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# Appendix A: Glossary

<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
	<b>Access</b>	Ability to make convenient use of the transportation system.
	<b>Access Point</b>	Any point that allows entrance to or exit from the traveled way of a freeway. (This includes “locked gate” access.)
	<b>Accessible Transportation</b>	Ability to make convenient use of the transportation system.
	<b>Active Warning Device</b>	Flashing lights and/or gates used at grade crossings.
<b>ACS</b>	<b>Adaptive Control Software</b>	
	<b>Advance Warning Signals</b>	A sign used along a roadway to warn that a roadway-rail grade crossing is ahead.
<b>ACCT</b>	<b>Agency Council on Coordinated Transportation</b>	Seeking to improve transportation for people with special needs, ACCT proposes mix of immediate actions, stakeholder discussions, and demonstration projects.
<b>ADA</b>	<b>Americans with Disabilities Act</b>	This 1990 federal legislation mandates changes in building codes, transportation, and hiring practices to prevent discrimination against persons with disabilities in projects involving federal dollars, including federally and non-federally funded transportation projects.
<b>AADT</b>	<b>Annual Average Daily Traffic</b>	The total traffic volume both directions that traveled over a highway segment during a one-year period, divided by the number of days in the year.
	<b>Arterial</b>	A major street carrying the traffic of local and collector streets to and from freeways and other major streets. Arterials generally have traffic signals at intersections and may have limits on driveway spacing and street intersection spacing.
<b>ACP</b>	<b>Asphalt Concrete Pavement</b>	A pavement surface consisting of plant-mixed asphalt oils and aggregate.
	<b>At-Grade</b>	Refers to competing transportation systems that share the same plane; for example, the intersection of rail and highways where there is no tunnel or bridge
	<b>At-Grade Intersection</b>	An intersection of two or more roads and/or highways where traffic movement is controlled by traffic signs or signals.
<b>AVI</b>	<b>Automatic Vehicle Identification</b>	The use of AVI includes applications such as weigh station bypass, travel time and speed measurements and for electronic toll collection (ETC). It has become widely deployed over the last twenty (20) years.
<b>ADT</b>	<b>Average Daily Traffic</b>	The average number of vehicles that pass a specified point during a period. Unless otherwise stated, the period is a year. The total volume during a given time period (in whole days): greater than one day and less than one year, divided by the number of days in that time period.
<b>AVO</b>	<b>Average Vehicle Occupancy</b>	The average number of persons traveling in a vehicle on a facility.
<b>BARM</b>	<b>Beginning Accumulated Route Mile</b>	
<b>BMP</b>	<b>Beginning Mile Post</b>	
<b>B/C</b>	<b>Benefit Cost</b>	
<b>BST</b>	<b>Bituminous Surface Treatment</b>	A bituminous surface treatment, also known as a seal coat or chip seal, is a thin protective wearing surface that is applied to a pavement or base course.
	<b>Bottleneck</b>	Places where roadways physically narrow, causing congestion (examples: lane drops; narrowing shoulders).
	<b>Bridge Deficiencies</b>	Seismically vulnerable, weight restricted, narrow width
	<b>Bridge Navigational Lighting</b>	These are either red or green lights that tell water vessels where it is safe to pass under a bridge. Red indicates that the bridge is too low to safely pass under while green indicates safe passage. The vertical clearance is usually noted between the green navigational lights. There are also navigation lights on top of bridges that may interfere with air traffic. These are usually red blinking beacons.
	<b>Bridge Superstructure</b>	All structures above bridge bearing elevation.
	<b>Bridge Types</b>	There are four main types of bridges: beam bridges, cantilever bridges, arch bridges and suspension bridges
<b>BNSF</b>	<b>Burlington Northern and Santa Fe</b>	
	<b>Cantilevered Sign</b>	A sign that hangs over the traveled way but has only one supporting post.
	<b>Capacity</b>	The maximum amount of traffic or people that can be accommodated on a transportation facility at any point in time.

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<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
<b>CIPP</b>	<b>Capital Improvement and Preservation Program</b>	This program communicates WSDOT's plan to deliver projects funded during the 2001 Legislative session. This replaces the "Operating Book." The CIPP is also the reference point for measuring 2001-2003 project delivery.
<b>CPMS</b>	<b>Capital Program Management System Centennial Accord</b>	The Centennial Accord was created in 1989 to commemorate one hundred years of statehood, with a promise to improve tribal/state relations. It is an agreement between the State of Washington and the federally recognized Indian Tribes to work together to improve services to all of Washington's citizens.
<b>CBD</b>	<b>Central Business District Channelization Chokepoint</b>	The separation or regulation of conflicting traffic movements Places where delay occurs because of traffic interference and/or the roadway configuration (examples: freeway interchanges; lack of left turn lanes at intersections; seasonal road closures.
	<b>Clearance (vertical)</b>	Vertical clearance is the critical height under a structure that will safely accommodate vehicular and rail traffic based on its design characteristics. This height is the least available from the lower surface (including usable shoulders), or the plane of the top of the rails, to the bottom of the encroaching structure.
<b>CFR</b>	<b>Code of Federal Regulations</b>	
<b>C-D</b>	<b>Collector-Distributor Collision Collision Type</b>	When a vehicle impacts another vehicle, a person or object. Fatal, disabling injury, serious injury, evident injury, possible injury, property damage only.
<b>CVISN</b>	<b>Commercial Vehicle Information System Network</b>	CVISN provides the ability to weigh vehicles in motion, automatically clear those that meet state transportation standards, and check vehicle licenses and permits against state records. It also provides private sector commercial vehicle owners with the ability to electronically purchase licenses and permits. This is accomplished through electronic interfaces with legacy systems at DOL, WSP, and DOT.
<b>CTR</b>	<b>Commuter Trip Reduction</b>	The Washington State Legislature passed the Commute Trip Reduction (CTR) Law in 1991, incorporating it into the Washington Clean Air Act. The goals of the 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. <a href="http://www.wsdot.wa.gov/pubtran/ctrdefault.htm">http://www.wsdot.wa.gov/pubtran/ctrdefault.htm</a>
	<b>Commuter Rail</b>	Operates between a central city and its suburbs, and runs on a railroad right-of-way. The Sound Transit's commuter rail system in Puget Sound is a commuter rail.
	<b>Concurrent</b>	A term used in the Growth Management Act that describes the requirement that supporting infrastructure must be in place or "concurrent with the development" to accommodate transportation impacts, or a financial commitment is in place to provide the improvements or strategies within six years.
	<b>Congestion</b>	A condition that occurs when the capacity of a roadway is exceeded by the volume of traffic (recurrent congestion). Nonrecurring congestion is caused by excessive traffic volumes associated with special events, weather conditions, and/or traffic incidents.
	<b>Context Sensitive Solutions</b>	A collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. <a href="http://www.wsdot.wa.gov/eesc/design/Urban/Default.htm">http://www.wsdot.wa.gov/eesc/design/Urban/Default.htm</a>
	<b>Corridor</b>	A path or guided way. In planning, a broad geographical band that follows a general directional flow or connects major sources of trips. It may contain a number of streets and highways and transit lines and routes.
<b>CMP</b>	<b>Corridor Management Plan</b>	

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<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
	<b>Critical Areas</b>	As a key part in managing growth in Washington, the Growth Management Program requires that every county and city classify and designate critical areas: wetlands, aquifer recharge areas, fish and wildlife habitat, frequently flooded areas, geologically hazardous areas, and rare/endangered plant habitat.
<b>CSBC</b>	<b>Crushed Surfacing Base Course</b>	
<b>CSTC</b>	<b>Crushed Surfacing Top Course</b>	
	<b>Culvert</b>	The culvert is the conduit through which flow passes. Culverts can be made of many different materials. Steel and Concrete are the two most common. It may be used to allow water to pass underneath a road, railway, or embankment for example.
<b>CLB</b>	<b>Current Law Budget</b>	
	<b>Daily Vehicle Delay</b>	The sum of hourly delay values (for 24 hours) for all vehicles traveling on a typical day for both directions in one mile of roadway.
	<b>Deficiency</b>	The condition when a facility does not meet adopted level of service standards.
	<b>Delay</b>	An indicator of transportation level of service at intersection measured as the length of time at which a vehicle is stopped.
	<b>Demand Management</b>	Changing or reducing demand for car use by encouraging the behavioral change of household choices of travel. Transportation Demand Management is used increasingly by urban planners to affect the rate at which new development attracts cars and increases the need for new or expanded roadways.
<b>DNS</b>	<b>Determination of Nonsignificance</b>	The written decision by the responsible official of the SEPA lead agency that a proposal is not likely to have a significant adverse environmental impact, and therefore an EIS is not required. WAC 197-11-734.
<b>DS</b>	<b>Determination of Significance</b>	The written decision by the responsible official of the SEPA lead agency that a proposal is likely to have a significant adverse environmental impact and therefore an EIS is required. The DS form is in WAC 197-11-980 and must be used substantially in that form. WAC 197-11-736.
	<b>Diamond Grinding</b>	A rigid pavement maintenance action where gang-mounted diamond saw blades are used to shave off a thin top layer of an existing PCC surface in order to restore smoothness and friction characteristics.
	<b>Direct Access Ramp</b>	An on-ramp to a limited access highway intended for HOV use
	<b>Dowel Bars</b>	Short steel bars that provide a mechanical connection between slabs without restricting horizontal joint movement. They increase load transfer efficiency by allowing the leave slab to assume some of the load before the load is actually over it.
<b>DEIS</b>	<b>Draft Environmental Impact Statement</b>	
<b>DUI</b>	<b>Driving Under the Influence</b>	Driving under the influence of alcohol, drugs or other impairing substances (see RCW 46.61.502)
	<b>Due Year</b>	A year assigned to each segment of state highway, during which the cost is projected to be the lowest cost for rehabilitation
	<b>Easement</b>	A right to use or control the property of another for designated purposes.
	<b>Economic Sectors</b>	Major economic sectors are: Construction, Mining, Manufacturing , Retail, Wholesale Trade, Transportation, and Service
	<b>Economic Vitality</b>	Defined locally, this economic term is typically inclusive of quality of life issues.
	<b>Ecosystem</b>	An ecosystem is an abbreviation of the term, ecological system. Ecosystems can be as big as the Sahara Desert or as small as a pond.
	<b>Eighteenth Amendment</b>	Amendment to the State Constitution passed in 1944, stating that motor vehicle license fees, gas tax, and other state revenue intended for highway purposes may only be used for highway purposes. <a href="http://www1.leg.wa.gov/LawsAndAgencyRules/constitution.htm">http://www1.leg.wa.gov/LawsAndAgencyRules/constitution.htm</a> (Article 2, section 40)
<b>ELT</b>	<b>Electronic Locator Transmitters</b>	

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<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
	<b>Emergency Management System</b>	Minimizes the impacts of emergencies and disasters on the people, property, environment, and economy of Washington State. Establishes emergency management functions and the responsibilities of the Washington State Military Department, Emergency Management Division (EMD), state agencies, commissions, boards, and councils. <a href="http://emd.wa.gov/3-pet/pal/cemp/01-cemp-idx.htm">http://emd.wa.gov/3-pet/pal/cemp/01-cemp-idx.htm</a>
<b>EARM</b>	<b>End Accumulated Route Mile</b>	
<b>ESA</b>	<b>Endangered Species Act</b>	The purposes of this Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve this conservation.
<b>EA</b>	<b>Environmental Assessment</b>	A document prepared for federally funded, permitted, or licensed projects that are not categorical exclusions (CE) but do not appear to be of sufficient magnitude to require an EIS. The EA provides sufficient analysis and documentation to determine if an EIS or a Finding of No Significant Impact (FONSI) should be prepared.
	<b>Environmental Checklist</b>	A state SEPA document used by the authorized agency to determine if an action will significantly impact the environment. The checklist form contained in WAC 197-11-960 is used for all actions not categorically exempt or not clearly requiring an EIS.
	<b>Environmental Document</b>	A collective term used for any document that identifies the social, economic, and environmental effects of a proposed action.
<b>EIS</b>	<b>Environmental Impact Statement</b>	A detailed written statement of project environmental effects required by state and/or federal law. This term refers to either a draft or final environmental impact statement, or both, depending on context.
<b>EJ</b>	<b>Environmental Justice (EJ)</b>	EJ provides for the protection of low income and minority populations from disproportionately high and adverse social, economic, and environmental impacts as it relates to federal programs and activities. The EPA defines EJ as the “fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies.” Over the last decade, attention to the impact of environmental pollution on particular segments of our society has been steadily growing. Concern that minority populations and/or low-income populations bear a disproportionate amount of adverse health and environmental effects, led President Clinton to issue Executive Order 12898 in 1994, focusing Federal agency attention on these issues. Title VI of the Civil Rights Act of 1964 set a standard, which authoritatively outlaws discrimination in the conduct of all federal activities. This is the driving force behind Environmental Justice.
	<b>Events of Statewide Significance</b>	Events of statewide significance create challenges for completing transportation assets. The World’s Fair, the Lewis and Clark Bicentennial Commemoration, and being a neighbor to the 2010 Winter Olympics in British Columbia are examples of events of statewide significance. Prior to these events taking place there is a need for coordinated planning, partnership development, fundraising and collaboration among many local, tribal, state, and federal entities and organizations.
	<b>Expressway</b>	WAC 468-70-020 (3) "Expressway" shall mean a divided arterial highway for through traffic with partial control of access and grade separations at most major intersections
<b>FHWA</b>	<b>Federal Highway Administration</b>	The agency of the United States Department of Transportation with jurisdiction over the use of federal funds for state highway, local streets, and road improvements.

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<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
	<b>Financing</b>	A series of actions to be taken which will result in a system of projects and services being provided based on the identification of needs, cost estimates, assessment of the ability to pay, the development of financial policies and financing schedule, the establishment of forecasted cash flow, and priorities to govern management of the system.
<b>FY</b>	<b>Fiscal Year</b>	
	<b>Flexible Pavement</b>	Pavements which are surfaced with bituminous (asphalt) materials in the surface course (often referred to as the wearing course). These can be either in the form of bituminous surface treatment or asphalt concrete. A flexible pavement structure is generally composed of several layers of materials which can accommodate "flexing" i.e. "bending" or "deflecting" due to traffic loads.
	<b>Freeway</b>	A divided arterial highway designed for the safe non-impeded movement of large volumes of traffic, with full control of access and grade separations at intersections.
	<b>Freight</b>	Denotes goods or produce being transported generally for commercial gain, usually on a ship, plane, train or truck.
<b>FGTS</b>	<b>Freight &amp; Goods Transportation System</b>	A statewide network and classification system of state highways, county roads, and city streets that carry freight. Routes are classified by total tonnage of freight carried per year: T-1: Over 10 million tons T-2: 4 million to 10 million T-3: 300,000 to 4 million T-4: 100,000 to 300,000 T-5: Over 20,000 in 60 days
<b>FAST</b>	<b>Freight Action Strategy for the Everett-Seattle-Tacoma Corridor</b>	
	<b>General Aviation</b>	The term general aviation describes any flight other than a military or scheduled airline flight, ranging from gliders and powered parachutes to large, non-scheduled cargo jet flights. As a result, the majority of the world's air traffic falls into this category, and the vast majority of the world's airports serve general aviation exclusively.
<b>GP</b>	<b>General Purpose Lane</b>	Lane opened to all vehicular traffic.
<b>GIS</b>	<b>Geographical Information System</b>	A system of hardware, software, and data for collecting, storing, analyzing, and disseminating information about areas of the Earth. For Highway Performance Monitoring System (HPMS) purposes, Geographical Information System (GIS) is defined as a highway network (spatial data which graphically represents the geometry of the highways, an electronic map) and its geographically referenced component attributes (HPMS section data, bridge data, and other data including socioeconomic data) that are integrated through GIS technology to perform analyses. From this, GIS can display attributes and analyze results electronically in map form.
	<b>Geometrics</b>	Combination of a roadway's lane and shoulder width, vertical and horizontal alignment
	<b>Global Gateways</b>	Public and private infrastructure that facilitates international and national trade flows through Washington State.
<b>GPS</b>	<b>Global Positioning System</b>	
	<b>Globalization</b>	Globalization refers to the worldwide phenomenon of technological, economic, political and cultural exchanges, brought about by modern communication, transportation and legal infrastructure as well as the political choice to consciously open cross-border links in international trade and finance. It is a term used to describe how human beings are becoming more intertwined with each other around the world economically, politically, and culturally. Although these links are not new, they are more pervasive than ever before.
	<b>Golden Hour</b>	Defined by emergency medical personnel as the first 60 minutes of intensive care during which it is possible to save the life of an injured or traumatized person
	<b>Grade Crossing</b>	The area along the track where a roadway or pathway crosses.

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<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
	<b>Grade Separation</b>	A vertical separation of intersecting facilities (road, rail, etc.) by the provision of crossing structures. For example, a rail/highway intersection where there is a tunnel or a bridge.
	<b>Grade-Separated</b>	Crossing lines of traffic that are vertically separated from each other (i.e., a roadway that goes over or under a railroad track).
<b>GNB</b>	<b>Gray Notebook</b>	A periodic report prepared by WSDOT staff to track a variety of performance and accountability measures for routine review. <a href="http://www.wsdot.wa.gov/accountability/">http://www.wsdot.wa.gov/accountability/</a>
	<b>Groundwater</b>	Supply of fresh water found beneath the earth's surface, usually in aquifers, that supply wells and springs.
<b>GTEC</b>	<b>Growth and Transportation Efficiency Centers</b>	The 2006 legislative changes to the Commute Trip Reduction (CTR) program make the program more efficient and effective by focusing on congested state highways. One new tool provided is the GTEC. These are higher density centers where CTR can be applied more intensively to support local economic development, achievement of the regional transportation plan goals and increased person throughput on the highway system. The statutory changes encourage state, regional transportation planning organizations and local governments to prioritize road, transit, non-motorized, and transportation demand management (TDM) funds for these growth and transportation efficiency centers.
<b>GMA</b>	<b>Growth Management Act</b>	Passed by the Washington State Legislature in 1990, and amended in 1991 and 1998, GMA addresses the negative consequences of population growth and suburban sprawl in Washington. The GMA requires all cities and counties in the state to plan for and manage growth in population and employment and has more extensive requirements for the largest and fastest growing counties and cities in the state. Its requirements include guaranteeing the consistency of transportation and capital facilities plans with land use plans.
	<b>Habitat</b>	The place where a population (human, animal or plant) lives and its surroundings.
<b>HQ</b>	<b>Headquarters</b>	
<b>HAC</b>	<b>High Accident Corridor</b>	A highway corridor one mile or greater in length where a five-year analysis of collision history indicates that the section has higher than average collision and severity factors
<b>HAL</b>	<b>High Accident Location:</b>	A highway section typically less than one-quarter of a mile where a two-year analysis of collision history indicates that the section has a significantly higher than average collision and severity rate
	<b>High Capacity Transit</b>	A public transit system, such as rail, that can accommodate large volumes of riders.
<b>HOV</b>	<b>High Occupancy Vehicle Lane</b>	A lane dedicated for use by motorcycles and vehicles carrying two or more people (driver and one or more passengers). The HOV lanes on State Route 520 require that there must be three or more people in each vehicle. <a href="http://www.wsdot.wa.gov/HOV/default.htm">http://www.wsdot.wa.gov/HOV/default.htm</a>
<b>HAR</b>	<b>Highway Advisory Radio</b>	
<b>HPMS</b>	<b>Highway Performance Monitoring System</b>	
<b>4-R</b>	<b>Highway Reconstruction, Resurfacing, Restoration, and Rehabilitation</b>	
	<b>Highway Runoff Manual</b>	Directs the planning and design of stormwater management facilities for existing and new Washington State highways, rest areas, park and ride lots, ferry terminals, and highway maintenance facilities throughout the state. <a href="http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/HighwayRunoff2004.pdf">http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/HighwayRunoff2004.pdf</a>

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<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
HSS	Highways of Statewide Significance (HSS)	Highways of statewide significance (HSS) include, at a minimum, interstate highways and other principal arterials that are needed to connect major communities in the state. The designation helps assist with the allocation and direction of funding. The HSS was mandated by the 1998 legislature through enactment of Substitute House Bill <a href="#">SHB 1487</a> and codified into RCW 47.06.140. The HSS was designated by the Transportation Commission through Resolution #584 on December 17, 1998. The Legislature concurred and adopted the HSS, including a map and route list through House Joint Memorial 4006 on April 14, 1999. For more information on HSS see Appendix E or visit WSDOT HSS website: <a href="http://www.wsdot.wa.gov/ppsc/hsp/hss.htm">http://www.wsdot.wa.gov/ppsc/hsp/hss.htm</a>
HMA	Hot Mix Asphalt	A high quality, thoroughly controlled hot mixture of asphalt binder and aggregate that can be compacted into a uniform dense mass.
	Impact Area	The geographic area within which the traffic impacts of a development must be evaluated.
ICS	Incident Command System	A standardized on-scene emergency management structure that is able to integrate multiple organizations with different jurisdictional boundaries, according to the complexity and demands of single or multiple incidents
	Incident Response	Program to help clear roads, help drivers of disabled vehicles, and help restore the normal flow of traffic as safely and quickly as possible. <a href="http://www.wsdot.wa.gov/incidentresponse/default.htm">http://www.wsdot.wa.gov/incidentresponse/default.htm</a>
	Infrastructure	The set of interconnected transportation elements that provide the framework for moving people and goods.
	Innovative Financing	Innovative finance for surface transportation infrastructure is a broadly defined term that encompasses a combination of techniques and specially designed mechanisms to supplement traditional financing sources and methods. Innovative finance for surface transportation includes such measures such as: new or non-traditional sources of revenue; new financing mechanisms designed to leverage resources; new funds management techniques; and new institutional arrangements.
ITS	Intelligent Transportation System	Generally refers to the application of advanced electronics and computer technology to automate highway and vehicle systems to enable more efficient and safer use of existing highways. Includes data collection stations, ramp metering, portable and fixed location programmable message signs, weather stations, communication vaults and closed circuit TV cameras. <a href="http://www.wsdot.wa.gov/biz/atb/default.htm">http://www.wsdot.wa.gov/biz/atb/default.htm</a>
I/C	interchange	
	Intercity Rail	Connects central city to central city on a railroad right-of-way in densely traveled corridors. Locally, the Amtrak Cascades train from Seattle to Portland is an example of intercity rail.
	Intermodal	Sometimes refers to transfer facilities where freight or passengers change modes (types) of transport. For example, freight and passengers make intermodal transfers between motorized vehicles and airplanes.
	Intermodal Connectivity	Refers to the ease of connection when people or freight must change modes of transport (e.g., ship to rail, transit to air) see SAFETEA-LU, which updates this Act
ISTEA	Intermodal Surface Transportation Efficiency Act	
IRI	International Roughness Index	Characteristics of pavement roughness.
	Interoperability of communication systems	Refers to the ability to communicate between disparate radio systems
I	Interstate	The Dwight D. Eisenhower National System of Interstate and Defense Highways, commonly called the Interstate Highway System; with very few exceptions, these are controlled-access freeways, allowing for safe high-speed driving when traffic permits

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<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
	<b>Land Use Element</b>	The land use element of the comprehensive plan designates the proposed general distribution and general location and extent of the uses of the land. Land uses include, but not limited to the following, where appropriate: agriculture, timber production, housing, commerce, industry, recreation, open spaces, public utilities, and public facilities. The land use element includes population densities, building intensities, and estimates of future population growth.
	<b>Larger Cities</b>	Cities with a population of 22,500 or more.
<b>LTC</b>	<b>Legislative Transportation Committee</b>	
<b>LOS</b>	<b>Level of Service</b>	A qualitative measure that incorporates the collective factors of speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs provided by a highway facility under a particular volume condition. Traffic operational characteristics: LOS A: A condition of free flow in which there is little or no restriction on speed or maneuverability caused by the presence of other vehicles. LOS B: A condition of stable flow in which operating speed is beginning to be restricted by other traffic. LOS C: A condition of stable flow in which the volume and density levels are beginning to restrict drivers in their freedom to select speed, change lanes, or pass. LOS D: A condition approaching unstable flow in which tolerable average operating speeds are maintained but are subject to sudden variations. LOS E: A condition of unstable flow in which operating speeds are lower with some momentary stoppages. The upper limit of this LOS is the capacity of the facility. LOS F: A condition of forced flow in which speed and rate of flow are
	<b>Level of Service Standards</b>	A gauge for evaluating the quality of service on the transportation system. Described by travel times, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.
	<b>Life Cycle Methodology</b>	This methodology includes making investments that aim on achieving the “lowest lifecycle cost” – the best long-term financial investment for a transportation facility – and to further prevent failure of existing systems. The key is to make investments at the right time to achieve the best possible system with the lowest cost.
	<b>Life-Cycle Cost</b>	The cost of a system or product over its entire life span.
	<b>Light Rail</b>	A range of electric-powered rail systems, from street cars operated as single units on streets with mixed traffic to trains of vehicles operating in exclusive, grade separated rights-of-way. The distinction between light rail transit and heavy rail is primarily based on carrying capacity; the latter carries more passengers. Another difference is that light rail transit draws its power from overhead catenaries, while heavy rail's power comes from an electric power source along the track.
	<b>Local Needs</b>	The needs (deficiencies & solutions) for those city streets and county roads that are supported by state and local tax revenues and state grant programs.
	<b>Lowest Lifecycle</b>	Cost In terms of highway pavement preservation, this is the point in a pavement’s lifecycle where optimum pavement life has been achieved and the least cost to resurface is obtained. Pavements that have gone beyond this optimum point typically incur more costs to rehabilitate.
	<b>Mainline Rail</b>	A Class I railroad's primary track that usually extends great distances.
<b>MAP</b>	<b>Maintenance Accountability Process</b>	
	<b>Maintenance Shed</b>	WSDOT specific term for buildings and grounds containing the necessities for maintenance operations including storage for equipment and materials.
	<b>Maximum Throughput</b>	The largest number of vehicles that can travel through a specific area typically achieved at speeds between 45 mph to 50 mph.

## Appendix A: Glossary

<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
<b>MPO</b>	<b>Metropolitan Planning Organization</b>	An agency designated by a governor (or governors in multi-state areas) to administer the federally required transportation planning process for a metropolitan area. An MPO must be in place in every urbanized area with a population in excess of 50,000. <a href="http://www.wsdot.wa.gov/planning/Metro/Default.htm">http://www.wsdot.wa.gov/planning/Metro/Default.htm</a>
<b>MTP</b>	<b>Metropolitan Transportation Plan</b>	A detailed long-range transportation plan that guides future regional investments and responds to legal mandates contained in ISTEA, the 1990 Clean Air Act Amendments, and the State of Washington's Growth Management Act.
<b>MP</b>	<b>Milepost</b>	A state highway mile marker.
<b>MPH</b>	<b>Miles Per Hour</b>	
	<b>Mitigation</b>	Measures taken to reduce adverse impacts on the environment.
	<b>Mobility</b>	A measure of transportation service performance that takes into consideration the ability of a traveler to move from origin to destination at the time and with the travel mode desired.
	<b>Mode</b>	A form of transport. For example, airplanes and trains are both transportation modes.
<b>MVET</b>	<b>Motor Vehicle Excise Tax</b>	
<b>MVF</b>	<b>Motor Vehicle Fund</b>	
	<b>Multimodal</b>	Refers to a plan or program that accounts for the needs and/or trends of multiple modes. Washington's Transportation Plan is an example of a multimodal plan.
	<b>Multimodal Transportation Systems</b>	Buses, ferries, cars, bicycles are all examples of modes of travel. In a multimodal transportation system, each of these components is factored in so that service can be delivered efficiently. For example, the waterfront trolley that conveys ferry passengers to a bus terminal might be considered an interdependent multimodal transportation system.
<b>NEPA</b>	<b>National Environmental Policy Act</b>	
<b>NHS</b>	<b>National Highway System</b>	A congressional designation for all interstate routes, a large percentage of urban and rural principal arterials, and strategic highways and connectors. There are over 3,000 miles of Washington state highways that are NHS routes.
<b>NTSB</b>	<b>National Transportation Safety Board</b>	
	<b>Nickel Package</b>	The 2003 Washington State Legislature enacted the Nickel funding package (ESHB 1163). The revenue package funded 158 projects over a 10-year period. The package includes: 5 cents per gallon gas tax increase, 15 percent increase in gross weight fees on heavy trucks, 0.3 percent increase in the sales tax on motor vehicles.
	<b>Nonpoint Source</b>	Pollution sources without a single point of origin. The pollutants are generally carried off the land by stormwater.
	<b>Non-Recurring Delay</b>	About half of all congestion is "non-recurring," or temporary disruptions in traffic flow. About one-quarter of congestion is due to traffic incidents ranging from disabled vehicles (due to flat tires, overheated engines, etc.) to fender-bender's, to overturned tanker trucks. Other non-recurring disruptions include weather (15 percent), work zones (10 percent), and things such as special events (five percent).
<b>OFM</b>	<b>Office of Financial Management</b>	
<b>ORV</b>	<b>Off-Road Vehicle</b>	
	<b>On Demand Service (dial a ride)</b>	Dial-a-Ride services are specifically designed for passengers who are unable to access local bus services. Typically these services provide curb to curb transportation. See also, Demand Responsive Service.
<b>O-D</b>	<b>Origin-Destination (survey or zone)</b>	
	<b>Outfall</b>	A structured drainage of stormwater runoff from highways or intersecting streams.
<b>O'XING</b>	<b>Overcrossing</b>	
	<b>Pacific Rim</b>	The Pacific Rim is a political and economic term used to designate the countries on the edges of the Pacific Ocean as well as the various island nations within the region.

# Appendix A: Glossary

<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
	<b>Paratransit</b>	Transit service that is publicly or privately operated, scheduled, or dispatched upon demand, providing "point-to-point" transit service. Normally used in specialized applications with user eligibility limitations (e.g., elderly and/or disabled) or where demand is not sufficient to support fixed-route service.
	<b>Park and Ride Lot</b>	A parking facility for individuals to rendezvous for carpools, vanpools, or public transportation as a transfer of mode with their private automobile.
	<b>Past Due</b>	If the highway segment is not rehabilitated during its due year it becomes "past due".
	<b>Pavement Condition</b>	The elements of pavement condition rating are type of, severity of, and extent to which the roadway is affected by defects. <a href="http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/PSCRMan.pdf">http://www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/PSCRMan.pdf</a>
<b>PSC</b>	<b>Pavement Structural Condition</b>	Pavement condition measure based on cracking, patching, etc. A roadway should be considered for rehabilitation when PSC is between 40 and 60.
	<b>Peak Period</b>	The time period during which the maximum amount of travel occurs. Generally, there is a morning peak and an afternoon peak period, and less frequently, a midday peak period. The peak period usually extends for at least two hours, which encompasses the peak hour. Also see definition of Peak Spreading on next page.
<b>PAL</b>	<b>Pedestrian Accident Location</b>	sections of roadways with four or more pedestrian collisions with vehicles in a six-year period
	<b>Per Capita</b>	A Latin phrase meaning for each head. Usually used to indicate the average per person of any given statistic, commonly income.
<b>PS&amp;E</b>	<b>Plans, Specifications, and Estimate</b>	
	<b>Point Source</b>	Pollution sources with a single point of origin.
<b>PCCP</b>	<b>Portland Cement Concrete Pavement</b>	
	<b>Posted Speed</b>	
<b>PE</b>	<b>Preliminary Engineering</b>	
	<b>Public Sector</b>	That part of economic and administrative life that deals with the delivery of goods and services by and for the government, whether national, regional or local/municipal.
	<b>Public-Private Partnership</b>	A system in which a government service or private business venture is funded and operated through a partnership of government and one or more private sector companies.
	<b>Rail Fixed Guideway System</b>	Any light, heavy, or rapid rail system, monorail, inclined plane, funicular, trolley, or automated guideway that is: (1) included in FTA's calculation of fixed guideway route miles or receives funding under FTA's formula program for urbanized areas (49 U.S.C. 5336); and (2) not regulated by the Federal Railroad Administration (49 CFR Part 659)
<b>RR</b>	<b>Railroad</b>	
	<b>Ramp Meter</b>	Stop-and-go signals located on entrance ramps to the freeway. They control the frequency with which vehicles enter the flow of traffic on the freeway.
	<b>Real-Time Travel Information</b>	Services such as weather and traffic reports on media like radio, web, and pager services as well as variable message signs. <a href="http://www.wsdot.wa.gov/traffic">http://www.wsdot.wa.gov/traffic</a>
<b>RTP</b>	<b>Regional Transportation Plan</b>	The Regional Transportation Plan is a product of the regional transportation planning process. It guides the improvement of the regional transportation system. The plan shall identify and address regional transportation issues. The Regional Transportation Planning Organization proposes it.
<b>RTPO</b>	<b>Regional Transportation Planning Organization</b>	Authorized by the Legislature in 1990 as part of the Growth Management Act. They are voluntarily created by local governments to coordinate transportation planning among jurisdictions and to develop a regional transportation plan. Washington provides funding and a formal mechanism that is available to all local governments (and not only those required to plan under GMA) and the state to coordinate transportation planning for regional transportation facilities. <a href="http://www.wsdot.wa.gov/planning/Metro/Default.htm">http://www.wsdot.wa.gov/planning/Metro/Default.htm</a>

# Appendix A: Glossary

<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
	<b>Reliability</b>	In transit planning, if a train or bus arrives within 10 minutes of its schedule time, it is considered reliable. Reliability can be dictated by congestion on the tracks, delays at stations, and equipment malfunction.
<b>RFP</b>	<b>Request for Proposal Reservations</b>	American Indian reservation A federal American Indian reservation is an area that has been set aside by the United States for the use of one or more federally recognized American Indian tribes. Together with off-reservation trust land, a reservation covers territory over which one or more tribes have primary governmental authority. The boundary of a federal reservation is defined by tribal treaty, agreement, executive or secretarial order, federal statute, or judicial determination. A state American Indian reservation is an area that a state government has allocated to a tribe recognized by that state, but not by the federal government. American Indian reservations are known as colonies, communities, Indian communities, Indian villages, pueblos, rancherias, ranches, reservations, reserves, and villages. See American Indian off-reservation trust land, American Indian tribal subdivision, American Indian trust land, joint use area.
<b>RRR (3R)</b>	<b>Resurfacing, Restoration, and Rehabilitation</b>	
<b>ROI</b>	<b>Return on Investment</b>	Benefits from investments, typically judged against time.
<b>RCW</b>	<b>Revised Code of Washington</b>	Code enacted by the State of Washington and intended to embrace in a revised, consolidated, and codified form and arrangement all the laws of the state of a general and permanent nature. <a href="http://apps.leg.wa.gov/rcw/default.aspx">http://apps.leg.wa.gov/rcw/default.aspx</a>
<b>ROW</b>	<b>Right-of-Way (ROW)</b>	The horizontal and vertical space occupied by the rail service. IN the Pacific Northwest Rail Corridor, the Burlington Northern and Santa Fe Railway Company (BNSF) owns the right-of-way. Amtrak, the Washington State Department of Transportation, and Sound Transit run their trains on the BNSF's right-of-way through operating agreements. Technical Definition: A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.
	<b>Rigid pavements</b>	Pavements that are surfaced with PCC in the surface course. Since PCC has a high modulus of elasticity, rigid pavements do not flex appreciably to accommodate traffic loads.
	<b>Risk Factor</b>	A variable associated with an increased risk but not necessarily causal.
	<b>Roughness</b>	Pavement condition measure characterized by International Roughness Index (IRI). A roadway should be rehabilitated when IRI is between 170 and 220 inches per mile.
<b>RDP</b>	<b>Route Development Plan Run off the Road</b>	Term used when a vehicle unintentionally departs from the traveled way or a portion of the roadway intended for vehicular travel.
	<b>Runway Protection Zones</b>	Runway protection zones are a trapezoidal area "off the end of the runway end that serves to enhance the protection of people and property on the ground" in the event an aircraft lands or crashes beyond the runway end. Runway Protection Zones underlie a portion of the approach closest to the airport. Many people have confused the RPZ with the need for Obstacle Free Areas (OFA), Obstacle Free Zones (OFZ), Object clearing criteria, and Part 77 requirements. While the RPZ also has limitations on obstructions (because it lies below the approach surface and because it includes safety areas and obstacle free areas) the primary purpose of the RPZ is the protection of people and property on the ground.
	<b>Rural</b>	Unincorporated or incorporated areas with total population less than 10,000 people or with a population density of less than 1,000 people per square mile
	<b>Rutting</b>	Surface depressions in the wheelpath of a pavement. Ruts greater than 1/3 inch deep require rehabilitation.

# Appendix A: Glossary

<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users	SAFETEA-LU authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009. <a href="http://www.fhwa.dot.gov/safetealu/">http://www.fhwa.dot.gov/safetealu/</a>
	Safety Rest Area	Safety Rest Areas contribute to highway safety by providing fatigued drivers safe and convenient facilities to stop and rest themselves before continuing with their journey. The department owns and operates forty-two Safety Rest Areas within our state. Twenty-seven of which are located on the Interstate System.
	Scenic Byway	Any roadway designated as a Scenic Byway by state or federal agencies or authorities, comprised of outstanding local or regional scenic character.
	Scour	1. Scour is the natural process of sediment being transported downstream during high flow events. 2. The erosion of the soils beneath the supports of a bridge caused by fast flowing water.
	Seismic-Risk Zones	Measured against gravity (1.0g), effective peak ground acceleration, attenuation, and duration are considered when mapping seismic—risk zones. Zone 1 locations have a one in ten chance that an earthquake with an active peak acceleration level of 0.1g (1/10 the acceleration of gravity) will occur within the next fifty years.
	Short Line Freight Rail	A Class II or III railroad's track. A Class I railroad's secondary track that serves intrastate or regional movement.
	Short Span Bridges	Bridges ranging from 12 to 70 feet in length.
SOV	Single Occupancy Vehicle	A passenger car or truck carrying only one person (a driver).
	Smaller Cities	Cities with a population of less than 22,500.
	Societal Cost	These costs include medical costs, lost wages, property damage, lost productivity and so forth.
	Special Events	Sporting events, political rallies and parades can cause temporary, but major impacts to normal travel conditions expected by motorists.
	Special Needs Population	Persons with Special Transportation Needs: those persons, including their personal attendants, who because of physical or mental disability, income status or age are unable to transport themselves or purchase transportation.
SA	State Aid	
	State Environmental Policy Act	Adopted in 1971. Provided Washington State's basic environmental charter. The SEPA Rules that implemented the act directed agencies to consider environmental information (impacts, alternatives, and mitigation) before committing to a particular course of action. Chapter 43.21C RCW (State Law) and Chapter 197-11 WAC (SEPA Rules).
HSP	State Highway System Plan	
	State Interest	The portion of the state transportation system that is owned and/or operated by local jurisdictions, agencies, and private corporations and is of importance to the entire transportation system. The State-Interest systems' needs were identified through Regional Transportation Organizations (RTPO) in collaboration with local jurisdictions and agencies, and private corporations. These modes include Public Transportation, Freight and Intercity Passenger Rail, Marine Ports and Navigation, Bicycle and Pedestrian Transportation, and Aviation.
	State Owned	The portion of the state transportation system that is owned and/or operated by the state. The State-Owned systems include state highways, Washington State Ferries (WSF), and state airports. The state also owns eight daily trains of the Amtrak Cascades passenger rail system. Amtrak is contracted to operate all twelve of the Amtrak Cascades trains. The needs for state-owned systems were identified by the systems in coordination with the Regional Transportation Planning Organizations.
SR	State Route	
SIP	Statewide Implementation Plan	
STIP	Statewide Transportation Improvement Program	

# Appendix A: Glossary

<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
	<b>Stormwater</b>	That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water body or infiltration facility.
	<b>Stormwater Outfall</b>	See Outfall
	<b>Structural Adequacy</b>	An appraisal of the load carrying capacity of a bridge. Bridges with load restrictions are given a lower appraisal
	<b>Suburban</b>	Unincorporated or incorporated areas with total population of 10,000 to 29,999 or any area with a population density of 1,000 to 2,000 people per square mile
	<b>System Management</b>	Improves traffic flow through signal synchronization, freeway on-ramp signals, the construction of high-occupant-vehicle (HOV) lanes, left turn restrictions, and other measures.
	<b>Target</b>	The Transportation Commission identified and grouped over 80 program needs into high, medium, and low priorities. These identified investment needs are not a comprehensive accounting of all needs but rather a subset of statewide gaps in funding that represent only the most strategic and critical program needs.
	<b>Through-put</b>	An accounting of people or vehicles passing a certain point in a given amount of time.
	<b>Traffic Incidents</b>	Typically include; collisions, disabled vehicles, debris on the roadway, spills, and roadside distractions that alter driver behavior (e.g., roadside construction, electronic signs, a fire beside the freeway ) and other events that impede the normal flow of traffic. For every minute a lane remains blocked, four to 10 minutes of congestion may result.
	<b>Traffic Records Strategic Plan</b>	Focused on replacing paper with electronic records; developing an Emergency Management System registry; improving feature and location accuracy, improving statewide collision data; designing new police traffic collision and citizen reports; enhancing traffic records and forming an oversight committee.
<b>TSC</b>	<b>Traffic Safety Commission</b>	
	<b>Transit Queue Bypass</b>	An HOV lane or traffic control device, which gives preferential treatment to buses, vanpools and carpools at traffic signals and intersections.
<b>TDM</b>	<b>Transportation Demand Management</b>	Measures designed to reduce the number of single occupant vehicle trips during the peak traffic period. Measures include person trip reduction strategies, which eliminate trips completely, vehicle trip reduction strategies that accommodate person trips in fewer vehicles, and peak period modification strategies that move trips out of the most congested periods.
<b>TEA-21</b>	<b>Transportation Efficiency Act for the 21st Century</b>	The Transportation Equity Act for the 21st Century was enacted June 9, 1998 as Public Law 105-178. TEA-21 authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 6-year period 1998-2003. The TEA 21 Restoration Act, enacted July 22, 1998, provided technical corrections to the original law. <a href="http://www.fhwa.dot.gov/tea21/">http://www.fhwa.dot.gov/tea21/</a>
<b>TFSSS</b>	<b>Transportation Facilities and Services of Statewide Significance</b>	Major component of 1998 legislation, RCW 47.06.140, relating to transportation and growth management planning. It declares that certain transportation facilities and services are of statewide significance because they provide and support transportation functions that promote and maintain significant statewide travel and economic linkages. The draft list of TFSSS has not yet been officially adopted.
<b>TPA</b>	<b>Transportation Partnership Act</b>	The 2005 Washington State Legislature provided a 16-year expenditure plan to take care of some of Washington State's most critical transportation needs. Over 270 projects will be funded by this package that will make roads and bridges safer as well as ease choke points on the system. <a href="http://www.wsdot.wa.gov/Projects/Funding/2005/">http://www.wsdot.wa.gov/Projects/Funding/2005/</a>
<b>TRB</b>	<b>Transportation Research Board</b>	
	<b>Transportation System</b>	Public and private infrastructure involved in moving people or goods.
<b>TSM</b>	<b>Transportation Systems Management</b>	

# Appendix A: Glossary

<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
<b>TDM</b>	<b>Travel Demand Management</b>	
	<b>Travel Time</b>	The amount of time it takes to travel from one location to another.
	<b>Tribal Nations /Tribal Lands</b>	The Indian Self-Determination and Education Assistance Act (25 U.S.C. 450b(e)) defines the term "Indian tribe" as any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act (85 Stat. 688) (43 U.S.C. 1601 et. seq.), which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.
	<b>Tri-Cities</b>	The Tri-Cities in the state of Washington are Richland, Pasco, and Kennewick. They are located at the confluence of the Yakima, Snake, and Columbia Rivers in southeastern Washington. Pasco is on the north side of the Columbia, Kennewick and Richland are south of it (Kennewick is directly east of Richland). According to the 2000 census, the combined population of the Tri-Cities is 125,467, though 2005 census estimates put the population at closer to 160,000.
<b>TRPP</b>	<b>Trip Reduction Performance Plan</b>	The Washington State Legislature created a trip reduction performance program in 2003 to encourage entrepreneurs, private companies, transit systems, cities, non-profit organizations, developers, and property managers to provide services to employees that result in fewer vehicle trips arriving at worksites.
<b>TWLTL</b>	<b>Two-Way Left-Turn Lane</b>	
<b>U'XING</b>	<b>Undercrossing</b>	
	<b>Unemployment Rate</b>	The percentage of people available in the labor force who are deemed unemployed when compared to the total labor force.
	<b>Urban</b>	Incorporated areas over 30,000 or an incorporated area of at least 10,000 people and a population density over 2,000 people per square mile
	<b>Urban Growth Areas</b>	Areas where urban growth will be encouraged. Counties and cities must cooperatively establish the urban growth areas and cities must be located inside urban growth areas. Once established, cities cannot annex land outside the urban growth area. Growth outside of urban growth areas must be rural in character.
<b>VMT</b>	<b>Vehicle Miles Traveled</b>	A measure of highway system use reflecting the number of miles traveled over a highway section, route or system. VMT is calculated by multiplying the total highway section length by the total number of vehicles that have traveled over that section within a given time.
<b>VPH</b>	<b>Vehicles per Hour</b>	
	<b>Wait Time</b>	Transportation systems and services such as a Ferry or Safety Rest Area may require users to queue and wait. This wait time is measured to help manage service delivery.
	<b>Warning Systems (low vertical clearance bridges)</b>	These are systems that warn vehicles of low vertical clearances on bridges. They include advance warning signs, flashing beacons, Highway Advisory Radio, and height measuring devices. The maximum legal vehicle is 14 feet without a special permit issued by WSDOT.
<b>WAC</b>	<b>Washington Administrative Code</b>	
<b>DOE</b>	<b>Washington State Department of Ecology</b>	Washington's principal environmental management agency. Our mission is to protect, preserve, and enhance Washington's environment, and promote the wise management of our air, land, and water for the benefit of current and future generations. Our goals are to prevent pollution, clean up pollution, and support sustainable communities and natural resources.
<b>DOL</b>	<b>Washington State Department of Licensing</b>	The Department of Licensing (DOL) is comprised of five divisions: Driver Services, Vehicle Services, Business & Professions, Information Services, and Management Services.
<b>WSDOT</b>	<b>Washington State Department of Transportation</b>	

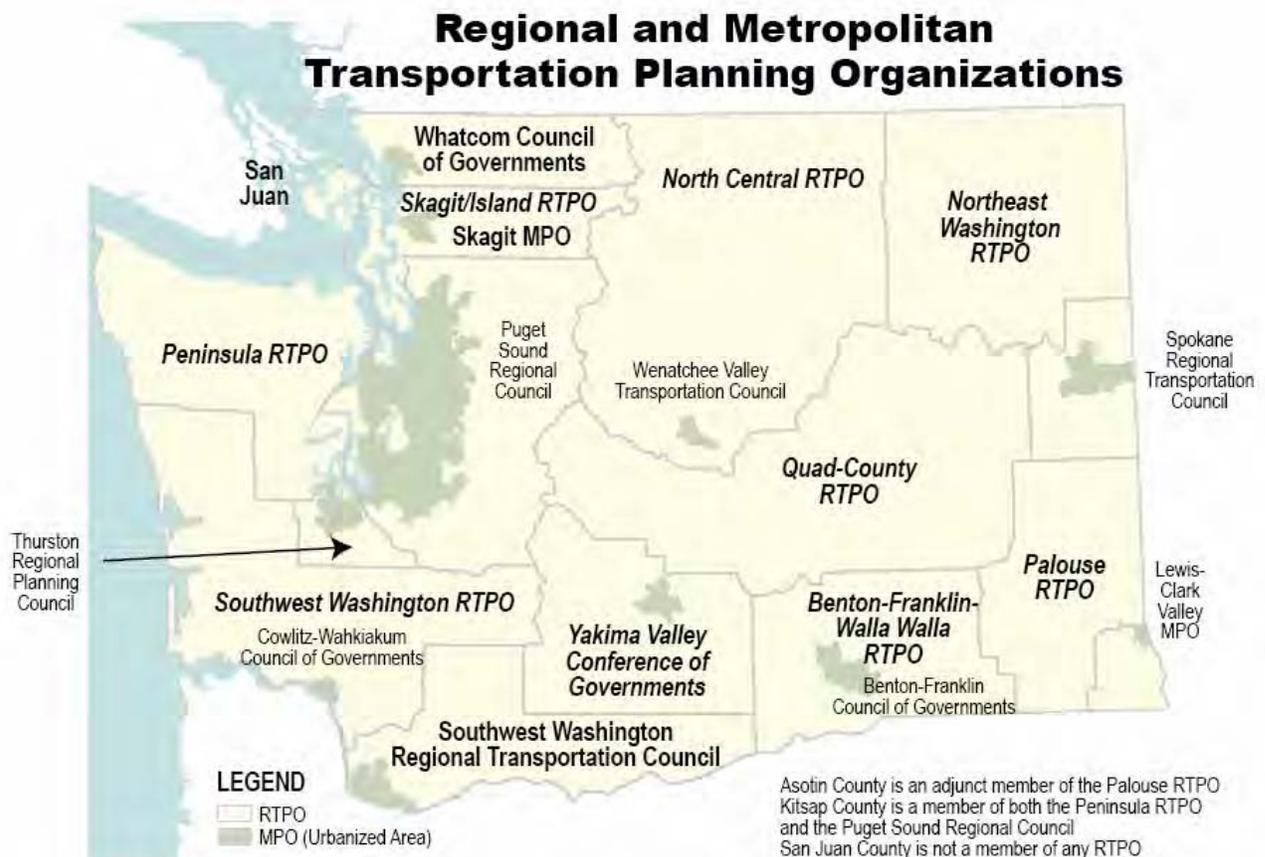
## Appendix A: Glossary

<u>Acronym</u>	<u>Term</u>	<u>Definition</u>
WSF	Washington State Ferries, a division of WSDOT	
WSP	Washington State Patrol	
WSPMS	Washington State Pavement Management System	
WSTA	Washington State Transit Association	
TRAC	Washington State Transportation Center	
WSTC	Washington State Transportation Commission (WSTC)	The seven-member board appointed by the Governor that oversees WSDOT's budget and operation.
WTSC	Washington Traffic Safety Commission	
WTP	Washington's Transportation Plan	
WPCP	Water Pollution Control Plan	
	Waterway Adequacy	An appraisal of the waterway opening (width and height) under a bridge used to categorize the results during a flood type event. Bridges where frequent flooding overtops the roadway approaches or the bridge would receive a lower appraisal.
WIM	Weigh In Motion	These devices are designed to capture and record truck axle weights and gross vehicle weights as they drive over a sensor. Unlike older static weigh stations, current WIM systems do not require the subject trucks to stop, making our transportation system much more efficient.
	Wetlands	Areas saturated by surface or groundwater with vegetation adapted for life under those soil conditions. Examples of wetlands are swamps, bogs, and estuaries.
	Work Trip	One way person-trip between home and work.
	Work Zones	An area of a highway with construction, maintenance, or utility work activities. A work zone is typically marked by signs, channelizing devices, barriers, pavement markings, and/or work vehicles. It extends from the first warning sign or rotating/strobe lights on a vehicle to the END ROAD WORK SIGN or the last temporary traffic control device.



# Appendix B: Regional Transportation Planning

In 1990, the Washington State Legislature passed the Growth Management Act (GMA) authorizing the Regional Transportation Planning Program. This program, contained in Part 3 of the Act (RCW 47,80), created a formal mechanism for local governments and the state to coordinate transportation planning for regional transportation facilities. The Act authorized the creation of [Regional Transportation Planning Organizations](#) (RTPOs). This transportation planning mechanism is available to all counties and cities statewide and is formed through voluntary association of local governments within a county or within geographically contiguous counties.



A Regional Transportation Planning Organization (RTPO) is formed through a voluntary association of local governments within a county or contiguous counties. RTPO members include cities, counties, WSDOT, tribes, ports, transportation service providers, private employers and others. There are 14 RTPOs covering 38 of the 39 counties in Washington. San Juan County is not part of any RTPO.

A Metropolitan Planning Organization (MPO) is an organization of elected officials in urbanized regions with 50,000 or more population. MPOs provide a forum for local decision-making on transportation issues of a regional nature. Under SAFETEA-LU, the policy for the metropolitan planning process is to promote consistency between transportation improvements and State and local planned growth and economic development patterns.

[MPOs](#) and RTPOs serve the same basic transportation planning functions – develop a long-range plan, coordinate within a region, and prepare a transportation improvement program. The federal MPO and state RTPO requirements of these organizations are complementary. The lead agency for a RTPO is also the lead agency for the MPO within the region (except Lewis-Clark Valley MPO because it is a bi-state organization).

