



**Washington State
Department of Transportation**



SR 20/Sharpes Corner Vicinity & Miller-Gibraltar Road Intersection Improvements

Application to the 2013 TIGER Discretionary Grants Program

Submitted to:

U.S. Department of Transportation
TIGER Discretionary Grants Program
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Executive Summary

The SR 20/Sharpes Corner Vicinity & Miller-Gibraltar Road Intersection Improvements project builds two roundabouts, improves the highway on this 1 mile stretch with an added slow moving vehicle climbing lane and shoulder, adds a separated bicycle and pedestrian trail, and improves traffic management technology, storm water treatment, and flood protection.

This project is the last phase of a \$170 million, 12 project programmed corridor investment developed to improve access, safety and efficiency of this corridor – better connecting Whidbey Island and western Skagit County to the Interstate 5 corridor.

This project is the missing link and a vital component of the corridor. It is critical to addressing a bottleneck that constrains the flow of traffic and increases the risk of collisions at a signalized T-intersection which funnels 40,000 trips between the city of Anacortes and points beyond (via the ferry system) to the west, and Whidbey Island to the south.



Exhibit 1: SR 20 Sharpes Corner – Location Critical to NAS Whidbey, Ferries, and Industry

This project will:

- Improve traffic flow and safety for residents, vital local industry, Naval Air Station Whidbey and tourists
- Improve bicycle and pedestrian access to the trail system and park and ride
- Install Intelligent Transportation Systems (ITS) equipment for better traffic management
- Install storm water treatment in an environmentally sensitive area
- Reduce travel delays and emissions by upgrading intersections with roundabouts
- Reduce maintenance cost, and flood hazard
- Support economic development and livability

State Route 20 is the only road access to Whidbey Island, serving over 56,000 residents and the Naval Air Station Whidbey Island (NAS Whidbey). Anacortes is home to 15,000 residents, two major oil refineries and a ferry terminal that is the connection to the San Juan Islands and Sidney, British Columbia.

This highway is the connecting point for these communities and serves the strategically located Naval Base and multiple large industries. This project will have a significant impact on the long-term, growing economic development in this region, as well as on national interests in increasing the competitive production of domestic fuel supplies, marine exports, and access to a growing Naval Base.

Development of the project began in 2005, is currently at 30% design, and has state funds to complete design, right of way acquisition, and some construction. **This design-build project will be ready to obligate TIGER funds necessary to release the Request for Proposals in May of 2014, and will be open for use in the fall of 2016.**

I. Project Description

This project replaces the State Route 20/ Sharpes Corner signal-controlled intersection with a two-lane roundabout. The intersection is the gateway to the city of Anacortes (to the west) and the only road connection to Whidbey Island (to the south). This highway connects these communities to Skagit County and eventually the Interstate-5 corridor. The Sharpes Corner intersection is the busiest in Skagit, Island, and San Juan Counties with an intersection approach volume of 40,000 vehicles and serving almost 2,000 trucks trips a day.

To enhance the performance of the Sharpes Corner roundabout, this project also builds a roundabout ½ mile to the south and improves the roadway between the two roundabouts by adding a slow vehicle climbing lane.

Additional improvements include a new ½ mile long bicycle/pedestrian trail which connects the Sharpes Corner intersection to a trail system and a park and ride, storm water treatment, access management, ITS improvements, and enhanced transit stops.



Exhibit 2: Sharpes Corner Vicinity Map

This project has been in development since 2005 and is the last of a massive \$170 million programed WSDOT investment made since 2007 to support development and safety within the corridor. WSDOT has worked closely with our partners to develop a proposal that improves intersection operations at peak travel times and addresses regional needs like accommodating oversized loads. We have two expanding petroleum refineries and industrial areas, a growing Naval Base, large cargo shipments, and modal options that need to be addressed. Many ideas have been proposed, and vetted with the public and Value Engineering teams. Based on this feedback WSDOT has selected the improvement that best meets these needs, which consists of a two roundabout system. It is of regional and national importance that this STRAHNET¹, and NHS highway supports the Naval Air Station Whidbey Island and other Whidbey Island interests since it is the only land-based road access to the island. It is also important to the expanding marine industry in Anacortes, two adjacent refineries, travelers using this highway connection to access the San Juan Islands and international connection to Sydney B.C.

¹ Strategic Highway Network (STRAHNET) This network of highways which are important to the US strategic defense policy and which provide defense access, continuity and emergency capabilities for defense purposes. These highways provide access between major military installations. The base purchases a variety of good and services from in-state vendors, and they generate a significant economic impact throughout the state. The proportion of all the activities dependent on military bases in Island County was reported to be over 88%, this represents military total impacts as a percent of wage and salary disbursements – as identified by the Washington Office of Financial Management, Economic Impacts of the Military bases in Washington, July 2004.

Users Served

- Naval base, 10,000 employees- represents 88% of Island County economy
- Whidbey Island, Anacortes, and San Juan residents
- Freight- over 2,000 trucks a day
- San Juan and B.C. Ferry usage, 1.78 million trips a year
- Two petroleum refineries, largest employers and tax payers in Skagit County
- Marine industry, multi-million dollar contracts awarded for large scale production
- Seafood industry, Trident Seafood's & Seabear, Native Catch
- Swinomish & Samish Tribes
- Tourism in Skagit, Island and San Juan counties
- Growing urban centers and connections to employment centers
- Commuters, including cyclists and pedestrians
- Active/growing transit route
- Access to significant national, state and county historic sites, monuments, parks, and reserves

Summary information

This project dramatically improves safety, modal access and relieves congestion on this outdated section of state highway that supports Skagit County, San Juan and Whidbey Island, and the ferry system for San Juan County and Sidney B.C. It will eliminate a bottleneck that creates long traffic backups in an area with growing freight and traveler needs. The intersection improvements will provide greater access to growing commercial/ industrial areas adjacent to it and safer linkages to these communities.

