

SR 3: US 101 TO SR 304

CHARACTERISTICS

Segment Description:

This section of SR 3 begins south of the City of Shelton and ends in the City of Bremerton.

County/Counties: Mason & Kitsap

Cities/Towns Included: This corridor passes through the City of Shelton and the communities of Allyn, Belfair, and Gorst before ending in the City of Bremerton.

Number of lanes in the corridor: 2 to 4

Lane width: 11 to 12 feet.

Speed limit: 25 to 55 mph.

Median width: 0 to 60 feet.

Shoulder width: 1 to 16 feet.

Highway Characteristics:

SR 3 is a Highway of Statewide Significance (HSS) and NHS with freight classifications of T-3, T-2, and T-1. It is T-3 in Mason County (~2.99 million tons), T-2 in Kitsap County beginning at Sunnyslope Rd (~4.20 million tons), and T-1 with 11 million tons hauled annually between SR 16 in Gorst and SR 304 in Bremerton in 2005.

Special Use Lane Information (HOV, Bicycle, Climbing):

Special use lanes along this section of SR 3 include 0.83 miles of two-way left turn lanes, 0.33 lane mile of acceleration lane, 0.07 mile of weaving/speed change, 0.12 lane mile of slow vehicle lane mile, and 0.57 lane mile of truck climbing lane along with 2.7 miles of through climbing lane miles.

Access Control Type(s):

Access control varies from limited access to full control.

Terrain Characteristics:

This section of SR 3 consists of primarily rolling terrain with the exception of the City of Shelton, the Community of Gorst and the City of Bremerton which have level terrain.

Natural Features:

Belfair State Park is located off SR 300 which connects into SR 3 within the Community of Belfair. There are scenic views of Oakland Bay north of Shelton, North Bay in Allyn vicinity, and Sinclair Inlet between Gorst and Bremerton.

Adjacent Land Description:

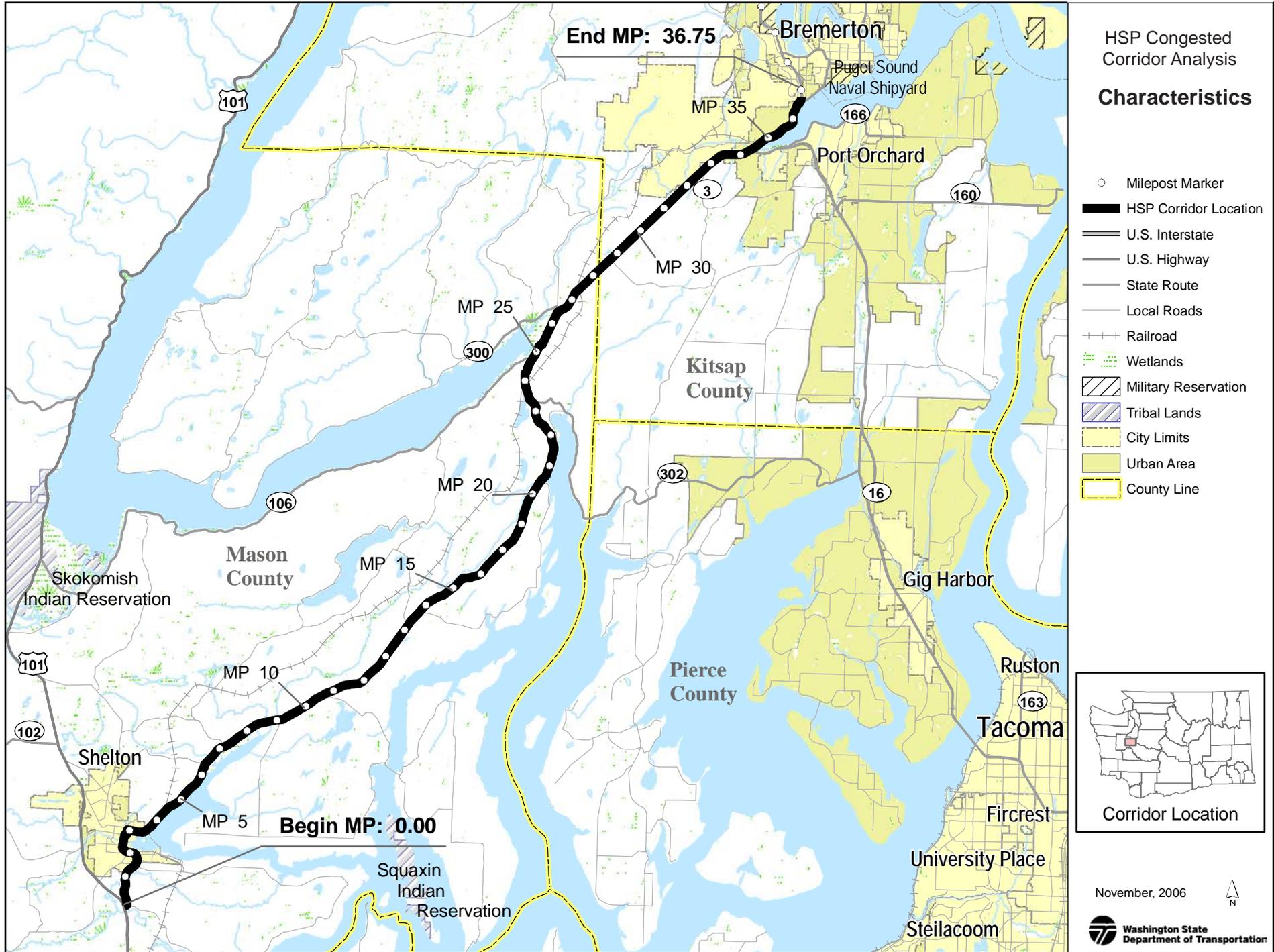
This section of SR 3 is primarily residential with mixed urban to suburban locations and an industrial area in between Belfair and Gorst. SR 3 also travels through traditional areas of interest (usual & accustomed areas) for the Squaxin Island Tribe, Skokomish Tribe, and Suquamish Tribe.