Link to more information: <http://www.wsdot.wa.gov/planning/Regional/Default.htm>



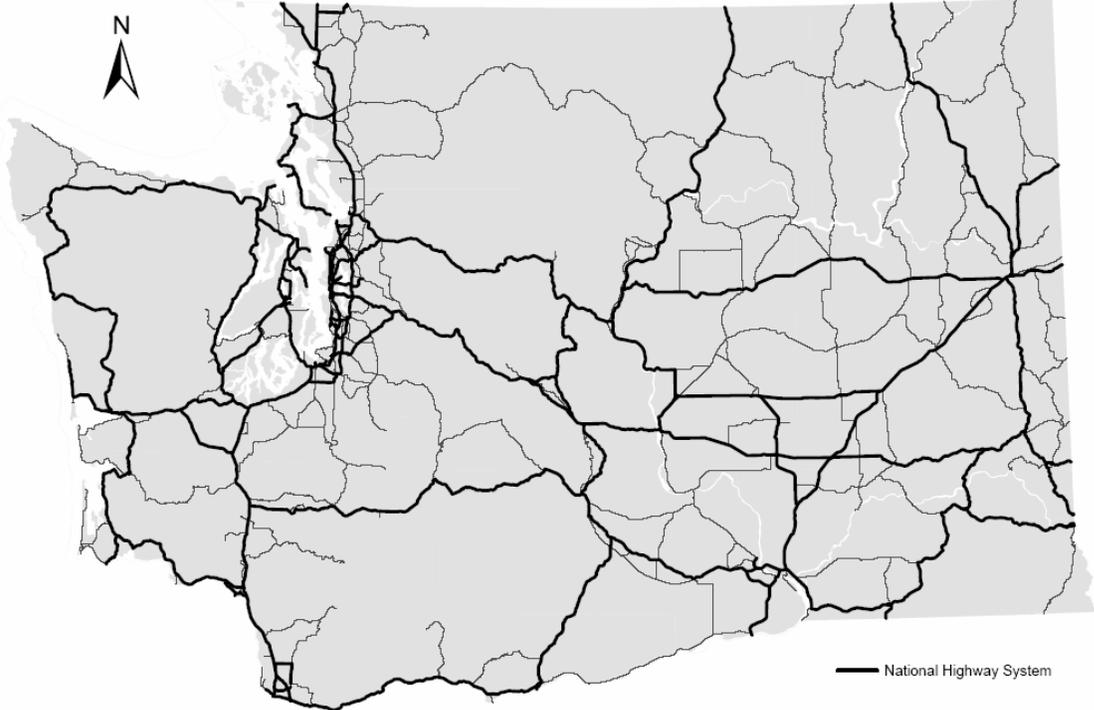
# Appendix C: WSDOT Regions





# Appendix D: National Highway System

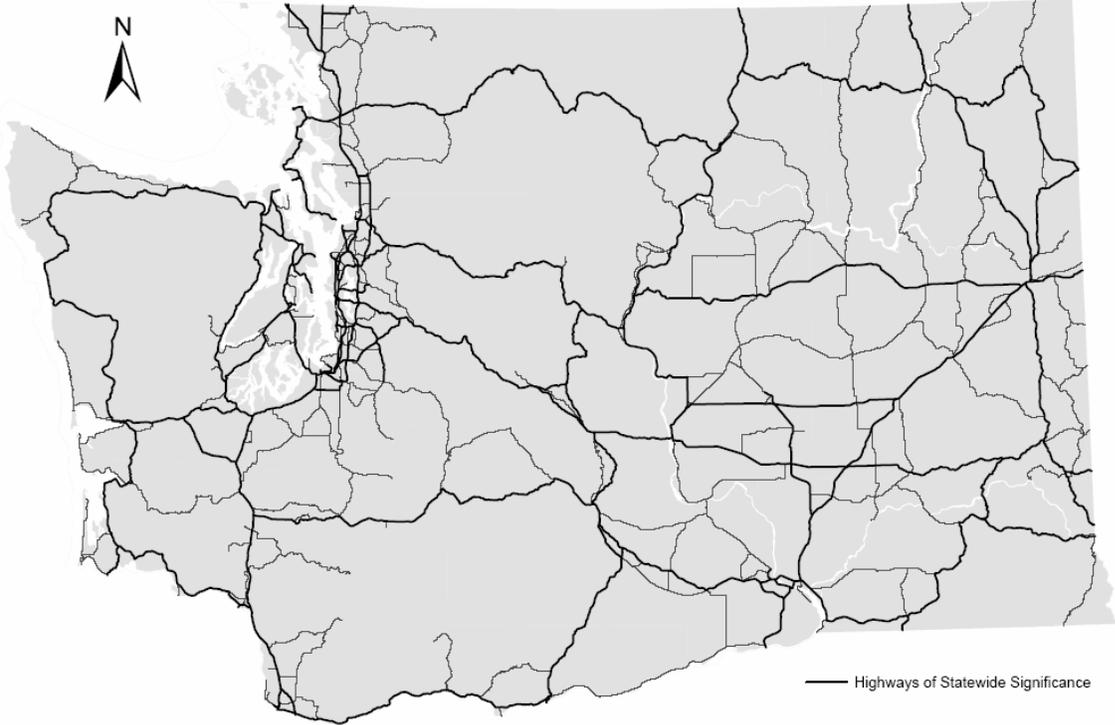
Since the beginning of interstate highway construction in 1956, population has grown and shifted, the economy has changed, and needs as a nation have evolved. To meet these demands and to extend the benefits of the Interstate Highway System to areas that are not served directly by it, FHWA responded to the mandate of Congress and developed the concept of a national highway system as a way of focusing federal resources on the nation's most important roads. In 1995, Congress approved NHS.





# *Appendix E: Highways of Statewide Significance*

Highways of Statewide Significance (HSS) include interstate highways and other principal arterials that are needed to connect major communities in the state. The designation helps assist with the allocation and direction of funding.



**Transportation Commission Proposed List of Highways of Statewide Significance**

Designated by Resolution 660, dated January 21, 2004

Adopted by the Washington State Legislature Through Engrossed House Bill 1433 on March 31, 2004  
and Modified by House Bill 3266 on June 7, 2006

SR	Begin MP	Begin ARM	End MP	End ARM	Length	Description
002	0.00 B	0.00	334.51	326.23	322.63	I-5/Everett to Idaho (entire route) (3.59 mi of minor coinc. not included) (0.01 mi of Physical Gap not included)
002 CO BROWNE	287.45	0.00	288.08	0.63	0.63	SR 2 to SR 90 Uxing
002 CO DIVISN	289.19	0.00	290.72	1.53	1.53	SR 2/Euclid Ave to SR 2
002 CO EVRETT	0.77	0.00	1.64	0.87	0.87	Home Acres Rd to SR 529
002 CO NEWPRT	334.38	0.00	334.87	0.49	0.49	Couplet through Newport
003	0.00	0.00	60.02	59.81	59.81	US 101/Shelton to SR 104 (entire route)
004	0.00	0.00	55.24	55.23	55.22	US 101 to SR 432 (Longview vicinity)
005	0.00	0.00	276.56	276.62	276.62	Oregon to Canada (entire route)
008	0.00	0.00	20.67	20.67	20.67	US 12/Elma to SR 101/Olympia (entire route)
009	0.00	0.00	29.46	29.46	29.46	SR 522/near Woodinville to SR 530 at Arlington
009	93.61	93.43	98.17	97.99	4.56	SR 546 to Canada
012	0.00	0.00	434.19	430.81	324.51	US 101/Aberdeen to Idaho (entire route) (106.29 mi of minor coinc. not included) (0.01 mi of Physical Gap not included)
012 CO ABERDN	0.33	0.00	0.68	0.35	0.35	S Newell St to S G St
014	0.00	0.00	101.02	100.93	100.93	I-5/Vancouver to US 97
016	0.00	0.00	29.19	27.01	27.01	I-5/Tacoma to SR 3/Gorst (entire route)
017	7.43	0.00	56.56	49.05	49.05	US 395/Mesa to Moses Lake Airport
018	2.20 B	0.00	27.91	28.41	28.41	I-5 to I-90 (entire route)
019	0.00	0.00	14.09	14.09	14.09	SR 104 to SR 20/near Port Townsend (entire route)
020	0.00	0.00	436.91	436.13	395.23	US 101 to SR 2/Newport (entire route) (40.89 mi of minor coinc. not included) (0.01 mi of Ferry Zone not included)
020 SP ANACRT	47.89	0.00	55.67	7.78	7.78	SR 20 to ferry terminal (entire route)
022	0.70	0.00	4.00	3.31	3.31	I-82 to SR 97
026	0.00	0.00	133.53	133.61	133.61	I-90/Vantage to US 195 (entire route)
028	0.0 B	0.00	29.77	33.91	33.91	US 2/Wenatchee to SR 281/Quincy
028 CO WENTCH	4.25 B	0.00	4.58	0.33	0.33	SRMP 4.25B to SRMP 3.84B
082	0.00	0.00	132.60	132.57	132.57	I-90/Ellensburg to Oregon (entire route)
090	1.94	0.00	299.82	297.52	297.52	I-5/Seattle to Idaho (entire route)
097	0.00 B	0.00	336.48	321.62	250.89	Oregon to Canada (entire route) (70.73 mi of minor coinc not included)
097 CO MARYHL	2.59	0.00	2.68	0.09	0.09	Maryhill S Bnd Couplet
099	0.00	0.00	17.10	13.45	13.45	I-5/Fife to junction with proposed extension of SR 509
099	26.04	19.86	43.60	37.33	17.47	SR 509 to SR 104 (0.01 mi of Physical Gap not included)
099 CO VIADCT	31.72	0.00	33.56	1.84	1.84	Alaska Way S Bnd Couplet
101	0.00	0.00	0.46	0.46	0.46	Astoria Megler bridge/SR 401
101	28.89	28.89	367.41	365.56	336.66	SR 4 to I-5/Olympia (0.01 mi of Physical Gap not included)
101 CO ABERDN	87.49	0.00	91.66	4.17	4.17	Levee St to State St Ramp
101 CO HERON	83.75	0.00	83.88	0.13	0.13	SR 101 to SR 101
101 CO PRTANG	249.65	0.00	251.32	1.67	1.67	MP 249.65 to E First St
104	0.20	0.00	29.81	29.28	29.27	US 101 to I-5 (0.01 mi of Ferry Zone not included)
104 CO KNGSTN	24.53	0.00	24.86	0.33	0.33	Ferry Lnd to Illinois Ave
125	0.00	0.00	6.15	6.14	6.14	Oregon state line to US12/Walla Walla
127	0.03	0.00	27.05	27.05	27.05	US 12/Dodge to SR 26 (entire route)
167	0.00	0.00	26.40	27.72	27.72	I-5/Tacoma to I-405/Renton
167 CO PUYALP	5.72	0.00	6.26	0.54	0.54	Milwaukee Ave to SR 167
<b>169</b>	<b>0.00</b>	<b>0.00</b>	<b>25.26</b>	<b>25.26</b>	<b>25.26</b>	<b>SR 164 to SR 900 and I-405 / Renton</b>
182	0.00	0.00	15.19	15.19	15.19	I-82 to US 395/Pasco (entire route)
195	0.00 B	0.00	95.99	93.37	93.37	Idaho to I-90/Spokane (entire route)
205	26.59	0.00	37.16	10.57	10.57	Oregon to I-5 (entire route)
240	30.63	28.86	34.87	33.10	4.24	Stevens Drive to I-182
240	36.05	34.22	43.17	41.34	7.12	I-182 to US 395
270	0.00	0.00	9.89	9.89	9.89	US 195/Pullman to Idaho (entire route)
270 CO PULLMN	2.67	0.00	2.90	0.23	0.23	Main St to Grand
281	0.00	0.00	10.55	10.55	10.55	SR 28/Quincy to I-90 (entire route)
304	0.00	0.00	3.51	3.14	3.14	SR3 to Bremerton ferry terminal, incl. couplet (entire route)
304 CO BRMRTN	3.51	0.00	3.83	0.32	0.32	Ferry landing to Pacific Ave
305	0.02	0.00	13.52	13.50	13.50	Winslow ferry terminal to SR 3 (entire route)

## Transportation Commission Proposed List of Highways of Statewide Significance

Designated by Resolution 660, dated January 21, 2004

Adopted by the Washington State Legislature Through Engrossed House Bill 1433 on March 31, 2004  
and Modified by House Bill 3266 on June 7, 2006

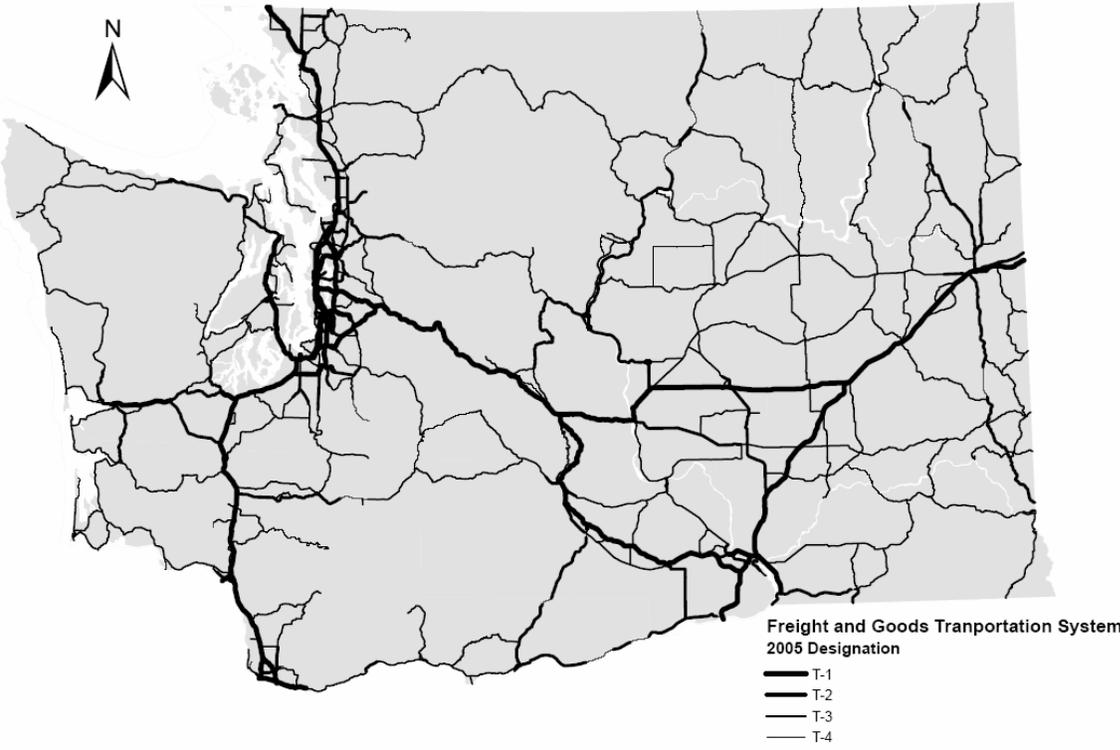
SR	Begin MP	Begin ARM	End MP	End ARM	Length	Description
307	0.00	0.00	5.25	5.25	5.25	SR 305 to SR 104 (entire route)
310	0.00	0.00	1.84	1.84	1.84	SR 3 to SR 304/Bremerton (entire route)
395	13.05	19.81	270.26	275.03	186.51	I-82 to Canada (68.71 mi of coinc not included)
401	0.00	0.00	12.13	12.13	12.13	US 101/Astoria Megler bridge to SR 4 (entire route)
405	0.00	0.00	30.32	30.30	30.30	I-5/Tukwila to I-5 (entire route)
432	0.00	0.00	10.33	10.32	10.31	SR 4/Longview to I-5 (entire route) (0.01 mi of Physical Gap not included)
433	0.00	0.00	0.94	0.94	0.94	Oregon to SR 432/Longview (entire route)
501	0.00	0.00	2.24	1.94	1.94	I-5 to Port of Vancouver entrance/SW 26th St. Ext.
501 CO VANCVR	0.61	0.00	1.16	0.55	0.55	SR 501/Franklin to SR 501
509	0.00	0.00	3.20	6.39	6.39	I-705/Tacoma to Old SR 509
509			24.35 B		3.00	Near Des Moines Mem. Dr. to I-5 (yet to be constructed)
509	24.35 B	28.10	25.60	30.40	2.30	Near Des Moines Memorial Drive to SR 518/SeaTac
509	25.60	30.40	29.92	35.17	4.77	SR 518/SeaTac to SR 99
512	0.00	0.00	12.06	12.06	12.06	I-5/Lakewood to SR 167/Puyallup
518	0.00	0.00	3.81	3.42	3.42	SR 509/SeaTac to I-5/Tukwila (entire route)
519	0.00	0.00	1.14	1.14	1.14	I-90 to Seattle ferry terminal (entire route)
520	0.00	0.00	7.09	7.08	7.08	I-5 to I-405
520	7.09	7.08	12.83	12.82	5.74	I-405 to SR 202/Redmond
522	0.00	0.00	24.68	24.68	24.68	I-5/Seattle to US 2/Monroe (entire route)
525	0.00	0.00	30.52	30.68	30.67	I-5 to SR 20 (entire route) (0.01 mi of Ferry Zone not included)
526	0.00	0.00	4.52	4.52	4.52	SR 525/Mukilteo to I-5 (entire route)
529	0.00	0.00	2.20	2.20	2.20	I-5/Everett to Port of Everett/19th St.
530	16.95	0.00	20.79	3.84	3.84	I-5 to SR 9
539	0.00	0.00	15.16	15.16	15.16	I-5/Bellingham to Canada (entire route)
543	0.00	0.00	1.09	1.09	1.09	I-5 to Canada (entire route)
546	0.00	0.00	8.02	8.02	8.02	SR 539 to SR 9 (entire route)
704	0.00		5.90		5.90	I-5 to SR 7/Spanaway (yet to be constructed)
705	0.00	0.00	1.50	1.50	1.50	I-5/Tacoma to Schuster Parkway (entire route)
970	0.00	0.00	10.31	10.31	10.31	I-90/Cle Elum to US 97 (entire route)
<b>HSS Ferry Routes</b>						
020						Pt. Townsend/Keystone Ferry
104						Edmonds/Kingston Ferry
304						Seattle/Bremerton Ferry
305						Seattle/Bainbridge Island Ferry
525						Mukilteo/Clinton Ferry
						Anacortes/Sidney B.C. Ferry
<b>Total HSS Highway Miles =</b>					3635.92	(including 8.90 miles yet to be constructed)
<b>Total State Highway System Miles =</b>					7043.10	
<b>HSS % of Total System =</b>					52%	

**Bold routes are 2006 additions**



# Appendix F: Freight and Goods Transportation System

The Freight and Goods Transportation System (FGTS) is a ranking of roads in Washington State by average gross annual truck tonnage carried. The system is affected by changes in the economy, international trade, and the transportation industry such as changes in truck travel patterns, cargoes and tonnages.





# *Appendix G: Development Impacts Assessment*

The State Environmental Policy Act (SEPA) requires local jurisdictions to assess and mitigate the impacts of new development projects, including impacts to traffic. Together, local jurisdictions and WSDOT agree on an acceptable level of service (LOS). A particular development could cause impacts to traffic on a highway segment or an intersection to fall below the LOS\* thresholds following:

For Highways of Statewide Significance (HSS) including the ramp intersections, the LOS is set by law:

Urban Areas: LOS "D"  
Rural Areas: LOS "C"; or

For Regionally Significant State Highways (non-HSS), the LOS thresholds adopted by the local MPO/RTPO shall apply. In the absence of an adopted LOS threshold, the LOS for HSS shall apply. Where there is a specific inter-local agreement with WSDOT, the applicable LOS threshold levels are established by the agreement.

When a development affects a segment or intersection where the LOS is already below the applicable threshold, the pre-development LOS will be used instead of the otherwise applicable deficiency level.

When a development would degrade the facility's LOS below the applicable threshold, the facility would be considered deficient to support the development, and WSDOT and its partners would seek mitigation of traffic impacts.

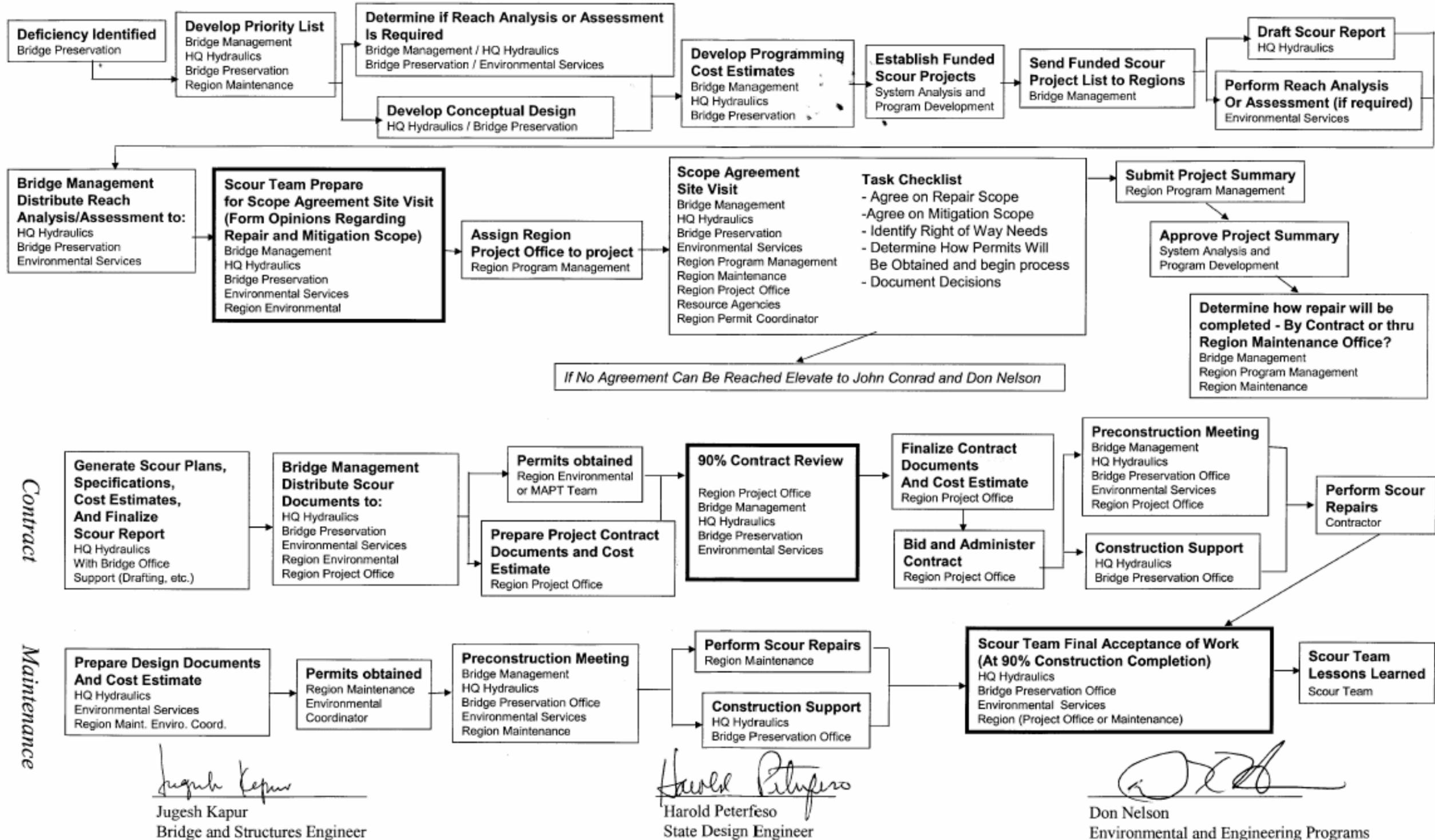
Mitigation can take the form of development constraints (for example, the appropriate placement of highway access points), developer constructed transportation improvements, or developer financial contribution to transportation improvements constructed by others. Details on these and other mitigation strategies are contained in the WSDOT *Development Review Manual* and the *Design Manual*.

\* For specific information about LOS, see Appendix A: Glossary



# Appendix H: Scoping Process Flow Diagrams

## BRIDGE SCOUR REPAIR PROCESS - P2 Program 2006





# Appendix H: Scoping Process Flow Diagrams

## SCOUR TEAM MEMBER ROLLS

### System Analysis and Program Development Office

- Determine which scour projects are within targeted funding levels using the preliminary priority list from BMO, BPO, and HQ hydraulics.
- Work with BMO to determine highest priorities within targeted funding level (hand in hand with 1st bullet).
- Lock estimate after scope has been determined by BMO.
- Give all regions the statewide priority list with the recommended scope developed by the scour team and associated cost estimate from BMO.
- Issue programming instructions for the projects on the statewide priority list.
- Review project summaries and approve scope, schedule, and cost of project and give copies of final scoping documents to the Regions.
- Develop 10 year and 20 year investment strategies to plan for future anticipated funding levels. This should correlate with the goals established in the WTP and HSP.
- Review and approve any changes to cost, scope, or schedule through the change management process, i.e. a PCF (project control form).
- Support the HQ Scour Team.

### Project Control and Reporting Office

- Approve new work order (WO) setups (PE, RW, and CN) submitted by regions at the beginning of scour project phase.
- Approve WO increases.
- Process a Federal-Aid agreements to fund designated scour projects.
- Approve projects to go on ad or to be awarded.
- Control cost increases > \$200K, CN schedule changes to a different quarter (3 mos.), construction season or biennium, and scope changes from approved Project Summary by means of a Project Control Form (PCF) and defined approval levels (Region, HQ Program Manager, Assistant Director PCRO, Director, Assistant Secretary, etc.).
- Ensure that a PCF is processed when necessary.
- Program emergent and emergency projects not included in the Legislatively approved biennium budget by means of a PCF.
- Determine the appropriate program for unprogrammed emergent and emergency project requests thru the application of policy (Kirkland/Smith memo and Department Project Screening Board minutes) and coordination with Maintenance Office.
- Identify funding sources and confirm the availability of funding to accommodate unanticipated projects.
- Advise regions on process for qualifying an emergent /emergency project for Federal-aid funding.
- Obtain approval of assistant Secretary for Engineering and Regional Operations Division on PCF for unprogrammed projects.
- Coordinate the review of the PCF: seek input from SAPD for scope or significant schedule (priority) changes; seek input from Bridge Management and Hydraulics for Scope, Cost, and Schedule changes; seek input from ESO when scope, cost, or schedule changes result from environmental issues.

### Bridge Management Office

- Lead HQ Scour Team.
- Primary point of contact for regions.
- Set bridge scour priorities.
- Develop programming cost estimates.
- Track scour projects (to insure they are moving forward in the right direction).
- Distribute Reach Assessments/Analysis, Scour Reports, and 90% Review Documents.
- Coordinate scope agreement site visit.
- Support the HQ Scour Team.

### Bridge Preservation Office

- Help prioritize scour projects by identifying most severe deficiencies.
- Work with HQ Hydraulics to develop conceptual design.
- Assist Bridge Management in developing the programming cost estimates.
- Help determine if Reach Analysis or Assessment is required.
- Work with HQ Scour Team to establish a scour repair scope.
- Attend Scope Agreement Site Visit and provide information regarding repair scope.
- Provide support to regions during contract document development.
- Review and comment on 90% contract documents.
- Attend preconstruction meetings.
- Observe scour repairs and give region a recommendation for final acceptance.
- Support the HQ Scour Team.

### HQ Hydraulics Office

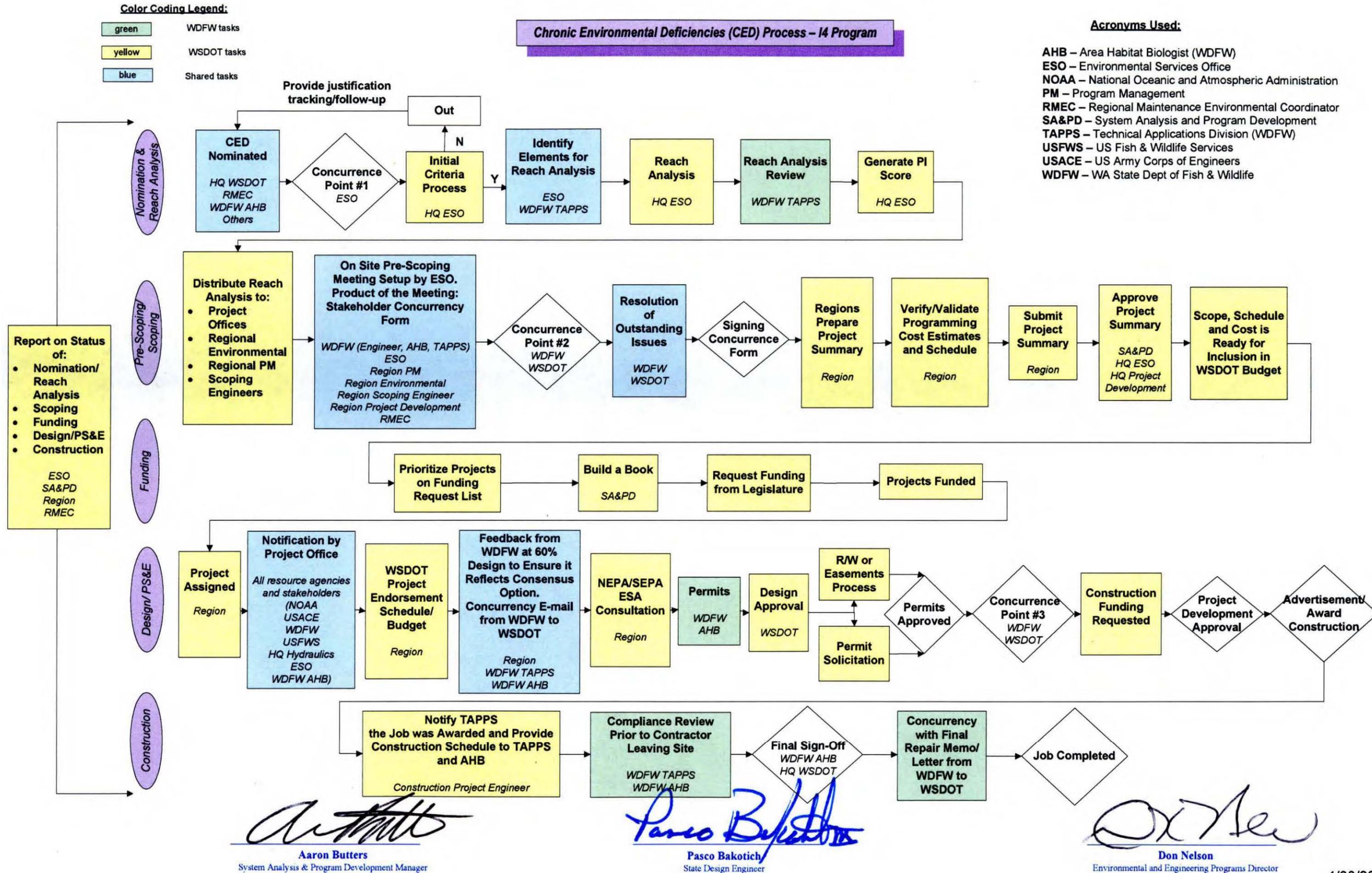
- Help prioritize scour projects by identifying most severe deficiencies.
- Work with Bridge Preservation Office to develop conceptual design.
- Assist Bridge Management in developing the programming cost estimates.
- Help determine if Reach Analysis or Assessment is required.
- Work with HQ Scour Team to establish a scour repair scope.
- Attend Scope Agreement Site Visit and provide information regarding repair scope.
- Prepare Scour Reports.
- Prepare scour plans, specifications, and cost estimate.
- Provide support to regions during contract document development.
- Review and comment on 90% contract documents.
- Attend preconstruction meetings.
- Provide construction support.
- Observe scour repairs and give region a recommendation for final acceptance.
- Support the HQ Scour Team.

### Environmental Services Office

- Help determine if a Reach Analysis or Assessment is required.
- Perform Reach Analysis or Assessment if required.
- Work with HQ Scour Team to establish a scour repair scope, focusing on environmental impacts and mitigation.
- Attend Scope Agreement Site Visit and provide information regarding environmental aspects.
- Assist region environmental in acquiring permits.
- Review and comment on 90% contract documents.
- Attend preconstruction meetings.
- Observe scour repairs and give region a recommendation for final acceptance.
- Support the HQ Scour Team.



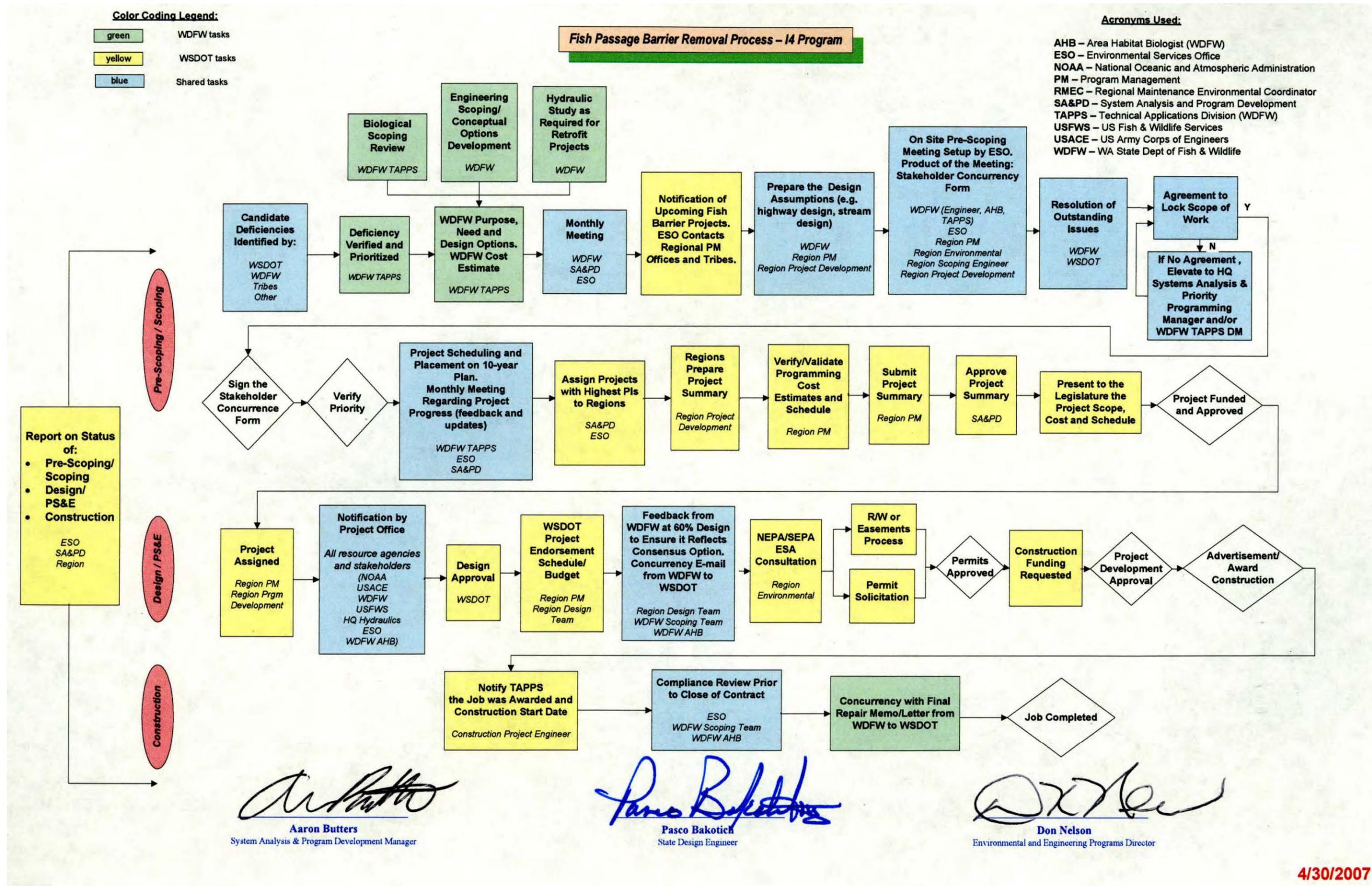
# Appendix H: Scoping Process Flow Diagrams



4/30/2007



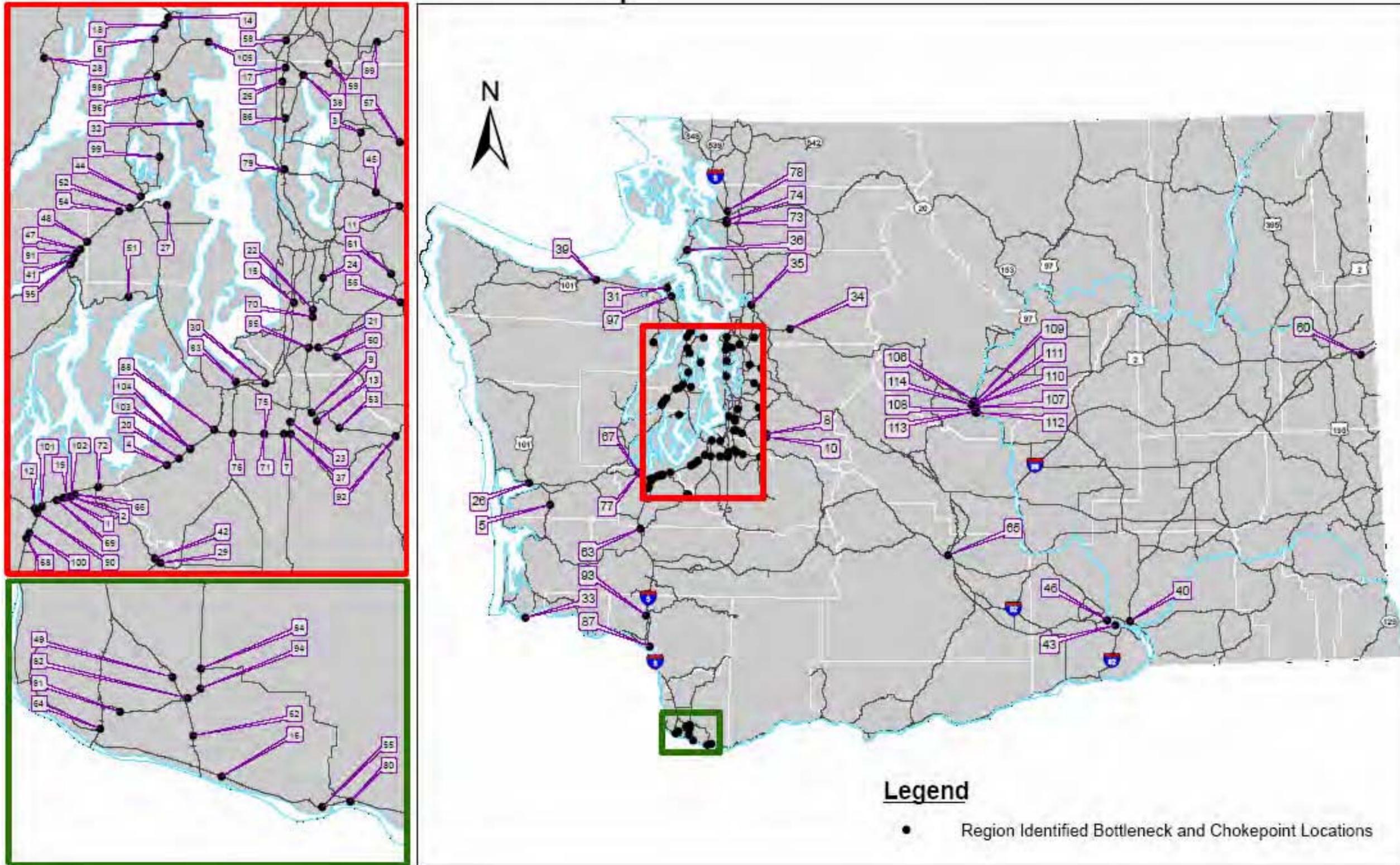
# Appendix H: Scoping Process Flow Diagrams



4/30/2007



# Appendix I: Bottlenecks and Chokepoints





# Appendix I: Bottlenecks and Chokepoints

The following list of bottleneck and chokepoint locations were identified as part of the Washington Transportation Plan update process. The list is not all inclusive and will be updated regularly to reflect the changes in growth and traffic patterns throughout Washington State.

Solutions to address the problem(s) associated with this list of locations can be found in the Highway System Plan Implementation Plan contained within this document in Appendix XX. The Highway System Plan Implementation Plan can also be viewed on the Highway System Plan Website available at: <http://www.wsdot.wa.gov/hsp/>

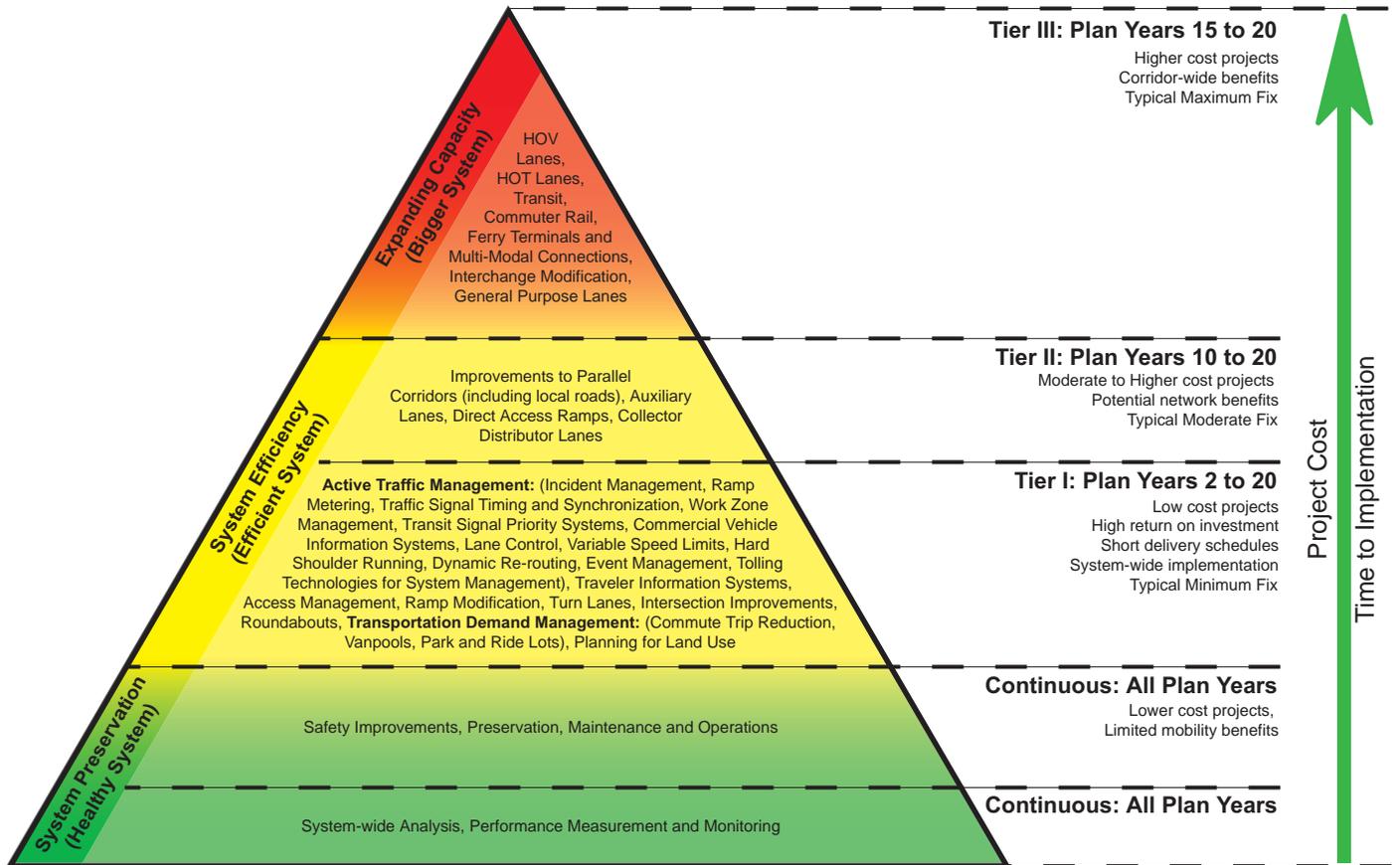
Key	Description
1	I- 5 NB off ramp (EB direction) to Sleater Kinney SB
2	Martin Way Interchange NB off ramp terminal
3	51st to West Lake Sammamish Parkway
4	Mounts-Old Nisqually Road Interchange to Gravelly Lake Drive
5	US 101 south of the community of Arctic
6	Pioneer Way to Kinman-Big Valley Roads
7	94th Ave SE On-Ramp to End of WB Climbing Lane
8	Green River to Crest of Hill
9	SR 167 to SR 162
10	SE 383rd St. to Green River
11	I-90 at Front Street
12	Cooper Point Road SW (Mottman Interchange) to I-5
13	SR 410 to 96th Street East
14	Kinman/Big Valley Road to SR 104
15	I-5 at 272nd Street Interchange
16	SR 14 from I-205 to 164th Ave
17	I-5 at Snohomish County Line
18	Kinman/Big Valley Road to SR 104
19	Pacific Avenue Interchange to Martin Way Interchange
20	Fort Lewis to Thorne Lane
21	SR 164 to C Street
22	SR 516 to S. 277th Street
23	SR 161 to SR 167
24	84th Ave. S. to S. 180th Street.
25	I-5 at Northgate
26	US 101 near Aberdeen Couplet/Levee Street (SR 109)
27	Jackson Avenue to Mile Hill Drive
28	Between Falls View Campground and Spencer Creek Road Vicinity
29	SR 510 to Clark Road SE (SR 507/Manke-Koeppen and SR 507
30	Hwy 99 at I-5 Interchange
31	SR 20 between SR 19 and Old Fort Townsend Rd
32	Bainbridge Ferry Terminal to Suquamish Way
33	Golf Course Road to Race Street
34	City of Sultan
35	US 2 to SR 9
36	Swantown Rd. to Erie Street
37	39th Avenue SW to SR 512
38	Intersection of SR 104 and SR 522 (Lake City Way)
39	Race Street to Brook Avenue
40	MP 13.46 to 4th Ave. Interchange
41	SR 106 to SR 300
42	Burnett Road (Yelm WCL) to SR 507
43	MP 37.08 to Edison Street Interchange
44	SR 3 and SR 304

Key	Description
45	Eastgate to Sunset I/C
46	SR 240 to George Washington Way
47	SR 300 to Mason/Kitsap County Line Vicinity
48	Mason/Kitsap County Line Vicinity to Lake Flora Road Vicinity
49	SR 500 to Padden Pkwy
50	Dogwood to Auburn City Limits
51	Elgin Clifton Road to SR 16
52	SR 3 and SR 16
53	181st Avenue East to 202nd Avenue East
54	SR 3 between Sunnyslope Road and SR 16/Gorst Spur
55	From NW 6th Ave to SR 500
56	SR 516 to SE 231st
57	Sahalee Way NE to 244th Ave NE
58	Hwy 99 at SR 104 Interchange
59	SR 522 to I-405
60	I-90, Sullivan Rd. Interchange to Harvard Rd. Interchange
61	SE 231st to 196th Ave SE
62	From SR 14 to Burton Rd
63	Mellen St. I/C to S. of Grand Mound I/C
64	I-5 bridge over Columbia River
65	US 12/16th Ave. Interchange
66	Martin Way Interchange SB off ramp terminal
67	US 101/SR8 Interchange - SB to EB Ramp (Increasing)
68	I- 5 NB Off/On Ramp Terminal at Tumwater Boulevard
69	Pacific Avenue Interchange NB off ramp terminal
70	SB SR-167 at exit for 277th Street
71	SR-512 at Canyon Road Interchange
72	Marvin Road Interchange SB off ramp terminal (SR 510)
73	College Way @ I-5 ramp terminal
74	George Hopper I/C
75	SR-512 at Canyon Road Interchange
76	SR 512 at SR 7 (Pacific Ave) Interchange
77	US 101/SR8 Interchange - WB Ramp (Decreasing)
78	Cook Road I/C
79	I-5 at I-90 Interchange
80	SR 14 intersections with SR 500 and 2nd
81	Intersection with St John's Blvd.
82	Ramp from SR 500 WB to I-205 SB
83	SR 509 at I-705
84	Intersection of SR 503 and Padden Pkwy.
85	SR 18 at SR 167 Interchange
86	I-5 at Lake City Way
87	From Talley Way to I-5
88	I-5 and SR 512 Interchange
89	SR 522 at Paradise Lake Road
90	I- 5 SB off ramp to N 2nd Avenue and US 101 off ramp to N 2nd
91	Intersection of SR 3 and SR 300
92	SR 410 at SR 165 Intersection
93	Intersection of SR 411 and PH 10 Road
94	Intersection of SR 500 and SR 503
95	Intersection of SR 3 and SR 106
96	Noll Road to Poulsbo City Limits
97	Intersection of SR 19 and SR 116
98	SR 305/SR 307 Intersection
99	SR 303/Riddell Road to McWilliams Road
100	I- 5 SB Off/On Ramp Terminal at Tumwater Boulevard
101	I- 5 between US 101 and Henderson St. exit
102	I- 5 between Trospen Road Interchange and Thurston/Pierce Co. Line
103	Mounts Road to 48th Street
104	Mounts Road to 48th Street
105	Miller Bay to Kingston Ferry
106	US 2/East Wenatchee - Cascade Ave Interchange
107	SR 28/Junction US 2/97 to 9th Street - Stage 3
108	SR 28/Junction US 2/97 to 9th Street - Stage 4
109	SR 28/Junction US 2/97 to 9th Street - Stage 5
110	SR 28/Junction US 2/97 to 9th Street - Stage 6
111	SR 28/Junction US 2/97 to 9th Street - Stage 7
112	SR 28/Grant Road Vicinity
113	West Approach - George Sellar Bridge
114	North Wenatchee Avenue - Study



# Appendix J: 2007-2026 HSP Implementation Plan

## Safety, Economic Vitality and Mobility Strategies



### Strategies to Address Congestion

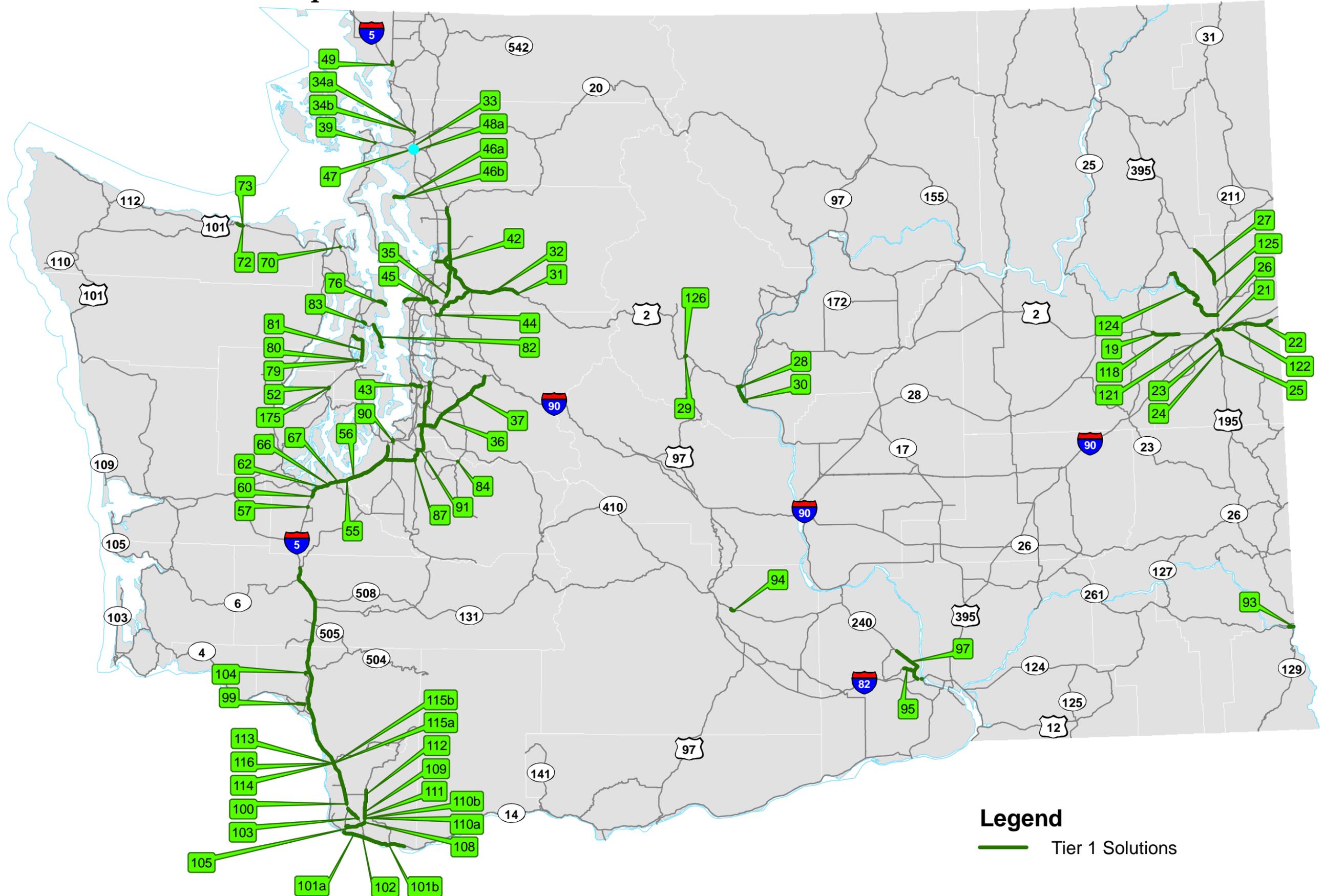
To effectively prioritize State highway system needs an implementation plan was developed to ensure future solutions followed the established WTP priorities and maximized all current and future revenue. Therefore, continuous system-wide analysis, performance measurement and monitoring must be completed to promote a “healthy system.” A healthy system must be preserved to prevent deterioration of assets, must provide improved safety and must be maintained and operated efficiently. It draws upon some of the solutions included in tier one.

System efficiency promotes the optimum operation of the highway system and its connections to local networks and multi-modal facilities including ferry terminals. System efficiency begins with delivering low cost projects with shorter construction schedules to a wide range of high benefit locations (tier one). It also includes some moderately priced projects to expand upon the previously completed lower cost projects that maintain the operational efficiency of a corridor (tier two).

Expanding capacity includes the most costly solutions from tier two and all tier three solutions. These solutions would only be considered after all lower cost alternatives have been exhausted. These solutions would also build upon previously implemented solutions so that no work would be wasted. These solutions may include adding general purpose or HOV lanes, passenger rail, transit, multimodal facilities and major interchange modifications.



