

3.14 Transportation

3.14.1 Studies Performed and Coordination

The Tier I FEIS analyzed the transportation element of SR 167. Year 1990 traffic volumes were used for the existing condition. The Tier II EIS has been updated with year 2000 existing traffic volumes.

Studies documenting the transportation-related impacts of the proposed corridor included: traffic forecasts, analyses of traffic operations on the freeway, truck transportation analysis, arterial and local street systems, and evaluation of transportation safety. Bicycle and pedestrian facilities are discussed in Section 3.15. The project has a limited effect on other modes of transportation, including transit and rail so specific studies of these elements were not required.

Traffic Data

Existing transportation conditions were analyzed using several methods and data sources. Traffic volume counts and intersection turning movement data for the area south of I-5 were obtained from the Washington State Department of Transportation (WSDOT) and the City of Fife. Traffic counts were obtained from WSDOT, the City of Tacoma and City of Fife for the area north of I-5, including counts for the existing SR 509. WSDOT provided mainline and ramp traffic counts for I-5. Local traffic data for the existing roadway system, including truck routes, was obtained from WSDOT, City of Tacoma, City of Fife, City of Milton, and City of Puyallup.

Traffic Forecasts

Traffic forecasting for transportation projects is usually done for two time periods, the year the project will be opened and fully operational (year of opening 2015) and twenty years after construction is scheduled (the Design Year 2030). For the Tier II EIS, the year of construction was established to be 2010 and the design year established to be 2030 due to the magnitude of the project.

Two forecasting tools, the Puget Sound Regional Council (PSRC) and Pierce County EMME/2 Travel Demand Forecast Models (2001), were used in developing the 2030 traffic forecasts. Both models utilize the traditional four step modeling process: trip generation, trip distribution, mode split, and traffic assignment. The models use the 2030 land use, social economic, and transportation networks as input.

The PSRC model was developed to forecast Average Daily Traffic (ADT), AM and PM peak three hours, transit, high occupancy vehicle (HOV) and commuter rail passenger volumes. Since it has a regional focus, its traffic analysis zones (TAZ) are relatively large and the model networks include only major regional facilities. As a result, the model is able to generate more reasonable forecasts for major regional freeways, but the local surface street output for the network is fairly crude. The Pierce County model has a finer TAZ structure and includes more local roads, thus it is able to provide more reasonable forecasts for the local

transportation networks. The drawback of this model is that it does not have a calibrated AM peak hour model.

Since FHWA and WSDOT's standard practice is to analyze both AM and PM peak hour traffic, both models were used to generate more confident traffic forecasts for both peak periods. Most mainline volumes did not vary between AM and PM peak hour volumes, but some of the on-off ramps showed substantial differences between the two.

2030 Land Use Data

The initial 2030 land use data were developed by PSRC as a working draft for updating the PSRC's 2030 Metropolitan Transportation Plan. For the PSRC model, this set of data was used without modifications. For the Pierce County model, the regional land use forecast was reviewed and refined by Pierce County staff. The refinements, with PSRC's control total remaining fixed, were made to more accurately reflect the most recent housing growth trend and the potential developable lands available.

2030 Network Data

In order to represent the future transportation systems, both the PSRC and Pierce County models assumed completion of HOV lanes on I-5, existing SR 167, and SR 512. The PSRC model also reflected the completion of Canyon Road and the commuter rail from Seattle, via Puyallup, to Tacoma.

The traffic forecasts include AM and PM peak hour general purpose as well as HOV trips for the roads, freeway ramps, and intersections in the study area. According to the WSDOT long-range HOV policy and consistent with the PSRC *Metropolitan Transportation Plan* (PSRC 2001), HOV occupancy is defined as three people and above per vehicle in the year 2030.

Traffic Operations Analysis

Year 2000 and 2030 volumes were used for analysis of existing and design year traffic operations, respectively. Capacity and level of service (LOS) calculations for intersections and freeways were based on the 2000 *Highway Capacity Manual* (HCM) (WSDOT 2000). The *SR 167 Tier II EIS Traffic Report* covers the analysis in more detail (WSDOT 2001a).

The LOS concept uses qualitative measurements that characterize operational condition (speed, travel time, freedom to maneuver, traffic interruptions, comfort, and convenience) within the traffic stream. There are six levels of service: LOS A represents free-flowing traffic, LOS B represents reasonably free-flow conditions, LOS C provides for stable operations (but flows approach the range in which small increases in flow will cause substantial deterioration in service), LOS D borders on unstable flow, LOS E describes operation at capacity, and LOS F describes unstable flow or stop and go conditions.

Both isolated and closely spaced or coordinated signal systems were analyzed using Synchro traffic software. The traffic forecast models described above were used to generate volumes (total vehicles per hour for each movement) required for analysis. LOS calculations for unsignalized intersections are based on the

delay for each stop-controlled movement not for the overall intersection. LOS was computed using Highway Capacity Software. For urban or suburban areas, the reserve capacity at LOS D is considered to be acceptable. Lower levels of service (LOS E or LOS F) indicate that the traffic on side streets will experience unacceptable delays.

3.14.2 Affected Environment

The project's study area is bounded by the proposed SR 167/SR 509 interchange to the west, the I-5/SR 18 interchange to the north, the SR 167/SR 410 interchange to the southeast, and the I-5/ Port of Tacoma Road Interchange to the southwest. The transportation network within the study area is illustrated in Figure 3.14-1.

Existing Freeway Network

The study area is served by I-5, the primary north-south freeway route on the West Coast, and a number of principal, minor and collector streets as shown in Figure 3.14-2. I-5 serves as the principal north-south arterial in the Puget Sound region. North of the study area, SR 18 provides the link to I-90 and destinations east.

Within the project area, I-5 consists of four travel lanes in each direction. Interchanges are provided at Portland Avenue/Bay Street (the connection to the existing SR 167 via River Road), Port of Tacoma Road and 54th Avenue East. 70th Avenue East and Porter Way bridges cross over I-5.

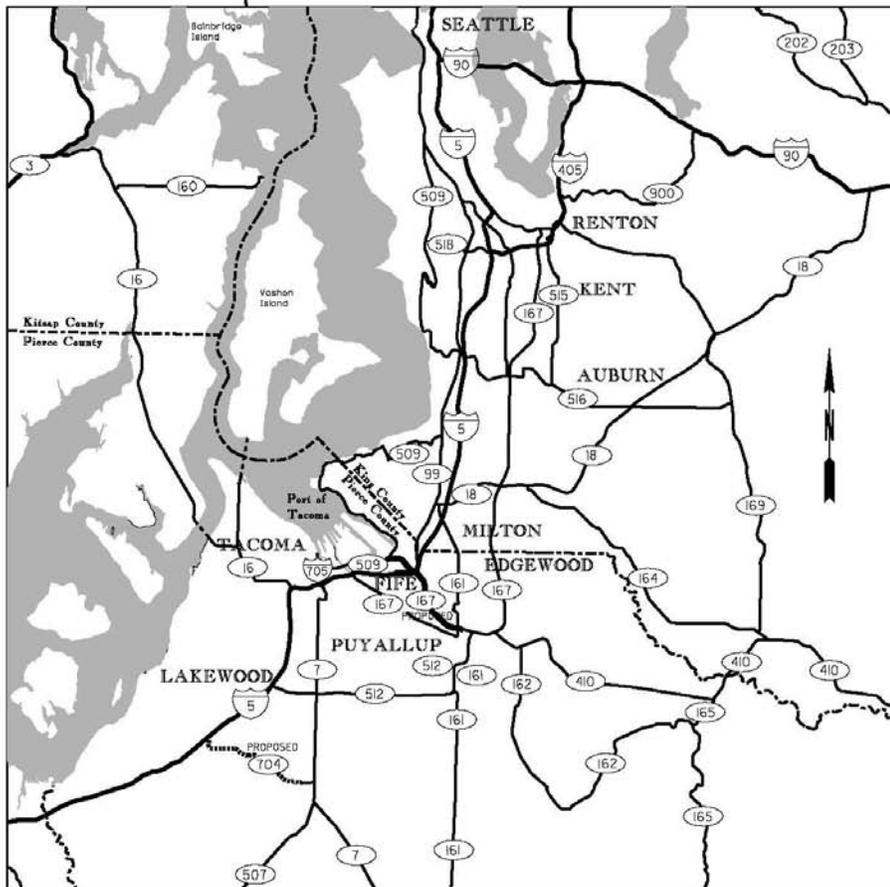
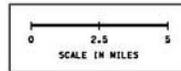
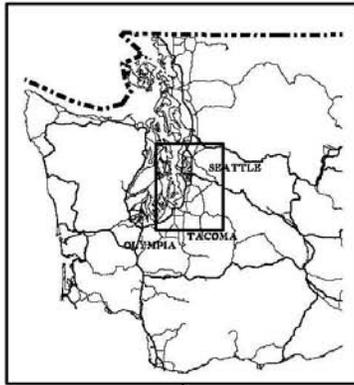
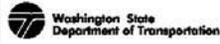
I-705 provides a freeway connection between I-5 and downtown Tacoma. It branches off of I-5 west of the Puyallup River, on the western edge of the project area, and extends north with interchanges at South 21st Street, South 15th Street, and South 11th Street.

SR 509 provides east-west access to the Port of Tacoma as well as northeastern Tacoma. Currently, a four-lane facility is in operation from I-705 to Port of Tacoma Road.

SR 167 - Puyallup to SR 509 Tier II FEIS

Figure 3.14 - 1

Regional Highway System



The southeastern portion of the project study area is served by the SR 512/SR 161 and SR 167 freeways. Both these facilities currently terminate in the vicinity of North Meridian, immediately north of the Puyallup River. SR 167 provides the following connections:

- SR 410 freeway to Bonney Lake
- SR 410 to Yakima via Cayuse/Chinook Pass and/or White Pass
- SR 18 in Auburn connecting to I-90 west of North Bend
- I-405 in Renton

The Auburn to Renton section of the SR 167 freeway serves a major regional distribution and employment center. The SR 512 freeway provides access from Puyallup to I-5 in Lakewood. WSDOT is responsible for the operation and maintenance of all freeways within the project area.

Existing Surface Streets

North of I-5, the arterial network has not been fully developed. Port of Tacoma Road and 54th Avenue East provide direct routes between I-5 and the Port of Tacoma. North of Port of Tacoma Road, SR 509 (East 11th Street) has not been developed into a limited access freeway.

