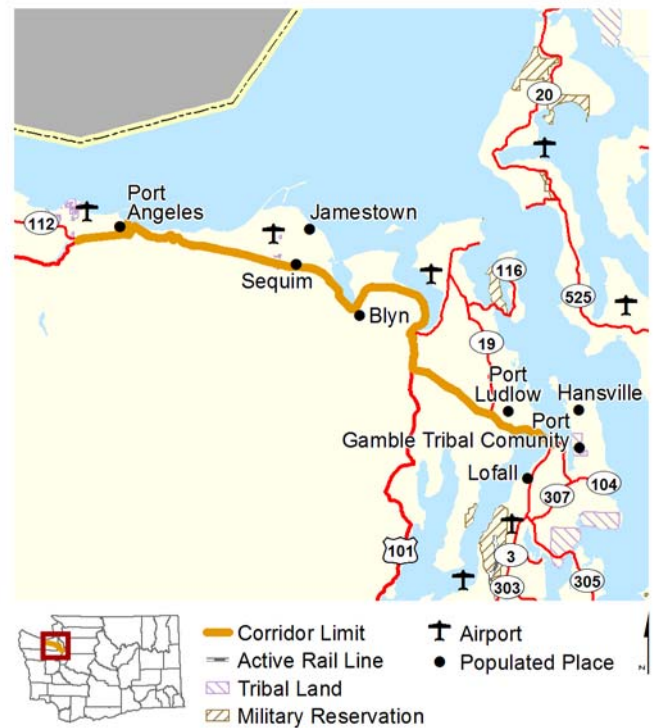


WSDOT's Corridor Sketch Initiative is a collaborative planning process with agency partners to identify performance gaps and select high-level strategies to address them on the 304 corridors statewide. This Corridor Sketch Summary acts as an executive summary for one corridor. Please review the User Guide for Corridor Sketch Summaries prior to using information on this corridor:

US 101/SR 104/SR 117: US 101 Jct at SR 112 to SR 104 Jct at SR 3

This 60-mile long east-west corridor traverses the northeastern edge of the Olympic Peninsula between Port Angeles and the Hood Canal Bridge. The corridor includes segments of three highways; State Route 117 through Port Angeles, US Route 101 between SR 112 just west of Port Angeles and SR 104 near Discovery Bay, the US 101 Port Angeles Couplet, and SR 104 between US 101 and SR 3 at the Hood Canal Bridge. The corridor is primarily rural, with some suburban and urban areas around Sequim and Port Angeles. Land uses in rural areas are primarily agriculture, low-density residential, and undeveloped forestland. The corridor also passes through the Jamestown S’Klallam Reservation at Sequim Bay. In the urban areas land uses become denser and include residential, commercial, and industrial areas including Port Angeles’ central business district. The eastern half of the corridor has rolling hills with open agricultural areas and forests. The western half of the corridor has steeper terrain and dense forests, following the coastline for portions and crossing the Hood Canal to the Kitsap Peninsula.



Current Function

US 101 is a major north-south route along the United States’ west coast between Olympia and Los Angeles, California and is an alternate route to Interstate 5. The US 101/SR 104 corridor is a rural freight and commuter route connecting Port Angeles and Sequim with Kitsap County via the Hood Canal Bridge. The corridor provides a critical east-west link on the northern Olympic Peninsula and access to local communities. Recreational travelers use the corridor to access the Olympic National Park and other natural and scenic resources. Specific sections of the corridor handle large amounts of freight annually. SR 117 serves truck traffic to and from the Port of Port Angeles. The Port also provides passenger service to Victoria, B.C. via a privately-owned ferry. The corridor also serves travelers using the Sequim Valley Airport and William R. Fairchild International Airport. Park and rides are off the corridor and the Jamestown S’Klallam tribe, Clallam and Jefferson Transit provide bus service. The corridor sees significant bicycle use in summer. The Olympic Discovery Trail follows the corridor, providing an important non-motorized facility for Clallam and Jefferson counties.

Future Function

Based on the projected population, land use, and economic trends, the future function of this corridor is expected to remain the same.

Highlights and Performance

US 101 and SR 104 are mainly two-lane, undivided highways in the corridor’s eastern half with climbing lanes and slow vehicle turnouts due to topography. The Hood Canal Bridge, a floating bridge with a retractable section for marine traffic, is on SR 104. On the western half of the corridor, near Port Angeles and Sequim, SR 117 is a two-lane undivided facility and US 101 is a four-lane highway that shifts between divided, undivided, and couplet alignments. The highest traffic is on US 101 in Port Angeles and the lowest is at the SR 117 spur.