# Appendix J: 2007-2026 HSP Implementation Plan: Tier I Solutions





# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
19	Eastern <i>County</i>	US 2 <i>Needs:</i>	259.21 to 266.89	US 2/Fairchild Air Force Base to I-90 - Access Control and I/S Improvements	Current	\$5,500,000
	Spokane	<i>Solution:</i>		Various improvement strategies have been developed over the last several years to alleviate growing congestion on the route segment. In the near-term, improvements to existing intersections, including the addition of signalization and possibly roundabouts, will be required to maintain adequate LOS as new developments are completed. Channelization may also be needed to address traffic flow disruptions.		
		<i>Expected Benefits:</i>		Intersection improvements will alleviate substantial delay currently experienced on minor streets while improving the safety of mainline operations. Raised median channelization will improve operating speeds by eliminating conflicting movements while also improving safety.		
		<i>Known Environmental Issues:</i>		Riparian and wetland areas are located within, and adjacent to, the right-of-way. Wildlife travel corridors may be present. Threatened and endangered species use of proximate habitat and rare plant presence may be concerns.		
118	Eastern <i>County</i>	US 2 <i>Needs:</i>	259.21 to 266.89	US 2/Fairchild Air Force Base to I-90 - ITS and Incident Response Deployment	Future	\$3,700,000
	Spokane	<i>Solution:</i>		Deployment of ITS capabilities in the corridor to alert motorists to traffic delays caused by incidents, accidents, or congestion, along with Incident Response coverage.		
		<i>Expected Benefits:</i>		Additional ITS capabilities will enhance safe operations of the facility through motorist awareness of delay caused by incidents on the facility.		
		<i>Known Environmental Issues:</i>		Riparian and wetland areas are located within, and adjacent to, the right-of-way. Wildlife travel corridors may be present. Threatened and endangered species use of proximate habitat and rare plant presence may be concerns.		
121	Eastern <i>County</i>	I-90 <i>Needs:</i>	274.79 to 277.8	I-90/US 195 I/C to Liberty Park I/C - Enhanced ITS and Incident Response Capabilities	Current	\$1,000,000
	Spokane	<i>Solution:</i>		Provision of enhanced ITS systems in the corridor along with additional Incident Response capabilities.		
		<i>Expected Benefits:</i>		Additional ITS capabilities will enhance safe operations of the facility through motorist awareness of delay caused by incidents on the facility.		
		<i>Known Environmental Issues:</i>		Peregrine Falcons are located in the vicinity of Latah Creek Bridge. There are wetlands adjacent to roadway in some areas west of US 195. Urban Natural Open Space is located along Latah Creek. There are cultural and historical sites along Latah Creek (prehistoric). Historic houses and neighborhoods are present within Browne's Addition and south of Viaduct on South Hill of Spokane.		

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
21	Eastern County Spokane	I-90 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	278.83 to 279.05	I-90/US 2 I/C EB Off-Ramp - Ramp and Terminal Improvements Traffic congestion at ramp terminal and inadequate storage length creates queuing issues, with traffic backing up onto mainline I-90. Ramp and terminal improvements. Improved operation on the ramp, and at the ramp terminal, will eliminate mainline I-90 congestion as well as safety issues related to the potential for ramp queuing interfering with I-90 mainline movements. Air quality may improve as a result of less delay. Freight movements will benefit as a result of less delay. I-90 closely follows the Spokane River riparian area on this corridor segment. Widening of the corridor to the north would have impacts on the riparian area. There could also be impacts to wetland areas associated with widening of the facility. Elk use areas south of I-90. There are also archaeological sites along the river at various locations between Sullivan interchange and the state line.	Current	\$2,700,000
122	Eastern County Spokane	I-90 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	280.57 to 288.13	I-90/Sprague I/C to Sullivan I/C - Enhanced ITS and Incident Response Capabilities High growth rates of 7 to 8 percent in traffic volumes on this route segment will absorb reserve capacity recently afforded by the construction of additional general purpose lanes. A portion of this route segment is predicted by the regional model to operate at well below 70% of posted speed by 2030. Continued development of ITS capabilities and enhanced Incident Response program. Provision of ITS and enhanced Incident Response will help to maintain acceptable operating conditions on this route segment prior to the construction of general purpose lanes in the longer term. Expansion of the Sullivan interchange to the north would impact Spokane River riparian areas, Bald Eagle wintering habitat and Ospey habitat located along the Spokane River.	Future	\$1,500,000
22	Eastern County Spokane	I-90 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	288.13 to 295.22	I-90/Sullivan I/C to Idaho State Line - Enhanced ITS and Incident Response Capabilities Urbanization of the corridor, along with increased commuter traffic between Spokane and North Idaho communities, will create travel speed deficiency, with PM peak travel speeds at 60% of the posted speed limit. Provide for enhanced ITS and incident response capabilities within the route segment. Improved traffic flow resulting from increased incident detection, response capabilities, and motorist advance warning. I-90 closely follows the Spokane River riparian area on this corridor segment. Widening of the corridor to the north would have impacts on the riparian area. There could also be impacts to wetland areas associated with widening of the facility. Elk use areas south of I-90. There are also archaeological sites along the river at various locations between Sullivan interchange and the state line.	Current	\$3,540,000
23	Eastern County Spokane	US 195 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	85.96 to 90.75	US 195/Hatch Rd to I-90 - Provision of Park & Ride Facilities This route segment is experiencing increasing conflict and safety issues as minor street traffic merges with high speed traffic on US 195. Provision of Park & Ride facilities. Reduction in single occupant vehicles within the corridor, resulting in improved safety and mobility. This segment of US 195 is located in the vicinity of Latah Creek and associated riparian and wetland areas. While it is not known if there are, or would be, specific environmental issues, projects located in the corridor would need to be sensitive to rip	Current	\$2,000,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
24	Eastern County Spokane	US 195 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	85.96 to 90.75	US 195/Hatch Rd to I-90 - Provision of ITS This route segment is experiencing increasing conflict and safety issues as minor street traffic merges with high speed traffic on US 195. Provision of ITS capabilities in the corridor to alert motorists to traffic delays caused by incidents, accidents, or congestion, especially at the US 195 interchange with I-90, which is a chokepoint. ITS capabilities will enhance safe operations of the facility through motorist awareness of delay caused by incidents on the facility. This segment of US 195 is located in the vicinity of Latah Creek and associated riparian and wetland areas. While it is not known if there are, or would be, specific environmental issues, projects located in the corridor would need to be sensitive to rip	Current	\$2,830,000
25	Eastern County Spokane	US 195 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	85.96 to 90.75	US 195/Hatch Rd to I-90 - I/S Modifications and Improvements This route segment is experiencing increasing conflict and safety issues as minor street traffic merges with high speed traffic on US 195. Left turn restrictions and intersection improvements for turning traffic. Elimination of left turn movements, as well as the construction of acceleration and deceleration lanes, will improve the safe operations at intersections located within the route segment. This segment of US 195 is located in the vicinity of Latah Creek and associated riparian and wetland areas. While it is not known if there are, or would be, specific environmental issues, projects located in the corridor would need to be sensitive to rip	Current	\$5,500,000
26	Eastern County Spokane	SR 291 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0.5 to 1.18	SR 291/Wall St to Ash St - I/S Improvements High approach volumes at closely spaced intersections create severe mainline delay. Signal timing improvements and construction of dedicated turn lanes at signalized intersections will help to improve travel through this chokepoint. Improved travel speeds will improve regional air quality. Reduced travel times will benefit regional, as well as local, freight mobility. SR 291 also provides direct access to many recreational opportunities in the Spokane area. Some sections of this segment of SR 291 are located in close proximity to the Spokane River, presenting potential mitigation challenges relative to shorelines and critical areas for improvements in those areas. New alignment proposals impact identified w	Current	\$400,000
27	Eastern County Spokane	US 395 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	176.79 to 188.48	US 395/Fender Rd Vic to Stevens Co Line - I/S Improvements The US 395 route segment was divided into 4 logical segments for analytical purposes in the US 395 RDP. All four sections show failing level-of-service (E) by 2007. Several major intersections are either currently experiencing a failing LOS or will be in the near future as projected growth, especially in the Deer Park area, begins to materialize. Channelization improvements that will improve operations at intersections with failing LOS. Reduction of accidents at existing at-grade intersections. Reduced delay at intersections, which are projected to operate at LOS F in the 2020 forecast year. Reduction of delay on mainline, which is currently functioning at LOS E, with portions of the route functioning at LOS F in the forecast year. Implementation of US 395 Route Development Plan recommendations anticipates that there would be impacts to flood plain and wetland areas. There are also several historical properties that may be impacted by improvements in the route segment. However, it	Current	\$3,000,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
125	Eastern County	US 395 <i>Needs:</i>	176.79 to 188.48	US 395/Fender Rd Vic to Stevens Co Line - Traffic Management Strategies	Current	\$2,000,000
	Spokane	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Provision of Park & Ride facilities as well as ITS and Incident Response capabilities in the corridor. The improvements will help to maintain acceptable operating conditions on US 395 in the near term. Implementation of US 395 Route Development Plan recommendations anticipates that there would be impacts to flood plain and wetland areas. There are also several historical properties that may be impacted by improvements in the route segment. However, it		
124	Eastern County	SR 291 <i>Needs:</i>	0 to 22.31	SR 291/US 2 to Scott's Valley Rd - I/S Improvements	Current	\$5,000,000
	Spokane & Stevens	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Minimum fixes that will generate significant mobility benefits, and can be accomplished in the near-term, as identified in the Route Development Plan, include signal timing coordination and improvements, various channelization improvements at intersections, retail driveway consolidation, lane extensions to provide storage, signal and/or roundabout construction and construction of two-way left turn lanes. Congestion reduction, reducing delay at signalized intersections and safety benefits through removal and minimization of conflict points. Some sections of this segment of SR 291 are located in close proximity to the Spokane River, presenting potential mitigation challenges relative to shorelines and critical areas for improvements in those areas. New alignment proposals impact identified w		
29	North Central County	US 2 <i>Needs:</i>	99.89 to 100.24	US 2/Leavenworth Vicinity - Signal management	Current	\$200,000
	Chelan	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Adaptive signal management Congestion relief through better traffic flow management Historical properties, potential wetlands if a new route is selected, and urban development conflicts. Societal impacts include increased noise, historical buildings and residential units.		
126	North Central County	US 2 <i>Needs:</i>	99.89 to 100.24	US 2/Leavenworth Vicinity - Improved parking and pedestrian overcrossing	Future	\$5,000,000
	Chelan	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Improved parking capacity/alternatives and install pedestrian overcrossing Congestion relief through increased safety for pedestrians and improved traffic flow. Historical properties, potential wetlands if a new route is selected, and urban development conflicts. Societal impacts include increased noise, historical buildings and residential units.		

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
28	North Central County Chelan	US 2 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	118.54 to 119.99	US 2/School St to Odabashian Bridge - Median barrier This route provides one of only two crossings of the Columbia River and connects the cities of East Wenatchee and Wenatchee. Extend median barrier in the vicinity of School St. intersection to turn School St. intersection into a right in right out only intersection. Congestion relief through better traffic flow management Noise impacts and other societal impacts are present in this urban segment.	Future	\$60,000
30	North Central County Chelan & Douglas	SR 285 & SR 285 Couplet <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0.00 and 5.00 and 5.00 and	SR 285, SR 285 Couplet/E Wenatchee to US 2 - Signal management City highway is causing congestion related to volume of traffic. Adaptive signal management and camera use to better manage traffic flows through the segment and better access management practices. Congestion relief through better traffic flow management There is the potential for impacting historical properties. Being an urban corridor, there is noise and other societal impacts to consider.	Current	\$1,000,000
46a	Northwest County Island	SR 532 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 2.91	SR 532/Sunrise Dr to County Line - Access Management SR 532 serves as the only access to Camano Island, which is experiencing a great deal of residential growth. Incorporating access management strategies in the corridor will help to reduce accidents and delays caused by the many driveways which exist here, and will also support the TPA projects that will be built in this area. Better flow of traffic using existing facilities. Eliminating left turns out of driveway will reduce accidents. The corridor is within the 100-year floodplain and borders the Skagit Wildlife Area which provides habitat for migratory birds. There are wetlands mapped in the vicinity of the Hanstad Rd/SR 532 intersection that would require ground verification.	Current	\$5,000,000
46b	Northwest County Island	SR 532 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 2.91	SR 532/Sunrise Dr to County Line - Park and Ride SR 532 serves as the only access to Camano Island, which is experiencing a great deal of residential growth. Expansion of the Terry's Corner Park and Ride Increased opportunity for transit ridership will help to reduce congestion in the corridor, and will increase safety. The corridor is within the 100-year floodplain and borders the Skagit Wildlife Area which provides habitat for migratory birds. There are wetlands mapped in the vicinity of the Hanstad Rd/SR 532 intersection that would require ground verification.	Current	\$3,000,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
36	Northwest County King	SR 18 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	2.21 to 28.41	SR 18 - SR 167 to I-90 - ITS SR 18 congested corridor segment. Need to address mobility, safety and operational deficiencies. Install Intelligent Transportation Systems (ITS) including Closed Circuit Television (CCTV), data station, Highway Advisory Radio System (HARS), Highway Advisory Radio Transmitter (HART), ramp meter, Variable Message Sign (VMS), and fiber optic line. The addition of ITS improvements here will improve SR 18 operations and help to address mobility and safety deficiencies here. Sensitive areas, such as wetlands and streams within the corridor, are marked early design in order to avoid negative impacts whenever reasonably possible. The Maple Valley to Issaquah Hobart Road section includes creation, enhancement and purchase of we	Current	\$37,980,000
37	Northwest County King	SR 18 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	2.87 to 27.91	SR 18 - I-5 to I-90 - Intersection improvements and signalization SR 18 congested corridor segment. Need to address mobility, safety and operational deficiencies. Install signals as planned by Northwest Region Traffic. The addition of ITS improvements here will improve SR 18 operations and help to address mobility and safety deficiencies on this SR 18 corridor segment. Sensitive areas, such as wetlands and streams within the corridor, are marked early design in order to avoid negative impacts whenever reasonably possible. The Maple Valley to Issaquah Hobart Road section includes creation, enhancement and purchase of we	Current	\$2,500,000
43	Northwest County King	SR 518 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 3.42	SR 518 - SR 509 to I-5 - ITS SR 518 congested corridor segment. Need to address mobility, safety and operational deficiencies. Closed Circuit Television (CCTV), DATA Stations, Highway Advisory Radio System (HARS), Ramp Meter, Variable Message Sign (VMS), conduit and fiber optic line. The addition of ITS improvements will help improve SR 518 operations and will help address mobility and safety deficiencies here. Constraints identified include Federal Aviation Administration controlled activity and object-free areas, wetlands, geology/soils, recreational areas, and potential hazardous material sites.□	Current	\$6,000,000
44	Northwest County King & Snohomish	SR 522 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	11.1 to 24.68	SR 522 - I-405 to US-2 (Monroe) - ITS Congested corridor segment with safety deficiencies. Need to address capacity, safety and operational deficiencies. Install Intelligent Transportation Systems (ITS) including Closed Circuit Television (CCTV), data station, Highway Advisory Radio System (HARS), Highway Advisory Radio Transmitter (HART), ramp meter, Variable Message Sign (VMS), and fiber optic line. Provision of ITS improvements here will improve SR 522 operations and help address congestion and safety needs. Throughout the design and construction of all projects on SR 522, WSDOT will give the highest consideration to reducing impacts to the environment and improving current environmental conditions. Storm water ponds, treatment facilities, and construction e	Current	\$23,000,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
33	Northwest County Skagit	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	228.85 to 228.85 53% of posted speed limit Intersection improvements at ramp terminals Reduced delays at ramp terminal intersections, and reduction of southbound left-turn queuing. The entire length of this corridor lies within the Skagit River flood plain.	I-5/George Hopper Rd Interchange - Intersection Improvements	Current	\$4,000,000
34a	Northwest County Skagit	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	232.95 to 232.95 61% of posted speed limit Improvements at the Cook Rd/Old Highway 99 intersection. Reduced delays and queuing at the intersection. The northern section of this interchange could be subject to flooding from the Samish River, which is located approximately 2 miles north of Cook Road.	I-5/Cook Rd Interchange - Intersection Improvements @ Old Hwy 99	Current	\$2,000,000
34b	Northwest County Skagit	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	232.95 to 232.95 61% of posted speed limit Intersection improvements at I-5 Southbound ramp terminals. Reduced delays at the intersection, and reduction of queuing on ramps. The northern section of this interchange W20 could be subject to flooding from the Samish River, which is located approximately 2 miles north of Cook Road.	I-5/Cook Rd Interchange - Intersection Improvements @ SB Ramps	Current	\$2,000,000
39	Northwest County Skagit	SR 20 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	47.3 to 47.34 76% of posted speed limit Current TPA project scoping underway Reduced delays at intersections, and reduction of westbound left-turn queuing. There are two bald eagle nests adjacent to the corridor within 700 feet and 350 feet of the roadway. There are several wetlands mapped proximal to the right of way. Bald eagle nests and wetlands would require ground verification. Several streams cross corridor.	SR 20/Sharpe's Corner to Fidalgo Bay Rd - Intersection Improvements	Current	\$5,000,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
47	Northwest County Skagit	SR 538 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 0 63% of posted speed limit Add capacity improvements from Freeway Dr to Riverside Dr. Reduced delays at ramp terminal intersections.	I-5/SR 538 - Ramp Terminals	Current	\$5,000,000
48a	Northwest County Skagit	SR 538 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 1.27 A high level of commercial/residential development and College traffic make this corridor one of the most congested in Skagit County. Incorporating access management strategies in the corridor will help to reduce accidents and delays caused by the many driveways which exist here. Keep traffic flowing by maximizing the existing roadway as much as possible. The corridor is located within the commercially developed area of Mount Vernon and crosses the BNSF railway. There are no GIS-mapped points of sensitive habitat or species.	SR 538/I-5 to LaVenture Rd - Access Management	Future	\$2,000,000
31	Northwest County Snohomish	US 2 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 28.87 US-2 congested corridor segment. Need to address mobility, safety and operational deficiencies. Intelligent Transportation Systems (ITS) improvements - Closed Circuit Television (CCTV), DATA Stations, Highway Advisory Radio System (HARS), Ramp Meter, fiber optics. The addition of ITS improvements will help improve operations on US-2 and will help to address mobility and safety deficiencies here. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	US-2 - I-5 to Goldbar - Intelligent Transportation Systems (ITS) improvements	Current	\$9,600,000
32	Northwest County Snohomish	US 2 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	21.37 to 24.17 This overcapacity stretch of two lane roadway with both signalized and un-signalized intersections is congested, particularly on summer weekends Intersection improvements and access management with specific improvements at Old Owen Road, Main Street and 339th Avenue. With less stop and go traffic, vehicle emissions will be reduced and access to recreational facilities along US-2 will be enhanced. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	US-2 - City of Sultan - I/S improvements and access management	Current	\$3,602,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
35	Northwest County Snohomish	SR 9 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	4.03 to 29.57	SR 9 - 176th St. SE to SR 530 - ITS SR 9 congested corridor segment. Need to address mobility, safety and operational deficiencies. Construct Intelligent Transportation Systems (ITS) improvements. The addition of ITS improvements here will improve SR 9 operations and help to address mobility and safety deficiencies. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$20,000,000
42	Northwest County Snohomish	SR 204 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 2.28	SR 204 - US-2 to SR 9 - Relocate Frontier Village access High traffic volumes combined with a large number of private driveways and intersections are the primary cause on congestion on this highway segment. Relocate Frontier Village access out of intersection with SR 9 and look at removing signal at 91st. Add storage for traffic from eastbound SR 204 to northbound SR 9. Access management and intersection treatments here will address congestion deficiency and improve traffic flow.	Current	\$5,247,000
45	Northwest County Snohomish	SR 524 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 11	SR 524 - Edmonds to Bothell - ITS SR 524 congested corridor segment. Need to address mobility, safety and operational deficiencies. Install Closed Circuit Television (CCTV), intersection loop detection, and fiber optics. The addition of ITS improvements will help improve SR 524 operations and will help address mobility and safety deficiencies here. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$9,860,000
49	Northwest County Whatcom	SR 539 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 0.87	SR 539/I-5 to Kellogg Rd - Corridor Improvements (Minimum) A high level of commercial development and Canadian traffic make this corridor suffer from near continuous congestion. Incorporating access management strategies in the corridor will help to reduce accidents and delays caused by the many driveways which exist here. Better flow of traffic using existing facilities as much as possible. Eliminating left turns out of driveway will reduce accidents. A tributary of Squalicum creek flows just outside the west sidewalk of SR 539 but is not documented to support protected species. Squalicum Creek, which supports populations of Chinook salmon and steelhead, confluences with this tributary.	Current	\$5,000,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
72	Olympic	US 101	248.09 to 249.98	US 101/Race St to Brook Ave - Access Management, Signal Replacement, and Sidewalk	Current	\$4,729,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. The high volumes in the two general purpose lanes in combination with signals reduce capacity along mainline US 101 in Port Angeles Core Business District between Race Street and Golf Course Road. Race Street is a recreational link to Hurricane Ridge and also a bypass to a portion of downtown Port Angeles. Recreational route with signalized intersections are causing congestion on mainline. It is important to note that the V/C ratios along mainline in 2003 range from 0.79 to 0.98. It is highly likely that the signal systems in Port Angeles will be less than 70% of posted speed threshold on a daily basis after 2005.			
	Clallam	<i>Solution:</i>	Access Management and signal coordination. This project will apply Access Management control between Golf Course and Delguzzi, replace six signal systems with interconnect (Assumed saltwater corrosion requires replacement of existing signals), repair two fish barriers within project limits, and provide continuous sidewalks within city limits.			
		<i>Expected Benefits:</i>	Intersection benefits of ~\$1,797,000 and safety benefits at ~\$12,917,000 for total benefits of ~\$14,714,000. Consider access management controls that improve non-motorized use (continuous sidewalks, purchase of access rights). There are 2 fish passage barriers that require repair in this segment. This segment is also a T-2 freight route which is used by the Port of Port Angeles and is a recreational route from Hurricane Ridge in the Olympic National Park and private ferry to Victoria B.C.			
		<i>Known Environmental Issues:</i>				
73	Olympic	US 101	248.99 to 249.89	US 101/Port Angeles Couplet from Golf Course Rd to Race St - Access Management, Signal Replacement, and Sidewalk	Current	\$3,327,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. The high traffic volumes in the two general purpose lanes in combination with signals reduce capacity along the US 101 Couplet in the Port Angeles Core Business District between Race Street and Golf Course Road. Recreational route with signalized intersections are causing congestion on couplet. Analysis of existing travel patterns and traffic volumes along The US 101 Port Angeles Couplet through Port Angeles indicate that the level of service (LOS) is deteriorating. This segment is approaching 70% of posted speed threshold during peak commuter hours in 2003 with volume to capacity ratios on the Front Street couplet mainline ranging from 0.84 to 0.98.			
	Clallam	<i>Solution:</i>	Access Management and signal coordination. This project will apply Access Management controls between Golf Course and Race Street on the Front Street Couplet, replace two signal systems with interconnect (Assumed saltwater corrosion requires replacement of existing signals), repair one fish barrier within project limits, and provide continuous sidewalks within city limits.			
		<i>Expected Benefits:</i>	Intersection benefits of ~\$233,000 and safety benefits at ~\$3,596,000 for total benefits of ~\$3,829,000. Consider access management controls that improve non-motorized use (continuous sidewalks). There is one fish passage barrier that requires repair in this segment. This segment is also a T-2 freight route which is used by the Port of Port Angeles and is a recreational route to Hurricane Ridge in the Olympic National Park and private ferry to Victoria, B.C.			
		<i>Known Environmental Issues:</i>				
70	Olympic	SR 19	10.68 to 10.69	SR 19/SR 116 Intersection - Signal and Channelization or Roundabout	Current	\$1,298,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. High traffic volumes at the intersection of SR 19 and SR 116 cause congestion. Analysis of existing travel patterns and traffic volumes at this intersection show warrant 1 (vol) is met.			
	Jefferson	<i>Solution:</i>	Intersection improvements (signalization and channelization). Install an additional southbound left turn lane (creating double left), a northbound right turn lane, reconfigure the westbound channelization by installing a right turn lane and consider a northbound acceleration lane, and install a signal system.			
		<i>Expected Benefits:</i>	Intersection benefit of ~\$1,380,000 and safety benefit of ~\$22,000 for total benefits of ~\$1,402,000.			
		<i>Known Environmental Issues:</i>	There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR			

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
76	Olympic	SR 104	22 to 24.41	SR 104 - Miller Bay to Kingston Ferry - Construct a new park and ride/remote ferry holding lot	Current	\$12,000,000
	County Kitsap	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Traffic Volumes related to Ferry arrival and departures cause congestion Construct a new park and ride/remote ferry holding lot for passenger ferry traffic and seasonal peaks in automobile ferry traffic. New Park-and-ride will allow for more WSF walk-on and transit trips.		0
79	Olympic	SR 303	0 to 5.59	SR 303 - SR 304 to Brownsville Hwy. - Construct intersection improvements and Traffic System Management (TSM)	Current	\$1,500,000
	County Kitsap	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		SR 303 congested corridor. Need to address operational, capacity and safety deficiencies. Construct Traffic System Management (TSM) improvements including signal coordination, channelization at intersections where needed and signal priority. The addition of ITS improvements will help improve operations on SR 303 and will help address mobility and safety deficiencies here. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.		
80	Olympic	SR 303	0 to 9	SR 303 - SR 304 to Clear Creek Rd. - ITS	Current	\$11,200,000
	County Kitsap	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		SR 303 congested corridor. Need to address operational, capacity and safety deficiencies. Install two Closed Circuit Television (CCTV) units near Clear Creek Rd. and conduit from SR 304 to Clear Creek Rd. The addition of ITS improvements will help improve operations on SR 303 and will help address mobility and safety deficiencies here. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.		
81	Olympic	SR 303	2.91 to 3.91	SR 303 - SR SR 303/Riddell Road to McWilliams Road - Access management and intersection improvements.	Current	\$3,098,000
	County Kitsap	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Heavy turn movements in center turn lanes combined with heavy volumes. Access management and intersection improvements. Access management and intersection improvements here will improve vehicle flow and address safety deficiencies associated with heavy turn movements in the center lane. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.		

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate	
82	Olympic	SR 305	0 to 7.03	SR 305 - Bainbridge Ferry Terminal to Suquamish Way - Intersection improvements with transit queue jump lanes.	Current	\$3,109,000	
	County Kitsap	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	A lack of capacity combined with heavy travel volumes from the ferry causes significant speed reductions throughout this entire section of highway. Intersection improvements with transit queue jump lanes. Intersection improvements will improve traffic flow and transit queue jumps will improve transit service reliability here.				0
83	Olympic	SR 305	9.69 to 10.7	SR 305 - Knoll Road to Poulsbo City Limits - Add Channelization at Noll Rd., SR 305. and Johnson Way	Current	\$1,043,000	
	County Kitsap	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	A combination of high volumes on a two-lane facility and signal systems cause congestion. Channelization: Noll Rd. - Add left turn lane and center merge lane to SR 305. Johnson Way - Add left turn lanes to SR 305. Channelization and addition of LT/Center lanes will improve traffic flow and reduce congestion.				0
175	Olympic	SR 3	25.98 to 26.35	SR 3/NE Romance Hill Rd to SR 300 - Park and Ride Lot	Current	\$1,380,000	
	County Mason	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Belfair Park and Ride Lot. A new 50 stall lot (replacing 30 stall leased site) is proposed in the vicinity of NE Romance Hill Road or near SR 300. Park and ride lot benefits of ~\$687,410. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin				0
52	Olympic	SR 3	26.35 to 26.36	SR 3/SR 300 Jct - Modify Intersection	Current	\$112,000	
	County Mason	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Mobility Deficiency - Bottleneck and Chokepoint. High traffic volumes at the intersection of SR 3 and SR 300 cause congestion. Analysis of existing travel patterns and traffic volumes at this intersection show warrants 1 (vol) and 2 (int) are met (Delay more than 50 seconds per vehicle) Intersection improvements. Prohibit eastbound left turn movements from SR 300 to SR 3 and install raised median. Consider right-in, right-out only if a safety and operational analysis calls for it later, otherwise assume some costs for loss of access rights due to diversion, ~\$100 per frontage foot for developments between SR 3 and NE Clifton Rd. Prohibit left turn movement from SR 300 onto SR 3 for an intersection benefit of ~\$24,000 and a placeholder safety benefit of ~\$169,000. Total benefits of approximately \$193,000. The intersection of SR 300 and NE Clifton Lane was analyzed for the addition of the rerouted vehicles prohibited from turning left at SR 300/SR 3 I/S (9 vehicles). A Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin				

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
55	Olympic County Pierce	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	115 to 123.64	I-5 - Thurston/Pierce County Line to Thorne Lane - ITS I-5 congested corridor segment. Need to address mobility, safety and operational deficiencies. Construct Intelligent Transportation System (ITS) improvements per ITS Master Plan. The implementation of the ITS system components here will help to improve mainline flow on I-5. Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.	Current	\$5,170,000
56	Olympic County Pierce	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	116.77 to 131.25	I-5 - Mounts Road to 48th Street - Install ramp metering on ramps where warranted. A combination of high traffic volumes with short Interchange spacing and high on and off ramp merge volumes cause congestion. Install ramp metering on ramps where warranted. Ramp metering will reduce delay Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.	Current	\$6,138,000
84	Olympic County Pierce	SR 410 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	11.84 to 11.85	SR 410 - SR 410 at SR 165 Intersection - Intersection Improvements and Signalization The intersection of SR 410/SR 165 is unsignalized and may be causing congestion and accidents within the City of Buckley. Unsignalized intersection may be causing back-ups on SR 165. Signalize the intersection of SR 165 and SR 410. Construct an eastbound SR 410 to southbound SR 165 turn lane which bypasses the signal. Intersection signalization and EB turn lane provision here will reduce congestion and improve safety and operations at this intersection.	Current	\$1,100,000
87	Olympic County Pierce	SR 512 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 12.06	SR 512 - Lakewood to Puyallup - ITS SR 512 congested segment. Need to address capacity/safety deficiencies. Install Intelligent Transportation Systems (ITS) including Closed Circuit Television (CCTV), data station, Variable Message Sign (VMS), conduit and fiber optic line. The provision of ITS improvements here will improve SR 512 mainline operations and help address congestion and safety deficiencies. SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40	Current	\$14,000,000

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# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
90	Olympic County Pierce	I-705 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 0.72	SR 705 - I-5 to SR 509 - ITS I-5 congested corridor segment with mobility, safety and operational deficiencies. Construct Intelligent Transportation System (ITS) improvements per ITS Master Plan (see note). The implementation of the ITS system components here will help to improve mainline flow on I-5. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks. Natural features: Urban growth area. Nearby Tribal lands. Several types of public land ownership. Adjacent to a Critical Aquifer recharge area. Air quality maintenance area for CO and particulates.	Future	\$1,575,000
57	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	99.65 to 99.66	I-5/93rd Ave SW I/C - Signal and Channelization at SB Off Ramp I/S Mobility Deficiency - Bottleneck/Chokepoint. Unsignalized approach with delay more than 50 seconds per vehicle at the Interstate 5 Southbound Off Ramp to SR 121 Interchange (93rd Ave. SW) New signal and channelization (Separated right and left turn lanes along the off ramp and left turn lane on 93rd Ave. SW to the Southbound on). Unknown at this time. This conceptual solution is a placeholder for an emerging bottleneck/chokepoint location. There are ~5 storm water outfalls and ~5 fish passages within this segment of I-5. There are wetlands on both sides of I-5 in the middle third of this segment.	Current	\$1,528,000
60	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	102.86 to 115	I-5/Trosper Rd I/C to Pierce County Line - Ramp Metering Mobility Deficiency - Bottleneck and Chokepoint. A combination of high traffic volumes and on ramp weaves along Interstate 5 cause frequent back-ups in the PM peak. Traffic backs up in the vicinity of I-5/US 101 Interchange to Olympia City Center exits and between Pacific Avenue and Martin Way interchanges. Analysis of existing travel patterns and traffic volumes along Interstate 5 between Trosper Road Interchange and the Thurston/Pierce County Line indicate that the level of service is deteriorating. The weighted mainline segment along Interstate 5 is approaching or at 70% of the posted speed during the PM peak commuter hours in 2005 and less than 70% of the posted speed threshold in 2030. Ramp metering. This project will improve upon the existing Intelligent Transportation System by providing ramp metering at ~15 on-ramps in the northbound and southbound directions of Interstate 5 in the urban areas of Tumwater/Olympia/Lacey. General purpose lane benefits are ~\$46,612,000. I did not assume any safety benefits even though congestion type accidents along mainline could be improved. Benefits assume ramp meters will increase capacity along mainline from ~1800 pcphpl to ~2000 pcphpl. For HCM 2000 analysis assume this capacity improvement correlates to an ~200 pcphpl decrease in adjusted traffic volumes along mainline. There are ~3 storm water outfalls and one unstable slope (landslide) within this segment of I-5. Wetlands along the east half of the 2.10 mile segment in the Nisqually Basin will be an environmental issue. The preferred alternative (D) in the Nisqually National Wildlife Refuge (NWR) Final Comprehensive Conservation Plan and Environmental Impact Statement calls for a potential Refuge boundary expansion of 3,479 acres primarily to the south of I-5 in the basin. The NWR is a category 1 wetland. There have been prior efforts to convert the existing farmlands south of I-5 into wetlands similar to those found north of I-5 in the wildlife refuge. The Nisqually River is a salmon bearing stream of particular importance and the flow of this river under the existing bridges and through nearby culverts and the dike/levee system for farmlands are an issue.	Current	\$3,236,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
62	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	107.16 to 107.17	I-5/Pacific Ave I/C - NB Off Ramp Double Left Turn Mobility Deficiency - Bottleneck and Chokepoint. Signalized Pacific Avenue Interchange NB ramp terminal left turn delay approaching 50 seconds per vehicle in 2003. Create an I-5 Northbound off ramp double left turn movement to Westbound Pacific Avenue at the ramp terminal and consider modifying the existing Eastbound Pacific Avenue roadway section to create a double left turn movement toward the I-5 Northbound on ramp terminal. Intersection benefits for ~\$3,984,000 and safety benefits for ~\$984,000. Total benefits of ~\$4,968,000. There are ~14 storm water outfalls and ~3 fish passages within this segment of I-5. Two of the fish passages require repair.	Current	\$3,533,000
66	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	109.41 to 109.42	I-5/Martin Way I/C - SB Off Ramp Double Right Turn Mobility Deficiency - Bottleneck and Chokepoint. Signalized ramp terminal with average delay more than 80 seconds per vehicle in 2003. Observed high traffic volumes at the southbound off ramp to Martin Way cause queuing into mainline I-5 during the PM peak period. This off-ramp directs traffic into the City of Lacey with connections to large retail stores and a major city street (College Avenue) and private college (St. Martins). Interchange ramp with signalized ramp terminal has insufficient capacity causing back-ups into mainline I-5 shoulder. Analysis of existing travel patterns and traffic volumes at this off ramp indicate that the level of service (LOS) is deteriorating. The ramp diverge influence area was approaching 85% of posted speed during peak commuter hours in 2003. Ramp terminal improvements. This project will add a southbound right turn lane to create two right turn lanes and extend the storage lane length of the existing left turn lane (~doubling length) at the southbound off ramp terminal. City of Lacey will be a partner for the "SR 5 Martin Way O-xing Bike Lanes" under agreement GCA-2701. It is possible that this nearby shelf project could happen at the same time as the bottleneck/chokepoint double right turn proposal. It is also possible that widening under the I-5 bridge for the urban bike project could be modified such that any future additional widening could be used to extend the left turn lanes (doubling them from ~400 feet to ~800 feet of storage) with the bike lanes being constructed behind bridge piers. Intersection benefit of ~\$4,491,000 and safety benefit of ~\$745,000 for total benefits of ~\$5,236,000. Interstate 5 is a T-1 freight route. There is one storm water outfall at the Martin Way I/C Undercrossing.	Current	\$2,554,000
67	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	112.32 to 113.77	I-5/Marvin Rd I/C - Add Right Turn Lane to SB Off Ramp Creating Double Left Turn Lanes Mobility Deficiency - Bottleneck and Chokepoint. More than 600 vehicles are anticipated to turn left from I-5 SB off toward SR 510 at the single left turn lane. When left turns at a signalized intersection approach 300 a double left turn should be considered. The ramp diverge and left turn movement at the ramp terminal is anticipated to be approaching 85% of the posted speed threshold during peak commuter hours in 2006. Other proposed developments in the vicinity may cause traffic volumes to be higher than anticipated. Counts at this ramp terminal should be taken after Lacey Marketplace completely opens in 2006. The steep SB grade appears to meet warrants for a climbing lane. Ramp terminal improvements. This project will construct an exclusive right turn lane on the Interstate 5 Southbound off ramp to Marvin Road. It may be possible to minimize impacts at the existing traffic signal by dropping the right turn lane behind the mast arm in the Northeast quadrant into an acceleration lane and taper for free right. The existing right turn could then be restriped as a second left (with through movement to the I-5 SB on ramp). Intersection benefit of ~\$6,150,000 and safety benefit of ~\$205,000 for total benefits of ~\$6,355,000. Marvin Road has Class II bike lanes. The exclusive right turn would help facilitate freight movements toward the industrial area north of the interchange where distribution centers are proposed/exist. There are ~4 storm water outfalls and one fish passage within this segment of I-5. There is a covered landfill and the Thurston County Waste and Recovery Center in the northeast quadrant of the Marvin Road (SR 510) I/C. The Ostroms Mushroom Facility is south of I-5 and east of SR 510. There are known leaking underground storage tank locations (LUST) from nearby gas stations along SR 510 in the vicinity of the Marvin (SR 510) and Martin Way intersection. Siltation into Woodland Creek Wetlands located north of Martin Way on the right side has been a concern for developments.	Current	\$3,967,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
91	Olympic & Northwest County Pierce & King	SR 167 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	7.03 to 28.6	SR 167 - Puyallup to Renton -ITS Currently congested corridor segment. Need to address operational, safety and capacity deficiencies. Install Intelligent Transportation Systems (ITS) including Closed Circuit Television (CCTV), data station, Highway Advisory Radio System (HARS), Highway Advisory Radio Transmitter (HART), ramp meter, Variable Message Sign (VMS), and fiber optic line. The provision of ITS project improvements here will improve SR 167 mainline operations and will help address congestion and safety deficiencies. SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40	Current	\$29,000,000
93	South Central County Asotin	US 12 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	429.24 to 430.67	US 12/SR 128 to SR 129 - I/S Improvements and Signals This section of US 12 experiences many rear-end type accidents due to slowing traffic caused by congestion and inattentive drivers. Approximately 1/3 of all accidents in the corridor are rear-end. This improvement project will upgrade intersections and install signals through the Clarkston area. □ This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$8,806,611 in safety benefits associated with this improvement None	Future	\$2,537,000
95	South Central County Benton	SR 224 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	6.82 to 10.15	SR 224/S 38th Ave/S 41st Ave/S 40th Ave/Bombing Range Rd/38th Ave - I/S Improvements and Signals This section of SR 224 experiences many rear-end type accidents due to slowing traffic caused by congestion and inattentive drivers. This low cost proposal will add right turn lanes at intersections at MP 7.56, MP 8.01, and MP 8.10. □It will also add signal systems at MP 7.68 and 8.23. This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$20,280,651 in safety benefits associated with this project. The surrounding area of this route section are considered to be semi-arid with many varieties of small and larger animals and birds that reside there. Some of these species could be threatened or endangered. There are few if any wetland issues in this	Future	\$1,368,000
97	South Central County Benton	SR 240 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	21.43 to 34.38	SR 240/Twin Bridges Rd to Horn Rd - I/S Improvements The two lane section of this corridor experiences many rear-end type collisions due to slowing traffic caused by congestion. This project will channelize two intersections at MP 25.14 (Twin Bridges Road) and MP 20.49 (Horn Road) and add right turn lanes and illumination. This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$38,917,181 in Safety benefits associated with this project. This section runs through semi-arid area that may be home to small and large animals and birds that may in some cases may be endangered.	Current/Future	\$358,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
94	South Central <i>County</i> Yakima	SR 24 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	4.44 to 5.57	SR 24/Bell Rd/Rivard RD/Faucher RD - Signals 44% of the accidents are rear-ends. Another 16% are associated with left-turns, and 15% are at angle accidents. Inattention and falling asleep while driving is a leading cause of all accidents, and of fatalities in the South Central Region. Signalize Bell, Rivard, and Faucher Roads intersections. Install rumble strips. Signalize the three unsignalized intersections to enhance safety and maintain the effectiveness of those intersections adjacent to the City of Moxee. Reduce run-off-the road accidents by installing shoulder rumble strips. This route segment is rural in nature and remote. The surrounding area of this route section are considered to be semi-arid with many varieties of small and larger animals and birds that reside there. Some of these species could be threatened or endan	Future	\$1,300,000
101a	Southwest <i>County</i> Clark	SR 14 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 8.53	SR 14/I-5 to 164th Ave - Install ITS (Variable Message Sign and Ramp Metering) Congested corridor with high collision history (1) Variable message sign at ARM 3.00 WB; ARM 4.6 (west of Ellsworth) WB; 205 WB (close to ARM 6); ARM 7.0 WB (2) Ramp metering at interchanges between I-5 and 164th Ave Depending on the location, benefits for ITS facilities vary. It is widely acknowledged that ITS has positive impacts on mobility, safety, and environment. For example, nationwide studies indicate ramp metering can increase speeds from 16% to 62%, and decrease collisions from 15% to 50%. This corridor runs parallel with the Columbia River. Small wetlands occur primarily on the north side of the highway where ditches and cut slopes have intercepted natural groundwater. There are 2 identified locations of threatened species in close proximity to the corridor. Several other wildlife species are present along the corridor. There are 6 fish passage barriers at the west of I-205. There are approximately 55 known stormwater outfalls located along this corridor.	Current	\$1,900,000
101b	Southwest <i>County</i> Clark	SR 14 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 18.13	SR 14/I-5 to Washougal East City Limit - Install ITS (CCTV, Data Station, and Fiber Optic Cable) Congested corridor with high collision history (1) Closed circuit television at intersections, interchanges and blind spots (2) Data stations every ½ mile and at intersections and interchanges (3) Fiber optic cable from I-205 to ARM 16.2 (Washougal) Depending on the location, benefits for ITS facilities vary. It is widely acknowledged that ITS has positive impacts on mobility, safety, and environment. This corridor runs parallel with the Columbia River. Wetlands occur in several areas throughout this corridor adjacent to the many small streams that cross SR 14. West of the 164th interchange, small wetlands occur primarily on the north side of the highway where ditches and cut slopes have intercepted natural groundwater. Large areas of riverine wetland occur east of the Camas interchange associated with the Camas Slough, Washougal River, and Columbia River. Using a linear measurement of wetlands immediately adjacent to the highway, approximately 16,640 linear feet (3.1 miles) of wetlands occur to the north of SR 14, and approximately 9,200 linear feet (1.75 miles) occur to the south of SR 14. These figures are preliminary and subject to change with further analysis and formal wetland delineations. There are several stream crossings in this corridor with associated riparian and wetland areas that provide habitat for vegetation, fish and wildlife. There are 3 identified locations of threatened species in close proximity to the corridor. Several other wildlife species are present in many locations along the corridor. There are approximately 75-100 known stormwater outfalls located along this corridor.	Current	\$4,800,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
102	Southwest	SR 14	5.58 to 5.59	SR 14/SE Ellsworth Ave - Install Signal	Current	\$523,000
	County	<i>Needs:</i>	The level of service for this intersection in 2006 is E, and the left turn movement on the west leg has level of service at F. This signal is included in the SWR Traffic Office priority list.			
	Clark	<i>Solution:</i>	Add signal at SR 14 EB Ramp and SE Ellsworth Rd.			
		<i>Expected Benefits:</i>	This project will improve the intersection level of service from E to B using 2006 traffic volume. Additionally, reductions are expected for delay (68%), property damage collisions (30%), and injury/fatal collisions (50%).			
		<i>Known Environmental Issues:</i>	Potential small wetland along this interchange. Further analysis and delineations are needed.			
103	Southwest	I-205	6.41 to 10.41	I-205 Corridor - ITS Improvements	Current	\$2,000,000
	County	<i>Needs:</i>	High volume interstate highway; vehicles back up at Padden Parkway Interchange. Based on year 2002 AADT, the level of service for the ramps at Padden Parkway Interchange is either D or E. The NB and SB off ramps at the interchange are also the High Accident Locations in biennium 05-07 and 07-09.			
	Clark	<i>Solution:</i>	Install ITS technology (fiber / conduit, data stations, closed circuit television, and variable message signs), with devices at approximately every half mile			
		<i>Expected Benefits:</i>	The proposed ITS facilities will help redistribute volumes in the system, reduce trip time, increase travel reliability, enhance communication during emergencies; and improve safety.			
		<i>Known Environmental Issues:</i>	This corridor crosses a few waterbodies and their associated wetlands and riparian habitat. Other wetland areas are present in the northern half of the corridor. There are approximately 30 known stormwater outfalls. Leaking underground storage tanks and other hazardous materials may be within the area. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area.			
105	Southwest	SR 500	0 to 5.96	SR 500/I-5 to NE Fourth Plain Blvd - Install ITS	Current	\$2,220,000
	County	<i>Needs:</i>	Congested corridor			
	Clark	<i>Solution:</i>	(1) Closed circuit television at intersections, interchanges and blind spots (2) Data stations every 1/2 mile and at interchanges/intersections (3) Ramp metering at interchanges			
		<i>Expected Benefits:</i>	Depending on the location, benefits for ITS facilities vary. Overall it is widely acknowledged that ITS has positive impacts on mobility, safety, and environment. For example, nationwide studies/projects indicate ramp metering can increase speed from 16% to 62%, and decrease collisions from 15% to 50%.			
		<i>Known Environmental Issues:</i>	Wetlands occur in limited areas in the SR 500 corridor, primarily associated with Burnt Bridge Creek and two small basins between NE 54th Avenue and Thurston Way. Proposed improvements at St. Johns Road and 54th Avenue will likely have wetland and riparian impacts. A northbound connection between SR 500 and I-5 may effect a short length of Burnt Bridge Creek and small associated wetlands and riparian corridor. A small wetland may occur on the SW corner of the SR 500/4th Plain intersection that could be effected by proposed modifications in this area. Any proposed projects in the vicinity of Andresen Road and the north side of SR 500 between Andresen and Thurston Way have the potential to effect an existing WSDOT wetland mitigation site. Impacts to wetland mitigation sites carry much higher replacement ratios than natural wetlands. Using a linear measurement of wetlands immediately adjacent to the highway, approximately 7,743 linear feet (1.47 miles) of wetland occur to the north of SR 500, and approximately 2,460 linear feet (0.47 miles) occur to the south of SR 500. Additional wetlands may be present a short distance from the highway, but were not included in this measurement. These fig are no fish barriers. There is one stream crossing (Burnt Bridge Cr.) in this corridor with associated riparian and wetland areas that provide habitat for vegetation, fish and wildlife. There are approximately 25 known stormwater outfalls located along this corridor.			

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
108	Southwest County Clark	SR 500 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	5.94 to 5.98	SR 500/SR 503 and NE Fourth Plain Blvd - Construct Turn Lanes Intersection of two high volume regional arterials; long queuing; high accidents. This intersection is an identified bottleneck/chokepoint. Construct NB to EB dual right turns at Fourth Plain Rd. The initial benefit cost ratio is 5.42. In-depth benefit analysis is expected in the funded \$100,000 study. A small wetland may occur on the SW corner of the SR 500/4th Plain intersection that could be effected by proposed modifications in this area.	Current	\$1,000,000
110a	Southwest County Clark	SR 503 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 9.13	SR 503/NE Fourth Plain Blvd to NE 244th St - Install ITS Congested corridor (1) Closed circuit television at intersections, interchanges and blind spots from SR 500 to SR 502 (2) Data stations every ½ mile and at intersections and interchanges SR 500 to SR 502 (3) ARM 1.80 to 9.13, Fiber cable 99th to 244th Streets and interconnect Depending on each corridor/location, benefits for ITS facilities vary. Overall it is widely acknowledged that ITS has positive impacts on mobility, safety, and environment. Wetlands occur throughout this corridor, primarily concentrated to the north of NE 144th St. In several cases, wetlands run continuously along the SR 503 alignment, greatly increasing the possibility of wetland impact for any proposed improvement project with work beyond the paved shoulder. Several stream and river crossings occur as well, one of which (Salmon Creek) has a large WSDOT wetland mitigation site associated with it. This site, built for the SR 503/144th to Battleground project, is located on both sides of SR 503 immediately north of Salmon Creek. Impacts to existing mitigation sites carry much higher replacement ratios than natural wetlands. There are approximately 10 known stormwater outfalls located along this corridor.	Current	\$4,950,000
111	Southwest County Clark	SR 503 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	1.02 to 2.02	SR 503/Padden Parkway - Install Directional Signs Heavily congested movement exists from SR 503 SB to I-205 via SR 500. Directional signs (overhead signs) to route traffic to I-205 via the Padden Parkway Alleviation of congestion along SR 503 SB and SR 500 WB to SB I-205. No known wetland and stormwater outfalls found at this location.	Current	\$140,000
110b	Southwest County Clark	SR 503 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	2.18	SR 503/107th St - Install Variable Message Sign To divert traffic and reduce congestion SB variable message sign at 107th St to direct traffic to the Padden Parkway when SR 500 is congested The variable message sign will help to reduce congestion and delay on SR 500 during peak hours. SR 500 provides connection to I-5, I-205, and SR 500; it is one of the major commuter and freight corridors in the region. There are no known environmental issues.	Current	\$323,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
112	Southwest	SR 503	7.85 to 7.89	SR 503/SR 502 - Construct Turn Lanes	Current	\$2,100,000
	County	Needs:	Intersection of two high volume regional arterials			
	Clark	Solution:	Add right turn channelization on east leg, west leg, and north leg			
		Expected Benefits:	Expected benefits include a delay reduction of 50% (comparison year: 2026) and collision reduction of 10% to 40%.			
		Known Environmental Issues:	WSDOT SWR Environmental Service Office states this intersection needs wetland mitigation.			
100	Southwest	I-5	8.8 to 81.27	I-5 Corridor - Install ITS	Current	\$4,000,000
	County	Needs:	(1) From MP 8.8 to 10.5 (I-205 to 199th St.): Projected speed for year 2026 on I-5 mainline will be below 65% of posted speed. Currently significant delay occurs on the interchange ramps; based on year 2002 AADT, the level of service for some ramps is deficient (LOS E). (2) From MP 20.5 to 21 (I-5 Woodland Interchange): This interchange experiences significant congestion during recreation season. (3) From MP 76.8 to 81.2 (13th Street to SR 507): Projected speed for year 2026 on I-5 mainline will be below 60% of posted speed; certain segments will experience driving speed at 33% of posted speed. Year 2002 AADT indicates a level of service C or D for most of the interchange ramps.			
	Clark, Cowlitz & Lewis	Solution:	(1) From MP 8.8 to 10.5, Infill ITS technology (fiber/conduit, data stations, and closed circuit television), with data stations approximately every half mile (2) From MP 20.5 to 21 (I-5 Woodland Interchange): wireless communications, traffic cameras, and data stations (3) From MP 76.8 to 81.2, I-5 Infill ITS technology (fiber/conduit, data stations, and closed circuit television), with data stations approximately every half mile			
		Expected Benefits:	The proposed ITS facilities will reduce trip time (8% to 48% delay reduction), air pollution (5% to 13% carbon monoxide emission reduction), and energy consumption (6% to 12% fuel consumption reduction); increase travel reliability; enhance the ability to communicate during emergencies (40% incident response time reduction); and improve safety (10% wetlands occur throughout this area as well as many Endangered Species Act listed species. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area. Fish passage barriers have been identified. Known stormwater outfalls are located along the highway. Some threatened species are known to be present.			
		Known Environmental Issues:	Wetlands occur throughout this area as well as many Endangered Species Act listed species. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area. Fish passage barriers have been identified. Known stormwater outfalls are located along the highway. Some threatened species are known to be present.			
99	Southwest	SR 4	58.71 to 60.78	SR 4/32nd Ave to Washington Way - Access Management	Current	\$2,100,000
	County	Needs:	High number of intersections and driveways along this segment causes slow speeds, long delays and high accident numbers.			
	Cowlitz	Solution:	Access management (median curb, where feasible) between 32nd Avenue and Washington Way			
		Expected Benefits:	A significant reduction in intersection related accidents is projected. Safety benefits give this project a benefit cost ratio of 2.09.			
		Known Environmental Issues:	This area is urban in nature, and wetlands are not anticipated unless any proposed improvement project impacts a portion of Lake Sacajawea. There are no fish barriers. There are two stream crossings (Cowlitz River is one of these) in this corridor. There is a slough located to the south in close proximity to the western end of the corridor that may have lost connectivity to the north when the roadway was built. There are approximately 30 known stormwater outfalls located along this corridor.			

