social impacts and community disruption of an extraordinary magnitude.</li> <li>• Would effectively divide the American Lake Gardens community and prevent most social interaction between the northeast and southwest portions of the neighborhood.</li> <li>• Would have greater noise and visual impacts than the other alignments.</li> <li>• Impacts (identified in the DEIS) are contrary to Executive Order 12898 on environmental justice.</li> </ul>
Lincoln Boulevard alignment	<ul style="list-style-type: none"> <li>• Rejected because McChord AFB has stated they will not grant an easement for the alignment.</li> <li>• Would divide contiguous sections of McChord AFB and create operational concerns for the Air Force, including possible schedule delays and security incidents.</li> <li>• Terminating the Cross-Base Highway at Gravelly Lake Drive rather than Thorne Lane is expected to substantially increase project cost because traffic volumes would likely require directional flyover or loop ramps.</li> </ul>
Northern alignment-1	<ul style="list-style-type: none"> <li>• Rejected because McChord AFB has stated they will not grant an easement for the alignment.</li> <li>• Would require relocation of McChord AFB's Military Radio Transmission Facility, located in the Westcott Hills. This facility is a necessary part of the military installation and could not be relocated without interfering with navigational aids and other nearby radio facilities.</li> </ul>
Northern alignment-2	<ul style="list-style-type: none"> <li>• Rejected because McChord AFB has stated they will not grant an easement for the alignment.</li> <li>• Would displace McChord AFB's Military Radio Transmission Facility and was rejected for similar reasons to the Northern alignment-1.</li> </ul>
Central alignment	<ul style="list-style-type: none"> <li>• Would displace more than 500 dwelling units in American Lake Gardens, with more than 1,300 residents, causing social impacts and community disruption of an extraordinary magnitude.</li> <li>• Would have greater noise and visual impacts than the other alignments.</li> <li>• Impacts are contrary to Executive Order 12898 on environmental justice.</li> </ul>
North of Lake Mondress alignment	<ul style="list-style-type: none"> <li>• Rejected because McChord AFB has stated they will not grant an easement for the alignment.</li> <li>• Would require relocation of McChord AFB's Military Radio Transmission Facility, located in the Westcott Hills. This facility is a necessary part of the military installation and could not be relocated without interfering with navigational aids and other nearby radio facilities.</li> </ul>

Alignment or Alternative	Reasons for Rejection
Equestrian Buffer alignment	<ul style="list-style-type: none"> <li>• Rejected because Fort Lewis has stated they will not grant an easement for this alignment because it would interfere with military development plans for future facilities in this area to serve military reserve and other Department of Defense organizations.</li> </ul>
New Interchange alignment	<ul style="list-style-type: none"> <li>• Rejected because Fort Lewis has stated that an easement for a new roadway through this area would not be provided because the new roadway would create a barrier between Fort Lewis property west of Murray Road SW and the rest of the installation.</li> <li>• City of Lakewood has stated that the impacts of the new interchange are not acceptable to the community.</li> <li>• Standards for separation between interchanges on interstate highways would require closure of two existing interchanges (Exit 122 and Exit 123) and would cause substantial disruption to local travel patterns.</li> </ul>
Exit 122 alignment	<ul style="list-style-type: none"> <li>• Rejected because Fort Lewis would not grant an easement for this alignment.</li> <li>• Would sever access to Madigan Army Hospital (an important regional center providing medical care to military personnel and veterans) and would substantially disrupt operations at the Fort Lewis Logistics Center.</li> </ul>
Perimeter Road alignment	<ul style="list-style-type: none"> <li>• Rejected because McChord AFB would not grant an easement due to impacts on the long-term viability of the AFB and the need to maintain a secure facility.</li> <li>• The surface option would preclude future runway relocation.</li> <li>• The tunnel option would involve unacceptable security risks and would have substantial impacts to groundwater within the boundaries of the Central Pierce County Sole-Source Aquifer.</li> </ul>
Spanaway Loop Road alignment	<ul style="list-style-type: none"> <li>• Would fill more than 3.5 acres of wetland and have more than 12 acres of wetland buffer impacts.</li> <li>• Would cause up to 239 displacements due to loss of access, which could potentially be avoided by designing and constructing revised access and lowering design standards and highway performance.</li> <li>• McChord AFB did not support further review due to encroachment on the runway operational clearance area, encroachment on military training areas, and potential impacts on archaeological resources.</li> </ul>
Runway Approach Zone alignment	<ul style="list-style-type: none"> <li>• McChord AFB did not support further review due to encroachment on the runway operational clearance area.</li> <li>• The tunnel option was also rejected because of cost and impacts to groundwater within the boundaries of the Central Pierce County Sole-Source Aquifer.</li> </ul>
176th Street S alignment	<ul style="list-style-type: none"> <li>• Rejected because it would substantially increase residential displacements compared to the proposed South of 176th Street S alignment located on Fort Lewis property.</li> <li>• Direct access from the Cross-Base Highway to existing residential properties north of 176th Street S would not be permitted.</li> <li>• The existing north-south streets such as 8th Avenue Court S, Yakima Avenue S, Park Avenue S, and “C” Street would be terminated in cul-de-sacs north of the proposed Cross-Base Highway if it used existing right-of-way.</li> </ul>

## **VI. SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES FOR THE SELECTED ALTERNATIVE**

The Selected Alternative (South A alignment) incorporates all practicable measures to minimize environmental harm. The following table lists the construction and operational impacts in one column and the mitigation measures or enhancements provided in the second column. Possible mitigation measures that were considered and rejected are described in the third column.

All elements listed are commitments imposed under this Record of Decision (ROD) for the Selected Alternative. This listing is provided to guide and facilitate project design. This listing will also facilitate monitoring of implementation of the mitigation measures. The measures described below will either be incorporated into or implemented in conjunction with the design and/or construction of the Selected Alternative.

**Summary of Environmental Impacts, Mitigation Measures, and Other Mitigation Considered**

<b>South A Alignment (Selected Alternative) Impacts</b>		<b>Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)</b>	<b>Possible Mitigation Considered but Not Carried Forward</b>
<b>TOPOGRAPHY, GEOLOGY, AND SOILS</b>			
Operations	Low risk of slope instability and low potential for continued erosion.	<u>Project Features:</u> <ul style="list-style-type: none"> <li>• Limit cut and fill slopes. Where slopes steeper than 2 horizontal to 1 vertical are required, install retaining walls or other soil-stabilizing measures.</li> <li>• Apply appropriate construction pollution prevention best management practices (BMPs) to control erosion and sedimentation impacts.</li> </ul>	None.
Construction	Existing drainages could be blocked or altered during clearing and grading. Soils would be exposed. Grading would be required.		None.
<b>WATERWAYS AND HYDROLOGY</b>			
Operations	Increased runoff volumes and rates due to more impervious surface. Increased flooding potential from increased runoff and concentrated stormwater flows. Encroachment into Thorne Lane Wetland would reduce flood storage and/or increase flooding.	<u>Project Features:</u> <ul style="list-style-type: none"> <li>• Use stormwater facilities sized to accommodate peak flow events and located away from sensitive receiving surface water bodies.</li> <li>• Comply with state and local requirements regarding erosion and sediment control plans, biofiltration swales, groundwater protection, pretreatment basins, pollutant control, and stormwater treatment.</li> <li>• Construct permanent stormwater management facilities in compliance with the 2001 Ecology Manual or Ecology-approved WSDOT Highway Runoff Manual.</li> <li>• Place culverts through the roadway embankment at locations to provide conveyance opportunity for overland stormwater flow.</li> <li>• Relocate or pipe the portion of the existing open drainage through the Thorne Lane interchange that would be filled by the project.</li> <li>• If infiltration is selected during detailed design, locate the infiltration facilities in such a manner to minimize the risk of increases in local groundwater elevations that could contribute to flooding in adjacent areas.</li> <li>• Provide compensatory floodplain storage for encroachment into the Thorne Lane Wetland and Coffee Creek/Audubon Springs. For example, remove fill previously placed in the Thorne Lane Wetland for Murray Road SW, thus increasing net storage volume and reducing the potential for localized flooding.</li> <li>• Comply with federal requirements for the protection of the Central Pierce County Sole-Source Aquifer. For example, during construction and operation, use BMPs approved in the most current Memorandum of Agreement (MOA) between FHWA Region 10, U.S. Environmental Protection Agency (EPA) Region 10, and WSDOT.</li> </ul>	None.

South A Alignment (Selected Alternative) Impacts		Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)	Possible Mitigation Considered but Not Carried Forward
<b>WATERWAYS AND HYDROLOGY (continued)</b>			
Construction	Peak rate and stormwater discharge volume increased. Loss of runoff storage that currently occurs in Thorne Lane Wetland.	<ul style="list-style-type: none"> <li>• During detailed design, pursue infiltration of stormwater to mitigate potential impacts of increased runoff and decreased recharge of the upper Vashon Drift Aquifer within the project area.</li> <li>• Design and construct water quality treatment facilities (e.g., biofiltration swales, filter strips, wetponds, oil/water separators) in compliance with the 2001 Ecology Manual or Ecology-approved WSDOT Highway Runoff Manual.</li> <li>• Design and construct enhanced treatment for Subbasin 10/11, which is located within 0.25 mile of Audubon Springs—a fish-bearing stream/lake system.</li> <li>• Implement source control BMPs, where practical, to protect water quality. For example, applications of herbicides and fertilizers, if needed, along the roadway will be limited and adjusted through the use of standard BMPs.</li> <li>• Contain spills occurring at high-use intersections in oil/water separators. Construct drainage system outside of high-use intersections so that spills would first pass through water quality BMPs that provide ample opportunity for contaminants to be cleaned up prior to infiltration or discharge.</li> <li>• Implement construction BMPs to prevent, minimize, and treat (in order of preference) erosion, sedimentation, and contamination during construction.</li> <li>• Develop construction contingency and spill response plans.</li> <li>• Abandon dry wells and groundwater monitoring wells encountered during construction in accordance with state regulations. During the detailed design phase, the need to seal the wells will be assessed per state regulations.</li> </ul>	None.
<b>WATER QUALITY</b>			
Operations	Increased contaminant loading from new impervious surfaces, automobile use, landscaping and maintenance activities, and accidental spills.	See Waterways and Hydrology section.	None.
Construction	Accidental releases of fuels, oil and grease, and other construction materials, which may in turn contaminate soil, groundwater, and nearby surface water bodies, thus affecting vegetation, habitat, fish, and wildlife (fuel spills could impact fish or wildlife). Risk of sediment-laden water entering nearby water bodies.	See Waterways and Hydrology section.	None.

	South A Alignment (Selected Alternative) Impacts	Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)	Possible Mitigation Considered but Not Carried Forward
<b>WETLANDS</b>			
Operations	<p>Impacts to wildlife habitat, water quality, and stormwater function should be minimal. The removal of trees would reduce cover and connectivity to other habitats. Impacts to the Audubon Springs Wetland would include increases in noise, nest predation, and invasive species, as well as fragmenting the existing habitat to the north and south of the alignment. Similar operational impacts would occur to Lake Mondress Wetland due to the removal of 1.48 acres of buffer. Both Wetland A and Audubon Springs would be indirectly affected by bridge spanning (e.g., shade and vegetation control/removal).</p>	<p><u>Project Features:</u></p> <ul style="list-style-type: none"> <li>• Use retaining walls around the Thorne Lane Wetland and Wetland A to avoid filling wetlands.</li> </ul> <p><u>Enhancements:</u></p> <ul style="list-style-type: none"> <li>• If allowed by Fort Lewis, remove the section of Murray Road SW that divides the Thorne Lane Wetland, restoring it as one continuous wetland. Also consider removal of fill and debris mounds to the north, east, and potentially south to expand the Thorne Lane Wetland.</li> <li>• Enhance the Thorne Lane Wetland by removing invasive plant species and replanting with native plant species, to the extent practicable as defined during the design process. Enhance the associated buffer by removing imported fill material, construction debris, and trash to the north and east boundaries.</li> <li>• Remove old roadway fill in Audubon Springs.</li> <li>• Enhance and expand the wetland buffer along the eastern side of the Audubon Springs Wetland.</li> </ul>	None.
Construction	<p>Bridge piers in Audubon Springs Wetland would fill less than 0.01 acre of wetland. Fill 4.90 acres of various wetland buffers, based on Pierce County buffer widths.* Fill 0.01 acre of the Thorne Lane Wetland and 0.30 acre of the associated buffer.*</p> <p>* Assumed for comparison. There is no regulatory basis for such application of Pierce County buffer widths on federal lands.</p>	<p><u>Project Features:</u></p> <ul style="list-style-type: none"> <li>• Avoid impacts to Wetland C, Lake Mondress East, McChord E Wetland, McChord F Wetland, 166th Street Wetland, and the associated buffers of these wetlands.</li> <li>• Avoid direct wetland impacts (fill) to Spanaway Marsh, Lake Mondress, and Wetland B.</li> <li>• Bridge Wetland A (west of I-5) and Audubon Springs to avoid and/or minimize wetland fill. The bridge over Audubon Springs includes constructing two separate structures (one for each direction of travel) with open space between to reduce shading impacts. Use retaining walls around Lake Mondress, as needed and determined by detailed design, to avoid wetland fill and minimize buffer impacts.</li> <li>• Create, restore, or enhance wetlands when impacts are unavoidable.</li> <li>• Limit construction intrusion into wetlands and wetland buffers to the extent practicable.</li> <li>• Refuel construction equipment and vehicles well away from critical areas and associated buffers.</li> <li>• Restore wetland buffers, where possible, following construction.</li> </ul> <p><u>Mitigation Measures:</u></p> <ul style="list-style-type: none"> <li>• Mitigate for tree removal adjacent to Audubon Springs and Spanaway Marsh wetlands by planting a pasture area between the proposed roadway and Fort Lewis with conifers.</li> </ul>	None.
			•