Environmental Issues:

Storm water outfalls (approximately 95), fish barriers (approximately 11), leaking underground storage tanks (approximately 14), and three unstable slopes can be found along SR 3. Shellfish beds and the endangered species act are other issues that affect nearby Oakland Bay, North Bay, and Sinclair Inlet.

Major Economic Issues:

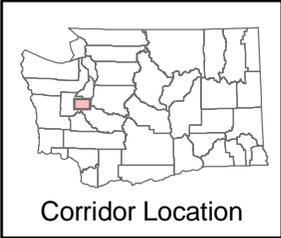
The South Kitsap Industrial Area (SKIA) is located north and west of the Mason/Kitsap County line across from the Bremerton National Airport. A Port Blakely sub-area development is planned north of SKIA. A possible NASCAR site has also been mentioned near SR 3 in the vicinity of the Mason/Kitsap County line. The Belfair "Village" planning effort for a tourist theme and the Puget Sound & Pacific/U.S. Government Railroads could become major economic issues (timber and military).



HSP Congested Corridor Analysis

Characteristics

- Milepost Marker
- █ HSP Corridor Location
- U.S. Interstate
- U.S. Highway
- State Route
- Local Roads
- +— Railroad
- ▤ Wetlands
- ▨ Military Reservation
- ▧ Tribal Lands
- ▭ City Limits
- ▭ Urban Area
- ▭ County Line



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ASSETS

Pavement:

There are 77.69 lane miles of Hot Mix Asphalt and 0.25 miles of concrete on this segment of SR 3.

Signal:

There are nine signalized intersections, five urban signals in City of Shelton (LOS C or better), 2 rural signals in Belfair Community (LOS B in 2000), 1 rural signal at Imperial Way (LOS B in 2004), and 1 urban signal in Gorst at Sam Christopherson (LOS E in 2004).

Structures:

There are eight structures in this corridor that consist of: one Concrete Arch, one Concrete Slab, two Concrete Slab on Timber Piling, one Concrete T-Beam, one Concrete T-Beam Pre-Tensioned Concrete Beam Concrete Slab, one Pre-Tensioned Concrete Slab and one Steel Beam Pre-Tensioned Concrete T-Beam.

(Ramps, and locally owned structures (if any exist) are not identified in this section and may not be reflected on maps.)

Features Crossed:

No major water features crossed. Oakland Bay, North Bay, and Sinclair Inlet are nearby (parallel) water features.

ITS Facilities:

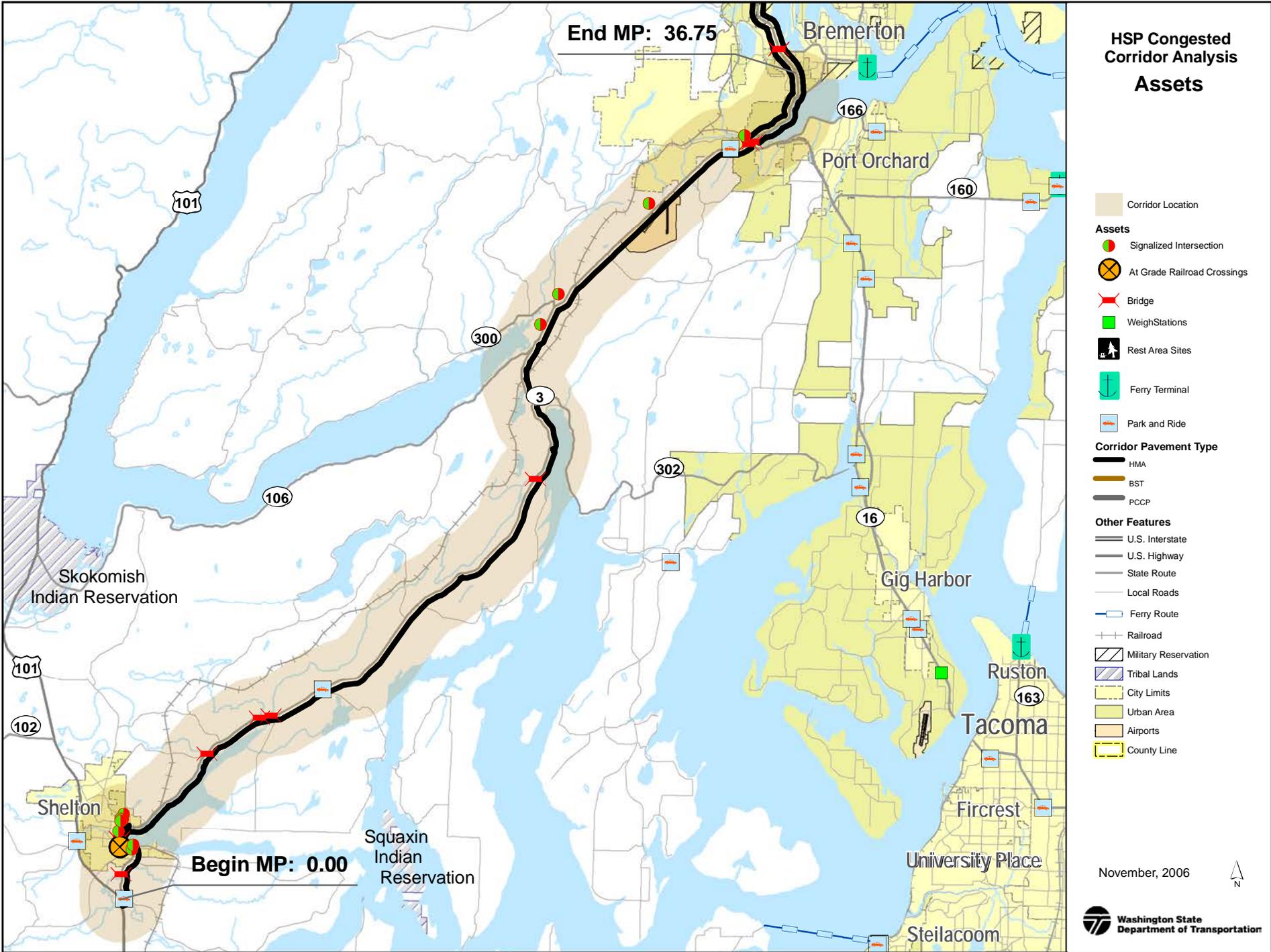
None at this time, but future facilities could include closed circuit television at/near major interchanges, SR 304 Westbound ramp meter, highway advisory radio, etc.