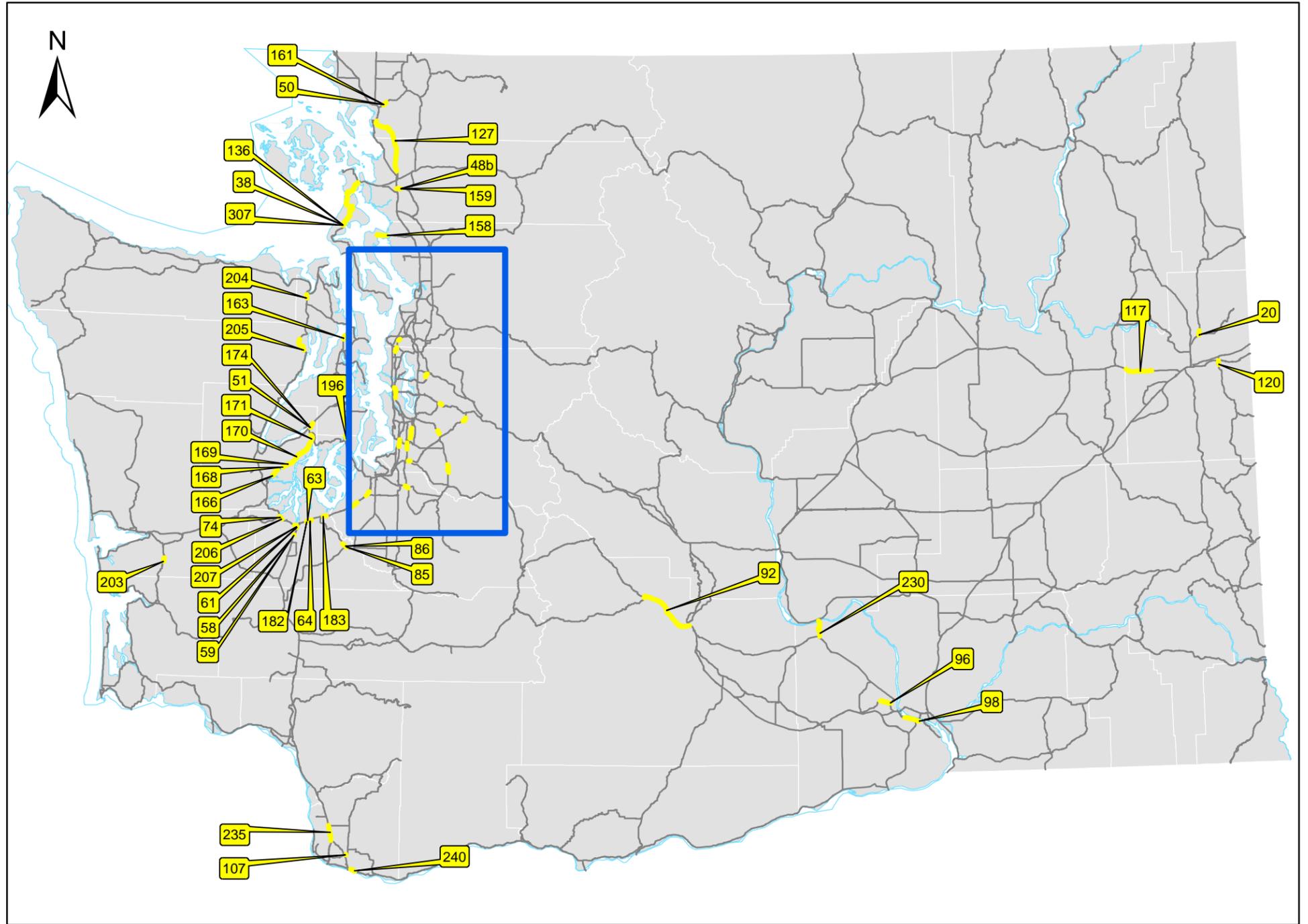
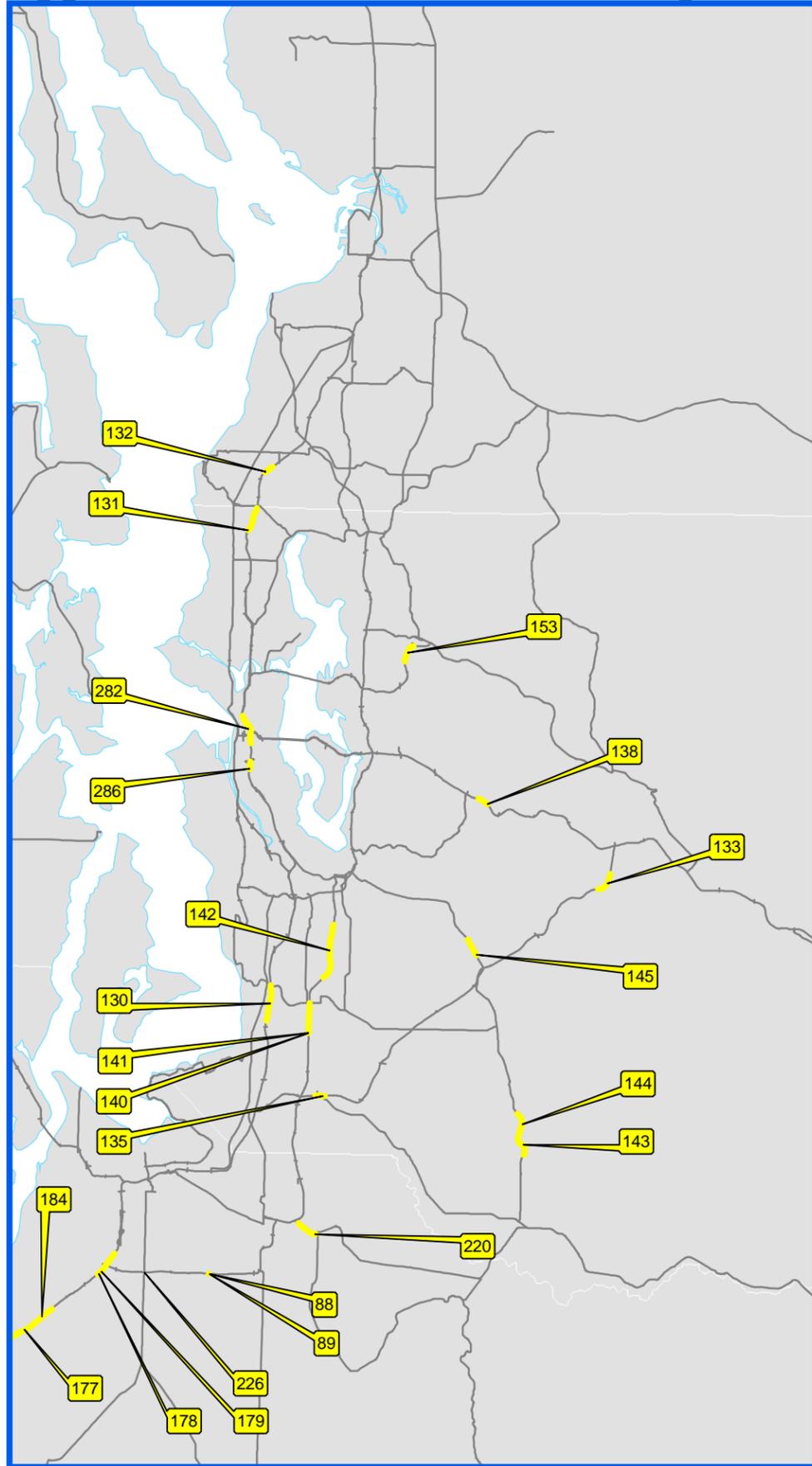
# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
104	Southwest County Cowlitz	SR 411 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	11.77 to 12.27	SR 411/PH No 10 Rd - Install Signal and Construct Turn Lane Four-way stop controlled intersection results in significant delay. This intersection is an identified bottleneck/chokepoint in the region. Replace four-way stop with signal and channelization. Approximately \$800,000 in mobility benefits and \$160,000 in safety benefits are expected. Wetlands occur throughout this area. The Cowlitz River provides habitat for salmon and other Endangered Species Act listed species. Critical areas such as Flood Plains and Critical Aquifer recharge areas are present in the area.	Current	\$800,000
113	Southwest County Cowlitz	SR 503 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	53.68 to 54.11	SR 503/N Goerig St to I-5 - Access Management Higher percentage of intersection related collisions in this corridor due to mid-block intersections and driveways. Control access: install median curb where feasible The benefit cost ratio, using only safety benefits, is 3.36. The primary environmental concerns are related to potential impacts to the Lewis River by the highway facilities and impact to the highway from the river due to the potential of flooding. Other environmental issues may include unknown underground storage tanks and hazardous material hotspots. No wetlands were found in the immediate area of the I-5 interchange or SR 503 north through the Woodland urban area. Projects that involve changes to Lewis River Road and the associated bridge over the North Fork Lewis River may involve a minor amount of wetland and riparian impact. No fish barriers or unstable slopes are located within the congested corridor. The corridor runs parallel to the Lewis River and it's associated riparian and wetland areas that provide habitat for vegetation, fish and wildlife. Horseshoe Lake is located in close proximity to the corridor to the southwest and may have lost connectivity to the Lewis River when the roadway was built. There are no known stormwater outfalls located along this corridor.	Current	\$234,000
114	Southwest County Cowlitz	SR 503 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	53.97 to 53.98	SR 503/Millard St - Re-align Intersection and Install Signal Close intersection spacing reduces efficiency and capacity of the I-5 NB off ramp. Realign and grade East CC Street to Millard Street and signalize intersection at Millard Street This project has a benefit-cost ratio of 3.65. With the new alignment, East CC Street joins A Street. This realignment would eliminate the East CC Street intersection that is closely spaced with the NB off ramp/Atlantic Street intersection. The intersection at A Street and SR 503 would become signalized. An anticipated delay reduction of 50% was No known wetlands or stormwater outfalls were found in the project area. The potential environmental issues are the underground storage tanks and hazardous material hotspot at the nearby gas station.	Current	\$3,900,000
115a	Southwest County Cowlitz	SR 503 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	53.97	SR 503/E CC St - Improve Intersection Close proximity between signalized intersections create delays, congestion and queuing. Significant growth projections are expected to compound current conditions. Intersection improvements, possible roundabout, at East CC Street and Lewis River Rd. The design for this project needs to take the intersection at Atlantic St into consideration. The benefit-cost ratio 2.32; delay reduction: 50%; collision reduction: 25%. The roundabout shows a very significant time savings in the base year. There is an acceptable level of service through the year 2021. However, it is very important to note that there are failing movements in year 2026. Despite these failing movements, it still performs better than the no build alternative. The results of the PM peak were multiplied by 2 to get a rough estimate of time savings over the day. The potential environmental issues may include underground storage tanks and hazardous material hotspots. There are no known stormwater outfalls and wetlands.	Current	\$3,000,000

# Tier I Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
116	Southwest	SR 503	54.06 to 54.07	SR 503/I-5 Southbound Onramp - Construct Turn Lane	Current	\$351,000
	County	<i>Needs:</i>	Limited on ramp access to I-5 results in delays and queuing.			
	Cowlitz	<i>Solution:</i>	Construct additional (second) left turn lane from WB 503 to SB Pacific Ave/I-5 on ramp			
		<i>Expected Benefits:</i>	The benefit cost ratio is 5.17. Delay reduction of 23% is estimated. The purpose of this project is to decrease delay as well as queuing between signalized intersections. A more detailed study is needed to determine how long this fix will last before the intersections fail.			
		<i>Known Environmental Issues:</i>	The primary environmental concerns are related to potential impacts to the Lewis River by the highway facilities and impact to the highway from the river due to the potential of flooding. No wetlands were found in the immediate area of the I-5 interchange or SR 503 north through the Woodland urban area. There are no known stormwater outfalls.			
115b	Southwest	SR 503	54.06	SR 503/Atlantic St - Improve Intersection	Current	\$3,000,000
	County	<i>Needs:</i>	Close proximity between signalized intersections create delays, congestion and queuing. Significant growth projections are expected to compound current conditions.			
	Cowlitz	<i>Solution:</i>	Intersection improvements, possible roundabout, at Lewis River Road, Atlantic St and Goerig Street. The design for this project needs to take the intersection at E CC St into consideration.			
		<i>Expected Benefits:</i>	The benefit-cost ratio 2.32; delay reduction: 50%; collision reduction: 25%. The roundabout shows a very significant time savings in the base year. There is an acceptable level of service through the year 2021. However, it is very important to note that there are failing movements in year 2026. Despite these failing movements, it still performs better than the no build alternative. The results of the PM peak were multiplied by 2 to get a rough estimate of time savings over the day.			
		<i>Known Environmental Issues:</i>	The potential environmental issues may include underground storage tanks and hazardous material hotspots. There are no known stormwater outfalls and wetlands.			

# Appendix J: 2007-2026 HSP Implementation Plan: Tier II Solutions



**Legend**  
— Tier II Solutions



# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
20	Eastern	US 2	288.92 to 290.2	US 2/Deer Rd to Pend Orielle Co Line - Access Consolidation and I/S Improvements	Current	\$3,500,000
	County	Needs:	Various portions of the US 2 route segment currently operate at failing or near failing level-of-service, as substantiated by an RDP completed in 2004. There are also several intersections that experience failing LOS.			
	Spokane	Solution:	In the short range, improvement strategies include the use of raised channelization, acceleration/deceleration lanes, approach consolidation, right-in/right-out only, and additional signage to alleviate congestion and preserve operating speeds.			
		Expected Benefits:	These projects will serve to maintain an acceptable level-of-service on the facility and to enhance safe operations in areas where turning movements into residential and commercial land uses are creating congestion and delay.			
		Known Environmental Issues:	Riparian and wetland areas are located adjacent to and within the right-of-way. Wildlife travel corridors are present. Threatened and endangered species may use proximate habitat, and rare plants may be located adjacent to roadway.			
117	Eastern	US 2	259.21 to 266.89	US 2/Fairchild Air Force Base to I-90 - Construction of Frontage and Backage Roads	Future	\$18,000,000
	County	Needs:	In general, the route segment is currently operating at an acceptable level-of-service. Signalized intersections on the route are operating at LOS D or better, meeting WSDOT minimum standards. However, with build-out of proposed near-term commercial and residential developments, travel speed on the route segment decreases by about 25% according to travel demand modeling, with portions of the route projected to operate at 69% of posted speed by the regional travel demand model.			
	Spokane	Solution:	The construction of frontage and backage roads to remove traffic from US 2 has been proposed. These roads would be located between large trip generators and provide opportunity for motorists to avoid US 2 in traveling between various shopping, employment and recreational destinations. Purchase of access control has also been proposed as a longer-term solution to improve traffic flow by reducing conflict.			
		Expected Benefits:	The removal of local trips from US 2 will improve travel delay in the corridor.			
		Known Environmental Issues:	Riparian and wetland areas are located within, and adjacent to, the right-of-way. Wildlife travel corridors may be present. Threatened and endangered species use of proximate habitat and rare plant presence may be concerns.			
120	Eastern	SR 27	87.75 to 88.84	SR 27/32nd Ave to I-90 - I/S Improvements	Current	\$2,000,000
	County	Needs:	Traffic impact analyses for significant commercial and residential development proposals for properties adjacent to, or in the vicinity of, this route segment all indicate failing levels of service at various intersections, and on the arterial itself, if facility improvements are not made in conjunction with build-out of development proposals.			
	Spokane	Solution:	Improvement management strategies for this route segment include capacity improvements at intersections as well as additional lanes.			
		Expected Benefits:	Capacity improvements at intersections will provide for improved LOS at the intersection as well as improved travel time for the route segment.			
		Known Environmental Issues:				

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
307	Northwest County Island	SR 20 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	30.05 to 30.36	SR 20/Swantown Rd to Erie St - Widening and Improvements  23% of posted speed limit Implement Phase 1 of the SR 20, Swantown Rd to Cabot Dr Corridor Pre-Design Analysis. Close median to restrict access to Scenic Heights Rd, and build roundabouts at Swantown and Erie.  Reduced delays at intersections, and reduction of queuing.  There are 2 bald eagle nests adjacent to the corridor within 700- 350 feet of the roadway. There are several wetlands mapped proximal to the right of way and several stream cross roadway. Bald eagle nests and wetlands would require ground verification.	Current	\$6,000,000
158	Northwest County Island	SR 532 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 2.91	SR 532/Sunrise Dr to County Line - Corridor Improvements (Moderate)  SR 532 serves as the only access to Camano Island, which is experiencing a great deal of residential growth. In addition to funded TPA projects in the corridor, some intersection and spot capacity improvements will be needed to address congestion/delay issues. These improvements could include signals, roundabouts, turn lanes, and auxiliary lanes.  Better flow of traffic using existing facilities as much as possible.  The corridor is within the 100-year floodplain and borders the Skagit Wildlife Area which provides habitat for migratory birds. There are wetlands mapped in the vicinity of the Hanstad Rd/SR 532 intersection that would require ground verification.	Current	\$15,000,000
38	Northwest County Island & Skagit	SR 20 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	30.05 to 47.01	SR 20/S Oak Harbor to Sharpe's Corner - Short Term Improvements  City street intersections and residential driveways limit the capacity of the highway. SR 20 narrows south of Erie Street from 3 lanes to 2 lanes creating a significant physical bottleneck. Addition of an auxiliary lane for westbound SR 20 between Erie St and Swantown Rd. Removing this westbound bottleneck, eliminates a significant weave for traffic destined for southwest Oak Harbor (Swantown). This will significantly increase safety and allow traffic to flow more efficiently through this area.	Current	\$5,000,000
136	Northwest County Island & Skagit	SR 20 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	30.05 to 47.01	SR 20/S Oak Harbor to Sharpe's Corner - Mid Term Improvements  Commercial and residential driveways limit the capacity of the roadway. Implement Phase 2 of the SR20, Swantown Rd to Cabot Dr Corridor Pre-Design Analysis. Some intersection and spot capacity improvements will be needed to address congestion/delay issues. These improvements could include signals, roundabouts, turn lanes, and auxiliary lanes. Some local street enhancements will be needed to address traffic operation problems which will arise in the future. These enhancements will allow drivers to have a choice of routes, and will reduce the demand on the State Route.  Better flow of traffic using existing facilities as much as possible. Improve local roads to reduce highway trips.  There are 2 bald eagle nests adjacent to the corridor within 700- 350 feet of the roadway. There are several wetlands mapped proximal to the right of way and streams cross roadway. Bald eagle nests and wetlands would require ground verification.	Current	\$90,000,000

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
130	Northwest	I-5	147.23 to 149.23	I-5 - I-5 at 272nd Street Interchange - Construct a SB auxiliary lane between SR 516 and S 272nd with a two lane off ramp to 272nd	Current	\$14,479,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	SB I-5 at S 272nd off ramp is limited in capacity and storage length. Construct a southbound auxiliary lane between SR 516 and S 272nd Street with a two lane off ramp to 272nd Street. The provision of a SB auxiliary lane will provide additional capacity and improve traffic flow through this I/C. Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. Medium to high Critical Aquifer Recharge Areas occur along this corridor segment. Palustrine occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. Other features include Urban Growth Area, city and county parks, .			
131	Northwest	I-5	176.37 to 177.7	I-5 - I-5 at Snohomish County Line - Construct SB auxiliary lane (SR 104 to NE 175th)	Current	\$16,426,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Hwy 104 merging onto SB I-5. Three on-ramps feed onto SB I-5 within 1000 yards. This is a huge bus route - Need a longer on-ramp, or restrict the merge of that traffic until further south on I-5. Construct a southbound auxiliary lane on I-5 from SR 104 down to NE 175th Street. This will improve transit access to I-5 and will improve traffic flow on SR 104. This will also help to improve overall transit operations on this corridor. Moderate to High Liquefaction Hazard Areas occur along this corridor between I-405 and I-90. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. In addition, the portion of this corridor that passes through the Seattle CBD is within a maintenance area for Particulates. Other features included within or adjacent to this corridor are Urban Growth Area, city and county parks.			
282	Northwest	I-5	164.02 to 165.69	I-5 - I-5 at I-90 Interchange - Construct a two lane off-ramp from NB I-5 to EB I-90.	Current	\$20,976,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Traffic speeds on I-5 NB near the I-5/I-90 I/C are frequently under 5 mph in the morning peak commute period, making this location the worst bottleneck in the region. The trucking association has identified that NB I-5 to EB I-90 exit ramp should be 2 lanes. Construct a two lane off-ramp from NB I-5 to EB I-90. The addition of a 2-lane off-ramp will improve vehicle flow through the I-5/I-90 I/C, which is currently very congested. Moderate to High Liquefaction Hazard Areas occur along this corridor between I-405 and I-90. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. In addition, the portion of this corridor that passes through the Seattle CBD is within a maintenance area for Particulates. Other features included within or adjacent to this corridor are Urban Growth Area, city and county parks.			

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
286	Northwest	I-5	162.57 to 163.02	I-5 - South Industrial Way vicinity - HOV direct access connection to South Industrial Way/E3 bus way.	Current	\$105,130,000
	County King	<i>Needs:</i>	I-5 experiences congestion on this segment owing to weaving movements by buses trying to access the E-3 busway ramp from the existing HOV lane.			
		<i>Solution:</i>	HOV direct access connection to South Industrial Way/E3 bus way.			
		<i>Expected Benefits:</i>	HOV direct access from I-5 to the S. Industrial/ E-3 busway will enhance transit operations and improve I-5 safety and mainline operations.			
		<i>Known Environmental Issues:</i>	Moderate to High Liquefaction Hazard Areas occur along this corridor between I-405 and I-90. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. In addition, the portion of this corridor that passes through the Seattle CBD is within a maintenance area for Particulates. Other features included within or adjacent to this corridor are Urban Growth Area, city and county parks.			
133	Northwest	SR 18	25.6 to 26.8	SR 18 - Raging River Vicinity - Improvements to existing truck climbing lane	Current	\$44,566,500
	County King	<i>Needs:</i>	Improve the operation of existing truck climbing lane			
		<i>Solution:</i>	Improvements to existing truck climbing lane			
		<i>Expected Benefits:</i>	It will reduce delay for general purpose traffic and freight traffic as well as reducing the risk of collisions.			
		<i>Known Environmental Issues:</i>				
135	Northwest	SR 18	4.22 to 4.77	SR 18 - SR SR 164 to C Street - Add an Auxiliary lanes each direction	Current	\$30,850,000
	County King	<i>Needs:</i>	Close spacing with C St interchange and recreational/amphitheatre traffic			
		<i>Solution:</i>	Add an Auxiliary lane each direction on SR 18 from C Street to SR 164.			
		<i>Expected Benefits:</i>	This will improve SR 18 mainline operations and will enhance safety at the SR 164 I/C.			
		<i>Known Environmental Issues:</i>	Sensitive areas, such as wetlands and streams within the corridor, are marked early design in order to avoid negative impacts whenever reasonably possible. The Maple Valley to Issaquah Hobart Road section includes creation, enhancement and purchase of we			
138	Northwest	I-90	14.61 to 15.21	I-90 - SR 900 to Front Street - Construct an EB auxiliary lane from SR 900 to Front Street AND two lane EB off-ramp to Front Street.	Current	\$10,094,000
	County King	<i>Needs:</i>	Vehicle back ups onto freeway because of immediate stoplight on Front Street at end of EB Off Ramp			
		<i>Solution:</i>	Construct an eastbound auxiliary lane from SR 900 to Front Street with a two lane eastbound off-ramp to Front Street.			
		<i>Expected Benefits:</i>	This auxiliary lane will improve I-90 mainline operations and will improve safety at the I-90/Front Street I/C.			
		<i>Known Environmental Issues:</i>	Natural features in this corridor include: Lake Sammamish, urban growth area, other features - several city and county parks. Moderate to High Liquefaction Hazard Areas occur on the east end of this corridor segment in the vicinity of SR 900 and Lake Sammamish. Water quality is impaired, sited on 303(d) list is adjacent to the northeast end of this corridor segment. Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. A Critical Aquifer Recharge Area, Palustrine Wetlands and FEMA 100-yr Flood (Zone A) have been identified on the east end of this corridor segment. Currently, this corridor segment is within an Air quality maintenance area for CO.			

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
140	Northwest	SR 167	19.25 to 20.94	SR 167 - SR 516 to S. 277th Street - Construct auxiliary lanes between interchanges.	Current	\$42,400,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	High traffic volumes combined with merging traffic causes frequent backups in this stretch of SR 167 Construct auxiliary lanes between interchanges. The addition of auxiliary lanes will improve SR 167 mainline operations and will help improve safety on SR 167. SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40			
141	Northwest	SR 167	19.26 to 19.27	SR 167 - SB SR-SR 167 at exit for 277th Street - Widen the southbound off-ramp to two lanes.	Current	\$3,753,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	SB exit close to Smith Dairy, Stop light at exit backs up traffic. Widen the southbound off-ramp to two lanes. This solution will improve SR 167 mainline operations and improve safety at this interchange. SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40			
142	Northwest	SR 167	22.65 to 25.74	SR 167 - 84th Ave. S. to S. 180th Street. - Construct auxiliary lanes between interchanges.	Current	\$152,600,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	High traffic volumes combined with merging traffic causes frequent backups in this stretch of SR 167 Construct auxiliary lanes between interchanges. This solution will increase capacity and improve mainline operations on SR 167. SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40			
143	Northwest	SR 169	3.76 to 5.16	SR 169 - SE 383rd St. to Green River - Construct a southbound truck climbing lane.	Current	\$9,803,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	The steep hill on this highway segmen causes truck speeds to slow resulting in congestion. Construct a southbound truck climbing lane. Improvement of freight and general GP traffic flow.  			

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
144	Northwest	SR 169	5.3 to 6.32	SR 169 - Green River to Crest of Hill (ARMP 6.32) - Construct NB truck climbing lane	Current	\$6,328,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	The steep hill on this highway segment causes truck speeds to slow resulting in congestion. Replace the existing northbound truck climbing shoulder with a truck climbing lane and extend it to the north. Improvement of freight and general GP traffic flow.			
145	Northwest	SR 169	16.02 to 17.02	SR 169 - Near Cedar River - Construct a SB truck climbing lane.	Current	\$2,929,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	The steep hill on this highway segment causes truck speeds to slow resulting in congestion. Construct a southbound truck climbing lane. Improvement of freight and general GP traffic flow.			
153	Northwest	SR 520	10.73 to 11.79	SR 520 - 51st to West Lake Sammamish Parkway - Eastbound Auxiliary Lane	Current	\$2,733,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Currently PM Peak traffic congestion occurs eastbound on SR 520 from 51st Street all the way to SR 202 in Redmond due to high traffic demand. Construct an eastbound auxiliary lane from the 51st Street eastbound on-ramp to the eastbound off-ramp at West Lake Sammamish Parkway. The addition of an EB auxiliary lane will reduce congestion and improve operations on SR 520  The project team will take advantage of design opportunities on SR 520 to treat storm water runoff for the benefit of salmon and other aquatic species. Another planned improvement includes constructing noise walls to reduce the amount of noise pollution			
159	Northwest	SR 538	0 to 1.27	SR 538/I-5 to LaVenture Rd - Corridor Improvements (Moderate)	Future	\$60,000,000
	County Skagit	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	A high level of commercial/residential development and College traffic make this corridor one of the most congested in Skagit County. Some intersection and spot capacity improvements will be needed to address congestion/delay issues. These improvements could include signals, roundabouts, turn lanes, and auxiliary lanes. Some local street enhancements will be needed to address traffic operation problems which will arise in the future. These enhancements will allow drivers to have a choice of routes, and will reduce the demand on the State Route. The interchange of SR 538 and I-5 will need to be improved in order to improve the efficiency of vehicle movement and processing.  Keep traffic flowing by maximizing the existing roadway as much as possible. Improve the interchange to eliminate the existing bottleneck (widen college to 6-lanes underneath I-5). SR 538 is located within the commercially developed area of Mount Vernon and crosses the BNSF railway. There are no GIS-mapped points of sensitive habitat or species.			

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
48b	Northwest County Skagit	SR 538 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 1.27	SR 538/I-5 to LaVenture Rd - Anderson Rd to LaVenture Rd connection A high level of commercial/residential development and College traffic make this corridor one of the most congested in Skagit County. The City of Mount Vernon would like to connect LaVenture Rd to Anderson Rd. This connection will allow drivers to have a choice of routes to get to I-5 and will help to reduce the level of congestion on SR 538. Keep traffic flowing by developing alternatives for vehicle trips in this area.	Future	\$5,000,000
127	Northwest County Skagit & Whatcom	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	232.95 to 250.87	I-5/Samish River to N Lake Samish - Interstate Improvements Slow moving trucks and merging vehicles inhibit the movement of mainline vehicles, and reduce the capacity of the interstate. A truck climbing lane from the Samish River to Bow Hill Road, and a longer ramp taper at the North Lake Samish SB on-ramp. Reduced delay and reduced congestion.	Future	\$6,000,000
132	Northwest County Snohomish	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	179.8 to 180.3	I-5 - 220th St. SW to 44th Ave. W. - Construct NB auxiliary lane. Congested corridor segment of I-5. Extensive weave movements in the vicinity of the 44th Ave.W. I/C Construct a northbound auxiliary lane. This will improve I-5 mainline operations, help reduce congestion and improve safety on this section of I-5. FEMA 100-yr Flood (Zone A) has been identified on the north end of this corridor segment. Moderate to High Liquefaction Hazard Areas occur along this corridor in the vicinity of SR 524 Spur, I-405 and SR 529 interchanges. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine wetland area occurs intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. Other features include Urban Growth Area, city and county parks. Military reservations are located in the general vicinity of this corridor segment.	Current	\$6,700,000
50	Northwest County Whatcom	SR 542 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	1.74 to 2.79	SR 542/McLeod Rd to Britton Rd - Corridor Improvements (Minimum) This corridor is heavily used for commercial, residential, and recreational purposes. The nearby high school also adds many daily trips to the area. Some intersection improvements will be needed to address congestion/delay issues at and around Britton Rd. These improvements could include roundabouts, turn lanes, and auxiliary lanes. Keep traffic flowing by maximizing the existing roadway as much as possible.	Future	\$5,000,000

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
161	Northwest County Whatcom	SR 542 <i>Needs:</i> <i>Solution:</i>	1.74 to 2.79	SR 542/McLeod Rd to Britton Rd - Corridor Improvements (Moderate)	Future	\$55,000,000
		<i>Expected Benefits:</i>		Better flow of traffic maximizing existing facilities as much as possible. Eliminating left turns out of driveway will reduce accidents.		
		<i>Known Environmental Issues:</i>		The corridor is located within a rural residential area of Bellingham and Whatcom county. Toad Creek crosses the highway near the midpoint of the corridor and is documented to support Coho salmon and steelhead trout. A small area of wetlands is mapped.		
203	Olympic County Grays Harbor	US 101 <i>Needs:</i> <i>Solution:</i>	72.17 to 73.4	US 101/One Mile S of Artic Rd - SB Truck Climbing Lane	Current	\$5,681,000
		<i>Expected Benefits:</i>		Mobility Deficiency - Bottleneck and Chokepoint. Southbound (decreasing) truck climbing/passing lane warrant is met (ARM 72.43 is approximate crest of vertical hill) near the community of Arctic. Analysis of existing travel patterns, traffic volumes, and terrain along US 101 in this area indicate that the level of service (LOS) is deteriorating. The mainline segment along US 101 is approaching or at 85% of posted speed during PM peak commuter hours in 2003.		
		<i>Known Environmental Issues:</i>		3 lane facility (climbing). This project will widen US 101 from a 2 lane facility to a 3 lane facility (climbing lane) in the southbound (decreasing) direction. Includes retaining walls in 2 areas identified as unstable slopes. Required repair on 1 fish bearing passage barrier is included in the estimate. No treatment was included for the other 11 fish passage barriers because they appear to have no fish use (GeoDatabase-GIS workbench).		
		<i>Expected Benefits:</i>		Safety benefits of ~\$4,945,000 and a climbing lane benefit of ~\$402,000. For this analysis assume maximum benefits of ~\$5,347,000. T-2 freight route and repair one fish passage.		
204	Olympic County Jefferson	US 101 <i>Needs:</i> <i>Solution:</i>	281.68 to 282.85	US 101/SR 20 to E Uncas Rd S - Passing Lane and Right Turn Lane	Future	\$8,823,000
		<i>Expected Benefits:</i>		Less than 70% of posted speed threshold in 2030		
		<i>Known Environmental Issues:</i>		Southbound (Increasing) Passing Lane with Northbound (decreasing) right turn lane on US 101 into the SR 20 wye connection. Includes retaining wall work at one unstable slope location, one fish barrier repair, and one fish passage extension.		
		<i>Expected Benefits:</i>		Unknown at this time		
		<i>Known Environmental Issues:</i>		There are ~28 fish barriers of which ~16 require work, ~3 leaking underground storage tanks, and ~3 unstable slopes (2 erosion, 1 landslide).		

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
205	Olympic	US 101	296.65 to 300.71	US 101/Falls View Campground to Spencer Creek Rd Vic - SB and NB Truck Climbing Lanes	Current	\$1,502,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. Southbound (increasing) truck climbing/passing lane from MP 297.61 to MP 298.16 and a Northbound (decreasing) truck climbing/passing lane from MP 301.16 to MP 301.67. These locations have been previously scoped for Mt. Walker. Actual climbing lane deficiencies extend from MP 297.00 to MP 300.07 Southbound and MP 299.40 to MP 302.96 Northbound (3.07 miles SB-increasing and 3.56 miles NB-decreasing). Analysis of existing travel patterns, traffic volumes and terrain along US 101 indicate that the level of service (LOS) is approaching 85% of posted speed in the decreasing direction.			
	Jefferson	<i>Solution:</i>	3 lane facility (climbing lane). This project will widen US 101 from a 2 lane facility to a 3 lane facility (climbing lane) between Falls View Campground and Buckhorn Road on US 101 at the locations noted in the deficiency statement.			
		<i>Expected Benefits:</i>	Climbing lane benefit of ~\$173,000 and safety benefit of ~\$5,889,000 for total benefits of ~\$6,062,000. Hood Canal Bridge East Half Replacement Closure is a special event which will increase traffic volumes in the summer of 2009 or later. US 101 is a recreational route into the Olympic National Park/Forest with scenic views in the Mt. Walker Vicinity. The project cost estimate is from the Project Engineers Office and includes a 30% variance.			
		<i>Known Environmental Issues:</i>				
163	Olympic	SR 3	56.03 to 57.09	SR 3 - Pioneer Way to Kinman-Big Valley Roads - truck/climbing lane	Current	\$6,121,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. Southbound (decreasing) truck climbing/passing lane warrants are met. This location also experiences an average travel speed reduction below 70% of posted speed using HCMS 2000.			
	Kitsap	<i>Solution:</i>	Concept A: Southbound (decreasing) truck/climbing lane on SR 3 between Pioneer Way and Kinman-Big Valley Roads.			
		<i>Expected Benefits:</i>	Climbing lane benefit of \$3,800,000 and safety benefit of \$97,000 (30% placeholder reduction of all accidents).			
		<i>Known Environmental Issues:</i>	There are ~17 fish barriers of which ~8 require work, ~3 unstable slopes, 1 leaking underground storage tank, and ~22 storm water outfalls along SR 3. This area is also known for Bald Eagles.			
51	Olympic	SR 3	24.88 to 26.35	SR 3/SR 106 to SR 300 - Two Way Left Turn Lane Extension and Sidewalk	Current	\$8,503,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. A combination of high traffic volumes on a two lane facility and access connections within/near the community of Belfair cause congestion. Analysis of existing travel patterns and traffic volumes along State Route 3 through Belfair indicate that the level of service (LOS) is deteriorating. The mainline segment along State Route 3 is approaching or at 85% of posted speed during peak commuter hours in 2003 and less than 70% of posted speed threshold in 2030. Project will extend the existing two-way left turn lane through Belfair.			
	Mason	<i>Solution:</i>	3 lane facility (raised median). This project will widen State Route 3 from a 2/3 lane facility to a 3 lane facility (Two Way Left Turn Lane) from SR 106 to SR 300 in Belfair. This project assumes a Belfair Bypass will be constructed eliminating the need for a 4/5 lane facility in Belfair. A two way left turn lane should only be considered if access classification is reduced from class 3 to class 4 or if Belfair Bypass diverts more traffic away from SR 3. Origin/Destination studies indicate ~15% or less traffic may be diverted without a US 101 connector. Our planning level estimate assumes ROW width going from 60 ft to 80 ft with treatment locations for storm water outfalls. A Belfair estimate assumed width staying at 60 ft or going to 100 ft. In either case it is a deviation since SR 3 HSS rural requirement is 150 ft when widened. Sidewalks are also assumed for a pedestrian benefit.			
		<i>Expected Benefits:</i>	Mobility Benefits for extending a two-way left turn lane is ~\$3,000,000 and Safety Benefits (30% reduction placeholder) is ~\$4,000,000. The project will also address two fish passage barriers. A partnership with Mason County to fund improvements is anticipated because they are required to address sewer issues in the community of Belfair. Combining sewer improvements and widening improvements is beneficial to the County because of reduced utility relocation costs associated with widening. The sewer project is anticipated to cost around \$16,000,000 to \$17,000,000. If projects are combined, the total estimated cost would be less than \$26,000,000.			
		<i>Known Environmental Issues:</i>	Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin			

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
166	Olympic	SR 3	5 to 7.24	SR 3/2 Miles S of Johns Prairie Rd to Mason Lake Rd - Passing Lanes and SB Right Turn lane at Johns Prairie Rd	Current/Future	\$15,987,000
	County Mason	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Mobility deficiency - Rural congestion: Less than 85% of posted speed in 2030. Staggered passing lanes and southbound right turn lane at Johns Prairie Road General purpose lane benefits of ~\$2,228,741, safety benefits of ~\$1,305,999, and intersection benefits of ~\$22,954 for total benefits of ~\$3,557,694. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		
168	Olympic	SR 3	9.08 to 10.76	SR 3/Agate Rd to Pickering Rd - Passing Lanes	Future	\$3,752,000
	County Mason	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Mobility deficiency - Rural congestion: Less than 85% of posted speed in year 2030. Interim Staggered Northbound Climbing and Southbound Passing Lanes. Construct a Northbound climbing lane from MP 9.08 to MP 9.96 and a Southbound passing lane from MP 9.96 to MP 10.76. Northbound climbing lane benefits of ~\$1,135,093, Southbound general purpose passing lane benefits of ~\$599,581, and safety benefits of ~\$3,735,212 for total benefits based upon 2005 to 2025 being ~\$5,469,885. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		
169	Olympic	SR 3	10.76 to 20.32	SR 3/Pickering Rd to Grapeview Loop Rd - Widen Shoulders, SB Left Turn Lane at S Grapeview Loop Rd, and NB Right Turn Lane at N Grapeview Loop Rd	Future	\$39,809,000
	County Mason	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Mobility deficiency - Rural congestion: Less than 85% of posted speed in 2030. Widen shoulders and travel lanes (interim). This project will widen the existing 3-ft shoulders and 11-ft travel lanes to 8-ft shoulders and 12-ft travel lanes prior to implementing staggered passing lanes. Channelization is assumed at the two Grapeview Loop Road connections (SB left turn at the south connection and a NB right turn at the north connection) General purpose lane benefits (for widening shoulders and traveled lanes) is ~\$7,922,740 and safety benefits are ~\$27,944,483 for total benefits of ~\$35,867,223. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		
170	Olympic	SR 3	14.2 to 20.32	SR 3/Mason and Benson Rd to Grapeview Loop Rd - Passing Lanes	Future	\$12,779,000
	County Mason	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Mobility deficiency - Rural congestion: Less than 85% of posted speed in 2030. Passing lanes. This solution will provide four staggered passing lanes. The northbound passing lanes are proposed from MP 14.20 to MP 14.83 (0.63 mile) and from MP 18.83 to MP 19.70 (0.87 mile). The southbound passing lanes are proposed from MP 14.83 to MP 15.70 (0.78 mile) and from MP 19.70 to MP 20.32 (0.62 mile). General purpose lane benefits (passing lanes) is ~\$568,281 and safety benefits are ~\$5,205,650 for total benefits of ~\$5,773,931. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
171	Olympic	SR 3	21.17 to 22.45	SR 3/E N Bay Rd to E Homestead Dr - NB Passing Lane and NB Right Turn Lane at E N Bay Rd	Future	\$10,765,000
	County	<i>Needs:</i>	Mobility deficiency - Rural congestion: Less than 85% of posted speed in 2030.			
	Mason	<i>Solution:</i>	Northbound climbing/passing lane. This project proposes a northbound climbing/passing lane from MP 21.28 to MP 22.45 (1.17 miles). A SR 3 northbound right turn lane (~400 feet long) is assumed for vehicle turning movements toward E. N. Bay Road (Old SR 302).			
		<i>Expected Benefits:</i>	Climbing lane benefits of ~\$1,683,367 and safety benefits of ~\$5,191,380 for total benefits of ~\$6,874,747.			
		<i>Known Environmental Issues:</i>	Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin			
174	Olympic	SR 3	24.88 to 24.89	SR 3/SR 106 Jct - Signal Modification and Channelization	Current	\$976,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. High traffic volumes at the stop controlled intersection of SR 3 and SR 106 cause congestion. Analysis of existing travel patterns and traffic volumes at this intersection show warrants 1 (vol) and 2 (int) are met. Unsignalized Intersection HCM 2000 software using a 1 hour duration with 2004 volumes indicate the shared unchannelized eastbound left and right turn approach delays on SR 106 to be exponentially high (Delay more than 50 seconds per vehicle).			
	Mason	<i>Solution:</i>	Intersection improvements. This project will modify a signal system, add an eastbound left turn lane on SR 106 (or an eastbound right turn lane on SR 106), and a southbound right turn lane on SR 3 (Consider a NB acceleration lane on SR 3 if no signal installed).			
		<i>Expected Benefits:</i>	Intersection benefits can range from a low of ~\$1,645,000 to a high of ~\$3,089,000 with safety benefits of ~\$1,786,000 (30% reduction placeholder). Assume maximum benefit of ~\$4,875,000 with signal and channelization.			
		<i>Known Environmental Issues:</i>	Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin			
177	Olympic	I-5	120.93 to 123.64	I-5 - Fort Lewis to Thorne Lane - Construct SB and NB auxiliary lanes	Current	\$33,396,000
	County	<i>Needs:</i>	A combination of high traffic volumes on a 6-lane facility with Interchange on and off ramps cause congestion. OR Traffic also identified a 4-lane to 3-lane I-5 southbound reduction from Thorne Lane I/C to Berkley I/C as a bottleneck as well as high volumes I-5 NB PM from Fort Lewis Main Gate to Thorne Lane on 3-lanes causing back ups. The capacity of the 6-lane facility is not enough to handle mainline traffic volumes.			
	Pierce	<i>Solution:</i>	Construct a southbound auxiliary lane from Thorne Lane to Berkeley Street and a northbound auxiliary lane from the Fort Lewis CD System to Thorne Lane.			
		<i>Expected Benefits:</i>	Reduce backups onto the freeway and improve traffic flow on mainline.			
		<i>Known Environmental Issues:</i>	Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.			

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
178	Olympic	I-5	126.84 to 127.99	I-5 - I-5 & SR 512 Interchange, NB I-5 to EB SR 512 - Widen off ramp and add an auxiliary lane on SR 512 to E Steele St.	Current	\$23,277,000
	County	Needs:	A high volume of northbound I-5 traffic exiting to eastbound SR 512 in the afternoon causes large traffic back ups between Bridgeport Way Interchange and SR 512 Interchange for both Truck and GP traffic.			
	Pierce	Solution:	Widen on ramp to two lanes and add an auxiliary lane on SR 512 to E Steele St.			
		Expected Benefits:	Reduce backups onto the freeway and improve traffic flow on mainline.			
		Known Environmental Issues:	Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.			
179	Olympic	I-5	127.09 to 128.35	I-5 - I-5 and SR 512 Interchange, EB SR 512 to NB I-5 on ramp - Widen on ramp and add an auxiliary land on SR 512 from E Steele St.	Current	\$17,551,000
	County	Needs:	A high volume of eastbound SR 512 traffic to northbound I-5 in the morning as disrupts traffic flow on I-5 and causes large traffic back ups on SR 512 between Steele Street Interchange and I-5 for both Truck and GP traffic.			
	Pierce	Solution:	Widen on ramp to two lanes and add an auxiliary lane on SR 512 from E Steele St.			
		Expected Benefits:	Reduce backups onto the freeway and improve traffic flow on mainline.			
		Known Environmental Issues:	Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.			
184	Olympic	I-5	122.89 to 123.39	I-5 - Mounts-Old Nisqually Rd I/C to Gravelly Lake Drive I/C - Construct auxiliary lanes and noise walls	Current	\$8,000,000
	County	Needs:	Mobility Deficiency - Bottleneck and Chokepoint. A combination of high traffic volumes on a 6-lane facility with Interchange on and off ramps cause congestion. OR Traffic also identified a 4-lane to 3-lane I-5 southbound reduction from Thorne Lane I/C to Berkley I/C as a bottleneck as well as high volumes I-5 NB AM from Fort Lewis Main Gate to Thorne Lane on 3-lanes causing back ups. The capacity of the 6-lane facility is not enough to handle mainline traffic volumes. The northbound segment between Berkeley and Thorne Lane Interchange is the most congested segment.			
	Pierce	Solution:	Concept B: Northbound Auxiliary Lane. This project will modify weave, merge, and diverges between two interchanges by increasing distance for these movements with installation of a Northbound auxiliary lane between Berkeley on-ramp and Thorne Lane off ramp (MP 122.89 to MP 123.39). Thorne Lane Interchange is near the location of a future urban interchange that will serve a new SR 704. A noise wall could be a negotiated item for additional right-of-way easement from Fort Lewis Military Base.			
		Expected Benefits:	GP for ~\$69,800,00 and Safety benefits of ~\$3,000,000 (Assumes auxiliary lane acts as 4th freeway lane)			
		Known Environmental Issues:	Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.			

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
196	Olympic	SR 16	14.86 to 15.75	SR 16 - Burnham Drive Interchange to SR 302 Bridges - Construct EB and WB auxiliary lanes	Current	\$3,933,000
	County	<i>Needs:</i>	Mobility Deficiency - Emerging Bottleneck and Chokepoint. The combination of new pipeline development and the short distances between on and off ramps between the two interchanges will result in a over capacity weaving movement that will significantly impact mainline SR 16.			
	Pierce	<i>Solution:</i>	Concept A: Eastbound and Westbound auxiliary lane between Burnham Drive Interchange and SR 302 Bridges. The short distance between on and off ramps 210-ft and 950-ft, respectively, combined with pipeline traffic volumes will result in a over capacity weaving movement with the auxiliary lane additions. This is an interim conceptual solution that will help reduce traffic weaving impacts.			
		<i>Expected Benefits:</i>	Unknown at this time. This conceptual solution is a placeholder for an emerging bottleneck/chokepoint location.			
		<i>Known Environmental Issues:</i>				
220	Olympic	SR 410	0.27 to 1.43	SR 410 - SR 167 to SR 162 - WB Auxiliary Lane	Current	\$9,355,000
	County	<i>Needs:</i>	High volumes on a 4-lane facility with nearby SR 167/SR 410 Interchange may be causing congestion in this vicinity. OR Traffic identified the westbound traffic as having high volumes.			
	Pierce	<i>Solution:</i>	Construct a westbound auxiliary lane from SR 162 to East Main Avenue.			
		<i>Expected Benefits:</i>	Provision of WB auxiliary lane will improve traffic flow and reduce congestion.			
		<i>Known Environmental Issues:</i>				
88	Olympic	SR 512	5.85 to 5.86	SR 512 - SR-512 at Canyon Road Interchange - Two Lane Eastbound Off-Ramp	Current	\$5,108,000
	County	<i>Needs:</i>	Extend off-ramp East Bound. Synchronize the stop lights.			
	Pierce	<i>Solution:</i>	Construct a two lane eastbound off-ramp to Canyon Road.			
		<i>Expected Benefits:</i>	The addition of 2 lane EB off-ramp here will improve SR 512 mainline operations and help reduce congestion.			
		<i>Known Environmental Issues:</i>	SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40			
89	Olympic	SR 512	5.86 to 5.87	SR 512 - SR-512 at Canyon Road Interchange - Two Lane Westbound Off-Ramp	Current	\$3,930,000
	County	<i>Needs:</i>	West Bound - add additional left turn lane. Synchronize the stop lights.			
	Pierce	<i>Solution:</i>	Construct a two lane westbound off-ramp to Canyon Road.			
		<i>Expected Benefits:</i>	The addition of a 2 lane WB off-ramp here will improve SR 512 mainline operations and help reduce congestion.			
		<i>Known Environmental Issues:</i>	SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40			

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
226	Olympic	SR 512	2.22 to 2.23	SR 512 - SR 512 at SR 7 (Pacific Ave) Interchange - Two Lane Eastbound Off-Ramp	Current	\$7,728,000
	County Pierce	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	<p>Traffic backs up onto freeway. Extend the EB off-ramp. Synchronize lights.</p> <p>Construct a two lane eastbound off-ramp to SR 7.</p> <p>This will improve SR 512 mainline operations and will improve safety at this interchange.</p> <p>SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40</p>			
58	Olympic	I-5	101 to 101.01	I-5/Tumwater Blvd I/C - Signal at NB Off Ramp I/S and EB Acceleration Lane on Tumwater Blvd	Current	\$3,418,000
	County Thurston	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	<p>Mobility Deficiency - Bottleneck and Chokepoint. Unsignalized left turn movement with delay more than 50 seconds per vehicle toward Westbound Tumwater Boulevard at the Interstate 5 Northbound off ramp.</p> <p>Traffic signal and Eastbound acceleration lane on Tumwater Blvd.</p> <p>Intersection benefits are ~\$2,374,000 assuming .5% traffic growth and safety benefits are ~\$1,459,000 for total benefits of ~\$3,828,000. Tumwater Blvd provides a direct access to and from the Olympia Airport improving port accessibility.</p> <p>There are ~2 storm water outfalls within this segment of I-5 with minimal wetlands north of SR 121 I/C (93rd Ave SW - Tumwater) on the west side of I-5.</p>			
59	Olympic	I-5	101.69 to 101.7	I-5/Tumwater Blvd I/C - Signal Modification and Channelization at SB Off Ramp I/S	Current	\$6,264,000
	County Thurston	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	<p>Mobility Deficiency - Bottleneck and Chokepoint. Signalized left turn movement toward Eastbound Tumwater Boulevard at the Interstate 5 Southbound off ramp with delay more than 80 seconds per vehicle.</p> <p>Signal modification and channelization (Right turn and acceleration lanes)</p> <p>Intersection benefits are ~\$6,152,000 assuming zero traffic growth and safety benefits are ~\$1,848,000 for total benefits of ~\$7,999,000 with projected 2005 traffic volumes. Assume signal modification, right turn lanes, and acceleration lanes will be partially funded with private developer participation through the City of Tumwater. Tumwater Boulevard provides a direct access to and from the Olympia Airport improving port accessibility.</p> <p>There are ~2 storm water outfalls within this segment of I-5 with minimal wetlands north of SR 121 I/C (93rd Ave SW - Tumwater) on the west side of I-5.</p>			

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
61	Olympic	I-5	104.12 to 104.13	I-5/N 2nd Ave Off Ramp I/S - Three Way Stop Controlled I/S	Current	\$6,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. A combination of high traffic volumes on the US 101 and I-5 off ramps to N 2nd Avenue and Desoto cause ramp queues in the PM peak. The delay at the higher volume off ramp can be reduced by eliminating the free movements on the local arterials (Average delay of 38 seconds per vehicle in 2005 with 3-way stop and delay more than 50 seconds per vehicle in 2030).			
	Thurston	<i>Solution:</i>	Install stop signs on local arterials (Desoto and N 2nd Avenue) to create 3-way stop. A signal with acceleration lane could be considered or additional turn lane at next local arterial (balance lane utilization), but would result in a Benefit/Cost ratio less than 1.			
		<i>Expected Benefits:</i>	Intersection benefit of ~\$301,000 and safety benefit of ~\$469,000 with total benefits of ~\$770,000 based upon signal with acceleration lane.			
		<i>Known Environmental Issues:</i>	There are ~8 storm water outfalls within this segment of I-5. Capitol Lake and the storm water outfalls into it are a known environmental issue. Capitol Lake (an impounded river) may eventually become a fresh water marsh or be restored to a functioning estuary. Sediment coming down the river is deposited in the lake near Heritage Park, Marathon Park, and the Interpretive Center. The lake is on the State's list of impaired water bodies.			
63	Olympic	I-5	108 to 108.01	I-5/Sleater Kinney I/C - SB Acceleration Lane on Sleater Kinney	Current	\$945,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. Unsignalized stop control movements from I-5 Northbound off ramp (EB direction) to Southbound Sleater Kinney. The stop controlled right turn movement generates long queues in the PM peak period (Delay more than 50 seconds per vehicle in 2000).			
	Thurston	<i>Solution:</i>	Southbound acceleration taper and/or auxiliary lane on Sleater Kinney to allow free right turn movements at the ramp terminal (Eastbound right turn movement).			
		<i>Expected Benefits:</i>	Intersection benefits for ~\$3,596,000 and safety benefits for ~\$421,000 for total benefits of ~\$4,017,000. If acceleration lane extends to South Sound Mall right-in, right-out access it could help with traffic arrivals at the mall during special events (e.g. July fireworks). Widening for the acceleration taper and/or lane also means widening the existing bike tunnel. A wider roadway cross section will help deter bicycles from crossing Sleater Kinney at-grade and encourage usage of the bike tunnel to cross under Sleater Kinney.			
		<i>Known Environmental Issues:</i>	There are ~14 storm water outfalls and ~3 fish passages within this segment of I-5. Two of the fish passages require repair.			
64	Olympic	I-5	108.71 to 109.01	I-5/Martin Way I/C - NB Off Ramp Deceleration Lane Extension	Current	\$2,094,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. Signalized ramp terminal average delay more than 80 seconds per vehicle in 2005. The HCM ramp analysis indicates the ramp diverge to be at 85% of posted speed in 2005 (51 mph in the influence area).			
	Thurston	<i>Solution:</i>	Northbound I-5 deceleration lane. Providing a 0.3 mile (1570 ft) NB deceleration lane into the Martin Way I/C off ramp will improve ramp diverge to better than 85% of posted speed (0.15 mile or 800 ft NB deceleration lane would improve year 2003 ramp diverge to better than 85% of posted speed). Unable to identify any low cost ramp terminal improvements at the NB off/on ramp terminal that would improve overall intersection LOS to better than 80 seconds per vehicle of average delay due to high local arterial traffic volumes. A "Northeast Lacey Access" Study would consider various alternatives at Martin Way and at other locations that could be addressed further in an interchange justification report and/or environmental documentation.			
		<i>Expected Benefits:</i>	General purpose lane benefit of ~\$8,672,000 and safety benefit of ~\$199,000 for total benefits of ~\$8,871,000. Interstate 5 is a T-1 freight route.			
		<i>Known Environmental Issues:</i>	There is one storm water outfall at the Martin Way I/C Undercrossing.			