Specific Improvements

This project builds a two-lane roundabout at Sharpes Corner (currently a signal controlled "T" intersection at the junction of SR 20 and SR 20 Spur), that includes a bypass lane for traffic heading west to Anacortes. Heading south of Sharpes Corner on SR 20 towards Whidbey Island, the shoulder will be converted to second travel lane, to accommodate slow moving vehicles, with a dedicated 4 foot shoulder for cyclists and pedestrians and then merge back into a roundabout at the Miller and Gibraltar Road intersection. This roundabout will enhance the performance of the roundabout at Sharpes Corner by improving traffic flow at this nearby intersection and improving nearby access to businesses and a school. (See Exhibits 3 & 4)

A new 12 foot multi-use trail is also planned so this project can connect to the previously developed Tommy-Thompson (bicycle/pedestrian) Trail with a safe crossing at the SR 20 Marches Point intersection. The project develops a right-in right-out access control that utilizes the dual roundabout system and new city road to provide safe access to the highway from the adjacent developing light industrial center. The city was required to develop their road network to accommodate this access management strategy, which will further improve safety, take local trips off the state highway and relieve congestion. The project also includes two enhanced transit stops to link to the existing 133-space park and ride, and trail system to serve the non-motorized travelers.

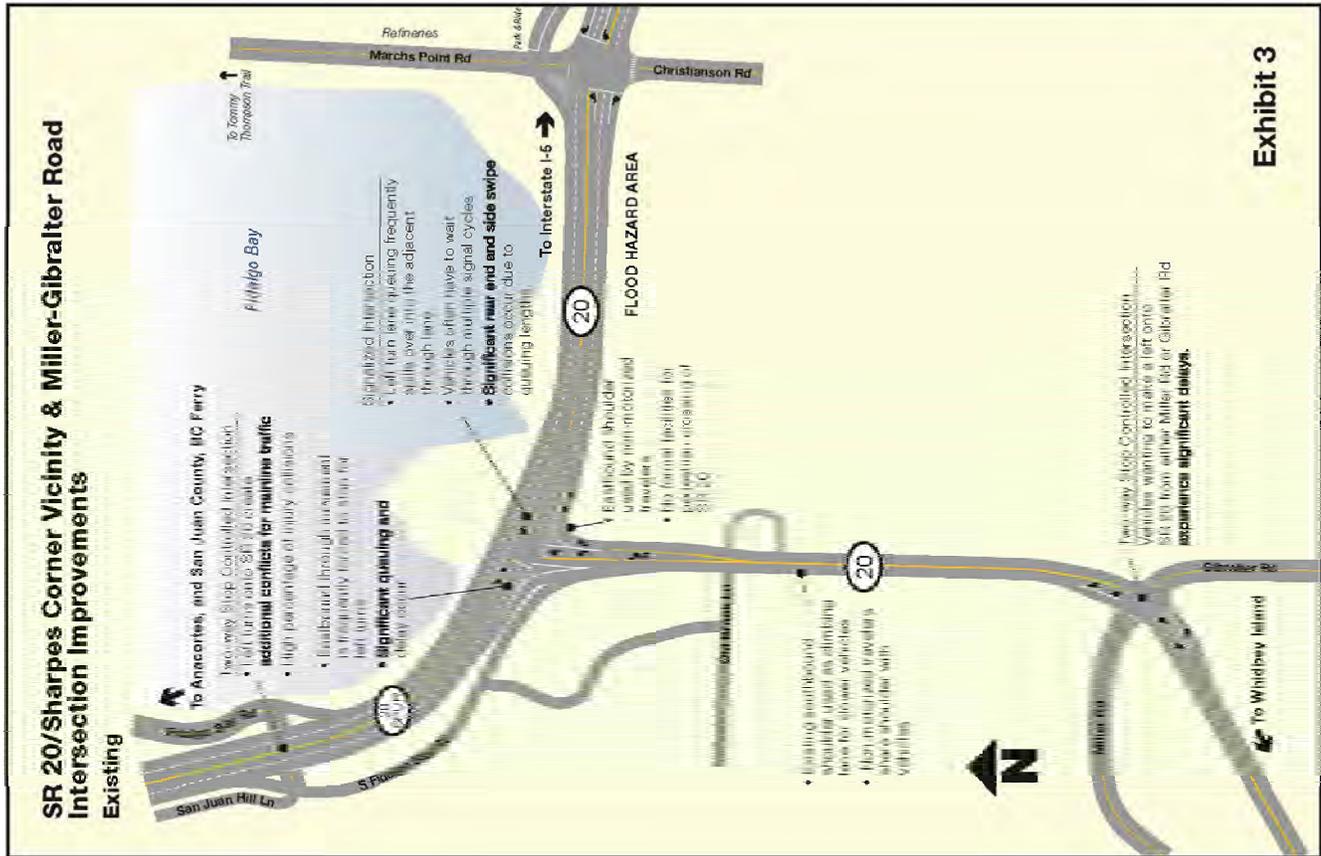


Exhibit 3

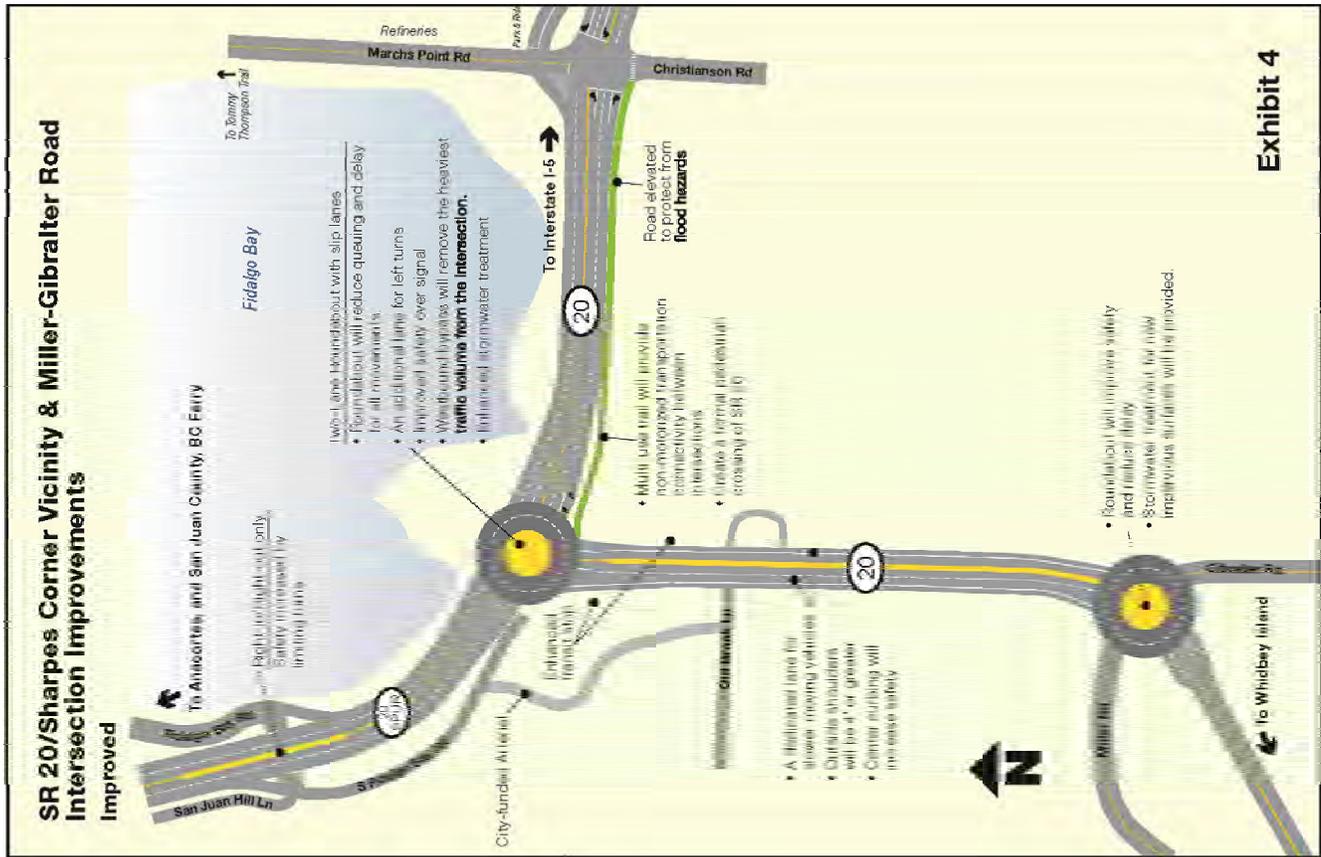


Exhibit 4

Finish what you start

WSDOT established a programmed investment of over \$170 million on this corridor since 2007 for prioritized safety and capacity improvements. WSDOT programmed 12 projects and has completed the other 11. This request is to fund the construction of the last programmed project. PE and ROW are funded and WSDOT needs \$13 million to complete the construction of the intersection improvement. This project has tremendous regional support and will meet the schedule established by the TIGER criteria, as well as program goals.

Problem

This section of SR 20/ SR 20 Spur consists of a 55 mph divided multilane busy highway with 3 intersections that support developing industrial properties nearby. The combination of high speed at grade intersections, and multiple access points increase the risk of collisions and traffic delay. At Sharpes Corner the heavy volumes of traffic heading to Whidbey Island results in long signal delays and queues extending back beyond the left-turn storage lane blocking 55 mph westbound through lanes. Long vehicle delays at the intersections at SR 20 Spur/Old Fidalgo Bay Rd. and at SR 20/Miller-Gibraltar have resulted in long waits and collisions.

The project will relieve congestion and reduce collisions

Roundabouts have been proven to improve safety and reduce the number, severity and risk of collisions and would work well to relieve congestion and queues at these intersections. Additionally, they will improve mobility by increasing the capacity of the intersections, better serving the growing demand. This project will improve the connection to two refinery facilities, a military base and support the city's development of 150 industrial acres adjacent to SR 20. This project expands the capacity of the existing intersections by adding roundabouts, a bypass lane and dedicated slow-moving-vehicle climbing lane, creating a bicycle/ pedestrian trail and will bring the highway up to current design standards.