Railroad Crossings:

One spur line off the main railroad line crosses at-grade with flashing lights and crossbucks in Shelton at MP 2.44 (see structures for RR undercrossings). There are approximately 8 train movements a day by Simpson Timber that block mainline SR 3 on this spur. The mainline railroad is owned by Puget Sound and Pacific Railroad and connects Centralia, Aberdeen/Hoquiam to Shelton, Gorst, and the Puget Sound Naval Shipyard in Bremerton via a United States Government Railroad. PS&P RR sometimes runs a dinner train between June and September (began in 2001).

Asset Other:

There is a gravel conveyor undercrossing structure at milepost 4.05 Vicinity. A sign structure at milepost 2.7, # SB00379, is scheduled for replacement in 2005-2007. Wetland mitigation sites are other assets that must be maintained. There is one State-owned park and ride lot at milepost 0.03 (Cole Road vicinity). Bremerton National Airport is located at Imperial Way Intersection (milepost 30.51, Right).



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USAGE

General Origin and Destination Travel Characteristics:

The City of Bremerton is the major origin/destination location for this corridor and the City of Shelton or locations further south toward Olympia is a secondary origin/destination. Military installations are found to the north with Puget Sound Naval Shipyard in Bremerton (and sub base at Bangor) with Timber industry to the south heading toward the Port of Shelton. Belfair southbound had 71.9% destinations within Belfair, Tahuya, Dewatto areas that did not pass through to Shelton. 13.2% westbound on SR 106 and 14.9% southbound on SR 3. Belfair northbound had 71.2% originating in Belfair, Tahuya, and Dewatto. 15.2% originated from SR 106 and 13.6% from SR 3 south of Belfair. Pass through traffic amounts to 14% on SR 3 and SR 106 with 72% origin/destination in Belfair Vicinity per 1998 SR 101 Connector Corridor Study. A prior origin/destination study in 1994 roughly supports the above with 8% on SR 3 and 3% on SR 106 and 80% origin/destinations in Belfair Vicinity. Eastern Washington Intermodal Transportation Survey (EWITS) Research Report #21, dated 1998, covers freight movements in Mason County.

Snow/ice Issues:

There are no sections within this corridor which present a problem for normal snow/ice control.

Annual Average Daily Traffic:

Ranges from 3,900 to 73,000.

Significant Seasonal Average Annual Daily Traffic Changes:

January traffic volume is approximately 25% to 32% lower than annual average with July and August traffic volumes approximately 11% to 13% higher than annual average.

General Description of Major Average Annual Daily Traffic Locations:

US 101 to Shelton core business district with 12,000 to 19,000 annual average daily traffic (AADT) in 2004. Johns Prairie Rd to Agate Rd with 8,800 to 13,000 AADT in 2004. SR 106 (Belfair) to SR 16 (Gorst) with 14,000 to 19,000 AADT in 2004. SR 16 (Gorst) to SR 304 (Bremerton) with 73,000 AADT in 2004.

Freight:

Freight Classification: T3, T2, and T1.

Yearly Tonnage: 0.3M to 10M

Truck Percentage of Annual Average Daily Traffic: 5.3% to 10.86%

Additional Usage Comments:

When the US 101/SR 3 on-ramp to US 101 northbound is constructed as an I-2 Safety Project in 09-11, Higher volumes are anticipated on SR 3 between US 101 and the City of Shelton. When Tacoma Narrows Bridge begins tolling in 2007 there may be some Kitsap County traffic redistribution toward SR 3 for vehicles with destinations in the Olympia Vicinity or further south. A new Belfair Bypass may generate additional traffic volumes because of time savings for freight and other vehicles that no longer travel through a congested Belfair community. Additional congestion in Belfair could occur as the area west of SR 300 develops.