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
182	Olympic	I-5	107.58 to 109.26	I-5/Pacific Ave I/C to Martin Way I/C - Collector Distributor Lanes or Extend Auxiliary Lanes	Current	\$40,000,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. A combination of High volumes and ramp weaves cause frequent back-ups in the PM peak. Analysis of existing travel patterns and traffic volumes along Interstate 5 between Pacific Avenue and Martin Way indicate that the level of service (LOS) is deteriorating. The mainline segment along Interstate 5 is approaching or at 70% of the posted speed threshold during peak commuter hours in 2003.			
	Thurston	<i>Solution:</i>	Collector-Distributor lanes or Auxiliary Lanes (Both the C-D and Auxiliary lane proposals need further study for ramp diverge, merge, and weave. This project will install one lane collector-distributor lanes or auxiliary lanes in both northbound and southbound directions. Consider making proposed C-D lanes 2-lanes where existing or acquired right-of-way will accommodate the extra widening without high bridge widening costs or class 1 trail relocation costs. Design deviations are anticipated for the C-D proposal. Consider alternative auxiliary lane proposal to reduce the estimated costs and to eliminate probable design deviations. A C-D will require a design deviation at the Lilly Road and College Street undercrossings. Also, installing C-D lanes may require an Access Point Decision Report for interchange modifications. An extension of the existing auxiliary lane between Sleater Kinney Road and College Street northbound could also be considered. It may be desirable to complete a feasibility study prior to constructing C-D lanes or extending auxiliary lanes in this vicinity.			
		<i>Expected Benefits:</i>	General purpose lane benefits of ~\$175,983,000 and Safety benefits of ~\$5,059,500 for a total benefit of ~\$181,042,500.			
	<i>Known Environmental Issues:</i>	There is one storm water outfall at the Martin Way I/C Undercrossing.				
183	Olympic	I-5	112.77 to 113.77	I-5/Marvin Rd I/C to Nisqually I/C - SB Climbing Lane	Current	\$25,000,000
	County	<i>Needs:</i>	The vertical curve in the Southbound direction appears to meet the Design Manual speed reduction warrant and multilane level of service warrant for a Truck Climbing lane. Constructing an auxiliary lane between the Nisqually Southbound (Southwest direction) on ramp and the Marvin Road (SR 510) off ramp would provide this climbing lane, a deceleration lane into the off ramp, and an acceleration lane for the on ramp reducing weaving conflicts.			
	Thurston	<i>Solution:</i>	Southbound climbing lane from the Nisqually on ramp past crest of 3% vertical curve near the Marvin Road (SR 510) I/C. This auxiliary lane would also function as an acceleration lane and deceleration lane from the Nisqually on ramp to the Marvin Road off ramp and help reduce weaving conflicts.			
		<i>Expected Benefits:</i>	Unknown benefits at this time			
	<i>Known Environmental Issues:</i>	There are ~27 storm water outfalls within this segment of I-5. There are also 2 out of 4 fish passage locations that require repair. Wetlands along the north half of the 8.13 mile segment could be an environmental issue, particularly near the Maytown Safety Rest Area.				
74	Olympic	US 101	359.36 to 359.95	US 101/SR 8 Interchange - Ramp Widening to Two Lanes in Increasing Direction	Current	\$7,000,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. A combination of high volumes and one lane on and off ramps at the junction of SR 8 and US 101 reduce capacity along mainline US 101 in both directions during the peak periods. SR 8 and US 101 are 4-lane facilities, but the ramp-to-ramp connections are single lane. Interchange ramps with insufficient capacity are causing congestion on mainline US 101. Analysis of existing travel patterns and traffic volumes at the intersection of US 101 and SR 8 indicate that the level of service (LOS) is deteriorating. This interchange ramp is approaching or at 70% of the posted speed threshold during peak commuter hours in 2003.			
	Thurston	<i>Solution:</i>	2 lane ramps. Observed Southbound and Eastbound (increasing direction) queues extend back to Steamboat Island Road Interchange. Deviation required for widening or second ramp behind SR 8 bridge columns.			
		<i>Expected Benefits:</i>	A bike path is proposed behind the pier columns in the increasing direction. US 101 is a T-1 route with over 10 million tons of freight hauled annually.			
	<i>Known Environmental Issues:</i>					

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
206	Olympic	US 101	359.62 to 360.51	US 101/SR 8 Interchange - Ramp Widening to Two Lanes in Decreasing Direction and Auxiliary Lane	Current	\$9,169,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. A combination of high volumes and one lane on and off ramps at the junction of SR 8 and US 101 reduce capacity along mainline US 101 in both directions during the peak periods. SR 8 and US 101 are 4-lane facilities, but the ramp-to-ramp connections are single lane. Interchange ramps with insufficient capacity are causing congestion on mainline US 101. Analysis of existing travel patterns and traffic volumes at the intersection of US 101 and SR 8 indicate that the level of service (LOS) is deteriorating. This interchange ramp is approaching or at 70% of the posted speed threshold during peak commuter hours in 2003.			
	Thurston	<i>Solution:</i>	2 lane ramps. Observed Westbound (decreasing direction) queues extend back to Mud Bay Interchange. Westbound decreasing direction includes an auxiliary lane between this interchange and the US 101/SR 8 Interchange.			
		<i>Expected Benefits:</i>	US 101 is a T-1 route with over 10 million tons of freight hauled annually.			
		<i>Known Environmental Issues:</i>				
207	Olympic	US 101	364.57 to 365.56	US 101/Mottman Interchange to I-5 - Auxiliary Lanes	Current	\$10,352,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. A combination of high volumes, vertical and horizontal curves, and ramp merges/diverges cause peak hour speeds to drop. The mainline segment along US 101 between Cooper Point Road SW and I-5 is approaching or at 85% of posted speed during peak commuter hours in 2003.			
	Thurston	<i>Solution:</i>	Auxiliary Lanes. Provide a Northbound (decreasing) deceleration lane into the Mottman/Cooper Point I/C off ramp that also serves as a climbing lane (~MP 366.65 to MP 366.91) and provide a Southbound (increasing) auxiliary lane between the Mottman/Cooper Point on ramp and the I-5 SB/2nd Avenue off ramp diverge that also serves as an on ramp acceleration lane from Mottman and off ramp deceleration lane into 2nd Avenue off ramp (~MP 366.75 to MP 367.35).			
		<i>Expected Benefits:</i>	General purpose lane benefit of ~\$7,296,000 (increasing auxiliary lane), climbing lane benefit of ~\$4,569,000 (decreasing auxiliary), and safety benefits of ~\$11,608,000 for total benefits of ~\$23,473,000. US 101 is a T-1 freight route.			
		<i>Known Environmental Issues:</i>				

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
85	Olympic County	SR 507 <i>Needs:</i>	28.2 to 28.56	SR 507/Manke-Koeppen Rd and Vail Rd - Channelization and Signal	Current/Future	\$2,310,000
	Thurston	<i>Solution:</i>		Alternate Route. This project will provide improvements on SR 507 to encourage an interim alternative route to the City of Yelm's proposed Y-2 alternative utilizing existing County roadways already used by local traffic familiar with the area. Provide channelization at Manke (121st Avenue SE)/Koeppen Road Intersection (MP 25.42 Vicinity). Channelization to include a SB right turn pocket, NB right turn lane, and WB right turn pocket to create a left turn storage lane. Also consider a signal system at Vail Road SE (MP 30.50) provided concerns about violating driver expectancy can be addressed (e.g. advanced warning signal for SR 507 NB traffic inciding signal status before the horizontal/vertical curve). It appears that Koeppen Road to 123rd Avenue SE to Morris Road SE to Bald Hills/SR 507 (or 123rd to Hannus Rd SE to Vail Rd SE to SR 507) mimics the City of Yelm's proposed Y-2 alternative. Because it is located further to the south or southeast away from the City of Yelm it will divert less traffic away from the congested area. Manke Road is often used as a short-cut to Rainier Road and also serves industrial sites where truck traffic interacts with traffic flows on SR 507.		
		<i>Expected Benefits:</i>		Intersection benefits of ~\$252,000 (Manke/Koeppen for ~\$106,000 and Vail for ~\$146,000). Safety benefits were not calculated because no improvements were identified for the actual bottleneck/chokepoint segment within the City of Yelm. The benefits at Manke/Koeppen may not be accurate since volumes and distributions were based on nearby intersection to the north. Traffic counts at Manke/Koeppen are needed to determine if intersection benefits are higher.		
		<i>Known Environmental Issues:</i>				
86	Olympic County	SR 510 <i>Needs:</i>	11.81 to 13.07	SR 510/Burnett Rd to SR 507 - Two Way Left Turn Lane and Sidewalk	Current	\$10,296,000
	Thurston	<i>Solution:</i>		Two way left turn lane (Y5). This City of Yelm project will provide a continuous two-way left turn lane with sidewalk (curb & gutter), bike shoulders, and bus pullouts between Burnett Road (Yelm WCL) and SR 507. Assume City of Yelm to be the lead agency because they are establishing a local improvement district (LID) from 93rd Avenue to NW Killion Road. SR 510 bottleneck/chokepoint limits are also within City of Yelm incorporation limits, therefore, roadway standards should conform to City standards (city streets as part of State Highways, RCW 47.24). Assume local arterial realignment at the skewed intersections of 93rd Avenue and Killion Road.		
		<i>Expected Benefits:</i>		Two-way left turn lane benefits are ~\$3,369,000 and safety benefits are ~\$9,340,000 for total benefits of ~\$12,709,000. State Route 510 is listed as a designated bicycle touring route in the Thurston County Comprehensive Plan 1995. Intercity Transit has indicated a need for bus pullouts within the City of Yelm. Yelm schools will benefit from continuous sidewalk, curb, and gutter.		
		<i>Known Environmental Issues:</i>				

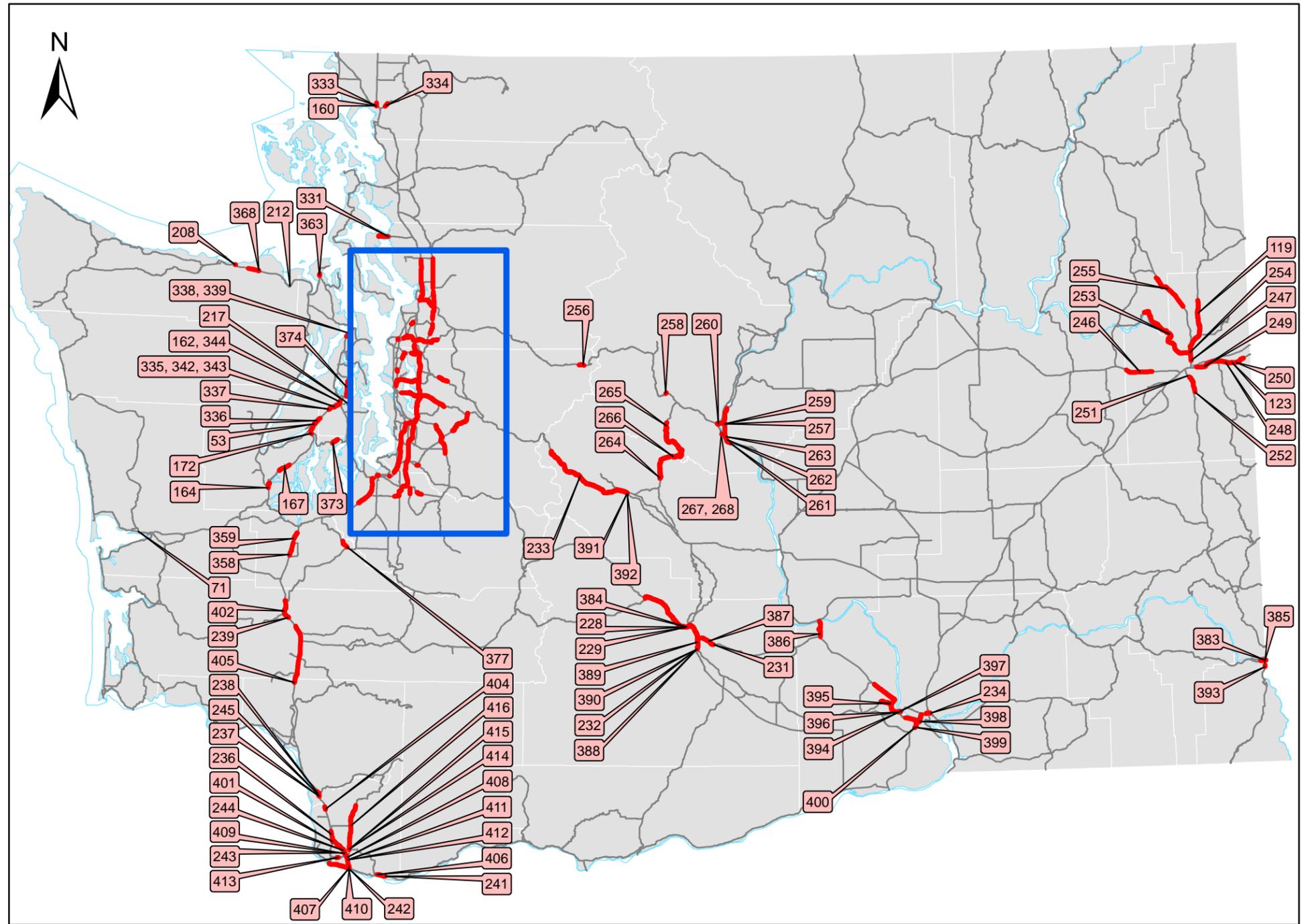
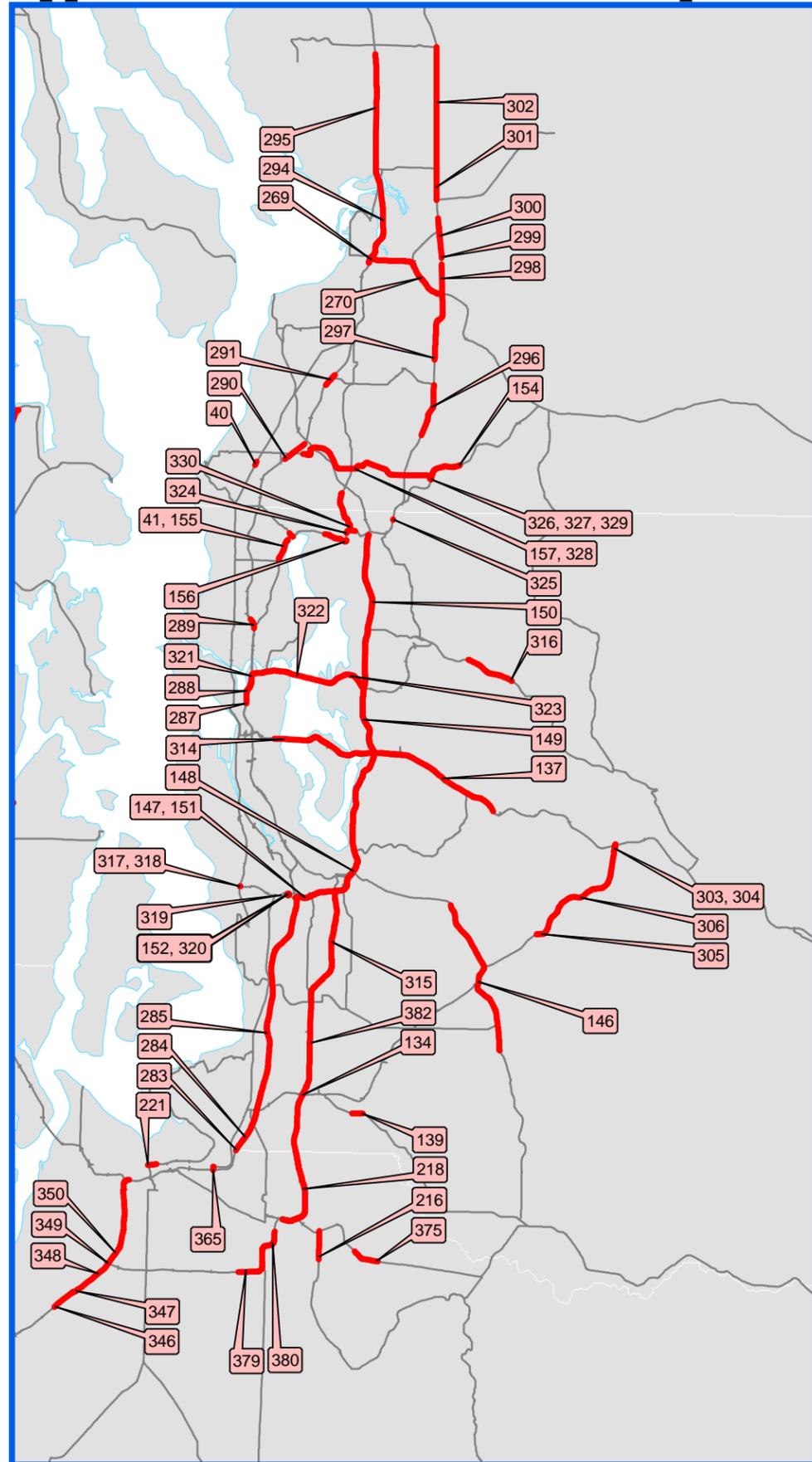
# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
230	South Central County Benton	SR 24 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	38.43 to 43.51	SR 24/SR240 to Columbia River - Climbing Lane This section of roadway experiences congestion at times as trucks climbing up the hill from Vernita are slowed due to the steepness of the grade. This also causes other vehicles to be slowed due to the winding nature of the roadway. The solution for this section of the corridor is to construct a truck climbing lane. This will move the high percentage of trucks out of the SB through lane and allow traffic to maintain speed. This project is proposed to help maintain SR 24 as a free flow higher speed facility by reducing congestion and delay in this section of steeply graded highway. There are \$806,006 in climbing lane benefits associated with this solution in addition to \$6,432,595 in Safety benefits The route crosses the Yakima River on the western end of the corridor with environmentally sensitive areas adjacent to the highway. The western portion flooded in 1996 doing major damage to public and private lands.	Future	\$4,512,000
96	South Central County Benton	SR 224 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	6.82 to 10.15	SR 224/62nd PI to SR 240 I/S - TWLTL This section of SR 224 experiences traffic back-ups beginning at 5:30 am Monday through Friday. This medium cost proposal will add a TWLTL in the two lane section as well as adding two signal systems and right turn lanes at three intersections This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$5,894,000 in TWLTL benefits and \$20,195,763 in safety benefi The surrounding area of this route section are considered to be semi-arid with many varieties of small and larger animals and birds that reside there. Some of these species could be threatened or endangered. There are few if any wetland issues in this	Future	\$4,071,000
98	South Central County Benton	SR 240 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	37.08 to 41.34	SR 240/Edison St I/C - EB Off ramp Improvements and Signal This corridor experiences many rear-end type collisions due to slowing traffic caused by congestion. This project will improve the eastbound off ramp connection with Edison St. by adding a lane to the ramp for an additional right turn movement onto Edison. The raised traffic island will be removed so that the existing through, left and right movements will change to a dedicated double right turn with a through and left as the other leg eastbound. A signal would also be added and interconnected with the city system if warrants are met. This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$ 1,344,512 in safety benefits associated with this project. This section runs through semi-arid area that may be home to small and large animals and birds that may in some cases be endangered.	Current/Future	\$1,170,000
92	South Central County Yakima	US 12 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	184.7 to 202.13	US 12/W Naches Rd to ECL Naches - Safety Improvements 24% of the accidents are rear-ends. Another 16% are associated with vehicles overturned, and 12% are at angle accidents. Inattention and falling asleep while driving is a leading cause of all accidents, and of fatalities in the South Central Region. Improve access control through Naches with curb, gutter and sidewalk. □Safety improvements include rumble strips and widening shoulders. □Channelize US 12/W. Naches Road intersection. Installing curb, gutter and sidewalk within the Town of Naches will improve the safety and operation of this segment of US 12, and provide a safe separate pedestrian facility. Reduce run-off-the road accidents by installing shoulder rumble strips. Chan The route parallels the Naches river, with sensitive areas immediately adjacent to the highway, in various locations within the corridor. The river flooded causing extensive damage to both private and public lands in 1996.	Future	\$8,000,000

# Tier II Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
235	Southwest County Clark	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	7.24 to 11.6	I-5/NE 139th St to NE 219th St - Add Auxiliary Lanes Under expected growth assumption, the projected driving speed on this section in 2026 will be as low as 27% of posted speed. Widening is necessary for this section to benefit from other interchange and arterial improvements along I-5. Add auxiliary lane SB from 139th St. to 179th St. and add auxiliary lane in both directions from 179th St. to 219th St. Reduce collisions and delays due to existing limited weave distance. This segment crosses several waterbodies and their associated wetlands and riparian habitat. There are several stormwater outfalls and fish passage barriers that have been identified.	Future	\$22,000,000
240	Southwest County Clark	SR 14 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	6.96 to 8.31	SR 14/I-205 to SE 164th Ave - Add Auxiliary Lanes Increased volume without increased capacity. Significant delay during peak hours. This highway segment is an identified bottleneck/chokepoint. Re-stripe and extend ramps between I-205 and 164th Ave., including lengthening/widening WB on ramp from 164th Based on the WSDOT Mobility Project Prioritization Process software estimates, this project will bring \$87 million mobility benefits and \$15 million safety benefits in 20 years, with a benefit-cost ratio of 5.76. The delay reduction is estimated to be 74% (Benefit Collision Delay Program); and the collision reduction is estimated to be 30% to 50% (Mobility Project Prioritization Process software). The ratio of peak hour speed to posted speed in 2025 will be increased from 58% under no-build scenario to at least 83% under build scenario (Highway Segment Analysis Program). Small wetlands occur primarily on the north side of the highway where ditches and cut slopes have intercepted natural groundwater. Total estimated wetland impacts area is 0.86 acres. This figure is preliminary and subject to change with further analysis and formal wetland delineations. There are quite a few known stormwater outfalls located along this section of SR 14.	Current	\$25,500,000
107	Southwest County Clark	SR 500 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	5.09 to 5.26	SR 500/I-205 - Add Ramp Lane Weaving problems due to closely spaced on/off ramps and large volume of traffic. Add 1 additional on ramp lane from WB 500 to NB 205 This project will reduce the weaving problem between the two interchanges. Known stormwater outfalls are located along this section.	Current	\$2,000,000

# Appendix J: 2007-2026 HSP Implementation Plan: Tier III Solutions



**Legend**  
— Tier III Solutions



# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
119	Eastern County	US 2 <i>Needs:</i>	290.2 to 298.03	US 2/Woolard Rd Vicinity - Construct I/C with Frontage Roads	Current	\$14,000,000
	Spokane	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	<p>Various portions of the US 2 route segment currently operate at failing or near failing level-of-service. There are also several intersections that experience failing LOS.</p> <p>Construct grade separated interchange, in the vicinity of Woolard Rd., in conjunction with frontage roads, to eliminate direct access to US 2 at Colbert and Glen/Elk-Chattaroy roads.</p> <p>Safety improvements and improved mobility through this portion of the corridor.</p> <p>Riparian and wetland areas are located adjacent to and within the right-of-way. Wildlife travel corridors are present. Threatened and endangered species may use proximate habitat, and rare plants may be located adjacent to roadway.</p>			
246	Eastern County	US 2 <i>Needs:</i>	259.21 to 266.89	US 2/Fairchild Air Force Base to I-90 - Add General Purpose Lanes	Future	\$18,000,000
	Spokane	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	<p>With build-out of proposed near-term commercial and residential development proposals, travel speed on the facility is projected to decrease by 25% according to travel demand modeling done in 2001, with portions of the route projected to operate at 69% of posted speed, in the forecast year, by the regional travel demand model. The area in the vicinity of the corridor is rapidly developing, with many large commercial and residential developments being proposed since the last traffic analysis was completed. Intersections that are currently operating at minimum acceptable LOS will be failing in the near future.</p> <p>The maximum fix for this route segment may be the construction of additional lanes. However, other potential solutions have been proposed, such as an alternate route (bypass), and the construction of a new facility by Spokane County that may reduce traffic on the most heavily congested portions of the route segment. Further study, in collaboration with local jurisdictions, is needed to determine the appropriate long-range solutions for the facility.</p> <p>The construction of additional lanes will improve operating speeds and travel times through the City of Airway Heights.</p> <p>Riparian and wetland areas are located within, and adjacent to, the right-of-way. Wildlife travel corridors may be present. Threatened and endangered species use of proximate habitat and rare plant presence may be concerns.</p>			
247	Eastern County	US 2 <i>Needs:</i>	280.8 to 299.31	US 2/Deer Rd to Pend Orielle Co Line - Add General Purpose Lanes	Current	\$130,000,000
	Spokane	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	<p>Various portions of the US 2 route segment currently operate at failing or near failing level-of-service. There are also several intersections that experience failing LOS. With substantial growth anticipated for the communities of Colbert, Mead, Chattaroy and Riverside, operating conditions along US 2 will continue to deteriorate.</p> <p>Replace existing US 2/SR 206/Market St. at-grade intersections with a diamond, single point urban interchange, or roundabout, possibly entailing realignment of the US 2 facility in this vicinity. Construct grade- separated interchange at Dennison-Chattaroy Rd. with implementation of full access control with frontage roads. Purchase partial access control and construct four-lane divided highway in portion of route that is currently two-lane.</p> <p>These solutions do the most to ensure that US 2 will remain a high speed free flow facility by reducing delay at a major intersection (SR 206), constructing grade separated interchanges, and by extending the existing two-lane divided facility further north to the Pend Orielle County line. There is an existing four-lane divided segment of US 2 that begins at the County line that the new four-lane section would connect to, providing for a contiguous section, with a minimum of four lanes, between I-90 and southern Pend Orielle County.</p> <p>Riparian and wetland areas are located adjacent to and within the right-of-way. Wildlife travel corridors are present. Threatened and endangered species may use proximate habitat, and rare plants may be located adjacent to roadway.</p>			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
123	Eastern County	I-90 <i>Needs:</i>	289.13 to 291.59	I-90/Barker I/C to Harvard I/C - Construct General Purpose Lanes	Current	\$80,000,000
	Spokane	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Additional lane in each direction between Barker Rd. interchange and Harvard Rd. interchange, including the cost to reconstruct Barker and Harvard interchanges. Additional capacity will result in a reduction in delay of approximately 6% according to recent travel demand modeling done for this route segment. I-90 closely follows the Spokane River riparian area on this corridor segment. Widening of the corridor to the north would have impacts on the riparian area. There could also be impacts to wetland areas associated with widening of the facility. Elk use areas south of I-90. There are also archaeological sites along the river at various locations between Sullivan interchange and the state line.		
248	Eastern County	I-90 <i>Needs:</i>	288.13 to 289.63	I-90/Sullivan I/C to Barker I/C - Construct General Purpose Lanes	Current	\$12,000,000
	Spokane	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Construction of an additional lane, in each direction, between Sullivan Rd. and Barker Rd. interchanges. Construction of additional capacity will allow travel speed to be maintained above the 70% of posted speed threshold. I-90 closely follows the Spokane River riparian area on this corridor segment. Widening of the corridor to the north would have impacts on the riparian area. There could also be impacts to wetland areas associated with widening of the facility. Elk use areas south of I-90. There are also archaeological sites along the river at various locations between Sullivan interchange and the state line.		
249	Eastern County	I-90 <i>Needs:</i>	280.57 to 288.13	I-90/Sprague I/C to Sullivan I/C - Construct General Purpose Lanes	Future	\$150,000,000
	Spokane	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Construct an additional lane, in each direction, between Sprague Ave. interchange and Sullivan Rd. interchange. Construction of an additional lane will allow the facility to operate at adequate service levels. Expansion of the Sullivan interchange to the north would impact Spokane River riparian areas, Bald Eagle wintering habitat and Ospey habitat located along the Spokane River.		
250	Eastern County	I-90 <i>Needs:</i>	291.13 to 295.22	I-90/Harvard I/C to Idaho State Line - Construct General Purpose Lanes	Future	\$42,000,000
	Spokane	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		By the forecast year of 2030, interchange merge/diverge sections are operating at failing LOS. Mainline I-90 speeds fall to 60% of the posted speed limit by 2030. Construction of one general purpose lane, in each direction, between the Harvard Rd. interchange and the Idaho State Line. This will provide for, at a minimum, a contiguous 3 lane section, in each direction, between Sprague Ave. I/C and the State Line. Construction of additional capacity will enable the facility to operate at acceptable service levels through the remainder of the HSP planning horizon. I-90 closely follows the Spokane River riparian area on this corridor segment. Widening of the corridor to the north would have impacts on the riparian area. There could also be impacts to wetland areas associated with widening of the facility. Elk use areas south of I-90. There are also archaeological sites along the river at various locations between Sullivan interchange and the state line.		

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
251	Eastern County Spokane	US 195 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	91.21 to 91.22	US 195/Cheney-Spokane Rd to Lindeke Rd - Construction of I/C and Arterial This route segment is experiencing increasing conflict and safety issues as minor street traffic merges with high speed traffic on US 195. Construction of a fully directional interchange at Cheney-Spokane Rd. and new City of Spokane arterial. Elimination of conflicts between mainline and minor street traffic as well as the diversion of some traffic from US 195 to local street system. This will allow US 195 to be maintained as a high-speed regional facility. This segment of US 195 is located in the vicinity of Latah Creek and associated riparian and wetland areas. While it is not known if there are, or would be, specific environmental issues, projects located in the corridor would need to be sensitive to rip	Current	\$19,800,000
252	Eastern County Spokane	US 195 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	85.96 to 90.75	US 195/Hatch Rd to I-90 - I/C Construction Conflicts at at-grade intersections create safety and mobility deficiencies within the route segment. Construction of fully directional interchanges at Hatch Rd. and Meadowlane Rd. Accident reduction and mobility improvement through the elimination of minor street traffic conflicts with high speed mainline through movements. Elimination of delay for minor street movements to access US 195. This segment of US 195 is located in the vicinity of Latah Creek and associated riparian and wetland areas. While it is not known if there are, or would be, specific environmental issues, projects located in the corridor would need to be sensitive to rip	Current	\$34,000,000
253	Eastern County Spokane	SR 291 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	3 to 3.1	SR 291/Assembly Rd I/S - Construct Fly-over Ramp Unusual configuration of the intersection, and high approach volumes, creates excessive delay and safety issues. Construction of flyover ramp will greatly decrease congestion and improve safety at the intersection. This project will eliminate a chokepoint that is created by high traffic volumes, an unusual intersection configuration, and is exacerbated by special events and recreational facilities located nearby. Some sections of this segment of SR 291 are located in close proximity to the Spokane River, presenting potential mitigation challenges relative to shorelines and critical areas for improvements in those areas. New alignment proposals impact identified w	Current	\$2,309,000
255	Eastern County Spokane	US 395 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	181.52 to 193.27	US 395/Fender Rd Vic to Stevens Co Line - Construct General Purpose Lanes The US 395 route segment was divided into 4 logical segments for analytical purposes in the US 395 RDP. All four sections show failing level-of-service (E) by 2007. Several major intersections are either currently experiencing a failing LOS or will be in the near future as projected growth, especially in the Deer Park area, begins to materialize. The maximum solution for this facility is the construction of additional lanes to provide for a four lane divided facility with the construction of three grade separated interchanges at Half Moon Rd., Monroe-Crawford Rd. and Spotted Rd. Construct four grade separated crossings at Staley/Dennison-Chattaroy Rd., Burroughs/Dalton Rd., Short Rd., and H Street, along with the purchase of full access through the limits of the route segment. Elimination of accidents at existing at-grade intersections. Reduced delay at intersections, which are projected to operate at LOS F in the 2020 forecast year. Reduction of delay on mainline, which is currently functioning at LOS E, with portions of the route segment functioning at LOS F in the forecast year. Implementation of US 395 Route Development Plan recommendations anticipates that there would be impacts to flood plain and wetland areas. There are also several historical properties that may be impacted by improvements in the route segment. However, it	Current	\$75,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
254	Eastern	SR 291	0 to 22.31	SR 291/US 2 to Swenson Rd - Construct General Purpose Lanes and Four-lane Divided Facility	Current	\$23,240,000
	County	<i>Needs:</i>	Traffic on this route segment is expected to increase significantly as residential growth within the urban growth area boundary and southern Stevens County continues. LOS on the portion of the route in the urban area is already failing during the PM peak. As the route moves out of the urban area, it becomes a two-lane facility with very limited passing opportunities due to sight distance and grades. Travel delay analysis indicates a portion of the segment covered by the proposed new facility will be deficient as early as 2009.			
	Spokane & Stevens	<i>Solution:</i>	The maximum fix for this portion of the facility is the construction of additional lanes in the urban section as well as the construction of a new 4-lane alignment in the suburban/semi-rural area of the route segment. A new four-lane section would be constructed on a new alignment between the vicinity of Charles Rd. and Swenson Rd. (Suncrest community).			
		<i>Expected Benefits:</i>	Construction of additional general purpose lanes in the urban area as well as the construction of a new alignment in the rural area will improve travel times significantly while also creating a much safer facility for motorists as well as other highway users. Relocating a portion of the facility further away from the Spokane River should enhance the natural beauty of the area.			
		<i>Known Environmental Issues:</i>	Some sections of this segment of SR 291 are located in close proximity to the Spokane River, presenting potential mitigation challenges relative to shorelines and critical areas for improvements in those areas. New alignment proposals impact identified w			
258	North Central	US 2	99.89 to 100.24	US 2/Leavenworth Vicinity - Bypass	Future	\$40,000,000
	County	<i>Needs:</i>	This section of US 2 is located entirely within the city of Leavenworth. The city is a major tourist attraction and surrounded by recreational opportunities.			
	Chelan	<i>Solution:</i>	Construct bypass			
		<i>Expected Benefits:</i>	Congestion relief by rerouting traffic away from congested business center.			
		<i>Known Environmental Issues:</i>	Historical properties, potential wetlands if a new route is selected, and urban development conflicts. Societal impacts include increased noise, historical buildings and residential units.			
260	North Central	US 2	118.54 to 119.99	US 2/School St to Odabashian Bridge W end - Grade Separation	Future	\$120,000,000
	County	<i>Needs:</i>	This route provides one of only two crossings of the Columbia River and connects the cities of East Wenatchee and Wenatchee.			
	Chelan	<i>Solution:</i>	Sunnyslope Interchange, Grade separation at Easy St., and improve connecting streets			
		<i>Expected Benefits:</i>	Congestion relief by providing alternate traffic flow patterns.			
		<i>Known Environmental Issues:</i>	Noise impacts and other societal impacts are present in this urban segment.			
267	North Central	SR 285	0 to 1.14	SR 285/W end George Sellar Bridge to Chehalis St - Interchange Improvement	Future	\$35,000,000
	County	<i>Needs:</i>	City highway is causing congestion related to volume of traffic.			
	Chelan	<i>Solution:</i>	Improved interchange at the West end of the George Sellar Columbia River Bridge.			
		<i>Expected Benefits:</i>	Congestion relief with improved traffic flow patterns			
		<i>Known Environmental Issues:</i>	There is the potential for impacting historical properties. Being an urban corridor, there is noise and other societal impacts to consider.			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
268	North Central  County Chelan	SR 285 & SR 285 Couplet  <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	1.14 and 0.00 to 5.00 and 1.78  Three lane city highway is causing congestion related to volume of traffic. Additional (third) Columbia River Crossing. Additional (third) Wenatchee River Crossing. Congestion relief with alternative traffic corridors for traffic entering or leaving Wenatchee to East Wenatchee or to the West.  There is the potential for impacting historical properties. Being an urban corridor, there is noise and other societal impacts to consider.	SR 285, SR 285 Couplet/Chehalis St to US 2 - Additional River Crossings	Future	\$330,000,000
257	North Central  County Douglas	US 2  <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	120.26 to 121.06  This route provides one of only two crossings of the Columbia River between the cities of East Wenatchee and Wenatchee. Cascade Avenue Vic. Interchange Congestion relief for US 2 and SR 28 (Sunset highway) by providing alternate traffic flow patterns.  There could be cultural resource issues and potential historical properties along this segment.	US 2/Odabashian Bridge E end to Jct SR 28 - Interchange	Future	\$20,000,000
259	North Central  County Douglas	US 2  <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	121.06 to 125.68  Two lane highway is causing congestion related to slow moving vehicles 4 lane configuration Reduced congestion by providing additional lanes.  There could be cultural resource issues and potential historical properties along this segment.	US 2/Jct SR 28 to Lincoln Rock State Park - 4 Lanes	Future	\$68,000,000
261	North Central  County Douglas	SR 28  <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	4.65 to 6.44  Two lane highway is causing congestion related to slow moving vehicles 4 lane configuration Reduced congestion by providing additional lanes.  There are a few wetland sites, Historical properties and cultural resource issues are possible. An EIS is complete on the Northerly part of the segment. Storm water impacts are also a potential issue.	SR 28/E Wenatchee City Limits to Rock Island Hydro Park - 4 lanes	Future	\$30,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
262	North Central County Douglas	SR 28 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	3.67 to 4.65	SR 28/9th St to E Wenatchee City Limits - Urban Interchange Two lane highway is causing congestion related to slow moving vehicles Urban Interchange at Grant Road Congestion relief by providing alternate traffic flow patterns. There are a few wetland sites, Historical properties and cultural resource issues are possible. An EIS is complete on the Northerly part of the segment. Storm water impacts are also a potential issue.	Future	\$31,000,000
263	North Central County Douglas	SR 28 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 3.67	SR 28/US 2 to 9th St - 4 lanes Two lane highway is causing congestion related to slow moving vehicles 4 lane configuration from Jct. US 2 to 9th Street (MP 3.67B) Reduced congestion by providing additional lanes. There are a few wetland sites, Historical properties and cultural resource issues are possible. An EIS is complete on the Northerly part of the segment. Storm water impacts are also a potential issue.	Future	\$120,000,000
256	North Central County King	US 2 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	56.71 to 58.1	US 2/Deception Creek Vicinity - 4 lanes Two lane highway West of the Summit of Stevens pass is causing congestion related to slow moving vehicles 4 lane configuration Reduce congestion by providing additional lanes for slow moving vehicles The majority of land is within the US Forest Service. There are wetlands, cultural, historical features in this section. Potential sensitive species include spotted owls.	Future	\$10,000,000
264	North Central County Kittitas & Chelan	US 97 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	137.76 to 163.02	US 97/Liberty Road to Ingalls Creek Road - Re-alignment and add truck lane This section of US 97 crosses Blewett Pass. The two lane highway, with portions of it having a truck climbing lane, is causing congestion related to slow moving vehicles Re-Align roadway: MP 171.92 to MP 175.63 Add truck lane: MP 176.62 to MP 177.21 Reduced congestion due to slow moving vehicles and Reduce accident potential by reducing the serpentine alignment. The majority of land is within the US Forest Service. There are wetlands, cultural, historical features in this section. Potential sensitive species include spotted owls. Bull trout, steelhead, spring Chinook.	Future	\$72,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
265	North Central County	US 97 <i>Needs:</i>	137.76 to 163.02	US-97/Liberty Road to Ingalls Creek Road - Addition of truck lanes	Future	\$120,000,000
	Kittitas & Chelan	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Add truck lanes: MP 152.73 to MP 161.71 MP 171.92 to MP 175.63 MP 176.62 to MP 177.21 Reduced congestion due to slow moving vehicles The majority of land is within the US Forest Service. There are wetlands, cultural, historical features in this section. Potential sensitive species include spotted owls. Bull trout, steelhead, spring Chinook.		
266	North Central County	US 97 <i>Needs:</i>	137.76 to 163.02	US 97/Liberty Road to Ingalls Creek Road - 4 Lanes	Future	\$300,000,000
	Kittitas & Chelan	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		4 lane configuration Reduced congestion by providing additional lanes. The majority of land is within the US Forest Service. There are wetlands, cultural, historical features in this section. Potential sensitive species include spotted owls. Bull trout, steelhead, spring Chinook.		
331	Northwest County Island	SR 532 <i>Needs:</i> <i>Solution:</i>	0 to 2.91	SR 532/Sunrise Dr to County Line - Corridor Improvements (Maximum)	Current	\$35,000,000
		<i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		SR 532 serves as the only access to Camano Island, which is experiencing a great deal of residential growth. A significant level of capacity improvements will be required as the area develops. Some local street enhancements will be needed to address traffic operation problems which will arise in the future. These enhancements will allow drivers to have a choice of routes, and will reduce the demand on the State Route. Better flow of traffic by adding capacity to the existing facility. The corridor is within the 100-year floodplain and borders the Skagit Wildlife Area which provides habitat for migratory birds. There are wetlands mapped in the vicinity of the Hanstad Rd/SR 532 intersection that would require ground verification.		
283	Northwest County King	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	139.5 to 154.53	I-5 - Pierce/King County Line to I-405 - Construct Core HOV lanes, truck climbing lane, and ITS	Current	\$130,813,100
				I-5 congested corridor segment. Need to address current mobility, safety and operational deficiencies for GP, HOV and transit users. Construct Core HOV lanes, truck climbing lane, and SC&DI from Pierce County line to Tukwila. This will address congestion deficiency on this section of I-5 and improve freeway operations. It will also enhance HOV and transit operations on I-5. It will also enhance freight mobility on this key segment of I-5 that serves the Port of Tacoma. Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. Medium to high Critical Aquifer Recharge Areas occur along this corridor segment. Palustrine occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. Other features include Urban Growth Area, city and county parks, .		

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
284	Northwest	I-5	140.38 to 143.45	I-5 - Vicinity of the I/5/SR 18 I/C - New I/C at SR 161 with collector-distributor lanes between SR 18 lanes SR 161.	Current	\$147,110,000
	County King	<i>Needs:</i>	I-5 mainline congestion and safety deficiencies. I-5/SR 18 I/C is a safety deficiency and includes a HAL and HAC (I-5 section north of SR 18 I/C).			
		<i>Solution:</i>	New Interchange at SR 161 with collector-distributor lanes between SR 18 lanes SR 161. It includes construction of a direct westbound to southbound freeway to freeway ramp connection, construction of a frontage road on the west side of the interchange connecting directly to SR 161, and construction of a direct southbound I-5 to eastbound SR 18 freeway to freeway ramp connection.			
		<i>Expected Benefits:</i>	This improvement will address safety and operational deficiencies on the I-5 mainline, will eliminate the HAL/HAC and will improve traffic flow/operations through the I-5/SR 18 interchange.			
		<i>Known Environmental Issues:</i>	Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. Medium to high Critical Aquifer Recharge Areas occur along this corridor segment. Palustrine occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. Other features include Urban Growth Area, city and county parks, .			
285	Northwest	I-5	146.48 to 147.28	I-5 - S. 272nd Street I/C - I/C improvements	Current	\$77,240,000
	County King	<i>Needs:</i>	I-5 experiences congestion, operational and safety deficiencies at the I-5/ 272nd I/C.			
		<i>Solution:</i>	Interchange improvements to accommodate increased capacity on S. 272nd Street.			
		<i>Expected Benefits:</i>	This will address I-5 mainline safety and operational deficiencies. This will also provide for improved transit access from the S.272 P&R to I-5.			
		<i>Known Environmental Issues:</i>	Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. Medium to high Critical Aquifer Recharge Areas occur along this corridor segment. Palustrine occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. Other features include Urban Growth Area, city and county parks, .			
287	Northwest	I-5	166.4 to 167.8	I-5 - E Denny Way to NE 45th St. - Modify the Mercer St. I/C, SR 520 I/C and I-5	Current	\$626,000,000
	County King	<i>Needs:</i>	Very congested segment of I-5. This section of I-5 runs through the Seattle CBD and experiences considerable congestion and safety deficiencies during AM and PM peak periods.			
		<i>Solution:</i>	Modify the Mercer St. I/C, SR 520 I/C and I-5 to eliminate left side I-5 ramps at Mercer St. I/C and SR 520 I/C.			
		<i>Expected Benefits:</i>	This will improve I-5 mainline operations and safety. It will also help address I-5 mainline congestion deficiencies and will improve connections between I-5 and key arterials in the Seattle CBD.			
		<i>Known Environmental Issues:</i>	Moderate to High Liquefaction Hazard Areas occur along this corridor between I-405 and I-90. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. In addition, the portion of this corridor that passes through the Seattle CBD is within a maintenance area for Particulates. Other features included within or adjacent to this corridor are Urban Growth Area, city and county parks.			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
288	Northwest	I-5	167.12 to 168.06	I-5 - Mercer St. I/C to SR 520 I/C - Construct a WB to SB freeway-to-freeway Core HOV Connection at the SR5/SR520 interchange.	Current	\$146,000,000
	County	<i>Needs:</i>	Very congested segment of I-5. This section of I-5, north of Seattle CBD, experiences heavy congestion during AM/PM peak-periods, causing considerable delay and backups to all users (GP/HOV/Transit/Freight)			
	King	<i>Solution:</i>	Construct a westbound to southbound freeway-to-freeway Core HOV Connection at the SR5/SR520 interchange.			
		<i>Expected Benefits:</i>	This will improve I-5 mainline operations and reduce congestion through this section of I-5. It will also improve SR 520 operations and help reduce congestion on SR 520 and the SR 520 floating-bridge.			
		<i>Known Environmental Issues:</i>	Moderate to High Liquefaction Hazard Areas occur along this corridor between I-405 and I-90. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. In addition, the portion of this corridor that passes through the Seattle CBD is within a maintenance area for Particulates. Other features included within or adjacent to this corridor are Urban Growth Area, city and county parks.			
289	Northwest	I-5	170.6 to 171.23	I-5 - I-5 at Lake City Way - Extend drop lane and braid the N 70th on ramp	Current	\$66,213,000
	County	<i>Needs:</i>	Northbound lane drop at Lake City Way causes backups on I-5			
	King	<i>Solution:</i>	Extend right lane that drops to Lake City Way up to the N 85th St. exit and braid the N 70th on ramp into the mainline.			
		<i>Expected Benefits:</i>	This will reduce backups onto I-5 freeway and will improve traffic flow on I-5 and Lake City Way/SR 522.			
		<i>Known Environmental Issues:</i>	Moderate to High Liquefaction Hazard Areas occur along this corridor between I-405 and I-90. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. In addition, the portion of this corridor that passes through the Seattle CBD is within a maintenance area for Particulates. Other features included within or adjacent to this corridor are Urban Growth Area, city and county parks.			
134	Northwest	SR 18	3.41 to 3.42	SR 18 - SR 18 at SR SR 167 Interchange - Provide missing NB SR SR 167 to WB SR 18 and EB SR 18 to SB SR SR 167 ramps.	Current	\$100,000,000
	County	<i>Needs:</i>	Missing two system ramps (N to W and E to S) and deficient system interchange design (cloverleaf) with high truck volumes			
	King	<i>Solution:</i>	Provide missing northbound SR 167 to westbound SR 18 and eastbound SR 18 to southbound SR 167 freeway-to-freeway ramps.			
		<i>Expected Benefits:</i>	This will improve freeway-to-freeway connections between SR 167 / SR 18 and will help move freight.			
		<i>Known Environmental Issues:</i>	Sensitive areas, such as wetlands and streams within the corridor, are marked early design in order to avoid negative impacts whenever reasonably possible. The Maple Valley to Issaquah Hobart Road section includes creation, enhancement and purchase of we			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
303	Northwest County King	SR 18 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	28.17 to 28.36	SR 18 - I-90 Interchange - New Ramp SR 18 congested corridor segment in the AM/PM peak periods. Construct a new ramp. This will address congestion deficiency on this section of SR 18.	Current	\$81,603,850
304	Northwest County King	SR 18 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	28.03 to 28.41	SR 18 - I-90 Interchange - New Flyover Ramp SR 18 congested corridor segment in the AM/PM peak periods. Construct a new flyover ramp. This will address congestion deficiency on this section of SR 18.	Current	\$131,054,000
305	Northwest County King	SR 18 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	20.84 to 24.11	SR 18 - Issaquah-Hobart Road to Tigergate - Widening SR 18 congested corridor segment in the AM/PM peak periods. Widen to four lanes. This will address congestion deficiency on this section of SR 18. Sensitive areas, such as wetlands and streams within the corridor, are marked early design in order to avoid negative impacts whenever reasonably possible. The Maple Valley to Issaquah Hobart Road section includes creation, enhancement and purchase of we	Current	\$64,280,000
306	Northwest County King	SR 18 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	24.11 to 28.41	SR 18 - Tigergate to I-90 - Widening SR 18 congested corridor segment in the AM/PM peak periods. Widen to four lanes. This will address congestion deficiency on this section of SR 18. Sensitive areas, such as wetlands and streams within the corridor, are marked early design in order to avoid negative impacts whenever reasonably possible. The Maple Valley to Issaquah Hobart Road section includes creation, enhancement and purchase of we	Current	\$76,840,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
137	Northwest	I-90	8.4 to 15.71	I-90 - Eastgate to Sunset I/C - Extend the WB HOV Lane to Sunset interchange.	Current	\$17,939,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	I-90 between Eastgate and the Sunset I/C in Issaquah experiences peak congestion WB in the morning and EB in the evening Extend the westbound HOV Lane to Sunset interchange. This will improve mainline operations on I-90 and improve traffic flows and transit access to Sunset Way. Natural features in this corridor include: Lake Sammamish, urban growth area, other features - several city and county parks. Moderate to High Liquefaction Hazard Areas occur on the east end of this corridor segment in the vicinity of SR 900 and Lake Sammamish. Water quality is impaired, sited on 303(d) list is adjacent to the northeast end of this corridor segment. Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. A Critical Aquifer Recharge Area, Palustrine Wetlands and FEMA 100-yr Flood (Zone A) have been identified on the east end of this corridor segment. Currently, this corridor segment is within an Air quality maintenance area for CO.			
314	Northwest	I-90	1.99 to 9.44	I-90 - I-5 to Mercer Island - Convert center roadway to two-way high capacity transit operation. Add HOV lanes to the mainline.	Current	\$100,580,000
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Congestion on I-90 Floating bridge on the mainline and center-roadway during peak periods (am/pm). This segment of I-90 also causes delays and operational inefficiencies for transit and HOV users. Convert center roadway to two-way high capacity transit operation. Add HOV lanes to the mainline. This will help address existing and future congestion deficiencies on I-90 floating bridge. Natural features in this corridor include: Lake, Mercer Island, seismic hazard area; other features - several city and county parks. Known environmental issues: Wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, possible sensitive plants). Water quality is impaired, sited on 303(d) list. No groundwater sensitive areas; no known fish barriers. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks. Air quality maintenance area for CO and particulates.			
41	Northwest	SR 104	31.45 to 31.75	SR 104 - Intersection of SR SR 104 and SR SR 522 (Lake City Way) - Widening and intersection channelization improvements	Current	\$7,661,350
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Intersection capacity with Lake City Way Add one lane each direction on SR 104 from 178th to SR 522 with intersection channelization improvements at 178th, 175th and SR 522. Intersection channelization and added lane in each direction will improve vehicle flow and safety through the SR 104/SR 522 I/S.			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
139	Northwest  County King	SR 164	1.95 to 2.55	SR 164 - Dogwood to Auburn City Limits - Widening and access management improvements	Current	\$14,681,000
		<i>Needs:</i>	Reduction from 2 lanes to 1 lane and access issues			
		<i>Solution:</i>	Add capacity from Dogwood Street (MP 2.28) to Academy Drive (MP 4.37) expanding the highway to two lanes in each direction. Install access management improvements where appropriate. Where such access must be restricted by a median or C Curb the design shall allow for a U-Turn at the next stop controlled intersection.			
		<i>Expected Benefits:</i>	The access-management treatments will improve safety, reduce accidents and improve traffic operations through this segment of SR 164.			
		<i>Known Environmental Issues:</i>				
315	Northwest  County King	SR 167	24.7 to 26	SR 167 - SW 27th St. - Construct HOV direct access ramps at SW 27th St.	Current	\$54,000,000
		<i>Needs:</i>	SR 167 interchange deficiency. Transit needs a direct connection to HOV lanes.			
		<i>Solution:</i>	Construct HOV direct access ramps at SW 27th St.			
		<i>Expected Benefits:</i>	This will improve transit direct access to the SR 167 HOV lanes and improve overall transit performance on this section of the SR 167 corridor.			
		<i>Known Environmental Issues:</i>	SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40			
146	Northwest  County King	SR 169	10.02 to 19.22	SR 169 - SR 516 to SE 231st - Widening	Current	\$106,910,000
		<i>Needs:</i>	2-Lane Highway between a 4-lane section and a rapidly growing area of King County			
		<i>Solution:</i>	Widen to 4 lanes with turn lanes where warranted.			
		<i>Expected Benefits:</i>	This solution will address mobility deficiencies and improve safety and operations on this section of SR 169.			
		<i>Known Environmental Issues:</i>				
316	Northwest  County King	SR 202	10.25 to 12.98	SR 202 - Sahalee Way NE to 244th Ave NE - Widen SR SR 202 to 4/5 lanes.	Current	\$32,452,000
		<i>Needs:</i>	2 Lane Highway that can not accommodate the growing city of Sammamish.			
		<i>Solution:</i>	Widen SR 202 to 4/5 lanes.			
		<i>Expected Benefits:</i>	This will address mobility deficiencies on SR 202 and improve safety and operations here.			
		<i>Known Environmental Issues:</i>				