In general, the arterial network is not well developed south of I-5. Through traffic between the SR 167 and SR 512 freeways and I-5 or the Port of Tacoma and Tacoma central business district areas is routed onto either Valley Avenue or existing SR 167 on River Road between these points. A high percentage of truck traffic from the east is forced to use these routes to access the Port. This traffic, in combination with locally generated traffic, results in high traffic demands on the existing local system.

Non-freeway arterial routes operated by WSDOT include East 11th Street (SR 509), Pacific Highway (SR 99), River Road (SR 167), and North Meridian (SR 161).

Phase 1 of the SR 509 East-West corridor project built a four-lane freeway from Pacific Avenue to Milwaukee Way. The second phase of this project is not yet funded for completion. It will extend the four-lane freeway in the parkway median from Milwaukee Way to north of Taylor Way, with grade separations at Alexander Avenue and Taylor Way. Since the Tier II DEIS was published, the City of Tacoma, Pierce County, and Port of Tacoma staff have coordinated the closure of Alexander Avenue north of SR 509.

River Road (SR 167) is a five-lane principal arterial, functioning as the link between I-5 in Tacoma and the existing SR 167 freeway near Puyallup. Pacific Highway is a four-lane principal arterial east of 54th Avenue East managed by WSDOT. West of 54th Avenue East, it is a city street owned by the City of Tacoma. North of Valley Avenue East, North Meridian (SR 161) is a two lane minor arterial that serves as a route to I-5 in Federal Way north from Puyallup.

Principal arterials that are operated by Pierce County or other local jurisdictions include 54th Avenue East, Pacific Highway East, 70th Avenue East, Valley Avenue East and Port of Tacoma Road. Valley Avenue East is an existing two-lane road (with four lanes between Freeman Road East and North Meridian) connecting the cities of Fife and Puyallup. North of 24th Street East, this route continues as 54th Avenue East, which has been widened to three lanes south of I-5 and five lanes north of I-5, where it provides access to the Port of Tacoma. The principal existing access route to the Port from I-5 is Port of Tacoma Road, a five-lane surface street. The City of Fife is currently making capacity improvements to the Port of Tacoma Road/Pacific Highway intersection.

Other locally maintained minor arterial streets within the project area include 20th Street East, 54th Avenue East (south of Valley Avenue), North Levee Road East, and Freeman Road East. These streets are generally two lanes wide. As adjacent land is developed, continuous center two-way left turn lanes have been constructed on these streets. At present numerous gaps remain.

Existing (2000) Traffic Volumes

Selected average daily traffic volumes on the freeways and streets within the project area are displayed on Figure 3.14-3. These volumes are based on traffic counts conducted by the jurisdiction operating the various facilities. Where year 2000 data is not available, the traffic volumes were estimated by applying growth factors to earlier counts. The project traffic data will be reviewed and updated as necessary in the design phase of the project development.

Roadway Capacity

Most existing capacity restrictions are in the vicinity of principal arterial intersections or freeway interchanges. Freeway mainline and interchange operations as well as key intersections on the surface street system are explained below.

Freeways

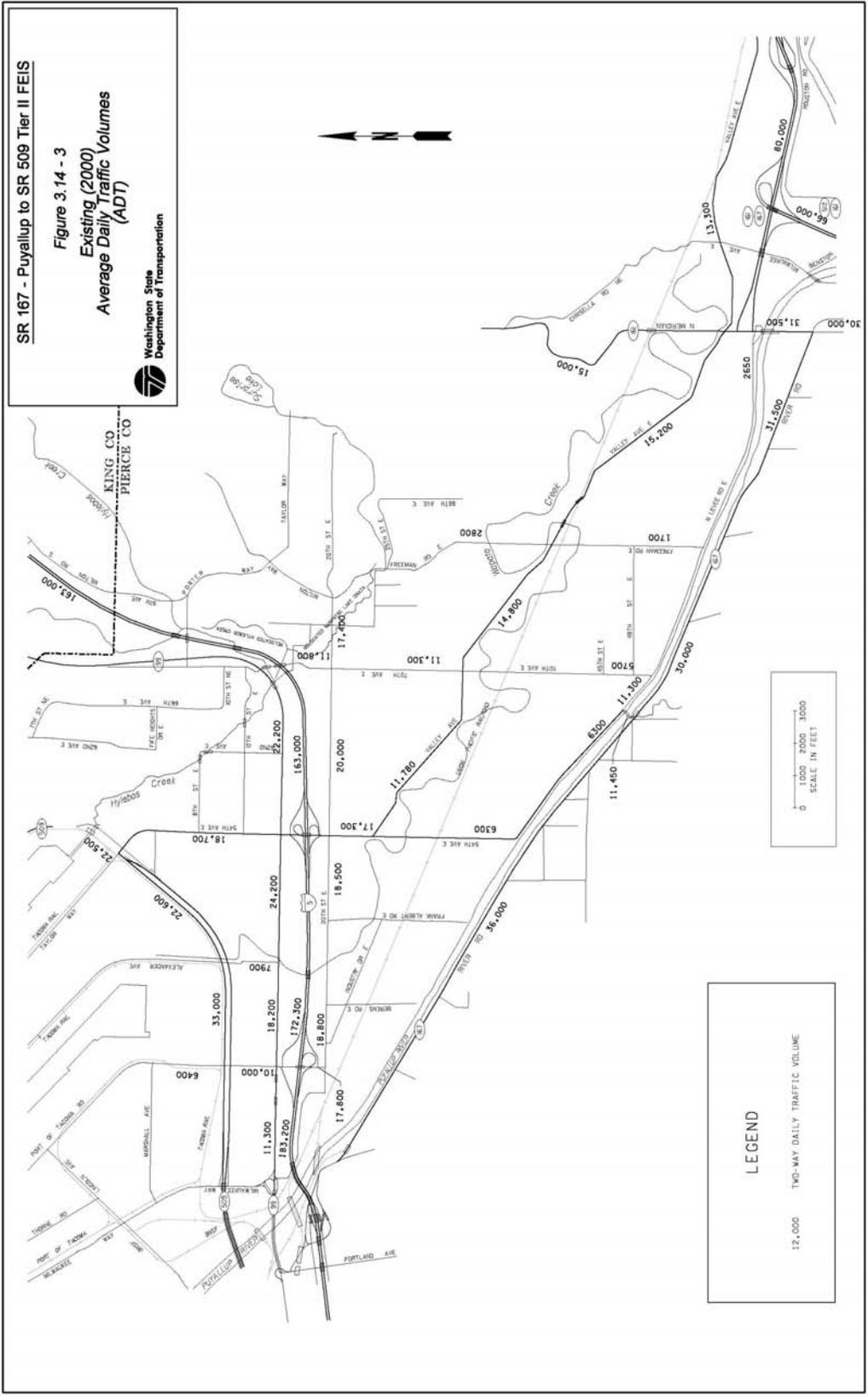
In the year 2000, traffic studies undertaken by WSDOT provided data used to analyze existing freeway operations.

I-5 operates at 65 mph during the AM and PM peak hours, with the exception of southbound (SB) PM, which operates at 60 mph. Traffic flow on I-5 through the study area is within acceptable levels during the AM/PM peak hours, except southbound PM peak hour.

The SB I-5 exit ramps serving traffic to Fife at Port of Tacoma Road and 54th Avenue East interchanges operate at LOS C and LOS F respectively.

SR 167 - Puyallup to SR 509 Tier II FEIS

Figure 3.14 - 3
Existing (2000)
Average Daily Traffic Volumes
(ADT)



Surface Streets

The capacity of the local roadway system is generally controlled by both signalized and unsignalized intersections. Those intersections nearest existing interchanges on I-5 and at the terminus of the freeway section of SR 167 experience the highest levels of peak-period traffic demands near or over their capacity. Figure 3.14-4 and Table 3.14-1 show existing (year 2000) PM peak hour operations at key intersections.

The existing SR 167 route between SR 161 and I-5 is on surface streets through the City of Puyallup via North Meridian and River Road. Several intersections operate at over-capacity conditions during peak periods resulting in traffic backups and delays. High traffic volumes on River Road result in poor levels of service for traffic turning out of side streets, particularly at higher-volume locations such as the intersection of River Road and Pioneer Way. WSDOT continues to make operational improvements to decrease traffic delay.

An alternate route from SR 161 to I-5 winds through Fife via Valley Avenue and 54th Avenue East. The proximity of intersections on 54th Avenue East near I-5 combined with high truck volumes, high turning volumes, and inadequate lane configurations; result in delays for traffic passing through these intersections. The intersections at 54th Avenue East and I-5 northbound (NB) and I-5 SB ramps operate at LOS F. The intersection of 54th Avenue East and 20th Street East operates at a LOS E. WSDOT completed some signalization and channelization modifications in the 1990s, which improved intersection operations temporarily, until traffic volumes increased.

The City of Fife has made capacity improvements to Valley Avenue and 54th Avenue East. The City of Puyallup has widened Valley Avenue to four lanes between SR 161 and Freeman Road. The City of Fife is currently designing the widening of Valley Avenue to four lanes between Freeman Road and 70th Avenue East.

Intersections in the vicinity of the Port of Tacoma Road interchange on I-5 are similarly experiencing traffic demands near or greater than their capacity. The intersections with SR 99 and with 20th Street East operate at LOS E and LOS F respectively. WSDOT has made several attempts to improve operations with signal timing adjustments, but traffic volumes are continuing to increase. The high volume of trucks (30 to 40 percent daily on Port of Tacoma Road) that use the interchange further add to this problem (WS LTC 1996).