Location (See Exhibit 2)

SR 20 serves as the only road connecting mainland Skagit County with Whidbey Island. It is the only highway serving Anacortes and ferry travel to San Juan County and Sidney, B.C, and Coupeville-Port Townsend. The Sharpes Corner "T" Intersection serves as the gateway to Whidbey Island to the south, and Anacortes, and San Juan Islands and B.C. to the west. The project is located within the city limits of Anacortes. It is also on the Cascade Loop Scenic Byway- leading to a segment of that system called the Whidbey Island Scenic Isleway. This is a well-traveled tourist destination. Sharpes Corner is 12 miles from I-5, at which point the Canadian Border is 46 miles to the north, and Seattle is 65 miles to the south.

Objectives

Our objective is to increase capacity and address long-term safety, congestion and freight needs at the busiest intersection in Skagit, Island, and San Juan counties. This intersection is a significant bottleneck affecting an economy that is dependent on manufacturing, transportation and distribution that serve a broader regional and global market.

Features and benefits (See Exhibit 4)

This project removes a key bottleneck and reduces wait times and allows more throughput of both passenger traffic and freight. Specifically, this project:

- Builds a two-lane roundabout with slip lanes, that will increase capacity and improve safety at Sharpes Corner
- Adds a dedicated lane for slower moving vehicles to reduce wait times and reduce conflicts with bicycles and pedestrians using the shoulder heading south on SR 20
- Builds a roundabout at the SR 20/Miller/ Gibraltar intersection that will better allow vehicles and a nearby school’s buses to get on and off the highway
- Adds a bicycle and pedestrian trail connection
- Expands/enhances existing Advanced Traveler Information System (ATIS)/Intelligent Transportation System (ITS) to inform travelers about traffic conditions to provide real-time driver information
- Adds storm water treatment systems to improve water quality near the sensitive water eco-system of Puget Sound
- Elevates the roadway at Sharpes Corner which will protect it from future flood hazards
- Incorporates access modifications to improve safety in a high-speed section of highway

Results

The project will provide more capacity, realize more throughput, reduce the risk of collisions, make more information available for travelers and emergency responders, reduce energy consumption, and improve the environment. Improved freight access will reduce shipping costs and travel times for U.S. exports and domestic deliveries. The roundabout will also make better use of infrastructure we previously built by finishing the last segment of this corridor that requires an upgrade to support the highway system.

Estimated cost

Current project-cost estimates are based on approximately 30% design complete, in Exhibit 5.