South A Alignment (Selected Alternative) Impacts		Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)	Possible Mitigation Considered but Not Carried Forward
WILDLIFE, FISHERIES, AND VEGETATION			•
Operations	<p>Reduced habitat quality in the area around the roadway due to noise and visual disturbance from the highway. The response to disturbance will vary depending on the species, but may impact wildlife species of special interest. Isolated/fragmented habitat north of the roadway. The highway would serve as a barrier to wildlife movement, resulting in increased wildlife/vehicle collisions and potential effects on population size and stability, particularly on the western gray squirrel, a population listed as State Threatened. White-top aster plants near Lake Mondress would also be affected. Direct loss of approximately 173 acres of existing vegetation and wildlife habitat (permanently cleared and maintained area).</p>	<p><u>Mitigation Measures:</u></p> <ul style="list-style-type: none"> <li>• Provide passages for small animals to cross beneath the roadway where feasible and effective in consideration of probable future habitat conditions. Fort Lewis, McChord AFB, U.S. Fish and Wildlife Service (FWS), and Washington Department of Fish and Wildlife (WDFW) will be invited to participate in the planning and design of these facilities.</li> <li>• Design and construct security fencing with barrier, wildlife fencing, and/or noise barriers to prevent small animal passage onto the active highway. Fort Lewis and McChord AFB, FWS, and WDFW will be invited to participate in the planning and design of these facilities.</li> <li>• Design and construct security fencing with bottom openings to allow small animal passage under roadway, where applicable. Fort Lewis and McChord AFB, FWS, and WDFW will be invited to participate in the planning and design of these facilities.</li> </ul> <p><u>Enhancements:</u></p> <ul style="list-style-type: none"> <li>• Provide bridges over Audubon Springs to allow animals to move between the Spanaway Marsh area, the Ober property, and wetlands south of Spanaway Lake.</li> <li>• Evaluate the potential acquisition of, or development rights to, properties (e.g., portions of the Ober property) to protect adjacent habitat from future development.</li> <li>• Explore with Fort Lewis the possibility of restoring and actively managing prairie habitat by removing and controlling Scot's broom in some or all of the triangle between Lincoln Road, BNSF railroad, and Logistics Center spur line.</li> <li>• Acquire, develop, and manage an approximately 358-acre site south of Roy, Washington to provide high-quality oak and other forests, savannas, and prairies for western gray squirrels, Mazama pocket gophers, butterflies, and other species. The intent of these enhancements is to provide new habitat and restoration actions through increasing habitat complexity, increasing habitat connectivity and patch size, and the expansion and enhancement of wetland communities.</li> </ul>	<ul style="list-style-type: none"> <li>• Additional passages for wildlife to cross under the roadway (FWS): The location and design of all wildlife passages will be reevaluated during the design process. Additional passages could be considered, or the currently proposed passage could be relocated or consolidated.</li> <li>• Provisions for medium or large animals to cross under the roadway (FWS and WDFW): Fort Lewis and McChord AFB both require secure fencing along the roadway. Unsecured passages for medium or large animals adjacent to military property are not acceptable.</li> <li>• Structure providing wildlife crossing over roadway (WDFW): Comments from WDFW on the 1998 DEIS stated this approach was too experimental, costly, and untested to be considered.</li> <li>• Conservation easement on Ober property (WDFW): A conservation easement or similar measure will be considered during the design process after details of the Audubon Springs crossing have been developed.</li> <li>• Acquisition and restoration of an additional mitigation site along Muck Creek (WDFW): Sites in this area have been investigated, and suitable enhancement sites in terms of condition, size, ownership, and location are not present.</li> <li>• Provide at least 1:1 replacement for habitat fragmented by the roadway (WDFW): There is no regulatory basis for a specific replacement ratio for habitat fragmentation. The Roy enhancement site will provide many important habitat functions to replace those lost because of the new roadway.</li> <li>• Reintroduction of western gray squirrels to project area or western Washington (WDFW): Successful reintroduction of western gray squirrels would require substantial additional knowledge of the species and a management plan to use as guidance. This knowledge does not exist, and without it, reintroduction is problematic and at best uncertain. Consequently, mitigation for impacts to the western gray squirrel focuses on restoration and enhancement of habitat (at the Roy enhancement site).</li> </ul>

South A Alignment (Selected Alternative) Impacts		Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)	Possible Mitigation Considered but Not Carried Forward
<b>WILDLIFE, FISHERIES, AND VEGETATION (continued)</b>			
Operations		At a meeting on July 14, 2004, WSDOT and Washington State Department of Fish and Wildlife (WDFW) determined that both state agencies will continue to work toward agreement regarding the proposed mitigation associated with the Cross Base project. While the negotiations will continue beyond the issuance of the ROD, both agencies agree that the mitigation measures contained in the ROD in conceptual form are binding, and that additional mitigation measures may be identified and agreed to in a separate written agreement between the two agencies. Additional mitigation measures, if any, specified in an agreement between WDFW and WSDOT will be the responsibility of WSDOT to ensure implementation.	<ul style="list-style-type: none"> <li>Genetic analysis to establish suitable donor populations for reintroduction to western Washington (WDFW): Reintroduction is not being proposed, and consequently, genetics-related information is not important to the impact and mitigation assessment.</li> </ul>
Construction	Temporary disturbance of vegetation. Construction activities would remove forested or scrub communities. Some small mammals and reptiles would be killed or displaced.	<u>Project Features:</u> <ul style="list-style-type: none"> <li>Restore cleared areas with native vegetation where practicable.</li> </ul> <u>Mitigation Measures:</u> <ul style="list-style-type: none"> <li>Identify the exact population locations of white top aster prior to construction. Where impacts are unavoidable, remove the plants that would be impacted and relocate them to nearby areas with similar soils and microclimates.</li> <li>Implement terms and conditions developed through Endangered Species Act consultation with National Oceanic and Atmospheric Administration (NOAA) Fisheries and USFWS.</li> </ul>	None.
<b>AIR QUALITY</b>			
Operations	High ozone concentrations. All common segments and intersections would meet 1- and 8- hour carbon monoxide (CO) standards. Increased CO concentrations near the Thorne Lane interchange; 1- and 8-hour CO standards would be met.	The project meets all Federal and state air quality conformity requirements.	None.

South A Alignment (Selected Alternative) Impacts		Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)	Possible Mitigation Considered but Not Carried Forward
Construction	Dust and particulates would increase; CO levels may increase due to congestion at traffic detours.	<ul style="list-style-type: none"> <li>• Reduce emissions from construction equipment and trucks by requiring the use of well-maintained equipment and by giving consideration to contractors whose machines are equipped with an oxidation catalyst and/or particulate filters and who use clean diesel fuels.</li> <li>• Require that contractors avoid prolonged periods of vehicle idling and use of engine-powered equipment.</li> <li>• If applicable, obtain a temporary asphalt plant permit from the Washington State Department of Ecology.</li> <li>• Spray water or use other dust suppressants, if necessary, to reduce potential for dust in areas of exposed soil. Provide temporary stabilization or cover measures for areas that might be exposed for prolonged periods.</li> <li>• Dispose of slash off-site.</li> </ul>	None.
<b>NOISE</b>			
Operations	Noise levels increased 0 to 26 dBA at the eastern end of the proposed project. Equestrian areas in American Lake Gardens would also have noise levels increased 21 to 24 dBA. There would be traffic noise impacts to 171 residences and three equestrian businesses in American Lake Gardens. Noise impacts to the American Lake South School and portions of the Woodbrook Middle School would occur.	<u>Mitigation Measures:</u> <ul style="list-style-type: none"> <li>• Per WSDOT and FHWA guidelines, reevaluate the feasibility and reasonableness of proposed noise abatement in conjunction with detailed design. Where reasonable and feasible, provide noise barriers in accordance with WSDOT noise policy. Areas where noise abatement may be implemented include (1) residences along 176th Street S in Spanaway; (2) south of equestrian businesses in American Lake Gardens; and (3) both sides of the highway in the vicinity of Murray Road SW.</li> <li>• Provide noise barriers to protect the American Lake South School per WSDOT noise policy.</li> <li>• Provide noise barriers adjacent to the Brookwood Equestrian Center and the Woodbrook Hunt Club clubhouse as per the June 2004 MOA between FHWA and the State Historic Preservation Officer.</li> </ul>	<ul style="list-style-type: none"> <li>• Measures such as changing the elevation or alignment of the roadway, restricting truck traffic, or restricting traffic speeds were considered, but would not meet the roadway objectives.</li> <li>• West of I-5: Noise barriers for residential locations north of Spruce Street SW and west of Union Avenue and south of the interchange and east of Union Avenue were considered, but are not feasible or reasonable.</li> <li>• Noise barriers west of Gravelly-Thorne Connector (Tacoma Country and Golf Club): noise levels would not increase as a result of the project.</li> <li>• Spanaway: Noise barriers for residential locations on 169th Street Court S were considered, but per WSDOT criteria are not feasible or reasonable due to the distance from the new roadway.</li> </ul>

<b>South A Alignment (Selected Alternative) Impacts</b>		<b>Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)</b>	<b>Possible Mitigation Considered but Not Carried Forward</b>
Construction	Temporary increase in noise levels along new alignments and the roadways proposed to be rebuilt due to heavy equipment use and construction hauling.	<u>Project Features:</u> <ul style="list-style-type: none"> <li>• Require that contractor consider the use of properly sized and maintained mufflers, engine intake silencers, and engine enclosures.</li> <li>• Near American Lake Gardens and Spanaway communities, confine construction activities to daytime hours, unless otherwise coordinated with and permitted by the local jurisdiction.</li> <li>• Locate stationary construction equipment as far away from sensitive receivers as possible.</li> <li>• Require the contractor to consider the use of other measures such as substitution of hydraulic or electric models for impact tools (e.g., jack hammers, rock drills, and pavement breakers), driving forward rather than backward where feasible, and lifting rather than dragging materials where feasible.</li> </ul> <u>Mitigation Measures:</u> <ul style="list-style-type: none"> <li>• Coordinate construction of noise barriers to provide effective mitigation for construction noise to the extent possible. Temporary noise barriers may be used near sensitive areas (e.g., near a school).</li> </ul>	None.
<b>ENERGY</b>			
Operations	Slightly increased vehicle miles traveled and decreased vehicle hours traveled compared to the No Build Alternative.	No mitigation for energy impacts required.	None.
<b>ENERGY (continued)</b>			
Construction	Energy would be required to produce construction materials, transport materials to the site, and place materials.	None required.	None.
<b>HAZARDOUS WASTE</b>			
Operations	Displacement of one inactive monitoring well. Additional risks associated with transportation operations.	<u>Project Features:</u> <ul style="list-style-type: none"> <li>• Provide infiltration facilities and water quality BMPs to reduce pollutants and offer protection for groundwater resources. For spills occurring at high-use intersections, oil/water separators would be in place. For spills outside such intersections, the proposed drainage system would be built so that spills would not flow directly into the infiltration facilities but first into a water quality BMP so that contaminants could be cleaned up prior to infiltrating.</li> <li>• Prepare a spill control and response plan to reduce the potential for releases and/or damage to the shallow aquifer from chemical spills.</li> </ul>	None.
Construction	Spills or exposure of contaminated soils or groundwater could occur during construction. Construction would require demolition of residential dwellings where asbestos or lead-based paint could occur.	<u>Project Features:</u> <ul style="list-style-type: none"> <li>• Minimize impacts associated with existing contamination by further investigation of potentially contaminated sites prior to construction.</li> <li>• If initial reconnaissance of structures to be demolished indicates the potential presence of such materials, conduct surveys for the presence of lead-based paint or asbestos-containing materials.</li> </ul>	

	South A Alignment (Selected Alternative) Impacts	Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)	Possible Mitigation Considered but Not Carried Forward
<b>SOCIAL ELEMENTS</b>			
Operations	<p>Increased east-west access between mid-Pierce County and I-5 corridor. Reduced travel times and traffic. Potential increases in transit service. Continued pedestrian access across I-5 between Tillicum and American Lake Gardens. Conversion of Woodbrook Road from a dead-end residential street to an access road to Cross-Base Highway. Separates the westernmost residences, businesses, and the American Lake South School from the rest of the community. Requires relocation of Woodbrook Middle School ball field, a Section 4(f) resource. Remaining ball fields would experience noise impacts. Impedes access to Woodbrook Middle School for residents west of the Cross-Base Highway. Improves pedestrian and bicycle travel. With mitigation, no disproportionate high and adverse impacts to minority and low-income populations.</p>	<p><u>Project Features:</u></p> <ul style="list-style-type: none"> <li>• Construct a pedestrian connection from American Lake Gardens to Tillicum to improve community cohesion.</li> <li>• Construct an at-grade pedestrian crossing at S 150th Street to reduce community fragmentation.</li> <li>• Use landscaping to soften visual impacts where practical. Design lighting to minimize off-site glare. Texture noise walls and plant shrubs next to walls.</li> <li>• Continue discussions with Pierce Transit regarding the possibility of improved transit services (e.g., regional express bus services) between I-5 and Spanaway.</li> </ul> <p><u>Mitigation Measures:</u></p> <ul style="list-style-type: none"> <li>• Provide a pedestrian under- or over-crossing near 146th Street SW connecting to Murray Road SW.</li> <li>• Provide a landscaped buffer along the noise barrier to minimize adverse effects under Section 106 on the Woodbrook Hunt Club, Brookwood Equestrian Center, and American Lake South School, in accordance with the MOA.</li> </ul>	
Construction	<p>Detours during road construction would affect local traffic patterns temporarily. Disruptions to institutions caused by traffic delays and temporary disruptions to infrastructure. Road alterations could result in brief utility disruptions.</p>	<p><u>Project Features:</u></p> <ul style="list-style-type: none"> <li>• Compensate for displaced properties, including appraised market value and relocation assistance, in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.</li> <li>• During construction, coordinate with local schools, emergency response agencies, and other services to identify alternative access routes.</li> </ul> <p><u>Mitigation Measures:</u></p> <ul style="list-style-type: none"> <li>• Relocate community services currently provided out of the American Lake South School buildings to another location convenient to the American Lake Gardens community.</li> <li>• Relocate a portion of the Woodbrook Middle School ball field sufficient to maintain existing functions.</li> </ul>	None.