SR 167 - Puyallup to SR 509 Tier II FEIS

Figure 3.14 - 4
Existing (2000) P.M. Peak Hour
Level-of-Service

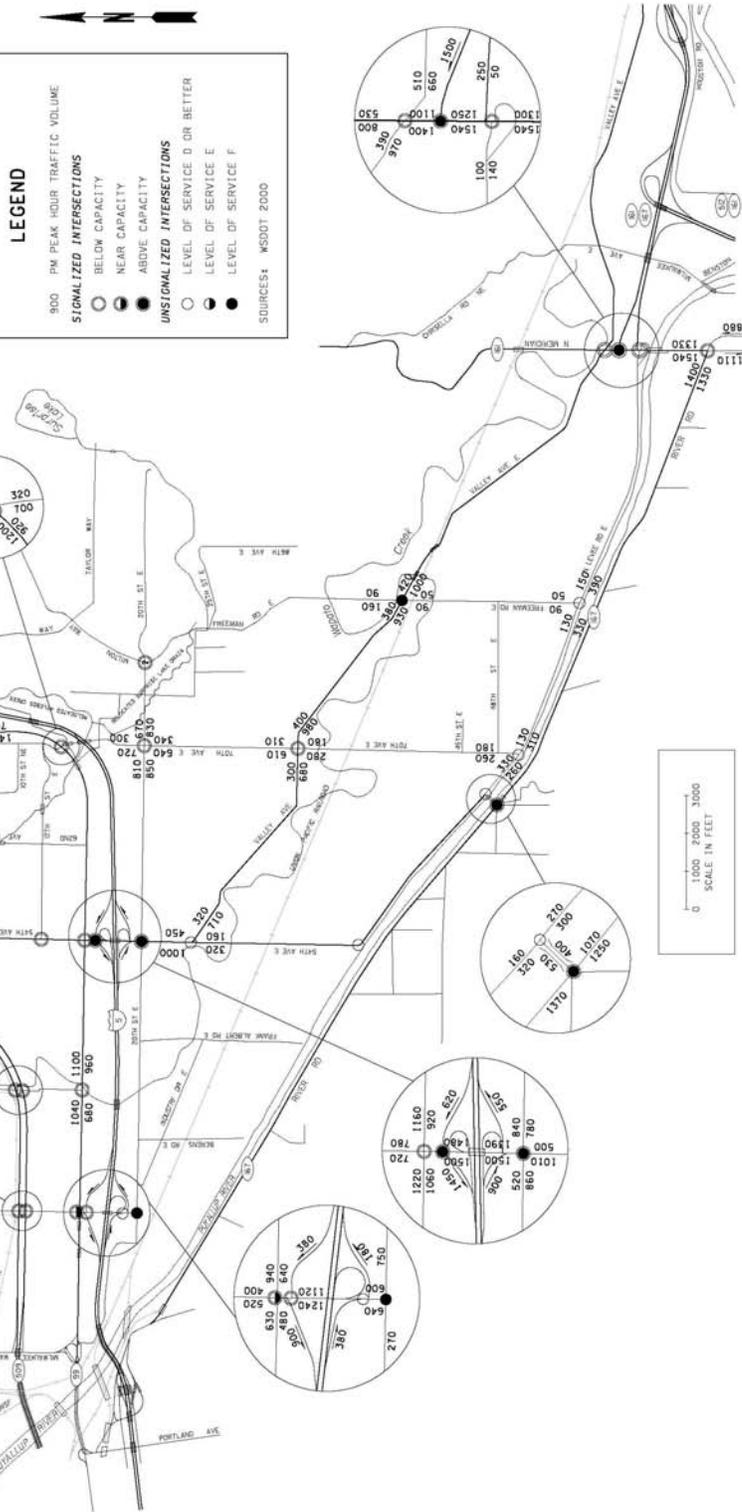


Table 3.14-1: Study Area Intersections - Level of Service

Intersection Locations		Year 2030		
		2000	No-Build	Build
Port of Tacoma Road and 20 th Avenue		F	F	F
Port of Tacoma Road and NB 5 on/off ramp		B	F	E
Port of Tacoma Road and SB 5 on/off ramp		C	F	F
Port of Tacoma Road and SR 99	Signal	E	F	F
Port of Tacoma Road and NB SR 509	Signal	B	N/A	B
Port of Tacoma Road and SB SR 509	Signal	B	N/A	D
Alexander Avenue and SR 99	Signal	C	C	C
Alexander Avenue and NB SR 509	Signal	C	F	N/A
Alexander Avenue and SB SR 509	Signal	C	F	N/A
54 th Avenue and Valley Avenue		B	F	B
54 th Avenue and 20 th Avenue	Signal	F	F	C
54 th Avenue and NB 5 on ramp (SB left and NB right from 54 th)		F	F	F
54 th Avenue and NB 5 off ramp (to SB 54 th Avenue)		D	F	F
54 th Avenue and SB 5 on/off ramp	Signal	F	F	B
54 th Avenue and SR 99	Signal	D	F	F
54 th Avenue and 12 th Street	Signal	A	D	C
54 th Avenue and SR 509	Signal	B	F	F
54 th Avenue and SR 167 on ramp	Future Signal	N/A	N/A	A
54 th Avenue and SR 167 off ramp	Future Signal	N/A	N/A	B
SR 99 and Porter Way	Signal	D	F	C
SR 99 and 70 th Avenue	Signal	B	F	F
70 th Avenue and 20 th Avenue	Signal	D	F	B
70 th Avenue and Valley Avenue	Signal	C	F	F
70 th Avenue and North Levee Road		B	C	B
Pioneer Way and SR 512 WB ramps	Signal	B	C	B
Pioneer Way and SR 512 EB ramps	Signal	B	B	B
66 th Street and existing SR 167	Signal	F	F	F
66 th Street and North Levee Road		F	No Data	No Data
Freeman Road and 20 th Avenue	Signal	No Data	No Data	No Data
Freeman Road and Valley Avenue		F	F	F
82nd and North Levee Road		A	E	B
Meridian Avenue and River Road (existing SR 167)	Signal	C	F	F
Meridian Avenue/ NB at city street		B	F	F
Meridian Avenue and SR 167	Signal	F	F	D
Meridian Avenue and Valley Avenue	Signal	C	F	F
Meridian Avenue and SB at North Levee Road	Signal	C	F	F
Valley Avenue and SR 167 NB ramps	Future Signal	N/A	N/A	A
Valley Avenue and SR 167 SB ramps	Future Signal	N/A	N/A	A

Transportation Safety

The Tier I FEIS accident data analysis sufficiently reflects the safety conditions on the existing freeway and local street system. As identified in the Tier I EIS, severe congestion and inadequate intersection geometry on both networks continues to attribute to areas with high accident rates.

Existing SR 167(River Road) Collision Data

The following is a summary of the collisions on the River Road segment of SR 167. This data is for the time period January 1, 2003 through July 31, 2006:

SR 167, I-5 to Puyallup City Limits (MP 0 to MP 5.23)

Year	# Collisions	Collision Rate	Statewide Rate
2003	102	2.06	2.41
2004	86	1.67	2.36
2005	147	2.75	2.56

(2006 Thru July 31, 2006 there have already been 82 collisions)

Further analysis on I-5 has been completed in preparation of the Access Point Decision Report required by Federal Highway Administration. Several locations on I-5 Ramps within the project study limits have been identified as High Accident Locations (HAL) in 2002:

- NB On Ramp at existing SR 167
- SB Off Ramp at Port of Tacoma Road
- NB Off Ramp at 54th Avenue East
- NB Loop Off Ramp at 54th Avenue East
- SB Off Ramp at 54th Avenue East

Heavy volumes of traffic, geometrics that do not meet current standards, and interchange-related congestion are the primary contributing factors to the accidents. This project and other Core HOV projects will correct some of the geometric deficiencies. As for the congestion related accidents, the proposed SR 167 project will provide relief with the addition of the SR 167/54th Avenue East Interchange.

The HAL safety locations listed herein were addressed in some manner during the 2003-2005 biennium. WSDOT is required to study those locations, identifying how best to reduce the number and severity of accidents. WSDOT often uses the application of appropriate Transportation System Management Strategies described in Section 3.14.5 to relieve congestion, thus lowering accidents.

The statewide accident rate (number of accidents per million vehicle miles) for urban interstate is 1.60 based on the 1996 Washington State Highway Accident Report (WSDOT 1996). The 1999-2000 accident rate for I-5 south of 54th Avenue East (including ramps) is 1.02 and north of 54th Avenue East is 0.76, both well below the statewide averages.

Port, Rail, and Transit Facilities

Major regional non-highway transportation facilities and services exist within the project area and are described below. These facilities include the Port of Tacoma, numerous railroad operations, and transit service providers. Both Pierce Transit and Sound Transit provide express regional commuter services.

Port of Tacoma

The Port of Tacoma generates large volumes of traffic and the facility will benefit from the improved connections to I-5 and completion of SR 167 extension to the Port. In recent years the Port of Tacoma has become one of the major container ports on the West Coast, serving as a transfer point from rail to ship for cargo destined for Pacific Rim ports from Midwest, East Coast, and European origins (and vice-versa). Containerized cargo with origins or destinations in the Northwest is trucked from the Port, resulting in high numbers of container hauling trucks in and out of the Port on the regional highway system. Other activities that also generate large volumes of truck traffic include: auto handling, log handling, break-bulk, and dry-bulk facilities. Land use in Fife will also complement the Port area with warehousing and industrial complexes nearby.

The Port is participating in the Freight Action Strategy Corridor program which is a regional effort to increase the efficiency of moving freight and people in and around Puget Sound. A result of that effort is the recently completed Port of Tacoma Road overpass of SR 509 and new railroad tracks that run parallel to SR 509.

The 1997 removal of the 11th Street Bridge has created opportunities for growth in the Blair Waterway area. The Port has recently completed the Blair Waterway dredging and has plans to further widen the Waterway. The dredging and widening are both elements of the Port of Tacoma 2020 Master Plan. The Puyallup Tribe of Indians also owns property on the Waterway and is jointly working with the Port to develop the Waterway property. The plan will allow the development of a world-class container terminal facility.

Rail Operations

The project area is served by two intercontinental railroads and a local short line railroad. Existing rail lines provide passenger and freight service between the Seattle-Tacoma and the Portland metropolitan areas. The Port of Tacoma generates a large volume of rail traffic. Goods transported by rail, destined for other Pacific Rim ports from Midwest, East Coast and European origins (and vice-versa), are transferred between rail and ship at the Port of Tacoma.

Tacoma Rail, an operating division of Tacoma Public Utilities, switches freight between the two intercontinental railroads and Tacoma industries. Its customers

include the Port of Tacoma. Tacoma Rail also has a maintenance-servicing track for CEECO. Tacoma Rail provides service 24 hours a day, seven days a week. The Tidelands Division has 38 miles of track located north of SR 509.