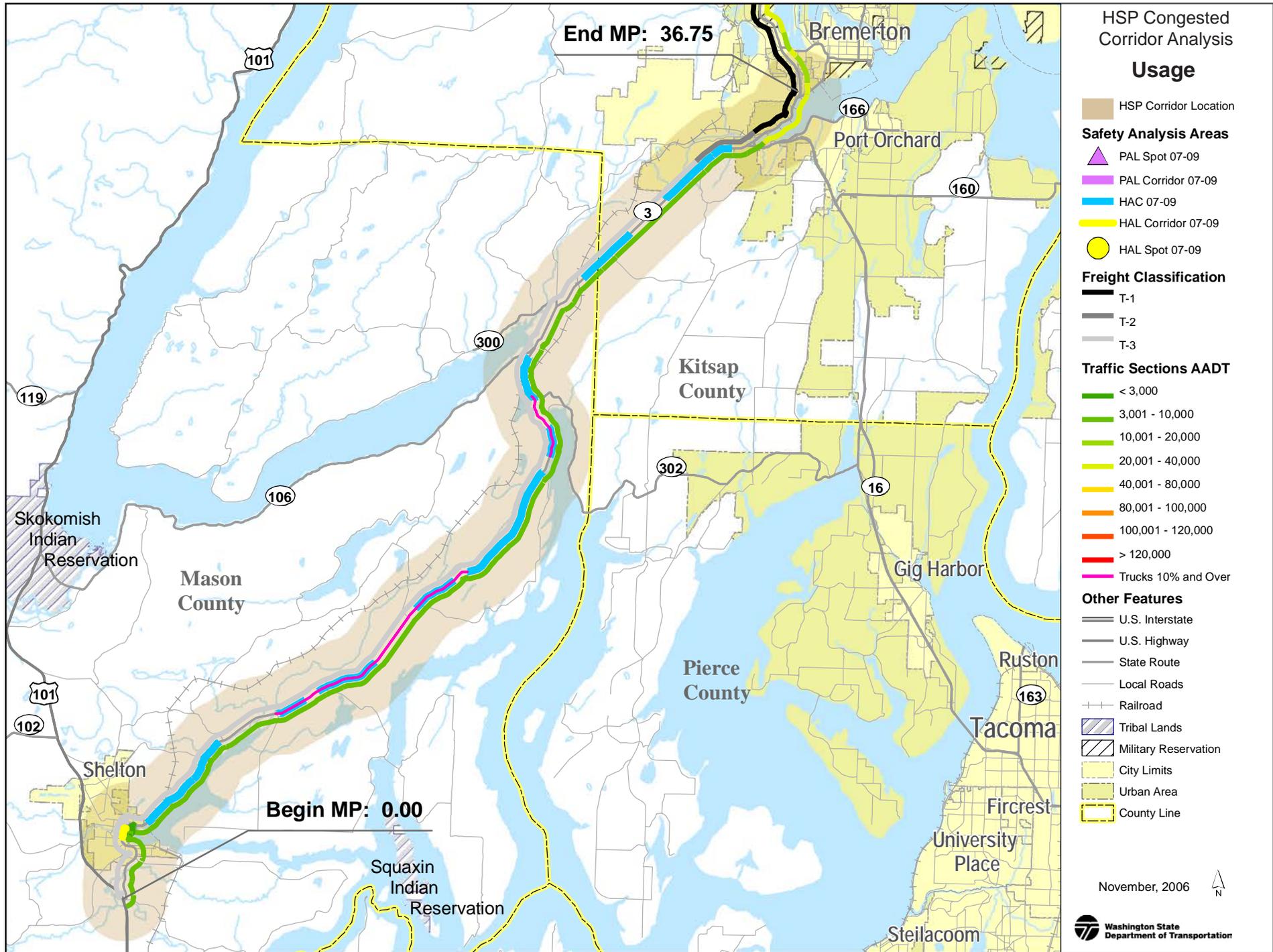
Average Annual Societal Cost of All Collisions: Approximately \$21.57M

Collisions:

Severe No of Collisions: 41

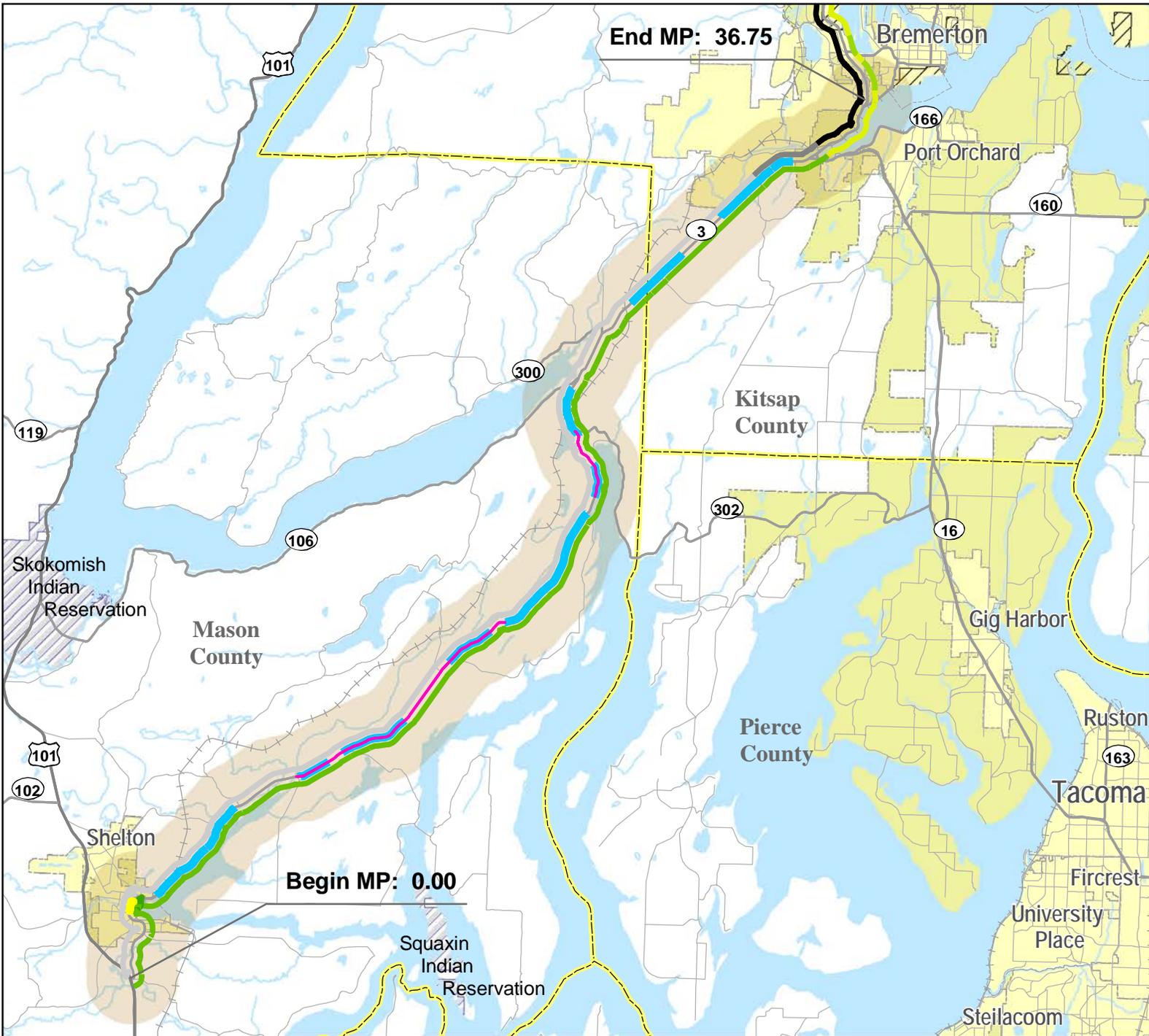
Less Severe No of Collisions: 924

List Data Years: 2003 to 2005



End MP: 36.75

Begin MP: 0.00



NEEDS AND STRATEGIES

Preservation

Pavement Condition and Needs:

Preserve transportation infrastructure to achieve the lowest life cycle cost and prevent failure. Pavements should be programmed targeting the lowest life cycle cost per the Washington State Pavement Management System "due" date. This is the point in a pavement's life cycle where optimum pavement life has been achieved and the least cost to resurface is obtained. Pavements that have past this point typically incur more costs to rehabilitate. Existing safety features shall be restored to provide basic design level standards.