<b>South A Alignment (Selected Alternative) Impacts</b>		<b>Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)</b>	<b>Possible Mitigation Considered but Not Carried Forward</b>
<b>LAND USE</b>			
Operations	Consistent with local and regional plans. Improved access to and between the two military bases. No impacts to current or potential future uses of rail corridors. Accommodation of a potential future non-motorized connection along I-5. Separates the land uses along Murray Road SW west of the proposed highway from the rest of American Lake Gardens.	<u>Project Features:</u> <ul style="list-style-type: none"> <li>• Pedestrian features at 150th Street SW will reduce community fragmentation.</li> </ul> <u>Mitigation Measures:</u> <ul style="list-style-type: none"> <li>• Provide a grade-separated pedestrian crossing near 146th Street SW connecting to Murray Road SW.</li> </ul>	None.
Construction	Temporary impacts to adjacent land uses.	<ul style="list-style-type: none"> <li>• During construction, coordinate with local schools, emergency response agencies, and other services to identify alternative access routes.</li> <li>• Coordinate construction of noise barriers to provide effective mitigation for construction noise to the extent possible. Temporary noise barriers may be used near sensitive areas (e.g., near a school).</li> </ul>	None.
<b>ECONOMIC ELEMENTS</b>			
Operations	Improved travel times to Lakewood would benefit local businesses. Improved travel times between Frederickson and DuPont employment centers. One of the facilities of one business (Ferrell Gas) will be displaced. A portion of one institution will be displaced. Visibility of businesses from the Cross-Base Highway would be impaired by the noise wall. This may adversely affect A-1 Transmission by reducing drive-by business.	<u>Project Features:</u> <ul style="list-style-type: none"> <li>• Compensate for displaced properties, including appraised market value and relocation assistance, in accordance with federal requirements. Supply of comparable housing within a reasonable proximity is sufficient for relocation.</li> </ul>	None.
Construction	Creates temporary construction jobs. Project equipment and materials purchase will provide retail sales tax revenues.	None required.	None.
<b>RELOCATION</b>			
Construction	No displacements on the Central or Eastern Sections. Displacement of Ferrell Gas refueling site west of I-5. Ten housing units and the Woodbrook Middle School ball field would be displaced.	<u>Project Features:</u> <ul style="list-style-type: none"> <li>• Compensate for displaced properties, including appraised market value and relocation assistance, in accordance with federal requirements. Supply of comparable housing within a reasonable proximity is sufficient for relocation. Ball field would be relocated nearby.</li> </ul>	None.

South A Alignment (Selected Alternative) Impacts		Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)	Possible Mitigation Considered but Not Carried Forward
<b>HISTORIC AND ARCHAEOLOGICAL ELEMENTS</b>			
Operations	<p>Adverse effect to Woodbrook Hunt Club and Brookwood Equestrian Center eligible buildings. Overall roadway setting and noise increases from traffic would alter their setting.</p> <p>Adverse effect on American Lake South School from loss of setting.</p>	<p><u>Mitigation Measures:</u></p> <p>Woodbrook Hunt Club and Brookwood Equestrian Center:</p> <ul style="list-style-type: none"> <li>• A noise barrier will be provided to reduce noise, as per the MOA between FHWA and SHPO.</li> <li>• During project design, the property owners will be consulted.</li> </ul> <p>American Lake South School:</p> <ul style="list-style-type: none"> <li>• A noise barrier will be provided to reduce auditory effects of the undertaking on the property and will be located on or inside the right-of-way line.</li> <li>• Between the noise barrier and school building, a combination of native evergreen and deciduous trees and shrubs will be planted to reduce visual effects of the noise barrier and to create a landscape setting consistent with the character of the surrounding area. The Clover Park School District will be invited to review plant selection and placement.</li> </ul>	None.
Construction	Construction activities, particularly earth-moving, could reveal undocumented archaeological resources.	If any archaeological materials are encountered during construction, work would be halted in the immediate vicinity until that site could be evaluated, and SHPO and the appropriate Tribal entities will be consulted. An unanticipated discovery plan will be developed prior to construction.	None.

South A Alignment (Selected Alternative) Impacts		Measures to Minimize Harm (Project Features, Mitigation Measures, and Enhancements)	Possible Mitigation Considered but Not Carried Forward
<b>VISUAL QUALITY</b>			
Operations	Trees along the BNSF right-of-way near the golf course property line would be removed, and views of this area from I-5 or from the railroad tracks would change. The noise walls along the southern boundary of American Lake Gardens and in the Spanaway area would alter or obscure existing views. New views of Fort Lewis and McChord AFB from the roadway. Visual character change of undeveloped properties to a more urban setting. Reduced visual unity. Views across American Lake Gardens and south into Fort Lewis would be blocked. Roadway would be visible from nearby areas and residences, when not blocked by noise barriers. Noise walls between 150th Street SW and 146th Street SW would be visible from the Woodbrook Middle School and numerous residences.	<u>Project Features:</u> Use landscaping to soften visual impacts where practical. Design lighting to minimize off-site glare. Texture noise walls and plant shrubs next to walls.	None.
Construction	Light and glare from nighttime construction activities.	None required, but because construction noise is exempt only until 10 PM, construction will not take place after 10 PM. Therefore, associated light and glare from nighttime construction activities is not likely to occur.	



## **VII. DETERMINATIONS AND FINDINGS**

The environmental record for the SR 704 (Cross-Base Highway) project includes the previously referenced DEIS, SDEIS, and FEIS and Section 4(f) Evaluation (May 1998, June 2002, and September 2003, respectively). These documents, incorporated here by reference, constitute the statements required by the National Environmental Policy Act (NEPA) and Title 23 of the United States Code (USC) on:

- The environmental impacts of the project.
- The adverse environmental effects that cannot be avoided should the project be implemented.
- Alternatives to the proposed project.
- Irreversible and irretrievable impacts on the environment that may be involved with the project should it be implemented.

Having carefully considered the environmental record noted above, the mitigation measures as required herein, the written and oral comments offered by other agencies and the public on this record, and the written responses to the comments, the FHWA has determined that (1) adequate opportunity was offered for the presentation of views by all parties with a significant economic, social, or environmental interest; (2) fair consideration has been given to the preservation and enhancement of the environment and to the interests of the communities in which the project is located; (3) all reasonable steps have been taken to minimize adverse environmental effects of the proposed project; and (4) where adverse effects remain, there exists no feasible and prudent alternative to avoid or further mitigate such effects.

### **A. Environmental Justice**

An analysis of environmental justice is included in Section 4.11 of the FEIS. Consistent with Presidential Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (February 1994) and FHWA Order 6640.23, "FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (December 1998), the FHWA has concluded that after the mitigation measures to minimize harm are implemented, no high and adverse human health or environmental effects are expected to fall disproportionately on minority or low-income populations as a result of implementing the Selected Alternative.

### **B. Conformity With Air Quality Plans**

An analysis of air quality, conformity with the Federal Clean Air Act (42 USC 7506(c)), and regional conformity with the State Implementation Plan (40 CFR Part 93 and WAC 173-420) is included in Section 4.7 of the FEIS. In accordance with the conformity guidelines, PSRC was consulted on project conformance with existing transportation and air pollution control plans. PSRC provided the following information:

- The proposed project is included in the Metropolitan Transportation Plan entitled *Destination 2030*. The regional plan was prepared and adopted in 2001 by PSRC and reviewed by WSDOT. The plan meets all federal and state air quality conformity requirements.
- The proposed project is included in the Regional Transportation Improvement Program entitled 2001-04 Regional Transportation Improvement Program, which was modeled in 1999. This regional program, prepared and adopted by PSRC, was reviewed by WSDOT. It was found to meet all federal and state air quality conformity requirements.

The project meets all requirements of 40 CFR Part 93 and WAC 173-420, and thus conforms to the Puget Sound Air Quality Maintenance Plans. The Selected Alternative will not cause any new or contribute to any existing regional exceedances of the National Ambient Air Quality Standards (NAAQS).

### **C. Endangered Species Act**

The Endangered Species Act of 1973 (ESA) (16 USC § 1531 et seq.), as amended, is intended to protect threatened and endangered species and the ecosystems on which they depend. When the federal government takes an action subject to the ESA, it must comply with Section 7 of the ESA [found at 16 USC § 1536(a)(2)]. Section 7 (a)(2) states:

"Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available."

The project "may affect, but [is] not likely to adversely affect" Puget Sound Chinook salmon. The project will have "no effect" on bull trout, golden paintbrush, and water howellia. The project "may affect, but [is] not likely to adversely affect" northern spotted owl; and "may affect, likely to adversely affect" bald eagle.

A Biological Assessment for the project (WSDOT, February 2004) was submitted to NOAA Fisheries and U.S. Fish and Wildlife Service (USFWS). Formal consultation was completed with USFWS on July 29, 2004, with the issuance of a Biological Opinion (B.O.) and an Incidental Take Statement for the Bald Eagle. Concurrence with the effect determination for species under NOAA Fisheries jurisdiction was received on March 16, 2004. The project will incorporate measures to minimize harm outlined in the Biological Assessment, and comply with the reasonable and prudent measures and terms and conditions included in the USFWS B.O., and subsequent amendments.

### **D. Magnuson-Stevens Act**

Under the 1996 Magnuson-Stevens Fisheries Conservation and Management Act (MSA) (Public Law 94-265), as amended, federal fisheries management regulations require identification and conservation of habitat that is essential to federally managed fish species. Essential Fish Habitat (EFH) is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." If an action will adversely affect EFH, NOAA Fisheries is required to provide the federal action agency with EFH conservation recommendations (MSA Section 305(b)(4)(A)). This consultation is based, in part, on information provided by the federal action agency and descriptions of EFH for Pacific salmon contained in Appendix A to Amendment 14 to the Pacific Coast Salmon Plan (August 1999) developed by the Pacific Fishery Management Council and approved by the Secretary of Commerce (September 27, 2000).

The Selected Alternative area includes habitat that has been designated EFH for various life stages of Chinook and coho salmon. Because the habitat requirements (i.e., EFH) for the MSA-managed species in the project area are similar to that of ESA-listed species, and because the conservation measures that FHWA and WSDOT have included in the Biological Assessment (WSDOT, February 2004) as part of the proposed

action to address ESA concerns were considered adequate to avoid, minimize, or otherwise offset potential adverse effects to designated EFH. Conservation recommendations pursuant to MSA Section 305(b)(4)(A) are not necessary, thus concluding consultation under the MSA (NOAA Fisheries, December 6, 2002).

#### **E. Section 106**

The National Historic Preservation Act of 1966 (NHPA) (16 USC 470) sets forth government policy and procedures regarding “historic properties”—that is, districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places (NRHP). See also 36 CFR Part 800.

Section 106 of the NHPA requires federal agencies to “take into account” the effects of their actions on historic properties.

Three resources are in the area of potential effect of the project.

- The American Lake South School, determined eligible for the NRHP.
- The Woodbrook Hunt Club, which has four buildings listed on the NRHP.
- The Brookwood Equestrian Arena, determined eligible for the NRHP.

The project was determined to have an adverse effect on the above historic properties. An amended MOA between the State Historic Preservation Officer (SHPO) and FHWA was completed on June 18, 2004. The Advisory Council on Historic Preservation (ACHP) was invited to participate in consultation for Section 106. The ACHP felt that their participation was not warranted.