What's working well?

- About 88% of the pavements on the corridor are in fair or better condition.
- Freight movement occurs across multiple modes on the corridor: highway, air, railroad, and marine.
- Clallam Transit, Jefferson Transit, and the Jamestown S’Klallam tribe provide service along the corridor.
- There are no chronic environmental deficiencies present.

What needs to change?

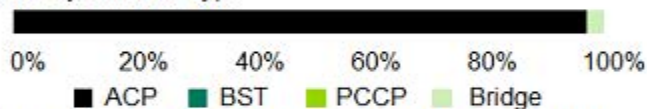
- Roughly 15% of the corridor experiences congestion on a regular basis.
- There are five bridge preservation needs on the corridor including three seismic retrofits.
- There are multiple fish passage barriers present on the corridor.
- Pedestrian facility gaps are present in Port Angeles.

WSDOT monitors the state system in ongoing efforts to track asset performance. For this corridor, WSDOT finds:

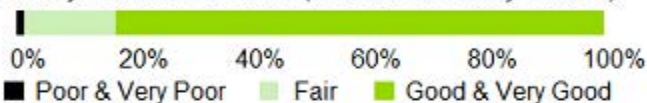
High	Low	
32,865	1,512	Annual Average Daily Traffic (AADT)
34.3%	3.8%	Bus/Truck Percent
163.21		Number of Lane Miles
20		# of Signalized/Stop Controlled Intersections
\$672,650,000		Corridor Investments (2005-2016)

Preservation

Roadway Surface Type



Roadway Surface Condition (Percent of Surveyed Area)

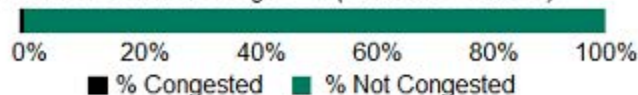


Corridor Bridge Preservation Needs



Mobility

Percent of Corridor Congested (Statewide Screen)



Environment

	Protect	Restore/ Enhance/ Assess
Fish Barriers	23.2% Passable	76.8% to Do
Noise Walls	0% Built	0% Proposed
Chronic Environmental Deficiencies	66.7% Resolved	33.3% Unresolved
Wildlife Connectivity	0 Structures in Place	31 High Priority Miles
Stormwater Treatment	30 BMPs	Retrofit Prioritization in progress
27.0	% of Corridor with high potential for increased Climate Impacts	
2	Wetland Mitigation Locations	
None	Historical Bridges	

1) 2015 data unless otherwise noted. 2) For more information see the User Guide for Corridor Sketch Summaries at <http://bit.ly/WSDOTcorridorsketch>

What we heard from our partners

WSDOT collected feedback from agency partners. Key themes included:

- Concerns over the lack of an alternate route for the Hood Canal Bridge when the bridge is open to marine traffic.
- Interest in improving bicycle and pedestrian facilities and street aesthetics particularly in urban areas like Port Angeles to accommodate expected increases due to the development of the Olympic Discovery Trail.
- Multiple partners expressed concerns about truck access issues and intersection control within the city of Port Angeles and near two quarries located along the corridor.
- A strong emphasis on the importance of the corridor for economic vitality and development in the area.
- Concerns over adequate facilities for transit users along the corridor.
- Concerns about shoulder width particularly on US 101 between the Jamestown S’Klallam reservation and SR 104.
- Some interchanges have geometric alignments which cause turning issues for traffic.

Strategies

WSDOT identified the following strategies and associated actions to keep the corridor working well and address performance gaps. Regional partners collaborated on high-level mobility strategies. The identified strategies are not meant to be all-inclusive, nor an established list of priorities. Further evaluation is needed before any strategy can be recommended as a solution to address performance. Project funding decisions will take place at the programming phase, and are subject to statewide prioritization. For more strategy information, visit the Corridor Sketch Summary User Guide.