Pavement Management Strategies:

Reduce the backlog of pavement preservation needs that have gone beyond the point of economical resurfacing (lowest lifecycle cost). Existing Hot Mix Asphalt has an average life of 16.5 years in Western Washington. When the last pavement cycle approaches the due date or exceeds the average life cycle, paving with bituminous surface treatment (BST) to extend the life or surfacing with HMA will be necessary.

Structures Condition and Needs:

Preserve transportation infrastructure to achieve the lowest life cycle cost and prevent failure. (This may include ramps and locally owned structures if any exist.)

Structures Management Strategies:

Design the replacement of two bridges and two rail retrofits. The bridge replacement designs are for Mill Creek (MP 0.92 to MP 0.94, C00348B, Bridge #3/2, and AD 3/30/09) and Goldsborough Creek (MP 2.45 to MP 2.46, C00348A, Bridge #3/3, and AD 10/18/10). The bridge replacements are anticipated to be constructed in 2011. The bridge rail retrofits are for Johns Creek (MP 6.59 to MP 6.61, C00316A, Bridge #3/8, and AD 12/04/06) and Sherwood Creek (MP 20.36 to MP 20.39, C00317A, Bridge #3/15, and AD 12/08/08). Future work at Sherwood bridge includes scour repair (year 2010) and seismic retrofit (year 2035).

Additional Condition and Needs:

Preserve transportation infrastructure such as electronic/mechanical systems, major drainage, safety rest area refurbishment, traffic control systems, unstable slopes, weight facilities. A major electrical need identified in 1997 was to replace cabinet and controller, replace wood poles with Type V lighting and strain poles at a pedestrian school crossing (MP 25.43 - Bethel Road).

Additional Management Strategies:

Constructing bottleneck and chokepoint solutions and highway system plan conceptual solutions address unstable slopes by assuming retaining wall costs in the vicinity of the unstable slope (10 feet high for the length of the deficiency).

Improvement

Mobility Condition and Needs:

There are pockets of congestion in the City of Shelton and Community of Belfair. Future development on the existing 2/3 lane facility between Belfair and Gorst will generate significant congestion (SKIA/Airport/NASCAR). The first order of work is likely to be a partnership project in the Belfair Vicinity. Specifically, a two-way left turn lane extension funded by WSDOT and sewer system treatment facility funded by Mason County that is required by the Department of Ecology. The existing 4-lane facility from SR 3/SR 16 Interchange to SR 3/SR 304 Interchange, including interchange deficiencies, is the most congested location in Kitsap County and will be the most expensive to address.

Mobility Management Strategies:

Near term strategies include investments that address system chokepoints. Bottleneck and Chokepoint strategies have been determined to increase mainline speed to be greater than 70% of the posted speed using 2003 traffic volumes. Long term improvements include Highway System Plan strategies that reduce congestion related delay and accidents based upon a 20-year period for mainline segments with congestion index ratios greater than 10 urban and 6 rural. The congestion index ratio is annual average daily traffic volumes divided by one hour peak capacity volumes.

Safety Condition and Needs:

Reduce and prevent deaths and the frequency and severity of disabling injuries, and reduce the societal costs of accidents (Focus on the rate of severity and frequency). This SR 3 Corridor experiences 38% rear end accidents, 24% single vehicle run off the road, 19% T-Bone, 4% mainline head-on, and 15% other. Under 23 United State Code-Section 409, this data cannot be used in

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discovery or as evidence at trial in any action for damages against the WSDOT or the State of Washington. This disclaimer is for all accident data mentioned in this report.

Safety Management Strategies:

Constructing bottleneck and chokepoint solutions and highway system plan conceptual solutions should reduce these kind of accidents. A 30% reduction in all accidents was assumed as a placeholder in the bottleneck and chokepoint solutions. A 2005 safety project, SR 3/Vic. Shelton to Vic. Belfair - Centerline Rumble Strip, will alert motorists and reduce mainline head-on type accidents.

Environmental Condition and Needs:

Reduce impacts by addressing noise reduction, air quality, stormwater, wetland mitigation, chronic environmental deficiencies, and fish barriers. The SR 3 corridor has storm water outfalls, fish barriers, leaking underground storage tanks, and may cover an area with threatened and endangered species.

Environmental Management Strategies:

Stormwater: All projects in this corridor will provide adequate stormwater treatment as outlined in WSDOT's Highway Runoff Manual to achieve compliance with federal and state water quality regulations. Fish passage barriers: Culverts that have been identified as fish passage barriers that will be impacted by the construction of highway projects within this corridor will be corrected. LUST: Suspected contaminated sites will be subject to initial site assessments, preliminary site investigation and/or detailed site investigations as appropriate during project development. Threatened and Endangered Species: Biological assessments will be performed on projects in this corridor to determine the effects on plants and wildlife. Mitigating measures will be suggested where appropriate.

Restrictions:

There are none identified.

50-Year Configuration:

Alternative Conceptual Solutions to the Maximum Fix (New corridors, new alignments, etc.):

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. 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 widening to a full design HSS/NHS multilane divided facility prohibitively expensive. A future pavement type determination for this future scenario could be considered in the Belfair Bypass environmental documentation process (Hot Mix Asphalt versus Portland Cement Concrete Pavement).