**American Lake South School:** A historic survey of the project area identified the American Lake South School as a historical site. On March 4, 1997, the SHPO concurred in the determination that the entire parcel is eligible for the NRHP. On March 21, 1997, the SHPO concurred with WSDOT that the South A alignment would have an Adverse Effect on this property.

The American Lake South School complex is eligible for the NRHP under Criteria A and C identified in the NHPA. Properties are eligible under Criterion A if they are associated with significant events or under Criterion C if they embody distinctive characteristics. The site exemplifies an early twentieth century rural school complex. At American Lake South School, the play area and the open area to the rear (east) of the classroom building are historically associated with school activities. The open areas surrounding rural schools were always considered integral to the educational complex (Garfield and Griffith 1986). Thus, the entire parcel has been determined eligible for the NRHP.

A small portion of the American Lake South School grounds (approximately 3,750 square feet, or 4 percent of the site) would be used as a temporary easement to facilitate construction of the roadway and associated noise barriers. None of the structures on the site would be affected, and the site would not be substantially modified. The temporary construction easement meets criteria for temporary use in 23 CFR 135(p)(7), in that no change of ownership is required, work is of a minor nature, there are no permanent impacts or interference with activities on the site, the land will be restored

Noise impacts of the proposed South A alignment would affect the site. The existing noise level at the site in the vicinity of the classroom building and gymnasium was measured to be 59 dBA. Under the South A alignment, noise levels in 2025 are projected to increase by 8 dBA to 67 dBA in the absence of mitigation. A 12-foot-high noise barrier at the west edge of the proposed right-of-way would reduce

noise levels to approximately 62 dBA. Proposed landscaping on the school site with trees and shrubs will soften the visual presence of the barrier.

The MOA between FHWA and the SHPO, with WSDOT and Pierce County concurring regarding the American Lake South School, provides the following conditions to mitigate for the Adverse Effect:

1. A noise barrier will be provided to reduce auditory effects of the undertaking on the property and will be located on or inside the right-of-way line.
2. In the area between the noise barrier and school building, a combination of native evergreen and deciduous trees and shrubs will be planted to reduce visual effects of the noise barrier and to create a landscape setting that is consistent with the character of the surrounding area. The Clover Park School District will be invited to review plant selection and placement. Based on previous conversations with the School District, Clover Park School District will be responsible for ongoing maintenance.
3. Installation of the noise barrier and vegetation plantings will be done pursuant to the conceptual landscape plan submitted to and accepted by the SHPO on April 7, 2004.

**Woodbrook Hunt Club:** The Woodbrook Hunt Club, a private organization, nominated the Woodbrook Hunt Club site for listing in the NRHP in June 1996. On July 9, 1997, the SHPO concluded that four buildings on the Woodbrook Hunt Club site meet the criteria for listing in the NRHP. In August 1997, the Advisory Council on Historic Preservation (ACHP) concurred, and the Woodbrook Hunt Club was placed in the NRHP. On March 21, 1997, the SHPO concurred with WSDOT that the South A alignment (Selected Alternative) would have an Adverse Effect on the historic integrity of the site.

The Woodbrook Hunt Club, established in 1924, is the Pacific Northwest's only hunt club and one of the few clubs of its type in the western United States. The club does not hunt live foxes, but rather hunts "eau de fox." The principal features of the Woodbrook Hunt Club are eligible for the NRHP under Criterion A because they are associated with a sports tradition that has contributed significantly to the recreational history of Pierce County. Properties are eligible under Criterion A if they are associated with significant events. Four of the buildings on-site are listed on the NRHP, but the site in its entirety is not eligible for the NRHP (see FEIS Appendix O). Eligible structures include:

- The Woodbrook Hunt Club clubhouse.
- The kennel located east of the clubhouse.
- The caretaker cottage located on the northern portion of the site.
- The tack room located near the caretaker cottage.

Five non-contributing structures located on the site pre-date the Hunt Club, are unrelated to its development, and are not eligible for the NRHP.

The South A alignment would pass south of the Woodbrook Hunt Club on an easement granted by Fort Lewis. The roadway would not acquire any part of the site, would displace no structures, and would not directly affect either the Hunt Club grounds or the buildings listed on the NRHP.

The roadway would prevent direct access from the club to Fort Lewis. Members of the Hunt Club currently access Fort Lewis directly from the site for "riding to hounds" and other activities. However, this direct access does not comply with Fort Lewis's policy on public access, which stipulates that all

civilians must access Fort Lewis only at established entrances to the installation. The Cross-Base Highway would not infringe on the Woodbrook Hunt Club's ability to use the military property in a way that is consistent with the Army's existing policy. The SHPO determined in December 1997 that direct access to the Fort Lewis reservation does not contribute to the Hunt Club's eligibility for the NRHP.

Noise impacts of the proposed South A alignment would substantially increase sound levels on the site. The existing modeled noise level near the clubhouse is about 45 dBA. With construction of the Cross-Base Highway, noise levels would increase by up to 24 dBA in the year 2025 to between 64 and 69 dBA in the absence of mitigation.

**Brookwood Equestrian Center Arena:** The arena of the Brookwood Equestrian Center is a 17,112-square-foot, heavy timber structure. According to the owner, this structure was built in the 1920s for ship construction and maintenance purposes at the Bremerton Naval Shipyard. It was disassembled and relocated, first to Seattle, then to its present site. Despite its disassembly and reassembly at a new location, the arena was determined to be eligible for NRHP listing under Criterion C as an unusual building type and for its method of construction and under Criterion A for its association with the Woodbrook Hunt Club. The Brookwood Equestrian Center is currently privately owned and operates separately from the Woodbrook Hunt Club. No other buildings on the Equestrian Center are eligible for the NRHP.

The South A alignment would pass south of the Brookwood Equestrian Center on an easement granted by Fort Lewis. The roadway would not take any part of the site, would displace no structures, and would not directly affect the arena.

Noise impacts of the proposed South A alignment have the potential of affecting the historic integrity of the site. The existing modeled noise level at the property line near the arena is 45 dBA (receptor 41). With construction of the Cross-Base Highway, noise levels would increase by up to 24 dBA in the year 2025 to 69 dBA (the arena, however, is about 85 feet south of the receptor location and would receive slightly lower noise levels.)

The MOA between FHWA, the SHPO, WSDOT, and Pierce County regarding the Woodbrook Hunt Club and the Brookwood Equestrian Center Arena provides the following conditions:

1. A noise barrier will be provided to reduce auditory effects of the undertaking on the property and will be located in the right-of-way. A noise barrier wall on the north side of the South A alignment would reduce noise levels at the Woodbrook Hunt Club clubhouse between 8 and 10 dBA and would reduce levels at the caretaker cottage and tack room from 60 to 54 dBA. A noise barrier wall on the north side of the South A alignment would reduce noise levels at the property line of the Brookwood Equestrian Center about 10 dBA, with a similar reduction at the arena.
2. In the area between the noise barrier and the southern property boundary of the Woodbrook Hunt Club, native coniferous trees and a combination of native evergreen and deciduous shrubs will be planted in an earthen berm to reduce visual effects of the noise barrier and to create a landscape setting that is consistent with the character of the surrounding area.
3. Installation of the noise barrier and vegetation plantings will be done pursuant to the conceptual landscape plan submitted to and accepted by the SHPO on March 24, 2000.

## **F. Traffic**

All traffic volume forecasts were developed from Pierce County's EMME-2 travel demand forecasting model. The Pierce County travel demand model is consistent with PSRC's regional travel demand forecasting model, the accepted model in the Puget Sound region for all transportation planning projects and activities. Traffic volume forecasts were updated as part of the SDEIS published in June 2002. All intersection and roadway link LOS analysis are consistent with Highway Capacity Manual (HCM) methodologies and were also updated using Highway Capacity software for intersection LOS analysis at that time.

Population and employment allocation in the travel markets served by the Cross-Base Highway are forecasted to increase by the Washington State Office of Financial Management (OFM) and the Pierce County Comprehensive Plan. As traffic demand exceeds roadway and intersection capacity, continued growth would be affected. With a weighted average roadway capacity up to 10 percent over capacity (i.e.,  $V/C = 1.10$ ), development would likely not be materially affected; however, beyond this level, nearly constant traffic congestion and lengthy travel times could cause some residents and businesses to locate elsewhere in the region, resulting in a decreased growth rate and less development by the year 2025. Without the Cross-Base Highway, the weighted average  $V/C$  in 2025 would be 1.16; the weighted average with Cross-Base Highway would be 0.93. The proposed Cross-Base Highway will reduce future traffic congestion on several existing freeway and arterial corridors in the mid-Pierce County area. Year 2025 traffic volumes on the SR 7 and Spanaway Loop Road corridors decrease by 20 to 50 percent with the Cross-Base Highway compared to the No Build Alternative.

Intersection LOS analysis was conducted at four representative intersections on SR 7 and one intersection on Spanaway Loop Road to quantify the improvement in average vehicle delay with the Cross-Base Highway. Average vehicle delay is the average time it will take for a vehicle to proceed through an intersection. In 2025, the average delay for the representative intersections with SR 7 is predicted to be greater than 120 seconds. The average delay for these intersections with the Cross-Base Highway in 2025 ranges from 56.2 to 75.6 seconds during the PM peak hour. At all intersections, average vehicle delay will decrease by 40 to 50 percent or more. In all cases, PM peak hour LOS conditions improve to LOS E or better compared to very congested LOS F conditions for the No Build Alternative. LOS results similar to those at the four representative intersections evaluated would also be expected at several other signalized intersections in the SR 7 and Spanaway Loop Road corridors. Cross-Base Highway meets the established minimum LOS criteria, as established by PSRC.

The Cross-Base Highway will also result in a substantial decrease in vehicle hours of travel (VHT), through 2025, compared to the No Build Alternative. With the project, VHT decreases in the Cross-Base Highway study area from 6 to 8 percent. This VHT is a result of the combined accessibility improvements and reduced traffic congestion on existing arterial corridors resulting from the proposed Cross-Base Highway.

The Cross-Base Highway will improve travel times to and from the travel markets of DuPont, Frederickson, Spanaway, and Lakewood. Average improvements, to these markets, range from 11 to 44 percent.

## **G. Secondary and Cumulative Impacts**

Washington State adopted a Growth Management Act (GMA) in the 1990's. The GMA makes planning for growth a requirement for large and fast-growing local jurisdictions. Pierce County is both a large and fast-growing area. A fundamental component of all planning under the GMA is the 20-year population growth projected by the state's Office of Financial Management (OFM) for each county. This growth must be accommodated by each county and its cities while meeting the other requirements and goals of the Act. Jurisdictions must plan for capital improvements necessary to support designated Urban Growth Areas (UGAs), such as transportation facilities that support growth in the UGAs and discourage sprawl. The GMA has slowed urban sprawl into nearby rural areas. Between 1995 and 2000, 87 percent of the population growth and 96 percent of job growth statewide has occurred inside UGAs, according to PSRC. PSRC is the Metropolitan Planning Organization responsible for coordinating land use and transportation planning in the region.

Pierce County's comprehensive planning is consistent with the requirements of GMA. The travel markets that will be served by the Cross-Base Highway have been designated as UGAs. The transportation element of Pierce County's Comprehensive Plan encompasses the Pierce County Transportation Plan, which identifies Cross-Base Highway as a "Premier Priority Project". Without the Cross-Base Highway, population and employment allocated to the mid-Pierce County area through the GMA planning process cannot be accommodated without causing severe congestion on principal arterials and nearby highways.

An evaluation of possible induced growth and secondary impacts is summarized in Section 4.20 of the FEIS. This evaluation used the PSRC's EMME-2 travel demand model and DRAM/EMPAL land use allocation model to determine the estimated increase in population and employment in mid-Pierce County and the city of Lakewood. These models are the accepted tools used in the Puget Sound region for this type of analysis. The results of the analysis estimate that induced or secondary growth in population and employment, resulting from the Cross-Base Highway, would be less than 1 percent in all the Forecast Analysis Zones affected by the project.

Most of the region has been subjected to a variety of human disturbances over the past 150 to 200 years, including timber harvest, conversion to agriculture, road and railroad construction, military training activities, off-road vehicle use, equestrian use, and urban development. This history of disturbance has resulted in significant alterations to the original vegetation. Based on historic aerial photographs, it appears that much of the area along the proposed highway was cleared sometime prior to 1940. McChord AFB now occupies what was originally a relatively large expanse of native prairie. Secondary and cumulative impacts to the natural environment are discussed in the FEIS, Section 4.20. In 2000, the Pierce County population was 700,820 people, making it the second-most-populated county in the state. Due to recent incorporations, the majority (56 percent) of the population resides in incorporated areas of the county. Between 1990 and 2000, Pierce County's population increased 20 percent. By 2030 the County's population is forecasted to increase another 44 percent to 1,007,636.

Pierce County has complied with the GMA, and as such, planning for the expected growth and associated impacts has been accomplished through the County's comprehensive planning process.