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
147	Northwest	I-405	0 to 4	I-405 - I-5 to SR SR 169 - Widening and Rebuild SR 181, SR 167, SR 169 interchanges	Current	\$1,226,000,000
	County King	<i>Needs:</i>	Heavily congested segment of I-405. Mobility deficiency on this section of I-405 with several major/congested interchanges (SR 181, SR 167 & SR 169).			
		<i>Solution:</i>	Add one lane northbound and southbound and Rebuild SR 181, 167, 169 interchanges.			
		<i>Expected Benefits:</i>	This will provide congestion relief and enhanced safety and operations on I-405.			
		<i>Known Environmental Issues:</i>	City and county parks are in the general vicinity of this corridor. The corridor is in the Urban Growth Area. FEMA 100-yr Flood (Zone A) has been identified intermittently along this corridor segment. Low to High Liquefaction Hazard Areas occur along this corridor segment. There is one super fund site(EPA) just north of SR 900. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. This corridor is within an Air quality maintenance area for CO. A few Group A and B Public Water Supply Wells occur within the immediate vicinity of this corridor.			
148	Northwest	I-405	4 to 11.15	I-405 - SR 169 to I-90 - Widening and Interchange Improvements at I-90	Current	\$1,193,000,000
	County King	<i>Needs:</i>	Very congested stretch of I-405. Mobility deficiencies on this section of I-405 w/ two major congested interchanges (SR 169/I-90).			
		<i>Solution:</i>	Add two lanes northbound and southbound and Rebuild Sunset, SR 900, 30th, 44th, 112th, Coal Creek interchanges. Construct I-90 braided ramps. Construct direct access ramps and park-and-ride facilities near N 8th St (Renton). Construct additional Intelligent Transportation Systems (ITS) improvements.			
		<i>Expected Benefits:</i>	This will provide significant congestion relief on I-405 and will improve freeway operations and safety.			
		<i>Known Environmental Issues:</i>	City and county parks are in the general vicinity of this corridor. The corridor is in the Urban Growth Area. FEMA 100-yr Flood (Zone A) has been identified intermittently along this corridor segment. Low to High Liquefaction Hazard Areas occur along this corridor segment. There is one super fund site(EPA) just north of SR 900. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. This corridor is within an Air quality maintenance area for CO. A few Group A and B Public Water Supply Wells occur within the immediate vicinity of this corridor.			
149	Northwest	I-405	11.2 to 14.86	I-405 - I-90 to SR 520 - Widening and Interchange Improvements at SR 520	Current	\$531,000,000
	County King	<i>Needs:</i>	A very congested segment of I-405 through the Bellevue CBD. Congested interchanges in downtown Bellevue (NE 4th/NE 8th) and at SR 520.			
		<i>Solution:</i>	Add one lane northbound and southbound and Rebuild SE 8th, Main interchanges. Construct braided ramps between I-405 and SR 520. Construct new ramps at NE 10th St..			
		<i>Expected Benefits:</i>	This will provide congestion relief and safety/operations enhancements on this section of I-405 through the Bellevue CBD.			
		<i>Known Environmental Issues:</i>	City and county parks are in the general vicinity of this corridor. The corridor is in the Urban Growth Area. Low to High Liquefaction Hazard Areas occur along this corridor segment. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. This corridor is within an Air quality maintenance area for CO.			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
150	Northwest County King	I-405 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	14.86 to 23.53	I-405 - SR 520 to SR 522 - Widening  Very congested section of I-405 from Bellevue to Bothell. Congested interchanges at SR 520, Kirkland and Sir 522. Add one lane northbound and southbound and rebuild the NE 70th St., NE 85th St. and NE 160th St. interchanges. Construct direct access ramps and a park-and-ride lot at NE 80th St. Construct ramps at NE 160th St. and NE 130th St. Congestion relief on I-405 and improved safety and freeway operations.  City and county parks are in the general vicinity of this corridor. The corridor is in the Urban Growth Area. Low to High Liquefaction Hazard Areas occur along this corridor segment. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. This corridor is within an Air quality maintenance area for CO.	Current	\$648,000,000
151	Northwest County King	I-405 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i>  <i>Known Environmental Issues:</i>	23.53 to	I-405 - Canyon Park and Ride - Park and Ride Expansion  Insufficient parking capacity for transit / P&R users in Canyon Park/Bothell Construct park and ride expansion and transit facility amenities. This will provide for additional parking capacity and allow for enhanced transit use on this section of the I-405 corridor.  City and county parks are in the general vicinity of this corridor. The corridor is in the Urban Growth Area. Low to High Liquefaction Hazard Areas occur along this corridor segment. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. This corridor is within an Air quality maintenance area for CO.	Current	\$16,000,000
152	Northwest County King	SR 518 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i>  <i>Known Environmental Issues:</i>	3.42 to 3.43	SR 518 - I-5 (Tukwila) Interchange - Add Second Eastbound Lane  SR 518 congested corridor segment. Need to address mobility/safety deficiency here. Add a second eastbound lane from the I-5 southbound drop lane to the I-5 northbound add lane at the Tukwila I/C. This will provide congestion relief on SR 518 and improve safety and operations at the Tukwila I/C.  Constraints identified include Federal Aviation Administration controlled activity and object-free areas, wetlands, geology/soils, recreational areas, and potential hazardous material sites.	Current	\$7,000,000
317	Northwest County King	SR 518 <i>Needs:</i>  <i>Solution:</i>  <i>Expected Benefits:</i>   <i>Known Environmental Issues:</i>	0.03 to 0.04	SR 518 - SR 509 Interchange - Flyover/Tunnel Ramp  SR 518 / SR 509 interchange is substandard and experiences mobility and safety deficiencies. High existing and future travel volumes from SR 509 SB to EB SR 518. Construct a southbound to eastbound flyover/tunnel ramp at the SR 509 I/C. This will improve safety and operations at the SR 509/SR 518 interchange. It will also eliminate backups onto SR 509 mainline with the provision of a freeway-to-freeway connection.  Constraints identified include Federal Aviation Administration controlled activity and object-free areas, wetlands, geology/soils, recreational areas, and potential hazardous material sites.	Current	\$31,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
318	Northwest County King	SR 518 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0.04 to 0.05	SR 518 - SR 509 Interchange - New Interchange Current SR 518/ SR 509 interchange is deficient and not to current design standards. Construct a new interchange at SR 509. This will improve operations and safety on both SR 509 and SR 518. Constraints identified include Federal Aviation Administration controlled activity and object-free areas, wetlands, geology/soils, recreational areas, and potential hazardous material sites.	Current	\$39,000,000
319	Northwest County King	SR 518 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	2.49 to 2.5	SR 518 - SR 99 Interchange - New Interchange SR 518 / SR 99 interchange is currently substandard and has mobility/safety deficiencies. Construct a new interchange at SR 99 and a new half diamond interchange at 24th Ave. S. This will improve safety and operations at the SR 518 / SR 99 interchange. Constraints identified include Federal Aviation Administration controlled activity and object-free areas, wetlands, geology/soils, recreational areas, and potential hazardous material sites.	Current	\$118,000,000
320	Northwest County King	SR 518 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	3.42 to 3.43	SR 518 - I-5 Tukwila Interchange - Relocate I-5 Northbound Ramp SR 518/I-5 interchange is deficient (operational/safety) and doesn't meet current design standards. Relocate the I-5 northbound ramp to the right side and combine I-5 northbound, I-5 southbound and the 51st Ave. S ramps at the Tukwila I/C. This will improve safety and operation on SR 518 and will enhance safety at the Tukwila & I-5 I/C. Constraints identified include Federal Aviation Administration controlled activity and object-free areas, wetlands, geology/soils, recreational areas, and potential hazardous material sites.	Current	\$57,000,000
321	Northwest County King	SR 520 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 1.05	520 - I-5 to Montlake Blvd. - New Six Lane Connection Congested corridor segment of SR 520. Portage Bay Bridge is functionally obsolete and is congested during AM/PM peak periods. Construct new six lane connection between I-5 and Montlake Blvd. This includes reconstruction of the Portage Bay Bridge. This will address major congestion deficiency on SR 520 and will replace a major functionally obsolete bridge. This will also improve safety and operations on this section of SR 520. The project team will take advantage of design opportunities on SR 520 to treat storm water runoff for the benefit of salmon and other aquatic species. Another planned improvement includes constructing noise walls to reduce the amount of noise pollution	Current	\$655,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
322	Northwest County King	SR 520 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	1.05 to 4.59	SR 520 - Montlake to Hunts Point (Lake Washington) - New Six Lane Bridge SR 520 bridge is functionally obsolete (deficient) and experiences significant delay during AM/PM peak periods. Construct new six lane bridge and approaches from Montlake Blvd. on the west side of the lake to 84th Ave. NE on the east side. This will provide significant congestion relief on this corridor and will replace a functionally obsolete bridge across Lake Washington. The project team will take advantage of design opportunities on SR 520 to treat storm water runoff for the benefit of salmon and other aquatic species. Another planned improvement includes constructing noise walls to reduce the amount of noise pollution	Current	\$1,865,000,000
323	Northwest County King	SR 520 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	4.59 to 6.94	SR 520 - 84th Ave. NE to I-405 - HOV Lanes SR 520 congested corridor segment during AM/PM peak periods. Need to address congestion, safety and operational needs for GP, HOV and transit on this corridor segment. Add HOV lanes between 84th Ave. NE and I-405. This will provide congestion relief and improved operations on this section of SR 520. The project team will take advantage of design opportunities on SR 520 to treat storm water runoff for the benefit of salmon and other aquatic species. Another planned improvement includes constructing noise walls to reduce the amount of noise pollution	Current	\$310,000,000
155	Northwest County King	SR 522 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	4.22 to 5.54	SR 522 - SR 523 (NE 145th St.) to 41st Ave. NE. - Eastbound Business Access and Transit (BAT) lane. SR 522 congested corridor segment. Need to address mobility, safety and operational deficiencies and access-management for GP, HOV and transit use on this segment. Construct an eastbound Business Access and Transit (BAT) lane. Improved mobility and transit operations on SR 522. Improved safety and local access on this section of SR 522. Throughout the design and construction of all projects on SR 522, WSDOT will give the highest consideration to reducing impacts to the environment and improving current environmental conditions. Storm water ponds, treatment facilities, and construction e	Current	\$7,000,000
156	Northwest County King	SR 522 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	7.79 to 9.1	SR 522 - 73rd Ave. NE to 96th Ave. NE. - Business Access and Transit (BAT) lanes SR 522 congested corridor segment. Need to address mobility, safety and operational deficiencies and access-management for GP, HOV and transit use on this segment. Construct Business Access and Transit (BAT) lanes in both directions. This will improve mobility and transit operations on this portion of SR 522. Improved safety, operations and local access. Throughout the design and construction of all projects on SR 522, WSDOT will give the highest consideration to reducing impacts to the environment and improving current environmental conditions. Storm water ponds, treatment facilities, and construction e	Current	\$31,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
324	Northwest County King	SR 522 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	9.51 to 10.08	SR 522 - NE 180th St. to 104th Ave. NE. - New Four Lane Arterial Roadway	Current	\$33,000,000
				SR 522 congested corridor segment. Significant levels of local traffic impacting regional travel flows on this segment of SR 522. Construct a new four lane arterial roadway to the south of existing SR 522 extending eastward from SR 522 at NE 180th St. and reconnecting with SR 522 near 104th Ave. NE. SR 527 will extend to the south connecting to the new SR 522 alignment. This will improve overall mobility and operations on this portion of SR 522. This will also provide significant congestion-relief through the City of Bothell. Throughout the design and construction of all projects on SR 522, WSDOT will give the highest consideration to reducing impacts to the environment and improving current environmental conditions. Storm water ponds, treatment facilities, and construction e		
325	Northwest County King	SR 522 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	12.93 to 12.94	SR 522 - NE 195th St. - Complete Diamond Interchange	Current	\$33,000,000
				SR 522 deficient partial interchange. Need to address mobility, safety and operational deficiencies at this location. Construct second half of the existing half-diamond interchange making a full diamond interchange. This will provide improved safety and operations at this interchange. Also improved traffic flow on SR 522. Throughout the design and construction of all projects on SR 522, WSDOT will give the highest consideration to reducing impacts to the environment and improving current environmental conditions. Storm water ponds, treatment facilities, and construction e		
330	Northwest County King	SR 527 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0.12 to 2.27	SR 527 - SR 522 to I-405 - Widen to 4/5 lanes.	Current	\$38,864,000
				Lack of capacity from State Route 522 to the shopping center near Interstate 405 causes frequent traffic problems and significant speed reductions on State Route 527. Widen to 4/5 lanes. This will address mobility deficiency on SR 527 and improve traffic flow and safety on SR 527.		
269	Northwest County Snohomish	US 2 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 2.71	US-2 - US-2 Trestle from Interstate 5 - Widening and I/C modifications	Current	\$370,000,000
				US-2 congested corridor segment with safety deficiencies. Widen the US-2 Trestle to provide one additional westbound lane from I-5 to SR 204. Make modifications at the I-5 and SR 204 interchanges Congestion relief and safety on US-2. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.		

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
270	Northwest	US 2	2.71 to 5.02	US-2 - SR 204 to SR 9 - Widening, new I/C's at Bickford Ave. (Old US-2) and SR 9, WB HOV lane at the SR 204 I/C	Current	\$64,000,000
	County Snohomish	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	US-2 congested corridor segment in AM/PM peak periods. Widen to four lanes from SR 204 to SR 9, with interchanges at Bickford Ave. (Old US-2) and SR 9, a flyover ramp from northbound Bickford Avenue to westbound US-2, and a westbound HOV lane at the SR 204 interchange. This will provide for significant congestion-relief and safety improvements on this section of US-2 and will enhance/improve safety at these interchanges. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.			
290	Northwest	I-5	181.07 to 182.45	I-5 - SR SR 524 I/C - Operation and safety I/C improvements at the SR SR 524 (196th St.)	Current	\$89,580,000
	County Snohomish	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Congestion and safety/operational deficiencies at the I-5 / SR 524 I/C (weaves, mainline back-ups, etc.) Interchange improvements at the SR 524 (196th St.) interchange. This project would construct Northbound and Southbound collector distributor lanes to improve the operation and safety of the I-5 196th Street Interchange. The I-5/SR 524 I/C improvements will improve I-5 mainline operations, safety and traffic flow through this interchange. FEMA 100-yr Flood (Zone A) has been identified on the north end of this corridor segment. Moderate to High Liquefaction Hazard Areas occur along this corridor in the vicinity of SR 524 Spur, I-405 and SR 529 interchanges. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine wetland area occurs intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. Other features include Urban Growth Area, city and county parks. Military reservations are located in the general vicinity of this corridor segment.			
291	Northwest	I-5	186.04 to 186.78	I-5 - SR 96/128th St. SW I/C - Construct a new urban interchange.	Current	\$73,310,000
	County Snohomish	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Current SR 96/128th SW I/C is substandard and deficient. Construct a new urban interchange. Urban interchange will be constructed to current design standards and will improve safety and traffic operations on the I-5 mainline and on connecting arterials here (SR 96 / 128th SW) FEMA 100-yr Flood (Zone A) has been identified on the north end of this corridor segment. Moderate to High Liquefaction Hazard Areas occur along this corridor in the vicinity of SR 524 Spur, I-405 and SR 529 interchanges. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine wetland area occurs intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. Currently, this corridor segment is within an Air quality maintenance area for CO. Other features include Urban Growth Area, city and county parks. Military reservations are located in the general vicinity of this corridor segment.			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
294	Northwest County Snohomish	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	193.65 to 199.58	I-5 - US-2 to SR 528 - Construct HOV lanes in each direction. Congested mainline I-5 segment - Everett - North Construct HOV lanes in each direction. This will address the congestion deficiency on this section of I-5 and improve freeway operations. It will also enhance HOV and transit operations on I-5 to and from Everett. City and county parks are in the general vicinity of this corridor. Tribal and Military reservations are located adjacent to this corridor segment. The Urban Growth Area is generally between US 2 and the just north of SR 531. FEMA 100-yr Flood (Zone A) has been identified on the south end and in the vicinity of SR 530. Low to High Liquefaction Hazard Areas occur along this corridor between US 2 and SR 531. There is one super fund site(EPA) in the vicinity of Steamboat Slough. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. The portion of this corridor, that is between US 2 and just south of SR 531, is within an Air quality maintenance area for CO. Numerous Group A and B Public Water Supply Wells occur within the immediate vicinity of this corridor.	Current	\$471,720,000
295	Northwest County Snohomish	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	199.58 to 205.63	I-5 - SR 528 to SR 531 - Widening and reconstruct interchanges and ramps. Congested mainline I-5 segment - also safety and I/C deficiencies on this section of I-5. Widen from three to four lanes in each direction and reconstruct interchanges and interchange ramps ( 88th St NE and 116th NE). This will address congestion deficiency on I-5 through this section. Interchange ramp-reconstruction will improve I-5 operations by eliminating backups onto the I-5 mainline. City and county parks are in the general vicinity of this corridor. Tribal and Military reservations are located adjacent to this corridor segment. The Urban Growth Area is generally between US 2 and the just north of SR 531. FEMA 100-yr Flood (Zone A) has been identified on the south end and in the vicinity of SR 530. Low to High Liquefaction Hazard Areas occur along this corridor between US 2 and SR 531. There is one super fund site(EPA) in the vicinity of Steamboat Slough. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur throughout this corridor segment. Palustrine and Riverine wetland areas occur intermittently along this corridor segment. This corridor is in the general vicinity of critical habitat for bull trout and Chinook. The portion of this corridor, that is between US 2 and just south of SR 531, is within an Air quality maintenance area for CO. Numerous Group A and B Public Water Supply Wells occur within the immediate vicinity of this corridor.	Current	\$102,570,000
296	Northwest County Snohomish	SR 9 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	4.03 to 6.97	SR 9 - 176th St. SE to SR 96 - Widening SR 9 congested corridor segment. Mobility deficiency. Widen to four lanes. Congestion relief on SR 9 As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$23,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
297	Northwest County Snohomish	SR 9 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	8.42 to 12.14	SR 9 - Marsh Rd. to US-2 - Widening SR 9 congested corridor segment in AM/PM peak periods Widen to four lanes. This will address congestion deficiency on this section of SR 9. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$95,000,000
298	Northwest County Snohomish	SR 9 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	12.14 to 13.88	SR 9 - US-2 to Lake Stevens Road - Widening and improve US-2/SR 9 I/C SR 9 congested corridor segment in AM/PM peak periods. Also deficient interchange at US-2. Need to address US-2 interchange deficiencies (operational/safety/standards). Widen to 4/5 lanes from US-2 to Lake Stevens Road, and improve US-2/SR 9 interchange. This will address congestion deficiency on this section of SR 9 and improve safety/operations at the SR/ US-2 I/C. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$21,000,000
299	Northwest County Snohomish	SR 9 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	14.25 to 16.48	SR 9 - 20th Street SE Vicinity to Lundeen Parkway - Widening SR 9 congested corridor segment in AM/PM peak periods Provide four thru lanes from 20th Street SE Vicinity to Lundeen Parkway. This will address congestion deficiency on this section of SR 9. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$11,000,000
300	Northwest County Snohomish	SR 9 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	15.42 to 15.99	SR 9 - SR 9/SR 204 Intersection - Construct an interchange SR 9 / SR 204 intersection is deficient and substandard. Need to address operational and safety deficiencies at this interchange. Construct an interchange between SR 9 and SR 204. This will address safety and operations needs at the SR 9/SR 204 I/C and will improve operations on SR 9. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$93,600,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
301	Northwest County Snohomish	SR 9 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	17.49 to 19.26	SR 9 - SR 92 to SR 528 - Widening SR 9 congested corridor segment in AM/PM peak periods Widen to four lanes. This will address congestion deficiency on this section of SR 9. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$14,000,000
302	Northwest County Snohomish	SR 9 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	19.26 to 26.05	SR 9 - SR 528 to SR 531 - Widening SR 9 congested corridor segment in AM/PM peak periods Widen to four lanes. This will address congestion deficiency on this section of SR 9. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$56,000,000
40	Northwest County Snohomish	SR 99 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	39.77 to 39.99	SR 99 - Hwy 99 at SR 104 Interchange - Construct Business Access and Transit (BAT) lanes Highway 99 at State Route 104: The bridge structure across State Route 104 will have fewer lanes than both approaches to the bridge. This lane reduction causes frequent back-ups on Highway 99. Add one lane each direction to connect with Business Access and Transit (BAT) lanes that cities have built or are planning to build on each side of the HWY 99 and SR 104 Interchange. BAT lane and I/C enhancement will improve transit, HOV and GP movement through this I/C.	Current	\$32,549,000
154	Northwest County Snohomish	SR 522 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	18.6 to 18.61	SR 522 - SR 522 at Fales/Echo Lake Rd. - New Interchange Heavy traffic volumes on State Route 522 on this two-lane highway are constrained by the signal at the intersection with Fales/Echo Lake road. Delay at the signal causes frequent back-ups on State Route 522. Construct a new interchange to provide grade separation between SR 522 and Fales/Echo Lake Rd. This will improve traffic flow and operations on SR 522 and will improve safety on SR 522 and Paradise Lake Road. Throughout the design and construction of all projects on SR 522, WSDOT will give the highest consideration to reducing impacts to the environment and improving current environmental conditions. Storm water ponds, treatment facilities, and construction e	Current	\$78,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
326	Northwest County Snohomish	SR 522 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	16.6 to 16.61	SR 522 - Paradise Lake Rd. - New Interchange SR 522 deficient intersection. Need to address existing and future mobility and safety deficiencies at this location. Construct a new grade separated diamond interchange. This will improve safety and operations at this interchange. This will also improve operations and safety on the SR 522 mainline. Throughout the design and construction of all projects on SR 522, WSDOT will give the highest consideration to reducing impacts to the environment and improving current environmental conditions. Storm water ponds, treatment facilities, and construction e	Current	\$75,000,000
327	Northwest County Snohomish	SR 522 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	16.6 to 18.6	SR 522 - Paradise Lake Rd. to Snohomish River. - Widening and Divided Hwy. SR 522 deficient corridor segment. Need to address current and future mobility, safety and operational deficiencies on this segment. Add two lanes converting a two lane arterial roadway to a four lane divided highway. This will relieve congestion on this section of SR 522 and provide improved safety and operations. Throughout the design and construction of all projects on SR 522, WSDOT will give the highest consideration to reducing impacts to the environment and improving current environmental conditions. Storm water ponds, treatment facilities, and construction e	Current	\$45,000,000
157	Northwest County Snohomish	SR 524 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	5.99 to 9.62	SR 524 - 24th Ave. W to SR 527 - Widening SR 524 congested corridor segment. Need to address mobility/safety deficiency here. Widen to five lanes adding two general purpose lanes and a two-way-left-turn-lane. This will provide congestion relief on SR 524 and improve safety on this corridor segment. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$65,940,000
328	Northwest County Snohomish	SR 524 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	9.62 to 11.05	SR 524 - SR 527 to 35th/39th Ave SE. - Widening SR 524 congested corridor segment. Need to address mobility and safety deficiencies on this corridor segment. Widen to five lanes adding two general purpose lanes and a two-way-left-turn-lane. . This project, when completed, will increase capacity, reduce accidents, and provide access management at certain locations. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$68,250,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
329	Northwest County Snohomish	SR 524 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	11.05 to 14.68	SR 524 - 35th/39th Ave. SE to SR 522 (Maltby) - Widening SR 524 congested corridor segment. Need to address mobility and safety deficiencies on this corridor segment. Widen to five lanes adding two general purpose lanes and a two-way-left-turn-lane This will improve mobility and safety on SR 524. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	\$52,000,000
160	Northwest County Whatcom	SR 539 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 0.87	SR 539/I-5 to Kellogg Rd - Corridor Improvements (Moderate) A high level of commercial development and Canadian traffic make this corridor suffer from near continuous congestion. Some local street enhancements will be needed to address traffic operation problems which will arise in the future. These enhancements will allow drivers to have a choice of routes, and will reduce the demand on the State Route. Reconstruction of the interchange with I-5 and widening of I-5 will be required to address mobility and traffic operation issues. Some minor widening of SR 539 will be required to alleviate mobility issues. Better flow of traffic using existing facilities as much as possible. Improve local roads to reduce highway trips. Improve the interchange to help traffic flow more efficiently. A tributary of Squalicum creek flows just outside the west sidewalk of the SR 539 but is not documented to support protected species. Squalicum Creek, which supports populations of Chinook salmon and steelhead, confluences with this tributary about 3,30	Current	\$145,000,000
333	Northwest County Whatcom	SR 539 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 0.87	SR 539/I-5 to Kellogg Rd - Corridor Improvements (Maximum) A high level of commercial development and Canadian traffic makes this portion of SR 539 suffer from near continuous congestion. Capacity improvements to the highway will be required, as well as a change to a limited access facility. Better flow of traffic by creating a limited access, free-flow situation. A tributary of Squalicum creek flows just outside the west sidewalk of the SR 539 but is not documented to support protected species. Squalicum Creek, which supports populations of Chinook salmon and steelhead, confluences with this tributary.	Current	\$85,000,000
334	Northwest County Whatcom	SR 542 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	1.74 to 2.79	SR 542/McLeod Rd to Britton Rd - Corridor Improvements (Maximum) This corridor is heavily used for commercial, residential, and recreational purposes. The nearby high school also adds many daily trips to the area. This corridor will need to be widened in order to accommodate the volume of traffic that will be using the roadway in the future. Better flow of traffic by adding capacity to the existing facility. The corridor is located within a rural residential area of Bellingham and Whatcom county. Toad Creek crosses the highway near the midpoint of the corridor and is documented to support Coho salmon and steelhead trout. A small area of wetlands is mapped	Future	\$20,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
208	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	252.27 to 252.28	US 101/Deer Park Rd - At Grade Separation Approaching 70% of posted speed threshold in 2030 Construct Deer Park and Buchanan Road Undercrossing per PRTPO priority (leaving right in-right out access) Unknown at this time	Future	\$5,000,000
212	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	270.26 to 270.27	US 101/Woods Intersection - Interchange Less than 70% of posted speed threshold in 2030 Construct a full diamond interchange at Woods/Blyn Vicinity. New interchange benefits of ~\$3,543,000 and safety benefits of ~\$421,000 for total benefits of ~\$3,964,000. There are two fish passage barriers that require repair in the vicinity of the proposed interchange. There are ~28 fish barriers of which ~16 require work, ~3 leaking underground storage tanks, and ~3 unstable slopes (2 erosion, 1 landslide).	Future	\$17,659,000
368	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	256.19 to 259.39	US 101/Shore Rd to Kitchen Rd - Widening and Interchange Approaching 70% of posted speed threshold in 2005 Widen from 2 lanes to 4 lanes, interchange Unknown at this time	Future	\$41,867,000
71	Olympic County  Grays Harbor	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	87.24 to 87.26	US 101/SR 109 Intersection - Double Left Turn Mobility Deficiency - Bottleneck and Chokepoint. High traffic volumes and narrowing of lanes near the Aberdeen Couplet/Levee Street (SR 109) cause congestion. Analysis of existing travel patterns and traffic volumes along US 101 through Aberdeen indicate that the intersection level of service (LOS) is acceptable in 2003. However, the Northbound US 101 left turn volumes are high in both the AM and PM peak (301 and 475, respectively in 2005). Double exclusive left-turn lanes are typically considered when left turn volumes exceed 300 vehicles. Add Northbound lane. This project will add a northbound (increasing) lane through/left turn creating double left at SR 109 intersection. During low tides (clam season) SR 109 is a primary route to the Pacific Ocean Beaches. Consider restriping and signal modification to create double left if right-of-way constraints in the core business district (CBD) are severe and if future Northbound left turn volume growth is disproportionately high. Intersection benefits of \$68,000 and safety benefits of ~\$1,543,000 for total benefits of ~\$1,611,000. SR 109 is the primary access to the Port of Grays Harbor and is the recreational route to Pacific Ocean beaches. Special events such as low tides for clam digging increase traffic volumes. Assume ~300 feet of sidewalk to be included.	Current	\$1,086,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
363	Olympic County	SR 20 <i>Needs:</i>	7.79 to 8.26	SR 20/SR 19 to Old Fort Townsend Rd - Widening or Channelization	Current	\$3,071,000
	Jefferson	<i>Solution:</i>		4 lane divided highway. This project will widen State Route 20 from a 2 lane facility to a 4 lane divided facility from SR 19 to Old Fort Townsend Road (Class 2 access management with > 20,000 AADT in 2025).		
		<i>Expected Benefits:</i>		Safety benefits of ~\$130,500, intersection benefits of ~\$231,000, and general purpose lane benefits of ~\$9,786,000 for total benefits of ~\$10,147,500. Direct route to Port Townsend Ferry Terminal for Port Accessibility.		
		<i>Known Environmental Issues:</i>		There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR		
162	Olympic County	SR 3 <i>Needs:</i>	36.34 to 36.72	SR 3 - SR 3 and SR 304 - Widening and Ramp meter WB SR 304 onto SR 3 and extend on ramp to SB SR 3.	Current	\$10,732,000
	Kitsap	<i>Solution:</i>		Widen SB SR 3 under bridge and Ramp meter WB SR 304 onto SR 3 and extend on ramp to SB SR 3.		
		<i>Expected Benefits:</i>		The preliminary analysis results indicate the proposed solutions will provide reductions in collisions and travel delay.		
		<i>Known Environmental Issues:</i>		Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		
335	Olympic County	SR 3 <i>Needs:</i>	34.15 to 34.95	SR 3 - SR 3 and SR 16 - Eliminate lane drop on SR 16 and extend NB on ramp to northbound SR 3.	Current	\$19,932,000
	Kitsap	<i>Solution:</i>		Eliminate lane drop on SR 16 to northbound SR 3 by extending the lane north of the railroad bridge and extending the northbound SR 3 on ramp to northbound SR 3.		
		<i>Expected Benefits:</i>		The lane and on-ramp extension will improve traffic flow through the SR 3/SR 16 interchange.		
		<i>Known Environmental Issues:</i>		Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
336	Olympic	SR 3	27.66 to 28.78	SR 3 - Mason/Kitsap County Line Vicinity to Lake Flora Road Vicinity - Widening	Current	\$13,537,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. High traffic volumes on a two lane facility between Mason/Kitsap County Line and Lake Flora Road cause congestion.			
	Kitsap	<i>Solution:</i>	Concept A: 4 lane divided highway and Northbound right turn lane at Lake Flora Road. This project will widen State Route 3 from a 2 lane facility to a 4 lane divided facility from the Mason/Kitsap County Line through Lake Flora Road. It does not include intersection signal at Lake Flora as recommended in a 1992 Design Study, but does propose a northbound right turn lane at Lake Flora.			
		<i>Expected Benefits:</i>	GP for ~\$7,346,000, intersection benefits of ~\$967,600, and safety benefits of ~\$8,257,300 for total benefits of ~\$16,571,000. There are 2 existing storm water outfalls within the project limits.			
		<i>Known Environmental Issues:</i>	Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin			
337	Olympic	SR 3	32.31 to 34.18	SR 3 - SR 3 between Sunnyslope Road and SR 16/Gorst Spur - Widening	Current	\$24,308,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. High traffic volumes on a two/three lane facility cause congestion.			
	Kitsap	<i>Solution:</i>	Concept A: 4/5 lane divided highway ( 5 with SB auxiliary climbing lane). This project will widen SR 3 from a 2/3 lane (climbing) facility to 2 lanes Northbound and 3 lanes Southbound between Sunnyslope Road and SR 16/Gorst Spur Vicinity (4 lanes in Gorst). It does not include intersection signal at Sunnyslope as recommended in a 1992 design study, but does propose channelization at Sunnyslope Intersection (Retain SB left turn, SB accel lane, and provide a NB right turn lane).			
		<i>Expected Benefits:</i>	GP for ~\$6,155,000,safety benefits for ~\$7,265,000, climbing lane benefits for ~\$10,650,000, and intersection benefit for ~\$234,000 for total benefits of ~\$24,304,000. 3 existing storm water outfalls, 1 fish passage, and T-2 route near SKIA hauls between 4 million to 10 million tons of freight per year. Special events may include a proposed NASCAR facility south of this segment.			
		<i>Known Environmental Issues:</i>	Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin			
338	Olympic	SR 3	57.09 to 60.02	SR 3 - Kinman/Big Valley Road to SR 104 - add a NB lane	Future	\$23,347,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. High traffic volumes and Hood Canal Bridge openings for marine traffic generate backups and congestion. Average opening time is just under 20 minutes, but initial backups can extend over 1 mile in length on SR 3 NB. By 2030 these initial backups on SR 3 NB will extend ~3 miles between SR 104 and Big Valley intersection. When the Hood Canal Bridge opens our prior analyses indicated ~15% of openings occurred between 3 PM and 6 PM between 1997 and 2002 with the bridge opening ~30 times a month. Initial queue formed in an average 19.35 minute opening in 2004 was calculated to be ~287 vehicles equating to a 1.36 mile queue based upon 25 ft vehicle lengths (2030 was 620 vehicles in initial queue for 2.94 miles long).			
	Kitsap	<i>Solution:</i>	Concept B: This project will add a NB general purpose lane between Big Valley and the SR 3/SR 104 intersection.			
		<i>Expected Benefits:</i>	GP for ~\$8,954,000, holding lane for ~\$3,060,000, safety for ~\$8,349,000, and intersection for ~\$724,000. Air quality enhanced since fewer vehicles wait in holding queues, Port accessibility for northbound vehicles bound for Kingston Ferry terminal will not be impeded by bridge openings, at least one fish passage barrier repair (total 3 possible), T-2 tonnage route, and HCB special event openings for marine vessels.			
		<i>Known Environmental Issues:</i>	There are ~17 fish barriers of which ~8 require work, ~3 unstable slopes, 1 leaking underground storage tank, and ~22 storm water outfalls along SR 3. This area is also known for Bald Eagles.			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
339	Olympic County	SR 3 <i>Needs:</i>	60.02 to 60.03	SR 3 - SR 3/SR 104 Intersection Vicinity - Flyover jug-handle	Current	\$14,200,000
	Kitsap	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Concept A: Flyover jug-handle with holding area per VE Report Unknown at this time. This conceptual solution is a placeholder for a bottleneck/chokepoint location. There are ~17 fish barriers of which ~8 require work, ~3 unstable slopes, 1 leaking underground storage tank, and ~22 storm water outfalls along SR 3. This area is also known for Bald Eagles.		
342	Olympic County	SR 3 <i>Needs:</i>	34.41 to 34.42	SR 3 - SR 3/SR 16 Interchange - Reconstruct I/C	Current	\$200,000,000
	Kitsap	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Reconstruct the SR 3/SR 16 Interchange. Other options include bridging Sinclair Inlet and Westerly Corridor Alternatives. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		
343	Olympic County	SR 3 <i>Needs:</i>	34.41 to 36.3	SR 3 - SR 3: SR 16 to SR 304 (Gorst to Bremerton) - Widening creating HOV lanes in each direction	Current	\$130,000,000
	Kitsap	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Widen from four to six to eight-lane divided facility (creating two HOV lanes in each direction) between the SR 3/SR 16 Interchange and the SR 3/SR 304 Interchange. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		
344	Olympic County	SR 3 <i>Needs:</i>	36.59 to 36.6	SR 3 - SR 3/SR 304 Interchange - Reconstruct the SR 3/SR 304 I/C	Current	\$50,000,000
	Kitsap	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Reconstruct the SR 3/SR 304 Interchange. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
217	Olympic	SR 166	4.76 to 4.98	SR 166 - Jackson Avenue to Mile Hill Drive - Add one lane WB and improve intersection.	Current	\$1,349,000
	County	<i>Needs:</i>	A combination of high volumes on a the westbound general purpose lane and signal system cause congestion. High volumes and signalized intersection may cause back-ups.			
	Kitsap	<i>Solution:</i>	Add one lane westbound and improve intersection.			
		<i>Expected Benefits:</i>	Additional lane and intersection improvements will improve traffic flow through this intersection.			
		<i>Known Environmental Issues:</i>				
374	Olympic	SR 303	0.42 to 4.66	SR 303 - 11th St. to Fairgrounds Rd. - Construct Business Access and Transit Lanes.	Current	\$120,000,000
	County	<i>Needs:</i>	SR 303 deficient corridor segment. Need to address GP/HOV/transit mobility and operational needs.			
	Kitsap	<i>Solution:</i>	Construct Business Access and Transit Lanes.			
		<i>Expected Benefits:</i>	This will improve mobility, transit operations, access and safety on SR 303.			
		<i>Known Environmental Issues:</i>	As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.			
53	Olympic	SR 3	26.35 to 27.63	SR 3/SR 300 to Belfair Yard Rd Vic - Widening and Intersection Improvements	Current	\$13,257,000
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck and Chokepoint. Existing 2/3 lanes (NB climbing lane). A combination of high traffic volumes on a two/three lane facility and access connections cause congestion north of the community of Belfair. Peak hour congestion between SR 300 and Mason/Kitsap County Line. Analysis of existing travel patterns and traffic volumes along State Route 3 between SR 300 and the Mason/Kitsap County line indicate that the level of service is deteriorating. The mainline segment along State Route 3 is approaching or at 85% of posted speed during peak commuter hours in 2003 and less than 70% of posted speed threshold in 2030.			
	Mason	<i>Solution:</i>	4 lanes (divided outside of Belfair). This project will widen State Route 3 from a 2/3 lane facility (Existing NB climbing lane MP 26.93 to MP 27.66) to a 4 lane facility between SR 300 and the Mason/Kitsap County Line with intersection improvements at SR 3/NE Clifton Lane (SB right turn on SR 3, EB right turn on NE Clifton creating a double left, and two additional through lanes on mainline SR 3). Sidewalks in area of existing TWLTL (MP 26.38 to MP 26.86)			
		<i>Expected Benefits:</i>	GP for ~\$8,866,000, intersection benefits for \$3,568,000, and placeholder safety benefits of ~\$6,351,000 (30%). Total benefits of ~\$18,785,000.			
		<i>Known Environmental Issues:</i>	Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
164	Olympic County Mason	SR 3 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 1.58	SR 3/US 101 to Shelton South Corporate Limits - Widening Mobility deficiency - Rural congestion: Less than 70% of posted speed threshold in 2030. Widen from 2 lanes to 4 lanes (divided highway) General purpose lane benefits of ~\$5,557,411, Arcadia intersection benefits of ~\$273,514, and Safety benefits of ~\$5,007,915 for total benefits based upon 2005 to 2025 being ~\$10,838,840. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin	Future	\$19,769,000
167	Olympic County Mason	SR 3 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	7.24 to 10.76	SR 3/Mason Lake Rd to Pickering Rd - Widening Mobility deficiency - Rural congestion: Less than 85% of posted speed in 2030. Widen from 2 lanes to 4 lanes (divided highway) General purpose lane benefits of ~\$13,294,970 and safety benefits of ~\$9,631,913 for total benefits based upon 2005 to 2025 being ~\$22,926,883. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin	Current/Future	\$66,845,000
172	Olympic County Mason	SR 3 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	23.27 to 27.97	SR 3/SR 302 Vic to Belfair Yard Rd Vic - Four Lane Bypass Four-Lane Belfair Bypass Unknown at this time Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin	Future	\$136,000,000
346	Olympic County Pierce	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	123.64 to 125.15	I-5 - Thorne Lane U-Xing to Gravelly Lake Dr. - Add SB and NB HOV lanes , new I/C at Gravelly Lake Dr. and ITS I-5 congested corridor segment. Need to address current mobility, safety and operational deficiencies for GP, HOV and transit users. Add an HOV lane southbound and northbound, new interchange at Gravelly Lake Dr. and Intelligent Transportation Systems (ITS) facilities. This will address congestion deficiency on this section of I-5 and improve freeway operations. It will also enhance HOV and transit operations on I-5. Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.	Current	\$42,780,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
347	Olympic	I-5	125.15 to 126.47	I-5 - Gravelly Lake Dr. to BN RR U-Xing - Add SB and NB HOV lanes, new I/C at Bridgeport Way and ITS	Current	\$47,000,000
	County Pierce	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	<p>I-5 congested corridor segment. Need to address current mobility, safety and operational deficiencies for GP, HOV and transit users.</p> <p>Add an HOV lane southbound and northbound, new interchange at Bridgeport Way and Intelligent Transportation Systems (ITS) facilities.</p> <p>This will address congestion deficiency on this section of I-5 and improve freeway operations. It will also enhance HOV and transit operations on I-5.</p> <p>Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.</p>			
348	Olympic	I-5	126.47 to 128.14	I-5 - BN RR U-Xing to S 96th St. (SR 512 I/C) - Construct Core HOV lanes, a freeway to freeway I/C at SR 512 and ITS	Current	\$191,700,000
	County Pierce	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	<p>I-5 congested corridor segment. Need to address current mobility, safety and operational deficiencies for GP, HOV and transit users.</p> <p>Construct Core HOV lanes, a freeway to freeway interchange at SR 512 and Intelligent Transportation Systems (ITS) facilities.</p> <p>This will address congestion deficiency on this section of I-5 and improve freeway operations. It will also enhance HOV and transit operations on I-5. It will also provide improved freeway operations via interchange improvements at I-5/SR 512 I/C.</p> <p>Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.</p>			
349	Olympic	I-5	127.54 to 127.55	I-5 - I-5 and SR 512 Interchange - Construct a new southbound I-5 to eastbound SR 512 two lane flyover ramp.	Current	\$78,501,000
	County Pierce	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	<p>A high volume of southbound I-5 traffic exiting to eastbound SR 512 in the afternoon as causes large traffic back ups between 72nd Interchange and SR 512 Interchange for both Truck and GP traffic. The radius of the NB I-5 to EB SR 512 ramp for truck traffic is too tight and the length of on-ramp to NB I-5 is inadequate for trucks to reach operating speed by the time merging onto I-5.</p> <p>Construct a new southbound I-5 to eastbound SR 512 two lane flyover ramp.</p> <p>This solution is expect to reduce backups onto the freeway and improve traffic flow on mainline.</p> <p>Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.</p>			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
350	Olympic	I-5	128.14 to 132.65	I-5 - SR 512 to SR 16 - Construct Core HOV lanes, reconstruct I/C's at S 56th St, S 84th St and S 72nd St, modify the S 38th St I/C, replace the S 48th St. Bridge and add ITS	Current	\$286,800,000
	County Pierce	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	I-5 congested corridor segment. Deficient/substandard interchanges at: S.56th Street, S.84th St., S.72nd Street. Safety/operational issues due to deficient I/Cs. Construct Core HOV lanes, reconstruct interchanges at S 56th St, S 84th St and S 72nd St, modify the S 38th St interchange, provide SB ramp access to Tacoma Mall, replace the S 48th St. Bridge and add Intelligent Transportation Systems (ITS) facilities. This will address congestion deficiency on this section of I-5 and improve freeway operations. It will also enhance HOV and transit operations on I-5. Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.			
365	Olympic	SR 99	0 to 0.2	SR 99 - Hwy 99 at I-5 Interchange - Widening and intersection improvements	Current	\$2,583,000
	County Pierce	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	The one lane southbound through on the SR 99 bridge structure over I-5 causes back-ups through the signal at SR 99 (54th) and Pacific Highway. High volumes in one lane and nearby signal system causes large back-ups. Add a southbound thru lane on Hwy 99 from 54th to NB On Ramp to I-5. Improve intersection of HWY 99 and 54th Avenue. Additional SB thru lane and I-5 interchange improvements will improve capacity and vehicle flow through this I/C segment.			
216	Olympic	SR 162	0 to 1.57	SR 162 - SR SR 410 to 96th Street East - Add a SB lane	Current	\$12,624,000
	County Pierce	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	A combination of high volumes on the westbound (southbound direction) general purpose lane and signal system cause congestion. High volumes and signalized intersection cause large back-ups. These back-ups may extend onto SR 410 eastbound off ramp. Add a southbound lane from the SR 410 eastbound on/off ramps to 96th Street East. The addition of this SB lane on SR 162 will relieve congestion on SR 162 and improve safety and operations.			
218	Olympic	SR 167	7.5 to 12.45	SR 167 - Puyallup to Pierce/King Co. Line - Complete the Core HOV system on SR SR 167.	Current	\$237,000,000
	County Pierce	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	SR 167 congested corridor segment. Need to address mobility, safety and operational deficiencies for GP, HOV and transit. Complete the Core HOV system on SR 167. This will provide congestion relief on SR 167 and will improve HOV / transit operations and reliability. SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
373	Olympic	SR 302	10.57 to 12.43	SR 302 - Elgin Clifton Road to SR 16 - Widening and realignment	Current	\$18,421,000
	County	<i>Needs:</i>	A combination of a narrow historic bridge, signal, and high volumes on the westbound general purpose lane cause congestion. High volumes, signal, and narrow shoulders on bridge cause back-ups.			
	Pierce	<i>Solution:</i>	Widen SR 302 to 4 lanes from Elgin-Clifton Road to 144th St NW to tie in with planned new alignment from 144th St NW to SR 16.			
		<i>Expected Benefits:</i>	The widening of SR 302 here will address mobility deficiencies and improve safety and operations on this highway.			
		<i>Known Environmental Issues:</i>				
375	Olympic	SR 410	4.53 to 6.04	SR 410 - 181st Avenue East to 202nd Avenue East - Widening	Current	\$24,120,000
	County	<i>Needs:</i>	High volumes on a 4-lane facility with interconnected signals may be causing congestion in this vicinity. There are two and soon to be three major intersections on SR 410 with high volumes (181st/Sumner Buckley and South Prairie Road East with 198th to be developed). Large developments like Cascadia Phase 1 have skewed the normal growth rates in this vicinity and feed increasing amounts of traffic onto SR 410. High volumes with signalized intersections cause back-ups.			
	Pierce	<i>Solution:</i>	Widen to six lanes.			
		<i>Expected Benefits:</i>	This will address mobility deficiencies and improve safety and operations on this section of SR 410.			
		<i>Known Environmental Issues:</i>				
221	Olympic	SR 509	0 to 0.5	SR 509 - SR 509 at East D Street - Half Diamond Interchange	Current	\$28,961,000
	County	<i>Needs:</i>	Congestion at the interchange of SR 509 and East D Street			
	Pierce	<i>Solution:</i>	Construct a half diamond interchange at East D Street.			
		<i>Expected Benefits:</i>	This will improve freeway operations on SR 509 and will improve safety and operations at this interchange.			
		<i>Known Environmental Issues:</i>				
379	Olympic	SR 512	7.4 to 9.1	SR 512 - SR 161 Interchange - Widening	Current	\$22,000,000
	County	<i>Needs:</i>	SR 512 deficient interchange segment. Need to address I/C deficiencies (safety/mobility/operational).			
	Pierce	<i>Solution:</i>	Widen the westbound off ramp to SR 161 to two lanes, widen the eastbound on ramp from SR 161 to two lanes, widen the SR 512/SR 161 under-crossing from two to six lanes and extend the westbound climbing lane through interchange to tie in with the westbound on-ramp from 94th Ave. SE to SR 512.			
		<i>Expected Benefits:</i>	This will improve SR 512 mainline operations, safety and traffic flow through this interchange.			
		<i>Known Environmental Issues:</i>	SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
380	Olympic County	SR 512 <i>Needs:</i>	8.74 to 11.24	SR 512 - SR 161 to SR 167 - Auxiliary Lanes	Current	\$53,799,000
	Pierce	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		A combination of high volumes, interchange ramps, vertical and horizontal alignment may cause westbound traffic between SR 161 (Meridian) and SR 167 to be congested, particularly on the steep grade approaching SR 161 (Meridian). Special events at the Puyallup Fairgrounds can also increase traffic in this vicinity. Construct eastbound and westbound auxiliary lanes from Meridian to Pioneer Way with two lane off-ramps at each Interchange. This will improve mainline operations on SR 512 and will improve safety at this interchange. SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40		
358	Olympic County	I-5 <i>Needs:</i>	95.7 to 99.55	I-5/Maytown I/C Vic to 93rd Ave SW Vic - Widening	Future	\$48,069,000
	Thurston	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Consider additional High Occupancy Vehicle lanes that revert to general purpose use in the off peak period. Assume Aldrich Road replacement and 5 fish passage extensions. HOV benefits of \$15.5 million and \$4.8 million in safety for total benefits of \$20.3 million. T-1 freight route. There are ~4 storm water outfalls and one fish passage within this segment of I-5. There is a covered landfill and the Thurston County Waste and Recovery Center in the northeast quadrant of the Marvin Road (SR 510) I/C. The Ostroms Mushroom Facility is south of I-5 and east of SR 510. There are known leaking underground storage tank locations (LUST) from nearby gas stations along SR 510 in the vicinity of the Marvin (SR 510) and Martin Way intersection. Siltation into Woodland Creek Wetlands located north of Martin Way on the right side has been a concern for developments.		
359	Olympic County	I-5 <i>Needs:</i>	100.59 to 102.59	I-5/Tumwater S Corporate Limit to Trosper Rd I/C Vic - Widening	Future	\$38,332,000
	Thurston	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Urban congestion approaching 85% of posted speed in year 2030 Consider additional High Occupancy Vehicle lanes that revert to general purpose use in the off peak period. Other options could include auxiliary lanes between interchanges or local frontage road improvements (e.g. Tyee Drive Extension on west side of I-5). HOV benefits of \$0.13 million and \$4.56 million in safety for total benefits of \$4.68 million. T-1 freight route. There are ~2 storm water outfalls within this segment of I-5 with minimal wetlands north of SR 121 I/C (93rd Ave SW - Tumwater) on the west side of I-5.		
377	Olympic County	SR 510 <i>Needs:</i>	10.75 to 13.07	SR 510/Yelm Loop - New Alignment Y-3	Current	\$70,900,000
	Thurston	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Less than 70% of posted speed threshold in 2005 New Northerly alignment for SR 510 in the City of Yelm (Y-3) Unknown at this time McAllister Springs, located off SR 510 at Old Pacific Hwy, is a water recharge source. There are ~3 fish barriers of which ~2 require work and ~8 storm water outfalls.		

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
382	Olympic & Northwest	SR 167	7.5 to 27.67	SR 167 - Puyallup to Renton - Add two general purpose lanes in each direction from SR SR 512 to I-I-405 and construct interchange improvements.	Current	\$1,731,000,000
	County Pierce & King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	SR 167 congestion corridor segment. Need to address mobility, safety and operational deficiencies on this corridor segment. Add two general purpose lanes in each direction from SR 512 to I-405 and construct interchange improvements. This will address the congestion deficiency on this section of SR 167. SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40			
383	South Central	US 12	429.24 to 430.67	US 12/SR 128 to SR 129 - Add Lanes	Future	\$10,403,000
	County Asotin	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	This section of US 12 experiences traffic back-ups throughout the day beginning at 6:00 am. These backups are the result of rear-end type accidents, and slowing traffic, caused by congestion and inattentive drivers. Approximately 1/3 of all accidents in the corridor are rear-end. This improvement project will upgrade intersections and install signals through the Clarkston area. □It will also construct two GP lanes through the corridor This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$ 3,235,780 in GP lane benefits and \$8,876,103 in Safety bene None			
385	South Central	US 12	429.24 to 430.67	US 12/SR 128 to SR 129 - Bypass Highway	Future	\$76,342,000
	County Asotin	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	This section of US 12 experiences traffic back-ups throughout the day beginning at 6:00 am. These backups are the result of rear-end type accidents, and slowing traffic, caused by congestion and inattentive drivers. Approximately 1/3 of all accidents in the corridor are rear-end. This improvement project will construct a by-pass highway around the Clarkston/Lewiston downtown area. □It will construct an interchange at each end of the corridor and a new bridge crossing of the Snake River. □This corridor will be approximately half This project will serve to reduce travel times by removing the roadway from the downtown and routing around existing conflict points (intersections, road approaches, and commercial activities). There are \$5,940,979 in GP lane benefits and \$ None			
393	South Central	SR 129	40.5 to 41	SR 129/Fleshman Way - I/C Improvements	Current	\$8,500,000
	County Asotin	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	The current interchange design is both confusing for drivers and inadequate to handle the high volume of vehicles traveling between Fleshman Way and SR 129. This is resulting in traffic backing up onto SR 129 and a high number of injury accidents. This project will improve traffic flow through the SR 129/Fleshman Way interchange area by reconfiguring the ramps, constructing a roundabout and eliminating at grade stops through the interchange area. This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$3,752,583 in Safety benefits and \$16,110,480 in intersection benefits associated with this project.			

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
386	South Central County Benton	SR 24 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	38.43 to 43.51	SR 24/SR240 to Columbia River - Realign and Add Lanes	Future	\$8,679,000
				This section of roadway experiences congestion at times as trucks climbing up the hill from Vernita are slowed due to the steepness of the grade. This also causes other vehicles to be slowed due to the winding nature of the roadway.		
				This solution would re-align this section of SR 24 and add 2 GP lanes from the junction of SR 24 to the Columbia River.		
				This solution will do the most to ensure that SR 24 will remain a high speed free flow facility by reducing delay in this section of steeply graded highway. There are \$1,162,179 in GP lane benefits associated with this project in addition to \$7,494,883 in Safety benefits.		
				The route crosses the Yakima River on the western end of the corridor with environmentally sensitive areas adjacent to the highway. The western portion flooded in 1996 doing major damage to public and private lands.		
394	South Central County Benton	I-182 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	3.94 to 5.67	I-182/SR 240 to George Washington Way - Add Lanes	Future	\$60,000,000
				MP 3.94 to MP 5.67 - A short weaving distance exists between two closely spaced interchanges WB. This weave consists of two on ramp lanes adding to two GP lanes followed by two lanes exiting at the next interchange - reducing the highway from four lanes to two in the WB direction.		
				Add two GP lanes to this section of highway		
				This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay.		
395	South Central County Benton	SR 224 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	6.82 to 10.15	SR 224/62nd PI to SR 240 I/S - Add Lanes	Future	\$8,400,000
				This section of SR 224 experiences traffic back-ups beginning at 5:30 am Monday through Friday.		
				This maximum cost proposal will add two new GP lanes and a TWLTL in the two lane section as well as adding two signal systems and right turn lanes at three intersections. □		
				This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$6,157,325 in TWLTL benefits, \$57,885,537 in GP lane benefits		
				The surrounding area of this route section are considered to be semi-arid with many varieties of small and larger animals and birds that reside there. Some of these species could be threatened or endangered. There are few if any wetland issues in this		
396	South Central County Benton	SR 240 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	21.43 to 34.38	SR 240/Horn Rd to By-Pass Highway - Add Lanes	Current/Future	\$14,010,000
				The two lane section of this corridor experiences many rear-end type collisions due to slowing traffic caused by congestion.		
				This project will add two lanes to the section from MP 21.43 to MP 28.82. □ Intersections will be channelized and illuminated and signal systems will be constructed. □		
				This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$119,496,794 in GP lane benefits and \$ 36,040,873 in Safety b		
				This section runs through semi-arid area that may be home to small and large animals and birds that may in some cases may be endangered.		