Exhibit 5: Project Cost Estimate by Phase

Project phase	Total cost	State secured funds	TIGER request
Construction	\$16,724,565	\$3,724,565	\$13,000,000
Right of way	\$2,884,609	\$2,884,609	
Preliminary engineering	\$924,000	\$924,000	
Total	\$20,533,174	\$7,533,174	\$13,000,000

A comprehensive scoping study in 2005 reviewed six design options to improve this area. This was followed by a 2007 Value Engineering (VE) study that looked at how best to address issues at the Sharpes Corner and Miller/ Gibraltar intersections, and improve bicycle/pedestrian mobility. The VE study concluded that a modified roundabout would be the best solution, and after community meetings, this design had the support of elected officials, drivers and residents. The project was shelved in 2009 when the Legislature delayed its funding indefinitely. In 2012 the legislature re-appropriated funds to move the project forward, but it still needs \$13 million to complete.



Why are these intersections important?

The Sharpes Corner intersection is essentially the “fork in the road” between two significant areas of regional importance. On average, more than 40,000 vehicles pass through the Sharpes Corner intersection every day creating heavy traffic congestion. Backups can be severe on all legs of the intersection, but especially for traffic turning south towards Whidbey Island, where it often backs up beyond the turn lane; leaving vehicles stopped on the 55 mph highway, substantially increasing the risk of severe rear-end collisions.

To the south, SR 20 is the only land-based access to Whidbey Island with over 58,000 residents, Naval Air Station Whidbey Island (NAS Whidbey) five state parks, and Ebey’s Landing National Historic Reserve. To the west, SR 20 Spur is the primary access to Anacortes, with over 15,000 residents, a vibrant nationally and internationally renowned marine industry, and seafood processing facilities, as well as ferry service to the San Juan Islands and Vancouver, B.C. and Coupeville-Port Townsend linking to Jefferson County and the Olympic Peninsula. San Juan County has a population of over 14,000, with the use of ferry access, totaling over 1.7 million trips a year. This area serves the residents as well as the tourist industries, supporting the visitors accessing this beautiful and profoundly scenic portion of Washington. It also provides access to the newly designated San Juan Island National Monument, and National Historic Landmark, American, English Camps, San Juan Island as well as 16 state parks, and several county parks. As a consequence, this intersection is vital link to significant areas of regional and international importance.

What will the project do?

When construction is complete, the improved intersections will have better traffic flow and will reduce the frequency and severity of collisions. The highway will be ready to serve the current and future economic needs of this region.

Project Benefits (See project matrix table Appendix C-1)

This project includes the improvement of three intersections.

- **Safety:** These improvements will reduce collisions common at the congested and high-speed Sharpes Corner signal controlled intersection, especially rear-end and side-swipe collisions. It will also eliminate collisions attributed to left-turns on and off the highway, making the roadway safer for drivers. Bicycle and pedestrian improvements will increase safety and provide better route options through the area. ITS improvements will provide important travel information for drivers and emergency responders.
- **Improve traffic flow:** Drivers will see increases in roadway capacity and traffic flow. This means shorter drive times and less time sitting in traffic.
- **Environment:** We will improve storm water culverts and install new water treatment facilities to meet current state and federal environmental standards. Roundabouts reduce electricity usage and will help reduce fuel consumption by reducing wait times.

Current Economy

Exhibit 6 reflects the regions impacted by and are provided access through this intersection. The population, income and poverty level as compared to the state are high, but there is an opportunity to improve these figures because this area has some unique locational advantages that allow for growth in strategic industries if proper transportation systems are in place to help them remain competitive.

Exhibit 6: Regions Impacted

	Population	Median household income	Per capita income	Persons below poverty level	Unemployment rate*
Skagit	118,222	\$55,555	\$27,447	12%	9.20%
Island	79,177	\$59,328	\$30,352	8.30%	8.30%
San Juan	15,824	\$51,395	\$36,453	11.10%	7.50%
State	6,897,012	\$58,890	\$30,481	12.50%	7.50%

Impacts to local economy

Agriculture, fishing, wood products, tourism, international trade, specialized manufacturing and retail make up the economy of the Skagit Valley. With its accessible ports and refineries, Skagit County is also the center of the state's petroleum industry.² Mobility and safety through this section of highway is vital to the local and regional economy. With future growth and development, regional travelers, workers and freight will encounter longer periods of congestion throughout each day, posing significant challenges to these outdated intersections, and in a broader view, significant negative impacts on the local and regional economy.

Washington made products depend on the SR 20/ Sharpes Corner Intersection

The economy influences this region's need for improved transportation infrastructure. Each of the users has different needs that have led us to propose the project. Major influences include NAS Whidbey, petroleum refineries, seafood processing and a ship building industry in both Skagit and Island counties. These facilities require a functioning state highway for employees as well as the movement of goods and services that does not flood, have collisions that block passage, or increase delay from congestion.

City of Anacortes Profile

Only a small percentage of land in Anacortes is still available for building. 42% of the land in Anacortes is dedicated to park and open land. The city has initiated policies to refine the urban center to support compact and dense development to best support their community. The city has made great strides in developing and promoting the Sharpes Corner area into a thriving commercial manufacturing hub of which 40 acres are owned and managed by the city. Another 110 acres on SR 20 has been set-aside for future expansion. Key economic drivers to the city's economy include the refineries, the marine trades industry, healthcare, food processing, tourism, the local school district, and the tribes.

² www.skagitcounty.net

Industries supported in the City of Anacortes

The city has an important industrial segment, including two refineries, two fish processing plants, and a major shipyard. Industrial facilities will benefit from improved access, since they use SR 20 for importing and exporting goods as well as employee access.

Seabear and Trident Seafoods

Seabear operates the “Made in Washington” brand, with a host of company owned retail outlets, and is a national producer of smoked salmon.

The Anacortes Trident Seafood plant produces products from frozen fish and is a major supplier of fish filets to the fast food industry and to supermarkets. These products are delivered to locations throughout the world. Currently the Anacortes plant can produce 60 million pounds of finished product per year. Production capacity is expanding yearly. The crew size is roughly 225 employees.