## **H. Agency Coordination**

**State Historic Preservation Office (SHPO):** Coordination with the SHPO has been ongoing since the project's inception and continued through the FEIS review and the MOA. On March 4, 1997, the SHPO concurred in the determination that the entire American Lake South School parcel was eligible for the NRHP under Criteria A and C. On March 21, 1997, the SHPO concurred with WSDOT South A

alignment would have an Adverse Effect. On July 9, 1997, the SHPO concluded that four buildings on the Woodbrook Hunt Club site meet the criteria for listing in the NRHP. In August 1997, the ACHP concurred, and the Woodbrook Hunt Club was placed in the NRHP. In August 2003, the SHPO concluded that the Brookwood Equestrian Center was eligible for the NRHP. At the same time, they concluded that the Woodbrook Flea Market and O'Neil Farm are not eligible. On June 18, 2004, the SHPO and FHWA agreed upon an MOA to take into account the effect of the selected alternative on historic properties. The effect of the undertaking was determined to have an adverse effect on the American Lake South School, the Woodbrook Huntclub, and the Brookwood Equestrian Facility. That agreement provides for installation of noise walls and vegetation screening of the noise walls. The MOA also provides for an historic context document that will focus on the equestrian sport and recreation in Western Washington.

**Clover Park School District #400:** The owner of the American Lake South School and the Woodbrook Middle School, the Clover Park School District, met with the project team (Pierce County, FHWA, WSDOT, and Parametrix) in April 1997 to discuss impacts to the recreational and historic resources. Possible mitigation measures that would be evaluated to avoid or minimize impacts to these resources were discussed. The mitigation measures were confirmed at meetings in August 2003.

**Native American Tribes:** Consultation under Section 106 of the NHPA was initiated with the Puyallup Tribe of Indians with a letter from FHWA dated November 24, 2003. Meetings were held between FHWA and staff from the Puyallup Tribe's Cultural Department, and a comment letter on the FEIS was received from the Puyallup Tribe. During the consultation, no Traditional Cultural Properties were identified, and the Section 106 consultation process was concluded in a letter from FHWA dated June 30, 2004. A quarterly, or greater frequency, meeting will be offered to ensure that the tribal staff is involved in the project development and construction phases.

Consultation under Section 106 of the NHPA was initiated with the Nisqually Tribe in a letter from FHWA dated December 29, 2003. Meetings were held between FHWA and staff from the Nisqually Tribe's Cultural Department, and a comment letter on the FEIS was received. No Traditional Cultural Properties were identified, and the Section 106 consultation process was concluded in a letter from FHWA dated May 14, 2004. A quarterly, or greater frequency, meeting will be offered to ensure that the tribal staff is involved in the project development and construction phases.

## **I. Section 4(f)**

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 USC 303 and 23 USC 138, declares that "It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that "The Secretary [of Transportation] may approve a transportation program or project ... requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if –

1. There is no prudent and feasible alternative to using that land; and
2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."



## **Section 4(f) Resources**

The Cross-Base Highway has Section 4(f) use of the Woodbrook Middle School ball fields and a temporary use of the American Lake South School. Although the project has some proximity impacts to Brookwood Equestrian Center and Woodbrook Hunt Club, these impacts do not substantially impair the historic integrity of the sites and therefore there is no Section 4(f) use, or constructive use, of the property. Additionally, no wildlife and waterfowl refuge of national, state, or local significance has been identified within the project area.

A detailed description of potential Section 4(f) resources is contained in Chapter 5 of the FEIS issued September 2003. This section summarizes discussion in that chapter.

## **Recreational Facilities**

The Woodbrook Middle School is located at Spring Street SW and 150th Street SW. The school and its grounds are owned and maintained by Clover Park School District, the public agency with jurisdiction over this Section 4(f) resource. The irregularly shaped site encompasses approximately 32 acres; less than half (13 acres) is used for public recreational purposes and associated parking and is considered a Section 4(f) resource.

The public recreation facilities located at the Woodbrook Middle School are considered by the Clover Park School District (the owner of the facility) to be regularly used by the public and a significant recreation facility to the community of American Lake Gardens and the City of Lakewood. The facilities include a baseball diamond located in the northwest corner of the site, an athletic track and field in the northeast portion of the site, three tennis courts and three basketball courts located in the center of the site, and an associated parking lot east of the basketball courts (FEIS Figure 5.2-1). Because these recreation facilities are located on public school grounds, without significant limitations to their use by the public, and the agency with jurisdiction considers them significant recreation facilities, all recreation facilities on the site qualify as Section 4(f) resources.

Under the Selected Alternative (the South A alignment), the proposed roadway would use 1.9 acres of Woodbrook Middle School property. The existing baseball diamond located in the northwest corner of the site would be displaced, removing the facility from public recreation use. It would not be possible to relocate the ball field within the remainder of the existing school property because sufficient space is not available without displacing other recreational facilities or important facilities.

To mitigate for the displacement of recreation land on the Woodbrook Middle School property, the site is proposed to be expanded such that the baseball diamond and the athletic track could both be relocated to provide equivalent facilities at an adjacent location.

Site noise levels on the recreation fields adjacent to the South A alignment right-of-way in 2025 would increase approximately 10 dBA from the existing levels (around 56 or 57 dBA) to a range of 66 to 67 dBA in the westerly portion of the site. The increase on the southerly portion of the site adjacent to 150th Street SW would be about 9 dBA, from the modeled existing level of 57 dBA to the 2025 level of 66 dBA with the project. At the school parking lot, levels would increase from the modeled existing level of 53 dBA to the 2025 project level of 62 dBA.

The projected noise levels at the playfields are at or within one decibel of the FHWA threshold of 67 dBA Leq for active sports area and the WSDOT definition of “substantially exceeding existing noise levels” by

a 10 dBA increase. Noise levels will not substantially impair the use of the site for recreational activities, therefore the noise levels to not constitute a constructive use of the site.

### **Historic Resources:**

There is no acquisition of land at any of the historic resources for the South A alignment. The small portion of the American Lake South School grounds (approximately 3,750 square feet, or four percent of the site) that would be used as a temporary easement for construction of the roadway and associated noise barriers meets the criteria for temporary use (as outlined in 23 CFR 771.135 (p)(7)) in that no change of ownership is required, work is of a minor nature, there are no permanent impacts or interference with activities on the site, the land will be restored, and the SHPO has with our determination that there will be no effect to the resource. Therefore, there is considered to be no Section 4(f) use of this site.

### **Prudent and Feasible Alternatives to Using the Section 4(f) Resources**

The discussion of alternatives in Sections IV and V of this ROD documents that there are no prudent and feasible alternatives that avoid Section 4(f) resources. Of the alternatives considered in detail, the South B alignment passes west of Murray Road SW on Fort Lewis property and avoids use of any Section 4(f) resources. However, Fort Lewis will not provide an easement for the new roadway in this area. Because military property cannot be acquired through condemnation, and Fort Lewis has repeatedly stated this property is not available for roadway use, the South B alignment is not a feasible alternative. The alternatives that avoid use of Section 4(f) resources are not feasible for the reasons outlined in Sections IV and V above and summarized below.

### **Measures to Minimize Harm**

One of the criteria for use of Section 4(f) resources is that the program or project includes all possible planning to minimize harm to the resource. Specific measures to minimize harm are discussed above, incorporated in the MOA for historic resources, and summarized as follows:

#### **Recreational Facilities - Woodbrook Middle School**

1. To mitigate for the acquisition of 1.9 acres of the site and displacement of the existing baseball field, the site is proposed to be expanded, such that the baseball diamond and the athletic track could both be relocated to provide equivalent facilities at an adjacent location.
2. To reduce noise effects on recreational activities, mitigation through installation of a noise barrier on the east side of the new highway right-of-way extending to 150th Street SW would reduce projected 2025 noise levels with the project to approximately 60 dBA in the central part of the school site. The noise barrier meets WSDOT criteria to be reasonable and cost-effective.

The incorporation into the proposal of expansion of the site to provide equivalent facilities at an adjacent location to those displaced and the provision of noise barriers to reduce noise levels on the recreation facilities to approximately 60 dBA is considered to include all possible planning to minimize harm to the recreation area resulting from the use.

**Evaluation of Alternatives**

		Evaluation of Section 4(f) Use			
		American Lake South School	Woodbrook Middle School Recreation Complex	Woodbrook Hunt Club	Brookwood Equestrian Center
Alternative	Feasible/Prudent				
South alignment	Yes	4(f) use; 1.4 acres and destruction of historic structure	No 4(f) use	No 4(f) use	No 4(f) use
South A alignment (Selected Alternative)	Yes	Temporary easement of 3,750 square feet; no 4(f) use.	Yes, however, section 4(f) use minimized by replacement of ball field and with noise barriers.	No 4(f) use	No 4(f) use
South B alignment	Not feasible, easement could not be acquired	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
South Central alignment	Not prudent due to extraordinarily high residential displacement (312 residential units) and impacts to minority populations	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
Lincoln Boulevard alignment	Not feasible, easement could not be acquired	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
Northern alignment-1	Not feasible, easement could not be acquired	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
Northern alignment-2	Not feasible, easement could not be acquired	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
Central alignment	Not prudent due to extraordinarily high residential displacement (500+ residential units) and impacts to minority populations	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
New Interchange alignment	Not prudent due to extraordinary impacts to I-5 and surrounding land use; not feasible, easement could not be acquired	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use
Exit 122 alignment	Not feasible, easement could not be acquired	No 4(f) use	No 4(f) use	No 4(f) use	No 4(f) use

**J. Section 6(f) of the Land and Water Conservation Funds Act**

No resources in the vicinity are known to have been developed with funding resources under Section 6(f) of the Land and Water Conservation Fund Act. Therefore, discussion of Section 6(f) requirements to ensure that replacement lands of equal value, location, and usefulness are provided is not required. Comment by the National Park Service on Section 6(f) lands is not required.

**IX. CONCLUSION**

For the reasons outlined above, the South A Alignment is the alternative that best meets the purpose and need of the project, and will have the least impact to the human and natural environment. FHWA will ensure that the commitments outlined above, and in the FEIS will be implemented as part of the project design and construction.

Based upon a careful consideration of all social, economic, and environmental impacts contained in the FEIS; the various technical studies completed; the input from other agencies, and the public, and the factors and commitments outlined above, it the decision of the FHWA to choose the South A alignment for the Cross-Base Highway (SR 704) corridor.

**RECORD OF DECISION APPROVAL**

The Record of Decision for the Cross-Base Highway (SR 704) corridor is hereby approved.

August 2, 2004  
Date

Daniel M. Mathis  
Daniel M. Mathis  
Division Administrator  
Federal Highway Administration

## X. COMMENTS ON THE FEIS

The Notice of Availability of the FEIS was published in the *Federal Register* on October 3, 2003. The Legal Notification of the FEIS Notice of Availability was published on September 26, 2003 in the *Tacoma News Tribune* and the *Eatonville Dispatch*. Display ads were published in the *Tacoma News Tribune*, *Fort Lewis Ranger*, *McChord Airlifter*, and on the *Parkland-Spanaway Post* website. The notices and display ads announced the availability of the FEIS, including the locations where copies of the document were available for public review and the dates, times, and locations of the two associated public meetings. The notice requested that comments be provided by November 14, 2003, providing for a comment period of more than 45 days.

Fliers in English, Korean, Spanish, and Russian were posted in various locations on October 8, 2003, providing a one-week notice for the meetings and to ensure the fliers were displayed the weekend prior to the meetings. Public meetings were held on October 14 and 16, 2003, at public schools close to the west and east ends of the project. Spanish translators were also provided at the public meetings. A list of the specific agencies and individuals to whom copies of the FEIS were sent is contained in Appendix A of the FEIS.

Numerous comment letters were received during the FEIS comment period. Five letters were received from federal and state agencies (two federal and three state agencies commented), six letters from local agencies, 23 letters from special interest groups or organizations, 53 letters from the general public, 48 postcards from the general public, and numerous e-mails from individuals apparently associated with the Northwest Ecosystem Alliance. In addition, 45 written comments and 14 verbal comments were received at the two public meetings.

Many comments received from area residents and local organizations expressed support for the project. The primary reasons for support were the existing traffic congestion and concern that without the new roadway, conditions will be substantially worse in the future.

Most of the reasons for opposition to the South A alignment (and the project in general) have been raised throughout the project development process and are evaluated in detail in the FEIS. (Over 925 separate comments were received on the 1998 DEIS, 1999 additional studies, and 2002 SDEIS. Responses to each of these comments were provided in the FEIS.) Many of the comments received on the FEIS address similar topics or issues. All comment letters are included as part of the project technical file. The FEIS comments and general responses are provided below:

### A. Project Purpose, Need, and Range of Alternatives

1. Comment: The purpose and need statement of the document is too limited, thus making the range of alternatives considered too narrow.

Response: The purpose and need statement complies with the Council on Environmental Quality (CEQ) Regulations for Implementing NEPA (40 CFR 1502.13) and FHWA's Environmental Impact and Related Procedures (23 CFR 771) and was developed in accordance with FHWA guidance (FHWA Technical Advisory T6640.8A and FHWA memo dated September 18, 1990).

NEPA and corresponding regulations by the CEQ and FHWA require consideration of a reasonable range of alternatives that could satisfy the underlying need for and purpose of a project and actions. The range of alternatives evaluated during the planning process for the Cross-Base Highway project included a suite of elements such as improvements to other roadways and

a variety of TDM and TSM strategies that attempt to address the need for the project and avoid construction of a new roadway in the project area. A number of Build Alternatives were developed that address both the project purpose and the need for the action by construction of a new roadway. Refer to Sections I and II of this ROD and Chapter 2 of the FEIS.