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
397	South Central County Benton	SR 240 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	21.43 to 34.38	SR 240/Stevens Rd/ Coast Rd - New Urban I/C The two lane section of this corridor experiences many rear-end type collisions due to slowing traffic caused by congestion. This project will upgrade intersections, add signal and illumination systems, add GP lanes and construct an urban interchange at Coast Rd. □ This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$ 131,617,092 in GP lane benefits and \$ 37,657,760 in Safety This section runs through semi-arid area that may be home to small and large animals and birds that may in some cases may be endangered.	Current/Future	\$57,382,000
398	South Central County Benton	SR 240 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	37.08 to 41.34	SR 240/Columbia Center Blvd to US 395 I/C - Add Lanes This corridor experiences many rear-end type collisions due to slowing traffic caused by congestion. This project will improve the eastbound off ramp connection with Edison St. by adding a lane to the ramp for an additional right turn movement onto Edison. The raised traffic island will be removed so that the existing through, left and right movements will change to a dedicated double right turn with a through and left as the other leg eastbound. A signal would also be added and interconnected with the city system if warrants are met. This project will also add two GP lanes to the main line from Columbia Center Blvd. to the interchange connection with US 395. This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$ 31,893,344 in GP lane benefits and \$ 18,337,182 in Safety b This section runs through semi-arid area that may be home to small and large animals and birds that may in some cases be endangered.	Current/Future	\$26,688,000
399	South Central County Benton	US 395 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	22.32 to 27.04	US 395/19th Ave to I-182 - Add Lanes and Replace Br This section experiences back-ups starting at 5:30 am and continuing throughout the day Monday through Sunday. This project will upgrade intersections, and construct two GP lanes from MP 15.56 to MP 20.59. □The structure crossing the Columbia River will also be replaced and the US 395/SR 240 interchange will be reconstructed. □ This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$ 109,702,275 in GP lane and \$ 105,866,296 in Safety benefits Working within the wetted perimeter of the Columbia River.	Future	\$279,427,000
400	South Central County Benton	US 395 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	22.32 to 27.04	US 395/Finley to US 12 - Extend by-pass route This section experiences back-ups starting at 5:30 am and continuing throughout the day Monday through Sunday. This project will by-pass the City of Kennewick by connecting to the SR 397 to I-82 Intertie and extending it across the Columbia River and connecting to US 12 in the vicinity of Dodd Road (Most likely between the proposed US 12/SR 124 Interchange, a spa This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay. There are \$ 589,860,978 in GP lane and \$ 102,979,596 in Safety benefits Working within the wetted perimeter of the Columbia River.	Future	\$118,954,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
234	South Central County Franklin	I-182 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	13.46 to 14.92	I-182/4th Ave I/C to US 395/SR 397 I/C - Add Lanes MP 13.46 to MP 14.92 - The railroad overcrossing structures severely limit ramp tapers creating a bottleneck in the ramp influence area. Add two GP lanes to this section of highway and widen two overcrossing structures. This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where turning movements are creating congestion and delay.	Future	\$19,100,000
233	South Central County Kittitas	I-90 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	56.56 to 84.47	I-90/Keetchelus Dam to East Easton I/C - Add Lanes MP 58.23 to MP71.56: Widen the interstate from 4 lanes to six lanes for capacity improvement from the funded Keechelus Dam project to Exit 71. This project will serve to maintain the effectiveness of the facility and to enhance safe operations.	Future	\$435,000,000
391	South Central County Kittitas	I-90 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	56.56 to 84.47	I-90/Stampede Pass and Cabin Creek I/C's - Reconstruct I/C Stampede Pass and Cabin Creek interchanges do not comply with standard vertical and horizontal clearances MP62.69 to MP 63.98: Exit 62 and 63 (Stampede Pass and Cabin Creek) interchange improvements. Reconstruct interchanges to comply with standard vertical and horizontal clearances. MP 79.42 to MP79.63: In conjunction with Washington State Patrol, construct eastbound "weigh-in-motion" weigh station. This project will serve to maintain the effectiveness of the facility and to enhance safe operations.	Future	\$12,350,000
392	South Central County Kittitas	I-90 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	56.56 to 84.47	I-90/East Easton I/C to SR 970/SR 903 I/C - Add Lanes MP 69.85 to MP 82.49: Widen the interstate from 4 lanes to six lanes for capacity improvement from exit 71 (East Easton I/C) to Exit 85 (SR 970/903 I/C) This project will serve to maintain the effectiveness of the facility and to enhance safe operations.	Future	\$145,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
228	South Central County Yakima	US 12 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	184.7 to 202.13	US 12/I-82 I/C - Widen Ramp and Extend Taper  There are pockets of congestion at the three interchanges within the four lane segment during the morning and evening peak periods. Extend merge lane one eastbound US 12 to eastbound I-82. □Widen US 12/16th Avenue interchange, and make ramp improvements. □Improve access control through Naches with curb, gutter and sidewalk. □Safety improvements include rumble strips and widening s Extending the US 12 eastbound merge lane onto eastbound I-82 will provide additional lane length for the N. 1st Street traffic to merge with the eastbound US 12 traffic before both traffic streams merge onto eastbound I-82. This will significantly impro The route parallels the Naches river, with sensitive areas immediately adjacent to the highway, in various locations within the corridor. The river flooded causing extensive damage to both private and public lands in 1996.	Future	\$19,200,000
229	South Central County Yakima	US 12 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	201.03 to 202.12	US 12/16th Ave I/C - Widen Ramp and Br  Stop controlled intersection of the WB Off ramp with 16th Ave. causes traffic to back up down the ramp to the main line during peak hours of the day. Widen US 12/16th Avenue interchange bridge to accommodate an additional lane, and make ramp improvements including adding a lane, a double left turn or a roundabout. Making these interchange improvements will reduce backups on the WB ramp. The route parallels the Naches river, with sensitive areas immediately adjacent to the highway, in various locations within the corridor. The river flooded causing extensive damage to both private and public lands in 1996.	Current	\$1,665,000
384	South Central County Yakima	US 12 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	184.7 to 202.13	US 12/Jct SR 410 to ECL Naches - Add Lanes  There are pockets of congestion at the three interchanges within the four lane segment during the morning and evening peak periods. Extend the 4-lane section of US 12 west to the US 12/SR 410 Wye. □Extend merge lane one eastbound US 12 to eastbound I-82. □Widen US 12/16th Avenue interchange, and make ramp improvements. □Improve access control through Naches with curb, gutter and Extending the 4-lane section of US 12 west through Naches to the SR 410 Wye will provide expanded capacity. US 12 is one of the few year-round routes across the Cascades. SR 410 is a National Scenic Highway, and entryway to Mount Rainier National Park The route parallels the Naches river, with sensitive areas immediately adjacent to the highway, in various locations within the corridor. The river flooded causing extensive damage to both private and public lands in 1996.	Future	\$45,900,000
231	South Central County Yakima	SR 24 <i>Needs:</i> <i>Solution:</i>  <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	1.29 to 5.57	SR 24/Riverside Rd to Faucher RD - Add Lanes  There are pockets of congestion near the City of Moxee. Future development on the existing 2-lane facility between Beaudry and Faucher Roads will increase congestion particularly during the AM and PM peak hour periods.□□□ Extend the 4-lane section of SR 24 from Riverside Road to Faucher Road.□Add right-turn lanes to all intersections (Birchfield, Beaudry, Bell, Rivard, and Faucher Roads).□Signalize Bell, Rivard, and Faucher Roads intersections. □Install rumble strips. □ Extending the 4-lane section of SR 24 past Moxee will significantly increase the capacity for this important region link. The land along this segment is poised for substantial development. The additional capacity will accommodate this growth. Signal This route segment is rural in nature and remote. The surrounding area of this route section are considered to be semi-arid with many varieties of small and larger animals and birds that reside there. Some of these species could be threatened or endan	Future	\$15,300,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
387	South Central County Yakima	SR 24 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	2.08 to 3.79	SR 24/Birchfield Rd/Beaudry Rd - Construct I/C's There are pockets of congestion near the City of Moxee. Future development on the existing 2-lane facility between Beaudry and Faucher Roads will increase congestion particularly during the AM and PM peak hour periods.□□□ Construct two new interchanges, one at Birchfield Road and one at Beaudry Road. □□Close SR 24/Bell Road intersection, and construct frontage road from Beaudry Road to Bell Road. Build railroad overcrossing over rail line at the SR 24/Beaudry Road inter Constructing the two new interchanges, and closing the Bell Road intersection will significantly enhance the safety, mobility, and operation of SR 24. In addition, constructing the Beaudry Road interchange allow an added benefit. The crossover can be This route segment is rural in nature and remote. The surrounding area of this route section are considered to be semi-arid with many varieties of small and larger animals and birds that reside there. Some of these species could be threatened or endan	Future	\$24,700,000
232	South Central County Yakima	I-82 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	30.69 to 38.45	I-82/SR 823 to US 97 - Add Lanes Increasing traffic volumes on I-82 will require additional lanes. Dual weave section for left and right exits into Selah. Replace left-hand Selah exit with conventional right-hand exit. Widen I-82 to six lanes This project will serve to maintain an effective facility and to enhance safe operations.	Future	\$39,700,000
388	South Central County Yakima	I-82 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	30.69 to 38.45	I-82/Yakima River Crossing to Naches River Crossing - Bridge Replacement The interstate bridges crossing the Naches River (known as the "Twin Bridges") have substandard shoulders (1 foot) compounded by eastbound and westbound weaves between Selah and Yakima. US 12 eastbound to I-82 eastbound merge of two ramps followed by merge to I-82. 1).Twin Bridges replacement, 2).Eastbound US 12 to eastbound I-82 merge revision, 3).Improve pedestrian and recreational access to the Naches and Yakima rivers, 4).Protect/armor the interstate right-of-way from the Yakima River at the south end of this section This project will serve to maintain the effectiveness of the facility and to enhance safe operations in areas where merge and weave movements are creating congestion and delay.	Future	\$15,100,000
389	South Central County Yakima	I-82 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	35.97 to 36.57	I-82/Valley Mall Blvd Interchange-Reconstruct Interchange Interchange experiences significant congestion. Reconstruct I/C ramps and terminals This project will increase capacity, reduce congestion, & improve safety.	Current	\$32,400,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
390	South Central County Yakima	I-82 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	37.47 to 38.47	South Union Gap Interchange-Improvements This interchange does not have full access to south Union Gap and is needed to improve safety and economic vitality of the City of Union Gap. Construct full access interchange This project will complete the interchange and provide full access to the interstate for the accelerated growth within the Union Gap urban growth boundaries	Future	\$70,000,000
236	Southwest County Clark	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	8.91 to 9.94	I-5/NE 179th St - Rebuild Interchange Significant growth projections anticipate traffic increases to overload the current interchange. Rebuild 179th St. interchange (likely a diverging diamond interchange). Adequate capacity and reduction of projected delays at this interchange. There are two known stormwater outfalls at the existing interchange.	Future	\$40,000,000
401	Southwest County Clark	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	6.8 to 8.23	I-5/I-205 - NE 134th St Interchange, Stage II Demand in this area exceeds capacity of the existing interchange. Local government has frozen development in the area until traffic demand can be met. Partnership with Clark County to widen NE 134th St structure over I-205 and to construct ramps to I-205 Southbound Alleviation of congestion and delays Wetlands occur in this area. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. There are a few fish barriers located around I-5/Whipple creek and I-5/Salmon Creek. There is one threatened species located west of I-5/Salmon Creek. Other environmental issues may include unknown underground storage tanks and hazard waste sites. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area.	Current	\$35,000,000
404	Southwest County Clark	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	16.4 to 17.22	I-5/NW La Center Rd - Rebuild Interchange An I-5/I-205 Route Development Plan predicts in 2020 the local arterial link between the interchange and downtown La Center (La Center Road) will be operating at level of service E/F. Rebuild I-5 / La Center Rd. Interchange Improve capacity and alleviate future delays. Wetlands occur throughout this area as well as many Endangered Species Act listed species. Other environmental issues may include unknown underground storage tanks and hazard waste sites. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area.	Future	\$40,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
241	Southwest County Clark	SR 14 <i>Needs:</i> <i>Solution:</i>	14.64 to 17.06	SR 14/SE Union St to 32nd St - Add Lanes and Construct Interchanges Projected growth will exacerbate existing intersection related delays, overall congestion and resulting accident levels. Widen roadway, construct interchanges, and limit access: A. Widen to 4 lanes from Union to 32nd; B. Build new interchange at 15th (ARM 16.11); C. Build new bridge (parallel to the north of current RR Xing Bridge, NUM 014/030) at 27th St. (ARM 16.74) for additional 2 lanes of traffic; D. Build new interchange at 32nd St. (ARM 17.06) or 27th St.; E. Limit access points	Current	\$119,000,000
		<i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Upon completion of the project, the whole section from MP 0.00 to 17.06 on SR 14 will become a highway with controlled access; delay will be reduced by 80%. Overall this project will bring \$100 million mobility benefits and \$22 million safety benefits in 20 years. The benefit-cost ratio is 1.93. Large areas of riverine wetland occur east of Union Street associated with Washougal River and Columbia River. Proposed improvements including corridor widening and interchange projects will most likely impact wetlands and riparian habitat to some degree. Many known stormwater outfalls are located in the area. There are three underground storage tanks located along this highway section.		
406	Southwest County Clark	SR 14 <i>Needs:</i> <i>Solution:</i>	14.64 to 14.65	SR 14/SE Union St - Complete Interchange Funded widening and interchange project (#401409W, Camas Washougal Widening and Interchange) will build an interchange with only one mainline through lane in each direction, full build-out of this interchange is needed to match the planned corridor widening to 4 lanes and to access benefits of other improvements along this corridor. This project is within an identified bottleneck. Complete the interchange to full build-out at SR 14/SE Union St.	Current	\$25,000,000
		<i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Anticipated collision reduction is 30%. This project is a component of increasing capacity while decreasing delay and accidents through greater control and fewer access points. Wetland occurs at the east of SR14/Union Street. Large areas of riverine wetland occur east of the Camas interchange associated with the Camas Slough, Washougal River, and Columbia River. Three known stormwater outfalls are located around SR14/Union Street intersection.		
407	Southwest County Clark	SR 14 <i>Needs:</i> <i>Solution:</i>	0 to 6.01	SR 14/I-5 to I-205 - Add Lanes and Rebuild Structures It is estimated in 2030 that, without improvements, peak hour speeds on most segments of this corridor will be lower than 60% of posted speed. Widen to six lanes and rebuild interchanges A. Widen to six lanes (cost: \$90.5 million) B. Arm 3.00 to 3.70, rebuild Evergreen interchange, and relocate EB off-ramp (cost: \$47.7 million) C. Arm 3.93 to 4.87, rebuild Lieser Avenue interchange (cost: \$30.5 million) D. Arm 5.10 to 5.27, rebuild Ellsworth Avenue interchange (cost: \$25 million)	Future	\$195,000,000
		<i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		This project is a response to the congestion in the future, especially after completion of the Columbia River Crossing project. It is estimated the project can bring \$142 million mobility benefits and \$39 million safety benefits in 20 years. The benefit-cost ratio is 1.32. Upon completion, the ratio of peak hour speed to posted speed in 2025 will be increased from 32% ~ 64% to over 89%. This highway section runs parallel with the Columbia River. There are several stream crossings with associated riparian and wetland areas that provide habitat for vegetation, fish and wildlife. Small wetlands occur primarily on the north side of the highway, where ditches and cut slopes have intercepted natural groundwater and springs, and adjacent to the many small streams that cross SR 14. There are no fish barriers. There are 2 identified locations of threatened species in close proximity to the corridor. Several other wildlife species are present in many locations along the corridor. Known stormwater outfalls are located along the east side of this area.		

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
242	Southwest County Clark	I-205 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0.25 to 1.1	I-205/SR 14 - Rebuild Interchange Weaving problems due to closely spaced on/off ramps. This project is within an identified bottleneck. Rebuild I-205 / SR 14 interchange. Alleviate delay and accidents associated with the tight weave of closely spaced on/off ramps There is one known fish barrier at the east of the interchange. There are approximately 7 known stormwater outfalls located around this location.	Current	\$100,000,000
243	Southwest County Clark	I-205 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	5.06 to 10.57	I-205/Padden Parkway to NE 134th St - Add Lanes Expansion planned for adjacent section (SR 500 to Padden Parkway, identified chokepoint) to 8 lanes, existing 4 lanes insufficient to handle through traffic from 8 lane section. Widen I-205 from Padden to 134th from four to six lanes. Delay Reduction: 44% ~51%; Collision Reduction: 11% ~ 31% There are few wetlands in this area. Leaking underground storage tanks and other hazardous materials may be within the area. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area. Known stormwater outfalls are located along the area.	Current	\$90,000,000
244	Southwest County Clark	I-205 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	5.99 to 6.94	I-205/Padden Parkway - Rebuild Interchange Intersection of two high volume arterials. This project is within an identified bottleneck/chokepoint. Rebuild interchange at Padden Parkway and construct NB off ramp and connection to 72nd Ave. Increase capacity and offer additional exit point to decrease congestion on the mainline beyond this interchange. There are few wetlands in this area. Leaking underground storage tanks and other hazardous materials may be within the area. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area.	Current	\$30,000,000
408	Southwest County Clark	I-205 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	3.66 to 4.31	I-205/SR 500 - Construct Flyover Ramp Weaving problems due to closely spaced on/off ramps and large volume of traffic. This project is within an identified bottleneck/chokepoint. Build flyover from SR 500 WB to I-205 SB This flyover will alleviate some weaving problems, increase driving speed, and improve safety. There are few wetlands in this area. Leaking underground storage tanks and other hazardous materials may be within the area. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area.	Current	\$33,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
409	Southwest County  Clark	I-205 <i>Needs:</i>  <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	4.9 to 6.32	I-205/SR 500 to Padden Parkway - Add Lanes  Number of lanes drop from 3 to 2 each way. Significant volume increase is expected in the future. Without mobility improvements, by year 2026, the projected driving speed on this interstate section will be 17% of posted speed.  Widen roadway from SR 500 to Padden Parkway to 8 lanes (6 general purpose, 2 auxiliary)  This widening project will reduce year 2026 delay time by 84%, and increase year 2026 driving speed to 91% of posted speed.  There are few wetlands in this area. Leaking underground storage tanks and other hazardous materials may be within the area. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area.	Current	\$100,000,000
410	Southwest County  Clark	I-205 <i>Needs:</i>  <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0.25 to 2.38	I-205/SR 14 to SE Mill Plain Rd - Construct Ramps  Weaving problems due to closely spaced on/off ramps between SR 14 and Mill Plain. Large volume of traffic entering and exiting at Mill Plain interchange. This project is within an identified bottleneck.  Build braided on and off ramps from SR 14 Interchange to Mill Plain Interchange.  Reduction in delays and conflicts due to weaving.  There are few wetlands in this area. Leaking underground storage tanks and other hazardous materials may be within the area. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area.	Current	\$40,000,000
411	Southwest County  Clark	I-205 <i>Needs:</i>  <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	2.75 to 5.06	I-205/NE 28th St to SR 500 - Construct Ramps  Congestion and weaving related delays due to heavy congestion in SR 500 interchange.  Build NB and SB braided on/off ramps to/from 28th St.  Alleviate pressure on SR 500 interchange.  There are few wetlands in this area. Leaking underground storage tanks and other hazardous materials may be within the area. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area.	Current	\$40,000,000
412	Southwest County  Clark	I-205 <i>Needs:</i>  <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	2.75 to 3.33	I-205/NE 18th St to NE 28th St - Construct Connector Roads  Congestion and weaving related delays due to heavy congestion in SR 500 interchange.  Construct connector road system between 18th St. and 28th St.  Alleviate pressure on interchanges at Mill Plain and SR 500.  There are few wetlands in this area. Leaking underground storage tanks and other hazardous materials may be within the area. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area.	Current	\$20,000,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
413	Southwest County Clark	SR 500 <i>Needs:</i> <i>Solution:</i>	1.8 to 2.38	SR 500/NE 42nd Ave and NE 54th Ave - Construct Interchange Signalized intersections result in significant delays. Build 42nd Ave bridge and 54th Ave interchange A. ARM 1.80, 42nd Ave (Falk Road) bridge (cost: \$14 million; benefit-cost ratio: 32.61) B. ARM 2.38, 54th Ave Interchange (cost: \$37 million; benefit-cost ratio: 2.32)	Current	\$51,000,000
		<i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		This project will improve mobility by removing two signalized intersections on a high-volume corridor. Upon the completion of the project, the whole corridor will become a full control limited access highway with a delay reduction of 64%. The primary environmental issues are related to water quality around the Burnt Creek Greenbelt. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. Wetlands are primarily associated with Burnt Bridge Creek and two small basins between NE 54th Avenue and Thurston Way. Proposed improvements at St. Johns Road and 54th Avenue will likely have wetland and riparian impacts. There are no fish barriers. There is one stream crossing (Burnt Bridge Cr.) in this corridor with associated riparian and wetland areas that provide habitat for vegetation, fish and wildlife.		
414	Southwest County Clark	SR 503 <i>Needs:</i> <i>Solution:</i>	0.77 to 1.27	SR 503/Padden Parkway and SR 500 - Construct Interchange SR 503 is a major north-south route and Padden Pkwy is a major east-west route with high volumes at an at-grade intersection. This intersection is an identified bottleneck/chokepoint. Build an interchange at Padden Parkway	Current	\$32,000,000
		<i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		The benefit cost ratio is 1.33. The benefit estimations are calculated through WSDOT Mobility Projects Prioritization Process program. No known wetland and stormwater outfalls found at this location.		
415	Southwest County Clark	SR 503 <i>Needs:</i> <i>Solution:</i>	1.02 to 7.89	SR 503/Padden Parkway to SR 502 - Add Lanes Projected growth expected to add to existing congestion, increasing frequency and length of delays. Widen to 6 lanes A. Arm 1.04 to 2.82, Widen to six lanes from Padden Parkway to NE 119 St (Urban) (cost: 32 million) B. Arm 2.82 to 7.89, Widen to six lanes from NE 119 St. to SR 502 (Suburban), (cost: 100 million)	Future	\$132,000,000
		<i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		The project will reduce delay by 47% (Benefit Collision Delay Program). The primary environmental issue is stormwater retention/detention and release into the Salmon Creek watershed. Wetlands occur throughout this corridor, primarily concentrated north of NE 144th Street. Known stormwater outfalls are located primarily in the north of the area.		

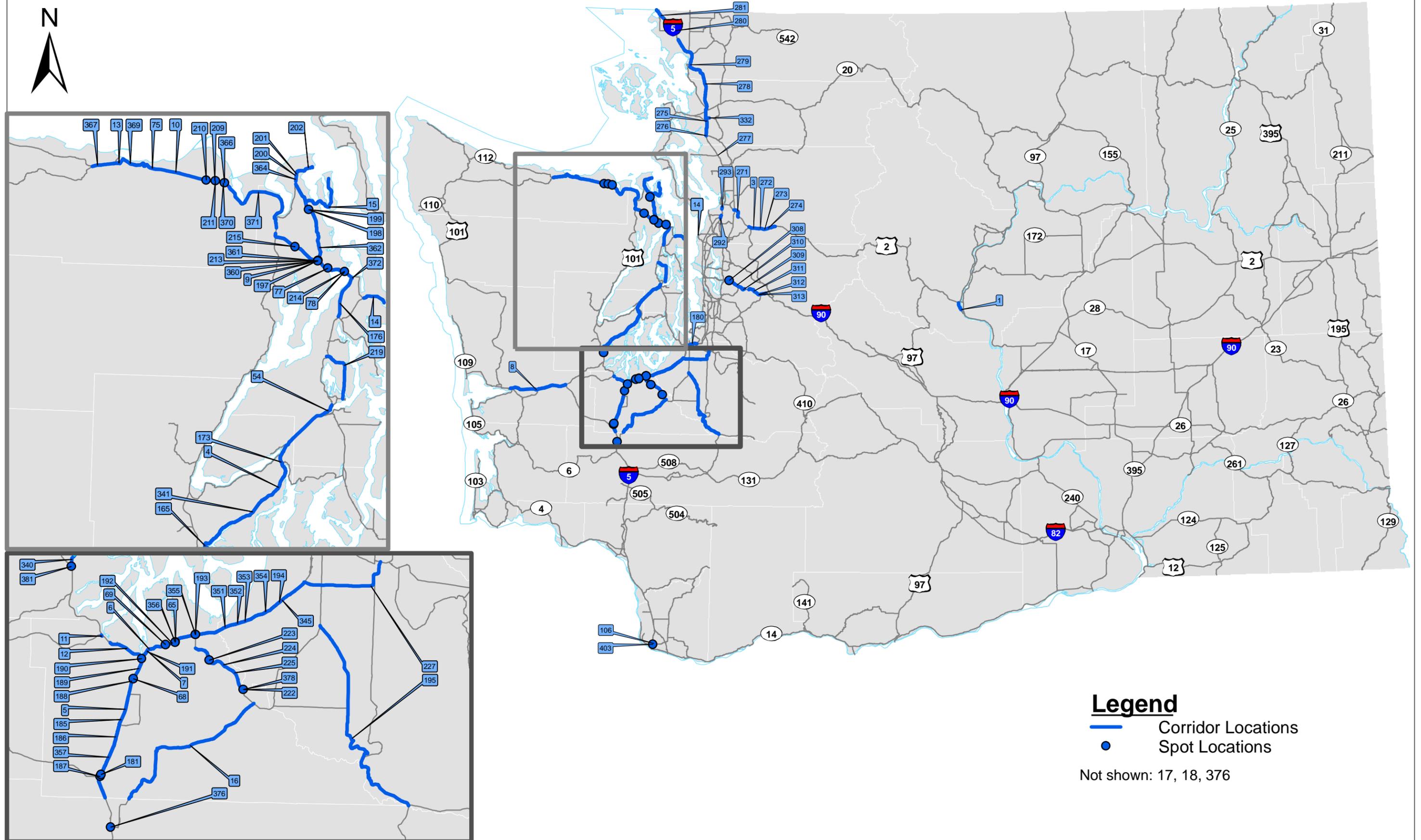
# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
416	Southwest County Clark	SR 503 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i>  <i>Known Environmental Issues:</i>	7.89 to 14.13	SR 503/SR 502 to NE Gabriel Rd - Add Lanes  Projected growth expected to add to existing intersection related delays, overall congestion and resulting accident levels. Widen to four lanes The widening project from SR 502 to Gabriel Road is a response to congestion and safety concerns. It is estimated the project can bring \$29 million mobility benefits and \$11 million safety benefits in 20 years. The benefit-cost ratio is 1.35. The delay reduction is estimated to be 76%. Collision reduction is estimated to be 30% to 40% (Mobility Project Prioritization Process software). A primary environmental issue is stormwater retention/detention and release into the East Lewis River watershed. At MP 13.21, an unnamed creek to Rock Creek Culvert is a fish barrier due to outfall and slope. There are several stream crossings in this corridor with associated riparian and wetland areas that provide habitat for vegetation, fish and wildlife. An endangered species has been identified near the corridor. Known stormwater outfalls are located along this corridor. Wetlands occur throughout the corridor. In some cases, wetlands run continuously along the SR 503 alignment for several thousand feet, greatly increasing the possibility of wetland impact for any proposed improvement project with work beyond the paved shoulder.	Future	\$34,000,000
237	Southwest County Cowlitz	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i>  <i>Known Environmental Issues:</i>	20.71 to 22.19	I-5/SR 503 - Rebuild Interchange  Existing delays, congestion and resulting accident levels related to interchange. Significant growth is projected and expected to compound existing conditions. Rebuild I-5 / SR 503 interchange (likely an urban interchange). The possible urban interchange will remove one signalized intersection and modify the vertical slope, thus improving mobility and safety. The primary environmental concerns are related to potential impacts to the Lewis River by the highway facilities and impact to the highway from the river due to the potential of flooding. Other environmental issues include underground storage tanks and hazardous material hotspots.	Current	\$50,000,000
238	Southwest County Cowlitz	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i>  <i>Known Environmental Issues:</i>	21.4 to 21.8	I-5/SR 503 - Construct New Crossing  Local traffic can only cross I-5 by using SR 503, creating extra congestion unrelated to the I-5 / SR 503 interchange. Build additional local access across I-5 near West Scott and Scott Avenues. This new crossing would create a more direct route for residents east of I-5 traveling to destinations west of I-5. A full traffic study is needed to determine the likely impact of this project on SR 503 traffic flows. Additional volume and intersection data is needed to properly quantify the benefits for the SR 503 corridor. The primary environmental concerns are related to potential impacts to the Lewis River by the highway facilities and impact to the highway from the river due to the potential of flooding. Other environmental issues include underground storage tanks and hazardous material hotspots.	Current	\$21,000,000
245	Southwest County Cowlitz	SR 503 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i>  <i>Known Environmental Issues:</i>	53.46 to 54.11	SR 503/Lewis River Hwy to I-5 - Add Lanes  Existing overall congestion and resulting accident levels. Significant growth is projected and expected to compound existing conditions. Widen to five lanes. Estimated delay reduction is 52%. The primary environmental concerns are related to potential impacts to the Lewis River by the highway facilities and impact to the highway from the river due to the potential of flooding. Another potential environmental issue is the underground storage tanks and hazardous material hotspot at the gas station. No wetlands were found in the immediate area of the I-5 interchange or SR 503 north through the Woodland urban area. Projects that involve changes to Lewis River Road and the associated bridge over the North Fork Lewis River may involve a minor amount of wetland and riparian impact. No stormwater outfalls were found in the project area.	Future	\$4,800,000

# Tier III Solutions

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
405	Southwest County Cowlitz & Lewis	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	56.07 to 72.97	I-5/Toutle Rest Area to Rush Rd - Add Lanes and Rebuild Structures Projected growth expected to increase traffic beyond existing four lane capacity. Widen to six general purpose lanes and rebuild bridges and interchanges as necessary to accommodate increased traffic volume. The widening project will increase interstate capacity, improve safety, and encourage regional economic development. Many wetlands occur throughout this area. The Cowlitz River and other rivers and streams in the area provide habitat for salmon and other Endangered Species Act listed species. Critical areas such as Flood Plains and Critical Aquifer recharge areas are present in the area.	Future	\$625,000,000
239	Southwest County Lewis	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	76.22 to 79.57	I-5/13th St to Chamber Way - Add Lanes and Rebuild Structures Current conditions are at capacity with existing demand. Significant growth is projected and expected to compound existing conditions. Widen to six general purpose lanes, with additional auxiliary lane between interchanges, and rebuild bridges and interchanges as necessary to accommodate increased traffic volume. This widening project will increase interstate capacity, improve safety, and encourage regional economic development. Many wetlands occur throughout this area. The Chehalis River and other rivers and streams and the floodplains and wetlands associated with them provide habitat for salmon and other Endangered Species Act listed species. Other environmental issues may include unknown underground storage tanks and hazard waste sites. Critical areas such as Flood Plains and Critical Aquifer recharge areas are present in the area. There is an identified fish passage barrier. There are approximately 10 known stormwater outfalls located along this highway segment.	Future	\$245,000,000
402	Southwest County Lewis	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	78.64 to 81.89	I-5/Chamber Way to Mellen Street - Add Lanes and Rebuild Structures Significant volume increase is expected after completion of the Chamber Way Interchange improvement and the widening project from Mellen St. to Grand Mound. Without future improvements, by year 2026, the projected driving speed on this interstate section will be 55% of posted speed. Flooding along this section causes delays and other society costs. Widen to six general purpose lanes, with additional auxiliary lane between interchanges, and rebuild bridges and interchanges as necessary to accommodate increased capacity. Lessen potential flooding damage and delays by raising the roadway or building a levee. The widening project will increase interstate capacity, improve safety, encourage regional economic development and reduce delay due to congestion, growth projections and flooding. Many wetlands occur throughout this area. The Chehalis River and other rivers and streams and the floodplains and wetlands associated with them provide habitat for salmon and other Endangered Species Act listed species. Critical areas such as Flood Plains and Critical Aquifer recharge areas are present in the area. Known stormwater outfalls are located along the highway. Some threatened species are known to be present along the west of this highway section. Other environmental issues may include unknown underground storage tanks and hazard waste sites.	Future	\$153,000,000

# Appendix K: Solutions that Require Further Analysis





## Appendix K: Solutions that Require Further Analysis

The following list of solutions was developed to address mobility needs identified during the 2007-2026 HSP update process. Analysis for these solutions was started but not completed in time for inclusion in the 2007-2026 HSP Implementation Plan. WSDOT will include these solutions and others in future updates of the HSP when the analysis is completed. This list is not all inclusive and other solutions to identified mobility needs will be added in future updates of the HSP.

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
1	North Central County Chelan & Douglas	SR 285 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	2.2 to 5	SR 285, SR 285CO/North Wenatchee Avenue - Study City highway is causing congestion related to volume of traffic and poor access management. Study needs to be conducted to clarify solutions and address access management. Congestion relief through better traffic flow management There is the potential for impacting historical properties. Being an urban corridor, there is noise and other societal impacts to consider.	Current	Unknown
308	Northwest County King	I-90 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	9.93 to 9.94	I-90 - I-90/I-405 I/C area - Construct a freeway-to-freeway Core lane HOV connection in NE quadrant I-90 / I-405 interchange experiences considerable congestion and delay during am/pm peak periods. Transit/HOV experiences considerable delay and inefficiencies through I-90/I-405 I/C. Construct a freeway-to-freeway Core lane HOV connection at SR90/SR405 interchange (NE quadrant). This will address congestion and operational deficiencies through the I-90/405 I/C and will improve freeway mainline operations for GP/HOV/transit users. Natural features in this corridor include: Lake Sammamish, urban growth area, other features - several city and county parks. Moderate to High Liquefaction Hazard Areas occur on the east end of this corridor segment in the vicinity of SR 900 and Lake Sammamish. Water quality is impaired, sited on 303(d) list is adjacent to the northeast end of this corridor segment. Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. A Critical Aquifer Recharge Area, Palustrine Wetlands and FEMA 100-yr Flood (Zone A) have been identified on the east end of this corridor segment. Currently, this corridor segment is within an Air quality maintenance area for CO.	Current	Unknown
309	Northwest County King	I-90 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	11.14 to 16.85	I-90 - I-90 between Eastgate and Issaquah - Extend HOV lanes to Front Street and add auxiliary lanes from Eastgate to Front Street. Congested I-90 corridor segment with extensive delay/operational impacts experienced by HOV/transit users during peak periods. Extend HOV lanes to Front Street and add auxiliary lanes from Eastgate to Front Street. This will address congestion and operational deficiencies on this section of I-90. This will improve trip reliability for HOV and transit users and will improve I-90 mainline operations. Natural features in this corridor include: Lake Sammamish, urban growth area, other features - several city and county parks. Moderate to High Liquefaction Hazard Areas occur on the east end of this corridor segment in the vicinity of SR 900 and Lake Sammamish. Water quality is impaired, sited on 303(d) list is adjacent to the northeast end of this corridor segment. Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. A Critical Aquifer Recharge Area, Palustrine Wetlands and FEMA 100-yr Flood (Zone A) have been identified on the east end of this corridor segment. Currently, this corridor segment is within an Air quality maintenance area for CO.	Current	Unknown

## Appendix K: Solutions that Require Further Analysis

The following list of solutions was developed to address mobility needs identified during the 2007-2026 HSP update process. Analysis for these solutions was started but not completed in time for inclusion in the 2007-2026 HSP Implementation Plan. WSDOT will include these solutions and others in future updates of the HSP when the analysis is completed. This list is not all inclusive and other solutions to identified mobility needs will be added in future updates of the HSP.

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
310	Northwest	I-90	13.15 to 13.3	I-90 - West Lake Sammamish Parkway I/C - Construct interchange improvements.	Current	Unknown
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Interchange deficiencies: I-90 @ W. Lake Sammamish Pkwy Construct interchange improvements. This solution will improve I-90 mainline operations by eliminating back-ups onto the I-90 mainline and will improve traffic flow through this interchange and onto West Lake Sammamish Parkway. Natural features in this corridor include: Lake Sammamish, urban growth area, other features - several city and county parks. Moderate to High Liquefaction Hazard Areas occur on the east end of this corridor segment in the vicinity of SR 900 and Lake Sammamish. Water quality is impaired, sited on 303(d) list is adjacent to the northeast end of this corridor segment. Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. A Critical Aquifer Recharge Area, Palustrine Wetlands and FEMA 100-yr Flood (Zone A) have been identified on the east end of this corridor segment. Currently, this corridor segment is within an Air quality maintenance area for CO.			
311	Northwest	I-90	18.38 to 20.75	I-90 - E. Sunset Way I/C to High Point Rd. I/C - Widening and reconstruct interchange ramps	Current	Unknown
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Congested I-90 corridor segment with interchange deficiencies. Widen to four lanes in each direction, maintain truck lanes, and reconstruct interchange ramps. This will address congestion deficiency on this section of I-90 and will improve I-90 mainline operations by eliminating backups onto the I-90 mainline. This solution will also help move freight on this section of I-90. Natural features in this corridor include: Lake Sammamish, other features - city and county parks. The easterly and westerly portions of this corridor are in the Urban Growth Area. Moderate to High Liquefaction Hazard Areas occur on the west and east end of this corridor segment. Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. Medium to high Critical Aquifer Recharge Areas occur along the majority of this corridor segment. Palustrine and Riverine Wetlands occur intermitantly along this corridor segment. FEMA 100-yr Flood (Zone A) have been identified on the east and west ends of this corridor segment. Currently, a small portion of this corridor segment in the vicinity of SR 900 is within an Air quality maintenance area for CO.			
312	Northwest	I-90	20.75 to 22.86	I-90 - High Point Rd. I/C to Jones Rd. I/C - Widening and reconstruct interchange ramps	Current	Unknown
	County King	<i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	Congested I-90 corridor segment with interchange deficiencies. Widen to four lanes in each direction, maintain truck lanes, and reconstruct interchange ramps. This will address congestion deficiency on this section of I-90 and will improve I-90 mainline operations by eliminating backups onto the I-90 mainline. This solution will also help move freight on this section of I-90. Natural features in this corridor include: Lake Sammamish, other features - city and county parks. The easterly and westerly portions of this corridor are in the Urban Growth Area. Moderate to High Liquefaction Hazard Areas occur on the west and east end of this corridor segment. Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. Medium to high Critical Aquifer Recharge Areas occur along the majority of this corridor segment. Palustrine and Riverine Wetlands occur intermitantly along this corridor segment. FEMA 100-yr Flood (Zone A) have been identified on the east and west ends of this corridor segment. Currently, a small portion of this corridor segment in the vicinity of SR 900 is within an Air quality maintenance area for CO.			

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
313	Northwest	I-90	22.86 to 25.65	I-90 - Jones Rd. I/C(SE 82nd St.) to SR 18 - Wideng and construct freeway to freeway interchange at SR 18	Current	Unknown
	County King	<i>Needs:</i>	Congested I-90 corridor segment with I/C deficiencies at SR 18 (substandard I/C).			
		<i>Solution:</i>	Construct freeway to freeway interchange at SR 18, widen to four lanes in each direction, maintain truck lanes, and reconstruct interchange ramps.			
		<i>Expected Benefits:</i>	This will address congestion deficiency on this section of I-90 and will improve I-90 mainline operations by eliminating backups onto the I-90 mainline. This solution will also help move freight on this section of I-90. I-90/ SR 18 I/C is a major freight connection between two important freight corridors (I-90/SR 18).			
		<i>Known Environmental Issues:</i>	Natural features in this corridor include: Lake Sammamish, other features - city and county parks. The easterly and westerly portions of this corridor are in the Urban Growth Area. Moderate to High Liquefaction Hazard Areas occur on the west and east end of this corridor segment. Numerous storm water outfalls, a few confirmed or suspected contaminate sites and/or Leaking underground storage tanks occur along this corridor segment. Medium to high Critical Aquifer Recharge Areas occur along the majority of this corridor segment. Palustrine and Riverine Wetlands occur intermitantly along this corridor segment. FEMA 100-yr Flood (Zone A) have been identified on the east and west ends of this corridor segment. Currently, a small portion of this corridor segment in the vicinity of SR 900 is within an Air quality maintenance area for CO.			
276	Northwest	I-5	221.19 to 232.95	I-5/Conway to Cook Road - Interstate Improvements	Current/Future	Unknown
	County	<i>Needs:</i>	Existing I-5 capacity may be inadequate to process the volumes of traffic that will occur in the future. Vehicle queuing at interstate ramp terminals have an affect on mainline operations.			
	Skagit	<i>Solution:</i>	Apply appropriate solutions for safety and congestion relief from Exit 221 to Exit 232, which will be determined by the findings of the interstate Master Plan and Interchange Justification Reports.			
		<i>Expected Benefits:</i>	Managing I-5 operations to optimize capacity and safety.			
		<i>Known Environmental Issues:</i>				
332	Northwest	SR 538	0 to 1.27	SR 538/I-5 to LaVenture Rd - Corridor Improvements (Maximum)	Future	Unknown
	County	<i>Needs:</i>	A high level of commercial/residential development and College traffic make this corridor one of the most congested in Skagit County.			
	Skagit	<i>Solution:</i>	The findings of the Interstate Master Plan and Interchange Justification Reports will determine what improvements will be required for the interchange. Access management will be needed in order to alleviate mobility and safety concerns, and capacity improvements throughout the corridor will help to adequately serve the demand on the facility.			
		<i>Expected Benefits:</i>	Reduction in collisions and reduced delay.			
		<i>Known Environmental Issues:</i>	The corridor is located within the commercially developed area of Mount Vernon and crosses the BNSF railway. There are no GIS-mapped points of sensitive habitat or species.			

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278	Northwest County Skagit & Whatcom	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	232.95 to 250.87	I-5/Cook Rd to Fairhaven - Interstate Improvements The current capacity of the interstate will be inadequate to process the volumes of traffic that will occur in the future. Conduct Interstate Master Plan Managing I-5 operations to optimize capacity and safety.	Future	Unknown
271	Northwest County Snohomish	US 2 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	5.02 to 8.8	US-2 - SR 9 to Campbell Rd. - Widening US-2 congested corridor segment in AM/PM peak periods. Widen to four lanes. This will address congestion need on this section of US-2 and will improve safety. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	Unknown
3	Northwest County Snohomish	US 2 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	14.25 to 16.12	US-2 - Monroe Bypass - See Study. US-2 is currently congested through Monroe during AM/PM peak periods. US-2 also experiences higher than average accident rates along this corridor segment. Determine Monroe congestion solution. See Study. This will provide for significant congestion-relief and safety improvements on this section of US-2. This will improve safety on this section of US-2 and will provide for a more efficient region function for the US-2 corridor. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	Unknown
272	Northwest County Snohomish	US 2 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	16 to 18.67	US-2 - Monroe (ECL) to Fern Bluff Rd - Widen to four lanes US-2 congested corridor segment in AM/PM peak periods. Widen to four lanes from City of Monroe (ECL) to Fern Bluff Rd. This will be a median divided highway and will include the purchase access rights. This will address congestion need on this section of US-2 and will improve safety with access management treatments. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.	Current	Unknown

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273	Northwest County Snohomish	US 2 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	18.67 to 24.22	US-2 - Fern Bluff Rd. to City Sultan (WCL) - Widening	Current	Unknown
				US-2 congested corridor segment in AM/PM peak periods. Need to address safety and mobility deficiencies on this US-2 corridor segment. Widen to a four lane, median divided highway from Fern Bluff Rd. to City Sultan (WCL). This will address congestion deficiency on this section of US-2 and will improve safety here with the provision of median divided highway. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.		
274	Northwest County Snohomish	US 2 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	21.42 to 24.17	US-2 - City of Sultan - Widen to five lanes	Current	Unknown
				US-2 is congested and deficient through the City of Sultan. Need to address mobility, safety and operational deficiencies on this section of US-2. Widen to five lanes thru the City of Sultan. This will provide congestion-relief and safety improvements on this section of US-2. It will also improve safety and operations on US-2 through Sultan. As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.		
292	Northwest County Snohomish	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	188.59 to 189.63	I-5 - SR 527/SR 527/ South Broadway I/C	Current	Unknown
				Congestion and safety/operational deficiencies at the S. Everett Interchange Construct a new crossing under I-5 at 100th St and provide HOV access and an on ramp to southbound I-5 south of SR 526/SR527/South Broadway interchange. Reduce backups onto the freeway and improve traffic flow on mainline.		
293	Northwest County Snohomish	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	192.01 to 192.97	I-5 - 41st Street I/C		Unknown
				Congestion and safety/operational deficiencies at the 41st Street Interchange Construct arterial improvements to support the new single point interchange at 41st Street and I-5. Reduce backups onto the freeway and improve traffic flow on mainline.		

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
277	Northwest County Snohomish & Skagit	I-5 Needs: Solution: Expected Benefits: Known Environmental Issues:	212.74 to 221.19	I-5, Stillaguamish River to Conway - Interstate Improvements Vehicle queuing at interstate ramp terminals have an affect on mainline operations. The interstate and SR 532 interchange will need to be analyzed for deficiencies, and a possible Interchange Justification Report developed. Reduced delays at ramp terminal and reduction of westbound left-turn queuing. Reduce risk of rear-end collisions on ramp and mainline.	Future	Unknown
279	Northwest County Whatcom	I-5 Needs: Solution: Expected Benefits: Known Environmental Issues:	250.87 to 260.19	I-5/ Fairhaven to Slater Interstate Improvements The current capacity of the interstate will be inadequate to process the volumes of traffic that will occur in the future. Vehicle queuing at interstate ramp terminals have an affect on mainline operations. Apply appropriate solutions for safety and congestion relief from Exit 250 to Exit 262, which will be determined by the findings of the interstate Master Plan and Interchange Justification Reports. Managing I-5 operations to optimize capacity and safety. There are several creeks which run through this corridor.	Future	Unknown
275	Northwest County Whatcom	I-5 Needs: Solution: Expected Benefits: Known Environmental Issues:	260.19 to 266.10	I-5/Slater to Grandview Interstate Improvements Existing I-5 capacity may be inadequate to process the volumes of traffic that will occur in the future. Vehicle queuing at interstate ramp terminals have an affect on mainline operations. Improvements which are determined by the findings of the interstate Master Plan and Interchange Justification Reports. Managing I-5 operations to optimize capacity and safety.	Current/Future	Unknown
280	Northwest County Whatcom	I-5 Needs: Solution: Expected Benefits: Known Environmental Issues:	266.1 to 273.98	I-5/Grandview Rd to Blaine - Interstate Improvements The current capacity of the interstate will be inadequate to process the volumes of traffic that will occur in the future. Conduct Interstate Master Plan Managing I-5 operations to optimize capacity and safety. None	Future	Unknown

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281	Northwest County Whatcom	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	273.92 to 276.62	I-5/Blaine to Canadian Border - Interstate Improvements The current capacity of the interstate will be inadequate to process the volumes of traffic that will occur in the future. Conduct Interstate Master Plan Managing I-5 operations to optimize capacity and safety. None	Future	Unknown
13	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	241.89 to 252.35	US 101/SR 112 to Deer Park Rd - Traffic Circulation and Access Plan Study Mobility Deficiency - Approaching 70% of posted speed threshold in Port Angeles Core Business District (Race to Golf Course Rd). US 101 Traffic Circulation and Access Plan (SR 112 to Deer Park Road). Modify the discontinued US 101 Port Angeles Alternative Study (Initiative 695) to match these limits and focus on circulation and access issues.	Current/Future	Unknown
367	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	242.11 to 243.37	US 101/Laird Rd to Reddick Rd - Widening Less than 70% of posted speed threshold in 2030 Widen from 2/3 lanes to 4 lanes Unknown at this time	Future	Unknown
369	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	245.35 to 252.35	US 101/SR 117 to Deer Park Rd - Alternative Route Less than 70% of posted speed threshold in 2005 Port Angeles Alternative Route south of the core business district from SR 117 Vicinity to Deer Park/Buchanan Drive Vicinity Unknown at this time	Current/Future	Unknown

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10	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	252.35 to 262.29	US 101/Deer Park Rd to River Rd - Traffic Circulation and Access Plan Study  This study would supplement the US 101 Safety Corridor work by analyzing traffic circulation patterns and access issues.  Traffic Circulation and Access Plan	Future	Unknown
75	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	252.35 to 254.37	US 101/Deer Park Rd to O'Brien Rd - Park and Ride Lot  New 50-stall park and ride lot at Deer Park or O'Brien Road.  Unknown at this time	Future	Unknown
209	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	261.59 to 263.8	US 101/Dungeness River to Sequim Ave I/C - Widening  Less than 70% of posted speed threshold in 2030  Widen from 2 lanes to 4 lanes  Unknown at this time	Future	Unknown
210	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	262.29 to 262.3	US 101/River Rd Interchange Vic - Park and Ride Lot  Less than 70% of posted speed threshold in 2030  New 50-stall park and ride lot near River Road Interchange  Unknown at this time	Future	Unknown

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211	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	263.8 to 263.81 Less than 70% of posted speed threshold in 2030 New 50-stall park and ride lot near Sequim Avenue Interchange Unknown at this time	US 101/Sequim Ave Interchange Vic - Park and Ride Lot	Future	Unknown
370	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	263.8 to 266.78 Less than 70% of posted speed threshold in 2030 Widen from 2 lanes to 4 lanes completing Sequim Bypass (East Half) Unknown at this time	US 101/Sequim Ave I/C to Palo Alto Rd Vic - Widening	Future	Unknown
366	Olympic County Clallam	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	265.36 to 265.37 Less than 70% of posted speed threshold in 2030 Construct a full diamond interchange at Simdars (existing half diamond) or roundabout Unknown at this time	US 101/Simdars Rd Interchange - Complete Diamond Interchange or Construct Roundabout	Future	Unknown
371	Olympic County Clallam & Jefferson	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	266.78 to 283.21 Less than 70% of posted speed threshold in 2030 Widen from 2/3 lanes to 4 lanes (divided highway with appropriate at-grade separations) Unknown at this time There are ~28 fish barriers of which ~16 require work, ~3 leaking underground storage tanks, and ~3 unstable slopes (2 erosion, 1 landslide).	US 101/Palo Alto Rd Vic to SR 104 - Widening	Future	Unknown

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
18	Olympic County Grays Harbor & Jefferson	SR 8 & US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		SR 8 and US 101/Regionwide - Safety Rest Area Site Selection Study Goal is to provide public access to appropriately sized, restroom-equipped facilities, including recreational vehicle dump stations at designated sites, every 60 miles on the National Highway System and State and Rural highways. Study site feasibility at three locations: SR 8 Westbound at MP 7 Elma Vicinity, Olympic National Forest Vicinity on US 101 at MP 120, and Pottlatch Vicinity on US 101 at MP 310.	Future	Unknown
8	Olympic County Grays Harbor & Thurston	US 12 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 20.99	US 12 and SR 8/Aberdeen to Olympia - At Grade Separation Study This study would evaluate existing at-grade intersections with the intent of determining and prioritizing transportation improvements between Aberdeen and Olympia. At-grade separations may enhance economic vitality along the US 12/SR 8 Corridors. US 12 (portion between Aberdeen and Elma) and SR 8 (entire route) - Study at-grade separations for enhancing economic vitality.	Future	Unknown
9	Olympic County Jefferson	SR 19 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 14.09	SR 19 and SR 20/SR 104 to Port Townsend Ferry Terminal - Corridor Analysis Mobility Deficiency - Increased development and traffic cause emerging bottleneck and chokepoints. For example: Stop controlled intersections in developed areas with high traffic volumes typically have fewer "gaps" in mainline traffic to make left and right turns. This "gap" issue when mainline approaches maximum throughput can also "trap" mainline left turns at stop-controlled intersections. Corridor Analysis: A corridor analysis plan will identify intersection locations that would benefit from intersection improvements (e.g. left or right turn channelization for mobility and new signal locations for safety). There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR	Current/Future	Unknown

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360	Olympic County	SR 19 <i>Needs:</i>	0 to 0.01	SR 19/SR 104 Jct - Interchange	Future	Unknown
	Jefferson	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Exceeds maximum throughput in 2030 with SR 104 being less than 70% of the posted speed threshold and SR 19 being less than 85% of the posted speed. Unsignalized intersection average delay more than 50 seconds per vehicle in 2005. Construct interchange at SR 19 and SR 104. Unknown at this time There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR		
361	Olympic County	SR 19 <i>Needs:</i>	0 to 2.33	SR 19/SR 104 to Old Beaver Valley Rd - Widening	Future	Unknown
	Jefferson	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Less than 85% of posted speed in 2030. Widen from two lanes to four lanes Unknown at this time There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR		
197	Olympic County	SR 19 <i>Needs:</i>	0.09 to 0.1	SR 19/SR 104 Jct Vic - Park and Ride Lot	Future	Unknown
	Jefferson	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Improve existing 40-stall park and ride lot Unknown at this time There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR		
362	Olympic County	SR 19 <i>Needs:</i>	2.33 to 9.09	SR 19/Old Beaver Valley Rd to Center Rd - Widening	Future	Unknown
	Jefferson	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Less than 70% of posted speed threshold in 2030. Widen from two lanes to four lanes Unknown at this time There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR		

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198	Olympic County Jefferson	SR 19 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	9.09 to 9.1	SR 19/Center Rd Vic - Park and Ride Lot  New 20-stall park and ride lot near Chimacum/Center Road  Unknown at this time  There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR	Future	Unknown
199	Olympic County Jefferson	SR 19 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	9.09 to 14.09	SR 19/Center Rd to SR 20 - Widening  Less than 70% of posted speed threshold in 2030.  Widen from 2/3 lanes to 4 lanes  Unknown at this time  There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR	Future	Unknown
200	Olympic County Jefferson	SR 20 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	8.26 to 10.83	SR 20/Old Fort Townsend Rd to Hendricks St - Parallel Rd Extensions and Access Management  Approaching 70% of posted speed threshold in 2005  Parallel road extensions and access management (per 1991 Port Townsend Gateway Development Plan)  Unknown at this time  There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR	Current/Future	Unknown
364	Olympic County Jefferson	SR 20 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	8.26 to 12.57	SR 20/Old Fort Townsend Rd to Port Townsend Ferry Terminal - Widening  Approaching 70% of posted speed threshold in 2005  Assume widening to 4/5 lanes (two-way left turn lane or raised median along portions of SR 20) in a 50-year configuration  Unknown at this time  There are ~24 fish barriers of which ~5 require work, ~7 unstable slopes (5 erosion, 2 settlement), ~5 leaking underground storage tanks (2 on SR 19, 3 on SR 20), and significant wetlands immediately west of SR 19 and Kah-Tai Lagoon (wetland) west of SR	Current/Future	Unknown