Policy Goals / Strategies Description and Near-Term Actions

Economic Vitality

Under Development	<i>WSDOT will continue to work with partners in developing strategies to address economic vitality.</i>
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Environment

Protect and Maintain	<i>Protect and maintain existing assets that provide environmental function (these include WSDOT's mitigation sites, storm water systems, fish passable culverts).</i>
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Enhance or Restore	<i>Enhance or restore natural areas and environmental functions associated with the multimodal transportation system.</i>
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Fish Barrier Retrofit	<i>WSDOT has prioritized the removal of state-owned culverts that block habitat for salmon and steelhead. See interactive map of uncorrected fish barriers at http://www.wsdot.wa.gov/Projects/FishPassage/default.htm.</i>
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Mobility

Assessment	<i>Further information about the proposed strategies can be found attached at the end of this document.</i>
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Preservation

Maintenance	<i>Based on expenditure history, it is expected that the top three activities will continue to be maintenance on snow and ice control, pavement repair, and vegetation control.</i>
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Pavement	<i>WSDOT has identified four Pavement actions in the next six years encompassing 100% of the corridor.</i>
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Structures	<i>WSDOT has identified four Structures actions in the next six years encompassing 7% of the corridor.</i>
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Safety

Investment	<i>WSDOT has identified seven Safety Investment actions in the next six years encompassing 100% of the corridor.</i>
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Stewardship

Planning	<i>Under Practical Solutions, the Corridor Sketch Initiative identifies corridor performance, and assesses alternative strategies to improve the quality, effectiveness, and efficiency of the transportation system.</i>
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This 0.1-mile segment of US 101 is located on the western shore of Discovery Bay about 15 miles east of Sequim. The segment is part of the critical east-west link across the Olympic Peninsula's north end.

Congestion occurs during peak travel periods with both freight and commuters on steep vertical grades. There was one hour of weekday congestion and four hours of weekend congestion in 2015 in the northbound direction on this segment.

Mobility Strategies:

Operational Improvements

- Use advance notice sign to notify users of pullout to reduce queuing behind slow vehicles.

Further Study

- Examine possibilities for moving non-motorized traffic off the corridor between Blyn and SR 20 (Olympic Discovery Trail).
- Develop further options to reduce queuing behind slow vehicles and general congestion.

Acceptance

- WSDOT has determined that this segment's current performance is acceptable on US 101 mainline.

Corridor Segment Characteristics

- US 101 is a rural two lane facility on this segment with a posted speed of 55 mph.
- There is a slow vehicle turnout in the southbound direction on this segment.
- The Freight and Goods Transportation designation was T-2 with approximately 4,700,000 in annual tonnage and 1,100 daily trucks (6.9%) in 2015.
- The average daily traffic was around 13,000 vehicles in 2016 with 8% truck traffic at a nearby permanent traffic counter.

Contributing Factors

- The northbound direction on US 101 is downhill on a steep vertical grade creating issues for trucks.



This segment of US 101 spans between the city of Sequim and the Clallam/Jefferson County Line passing through Sequim Bay State Park and the Blyn community in the Jamestown S’Klallam Reservation.

This segment of the corridor has high mainline volumes traveling in a westbound direction during weekends. There was typically four hours of weekend congestion in the westbound direction in 2015.

Mobility Strategies:

Operational Improvements

- Lower the speed limit between Happy Valley Road and Palo Alto Road (the vertical grade between the two intersections may limit sight distance).
- Add advance warning signage for vertical curves near Happy Valley Road and Palo Alto Road.
- Relocate signage to allow for better sight distance on US 101 at Whitefeather Way.
- Add signage for Corriea Road in Blyn to improve way finding.

Demand Management

- Improve transit stop at Whitefeather Way to reduce single occupancy trips. The nearby Johnson Creek Fish Barrier project between Happy Valley Road and Whitefeather Way could improve geometrics for transit stop.

Further Study

- Study methods to further improve sight distances and decrease congestion between Palo Alto Road and Whitefeather Way.
- Develop options for traffic improvements between Happy Valley Road and Palo Alto Road.
- Research options for improving operations and traffic flow at the Simdars Road interchange (westbound on and eastbound off ramps).
- Re-evaluate options to reduce congestion in the vicinity of Sequim that WSDOT developed in the US 101 O-Brien Road to Palo Alto Road Final Environmental Impact Statement using a Practical Solutions Framework.
- Evaluate options for reducing congestion at intersections such as Louella Road in Sequim Bay State Park.