The Burlington Northern Santa Fe (BNSF) Railroad operates between Seattle and Tacoma on a double track mainline, which continues south to Vancouver, Washington. Between Seattle and Tacoma, it passes through the cities of Tukwila, Renton, Kent, Auburn, Pacific, Sumner and Puyallup. Approximately 60 freight trains operate daily on the line. The Amtrak Coast Starlight and Cascade runs also uses the mainline eight times daily for passenger service through Seattle and Tacoma. The BNSF mainline is located on the south side of the Puyallup River. The BNSF track serving the Port of Tacoma is located west of Port of Tacoma Road. Neither track is directly affected by the project.

The Central Puget Sound Regional Transit Authority Sound Transit commuter rail commuter service established in September of 2000 operates four daily commuter runs on the BNSF mainline. This service currently averages more than 3,000 passengers daily between Seattle and Tacoma, passing through the Port area.

The Union Pacific Railroad (UPRR) mainline operates a single track through the southern portion of the project area. The mainline tracks are part of the UPRR Seattle to Tacoma mainline. Railroad yard facilities are located south of I-5, in the vicinity of Frank Albert Road. South of Tacoma to Portland, Oregon, UPRR trains operate on BNSF tracks. Approximately 16 trains each day use the Seattle to Tacoma mainline. With the exception of Valley Avenue and Frank Albert Road, local arterial streets cross the railroad at grade. Railroad officials continue to stress that all additional crossings within the project area will require grade separation designs. (WSDOT Rail Division Office 2001b)

Transit

The project lies within the Pierce County Public Benefit Area and Sound Transit (ST) service boundary. Pierce Transit provides bus service within this area. Local routes connect Tacoma and Fife with Federal Way, Puyallup, and Milton areas. Pierce Transit and ST also operate express bus service on I-5, connecting Tacoma with Lakewood and Seattle. The Tacoma Dome Station, a 2400 stall facility, serves as a transportation hub for local transit service and regional express service connections for ST express bus service. The Station also serves as destination for ST commuter rail Seattle/Tacoma connection. Greyhound and Northwestern Trailways Bus terminal with services to Seattle and Portland via I-5 are also located in the vicinity. The following local transit routes operate in the study area:

- Route 65 between downtown Tacoma to points south of Valley Avenue i.e., 45th Court East via Milwaukee Way, 20th Street East, 70th Avenue East and Valley Avenue
- Route 402 between Federal Way, Puyallup, and Graham via SR 161 and North Meridian

- Route 490 South Hill to Tacoma express via Pioneer Way East
- Route 500 between downtown Tacoma to Federal Way via Pacific Avenue and 20th Street East
- Route 501 between downtown Tacoma to Federal Way, via 20th Street East

Express bus service is provided in the I-5 corridor to SeaTac airport and downtown Seattle, downtown Tacoma, and Olympia. The following routes pass through the study area:

- Express Route 574 between the Lakewood Transit Center, Tacoma Dome Station to SeaTac Airport via I-5
- Express Route 582 between Bonney Lake to downtown Tacoma express via River Road
- 590 between downtown Tacoma, Tacoma Dome Station to Seattle via I-5
- 591 between Lakewood, Tacoma Dome Station to Seattle via I-5
- 592 between DuPont, Lakewood to Seattle via I-5
- 594 midday and weekends between Lakewood, downtown Tacoma, Tacoma Dome Station to Seattle via I-5
- 595 between Purdy, Gig Harbor, Narrows Park and Ride, Tacoma Community College to Seattle via I-5

Pierce Transit began direct Pierce County to Seattle express transit service in 1990. Sound Transit commenced service between Seattle and Tacoma in 1999. ST service is currently operating from the Lakewood park and ride lot in the vicinity of SR 512/I-5 interchange, Tacoma Community College, Kimball Drive via SR 16, downtown Tacoma and the Tacoma Dome Station. Extended Regional service connections are also operating from the Intercity Transit Olympia downtown station via I-5. ST opened a new transit station in DuPont in February 2003. The ST long-range vision for electric light-rail includes the possibility of a future high-capacity transit corridor running south along I-5 through SR 167.

Park and Ride Lots

Alternative 2 of the Tier I FEIS suggested the possibility of locating a park and ride lot within the project's acquired right-of-way in the area of I-5/SR 167. Preliminary park and ride lot site findings have determined that the area lacks adequate property and direct freeway access and will not be further considered.

In 1989, Pierce Transit began studies to locate a park and ride lot in north Pierce County between downtown Tacoma and King County. A 1990 effort indicated a need for roughly 2,800 stalls along the I-5 corridor from Federal Way south.

A January 2001 WSDOT Puget Sound Park and Ride System Update report indicated a corridor level demand for year 2020 as follows:

- I-5 Central park and ride lots (I-5 Tacoma North) 960 to 1,060 stalls
- Valley park and ride lots (SR 167/Sumner Station and Puyallup Station) 730 to 930 stalls combined.

The SR 167 Tier I FEIS proposed upwards of 1,500 stalls be established within the project corridor. The report recommended a 500-stall site in the vicinity of SR 167/SR 161 interchange and a 1,000 stall lot along the I-5 corridor.

Pierce Transit has recommended the addition of two park and ride lots in the project corridor: one in the vicinity of the southwest quadrant of the Valley Avenue Interchange and one southwest of the Valley Avenue and SR 161 Intersection (Pierce Transit 2002). These two recommended park and ride lot locations have been included in this FEIS.

Pedestrian and Bicycle Facilities

Pedestrian and bicycle facilities are covered in more detail in Section 3.15. The discussion herein summarizes some details relating to transportation.

Pedestrian facilities within the project area are limited. With exceptions of the local street system in the city of Fife, sidewalk facilities are relatively nonexistent or discontinuous. Gaps in existing facilities are being filled in as adjacent land is being redeveloped from agricultural to commercial, or industrial uses. Pedestrian use of the existing facilities is light, due to the relatively low density of existing land uses and the lack of adequate pedestrian facilities.

Bicycle facilities are also relatively undeveloped within the project area. The completion of SR 509 affords the experienced bicyclist a substantial east-west corridor in lieu of the permanent bicycle prohibition on I-5. The cities of Fife, Milton, Edgewood, and Puyallup transportation plans do identify a multitude of facility improvements for bicycle travel. Existing bicycle activity in the project area is light, again due to relatively low land use densities and a lack of safe and desirable facilities along existing roads. Complete bicycle route information is contained in the *Pedestrian and Bicycle Discipline Report*. The project will accommodate the Interurban Trail and re-establish the public access connection to the trail in the vicinity of 70th Avenue East and I-5. The relocated portion of the trail will be ADA accessible, a separated Class I or II non-motorized path linking to the City of Fife pedestrian and bicycle facilities. The Interurban Trail is a recreational 4(f) facility and additional information is included in subsection 5.4.2 of this FEIS.

Nearly all of the project's mainline shoulders would serve to create a new travel corridor for experienced bicycle riders. A separate multiuse path is planned north of SR 167 approximately from 54th Avenue East Interchange to SR 99. Traffic volumes, ramp movements and vehicle speeds create unsafe conditions on the I-5 Interchange facility and on southbound SR 167 between 54th Avenue East and SR 509 and warrant a bicycle prohibition through these segments of the project.

Long-range local transportation plans identify pedestrian and bicycle facility route improvements. The improvements are essentially beyond the constrained funding levels of local municipalities that would serve to increase pedestrian and bicycle mobility opportunities. Local roadways intersecting the project will accommodate pedestrian travel based on WSDOT design practices and local jurisdiction roadway design.

3.14.3 Impacts of Operation

Year 2030 traffic forecasts have been developed for the No Build and Build Alternatives to determine the effects of the project on traffic circulation. These forecasts help determine congestion and level of service impacts, capacity and circulation changes, and potential safety impacts associated with each alternative. Impacts on Port of Tacoma, railroad, transit, pedestrian and bicycle facilities have also been studied.

No Build Alternative

Completion of SR 509 and the regional HOV lane projects represent the only major changes to the regional highway system with the No Action Alternative. Several changes to the surface street system are planned by local jurisdictions: widening Pacific Highway, 54th Avenue East, and Valley Avenue within the city of Fife; widening Valley Avenue between North Meridian and Freeman Road East; and the completion of Canyon Road which has yet to be funded.

Traffic Projections

Within the project study area, large traffic volume increases are expected to occur between year 2000 and 2030. Rezoning by the city of Fife has led to a rapid land use shift from agriculture to light industrial and manufacturing. Figure 3.14-5 displays projected year 2030 average daily traffic volumes on the local roadway system. (Included in the projections are the planned surface street improvements listed above.) With the No Build Alternative, the largest traffic increases would occur on the surface street system as more development in the Puyallup Valley leads to more vehicles on the local system.

Total traffic generated within the Tacoma Tidelands area (between Commencement Bay and I-5) is forecast to increase from a 1996 daily total of 63,300 auto and truck trips to 105,400 daily trips in 2030. This represents a growth rate of about 2.1 percent per year (WS LTC 1996). Substantial increases in traffic will occur on Pacific Highway (SR 99), where daily traffic volumes are forecast to increase from 24,200 to 43,000 (nearly 77 percent) from year 2000 to 2030. Daily traffic volumes on I-5 through the project area are forecast to increase 32 percent over existing year 2000 levels, from 163,000 to 214,500 in year 2030.

On the local street network, traffic volumes on River Road and Valley Avenue, both of which function as connectors between the end of the SR 167 freeway and I-5, would be expected to nearly double between the year 2000 and 2030. Near 70th Avenue East, River Road volumes are anticipated to increase from 30,000 to 44,000 and Valley Road from 11,780 to 22,000. Substantial traffic increases

would also occur on North Levee Road as well as SR 161 (North Meridian) (Figures 3.14-3 and 3.14-5). Directional Design Hourly Volumes predicted for the No Build Alternative in 2030 are presented in Figure 3.14-6.