Other high cost alternatives include bridging the Sinclair Inlet or developing new westerly corridor loop routes that extend from as far south as SR 16/Burley-Olalla Road to as far north as Chico west of Dyes Inlet. The westerly loop options could intersect with SR 3 in the Sunnyslope Road Vicinity within Kitsap County.

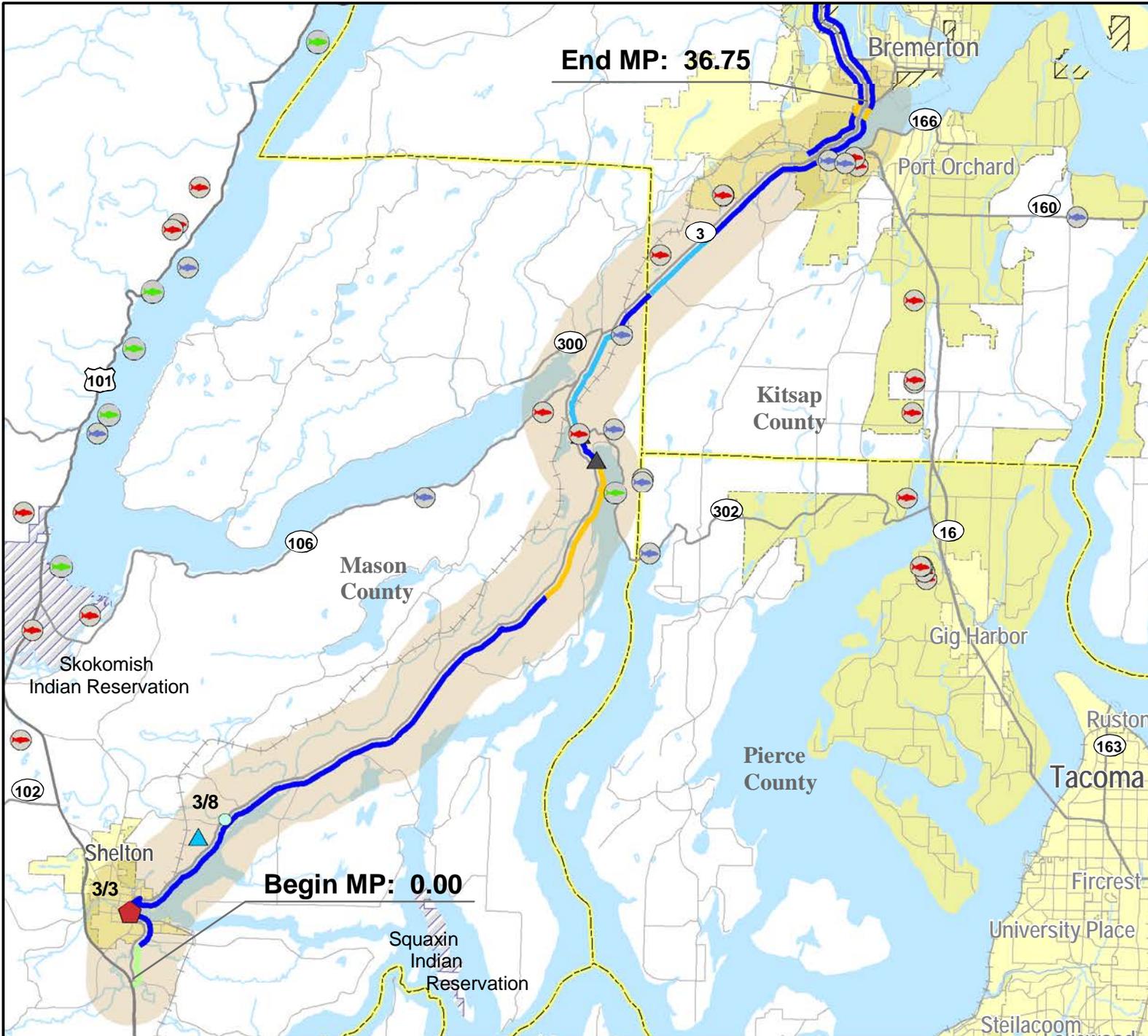
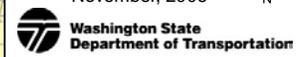
End MP: 36.75

Begin MP: 0.00

HSP Congested Corridor Analysis Needs

- HSP Corridor Location
- Bridge Replacement Priority**
- Replacement
- Seismic
- Special
- Scour
- Painting
- Miscellaneous
- Bridge Deck
- Other Bridge Issues**
- 2 Lane BW Narrow Bridge
- Restricted Bridge
- Posted Bridge
- Vert. Clearance 15.5' Or Less
- Fish Barriers**
- Require Repair
- Little Gain
- Undetermined
- Unstable Slope**
- Debris Flow
- Erosion
- Landslide
- Rockfall
- Settlement
- Paving Due**
- Past Due
- 2005 - 2007
- 2008 - 2009
- 2010 - 2011
- 2012 - 2026
- U.S. Interstate
- U.S. Highway
- State Route
- Local Roads
- Railroad
- Military Reservation
- Tribal Lands
- City Limits
- Urban Area
- County Line

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TIERED PROPOSED SOLUTIONS

Minimum Fix

Description:

2003 Bottleneck and Chokepoint Conceptual Solutions (8 individual solutions):

Provide signal and/or channelization at SR 3/SR 106. Add two-way left turn lane from SR 106 to SR 300. Right-in, possible left-in, and right-out intersection at SR 3/SR 300 intersection. Widen from 2/3 lanes to 4/5 lanes between SR 300 and Mason/Kitsap County Line. Widen from 2 lanes to a divided 4 lane facility between Mason/Kitsap County Line and Lake Flora Rd (assumes Hot Mix Asphalt). Widen from 2/3 lanes to 5 lanes (3 southbound, 2 northbound assuming Hot Mix Asphalt at this time) between Sunnyslope Road Vicinity to SR 16/Gorst Spur. 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. Widen SR 3 SB under the SR 3/SR 304 Interchange, ramp meter SR 304 westbound and extend the westbound on-ramp to SR 3 SB. Develop other "stand alone" Intelligent Transportation Systems between the SR 3/SR 16 Interchange and SR 3/SR 304 Interchanges per Olympic Region ITS Master Plan.