Corridor Segment Characteristics

- This segment of US 101 is a rural, two-lane facility that runs through rolling terrain with 45 mph and 55 mph posted speeds (45 mph in Blyn community).
- The Jamestown S’Klallam Tribal government, reservation, and 7 Cedars Casino are located in Blyn.
- The Freight and Goods Transportation System designation on this segment was T-2 with 4,700,000 in annual tonnage and 1,100 daily trucks (6.9%) in 2015.
- The average daily traffic on this segment ranged from 17,000 vehicles near Simdars Road to 13,000 vehicles near the Clallam/Jefferson County Line.

Contributing Factors

- High recreational traffic volumes during weekends with no climbing/passing lanes available for slower moving vehicles such as trucks and recreational vehicles slows down traffic.



This segment of US 101 is an urban freight and commuter route in the Carlsborg Urban Growth Area. The Carlsborg Village Center includes an industrial and commercial core, higher residential densities, and other urban services and facilities.

This segment experiences high weekend mainline traffic which travels through one existing signal. There were six hours of weekend-only eastbound congestion in 2015.

Mobility Strategies: Operational Improvement

- Advance notice/signs for traffic light changes to improve efficiency.
- Install motorcycle detection at US 101/Carlsborg-Hooker Road to improve efficiency.

Demand Management

- Improve sidewalks within Carlsborg Urban Growth Boundary for pedestrian use to reduce local vehicle trips on the segment.
- Install wayfinding signage to Olympic Discovery Trail for non-motorized users to encourage use by improving navigation and understanding of the area.

Policy Change

- Develop a sidewalk policy in the Carlsborg Urban Growth Area to encourage continuous sidewalks instead of creating gaps with new development.
- Evaluate options for improving pedestrian connectivity across US 101 near Mill Road and Parkwood Boulevard to encourage pedestrian use.

Further Study

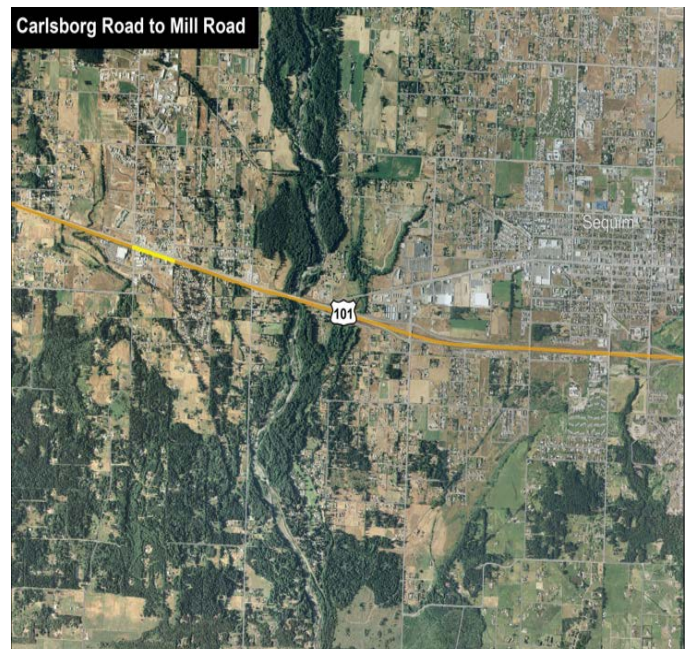
- Study connection options between Carlsborg Road/Hooker Road and Taylor Cutoff Road/Gilbert Road for local access.
- Look into options for accommodating slower vehicles on the north side of US 101 in the westbound direction to reduce queuing.
- Develop options to improve efficiency at Parkwood Blvd-Mill Road.
- Study options to reduce congestion at US 101/Carlsborg-Hooker Road.

Corridor Segment Characteristics

- This section of US 101 is a divided, four-lane facility with 45 mph posted speed in rolling terrain.
- Carlsborg was designated an Urban Growth Area in 2000 with its commercial and industrial zoning primarily on the north side of US 101 along Carlsborg Road.
- Greywolf Elementary School is located in the northwest quadrant of the Carlsborg Road/Hooker Road intersection.
- This segment's Freight and Goods Transportation System designation was T-2 with 4,700,000 annual tonnage and 1,100 daily trucks (6.9%) in 2015.
- The average daily traffic on this segment ranged between 20,000 and 26,000 vehicles in 2016.

Contributing Factors

- There is one existing signal at Carlsborg Road/Hooker Road intersection which reduces mainline capacity within this segment.



SR 104 is a critical east-west link between Jefferson County and Kitsap County and provides a gateway to the Olympic Peninsula's natural and scenic resources. This segment includes the Hood Canal Floating Bridge. The Hood Canal Bridge is a critical marine highway for the U.S. Navy and private vessels.