2. Comment: Alternatives have been rejected out of hand.

Response: Rationale for rejecting alternative alignments included impacts to military base operations or security, disproportionately high or adverse impacts to minority or low-income populations, substantial disruption to local travel patterns, greater impacts to the natural environment, and higher costs. The TDM/TSM Alternative was rejected because it does not increase the transportation system linkage and capacity between mid-Pierce County and destinations along the I-5 corridor nearly as much as the Build Alternatives (1 to 7 percent versus 11 to 44 percent), and some elements of the TDM/TSM Alternative have implementation difficulties that may be impossible to overcome. Refer to Sections II, III, and IV of this ROD and Chapter 2 of the FEIS.

## **B. Overall Impacts and Benefits**

1. Comment: The impacts to a rare ecosystem are too high for a project that won't eliminate traffic congestion and will encourage sprawl.

Response: The state's 1990 GMA was enacted to require each county to develop comprehensive plans and the related policies and regulations necessary to implement and enforce the growth management efforts. Comprehensive plans and their associated transportation elements include provisions to ensure that the transportation facility infrastructure can support new development through capacity—LOS—standards adopted as part of the transportation element of each comprehensive plan. The discussion of this project and its integral relationship to the Pierce County Comprehensive Plan and Pierce County Transportation Plan is discussed in detail as part of the project's Purpose and Need (FEIS Chapter 1).

A fundamental element of the GMA planning process is the 20-year population growth projected by the OFM for each county. This growth must be accommodated by each county and its cities. Counties and local jurisdictions must plan for the capital improvements necessary to support designated UGAs, such as the transportation facilities that support growth in the UGAs and discourage sprawl. The GMA has slowed urban sprawl into rural areas—between 1995 and 2000, 87 percent of the population growth and 96 percent of job growth has occurred within UGAs, according to PSRC. PSRC is the Metropolitan Planning Organization responsible for coordinating land use and transportation planning in the region.

After reviewing the environmental documents and public comments, FHWA has selected the South A alignment of SR 704 (Cross-Base Highway) for implementation. Refer to the mitigation commitments identified in Section VI of this ROD to address both construction and operational impacts from this project. See also the ecosystem, traffic, and indirect effects discussions below.

## **C. Natural Environment – Impacts**

1. Comment: Only about three percent of oak-woodlands habitat remains in Washington State. The proposed highway will bisect the best remaining oak-woodlands habitat in south Puget Sound, home to the last population of western gray squirrels in western Washington, as well as numerous other wildlife species.

Response: The project would isolate less than 10 percent of the total forested area in the project vicinity that represents potential squirrel habitat (forested with conifer and oak/hardwood). The regional western gray squirrel habitat assessment (Section 4.6.3.3 of the FEIS) indicates that approximately four percent or less of the forested and oak forest or woodland cover on the two military bases would be bisected by the new roadway.

None of the areas affected by the project are quality prairie habitat; most of the grasslands are non-native. The alignment was purposely placed to avoid wetlands. Oak and oak-conifer forests will be affected in the vicinity of Lake Mondress. The highway alignment has been located, to the extent practicable given constraints related to the military bases, to avoid areas of oak or oak-conifer forests. Some of the Douglas-fir forest contains large trees, such as the area around Lake Mondress and the Ober property. However, Douglas-fir forest habitat in the project area is predominantly second- or third-growth; most is even-aged stands with little structural diversity and is considered to be invasive to oak woodland and prairie habitats.

2. Comment: The studies conducted to assess the presence of and potential impacts to wildlife in the Cross-Base Highway vicinity are inadequate or inaccurate. In particular, more should have been done to document the decline of the western gray squirrel, usage of the project area, and the project effects on the decline of this species.

Response: The FEIS and prior environmental documents for this project provide substantial detail on wildlife and habitat potentially affected by the new roadway. In addition to existing information, a significant effort was undertaken to develop new information, based on systematic vegetation and habitat mapping and survey work. Wherever existing information was used, the best available information on the project area was incorporated, such as Department of Defense surveys, The Nature Conservancy in cooperation with Department of Defense work, WDFW surveys for western gray squirrel, and USFWS/Washington Natural Heritage Program (WNHP)/WDFW databases on other species of concern that may occur in the project vicinity.

The purpose of environmental review is to provide the public and decision-makers with sufficient information so that they can compare alternatives and make a reasonably informed decision on a proposed action. Exhaustive or definitive surveys for wildlife or plants are not required where existing data and other information developed for the project support a scientifically credible analysis of impacts. Where uncertainty exists, this has been noted, with existing conditions summarized in a number of ways in the FEIS to allow for the range of potential impacts to be presented and evaluated, with the implications of areas of uncertainty disclosed.

3. Comment: Impacts on the functions and values of wetlands are underestimated and mitigation for these impacts is insufficient. In particular, the value of and

impacts to Lake Mondress have been underestimated, and mitigation for impacts to Audubon Springs is inadequate.

Response: As described in Section 4.5.1.1 of the FEIS, wetlands were delineated and classified using accepted and scientifically credible methodologies. Wetland functions were assessed qualitatively based on the presence of certain environmental characteristics, including habitat functions.

Impacts have been avoided where feasible and practicable. Mitigation for the unavoidable impacts to wetlands and buffers would meet or exceed the minimum amount required by resource agencies. Replacement ratios are greater than 1:1, in consideration of the temporal loss of wetland function.

Lake Mondress was rated as a Category II wetland with a 100-foot buffer, while Lake Mondress East was rated a Category III wetland with a 50-foot buffer. Lake Mondress and Lake Mondress East were rated highly for flood flow attenuation, general habitat suitability, and habitat for aquatic invertebrates and amphibians. These wetlands were rated lower for other functions, such as educational or scientific value, due to a lack of qualifiers. Impacts to Lake Mondress have been avoided to the extent possible by routing the highway alignment to the south around the lake. While the route and the use of retaining walls eliminate the filling of the wetland, approximately 1.5 acres of buffer will be directly impacted and some of the wetland functions will be indirectly impacted (see Section 4.5.3.1 of the FEIS). Military constraints prevent routing the highway in such a manner to further minimize these impacts. Refer to Section VI for mitigation measures identified for wetland impacts.

In the area of Audubon Springs, impacts have been avoided and minimized to the greatest extent feasible and practicable. This includes the incorporation of a bridge with piers for the proposed roadway in this segment. Since the highway would be elevated, the fill from an existing roadway in the area would be removed (0.18 acre restored) to mitigate for the small amount of fill required by the new bridge crossing (less than 0.01 acre impacted). Furthermore, bridge design would consist of two separate structures (one for each direction of travel) with open space between to reduce shading impacts. The appropriate agencies will be consulted during the permitting phase, such as the Army Corps of Engineers (COE).

4. Comment: Construction impacts to wetlands are underestimated.

Response: Temporary construction impacts generally occur within the 200-foot highway right-of-way; however, this area would be minimized to a 10-foot-wide strip outside of the road footprint (from the cut and fill line) in wetlands. Temporarily disturbed wetland areas will be revegetated.

Construction intrusion into wetlands and wetland buffers will be limited and minimized to the extent practicable. Project features to minimize impacts include avoiding fill impacts to Spanaway Marsh, Lake Mondress, and Wetland B, and bridging Wetland A and Audubon Springs to avoid or minimize wetland fill. Other features include retaining walls around Lake Mondress to avoid wetland fill and minimize buffer impacts.



#### **D. Natural Environment – Mitigation**

1. Comment: The area of the Roy enhancement site is not large enough to mitigate the habitat impacts of both the direct impacts of the Cross-Base Highway and the isolated/fragmented area to the north. For example, a greater than 1:1 ratio is needed.

Response: While FHWA policy requires mitigation for project impacts, no specific mitigation ratio is required under local, State, or Federal law. Where mitigation is required by separate regulation (examples include wetlands, water quality, air quality, and ESA), it should be discussed and included in the impact analysis. The Roy enhancement site does substantially increase the amount and value of habitat potentially available in the general project area.

Regarding state-listed species, the authority granted by state law (RCW 77.12.020) is limited to listing species as endangered, threatened, or sensitive. WDFW is also required to complete “an implementation plan for reaching population objectives which will promote cooperative management and be sensitive to landowner needs and property rights. The plan will specify resources needed from and impacts to the department, other agencies (including federal, state, and local), tribes, landowners, and other interest groups. The plan shall consider various approaches to meeting recovery objectives including, but not limited to regulation, mitigation, acquisition, incentive, and compensation mechanisms.” (WAC 232-12-297) To date, WDFW has not completed such a plan for western gray squirrels or pocket gophers.

2. Comment: Configuration of wildlife fencing and locations where wildlife may pass under the highway are not optimal.

Response: Final planning for wildlife passages and fencing will be completed during detailed design, and this ROD commits to evaluating all such facilities for feasibility and effectiveness during the detailed design process. Resource agencies (USFWS and WDFW) and both military installations will be invited to participate during the design process.

3. Comment: Adequate monitoring and enforcement of the off-site mitigation must be provided.

Response: The restoration and management plan for the Roy enhancement site acknowledges the need for and importance of monitoring and long-term management to ensure that mitigation goals and objectives are met. As part of the final restoration design, specific performance standards will be developed for the site. Performance standards are measures such as plant survival, species composition, or canopy cover that can be used to determine if restoration and enhancement actions have been implemented in accordance with the plan and if design goals have been met. A monitoring plan would also be developed that would allow conditions on the site to be compared to performance standards and restoration goals and to provide for contingency actions if the site is not meeting restoration goals and standards. The monitoring plan will include details on how long the site should be monitored and methods and procedures for monitoring site conditions, determining when adaptive management is needed, evaluating the appropriate management strategies, and monitoring the results of adaptive management. Resource agencies will be invited to assist in completing the site

management plan and in evaluating its progress. Agencies who will be invited to assist include USFWS, WDFW, and DNR. Fort Lewis will also be invited to participate, as the Roy site could potentially complement their habitat management programs.

4. Comment: A formal mitigation agreement should be developed between and signed by the lead agencies and various resource agencies.

Response: As described above, resource agencies (including USFWS, WDFW, and DNR) will be invited to assist in completing the site management plan and in evaluating its progress. Fort Lewis will also be invited to participate, as the Roy site could potentially complement their habitat management programs. WSDOT and Washington State Department of Fish and Wildlife (WDFW) have determined that both state agencies will continue to work toward agreement regarding the proposed mitigation associated with the Cross-Base project. While the negotiations will continue beyond the issuance of the ROD, both agencies agree that the mitigation measures contained in the ROD in conceptual form are binding, and that additional mitigation measures may be identified and agreed to in a separate written agreement between the two agencies

5. Comment: Reintroduction of western gray squirrels should be included as mitigation.

Response: The reasons for decline of western gray squirrels in the Puget Sound trough are not adequately understood to show that reintroduction of new animals would be successful in the long run. Supplementing existing squirrel habitat on Fort Lewis with improved habitat on the Roy enhancement site is more practicable and could support other measures to help this species in the future.

## **E. Communities – Impacts and Mitigation**

1. Comment: Equestrian businesses and organizations, which are important economic, historic, and cultural resources in the project vicinity, will be adversely affected by the proposed Cross-Base Highway due to elimination of current convenient, direct equestrian access to military base properties, as well as dust, noise, fumes, vibrations, collisions, and toxic material releases during both construction and operation of the highway. The FEIS fails to consider alternatives that would allow continuation of equestrian access or offer adequate on-site or off-site mitigation measures for the remaining impacts.

Response: The existing equestrian “direct access” is not sanctioned according to Fort Lewis policy regarding recreational use and access (see Section 4.11 of the FEIS). Any proposed modifications to this policy should be directed to Fort Lewis. The range of alternatives considered is addressed above (see the “Equestrian Buffer alignment” in the Alternatives Considered But Rejected table in Section V above in this document). Documentation from Fort Lewis is in the project file that confirms their access policy.

On-site dust, noise, and visual mitigation will be included in the roadway easement. Noise barriers and planted berms (for aesthetics) adjacent to the Woodbrook Hunt Club and Brookwood Equestrian Center, will be included as mitigation as early as possible in the construction process so that they will also help to mitigate noise during the construction process. Other effects of the new roadway on equestrian activities and businesses are described in the FEIS.

2. Comment: Assessment of noise impacts is inadequate or inaccurate, and additional mitigation in the form of noise barriers should be provided.

Response: The traffic noise study described in the FEIS considered potentially affected noise-sensitive receivers in the project vicinity. The noise study was conducted according to WSDOT policy and procedures, as described in detail in the Noise Discipline Report. Numerous locations in the project vicinity were identified as potentially impacted by noise from the proposed Cross-Base Highway, and noise mitigation was assessed for the impacted locations.