Dakota Creek

Dakota Creek Industries is a complete shipbuilding and repair facility specializing in construction and repair of steel and aluminum vessels up to 400 feet, from tug boats to ferries. The deep water location on Guemes channel in the Puget

Sound provides the shipyard the ability to be competitive in both local and international markets with 260 employees employed at their facility.

Dakota Creek Industries won a Navy contract to build a \$74 million oceanographic research vessel. Oct, 2011 Rep. Rick Larsen congratulates them saying it “is good news for the community of Anacortes and, more importantly, it means jobs.”

*Skagit Valley Herald- May 8, 2013 **Dakota Creek earns eco-friendly fishing ship contract** “Dakota Creek Industries in Anacortes recently accepted a \$30 million-plus contract to build a new type of fuel efficient, environmentally friendly long-line fishing ship for Blue North Fisheries, a Seattle-based company operating cod and crab vessels in the Gulf of Alaska and Bering Sea. The boat will be the first built in the United States to feature an internal haul station, which will bring caught fish up through a moon door on the bottom of the hull instead of over the side, Down said. Fuel savings of 30% or more and reduced emissions verses conventional design are predicted to be achieved through a high-tech diesel-electric propulsion system and a molded hull design that reduces water resistance, the release states Blue North made the announcement Tuesday. Citing globally-sourced technology and innovative design over current fishing vessels, Kenny Down, president and CEO of Blue North, called the ship, “... one of, if not the, most environmentally friendly fishing ships in the world.” Down said he was glad to contract with Dakota Creek Industries on the project. “We’re lucky to have Dakota Creek in our backyard, because they build some of the highest quality vessels in the country and around the world,” said Down.*

Naval Air Station Whidbey Island



This premier naval aviation installation is home to all Navy tactical electronic attack squadrons and 50 tenant units making it a significant military presence in the Nation. The Navy plans to spend more than \$350 million on construction projects at this base in the next two years to accommodate an additional squadron. This project ensures that the only land route to NAS Whidbey functions well.

*Congressman Rick Larsen
April 10, 2013: "This major investment will create hundreds of jobs on Whidbey Island and secure the future of Naval Air Station Whidbey Island as one of the Navy's most valuable Pacific assets. I am committed to making sure that Congress approves this funding so that Naval Air Station Whidbey Island continues to grow as a national strategic asset and local economic driver,"*

1 – Direct Impacts of Major Military Bases in Island County, 2003

Employment, uniformed and civilian	10,066
Payroll	\$399.1 million
Military retiree pensions	\$91.1 million
TriCare payments to private providers	\$14.1 million
Contracts for goods and services	\$12.2 million
On-base retail spending	\$22.0 million
Net direct impact*	\$494.5 million

* Reduced by on-base retail spending

Besides its importance to national security, NAS Whidbey facilities are the worksite for more than 10,000 military and civilian personnel, and generate a payroll of \$399 million. Uniformed and civilian personnel on NAS Whidbey in Island County represents 68% of the employment on the island and the proportion of all the activities dependent on the Military Base on Island County was reported to be over 88%, of the total impacts as a percent of wage and salary disbursements in Island County.³ Getting personnel, goods and materials to and from this base is of national and regional importance.

Native American Tribal Influence

There are two Native American tribes that impact the local economy—the Swinomish and the Samish tribes. The Swinomish tribe operates the Northern Lights Casino and is the fifth largest employer in Skagit County and Native Catch, seafood processing plant. The Samish tribe also influences the economy by maintaining a number of locations in the city of Anacortes, operating a cultural center, an art gallery, and a headquarters building. They have also purchased property on SR 20, which they are working to develop.

Economic Growth that needs support:

- Marine Contracts - Over \$200 million in contracts in the last 3 years.
- Military influences - 88% of Island County economy dependent on base.
- Refinery influences - Largest tax payers and employers in Skagit County, production helping National interest of being more energy independent- by producing domestically processed products.
- Seafood processing local and international markets served.
- Tribal growth and independence is reliant on transportation for their commercial/Industrial developments.

³ Washington Office of Financial Management, Economic Impacts of the Military Bases in Washington, July 2004.



Skagit Valley Herald March 4, 2013 - The Tesoro Corporation is part of a dramatic national story being part of the biggest crude oil producer in the world because of crude from Bakken. Tesoro recently invested in a \$56 million in an Anacortes rail offloading facility (CROF) that boosted the local economy and confirmed the Texas-based company's ongoing commitment to fuel production in the Pacific Northwest. The facility routinely unloads 100-tank-car deliveries of crude oil from North Dakota's Bakken region. The refining business is competitive, and they do not have a lot of margin. Bakken crude is less expensive than oil from the international market or Alaska's North Slope, and it represents a key shift away from dependence on crude from other nations. Additionally rail delivery will be less expensive than traditional pipeline or tanker options. Tesoro's Anacortes refinery has played a dominate role in the local economy since it was built by Shell in 1955... Tesoro has continued to invest in improvements including an emissions reduction unit and the new rail offloading facility. Has the total crude-oil capacity of 120,000 barrels per day, with 360 full time employees.

Refinery Influence

The Shell and Tesoro refineries provide a local and national benefit- they are producing fuel that comes from a source within the US. They require predictable transportation so they can be competitive in a global market. They also require the ability to receive oversized loads which come by sea to the Port of Anacortes and are then moved the short distance through the Sharpes Corner intersection. Currently they need to close the intersection and remove the signal mastheads to deliver these large equipment deliveries, delaying other users waiting for the signals to be removed and replaced. The roundabout will eliminate this issue for the refineries as well as other manufacturers in the area.

Refineries depend on SR 20 for safe and dependable access to ship or import product as well as for their workers commuting to their jobs. The number of employees can often dramatically increase during annual maintenance turnaround operations.