This segment of the corridor experiences mainline delay and there is existing congestion all week (both weekday and weekend) for up to 15 hours. The segment includes a stop-controlled intersection at Paradise Bay-Shine Road Intersection which is failing during bridge openings.

Mobility Strategies: Operational Improvements

- Move posted speed signs further uphill to slow traffic further from potential queues.

Policy Change

- Implement signal activated access by transit only at Paradise Bay-Shine Road intersection to increase transit throughput and ridership.
- Direct traffic from Paradise-Bay-Shine Road when Hood Canal Bridge is open to allow access.

Further Study

- Look into intersection control options at Paradise Bay-Shine Road to improve mobility and safety.
- Study options for eastbound storage of vehicles waiting to cross during bridge openings.
- Re-evaluate options for reducing delay at the existing SR 3/SR 104 jug handle flyover ramp signal identified in the SR 3 Route Development Plan (dated April 2005) using a Practical Solutions framework.
- Consider options at Paradise Bay-Shine Road intersection to improve merging.
- Study options to reduce delay.

Corridor Segment Characteristics

- SR 104 is typically a two-lane facility in level terrain with 40 mph posted speeds over the Hood Canal Floating Bridge which is 40 feet wide with 12 foot travel lanes and 8 foot shoulders. Segment shoulders are effective for bicycles.
- The permanent traffic recorder on this segment indicates the average daily traffic over the bridge was 18,000 vehicles with 6% trucks in 2016.
- The Freight and Goods Transportation designation on this segment was T-2 with 5,960,000 in annual tonnage and 1,200 average annual daily truck volumes in 2015.
- The Hood Canal Bridge on the corridor is a floating bridge with a retractable section that opens for marine traffic or severe wind events.

Contributing Factors

- The length of time it takes to open and close the Hood Canal Bridge for a marine opening can vary from about 10 to 45 minutes which delays traffic across the bridge.
- The Hood Canal Bridge will typically close to vehicle traffic during storms involving wind speeds of 40 mph that are sustained for 15 minutes or longer to relieve pressure on the bridge structure. This delays traffic across the bridge.
- The segment is experiencing increasing traffic volumes and the opening and closing of the Hood Canal Bridge for marine traffic results in congestion.



This section of US 101 is an urban freight and commuter route. The segment travels through the Central Business District of the city of Port Angeles.

This segment includes high mainline traffic traveling through 14 signal systems. A prior traffic analysis indicated mainline through volumes at signals within the city of Port Angeles incorporation limits to be congested. The Port Angeles Urban Growth Area to the east is also congested during both the weekday and weekend.

Mobility Strategies:

Operational Improvements

- Add pedestrian actuated crossings (rapid flashing instead of painted crosswalks) along S Lincoln Street in order to improve pedestrian facilities and encourage non-motorized use.
- Reduce speed to improve traffic flow.

Demand Management

- Install a transit turnaround near Walmart (E Kolonels Way to N Masters Road Vicinity) in order to improve transit operations.

Further Study

- Study separation of regional and local traffic (Local cross-town route with West end near Dry Creek/S Reddick Road and East end near Traylor's-Walmart/E Kolonels Way) to reduce congestion.
- Look into options to help improve economic vitality on US 101 along E 1st Street in Port Angeles.
- Develop options at Golf Course Road to encourage pedestrian use.
- Look into intersection control options to improve efficiency at S Lincoln/E Lauridsen Blvd and US 101/Ennis Street.
- Evaluate options to reduce congestion between Delguzzi and Golf Course intersections.

Corridor Segment Characteristics

- US 101 entering into Port Angeles to the couplet is typically a two or three-lane facility with a center two-way left turn lane. The one way E 1st Street is typically two lanes with on street parking on the right side. US 101 in the Urban Growth Area is typically a five-lane facility with a center two-way left turn lane and curb, gutter, and sidewalk.
- The William R Fairchild International Airport and Port of Port Angeles are located on the west side of Port Angeles.
- There is a private ferry in Port Angeles (Blackball Ferry Line) that connects to Victoria, B.C.
- N Race Street provides a connection to the Hurricane Ridge Visitor Center, a popular tourist destination in Olympic National Park.
- The Freight and Goods Transportation designation on this segment ranges from T-3 to T-2. The T-3 segment runs from SR 117 to 1st Street/Lincoln Street and T-2 runs for the remainder of the segment. The T-2 segment, including the one way mainline and five lane Urban Growth Area, ranges from an annual tonnage of 4,100,000 to 4,700,000 pounds and 1,100 to 1,300 trucks daily (4.0% to 6.9%) in 2015.
- The average daily traffic along the one way E 1st Street ranged from 10,000 to 13,000 vehicles and within the Urban Growth Area volumes ranged from 26,000 to 33,000 vehicles in 2015.