Delay Reduction: None identified.

Collision Reduction: 30%

Deficient Concrete Lane Miles: None identified.

Total Estimate Cost: \$91.357

Cost Estimate Explanation:

The estimated total cost is a roll up of 8 individual cost estimates and their benefits. The B/C (1.156) ratio is based upon that rollup. In this specific roll up present value costs were not used, therefore the B/C ratio is lower than actual since there is residual for structures, right-of-way, etc. An Access cost estimating tool developed by Murshed Delwar, WSDOT was used for cost estimates. Benefits are estimated based on WSDOT Mobility Project Prioritization Process, Benefit/Cost User's Guide, May 2000. Prepared by Dowling Associates, Inc. in conjunction with Kittelson & Associates.

Minimum Fix Benefits:

These projects will increase peak hour speeds above 70% of the posted speed based upon year 2003 traffic volumes. They also address exponential minor leg delays at a stop controlled SR to SR intersection (SR 3/SR 106) and existing signalized intersections with LOS E or F conditions in 2003. 2005 Benefits = 105.574 million dollars for all 2003 bottleneck and chokepoint locations.

Moderate Fix

Description:

Unconstrained 20-Year Washington State Highway System Plan (HSP) Conceptual Solutions (8 individual solutions):

Widen from 2 lanes to a divided 4 lane facility between US 101 and Shelton south city limits. Widen from 2/3 lanes to 4/5 lanes between Shelton south city limits and Railroad Avenue replacing 4 signal systems. Add a northbound passing lane from milepost 5 to milepost 6. Add a southbound passing lane from milepost 6.34 to milepost 7.24 in Johns Creek vicinity. Widen from 2 lanes to a divided 4 lane facility between Mason Lake Road and Pickering Road. Add a northbound climbing lane from milepost 9.08 to milepost 9.96. Add a southbound passing lane from milepost 9.96 to milepost 10.76. Widen lanes and shoulders from Pickering Road to Grapeview Loop Road. Add northbound passing lanes from milepost 14.20 to milepost 14.83 and milepost 18.83 to milepost 19.70 and southbound passing lanes from milepost 14.83 to milepost 15.70 and milepost 19.70 to milepost 20.32. Add a northbound climbing/passing lane from milepost 21.28 to milepost 22.45 with right turn lane into Old SR 302. Add a 2 lane Belfair Bypass (Assumes Hot Mix Asphalt, but a pavement type determination between Hot Mix Asphalt and Portland Cement Concrete Pavement is required), and ultimately a 4 lane Belfair Bypass with interchanges at each end (assumes Hot Mix Asphalt at this time).

Delay Reduction: None identified.

Collisions Reduction: 30%

Deficient Concrete Lane Miles: None identified.

Total Estimate Cost: \$265.183

Cost Estimate Explanation:

The estimated total cost is a roll up of 8 individual cost estimates and their benefits. The Belfair Bypass was not benefited. The B/C ratio (0.56) is based upon that rollup. Present value costs were not used in this specific roll-up, therefore the B/C ratio is

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lower than actual since there is residual for structures, right-of-way, etc. An Access cost estimating tool developed by Murshed Delwar, WSDOT was used for cost estimates. Benefits are estimated based on WSDOT Mobility Project Prioritization Process, Benefit/Cost User's Guide, May 2000. Prepared by Dowling Associates, Inc. in conjunction with Kittelson & Associates.

Moderate Fix Benefits:

These projects reduce congestion delay and accidents in areas that have a Congestion Index (CI) ratio exceeding 10 urban and 6 rural over a 20-year period in the HSP. CI is annual average daily traffic volumes divided by one hour peak capacity volumes. A CI of 10 is roughly LOS D/E and CI of 6 is roughly LOS C/D. 2005 w/o Belfair Bypass: \$188.519 million, with benefits of \$106.155 million.

Maximum Fix

Description:

High Cost or Beyond 20-Year HSP Conceptual Solutions (Urban/Rural Freeways with Interchanges):

Multilane the SR 3 corridor between SR 3/US 101 Interchange and SR 3/SR 16 Interchange creating a 4/5 lane facility. In areas of full or partial access control provide at-grade interchange separations. In the City of Shelton Core Business District a traffic bypass using Pine to 7th to Turner to US 101 is proposed in the town core.

Reconstruct the SR 3/SR 16 Interchange, widening from 4 to 6 to 8 lanes (creating 2 HOV lanes in each direction) between SR 3/SR 16 Interchange and SR 3/SR 304 Interchange (Gorst to Bremerton), and reconstruct the SR 3/SR 304 Interchange will be high cost projects (approximately \$100 million or greater for each project).

Delays Reduction: None identified.

Collisions Reduction: None identified.

Deficient Concrete Lane Miles: None identified.

Total Estimate Cost: High Cost Solutions

Cost Estimate Explanation:

There is no cost estimate because the solutions are high cost (greater than \$100 million) and must be prioritized and funded by means other than benefit to cost.

For example, going from a 2-lane facility to a 4-lane facility in class 2 access management for a rural P1 HSS divided facility will more than double the right-of-way footprint width.

Maximum Fix Benefits:

These high cost improvements reduce congestion delay and accidents over the entire corridor. The Gorst to Bremerton segment (SR 16 to SR 304) is the most congested location in Kitsap County and likely the most expensive to address due to complex interchange needs and terrain. These improvements cannot be programmed or evaluated using conventional benefit cost analyses.

Off-System Solutions:

None identified.