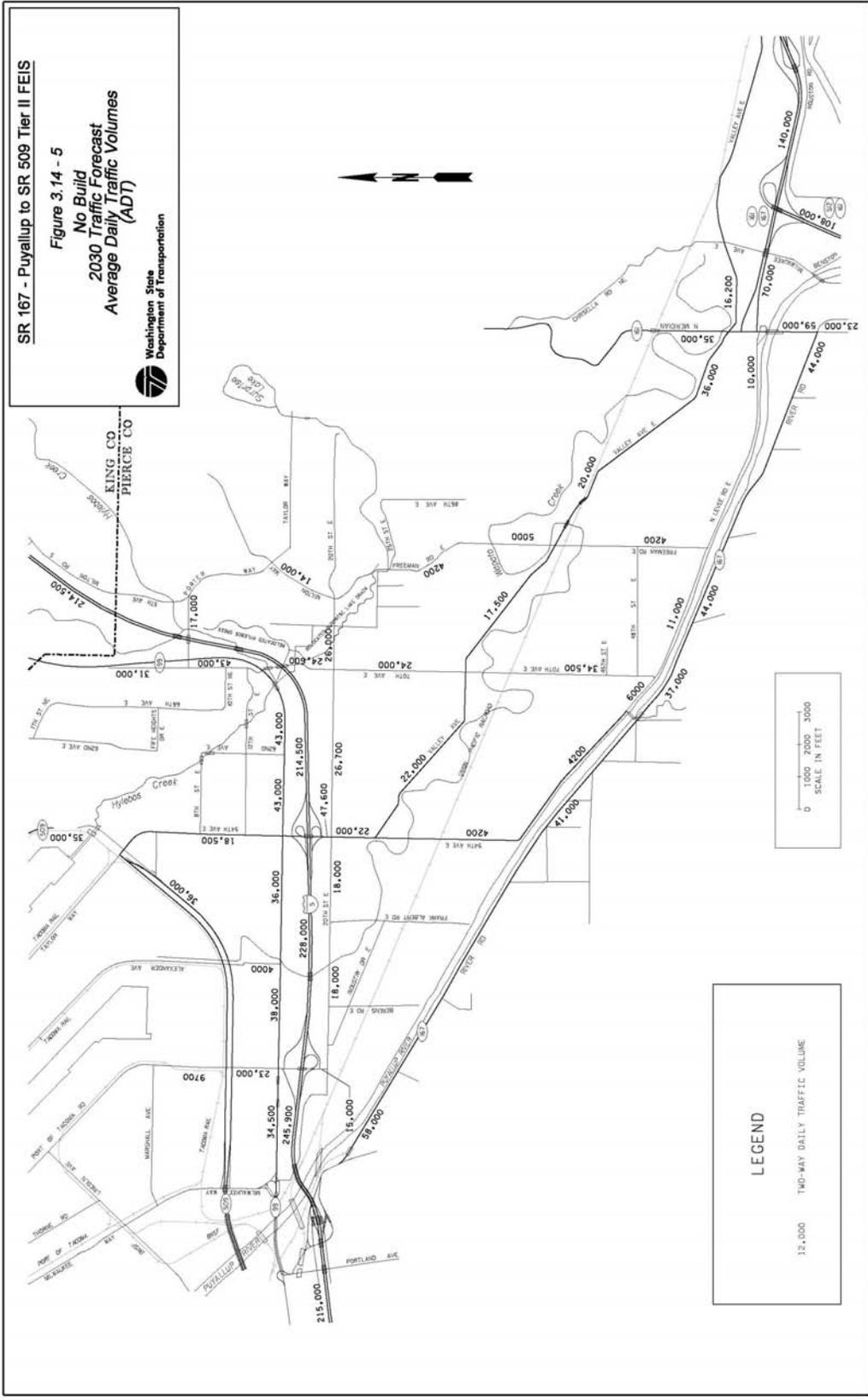
Congestion and Traffic Operations Impacts

With the projected growth in traffic and a relatively small number of capacity improvements, congestion of freeway and surface street facilities would be expected to increase with the No Build Alternative. On I-5, the mainline level of service during peak periods is expected to drop to LOS E or LOS F in some sections in the year 2030. I-5 in the study area will be particularly congested northbound in the morning and southbound in the evening peak periods. Some improved LOS would be realized during the No Build SB AM peak hour; this is due to the planned HOV lane addition included in the modeling (Table 3.14-2).

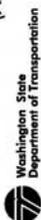
Under the No Build Alternative, many surface street intersections within the project area would experience traffic demands greater than their capacity, operating at LOS E or LOS F (Table 3.14-1).

Table 3.14-2: I-5 Peak Hour Level of Service

I-5 Section	2000 Existing		2030 No Build		2030 Build	
	AM	PM	AM	PM	AM	PM
Northbound						
Puyallup River to Port of Tacoma Road	D	D	F	F	F	F
Port of Tacoma Road to 54th Avenue East	D	C	E	D	D	D
54th Avenue East to SR 167 (proposed)	D	C	F	D	C	C
SR 167 (proposed) to SR 18					F	E
Southbound						
SR 18 to SR 167 (proposed)					D	F
SR 167 (proposed) to 54th Avenue East	C	E	C	F	C	C
54th Avenue East to Port of Tacoma Road	D	D	C	E	C	D
Port of Tacoma Road to Puyallup River	D	F	C	F	D	F



SR 167 - Puyallup to SR 509 Tier II FEIS
 Figure 3.14 - 5
 No Build
 2030 Traffic Forecast
 Average Daily Traffic Volumes
 (ADT)



LEGEND
 12,000 TWO-WAY DAILY TRAFFIC VOLUME

0 1000 2000 3000
 SCALE IN FEET

Circulation Changes

North of I-5, the principal traffic circulation changes are associated with SR 509. Trucks exiting the Port of Tacoma have access to southbound I-5 via SR 509 and I-705. Those trucks traveling east or north can access I-5 northbound via the recent improvements on the Port of Tacoma Road. However, those improvements moved the existing congestion problems from the railroad tracks to the I-5 ramp intersections at Port of Tacoma Road. As quoted previously, truck traffic accounts for 30 to 40 percent of the traffic on Port of Tacoma Road (WS LTC 1996). Drivers are now seeking alternative routes via SR 99 and 54th Avenue East Interchange to avoid the congestion.

South of I-5, increased congestion levels on the existing highway and street system would likely lead to increased volumes on secondary routes. To avoid congestion on River Road and Valley Avenue, drivers would seek out alternative routes on North Levee Road, 54th Avenue East and 70th Avenue East.

Safety Impacts

As traffic volumes increase on the I-5 and local street system, the number of accidents would also increase. The influx of the number of trucks using the surface street system could increase the severity of the accidents occurring due to increased congestion. The accident rates at current problem areas, such as on I-5 ramps or along River Road would likely increase.

Impacts on Port, Railroad and Transit Facilities

The No Build Alternative would not provide any additional access to the Port of Tacoma from the regional freeway system, particularly to the north via I-5 or east via SR 167, which in turn connect to SR 18 and I-90. Substantial growth in Port-generated truck traffic could be expected to increase congestion on routes leading to and from the Port facilities. The additional time required to access the Port could increase shipping times.

The No Build Alternative would not seriously affect railroad facilities. However, more rail traffic and more truck traffic at crossings would result in longer delays and decreased safety at at-grade crossings.

Without the extension of SR 167 freeway between North Puyallup and I-5, there would not be an opportunity to connect the planned I-5 HOV facilities with SR 512 and SR 167. Transit routes would experience congestion without designated lanes for travel.

Impacts on Bicycle Travel

The No Build Alternative, as it relates to the existing local roadway system and the non-motorized user, would continue the degradation of non-motorized travel options, alternatives and mobility opportunities. The increased traffic volumes associated with the no build alternative would further lessen safety and livable community aspects for non-motorized users. Under the No Build scenario, no major improvements would be made to the existing local roadway facility network within the project area other than those that would be made by the local jurisdictions.

Build Alternative (Preferred)

The SR 167 freeway will be extended from its current terminus at North Meridian (SR 161) to I-5 and tie into SR 509. Interchanges will be provided at 54th Avenue East, I-5, Valley Avenue and SR 167. The proposed alignment and interchanges are described in more detail in Chapter 2 of this document. The other improvements discussed in the No Build Alternative will also be constructed: SR 509, widening SR 99, the widening of several surface streets, and the completion of Canyon Road when funding occurs.

Traffic Projections

Projected average daily traffic volumes for the freeways and local surface network are displayed in Figure 3.14-7. Between I-5 and SR 509, the new freeway segment will carry approximately 42,000 vehicles per day (vpd); from I-5 to SR 161, about 100,000 vpd. The predominant traffic movements at the SR 167 and I-5 Interchange will be to and from the north, followed by traffic to and from the south. Predicted Directional Design Hourly Volumes for the Build Alternative are shown in Figure 3.14-8.