Contributing Factors

- There are 14 existing signal systems within this segment which reduce mainline capacity.



The US 101 Port Angeles Couplet (E Front Street) is an urban freight and commuter route within the city.

E Front Street connects into W Front Street and Marine Drive to provide access into the Port of Port Angeles.

This segment of the corridor includes high mainline traffic volumes traveling through five existing signal systems. A prior traffic analysis indicated mainline through volumes at the signals to be congested.

Mobility Strategies:

Operational Improvements

- Adjust pedestrian signal timing at N Lincoln Street/ E Front Street and Lincoln Street/E 1st Street intersections to improve pedestrian connectivity (lead with pedestrian timing and provide clear crossing signage).
- Update signal timing after getting new counts (city of Port Angeles does timing for WSDOT).

Demand Management

- Create consistent or uniform sidewalks for non-motorized users to encourage use.
- Develop wayfinding signage to Olympic Discovery Trail for non-motorized and ferry users to encourage use.

Policy Change

- Look into route jurisdiction transfer to designate SR 117 and Marine Drive as US 101 and transfer existing US 101 along S Lincoln Street and W Lauridsen Boulevard to Port Angeles or designate it as a spur.

Further Study

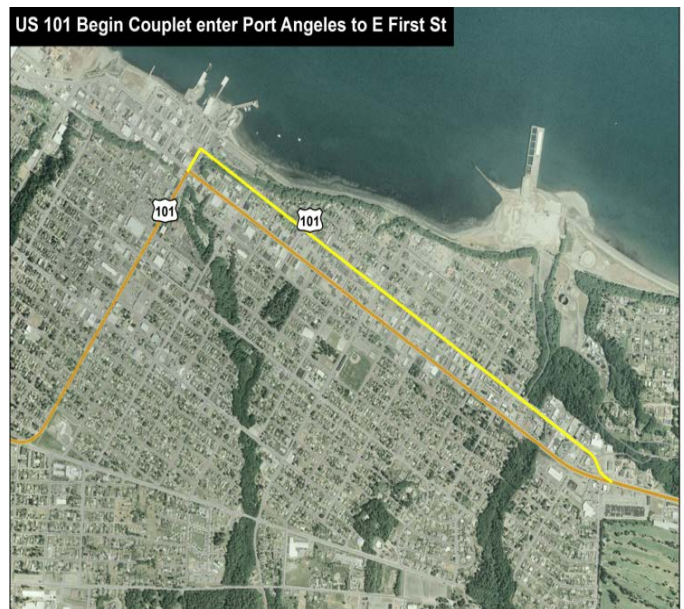
- Develop options to promote bicycle use along this segment of the corridor.
- Develop options to improve accessibility and alleviate congestion for freight, local and, thru traffic through downtown Port Angeles.

Corridor Segment Characteristics

- The US 101 Port Angeles Couplet is an urban facility with two one way direction lanes, plus typical on-street shoulder parking on the right side, and a posted speed of 35 mph in rolling terrain.
- There is a private ferry in Port Angeles (Blackball Ferry Line) that connects to Victoria, B.C.
- N Race Street provides a connection to the Hurricane Ridge Visitor Center, a popular tourist destination in Olympic National Park.
- The Freight and Goods Transportation designation for the segment was T-2 with approximately 4,100,000 in annual tonnage and 1,300 daily trucks (5.1%) in 2015.
- The average daily traffic between Golf Course Road and N Lincoln Street couplet ranged from 19,000 to 13,000 vehicles in 2016.

Contributing Factors

- There are five existing signal systems within this segment which reduce mainline capacity.



For more information

To find out more information about this corridor or how to get involved, please contact:

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Washington State Department of Transportation's Corridor Sketch Initiative is a set of planning activities that engage our partners to define the context and performance information for all of the state's 304 highway corridors. The Corridor Sketch complements and supports regional planning processes in Washington. It is not intended to duplicate, substitute or compete with other planning efforts; nor is it intended to generate lists of projects.

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