Special Studies/Reports:

Belfair Urban Improvements Project Feasibility Report, March 2005

Supplemental EIS for proposed Belfair UGA plan and regs., June 2004

Belfair Bypass Analysis, May 1997

Bremerton Ferry Terminal to the Vicinity of Gorst FEIS, May 1994

SR 16/SR 3 Corridor Analysis, January 1994

State Route 3: SR 106 to Gorst Design Study, September 1992

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Required Studies

A South Kitsap/East Mason County Subarea Study is proposed for \$1.25 million.

Start/Completion Date of Study:

None identified.

Expected Results

The intent of this unfunded 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. If a NASCAR site is pursued off this corridor the scope of the study may change.

Funded Projects within Corridor Limits

Project No	Title
300348B	SR 3/Jct. US 101 to Mill Creek-Safety
300348A	SR 3/Fairmont Ave. to Goldsborough Cr. Bridge-Safety
300357A	SR 3/Vic Shelton to Vic Belfair-Centerline Rumble Strip
300316B	SR 3/Johns Creek Bridge-Scour
300354A	SR 3/Two Miles South of Allyn to Vic Homestead Dr-Paving
300366A	SR 3/SR 106 South Belfair Signal-Safety
300344C	SR 3/Belfair Bypass-New Alignment
300344D	SR 3/Belfair Area Improvements-Mobility
300352A	SR 3/Imperial Way to Sunnyslope-Paving
300355A	SR 3/Imperial Way to Sunnyslope-Safety
300350A	SR 3/SR 304 Off Ramp to SR 304 On Ramp Vicinity-Paving

Additional Comments:

Legislative funding champions include Senator Sheldon for Belfair Vicinity improvements. When pavement type is being determined for the bypass (PCCP or ACP) consideration for a future SB alignment pavement type between Gorst and Belfair Bypass could be included.

Data Sources and Contacts used:

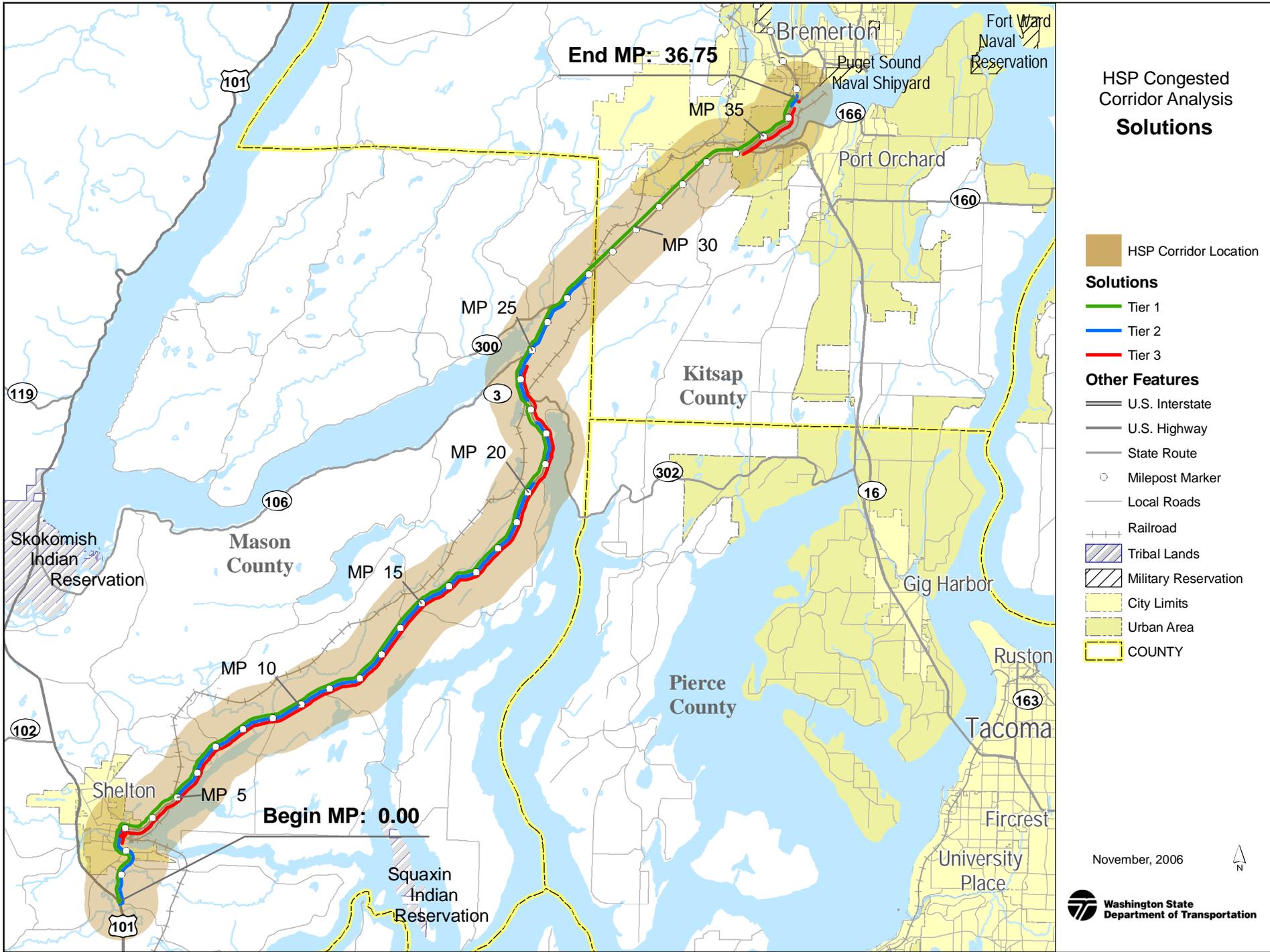
Washington State Highway System Plan: 2003-2022, dated February 2002.

GIS Environmental and Transportation Workbench

Capital Improvement and Preservation Program

Studies from WSDOT Olympic Region Planning Library (internal)

Measures, Markers and Mileposts, Basic Pavement Types and Ratings Summary (The Gray Notebook)



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