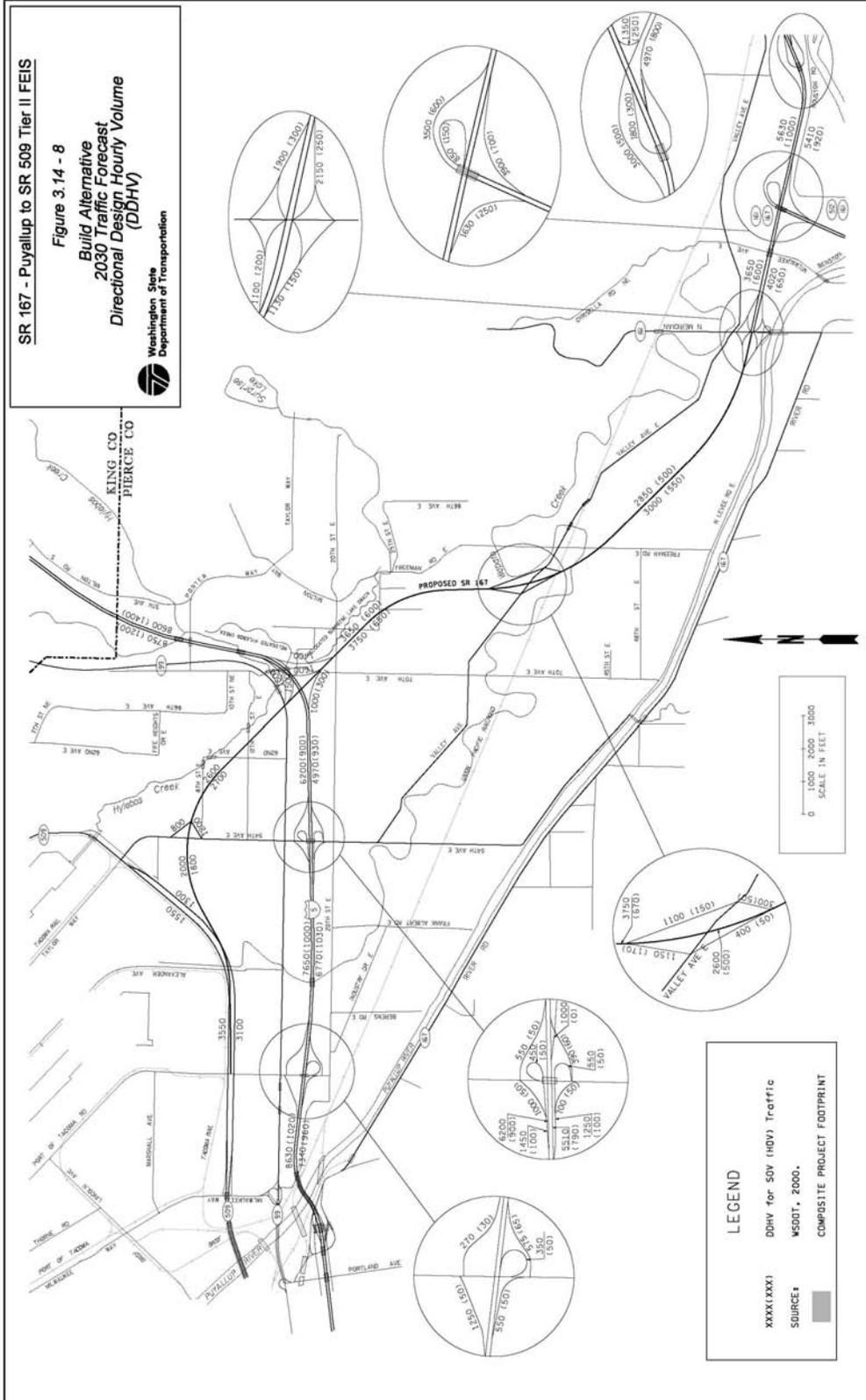
On I-5, traffic volumes will decrease compared to the No Build conditions between Port of Tacoma Road and the new I-5 interchange (Figure 3.14-5 and Figure 3.14-7). The decrease is due to several changes in regional traffic patterns: the proposed SR 167 provides more direct access to the Port of Tacoma and SR 509; southbound SR 167 traffic that previously diverted to SR 512 will remain on the freeway to directly tie in to southbound I-5; local Puyallup Valley commuter traffic will be able to access the freeway system via SR 167, forgoing circuitous routes through Milton and Edgewood.

The existing alternate routes on River Road and Valley Avenue will also experience volume reductions.

Capacity Changes

Chapter 2 describes the SR 167 Build Alternative in detail. To summarize: The build alternative will provide a six-lane freeway (two general purpose lanes and one HOV lane in each direction) between the existing freeway terminus and I-5. Four lanes will continue northwest to tie into SR 509. At the I-5 interchange, direct freeway connections are planned for the SR 167 general-purpose lanes as well as the HOV lanes. The Preferred Loop Option interchange will be provided north of I-5 at 54th Avenue East. Two full interchanges are planned at both Valley Avenue and North Meridian.

Locally, the City of Fife is planning to widen Valley Avenue to four lanes. 70th Avenue East will be reconstructed from the existing two lanes to five lanes. Additional capacity improvements are occurring on 20th Street East, and Milton Way due to tremendous growth in the Puyallup Valley. The City of Puyallup plans to tie the proposed North Canyon Road into 70th Avenue East in the vicinity of Valley Avenue, but currently there is no funding.



Congestion and Traffic Operations Impacts

Peak-period congestion levels on I-5 will be somewhat better than those that will occur with the No Build Alternative. I-5 will operate at LOS F south of the existing SR 167 Interchange and north of the proposed interchange during the PM peak period. There will be improved level of service on the I-5 segments between the existing SR 167 Interchange and proposed SR 167 interchange (Table 3.14-2).

The proposed SR 167 freeway will operate at LOS D or better between I-5 and SR 161 (North Meridian) interchanges (Table 3.14-3). Approximately 100,000 vehicles per day will be able to travel through the proposed route unencumbered. Some congestion (LOS D) was identified to occur between North Meridian and SR 512, but an auxiliary lane is planned to relieve the congestion.

Table 3.14-3: SR 167 Peak Hour Level of Service

	2030 AM	2030 PM
SR 167 Northbound		
SR 509 to 54th Avenue East	B	C
54th Avenue East to I-5	C	C
I-5 to Valley	B	C
Valley to Meridian	C	D
Meridian to SR 512	C	D
SR 167 Southbound		
SR 512 to Meridian	D	C
Meridian to Valley	D	C
Valley to I-5	C	C
I-5 to 54th Avenue East	C	C
54th Avenue East to SR 509	B	C

Circulation Changes

Freeway Network

Major circulation changes will occur with the completion of the SR 167 extension project. The regional freeway network will gain a valuable connection for truck traffic traveling from the Port of Tacoma to the north via I-5 or east via SR 167 to I-90. SR 167 traffic previously diverting to SR 512 to access I-5 south will have a more direct route to I-5. Substantial traffic reductions are expected on I-5 between the SR 167, 54th Avenue East, and Port of Tacoma Road interchanges as Port of Tacoma traffic is diverted to SR 509 and SR 167. Drivers may opt to use SR 167 as an alternate north-east option, decreasing congestion on the north I-5 to SR 18 route to I-90 east.

Local Roadway Network

Drivers on the local roadway system will be provided access to SR 167 at Valley Avenue with the preferred option. Truck volumes in existing residential areas near 54th Avenue East will be reduced. In addition to 2030 reduced traffic

volumes, the improvements planned by the City of Fife and the City of Puyallup will improve capacity and operations of the local system.

The complexities of the SR 167/I-5 interchange design led to the realignment of 20th Street East. The current alignment of 20th Street East could not be accommodated with a bridge over proposed SR 167. Instead, vehicles will take a more circuitous route with two roundabouts to the intersection with 70th Avenue East, which accesses the area north of I-5 (Figure 3.14-9).

Safety Impacts

Construction of the Build Alternative is expected to reduce the number of accidents within the corridor by providing a safer facility with full-access control. Year 2030 congestion levels at many key intersections will be lower than the No Build Alternative, which should result in a reduced number of accidents occurring at these intersections.

Impacts on Port, Railroad, and Transit Facilities

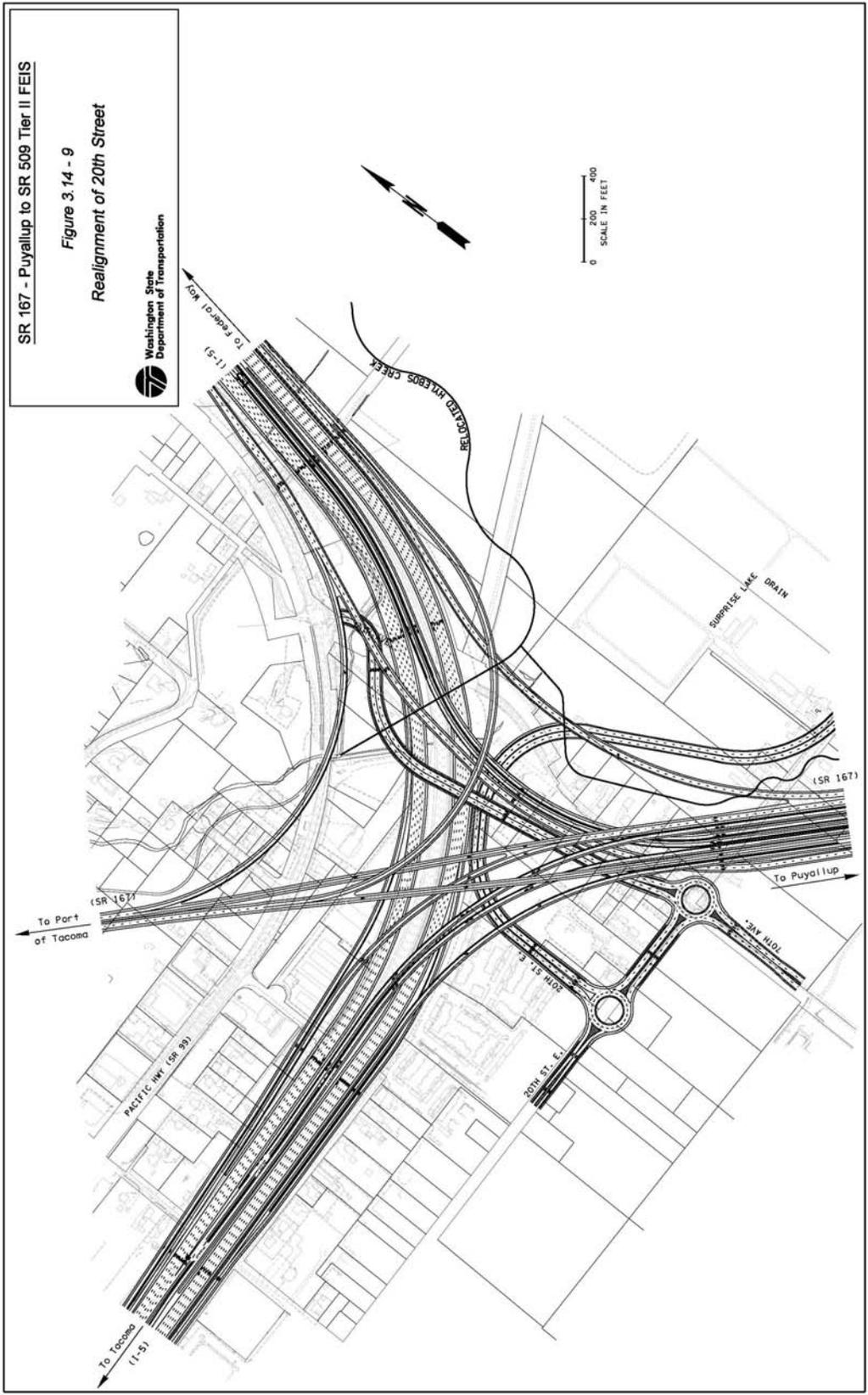
The Build Alternative will greatly improve traffic traveling to and from the Port of Tacoma. The northbound I-5 access will be more direct via SR 167 with free-flowing conditions. Port traffic to Eastern Washington can remain on SR 167 to access I-90 via I-405 or SR 18 in Kent, avoiding the steep grade portion of SR 18 near I-5.