Traffic noise barriers were identified as feasible and reasonable, based on the engineering data available at the time of the analysis, for numerous receivers near the proposed highway, including sensitive receivers located between Murray Road SW and Woodbrook Middle School, and for sensitive receivers near the southern and eastern boundaries of American Lake Gardens. WSDOT's noise impact criteria, the assumptions and results used in the assessment of noise impacts, and figures displaying the proposed noise barriers are all included in the FEIS noise section (4.8) and in the Noise Discipline Report attached to the FEIS.

The feasibility and reasonableness of the proposed mitigation will be reassessed by WSDOT after final detailed design of the project has been completed.

3. Comment: Impacts to the Tacoma Country and Golf Club from the Gravelly-Thorne Connector have not been adequately disclosed, particularly given the potential addition of a non-motorized facility along the connector road and the removal of trees.

Response: The Gravelly-Thorne Connector is a necessary part of the Cross-Base Highway project. However, this part of the project does not include pedestrian facilities, nor are such facilities necessary to accomplish the project's fundamental purpose. These facilities have been suggested by some members of the community and by the City of Lakewood as a means to improve non-motorized travel between the Tillicum area and other parts of the city. A non-motorized connection could potentially be located on the east side of I-5, adjacent to McChord AFB, or as part of the Gravelly-Thorne Connector. This issue will be explored further during the design process in coordination with the City of Lakewood. If pedestrian facilities are added to the Gravelly-Thorne Connector, the project would complete environmental screening to determine the appropriate level of documentation to complete the review process. Public and community outreach, including coordination with the Tacoma Country and Golf Club will be ongoing through the design phase and any subsequent environmental review will be accomplished.

Sound barriers have never been considered for this portion of the project. Two separate noise studies have shown that the traffic using the Gravelly-Thorne Connector would have no significant effect on noise levels on club property. Visual impacts from the possible removal of trees are accurately evaluated by the FEIS.

4. Comment: The project will destroy businesses and homes.

Response: The South A alignment minimizes displacements, compared to the other two alternatives considered in the FEIS. WSDOT will mitigate displacements by acquiring the property at fair market value and providing relocation assistance to a comparable location within the community, as described on page 4-243 of the FEIS. Impacts to equestrian businesses are specifically discussed in response to comment E.1 above. Further, the effects of the new roadway on equestrian activities and businesses are described in Section 4.13.3.2 of the FEIS. These include the highway becoming a barrier between the equestrian properties and the Fort Lewis training area to the south, although Fort Lewis has long-term plans to develop this area which would force these equestrian uses elsewhere. The only economic impacts that may result from the new roadway on the equestrian businesses would be related to visual and noise impacts. Noise barriers and planted berms adjacent to the Woodbrook Hunt Club and Brookwood Equestrian Center will be included as mitigation as early as possible in the construction process so that they will help to mitigate noise during the construction process.

5. Comment: Emergency access to the Woodbrook area will be adversely affected during construction and operation.

Response: FEIS Section 4.11 (page 4-313) discloses that project construction could cause disruption to emergency services from traffic delays, detours, and road closures in the short term. Response times for emergency vehicles could increase during construction. For mitigation (FEIS page 4-314), the lead agencies will coordinate with emergency response agencies with respect to construction schedule and areas that will be blocked or inaccessible to ensure that emergency response personnel are aware of the most expeditious alternate routes.

With respect to emergency services during operation, FEIS Section 4.11 (page 4-240) states: "Construction of the Cross-Base Highway project would provide increased access to Madigan Army Hospital and McChord AFB, which would greatly reduce response times in the event of a major regional or national emergency event."

In American Lake Gardens, all alternatives would have a similar effect on response times. Response times in the southern portion of American Lake Gardens, near the Cross-Base Highway access points to the community, could decrease. Response times in the northern portion could increase because the current access to that part of the community at 146th Street would be closed. Reduced congestion would also improve response times. The Gravelly-Thorne Connector would improve emergency response time from northern Lakewood to Tillicum and American Lake Gardens.

6. Comment: The American Lake Gardens community will be sandwiched between a freeway and a heavily traveled road, further isolating and depressing the area.

Response: As noted in FEIS Section 4.11, Social Elements, this community is currently split from the larger Lakewood community due to its location east of I-5. Properties to the west of the Cross-Base Highway would be further isolated. Proposed measures to mitigate this impact include relocation of the Lakewood Family Support Center, provision of a signalized crossing of the highway at the 150th Street intersection, and installation of a pedestrian under- or over-pass near 146th Street SW.

Because traffic access would be limited to two signalized intersections in American Lake Gardens, much of the through traffic (particularly truck traffic) that now affects neighborhood streets in this community would no longer move through the neighborhood, but rather would be served by the Cross-Base Highway. This could allow for improved local circulation and a safer pedestrian environment.

7. Comment: The Cross-Base Highway is unfair because it negatively affects one of the poorest neighborhoods in Pierce County.

Response: Section 4.11 of the FEIS describes efforts undertaken to minimize impacts to this community. Impacts include further separation of the westernmost residences, businesses, and the American Lake South School from the rest of the Lakewood community; relocation of the Woodbrook Middle School ball field; and impeded access to the Woodbrook Middle School for those residing west of the Cross-Base Highway facility. Construction impacts will include disruptions to businesses or institutions caused by traffic delays or detour routes.

The South A alignment displaces fewer homes and business in this community than the other alternatives considered in the FEIS. The FEIS included analyses required by Executive Order 12898, which directs that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”

With the mitigation measures proposed, the FEIS concluded that the South A alignment has no disproportionate high and adverse impacts to minority and/or low-income populations.

Some of the mitigation measures proposed include the relocation of social and community services currently provided out of American Lake South School buildings to another location convenient to American Lake Gardens community residents. Displaced properties will be compensated and will receive relocation assistance. The Cross-Base Highway will serve a portion of the through traffic (including truck traffic) that currently moves through American Lake Gardens and Tillicum communities, thus allowing for improved neighborhood circulation. There may also be opportunities for improved transit service (Pierce Transit), allowing transit-dependent residents to travel to shopping and other services in the Lakewood area. Pedestrian crossings will be incorporated in to the project design, and take into consideration the results of ongoing public outreach.

8. Comment: More information should be provided that was gathered through additional outreach to the American Lake Gardens community.

Response: Section 4.11.1.1 of the FEIS describes the outreach conducted in detail. The issues raised during the outreach and the mitigation measures to be implemented in response to these issues are subsequently identified and described in Section 4.11. Further details are maintained in the project file.

9. Comment: Air quality and human health impacts on the American Lake Gardens community should be more fully analyzed using a microscale air toxics assessment.

Response: The EPA has not yet released guidance on how to evaluate the impact of future roads and intersections on the ambient concentrations of urban air toxics within the NEPA context. There are no standards for mobile source air toxics or for conducting microscale air toxics assessments for sensitive receptors. Tools to determine the significance of localized concentrations on health or increases or decreases in emissions are lacking. Please refer to Section 4.7.2.4 of the FEIS for additional information. The project is in a conforming transportation plan and complies with all local, state, and Federal air quality regulations.

**F. Section 4(f) and Section 106 Resources – Impacts and Mitigation**

1. Comment: The Section 4(f) analysis fails to analyze feasible and prudent alternatives to the Cross-Base Highway, including a “no build,” a TDM/TSM, or a predominantly rail alternative to the proposed highway.

Response: The TDM/TSM Alternative does not meet the project’s purpose and need and, therefore, is not an avoidance alternative under Section 4(f) requirements. Alternatives that avoid use of Section 4(f) resources by way of alignments on Fort Lewis require the Army’s consent. Because military property cannot be acquired through condemnation or similar measures, alignments not acceptable to either Fort Lewis or McChord AFB is not feasible under Section 4(f). Rail service does not meet the project’s purpose and is not a feasible alternative and so was not analyzed in the FEIS.

2. Comment: The FEIS and Section 4(f) analysis do not adequately identify and evaluate impacts to the Woodbrook Hunt Club and mitigation to address impacts.

Response: The Woodbrook Hunt Club is a Section 4(f) resource because it is a historic resource listed on the NRHP. However, the project has no direct use of the resource and the proximity impacts do not substantially impair its historic integrity. Therefore, there is no Section 4(f) use of this resource.

## G. Traffic – Impacts and Mitigation

1. Comment: The Cross-Base Highway will not relieve traffic congestion and will increase travel distances for most drivers. All roads joining the proposed highway are forecasted to be over capacity by 2025 and will be over capacity regardless of whether the Cross-Base Highway is built or not. Construction activities are expected to cause severe traffic jams and disruptions on I-5 and SR 7 for 3 to 7 years.

Response: Table 1.3-1 on page 1-13 of the FEIS does, indeed, indicate that roadway links near the proposed Cross-Base Highway would experience congestion both with and without the project. However, reductions in the V/C ratios shown are substantial. For instance, the 0.14 reduction in V/C ratio on eastbound SR 512 east of I-5 represents a decrease of approximately 800 vehicles during the PM peak hour. Similarly, the V/C decreases shown in Table 1.3-1 for other facilities are a result of the following decreases in vehicular trips: approximately 470 vph on Spanaway Loop Road, 290 vph on SR 7, and 350 vph on Canyon Road. Please also refer to Tables 2a and 2b on pages G-10 and G-11 of Appendix G for a comparison between year 2025 No Build and Build LOS for intersections along SR 7 and Spanaway Loop Road. As shown in these tables, the Cross-Base Highway would result in improvements to intersection LOS in the year 2025. The present congestion in the project vicinity would also experience relief.

Page G-26 of Appendix G of the FEIS also indicates that a small increase in total daily vehicle miles traveled (VMT) would result from the Cross-Base Highway "... because *some* trips using the new highway would need to travel a short distance out of direction to reach the Cross-Base Highway." While some trips would travel longer distances to access the Cross-Base Highway, others would benefit from shorter travel distances and shorter travel times (see Table 1.3-2 on page 1-17 of the FEIS). Overall, the Cross-Base Highway would decrease vehicle hours traveled (VHT) in the Cross-Base subarea and countywide, due to decreased congestion and vehicle delays on arterials and highways such as SR 7, Spanaway Loop Road, and SR 512.

Page 4-304 of the FEIS describes the potential traffic impacts that could result during the construction period, which is expected to last at least 24 months. Traffic impacts to SR 7 during this period are expected to be minimal, particularly if peak hour truck trips are minimized. While some impacts are expected at the Thorne Lane interchange at I-5, these impacts would be limited to off-peak hours, to the extent possible, to minimize disruptions during heavy travel periods.

2. Comment: The Cross-Base Highway does not fulfill the stated need to "improve bicycle travel between the mid-Pierce County area and other parts of the County."

Response: Bicyclists would be able to use the shoulders of the new roadway, although security concerns by Fort Lewis and McChord AFB preclude a separate or signed bicycle route. The shoulders are designed to meet established guidelines for safe bicycle travel. This will improve regional non-motorized travel, as stated in the purpose of the project.

3. Comment: More needs to be done to improve north-south mobility, as opposed to implementing new east-west improvements.

Response: While the Cross-Base Highway is expected to improve military access on and off the bases, it would also provide an important east-west connection for trips between I-5 and mid-Pierce County. Please refer to Section 1.2.1 on page 1-8 of the FEIS for a description regarding the need for an east-west connection. DuPont and Frederickson represent two employment centers that are rapidly growing, consistent with local growth management plans. As shown in Figure 1.1-3 on page 1-7 of the FEIS, Lakewood, Spanaway, and Thun Field are other growing urban centers and employment centers that would receive benefit from this project. Many trips to and from these areas currently use north-south arterials and highways to access SR 512; some of these trips could be avoided with the Cross-Base Highway. As shown in Table 1.3-1 on page 1-13 of the FEIS, and Tables 2a and 2b on pages G-10 and G-11 of Appendix G, the project would result in improved travel conditions on north-south routes such as Spanaway Loop Road, SR 7, and Canyon Road. See also the bar chart provided in Section II of this document showing the improvements in travel times between the Build and No Build Alternatives.

As described in Section 2.2.2 of the FEIS, the No Build Alternative assumed that several north-south corridors would be widened. These include Canyon Road E and 94th Avenue E (as listed in FEIS Table 2.2-1), as well as certain sections of Spanaway Loop Road (listed in FEIS Table 2.2-2). Arterial high-occupancy vehicle (HOV) lanes on SR 7 and Canyon Road E were also considered as part of the TDM/TSM Alternative, described in Section 2.3 of the FEIS. However, these potential capacity improvements would have significant implementation challenges that would be difficult to overcome.

4. Comment: The project will not lessen, and has not accounted for, truck traffic going into Fort Lewis from 150th Street SW. The current design for a signalized intersection at 150th Street SW should be revised to be a round-about.

Response: Managing traffic in areas with a high frequency of truck movement is a common challenge in urban areas. This suggestion will be considered with other types of intersection and roadway configurations during detailed design.

5. Comment: The project should provide safe non-motorized connections between American Lake Gardens, Tillicum, and other areas of Lakewood.

Response: As described on page 2-59 of the FEIS, “The modified I-5/Thorne Lane interchange would include a pedestrian facility across I-5 and the BNSF railroad. This pedestrian facility would provide a connection between the American Lake Gardens and Tillicum neighborhoods in the City of Lakewood. In addition, a non-motorized trail along the Gravelly-Thorne Connector would be considered during the detailed design phase of the project.” If pedestrian facilities are added to the Gravelly-Thorne Connector, the project would complete environmental screening to determine the appropriate level of documentation to complete the review process.