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201	Olympic County Jefferson	SR 20 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	9.21 to 10.78 Approaching 70% of posted speed threshold in 2005 Widen shoulder to five feet minimum (Bike touring route and nearby schools) Unknown at this time	SR 20/ Old CMSTP&P Railroad Br to Sherman St - Shoulder Widening	Future	Unknown
202	Olympic County Jefferson	SR 20 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	10.83 to 12.52 Approaching 70% of posted speed threshold in 2005 Westbound Truck climbing lane (Eastbound ferry holding lane funded by a Port Townsend Ferry Terminal Project #90000126) Unknown at this time	SR 20/Hendricks St to Port Townsend Ferry Terminal - WB Truck Climbing Lane	Current/Future	Unknown
214	Olympic County Jefferson	SR 104 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 13.73 Less than 70% of posted speed threshold in 2005 Staggered passing lanes (begin with a Westbound climbing/passing lane immediately west of the SR 19 Intersections) Unknown at this time	SR 104/US 101 to Hood Canal Br - Passing Lanes	Current/Future	Unknown
372	Olympic County Jefferson	SR 104 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 15.34 Less than 70% of posted speed threshold in 2030 Widen from 2/3 lanes to 4 lanes (divided highway with appropriate at-grade separations) Unknown at this time	SR 104/US 101 to SR 3 - Widening and Interchange Work	Future	Unknown

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
215	Olympic County Jefferson	SR 104 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	4.14 to 4.15 Less than 70% of posted speed threshold in 2030 Improve the existing dirt park and ride lot at Center Valley Interchange (paving and drainage improvements) Unknown at this time	SR 104/Center Valley I/C Vic - Park and Ride Lot Improvement	Future	Unknown
213	Olympic County Jefferson	SR 104 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	7.55 to 8.65 1995-1997 Biennium Mobility Project Pool. Less than 70% of posted speed threshold in 2030. Westbound Passing/Truck Climbing Lane Unknown at this time	SR 104/SR 19 Intersection Vic - WB Passing Lane	Future	Unknown
77	Olympic County Jefferson	SR 104 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	10.8 to 10.81 Less than 70% of posted speed threshold in 2030 New park and ride lot at South Point Road Vicinity Unknown at this time	SR 104/South Point Rd Vic - Park and Ride Lot	Future	Unknown
78	Olympic County Jefferson	SR 104 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	13.72 to 13.73 Less than 70% of posted speed threshold in 2030 Expand viewpoint at the west end of the Hood Canal Bridge to also serve as a park and ride lot. Unknown at this time	SR 104/West End of Hood Canal Br - Park and Ride Lot	Current	Unknown

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
15	Olympic County Jefferson	SR 116 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 9.83	SR 116/SR 19 to Fort Flager Park - Route Development Plan Study This plan will outline a vision for the future development of SR 116 by recommending improvement strategies for existing and future deficiencies along the corridor. SR 116 Route Development Plan	Future	Unknown
54	Olympic County Kitsap	SR 3 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	34.15 to 36.59	SR 3 - SR 3 between SR 16 and SR 304 - ITS Mobility Deficiency - Bottleneck and Chokepoint. High traffic volumes at and between the SR 3/SR 16 Interchange and SR 3/SR 304 Interchange cause congestion. Intelligent Transportation Systems (ITS) Master Plan Improvements Unknown at this time Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin	Current	Unknown
176	Olympic County Kitsap	SR 3 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	52.81 to 60.02	SR 3 - SR 305 to SR 104 - Widening and I/S signalization Approaching maximum throughput in 2005 Widen to a 4-lane divided multilane facility with 3 signalized intersections at Pioneer Hill, Pioneer Way, and Kinman-Big Valley Intersections (2 modifications, one new). There are ~17 fish barriers of which ~8 require work, ~3 unstable slopes, 1 leaking underground storage tank, and ~22 storm water outfalls along SR 3. This area is also known for Bald Eagles.	Future	Unknown
14	Olympic County Kitsap	SR 104 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	20.58 to 24.45	SR 104 - SR 307 (Bond Road) to Kingston Ferry - SR SR 104 Alternative Analysis (widening and tunnel options). Traffic volumes related to Ferry arrival and departures cause congestion. This segment will exceed maximum throughput prior to 2030. SR 104 Alternative Analysis (widening and tunnel options). There are ~17 fish barriers of which ~8 require work, ~3 unstable slopes, 1 leaking underground storage tank, and ~22 storm water outfalls along SR 3. This area is also known for Bald Eagles.	Current	Unknown

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219	Olympic County Kitsap	SR 303 <i>Needs:</i> <i>Solution:</i>	0 to 9.16	SR 303 - SR SR 303 Corridor Analysis (Bremerton to Silverdale)	Current/Future	Unknown
		<i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		This study would include Phase 2 work to determine whether a Findings of No Significant Impact or Environmental Impact Statement (EIS) would be appropriate for the proposed action.  As needed, upgrade culverts and ditches to help minimize erosion during large storms. Also, build storm water treatment facilities.		
165	Olympic County Mason	SR 3 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	1.58 to 2.71	SR 3/Shelton South Corporate Limits to Railroad Ave - Widening	Future	Unknown
				Mobility deficiency - Urban congestion: Less than 70% of posted speed threshold in 2030. Needs Further Study - Widen from 2/3 lanes to 4/5 lanes or alternate route in Shelton Core Business District (couplet via 7th and Alder) General purpose lane benefits of ~\$5,602,878, total intersection benefits of ~\$4,716,603, and Safety benefits of ~\$4,526,150 for total benefits based upon 2005 to 2025 being ~\$14,845,631. Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		
340	Olympic County Mason	SR 3 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	2.38 to 2.93	SR 3/Turner Ave to Pine St - Alternate Route	Current/Future	Unknown
				Shelton Core Business District is approaching maximum throughput capacities in 2005, particularly for signal systems. Less than 70% of posted speed threshold in 2030.  Create an alternate route through the Shelton Core Business District (Pine to 7th to Turner to US 101) Unknown at this time Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		
341	Olympic County Mason	SR 3 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	2.93 to 24.42	SR 3/Pine St to SR 106 - Widening	Current/Future	Unknown
				Approaching or less than 70% of posted speed threshold in 2030 Widen to a four-lane divided facility with the exceptions of steep terrain and commercially developed areas such as Shelton, Allyn, and Belfair. Unknown at this time Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin		

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173	Olympic County Mason	SR 3 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	23.27 to 27.97	SR 3/SR 302 Vic to Belfair Yard Rd Vic - Two Lane Bypass  Two-Lane Belfair Bypass  Unknown at this time.  Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin	Current/Future	\$0
381	Olympic County Mason	SR 3 AR <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		US 101 to Belfair Bypass - Alternative Route  This proposal recognizes terrain constraints on SR 3 with steep slopes on one side and water bodies on the other like Oakland Bay that make future widening to a full design HSS/NHS multilane divided facility prohibitively expensive.  A future "SR 101 Connector" from US 101 to the beginning of a Belfair Bypass may be located roughly between and parallel to SR 106 and existing SR 3 in Mason County.  Unknown at this time	Current/Future	Unknown
4	Olympic County Mason & Kitsap	SR 3 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0 to 36.69	SR 3/South Kitsap and North Mason County - Subarea Study  The intent of this study is to determine the transportation improvements that will need to be made to support anticipated job and population growth associated with build-out of the South Kitsap Industrial Area.  South Kitsap/East Mason County Subarea Study  Storm water outfalls (~95), fish barriers (~11), leaking underground storage tanks (~14), and unstable slopes (~3) can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sin	Current/Future	Unknown

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
194	Olympic County Pierce	I-5 Needs: Solution: Expected Benefits: Known Environmental Issues:	111.94 to 127.48	I-5 - SR 510 to SR 512 - Network Analysis Study  This comprehensive study of the regional city/county/state transportation network could find long-term solutions by identifying alternate routes or modes that could be developed to address transportation demand on the inter-regional network in West Pierce County and North Thurston County.  Network Analysis Study  Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.	Current/Future	Unknown
351	Olympic County Pierce	I-5 Needs: Solution: Expected Benefits: Known Environmental Issues:	114.93 to 117	I-5 - Thurston/Pierce C/Line to Mounts Road - Add HOV lanes  This segment of I-5 is capacity deficient and may continue to be deficient to varying degrees depending on future investment in transportation improvements. As previously mentioned, a study of this segment is necessary.  Thurston/Pierce County Line to Mounts Rd - Widen from 6 lanes to 8 lanes creating HOV lanes  Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.	Current	Unknown
352	Olympic County Pierce	I-5 Needs: Solution: Expected Benefits: Known Environmental Issues:	117 to 118	I-5 - Mounts Rd-Old Nisqually Rd. Vicinity to South DuPont I/C (Center Drive) - Add HOV lanes, SB auxiliary lane, and ultimate South DuPont I/C  This segment of I-5 is capacity deficient and may continue to be deficient to varying degrees depending on future investment in transportation improvements. As previously mentioned, a study of this segment is necessary.  Mounts Rd-Old Nisqually Rd. Vicinity to - Widen from 6 lanes to 9 lanes creating HOV lanes, a Southbound auxiliary lane, and ultimate South DuPont Interchange (Center Drive)  Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.	Current	Unknown

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353	Olympic	I-5	118 to 119.01	I-5 - South DuPont I/C (Center Drive) to DuPont I/C - New South DuPont I/C Vicinity to DuPont - Widen from 6 lanes to 11 lanes creating HOV lanes, a SB auxiliary lane, a NB 2 lane collector-distributor, ITS.	Current	Unknown
	County	Needs:	This segment of I-5 is capacity deficient and may continue to be deficient to varying degrees depending on future investment in transportation improvements. As previously mentioned, a study of this segment is necessary.			
	Pierce	Solution:	New South DuPont I/C Vicinity to DuPont - Widen from 6 lanes to 11 lanes creating HOV lanes, a SB auxiliary lane, a NB 2 lane collector-distributor, ITS.			
		Expected Benefits:				
		Known Environmental Issues:	Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.			
354	Olympic	I-5	119.01 to 123.58	I-5 - DuPont I/C to Thorne Lane I/C - DuPont to Thorne Lane - Add HOV lanes and ITS	Current	Unknown
	County	Needs:	This segment of I-5 is capacity deficient and may continue to be deficient to varying degrees depending on future investment in transportation improvements. As previously mentioned, a study of this segment is necessary.			
	Pierce	Solution:	DuPont to Thorne Lane - Widen for HOV lanes as per ongoing study, ITS.			
		Expected Benefits:				
		Known Environmental Issues:	Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.			
345	Olympic	I-5	123.33 to 124	I-5 - East Tillicum I/C (Thorne Lane U-Xing) - I/C improvements	Current	Costs related to ..
	County	Needs:	Address existing and future I/C needs. This interchange on I-5 is identified as the future connection with the Cross-Base (SR 704) freeway.			
	Pierce	Solution:	Interchange improvements for the future Cross Base Corridor Connection.			
		Expected Benefits:	This will improve safety at this interchange and I-5 mainline operations. It will also enhance regional travel-flows and connections via the Cross-Base Highway (SR 704) corridor connection.			
		Known Environmental Issues:	Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.			

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
180	Olympic	I-5	133 to 136.6	I-5 - Yakima Avenue to Port of Tacoma - Construct direct access ramp to Tacoma Dome.	Current	Unknown
	County Pierce	Needs: Solution: Expected Benefits: Known Environmental Issues:	Presently, transit operators (ST/Pierce Transit) do not have direct access from Tacoma-Dome P&R to I-5 mainline resulting in circuitous routings and transit delays. Construct direct access ramp to Tacoma Dome. This will directly improve transit access to I-5 and overall transit operations from Tacoma-Dome P&R to Seattle and points north. Natural features: river delta, floodway, uplands; Military reservation, rural and urban growth area. Wildlife refuge. Tribal lands. Several types of public land ownership. Known environmental issues: High quality ecosystem area (in delta); wetlands, critical habitat for bull trout and Chinook, presence of sensitive species (Bald Eagle, Peregrin Falcon, Blue Heron, sensitive plants). Water quality impaired, several groundwater recharge areas and critical aquifers, flooding issues. Numerous storm water outfalls, confirmed or suspected contaminate sites and/or Leaking underground storage tanks.			
195	Olympic	SR 7	16.82 to 47.42	007 - SR 7: SR 706 to SR 507 (Roy Wye) - Route Development Plan	Future	Unknown
	County Pierce	Needs: Solution: Expected Benefits: Known Environmental Issues:	Phase 2 of a Route Development Plan that began with SR 7 in Lewis County. This plan will outline a vision for the future development of SR 7 between SR 706 and SR 507, by recommending improvement strategies for existing and future deficiencies along this portion of the SR 7 corridor. Route Development Plan			
227	Olympic	SR 512	0 to 12.06	SR 512 - East Pierce County - Network Analysis Study	Current/Future	Unknown
	County Pierce	Needs: Solution: Expected Benefits: Known Environmental Issues:	This comprehensive study of the regional city/county/state transportation network could find long-term solutions by identifying alternate routes or modes that could be developed to address transportation demand on the inter-regional network in East Pierce County. Network Analysis Study SR 167 is surrounded by wetlands that flood easily. WSDOT is using a new tool called Watershed characterization to identify sites where we can improve and/or create wetlands to hold and naturally filter the water. This approach has been used for the I-40			

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17	Olympic County	<i>Needs:</i>		Tribal Partnerships - Access Study	Future	Unknown
	Regionwide	<i>Solution:</i>		Studies should address "one way in, one way out" operational and access measures that can be taken to improve the function of state highways. Two examples include: SR 109 from Tahola to Queets with Quinault Nation for \$2.5 million and SR 112 Loop Road alternative with Makah Tribe from \$1.5 million.		
		<i>Expected Benefits:</i>		Tribal Partnerships for "one way in, one way out" operational and access measures.		
		<i>Known Environmental Issues:</i>				
5	Olympic County	I-5	85.58 to 100.59	I-5/Lewis County Line to Tumwater S Corporate Limit - Rural Feasibility Study	Future	Unknown
	Thurston	<i>Needs:</i>		Phase 2 would analyze the feasibility of high occupancy vehicle (HOV) lanes within Thurston County and consider other issues such as dedicated freight lanes, high speed ground transportation, commuter rail, transportation demand management (TDM), and intelligent transportation system (ITS).		
		<i>Solution:</i>		I-5 High Occupancy Vehicle and/or Collector-Distributor Feasibility Study in Rural Thurston County.		
		<i>Expected Benefits:</i>				
		<i>Known Environmental Issues:</i>				
185	Olympic County	I-5	85.58 to 98.69	I-5/Lewis County Line to 93rd Ave SW Vic - Rural Intelligent Transportation System Master Plan	Future	Unknown
	Thurston	<i>Needs:</i>		Implement rural elements of the Intelligent Transportation System (ITS) Master Plan. Also consider supplementing this plan with ITS kiosk information booths at the Scatter Creek and Maytown Safety Rest Areas.		
		<i>Solution:</i>		Unknown at this time		
		<i>Expected Benefits:</i>				
		<i>Known Environmental Issues:</i>		There are ~3 storm water outfalls and one unstable slope (landslide) within this segment of I-5. Wetlands along the east half of the 2.10 mile segment in the Nisqually Basin will be an environmental issue. The preferred alternative (D) in the Nisqually National Wildlife Refuge (NWR) Final Comprehensive Conservation Plan and Environmental Impact Statement calls for a potential Refuge boundary expansion of 3,479 acres primarily to the south of I-5 in the basin. The NWR is a category 1 wetland. There have been prior efforts to convert the existing farmlands south of I-5 into wetlands similar to those found north of I-5 in the wildlife refuge. The Nisqually River is a salmon bearing stream of particular importance and the flow of this river under the existing bridges and through nearby culverts and the dike/levee system for farmlands are an issue.		

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357	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	87.57 to 95.7	I-5/Prairie Creek Br Vic to Maytown I/C Vic - Widening  Consider additional High Occupancy Vehicle lanes that revert to general purpose use in the off peak period.  Unknown at this time  There are ~3 storm water outfalls and one unstable slope (landslide) within this segment of I-5. Wetlands along the east half of the 2.10 mile segment in the Nisqually Basin will be an environmental issue. The preferred alternative (D) in the Nisqually National Wildlife Refuge (NWR) Final Comprehensive Conservation Plan and Environmental Impact Statement calls for a potential Refuge boundary expansion of 3,479 acres primarily to the south of I-5 in the basin. The NWR is a category 1 wetland. There have been prior efforts to convert the existing farmlands south of I-5 into wetlands similar to those found north of I-5 in the wildlife refuge. The Nisqually River is a salmon bearing stream of particular importance and the flow of this river under the existing bridges and through nearby culverts and the dike/levee system for farmlands are an issue.	Future	Unknown
186	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	87.64 to 95.77	I-5/Prairie Creek Br Vic to Maytown I/C Vic - Scatter Creek Safety Rest Area and  Safety Rest Area Improvements at Maytown and/or Scatter Creek (increase number of freight stalls and/or provide recreational vehicle dump stations).  Unknown at this time  There are ~3 storm water outfalls and one unstable slope (landslide) within this segment of I-5. Wetlands along the east half of the 2.10 mile segment in the Nisqually Basin will be an environmental issue. The preferred alternative (D) in the Nisqually National Wildlife Refuge (NWR) Final Comprehensive Conservation Plan and Environmental Impact Statement calls for a potential Refuge boundary expansion of 3,479 acres primarily to the south of I-5 in the basin. The NWR is a category 1 wetland. There have been prior efforts to convert the existing farmlands south of I-5 into wetlands similar to those found north of I-5 in the wildlife refuge. The Nisqually River is a salmon bearing stream of particular importance and the flow of this river under the existing bridges and through nearby culverts and the dike/levee system for farmlands are an issue.	Current	Unknown
187	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	88.4 to 88.41	I-5/Grand Mound I/C Vic - Expand Park and Ride Lot  Expand the existing 44-stall park and ride lot by 36-stalls in the US 12 West (Grand Mound) Interchange Vicinity (Transportation Demand Management solution).  Unknown at this time  There are ~3 storm water outfalls and one unstable slope (landslide) within this segment of I-5. Wetlands along the east half of the 2.10 mile segment in the Nisqually Basin will be an environmental issue. The preferred alternative (D) in the Nisqually National Wildlife Refuge (NWR) Final Comprehensive Conservation Plan and Environmental Impact Statement calls for a potential Refuge boundary expansion of 3,479 acres primarily to the south of I-5 in the basin. The NWR is a category 1 wetland. There have been prior efforts to convert the existing farmlands south of I-5 into wetlands similar to those found north of I-5 in the wildlife refuge. The Nisqually River is a salmon bearing stream of particular importance and the flow of this river under the existing bridges and through nearby culverts and the dike/levee system for farmlands are an issue.	Future	Unknown

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181	Olympic	I-5	88.7 to 88.71	I-5/Grand Mound I/C Vic - Add WB lane on US 12 from SB Off Ramp I/S to Elderberry St Vic	Current	Unknown
	County	<i>Needs:</i>	Mobility Deficiency - Bottleneck/Chokepoint. Unsignalized approach with delay more than 50 seconds per vehicle at the Interstate 5 Southbound Off Ramp to US 12 West (Grand Mound Interchange)			
	Thurston	<i>Solution:</i>	Interim signal at the SB ramp terminal and add an interim Westbound auxiliary lane on US 12 between the I-5 Southbound off ramp stop controlled terminal and the right turn drop lane at Old Highway 99 (Elderberry).			
		<i>Expected Benefits:</i>	Unknown at this time. This conceptual solution is a placeholder for an emerging bottleneck/chokepoint location.			
		<i>Known Environmental Issues:</i>	There are ~27 storm water outfalls within this segment of I-5. There are also 2 out of 4 fish passage locations that require repair. Wetlands along the north half of the 8.13 mile segment could be an environmental issue, particularly near the Maytown Safety Rest Area.			
6	Olympic	I-5	100.59 to 112.01	I-5/Tumwater S Corporate Limit to SR 510 I/C Vic - Urban Feasibility Study	Current/Future	Unknown
	County	<i>Needs:</i>	Phase 1 would analyze I-5 within the urban boundaries of Tumwater, Olympia, and Lacey. There are existing bottleneck and chokepoint issues within these urban cities that impact I-5 mainline (Specific Southbound and Northbound segments are less than 70% of posted speed threshold)			
	Thurston	<i>Solution:</i>	I-5 High Occupancy Vehicle and/or Collector-Distributor Feasibility Study in Urban Thurston County.			
		<i>Expected Benefits:</i>				
		<i>Known Environmental Issues:</i>	There are ~4 storm water outfalls and one fish passage within this segment of I-5. There is a covered landfill and the Thurston County Waste and Recovery Center in the northeast quadrant of the Marvin Road (SR 510) I/C. The Ostroms Mushroom Facility is south of I-5 and east of SR 510. There are known leaking underground storage tank locations (LUST) from nearby gas stations along SR 510 in the vicinity of the Marvin (SR 510) and Martin Way intersection. Siltation into Woodland Creek Wetlands located north of Martin Way on the right side has been a concern for developments.			
188	Olympic	I-5	101 to 101.69	I-5/Tumwater Blvd I/C - Partial Cloverleaf or Other Interchange Modification	Current	Unknown
	County	<i>Needs:</i>	The Southbound Off Ramp queues at Tumwater Boulevard I/C in the AM peak were projected to cause the signalized ramp terminal intersection to operate at an average delay of 80 seconds per vehicle in year 2005. The Northbound Off Ramp left turn movement at the Tumwater Boulevard I/C unsignalized stop controlled intersection in the PM peak was projected to operate at more than 50 seconds per vehicle in year 2005.			
	Thurston	<i>Solution:</i>	Phase 2 design concerns could address items like loop ramps and bridge widening since Tumwater Boulevard Interchange would be approaching or exceeding congestion with just Phase 1 bottleneck/chokepoint improvements. Also implement urban elements of the Intelligent Transportation System (ITS) Master Plan for this segment.			
		<i>Expected Benefits:</i>	Unknown at this time			
		<i>Known Environmental Issues:</i>	There are ~2 storm water outfalls within this segment of I-5 with minimal wetlands north of SR 121 I/C (93rd Ave SW - Tumwater) on the west side of I-5.			

## Appendix K: Solutions that Require Further Analysis

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
68	Olympic County	I-5 <i>Needs:</i>	101.37 to 101.38	I-5/Tumwater Blvd I/C - Park and Ride Lot	Current/Future	Unknown
	Thurston	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		New 100-stall park and ride lot near Labor and Industries building on East side of I-5 near Tumwater Boulevard Interchange. Unknown at this time There is one storm water outfall at the Martin Way I/C Undercrossing.		
189	Olympic County	I-5 <i>Needs:</i>	102.86 to 115	I-5/Trosper Rd I/C to Pierce County Line - Urban Intelligent Transportation Systems Master Plan (Other Than Ramp Metering)	Current/Future	Unknown
	Thurston	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		Intelligent Transportation System improvements other than ramp metering between Trosper Rd I/C and Thurston/Pierce County Line. Unknown at this time There are ~3 storm water outfalls and one unstable slope (landslide) within this segment of I-5. Wetlands along the east half of the 2.10 mile segment in the Nisqually Basin will be an environmental issue. The preferred alternative (D) in the Nisqually National Wildlife Refuge (NWR) Final Comprehensive Conservation Plan and Environmental Impact Statement calls for a potential Refuge boundary expansion of 3,479 acres primarily to the south of I-5 in the basin. The NWR is a category 1 wetland. There have been prior efforts to convert the existing farmlands south of I-5 into wetlands similar to those found north of I-5 in the wildlife refuge. The Nisqually River is a salmon bearing stream of particular importance and the flow of this river under the existing bridges and through nearby culverts and the dike/levee system for farmlands are an issue.		
190	Olympic County	I-5 <i>Needs:</i>	104.12 to 104.13	I-5/N 2nd Ave Off Ramp I/S - Signal and Acceleration Lane	Current	Unknown
	Thurston	<i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		A signal with acceleration lane or other alternative at Desoto/N 2nd Ave./US 101 off ramp and I-5 off ramp to N 2nd Ave. to improve LOS (LOS E with stop signs) Intersection benefit of ~\$301,000 and safety benefit of ~\$469,000 with total benefits of ~\$770,000 based upon signal with acceleration lane. B/C for signal with acceleration lane likely to be 0.83 or less with costs greater than \$1 million. There are ~14 storm water outfalls and ~3 fish passages within this segment of I-5. Two of the fish passages require repair.		

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
7	Olympic County	I-5 <i>Needs:</i>	104.89 to 106.24	I-5/Capitol Blvd Vic to Plum St - Feasibility Study	Current	Unknown
	Thurston	<i>Solution:</i>		Study feasibility of adding a deck or lid over I-5 in this vicinity (Between 14th and Eastside undercrossings). An Olympia lid could provide an express transit facility, park and ride lot, an public space that would reconnect the Northeast and Southeast City of Olympia neighborhoods without the expense of purchasing high cost right-of-way. It could be a partnership project involving several agencies. Consider other alternative corridors and improvements (e.g. Commerce Corridor for trucks, ring road, and extension of Woodland Trail).		
		<i>Expected Benefits:</i>				
		<i>Known Environmental Issues:</i>		There are ~14 storm water outfalls and ~3 fish passages within this segment of I-5. Two of the fish passages require repair.		
191	Olympic County	I-5 <i>Needs:</i>	104.89 to 106.24	I-5/Capitol Blvd Vic to Plum St - High Capacity Transit Improvements	Current	Unknown
	Thurston	<i>Solution:</i>		High Capacity Transit Southbound off ramp and bridge to Eastside Street. Consider/study extending this proposed facility as a high-level ribbon ramp structure to US 101 off ramp for transit and/or High Occupancy Vehicle use (Exit 105 City Center/Plum connecting to Eastside Street and possibly into off ramp into US 101).		
		<i>Expected Benefits:</i>		Unknown at this time		
		<i>Known Environmental Issues:</i>		There are ~14 storm water outfalls and ~3 fish passages within this segment of I-5. Two of the fish passages require repair.		
69	Olympic County	I-5 <i>Needs:</i>	107.94 to 107.95	I-5/Lilly Rd Vic - Park and Ride Lot	Current	Unknown
	Thurston	<i>Solution:</i>		New 80 stall park and ride lot near Lilly Road undercrossing. Consider location near Chehalis Western Class 1 Trail for dual use as a possible trailhead to this facility and our nearby Class 1 bike path along I-5.		
		<i>Expected Benefits:</i>		Unknown at this time		
		<i>Known Environmental Issues:</i>		There are ~14 storm water outfalls and ~3 fish passages within this segment of I-5. Two of the fish passages require repair.		

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
192	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	108.53 to 109.03	I-5/College St Vic - High Capacity Transit Ramps  High Capacity Transit Ramps (i.e. northbound off and southbound on) between Sleater Kinney Undercrossing and College Street Undercrossing (in median).  Unknown at this time  There is one storm water outfall at the Martin Way I/C Undercrossing.	Current	Unknown
356	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	109.22 to 109.23	I-5/Martin Way I/C - Add Additional Lane on Martin Way to Double Length of Left Turn Storage Both Directions and Install Bike Path Behind Bridge Columns  There are long traffic queues at the Martin Way I/C off ramps. The longest queues are at the southbound off ramp to Martin Way. These queues typically extend back to the I-5 shoulder in the PM peak period. The Martin Way I/C signalized ramp terminals are over capacity with average delay more than 80 seconds per vehicle.  The Martin Way O'xing - Bike Lanes project could be modified/supplemented to add one additional lane under I-5 on Martin Way to double the length of left turn storage and place bike path behind bridge columns.  Unknown at this time  There is one storm water outfall at the Martin Way I/C Undercrossing.	Current	Unknown
65	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	109.26 to 109.27	I-5/Martin Way I/C - Expand Park and Ride Lot and Consider Transit Only Right Turn Lane to NB On Ramp  There are long traffic queues at the Martin Way I/C off ramps. The longest queues are at the southbound off ramp to Martin Way. These queues typically extend back to the I-5 shoulder in the PM peak period. The Martin Way I/C signalized ramp terminals are over capacity.  Expand existing Martin Way park and ride lot by ~150 stalls (expansion needed due to closure of the Marvin Road park and ride lot). A "transit only" right turn drop lane between the existing Martin Way park and ride lot and the I-5 Northbound on ramp could also be considered in partnership with the City of Lacey along with other options (signal at lot entrance/exit).  Unknown at this time  There is one storm water outfall at the Martin Way I/C Undercrossing.	Current	Unknown

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
193	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	112.01 to 112.02	I-5/Marvin Rd I/C - Park and Ride Lot  Install 400+ park and ride lot in the vicinity of the Marvin Road (SR 510) I/C.  Unknown at this time  There are ~4 storm water outfalls and one fish passage within this segment of I-5. There is a covered landfill and the Thurston County Waste and Recovery Center in the northeast quadrant of the Marvin Road (SR 510) I/C. The Ostroms Mushroom Facility is south of I-5 and east of SR 510. There are known leaking underground storage tank locations (LUST) from nearby gas stations along SR 510 in the vicinity of the Marvin (SR 510) and Martin Way intersection. Siltation into Woodland Creek Wetlands located north of Martin Way on the right side has been a concern for developments.	Current/Future	Unknown
355	Olympic County Thurston	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	112.01 to 112.02	I-5/Marvin Rd I/C - Single Point Urban I/C  There are long traffic queues developing at the Marvin Road (SR 510) off ramps. The longest queues are at the Southbound (Westbound direction) off ramp to Marvin Road. These queues for vehicles desiring to turn left are beginning to extend back to the I-5 shoulder in the PM peak period.  Access Point Decision Report Phase 2 work. This project would construct a single point urban interchange at the Marvin Road (SR 510) Interchange, relocate the Northbound on-ramp to Quinault, and possibly ramp meter the on-ramps.  Unknown at this time  There are ~4 storm water outfalls and one fish passage within this segment of I-5. There is a covered landfill and the Thurston County Waste and Recovery Center in the northeast quadrant of the Marvin Road (SR 510) I/C. The Ostroms Mushroom Facility is south of I-5 and east of SR 510. There are known leaking underground storage tank locations (LUST) from nearby gas stations along SR 510 in the vicinity of the Marvin (SR 510) and Martin Way intersection. Siltation into Woodland Creek Wetlands located north of Martin Way on the right side has been a concern for developments.	Current/Future	Unknown
11	Olympic County Thurston	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	359.51 to 359.67	US 101/SR 8 Interchange - Study Interchange Alternatives  This study would include design alternatives for the SR 8/US 101 interchange. This study would supplement a bottleneck/chokepoint location where interim strategies of widening the existing one-lane ramps to two-lanes with design deviations are proposed  SR 8/US 101 Interchange Feasibility and Design	Current	Unknown

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
12	Olympic County Thurston	US 101 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	360.98 to 365.56	US 101/Mud Bay Interchange to I-5 - West Olympia Access and Circulation Study  This study will identify improvements between Mud Bay Interchange and Interstate 5 in Olympia to enhance the economic vitality of Olympia's West Side.  West Olympia Access and Circulation Study	Future	Unknown
16	Olympic County Thurston	SR 507 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	5.4 to 28.2	SR 507/South Thurston County Subarea - Roadway Network Study  This comprehensive study of the regional city/county/state transportation network could find long-term solutions by identifying alternative routes or modes that could be developed to address transportation demand on the inter-regional network in South Thurston County.  South Thurston County Sub-Area Study (Covering I-5, SR 507, and SR 510)	Current/Future	Unknown
376	Olympic County Thurston	SR 507 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>		SR 507/Yelm Loop - New Alignment Y-2  Yelm Core Business District is less than 70% of posted speed threshold  Loop road alternative southeast of Yelm Core Business District  Unknown at this time	Current	Unknown
222	Olympic County Thurston	SR 510 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	1.73 to 10.75	SR 510/Marvin Rd to Mudd Run Rd Vic - Widening  Approaching 70% of posted speed threshold in 2030  Widen from 2 lanes to 4 lanes (divided highway with full access at ~10 major intersections, exception being Nisqually Reservation where master plan will provide guidance)  Unknown at this time  McAllister Springs, located off SR 510 at Old Pacific Hwy, is a water recharge source. There are ~3 fish barriers of which ~2 require work and ~8 storm water outfalls.	Future	Unknown

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The following list of solutions was developed to address mobility needs identified during the 2007-2026 HSP update process. Analysis for these solutions was started but not completed in time for inclusion in the 2007-2026 HSP Implementation Plan. WSDOT will include these solutions and others in future updates of the HSP when the analysis is completed. This list is not all inclusive and other solutions to identified mobility needs will be added in future updates of the HSP.

Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
223	Olympic County Thurston	SR 510 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	4.36 to 4.37 Approaching 70% of posted speed threshold in 2030 New park and ride lot in the Tri-Lakes Vicinity Unknown at this time	SR 510/Meridian Rd SE Vic - Park and Ride Lot	Future	Unknown
224	Olympic County Thurston	SR 510 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	6.5 to 6.68 Approaching 70% of posted speed threshold in 2030 Realign Reservation Road to line up with Yelm Highway and install signal Unknown at this time	SR 510/Reservation Rd SE to Yelm Highway SE Vic - Intersection Realignment	Future	Unknown
225	Olympic County Thurston	SR 510 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	7.4 to 8.34 Approaching 70% of posted speed threshold in 2030 Implement improvements from Master Plan in development by the Tribe (Improvements could include a separated pedestrian crossing, park and ride lot, future SR 510 alignment alternatives, etc.) McAllister Springs, located off SR 510 at Old Pacific Hwy, is a water recharge source. There are ~3 fish barriers of which ~2 require work and ~8 storm water outfalls.	SR 510/Nisqually Indian Tribe Reservation - Master Plan Improvements	Future	Unknown
378	Olympic County Thurston	SR 510 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	10.75 to 10.76 Less than 70% of posted speed threshold in 2005 New Southeasterly alignment for SR 510 and SR 507 in the southwest quadrant of the City of Yelm (Y-1) Unknown at this time McAllister Springs, located off SR 510 at Old Pacific Hwy, is a water recharge source. There are ~3 fish barriers of which ~2 require work and ~8 storm water outfalls.	SR 510/Yelm Loop - New Alignment Y-1	Current	Unknown

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Key	WSDOT Region	Highway Number	Milepost	Title	Current or Future Problem	Cost Estimate
403	Southwest County Clark	I-5 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	1.98 to 1.99	I-5/SR 500 - Construct Flyover Ramps Signalized intersections and circuitous routing cause inconvenience and delay. Based on 2002 AADT, the interchange ramps are operating at level of service E. Build 2 flyovers to create direct connection between I-5 and SR 500 This project is part of the on-going Columbia River Crossing study; costs and benefits are to be determined This area is urban and has had previous ground disturbance. Localized air and noise quality issues may arise near proposed interchange and intersection improvement areas. Critical areas such as Sole Source Aquifer and Critical Aquifer recharge areas are present in the area.	Current	Unknown
106	Southwest County Clark	SR 500 <i>Needs:</i> <i>Solution:</i> <i>Expected Benefits:</i> <i>Known Environmental Issues:</i>	0.38 to 0.42	SR 500/NE 15th Ave - Install Signals The two signals are in SWR Traffic Office signal priority list. Add two signals at SR 500/15th Ave intersection. Note: further study is needed to determine final solutions. The benefit cost ratio is 2.95. Benefits are seen in a delay reduction for 2007 of 68%. Anticipated collision reduction ranges from 30% ~ 50%. The average intersection delay and vehicles-to-capacity ratio were determined using Synchro software (for both build and no-build scenario). Accidents occurring on related ramps (type LX, Q1 and R1) are included in the safety benefits. There is one known stormwater outfall located around this intersection. A northbound connection between SR 500 and I-5 may effect a short length of Burnt Bridge Creek and small associated wetlands and riparian corridor.	Current	Unknown

## *Appendix L: Locations that Require Further Analysis*

This appendix lists locations that were not studied for this HSP update. These locations along with any emerging locations may be addressed in future HSP updates.

<i>County</i>	<i>SR</i>	<i>BMP</i>	<i>EMP</i>	<i>Location</i>
<b><i>Mobility</i></b>				
Clallam	101	188.96	191.85	Mansfield Road Vicinity to Tillicum Lane (City of Forks)
Grays Harbor	101	80.40	87.66	Aberdeen/Hoquiam/Cosmopolis Vicinity
King	099	27.12	29.88	1st Ave. S. Bridge to Holgate
King	099	34.17	34.73	Aurora Bridge
King	099	38.53	40.47	N. 105th St. to N. 145th St.
King	099	40.47	43.50	N. 145th St. to SR 104/N. 205th St.
King	104	32.02	32.28	SR 104/SR 522 Intersection
King	164	0.00	2.33	Dogwood to SR 18
King	164	2.33	6.06	Dogwood Street SE to Academy Drive
King	169	9.02	11.44	Black Diamond (NCL) to SR 516
King	169	10.02	15.23	SE 288th Street to SE 216th. Street
King	169	15.23	19.22	SE 216th Street to Jones Road
King	169	22.08	25.26	154th Pl. SE to I-405
King	202	0.00	0.55	SR 522 to Woodinville-Redmond Rd.
King	202	0.55	2.67	Woodinville-Redmond to NE 145th/148th St
King	202	2.67	4.77	NE 145th St/148th Ave. NE to NE 116th St
King	202	4.77	6.97	NE 116th St. to Redmond Way
King	410	21.99	24.14	Pierce/King County Line to Cole St.
King	516	12.12	16.22	SE Wax Rd. to SR 169
King	519	0.00	2.26	Seattle waterfront to I-5
King	523	1.00	2.45	I-5 to SR 522
King	527	0.00	1.30	SR 522 to King/Snohomish County Line
King	900	14.47	20.83	Field Ave. Northwest to Issaquah (WCL)
King	908	3.52	6.66	I-405 to SR 202
Kitsap	016	25.41	28.16	SR 160 (Sedgwick Rd) Vicinity to SR 166

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<i>County</i>	<i>SR</i>	<i>BMP</i>	<i>EMP</i>	<i>Location</i>
Kitsap	016	28.16	29.19	SR 166 to SR 3
Kitsap	166	3.94	4.95	SR 166 Couplet to end of route
Kitsap	305	0.02	7.05	Ferry Terminal to Agate Pass Bridge
Kitsap	305	7.05	10.72	Agate Pass Bridge to Poulsbo SCL
Kitsap	307	0.00	1.58	SR 305 to Foss Road
Kitsap	307	1.58	5.25	Foss Road to SR 104
Kitsap	310	0.00	1.84	SR 3 to SR 304
Mason	101	331.74	349.19	SR 119 to SR 3 Interchange
Mason	108	11.13	11.96	Little Creek Casino to US 101
Pierce	099	0.00	0.18	SR 5 to Pacific Highway East/54th Ave
Pierce	099	0.18	5.70	Pacific Highway East/54th Ave to Milton
Pierce	161	25.66	25.85	Meridian St. to SR 512 I/C
Pierce	162	0.00	3.21	SR 410 I/C to Pioneer Way
Pierce	162	3.21	7.10	Pioneer way to 144th Street East
Pierce	162	7.10	9.34	144th Street East to Washington Ave
Pierce	162	9.34	9.84	WashingtonAve. to Harman Way
Pierce	162	9.84	10.34	HarmanWay/Corrin Ave. to Orting (SCL)
Pierce	162	10.34	10.97	Orting (SCL) to Orville Rd
Pierce	302	10.57	16.87	Key Peninsula Highway to SR 16
Pierce	410	9.06	13.64	White River Br Vicinity to 184th Ave. E
Pierce	410	9.32	9.32	Linden Dr. in SW Sumner
Pierce	410	20.41	21.48	Hinkleman Extension Rd. to Park Ave.
Pierce	410	21.48	21.99	Park Ave Wye Conn. to White River Bridge
Pierce	507	30.67	31.26	Thurston/Pierce Co Line to Depot Rd.
Pierce	507	31.26	35.19	Depot Rd. Vicinity to Roy (SCL)
Pierce	507	35.19	35.97	Roy (SCL) to Water St. Vicinity

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This appendix lists locations that were not studied for this HSP update. These locations along with any emerging locations may be addressed in future HSP updates.

<i>County</i>	<i>SR</i>	<i>BMP</i>	<i>EMP</i>	<i>Location</i>
Pierce	507	35.97	43.57	Water St. Vicinity to SR 7
Pierce	509	1.66	5.72	Port of Tacoma Road to Marine View Drive
Snohomish	092	0.00	4.25	SR 9 to 147th Ave. NE
Snohomish	092	4.25	8.26	147th Ave. NE to Cascade Ave.
Snohomish	096	0.00	3.28	I-5 to Seattle Hill Rd.
Snohomish	099	43.50	43.67	SR 104 I/C
Snohomish	099	50.85	53.27	SR 525 to Evergreen Way (Everett - SCL)
Snohomish	204	0.00	2.35	SR 2 to SR 9
Snohomish	525	8.41	8.47	Connection to proposed ferry terminal
Snohomish	529	5.59	5.83	Between Steamboat Slough and Ebby Slough
Snohomish	530	17.00	20.79	I-5 to Arlington (WCL)
Snohomish	531	4.07	6.16	Forty Five Rd. to 27th Ave. NE
Snohomish	531	6.50	9.88	I-5 to SR 9
Snohomish	532	2.91	10.09	Island/Sno. Co. Line to I-5
Thurston	101	362.83	367.41	Mud Bay Interchange to Interstate 5 (West Olympia Access and Circulation Study)
Thurston	507	5.44	30.67	Lewis/Thurston County Line to Thurston/Pierce County Line
<i>County</i>	<i>SR</i>	<i>BMP</i>	<i>EMP</i>	<i>Location</i>

### ***Economic Vitality***

Benton	082	96.00	100.00	I-82 to Red Mountain Road
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# Appendix M: Highway/Ferry Linked Solutions

Coordination for highway and ferry needs for corridor links in King, Pierce, Kitsap and Snohomish Counties is accomplished between the Urban Planning Office (UPO) and WSF. Planning for highway and ferry links in Puget Sound in other than these four counties is accomplished by Northwest and Olympic Region with WSF.

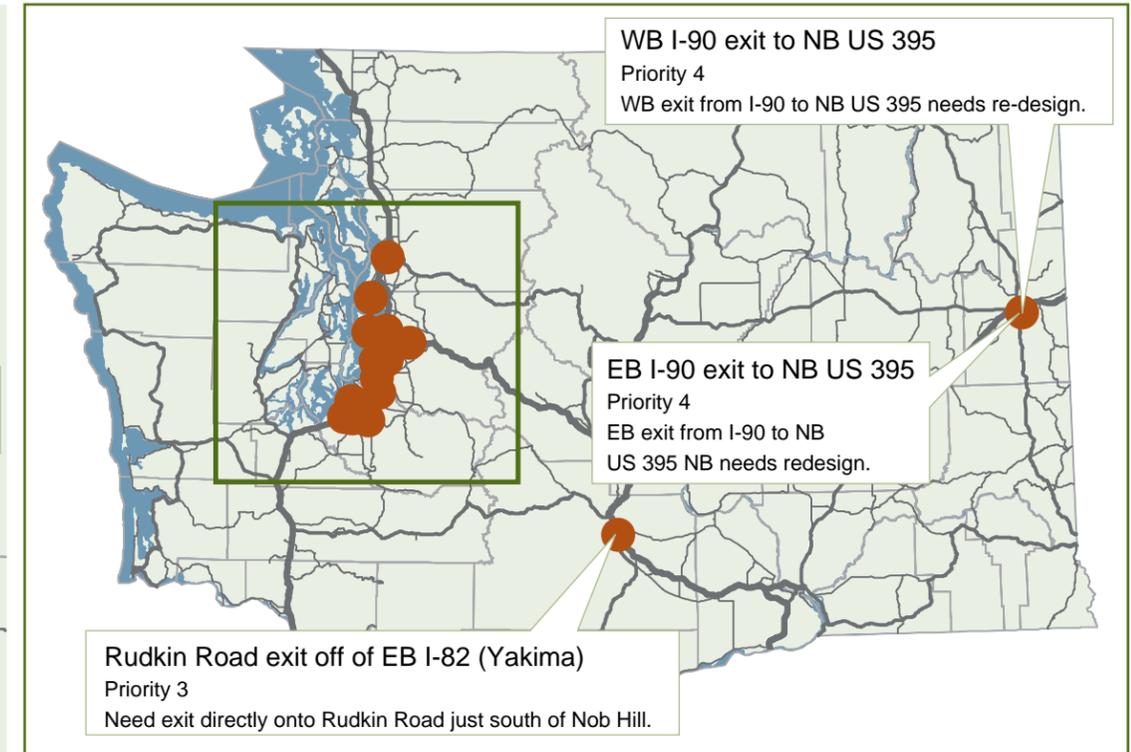
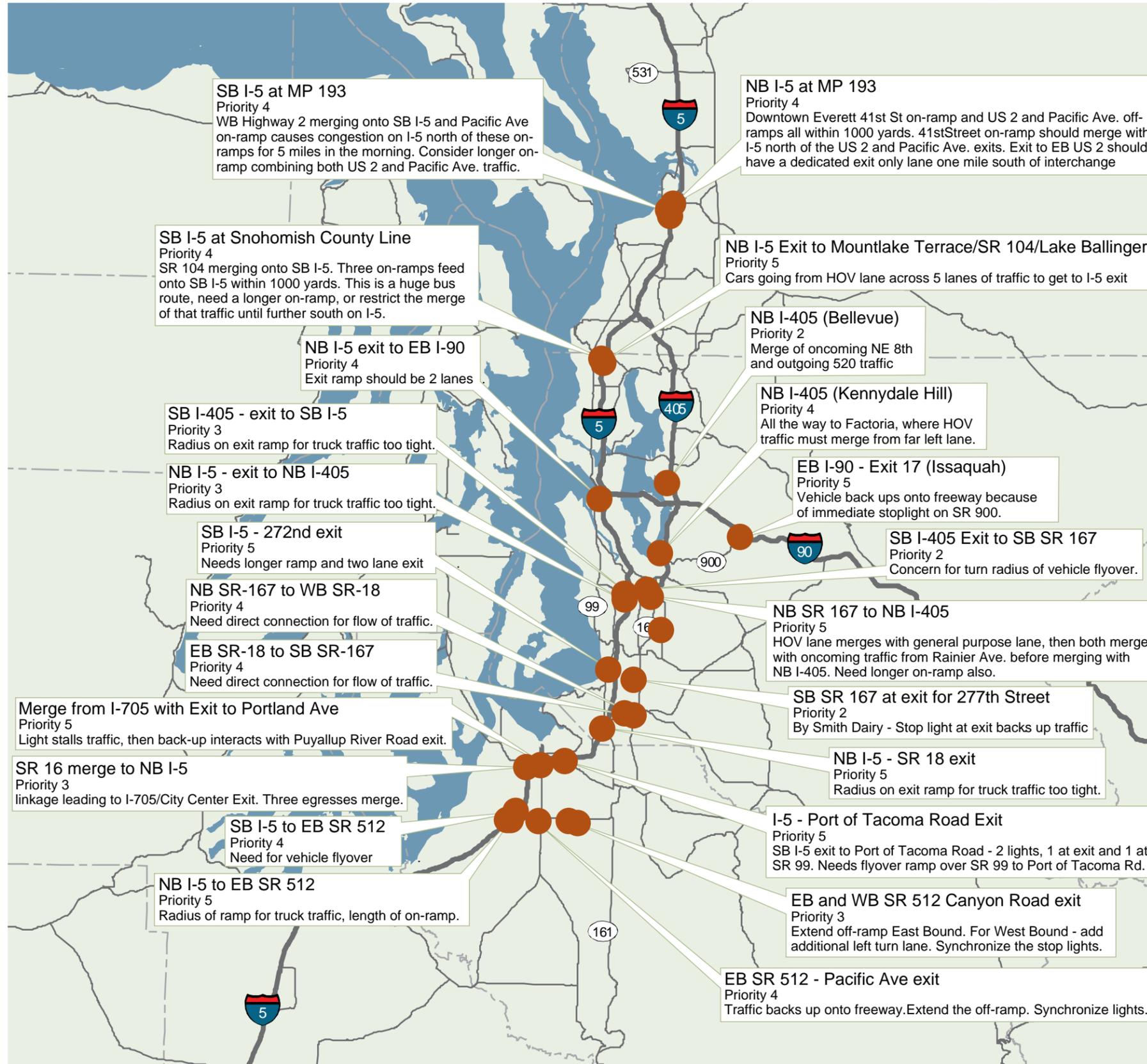
Highway	Region	Ferry Route
SR 104	UPO/Northwest	Edmonds-Kingston (Edmonds Ferry Terminal)
		<p><i>Need(s):</i> Traffic volumes exceed existing terminal capacity causing severe impacts to local traffic, therefore a new terminal is being designed in a new location south of the existing terminal. This new terminal will be accessed by what is now a City Street (Pine Road). Additional capacity will be necessary to handle existing local traffic and platoons of ferry traffic.</p> <p><i>Solution(s):</i> Solutions include the following, operational improvements to SR 104 and additional capacity to Pine Road.</p>
SR 525	UPO/Northwest	Mukilteo-Clinton (Mukilteo Ferry Terminal)
		<p><i>Need(s):</i> A new terminal to the north of the existing terminal location has been funded out of the Nickel gas tax.</p> <p><i>Solution(s):</i> There are currently two options to access this new terminal: 1) continue to access the new terminal via SR 525 and make improvements to the existing highway to accommodate the additional boat trip that is being planned. This could require some highway widening plus implementing operational improvements throughout the corridor. The other option is to build a new roadway down an environmentally sensitive drainage called Japanese Gulch. This is the City's preferred alternative as it would reroute all the ferry traffic to the north freeing up capacity on SR 525 and allowing free movement of their city streets which become impassable when the ferry platoon is off loading.</p>
SR 20	Olympic	Port Townsend-Keystone (Port Townsend Ferry Terminal)
		<p><i>Need(s):</i> SR 20 from SR 19 to the Ferry Terminal is approaching maximum throughput capacities (Level of service E/F). Local "stop controlled" side street intersections have short "gaps" in traffic to make left and right turns because of heavy mainline traffic volumes. When ferry traffic arrives and departs from the ferry terminal in "surges" or vehicle "platoons" there are less "gaps" in traffic for side street "stop controlled" intersections which can "trap" local and emergency vehicles. Left turn storage lanes on mainline at major "stop controlled" intersections may also exceed capacity during peak periods.</p> <p><i>Solution(s):</i> Capacity improvements based upon a 1991 City of Port Townsend Gateway Development Plan (e.g. WB truck climbing lane, EB holding lane, improving parallel route, widening to multilane, and access management). Because of a desire to preserve "rural character" the City of Port Townsend and local citizens prefer improvements that don't lead to multilane widening (e.g. Intersection channelizations, new traffic signals, improving parallel corridors). Both WSDOT and the City of Port Townsend agree that the existing signal system at Kearney functions poorly due to a five-leg intersection.</p>
SR 104	UPO/Olympic	Kingston-Edmonds (Kingston Ferry Terminal)
		<p><i>Need(s):</i> During summer weekend peaks, SR 104 experiences long vehicle queues by cars waiting to board the ferry system. These long queues "block" access to the local intersections in the Kingston community.</p> <p><i>Solution(s):</i> Develop a Kingston Circulation Plan. Potential solutions may include adding capacity to SR 104, Park and Ride expansion or remote holding lot for ferry traffic.</p>

# Appendix M: Highway/Ferry Linked Solutions

Coordination for highway and ferry needs for corridor links in King, Pierce, Kitsap and Snohomish Counties is accomplished between the Urban Planning Office (UPO) and WSF. Planning for highway and ferry links in Puget Sound in other than these four counties is accomplished by Northwest and Olympic Region with WSF.

Highway	Region	Ferry Route
SR 160	UPO/Olympic	Southworth-Fauntleroy (Southworth Ferry Terminal)
		<p><i>Need(s):</i> In 2030 the segment between SR 16 and Long Lake Road will be approaching maximum throughput capacity (LOS E/F). Bethel Road, which is between SR 16 and Long Lake Road, is a major local north-south corridor with existing and proposed private developments.</p> <p><i>Solution(s):</i> Widening to a four lane roadway with sidewalks, bike lanes, and a raised median in this segment. Development of park and ride lot near the interchange of SR 16 and SR 160 is also recommended. If a lot was constructed at this location, vehicle demand along Sedgwick Road could be reduced by capturing ferry-bound vehicles before they enter the SR 160 corridor and by providing transit service to the terminal. In the out years of the RDP, the addition of HOV treatments and signal preemption, HOV lanes and separate bus loading facilities at the Ferry Terminal is mentioned.</p>
SR 163	UPO/Olympic	Point Defiance-Tahequah (Point Defiance Ferry Terminal)
		<p><i>Need(s):</i> Development plans by the City of Tacoma Parks, for the Point Defiance Park may generate additional traffic volumes on SR 163. Traffic impacts to SR 163 are unknown at this time.</p> <p><i>Solution(s):</i> Signal timing and coordination are possible solutions. WSDOT will want to review the Park Traffic Impact Analysis (TIA) for traffic impacts when it becomes available.</p>
SR 304	UPO/Olympic	Bremerton-Seattle (Bremerton Ferry Terminal)
		<p><i>Need(s):</i> In 2030 SR 304 will be approaching maximum throughput (LOS E/F). The interchange at SR 3 and SR 304 has an existing bottleneck and chokepoint where SR 3 southbound necks down from two lanes to one lane under SR 304. This causes long traffic queues to develop in the peak periods.</p> <p><i>Solution(s):</i> Solutions to these identified needs are under development or study to find the appropriate balance of investments to best serve the local community.</p>
SR 305	UPO/Olympic	Winslow-Seattle (Winslow Ferry Terminal)
		<p><i>Need(s):</i> SR 305 on Bainbridge Island is approaching maximum throughput capacity and pedestrian/bicycle issues exist at the intersection of Winslow Way and SR 305.</p> <p><i>Solution(s):</i> Solutions to these identified needs are under development or study to find the appropriate balance of investments to best serve the local community.</p>

# Appendix N: WTP Trucker Survey Results Map



## Legend

● 2005 Truck Bottleneck Locations

## Highways

- Interstate
- State Route
- U.S. Route