Both refineries have invested in improved freight capacity so they can continue to expand and refine domestic crude for export. The two refineries adjacent to this location are nationally significant producers of petroleum products. The Shell and Tesoro refineries are the largest taxpayers and employers in Skagit County. Domestic oil refinement has ramped up and investments are being made to intensify production at both plants. This serves our national interest by reducing the reliance on foreign oil supplies. Tesoro's Anacortes refinery has a total crude-oil capacity of 120,000 barrels per day (bpd). The refinery primarily supplies gasoline, jet fuel and diesel to markets in Washington and

Oregon, and manufactures heavy fuel oils, liquefied petroleum gas and asphalt.⁴

⁴ <http://www.tsocorp.com/TSOCorp/ProductsandServices/Locations/RefineryLocations/001545>

The Shell refinery currently, processes as much as 145,000 barrels (5.7 million gallons) of crude oil per day which supplies three grades of gasoline, fuel oil, diesel fuel, propane, butane, petroleum coke that is used by companies that refine high-grade aluminum, sulfur, and a petrochemical called nonene.⁵

The refineries currently employ roughly 750 workers, 50 % of whom live in Anacortes, earning an average of \$90,000 annually. They are a major economic driver on many fronts—wages, taxes, water utility purchases, construction. During annual maintenance “turnarounds,” hundreds of additional workers are housed in local hotels and use local restaurants and catering services. The majority of these workers use the highway to get to work. This project is within a mile of these production facilities, and will reduce travel delay for worker commuting to from their refinery jobs.

Tourism

State parks play a vital role in attracting tourists. State parks attract out-of-state visitors and encourage in-state travel by residents bringing tourist dollars into the state and local economy.

This area of Skagit, Island, and San Juan Counties is a scenic, stunning and accessible location that benefits from the tourist industry. Project improvements will support tourism. Recreation and conservation activities attract thousands of visitors to this area. The impact of state parks on the state and

local economies is enormous. Only a small portion of tourism dollars are actually spent in parks. The majority of this money is paid to private businesses for gas, food, lodging and other goods. For some businesses, state parks are the very basis for their existence. Deception Pass State Park is the most popular state park in Washington State. Visitors flock to see the spectacular bridges, bringing in over 2 million visitors per year.

Why tourism is important to our economy

Travel Spending (in millions) by County in 2008

Skagit	\$268.0
Island	\$135.3
San Juan	\$129.9

Washington visits by Canadians: 2.3 million visitors, \$600 million spent.



Exhibit 7: Local WSDOT Ferry Routes



SR 20 Deception Pass Bridge

San Juan County is accessible only by air or boat. The only public access is via the Washington State Ferry, whose terminal is located in Anacortes. The San Juan Ferries support 1.7 million trips a year for people accessing the islands, and Vancouver Island, B.C. (See Exhibit 7)

⁵ <http://www.shell.us/aboutshell/projects-locations/puget-sound/about.html>

How this project supports commuter access

Skagit County, also known as the Mount Vernon-Anacortes Metropolitan Statistical Area (MSA), was one of the fastest growing MSAs in the state from 1990 through 2007. Skagit County's private nonfarm payrolls grew by 60% over this period. Contrast this to the statewide average growth which grew at 40%. While this has helped Skagit County diversify beyond resource dependent industries, per capita income is still 5% below the U.S. average and 11% below the state average, despite the fact that almost 47% of Skagit residents commuted outside the county for work in 2009 — up from 37.7% in 2006. These commuters also use this route to get to work outside of Skagit County – even as far as Seattle and Everett, to large employers, such as Boeing and Microsoft.



Exhibit 8: Location of Workforce that Commutes to Anacortes

The Anacortes labor market is also increasing. The pool of workers in the community is limited, and currently 63% commute from outside the city. Heavy concentrations are seen on North Whidbey and Mount Vernon, Burlington and some all the way from Bellingham. Exhibit 8 shows the area's travel shed and the clusters from where commuters travel. They will all benefit from the delay reduction and safety improvements provided by this project.

Island Transit Route- County Connector



This project improves two transit stops that connects to an adjacent 133-space park and ride facility, connecting inter-county traffic from Skagit Transit to Island Transit, that later continues service to Whatcom and Snohomish Counties. Island Transit and Skagit Transit's ridership has increased and they continue to coordinate to better serve both the commuter and special need populations of the area. (See Table 1.) The project will improve on-time performance and make their service more competitive with single occupant

vehicles by providing more convenience and confidence in on-time arrival. Island Transit is funded through taxes only; there is no fee to ride encouraging greater ridership. This helps reduce congestion as well as serving those with special needs and families living in poverty, who cannot afford transportation.

Table 1. Island transit data showing increased use and benefits achieved from linked regional services.

Data as of June 30,	Island Transit	Skagit Transit	Whatcom Transit	Total
Everett Connector				
Quarterly Ridership Increase	408%	279%		324%
Passengers Trips to date	182,949	231,295		414,244
Tri-County Connector				
Quarterly Ridership Increase	89%	177%	55%	120%
Passenger Trips to date	507,434	199,262	245,811	199,262

Roy Daniels, Island Transit

Operations- stated that "back-ups at this intersection have caused unpredictable delays that have caused connections to be missed." Also, he stated that traffic "queues along SR 20 are sometimes so long that traffic blocks their access to the park and ride"- 1/2 a mile from Sharpes Corner.

Key transportation challenges

Intersections within the project areas experience reoccurring congestion resulting in long queues, unpredictable and long waits, and safety issues. This has increased travel time and increased vehicle emissions. Ultimately this may serve as a disincentive for travel to this area for tourism and retail activities and increases freight costs. Project improvements will remove bottlenecks add highway capacity, improve efficiency and safety and provide good utility for the investment.

II. Project Parties

The **Washington State Department of Transportation (WSDOT)** was established in 1905. The agency is directed by Secretary Lynn Peterson and overseen by Governor Jay Inslee. WSDOT is a cabinet-level agency that plans, designs, builds, operates, and maintains the state owned system. WSDOT is also responsible for a number of local roads, railroads, airports, a ferry system, and multi-modal alternatives to driving. WSDOT tracks, reports, and manages its programs and projects according to six interdependent transportation policy goals adopted by the Legislature in RCW Chapter 47.01.012. The six policy goals are safety, preservation, mobility (congestion relief), environment, stewardship, and economic vitality.

WSDOT spent over \$170 million between 2007- 2013 to improve safety and relieve congestion on 12 programmed projects along the State Route 20 Corridor in Western Washington (See Exhibit 9. The Sharpes Corner project is the last programmed project – but the funding to complete the construction of this project is not available.