## **H. Secondary and Cumulative Impacts**

1. Comment: The Cross-Base Highway will promote urban sprawl (i.e., induce growth).



Response: Growth throughout Pierce County is directed by the comprehensive plans and other land use policies developed by the County and local jurisdictions through an extensive public process. The Pierce County Comprehensive Plan established the employment centers in unincorporated Pierce County, and these centers were developed in accordance with the Washington State GMA and approved for consistency by PSRC. The overall level of population and employment Pierce County must plan to accommodate is determined by the state OFM.

The Cross-Base Highway responds to the need for a highway based on the Pierce County Comprehensive Plan and is identified in Pierce County's Transportation Plan as a priority project. The Pierce County Comprehensive Plan assumes that an arterial link between the mid-Pierce County area and the cities of Lakewood and DuPont will be built; therefore, construction of the Cross-Base Highway is a top priority. The highway would not result in additional development beyond what is planned. The project could affect the rate of growth consistent with the Pierce County Comprehensive Plan, but not the overall type of development. Although the Cross-Base Highway could influence the rate of growth in mid-Pierce County, the overall type and intensity of development would be dependent on compliance with the Pierce County Comprehensive Plan and zoning and environmental regulations.

The Pierce County Buildable Land Inventory, completed in September 2002, concluded that existing UGAs in the county contain the necessary land needed to accommodate planned growth. This trend is also confirmed by the analysis performed by PSRC in the *Destination 2030* Study, which shows a current estimate of 75 percent of the population within Pierce County residing inside UGAs (PSRC 2002). A sufficient number of housing units and sufficient employment capacity exist within the Pierce County UGAs, and a shift in growth to these areas (versus growth in areas outside UGAs) could have an overall beneficial effect in reducing sprawl to areas outside UGAs.

2. Comment: The inclusion of the future Fort Lewis industrial complex and the relocation of the McChord runway are speculative and/or do not reflect base intentions to minimize impacts to native plants, fish, and wildlife.

Response: Written correspondence from both Fort Lewis and McChord AFB confirm their long-term plans to complete the projects included in the cumulative impacts analysis. The type of development and the amount of vegetation, native or otherwise, was considered in the cumulative effects analysis. The project will continue to work closely with staff from both military installations through the design process to avoid or reduce habitat impacts.

3. Comment: The cumulative effects analysis does not account for past effects, including past highway building. In addition, the cumulative impacts of the preferred alternative must be considered in combination with other projects, rather than in comparison with these other projects.

Response: The cumulative impacts section of the FEIS specifically addressed foreseeable present and future planned actions. Analysis of past actions was addressed within the wildlife section and discipline report, and this was factored into the cumulative impacts analysis. The types of projects analyzed for cumulative impacts included linear and non-linear actions, consisting of transportation facility improvements, master planned developments, and planned actions proposed at Fort Lewis and McChord AFB. The analysis evaluated impacts of the Cross-Base Highway in combination with other planned actions to establish the potential magnitude of effects.

## **ATTACHMENT 1**

### **COMMENTS RECEIVED Cross-Base Highway FEIS**

#### **Federal Agencies**

U.S. Department of the Interior  
U.S. Environmental Protection Agency

#### **State Agencies**

Washington State. Department of Ecology  
Washington State. Department of Fish and Wildlife  
Washington State Department of Natural Resources, Natural Heritage Program

#### **Local Agencies**

Pierce County, Office of the County Council, District No 5  
Port of Tacoma  
Board of Directors of Bethel School District 403  
Pierce County, Office of the County Council, District No 2  
Pierce Transit, Department of Public Works & Utilities, Transportation Services  
Economic Development Board

#### **Organizations**

Associated General Contractors  
Brink Land L.L.C.  
The Boeing Company  
Bricklin, Newman, Dold, LLP  
Earth Ministry  
Washington Forest Law Center  
Gordon, Thomas, Honeywell Malanca Peterson & Daheim LLP  
Metropolitan Development Council  
Norman Wildlife Consulting  
Northwest Ecosystem Alliance  
James Edmund Oliver Jr./  
Peninsula Neighborhood Association  
The Rainier Group  
Regional Access and Mobility Project Coalition  
Spanaway Community Action Network  
Tahoma Audubon Center  
Tacoma-Pierce County Chamber  
Tacoma Country & Golf Club  
United Way of Pierce County  
Washington Native Plant Society  
Whidbey Environmental Action Network

## Individual Letters

Jennifer Lester  
Marianne Lincoln  
Arvia E Morris and Peter Clitherow  
Bryan E. Burke  
Thomas Chisholm  
Ione Clagett  
Linda Claycamp  
Joan Cross  
Devin R Malkin, M.S.  
Liz Lathrop  
Sharon Wilson  
Jana Wiley, M.S., R.Sn., L.Ac.  
Jean Whitesavage  
Diane Weinstein  
Bob Warfield  
Bob Thorpe  
Erin Moore  
Gian Andrea Morresi  
[Badappy@aol.com](mailto:Badappy@aol.com)  
K A. LeMaire  
Dawn Aiken  
Denise Andrews  
Annalee Cobbett, JD  
Michael Crites  
Bryan E. Burke  
Dan Fox  
Rod Gilbert  
[jgreen2317@aol.com](mailto:jgreen2317@aol.com)  
Victoria Green  
Robert Gresky  
Heather Grube  
Karen M. Hain  
Charles Hawkins  
Jill Hein  
Bob Jacobs  
Jeff Johnson  
Ruth Kirk  
Bob Thorpe  
David and Dottie Tate  
Paul Talbert  
Erica Springstead  
Debra Salstrom

Ron Rundus  
Claudia Riedener  
Gene & Charlotte Reep  
Ginny Ratliff  
Lisa Randolph  
Lee Pickett  
Helena Victoria Olson  
William S. Null  
Heidi Newsome  
Leigh McKeirnan  
Katie McGrath  
Linda Hagerman  
Betty H. Shambrook  
Ashley Nelson  
Kelsey Longrie  
Peggy Whitmere  
Pat Stiemert  
Denise Wood  
Ayla Nelson  
Kathy Kolt  
Dylan F Brumble  
S. Flynn  
Rebecca Cooper  
Jill Thomas  
Kim Robertson  
Stacia Dugan  
R.J. Secor  
Kelly Cooper  
John R. Whitmore  
Joy Keniston-Longrie  
Klara Morgan  
Reed Cowles  
Steve Fritch  
Melody Fleckenstein  
Sara Brels  
Angela Norrell  
Celia Fritch  
Allen Amoroso  
Amber Longrie  
Fred A Kingwell  
Janie Wallace  
Dave Werntz

**(Individual letters continued)**

Susan Irving	Linda Gresky
Edward Mills	Mary Gray
Kathy E. Miotke	Thomas Gordon
Edward M. Melillo	Barbara Glenewinkel
Sanjeev Mehrotra	Stephen Gibson
Allison Mayofeld	Ann Gibson
Christian Martin	Lois Shank Gerber
Leslie Marshall,RN	Tami Garrard
Pat Macrobbie	Ed Gallo
Tammy Mackey	Desiree Furness
Kristin Lynett	Barbara Christensen
Halee Love	Colby Chester
Julie Lockhart	Leslie Chasse
David Lien	Joe Chasse
Margaret J. Larson	John Caterac
Henry M. Lagergren	Jon Cargill
Barbara Knox-Seith	Marcia Butchart
Jessica Klinkert	Kristen Burt
Stephen E. Kingsford-Smith	Sylvia Burges
Sandra King	Peggy Bruton
Kathryn Kindgren	Jodi Broughton
Camille Keyes	Jerry Broadbent
David Kerlick	Julia Brayshaw
Jennifer Kelly	Tamsen C Dixon
Betti Johnson	Donna Diduch
Jon A. Jaffe	Carol deLima
Sego Jackson	Scott Dawson
Mike Keary	James Davis
Nicholas Glenewinkel	Ingrid Dahl
Dr. Robert L. Vadas, Jr.(Bob)	Carol Dahl
Pat Collier	Tim Cullinan
Elisha Ishii	Linda Conaway
JoAnn Hunter	Tim Coleman
Eric W. Hoyte	David G Colwell
William N. Howald	Erica Close
Janice Holz	Mary Auryansen
Daniel Henling	John W Augenstein
Jill Hein	Gwen Atkindon
Doug Heiken	Paul J Allen MD
Keven Head	Julia N Allen
Anne Hayden	Susan Adams
Ted Hart	Shawna Zuege
Bruce F. Harpham	Sharon and Ken Wyberg
Erik Hagstrom	Bryan Wyberg
Joel Hagemeyer	John Wright
Judith Gustafson	Jana Woodson
Vivian Gross	Gordon Wood
Nancy Gross	Barbara Williams
Torsten Griem	Paul Wittrock

**(Individual letters continued)**

Eric Wilborn  
Kurt Wieland  
Cathy Wickwire  
Devon Westerholm  
Kevin Webendorfer  
Biefke VosSaulino  
Phillip Vogelzang  
Mike Vanderzanden  
Patricia Vadasy  
Bruce Turcott  
Jennifer Tice  
Arden Thomas  
Moss Stone  
Kristie Starr  
Harlan Solomon  
Donna Snow  
Shauna Smith, MD  
Kris Slugg  
Sara Singleton  
David Sims  
Joe Simpson  
Christine Simonen  
Jill Silver  
Steven Short  
Terri Lynn Shipp  
Bonnie Sharpe  
Sarah Schmidt  
Fred Sayer  
Vincent Saulino  
Sonseeahray Rucker  
Leslie H. Romer  
Paul Rogland  
Sharon Rodman  
Michelle Robles  
Cheryl Robinson  
Peter Rimbos  
Heather Richman  
Carolina Reyes  
Scott Rankin  
Ajay Ramachandran  
Jack Raidy  
David Powell  
Sienna Potts  
Sylvia Pollack  
Teri Pieper  
Pamela Petitt  
Randall Pearl  
Mike O'Shea

Nicole Oliver  
Danny O'Keefe  
Michael O'Brien  
Andreas Niesen  
Clark Nicholson  
Ron and Janet Nelson  
Brooke Nelson  
Fred Neil  
Norm Nault  
Helene McCormick  
Janet McCormick  
Thomas McCormick  
Greg McCann  
Liinda Orgel (as spelled in letter)  
Linda Murtfeldt  
John Murtfeldt

## Postcards and Mailers from Individuals

Allen Amokoso  
Sara Brells  
Kathleen Brogan  
Dylan Brumble  
Rebecca Cooper  
Wayne Cooper  
Kelley Cooper  
Reed Cowles  
James Dugan  
Stacia Dugan  
Carol Eggen  
S. Flynn  
Jeanette Fohn  
Melody Fleckenstein  
Steve Fritch  
Celia Fritch  
Betty Goodrow  
David Gordon  
Kara Hagerman  
Linda Hagerman  
Glenda Harper  
Judi Hook  
Shelley Kendall  
Joy Keniston-Longrie  
Fred A. Kingwell  
E. Klein  
Kathy Kolt  
Janet Leuthy  
Kelsey Longrie  
Amber Longrie  
Reed Lowles  
Lynn Mahoney  
Dawn Marie Maurer  
K. A. McMonigal  
Miriam Michael  
Mary Pat Minor  
Klara Morgan  
Robin Munson  
Laurel Nante  
Ashley Nelson  
Hyla Nelson  
Angela Norrell  
Sara Odanovich  
Mary Pakinas  
Richard Phalen  
Krista Powers  
Kim Robertson  
Barbara Solberg  
R.J. Secor

Denise Wood  
Peg Whitmore  
John R. Witmore  
Nichole Walters  
Bryan Walters  
Janie Wallace  
Cathleen Vanzwol  
Michael Vanzwol  
Edward K. Toyoji  
Jill Thomas  
Suzanne Taylor  
Laura K Butler Taylor  
Dan Tawyea  
Pat Stiemert  
Shelly Smith  
Rena Shawrer  
Betty & George Shambrook

## **Open House – October 14, 2003**

### Written

Ann Heneghan  
Audrey  
David May  
Dylan F. Brumble  
Jane Sage Cowles  
John Brooks  
Mike Barton  
Rob McNair-Huff  
Sara Brells  
Kevin Head  
Carol H. Masters  
12 Unnamed

### Oral

Kris G. Kauffman  
Lori Miller  
Jannie Wallace  
Tanja Oliver  
Tammy Masters  
Mary Robins  
Jennifer J. Hansen  
Kevin Head

## **Open House – October 16, 2003**

### Written

Betty and Charles Goodrow  
John Ross  
Irv and Jean Sensel  
Judy Scott  
Rochelle Giddings  
Sara Brells

### **(Open House – October 16, 2003 continued)**

Herb Schweling  
Darlene Wood  
Noel Hagens  
Thelma T. Gilmur  
Rob Van Slyke  
Ferdinand Boyce  
Tom Seigel  
John Erickson  
John Austin  
7 Unnamed

### Oral

Donald Olsen  
Alice Dunn  
Larry Geringer  
Joan G. Harris  
Dr. Linda Hagerman  
1 Unnamed