One railroad crossing is planned over the UPRR line just south of the planned Valley Avenue Interchange. Minimal delays may occur during construction. Construction activities will be coordinated with UPRR officials to minimize disruptions through SR 167 construction areas.

Transit facilities will be improved in the Build Alternative. Pierce Transit has recommended two park and ride lot locations in the project area. The build alternative includes construction of freeway HOV lanes to connect from I-5 to SR 161 (North Meridian).

The project will improve travel times for transit using the proposed HOV lanes and direct connect ramps between I-5 and proposed SR 167. Some impacts to transit headways will be anticipated during construction and temporary detours. Coordination with Pierce Transit will be critical in limiting headway times due to detour and/or intermittent traffic stops.

One alternative for a wetland mitigation site is on UPRR property located south of their tracks, west of Frank Albert Road, and north of North Levee Road. This location will have the potential to accommodate some wetland mitigation as well as future UPRR yard facility expansion south of the rail line. WSDOT, City of Fife, UPRR, and Port of Tacoma staff will continue to coordinate efforts in the development of this site.



Truck Routes

WSDOT studied the effect of the Build Alternative on the movement of trucks on city of Fife surface streets. The three existing truck routes studied in detail are shown in Figure 3.14-10.

Build conditions show an improvement in travel times for trucks using the three routes. Table 3.14-4 summarizes the findings.

Table 3.14-4: City of Fife Truck Travel Time Improvements

	No Build (min)	Build (min)	Time Improvement (min)
Route 1	56.7	10.7	46
Route 2	104.8	26.8	78
Route 3	62.8	11.8	51
New SR 167	(NA)	5.8	(NA)

Impacts on Pedestrian and Bicycle Travel

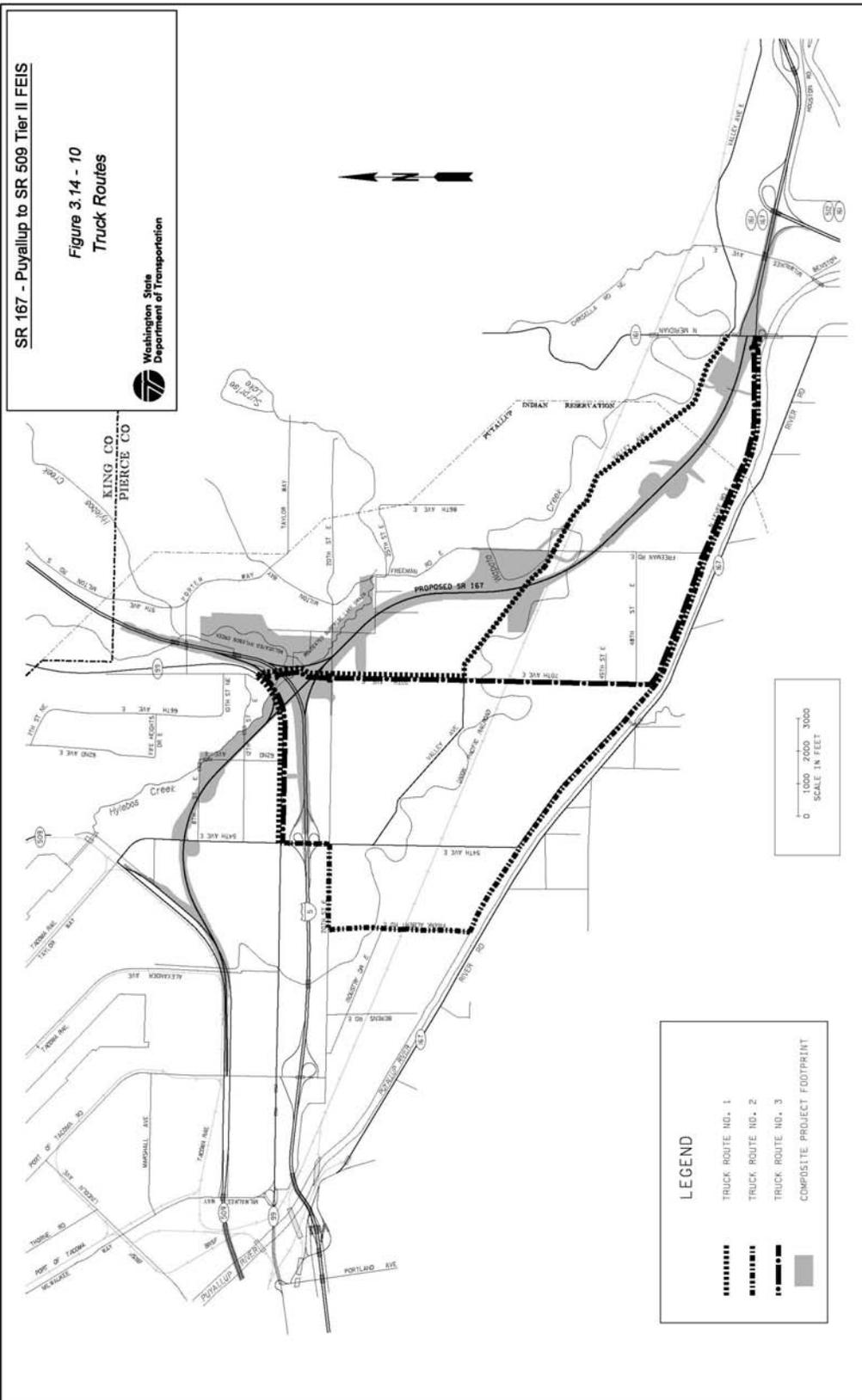
Pedestrians and bicyclists will experience limited temporary impacts during the project's construction. Special attention should be paid to safely accommodate pedestrians and bicyclists during times when the normal travel routes are disrupted.

The closure of the SR 167 mainline to bicyclists between SR 99 and 20th Street East, and southbound SR 167 between 54th Avenue East and SR 509, will require possible improvements to the local city roadway systems to accommodate safe and expeditious bicycle travel through the area (See additional discussion Section 3.15).

Summary of Traffic Conditions without the SR 167 Extension Project

The project traffic horizon year is 2030. It is expected that by 2030 the level of service (LOS) throughout the project area would be poor due to population growth, including the SR 167 Extension project. However, without the SR 167 Extension project (No-Build Alternative) in the year 2030, congestion and LOS on I-5 and other adjacent roadways would be substantially worse.

Currently, the only east-west routes are local streets that travel through commercial districts and neighborhoods. Because of the proximity to the Port of Tacoma, the truck traffic in this area is extremely heavy and, consequently, the local streets are very congested. The SR 167 project will allow the trucks to arrive and leave the Port of Tacoma through a limited access route and stay off the local street system. This will improve the congestion and safety on the local streets considerably. With or without the SR 167 project, this area will continue to experience heavy traffic volumes because the area contains the Port of Tacoma, as well as several commercial businesses and retail stores.



SR 167 - Puyallup to SR 509 Tier II FEIS

Figure 3.14 - 10
Truck Routes



LEGEND

- TRUCK ROUTE NO. 1
- TRUCK ROUTE NO. 2
- TRUCK ROUTE NO. 3
- COMPOSITE PROJECT FOOTPRINT

0 1000 2000 3000
SCALE IN FEET

3.14.4 Mitigating Measures

No Build

Development will continue to escalate in the Puyallup Valley as the area moves away from its agricultural base to an area zoned for light industrial and manufacturing uses. Currently, I-5 operates at over capacity conditions north of the project area. The surface street system also operates at over capacity conditions on Valley Avenue, 54th Avenue East and 70th Avenue East and at several key intersections. Truck traffic on residential streets is increasing.

The City of Fife, the City of Milton, and the City of Puyallup will continue to make improvements to the local system as funding becomes available. From Table 3.14-1 it is evident that most intersections will operate at over-capacity conditions (LOS F) in 2030. In order to handle increased traffic volumes on the local streets, construction of additional lanes, turning lanes, and signal upgrades will be necessary.

Build Alternative (Preferred)

Construction

Along the length of the corridor, construction impacts on traffic operations will occur. The timing and extent of closures and/or detours will be determined in the design phase of the project. The detour routing plan will also analyze effects of rerouted traffic on detour routes and develop an operations plan to mitigate the effects of the increases in traffic.

Construction of the I-5 interchange will require placement of SR 167 mainline and ramp structures over I-5 travel lanes. I-5 freeway lane closures will be limited to nighttime periods of low traffic volumes. Advisory signing and media notices will give advance warning of any extended lane closures. Most overhead roadways will be constructed in phases, allowing surface street traffic to be maintained by shifting traffic from one side of the road to the other.

Construction activities will be coordinated with UPRR, BNSF, Tacoma Rail, and the Port of Tacoma to minimize disruption of rail operations through the project construction areas.

WSDOT construction practices will be followed for detour traffic signing and traffic operations through construction work zones. To the extent possible, traffic disruptions from adjacent local improvement projects will be coordinated to minimize delay on the surface streets.

Operation

The *SR 167 Tier II EIS Traffic Report* (WSDOT 2001a) identified several traffic mitigation locations in the project area. The design team reviewed each location and determined whether each mitigation could be included in the project (Table 3.14-5).

Table 3.14-5: Identified Traffic Mitigation Areas

Location	Mitigation	Outcome
Existing SR 167 – SR 161 to SR 512 both directions	Add Auxiliary Lanes	Added to design: Weave/Auxiliary Lane added NB, Auxiliary lane added SB.
Existing SR 167 NB to SR 512	Add Additional Lane to Pioneer I/C	Not used. Outside scope of project.
I-5 NB and SB	Add 5 th GP Lane	Not used. Additional cost not reasonable for small benefit.
Intersection of 20 th and 70 th	Add 2 Roundabouts	Added to design.

Transportation Demand Management, Transportation System Management, and Intelligent Transportation System Elements

The Preferred Alternative will have the capability and flexibility to provide multi-modal solutions for transportation needs by including many Transportation Demand Management (TDM), Transportation System Management (TSM) and Intelligent Transportation System (ITS) elements. All TDM, TSM and ITS elements contained in the No Build Alternative are also included in the Preferred Alternative.