Key transportation challenges to be addressed:

- Growing travel demand
- Worsening travel time for cars and trucks
- Unpredictable and long queues at intersections
- Impaired freight movement
- Vulnerability to collisions
- Flood hazard reduction
- Improved access for workforce and industry
- Limited access for freight traffic/large loads
- Enhanced public transit access
- Connectivity to pedestrian/ bike facilities
- Economically viable area needs access to grow

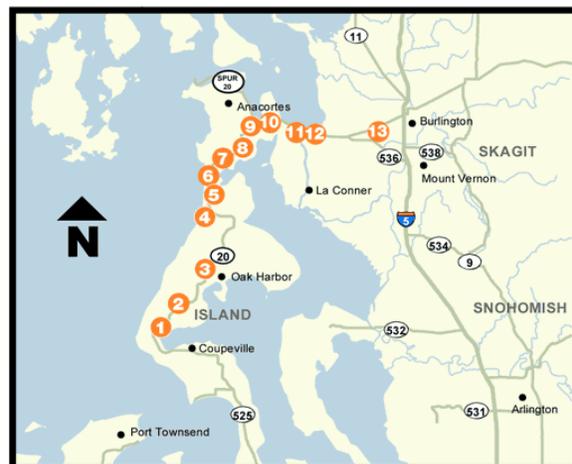
Exhibit 9: Programmed Corridor Projects

Program Projects in 2007 - 2013 \$170 million

From Coupeville on Whidbey Island to Burlington -
12 projects - \$170 million invested

- 1 Libbey Road - 2008, \$7.5 million
- 2 Sidney Street - 2007 \$7.2 million
- 3 SW Barlow Street - 2008, \$500,000
- 4 Monkey Hill Road - 2006, \$9.2 million
- 5 Troxell Road - 2006, \$5.7 million
- 6 Deception Pass Slope Stabilization - 2006, \$650,000
- 7 Ducken Road - 2007, \$6.3 million
- 8 Quiet Cove Road - 2007, \$18.3 million
- 9 Sharpes Corner - 2016 invested / \$1.3, Programmed \$7.5 -
Need \$13 million for construction
- 10 Thompson Road Signal - 2007, \$1 million
- 12 SR 20 Spur - 2007, \$770,000
- 13 Fredonia - 2007, \$102 million

SR 20 - Western Washington Projects Map



Other Regional Contributions

While WSDOT has invested in corridor wide improvements to better move people and freight in this area, local contributions are also still being made for the following:

- City of Anacortes \$1.3 million for connector road improvements Old Brook Lane.
- Shell Refinery \$1.2 million, intersection improvement- to widen for freight movement.
- Swinomish Tribe \$1.5 million for right turn pocket for access to urban development center.

III. Grant Funds and Sources/Uses of Project Funds

TIGER Request: \$13,000,000 Project Total: \$20,533,174

Exhibit 10: Project Funding Sources

Project funding source	Total
Secured state funds	\$7,533,174
TIGER funding request	\$13,000,000
Total	\$20,533,174

WSDOT has secured funding for preliminary engineering, right of way and some construction funds (See Exhibits 10 & 11). The city of Anacortes has invested \$1.3 million in adjacent improvements, and the refineries have invested \$53 million in rail improvements and \$1.2 million for an intersection widening for large trucks. While these city and private investments do not match our grant nor are they calculated as part of our commitment, they do contribute and are necessary for the future development of the economy and necessary for the transportation network to function optimally. This request would fund the last improvement needed for the completion of upgrades needed along the corridor to support this region.

Other regional investments:

The refineries in this area- are working to improve the Thompson Road intersection, (estimated cost \$1.2 million) to widen the approach to SR 20 to allow their oversized loads better access onto the state system.

Refineries invested \$53 Million in rail upgrades in 2013

The Swinomish Tribe is investing \$1.2 million to add a right hand turn lane along SR 20 to improve access to their current development.

City –connector road improvement- Old Brook Lane- \$1.3 million

Exhibit 11: Project Funding by Phase

Project phase expenditure	2013	2014	2015	2016	Total
Preliminary engineering	\$324,400	\$600,000	\$0	\$0	\$924,000
Right of way	\$0	\$2,884,609	\$0	\$0	\$2,884,609
Construction Non-Federal \$	\$200,000	\$400,000	\$1,588,810	\$1,535,755	\$3,724,565
Construction TIGER \$	\$0	\$600,000	\$7,511,190	\$4,888,810	\$13,000,000
Total					\$20,533,174

IV. Selection Criteria

A. Long-Term Outcomes

This project expands and modifies an overwhelmed SR 20 highway corridor by installing two roundabouts, an additional lane, managed access, a separated pedestrian/ bike connection and

adding ITS to make this corridor support current and future economic growth beyond the next 20 years. Making these critical highway improvements will result in improved safety, reduced delay and greater modal options to produce the following outcomes:

- Upgrades existing facilities in such poor condition that, if left unimproved, would threaten efficiency of the transportation network, movement of goods, accessibility of people and economic growth at this bottleneck in the system
- Increases economic productivity of land, capital and labor
- Reduces the cost of transporting freight
- Increase efficiency and effectiveness, particularly efficiency for exports
- Relieves congestion on existing transportation assets
- Produced from a collaborative planning process
- Improves energy efficiency and reduce dependence on fossil fuels, reduce greenhouse gas emissions and decrease movement of people and goods by less efficient vehicles
- Facilitates safe and secure travel
- Reduces maintenance costs

1. State of Good Repair

The lack of capacity at the Sharpes Corner intersection of SR 20/SR 20 Spur, is the last expansion needed in the corridor to support planned development. This project will improve the efficiency of the transportation network by strategically expanding the highway system, updating aging infrastructure, and incorporating innovative strategies such as ITS to gain more efficient throughput for the investment. (See Exhibit 12)

This project is ranked at the top of the regional planning process due to the project's importance to the regional economy. It will significantly reduce the queuing for left turn traffic, improve the overall operation of the corridor and provide access management that is essential to increase safety at this congested high speed location. A two-roundabout system provides for excellent circulation and safety needed at this growing location.

WSDOT developed this option beginning with a large scale scoping process followed by the value engineering process to more efficiently improve the mobility of goods, people, transit, and non-motorized travelers. This roundabout system will provide for those needs, and support long-term growth of the U.S. economy by improving freight access to key industries and the Naval Air Station Whidbey Island and removing the signal infrastructure that limits the size of industrial loads that need to be delivered to the major refineries and manufacturers in this area. This project will also significantly reduce wait times and queues that currently develop, which amounts to operating-costs savings, improved economic productivity, and helps our region remain competitive in this international market.