The mix of modal investments in the Preferred Alternative will provide a balanced system of roadway, transit, and demand management strategies that are expected to provide reasonable long-term solutions to the needs for personal and freight mobility and congestion reduction within the SR 167 Extension area. The TDM, TSM and ITS elements described below are components of the proposed long-range solution for managing forecasted traffic demands and maintaining system infrastructure for the SR 167 Extension.

Transportation Demand Management

Transportation Demand Management includes various strategies to encourage more efficient travel patterns and behaviors. TDM efforts provide multiple benefits including reduced traffic congestion, road and parking facility cost savings, user financial savings, increased road safety, increased travel choice (especially for non-drivers), increased equity, reduced pollution, and energy savings. The specific strategies listed below are either in place or may be implemented at project completion:

- Effective land use zoning and planning
- Commute trip reduction
- Rideshare information and assistance
- Non-motorized transportation facilities
- Local and regional transit service
- Park and ride lots

The specific TDM strategies listed above are briefly described below:

Effective Land Use Zoning and Planning

The Preferred Alternative is consistent with the local and regional land use plans affecting the corridor. The Preferred Alternative will support planned growth of the area as envisioned by the local and regional jurisdictions. The extension of SR 167 to SR 509 has been promoted by the cities of Fife, Puyallup, and Milton in their respective comprehensive plans. The project is also consistent with Pierce County's Comprehensive and Transportation Plans and is considered a priority project.

The Port of Tacoma strongly endorses a new SR 167 corridor that would connect with SR 509, as a critical transportation infrastructure need. The Preferred Alternative will provide a direct high-speed connection to the Port of Tacoma, assist in improving traffic movement, reduce congestion, and provide greater accessibility of port facilities to meet the needs of growing containerized cargo and other freight traffic (Chilcote 2000). These conclusions support the Purpose and Need statement for the project.

Commute Trip Reduction (CTR)

The goals of the Washington State CTR program are to reduce traffic congestion, reduce air pollution, and petroleum consumption through employer-based programs that decrease the number of commute trips made by people driving alone.

The CTR program results are achieved through collaboration between local jurisdictions, employers, and WSDOT. The state's nine most populated counties (including Pierce County), and the cities within those counties, are required to adopt CTR ordinances and support local employers in implementing CTR. Employers are required to develop a commuter program designed to achieve reductions in vehicle trips and may offer benefits such as subsidies for transit fares, flexible work schedules and work from home opportunities.

WSDOT would provide technical assistance to jurisdictions and employers in the SR 167 project area to help implement the CTR program. Technical assistance includes training, support with data collection and analysis, and maintaining networks of partners and documentation on best practices.

Rideshare Information and Assistance

WSDOT has an ongoing program that provides commuters information about using transit services and ridesharing to get to and from work. This information service also provides commuters an easy way to find others who are interested in sharing their commute in a carpool or vanpool. Ride-match services to regional events, such as the annual Western Washington Fair in Puyallup, helps individuals find others who want to share a ride to the event. Rideshare information in and near the SR 167 corridor is available at major employers, social service providers (state/county/city offices, hospitals, etc.), transit agencies as well as all WSDOT offices. Commuters can also request a ride-match or receive information about carpooling/vanpooling at WSDOT's Rideshare Hotline number 1-888-814-1300 or RideshareOnline.com.

Non-motorized Transportation Facilities

The need for non-motorized transportation facilities in the SR 167 project area has been outlined in plans adopted by WSDOT, Puget Sound Regional Council and Pierce County. These plans include the State Highway System Plan adopted by WSDOT, the Vision 2020 Update and Metropolitan Transportation Plan adopted by the Puget Sound Regional Council (PSRC) and subsequent updates and the Pierce County Comprehensive Plan. These long-range transportation plans identify trail, bicycle and pedestrian facility route improvements.

Trail Improvements

In general, the proposed trail improvements in the SR 167 Extension will provide non-motorized transportation routes that will improve bicycle and pedestrian mobility and safety in the region. The proposed trail improvements are consistent with the Washington State System Plan and local non-motorized Transportation Plans. The SR 167 project will accommodate the Interurban Trail and re-establish the public access connection to the trail in the vicinity of 70th Avenue East and I-5.

Bicycle

Bicycle facilities are relatively undeveloped within the project area. The completion of SR 509 affords the experienced bicyclist a substantial east-west corridor in lieu of the permanent bicycle prohibition on I-5. The cities of Fife, Milton, Edgewood, and Puyallup transportation plans identify facility improvements for bicycle travel. Existing bicycle activity in the project area is light, again due to relatively low land use densities and a lack of desirable facilities along existing roads. Nearly all of the project's mainline shoulders would serve to create a new travel corridor for experienced bicycle riders.

A separate bike path is planned north of SR 167 approximately from 54th Avenue Interchange to SR 99. Traffic volumes, ramp movements and vehicle speeds create unsafe conditions on the I-5 Interchange facility and on southbound SR 167 between 54th Avenue East and SR 509 and warrant a bicycle prohibition through these segments of the project.

Pedestrian

Pedestrian facilities within the project area are limited. With exceptions of the local street system with Fife, sidewalk facilities are relatively nonexistent or discontinuous. Gaps in existing facilities are being filled in as adjacent land is being converted from agricultural to commercial or industrial uses. Pedestrian use of the existing facilities is light, due to the relatively low density of existing land uses and the lack of adequate facilities. Local roadways intersecting the project will accommodate pedestrian travel based on WSDOT design practices and local jurisdiction roadway design.

Local and Regional Transit Service

Pierce Transit and Sound Transit currently provide transit service in the project area. Local service is provided by Pierce Transit within the communities of the Tacoma, Fife, Milton and Puyallup. Regional service is provided by Sound

Transit (ST), along with connecting routes to nearby communities such as Lakewood, Renton and Seattle. Greyhound and Northwestern Trailways bus services to Seattle and Portland via I-5 are also located nearby at the Tacoma Dome Station.

The SR 167 project will improve travel times for transit simply by using the new freeway lanes and will have other features that would distinguish it from the existing transit service on River Road, including more frequent and predictable schedules due to the use of the freeway lanes and easily accessible stops (Park and Ride lots). In the future transit service would be improved due to clearly identifiable priority lanes (using the proposed HOV lanes). Other potential improvements could include HOV direct access ramps at I-5 and in-line freeway (ramp) transit stations associated with the park and ride lots or major attractions and traffic generators (commercial districts).

Park and Ride Lots

A January 2001 WSDOT Puget Sound Park and Ride System Update report indicated a corridor level demand for year 2020 as follows:

- I-5 park and ride lots (I-5 from Tacoma North) 960 to 1,060 stalls
- Puyallup Valley park and ride lots (SR 167/Sumner Station and Puyallup Station) 730 to 930 stalls combined.

The SR 167 Tier I FEIS proposed upwards of 1,500 stalls be established within the project corridor. The Tier I FEIS recommended a 500-stall site in the vicinity of SR 167/SR 161 interchange and a 1,000 stall lot along the I-5 corridor. A Pierce Transit study recommended the addition of two Park and Ride Lots in the SR 167 corridor: one in the vicinity of the SW quadrant of the Valley Avenue Interchange and one southwest of the Valley Avenue and SR 161 Intersection. (Pierce Transit, 2002) The location of these two recommended Park and Ride Lots have been included in this FEIS. The further development of potential park-and-ride lots would be subject to additional study in the comprehensive transportation planning process.

Transportation System Management

Transportation System Management elements are closely related to facility infrastructure design, operations and efficiencies and serve to improve the flow of traffic by constructing new facilities to move passengers efficiently within the existing corridor, implementing roadway design improvements and providing the motorist sufficient advance information to make route or conveyance choices, as well as managing daily problems on the highway. TSM elements that will be incorporated as feasible and per design standard are as follows:

- HOV lanes
- Ramp metering
- Roadway design improvements
- Intelligent Transportation Systems

- Traffic incident management

The specific TSM strategies listed above are briefly described below:

High Occupancy Vehicle (HOV) Lanes

The Preferred Alternative will construct three general purpose lanes and one high occupancy vehicle (HOV) lane in each direction to connect I-5 with SR 161 (North Meridian). The HOV lanes will be consistent with WSDOT's long-range HOV policy and also consistent with PSRC's Metropolitan Transportation Plan.

Ramp Metering

If traffic volumes on the SR 167 mainline increase enough to warrant congestion reduction measures studies would be conducted to determine if and when ramp meters could be installed at SR 167 local interchange on-ramps. Installation of ramp meters would smooth SR 167 mainline traffic flow by staggering the queue of entering traffic momentarily to reduce conflicts at the ramp gore point and allow it to merge more safely.

Roadway Design Improvements

Proposed roadway design improvements for the SR 167 project that would serve to improve the flow of traffic include access control; lane channelization; interchange improvements (urban interchanges and round-a-bouts); signal improvements, including synchronization; and signage improvements.

Intelligent Transportation System

An Intelligent Transportation System will be implemented for this project in accordance with the WSDOT Olympic Region ITS Implementation Plan. ITS strategies are a subset of TSM.

Traffic Monitoring and Communication Systems

ITS traffic monitoring and communication system strategies include construction, operation, and maintenance of data stations, closed circuit TV surveillance cameras, dynamic message signs, traffic advisory communication system (car AM radio), and other ITS devices where appropriate. The system will provide pre-trip, en-route, on-site traveler information to road users and also allow WSDOT personnel to identify, detect, and respond to traffic related incidents more effectively.

ITS Lane Occupancy Restrictions

Any expansion of managed lane operations beyond the future HOV lanes proposed in the Preferred Alternative design will be subject to further analysis outside of the SR 167 EIS process.

Traffic Incident Management

Traffic incident management would involve WSDOT's response to problems in the SR 167 project area including immediate and accurate identification of the type of incident (disabled vehicle, material spill, fire, injury or non-injury accident). WSDOT has trained personnel that would continuously monitor the

SR 167 freeway through communications with the public and other agencies such as Washington State Patrol (WSP), Pierce County Sheriff and local police and fire departments. Roadway monitoring could also include surveillance cameras and on-site observation by highway maintenance crews and other personnel designated to patrol the roadway system.

Compatibility with Future Multimodal Transportation System

All of the future multimodal needs for the SR 1676 corridor are not known at this time. As the project is further designed, consultations will be held with Pierce Transit and Sound Transit to ensure that all transportation improvement opportunities are considered, where feasible, for the project area.