WSDOT has found that this roundabouts solution will:

- Improve safety and efficiency (reduce 90 of fatalities and 75% of injury collisions)
- Will support the larger loads of freight that use this intersection
- Be less expensive than a signal or separated grade crossing
- Be more effective during power outages

Exhibit 12: State of Good Repair Outcome

State of Good Repair Outcome	Benefits
Implements state, regional and local plans to maintain the transportation system in a state of good repair.	<ul style="list-style-type: none"> • This is part of a coordinated, regional effort to incorporate strong, collaborative partnerships in the development and implementation of innovative operational solution. • The highway is scheduled to be repaved in 2021, as part of WSDOT’s lowest life-cycle paving program. • Funding also allows WSDOT to upgrade the highway to modern safety standards.
Upgrades existing facilities in such poor condition that, if left unimproved, would threaten efficiency of the transportation network, movement of goods, accessibility of people and economic growth.	<ul style="list-style-type: none"> • The problem is that today there are collisions that impede travel and these are increased by congestion. This improvement is needed to support the development and traffic anticipated. • A roundabout will increase safety and reduce wait times. • Upgrades will facilitate freight access and make it possible to build a dedicated climbing lane for slower vehicles. • Highway improvements will allow more vehicles to safely and efficiently use the intersection and substantially reduce delays. • These improvements will complement recent traveler information investments by WSDOT and FHWA by providing new traffic cameras and road sensors provide real-time traffic, and road conditions to drivers, helping them make informed decisions about when and where to travel. • Currently high tides combined with high water events leads to water on the roadway. This project will elevate the roadway which will protect it from future flood hazards.
Provides sustainable revenue for long-term operations and maintenance.	<ul style="list-style-type: none"> • WSDOT’s 2009-2015 Strategic Plan policy states that it will maintain, preserve and extend the life and utility of prior investments in transportation systems and services.

2. Economic Competitiveness

Efficient management of the movement of freight is a significant factor in the economic competitiveness of this region and the US as a whole. SR 20 is a highway of Statewide Significance, is on the National Highway System route, as well a Strategic Highway Network (STRAHNET). The Strategic Highway Network is critical to the Department of Defense’s domestic operations and is a system of public highways that provides access, continuity, and emergency transportation of personnel and equipment in times of peace and war. It is important for our national defense.

Improving this intersection optimizes the use of available infrastructure and will increase efficiency, reduce travel times and make travel more predictable and safer. This project will improve freight mobility, reduce employee and personal travel times and facilitate greater responsiveness to the needs of international trade in this region. It will reduce shipping and travel times for U.S. exports and promote long-term growth and increased productivity of the American economy (see Exhibit 13).

Exhibit 13: Economic Competitiveness Outcome

Economic Competitiveness Outcome	Benefits
Increases economic productivity of land, capital and labor	<ul style="list-style-type: none"> • As it is today, people wait in long queues at the traffic signals. Highway improvements will help keep traffic flowing and provide a more direct route for some travelers, saving time and money. • A roundabout and dedicated climbing lane will avoid delay required at a signal. Also, travelers behind slow trucks and recreational vehicles will avoid delay and get to their destinations more quickly. It has been calculated that it could reduce delays for all travelers .This is a substantial savings for travelers, and encourages and promotes travel.
Has a significant effect on reducing the complexity of moving large freight necessary to support economic development	<ul style="list-style-type: none"> • Currently the signalized intersection needs to be dismantled to accommodate freight from local industries, such as the refineries and Marine industry in Anacortes. • This project will help keep this vital highway connection functioning well for freight. It also will significantly improve safety and reduce delays.
Increase efficiency and effectiveness of all infrastructure, particularly efficiency for exports	<ul style="list-style-type: none"> • SR 20 at Sharpes Corner serves many different economic interests that have no other road access. It is essential for the ferry communities of the San Juan Island, as well as the only road connection to Whidbey Island. The influx of military personnel, industrial expansion, and increased tourism as well as commercial and residential growth requires this expansion to accommodate the influx of travelers. Without viable alternative routes, a closure of this intersection would have a significant economic impact in this region. • The proposed project will reduce wait times by adding capacity and increasing throughput. • The project will allow large Refinery, and marine industry cargo to be moved without the removal of the signals. This will increase productivity by allowing for expansion of these industries and better access to our Marine ports. • The city of Anacortes will provide maintenance to the multi-use trail, as it is a vital connection to their city network, as well as maintain the roundabout landscaping- as a gateway to their community.

Job Creation and Near-Term Economic Activity

The project will generate short-term jobs based on expenditures made during the design and construction phases of the project. The tables in Exhibits 14 and 15 on the next page summarize the job creation benefits. For additional details please refer to Appendix B.

Short-Term Job Creation by Project Phase

One job-year is created for every \$76,923 in government spending. The estimate is calculated using current and future expenditures. We did not use prior expenditures or right-of-way expenditures in the calculation. Based on a project total of \$17,544,565 for PE and CN the job-years created by project phase are shown in Exhibit 14:

Exhibit 14: Short-Term Job-Years Creation by Phase

Project Phase	Spending by Phase	Direct Job-Years**	Indirect Job-Years**	Induced Job-Years**	Total Job-Years
PE	\$820,000	3	3	5	11
CN	\$16,724,565	54	54	109	217
Totals	\$17,554,565*	57	57	114	228

*Total does not include prior PE expenditures of \$104,000 or planned RW expenditures of \$2,884,609.

** Assumes 25% of the job-hour benefits are attributed to direct project related activities, 25% to indirect project related activities, and 50% to induced project related activities during PE and CN phases.

Short-Term Job Creation by Time Period

Based on the assumption that there are 2080 job-hours per job year, one-job hour is created for every \$36.98 in current and future PE and RW expenditures. We did not use prior expenditures nor right-of-way expenditures in the calculation. Based on a project total of \$17,544,565 for PE and CN the job-hours created by the project, by calendar quarter, are shown in Exhibit 15:

Exhibit 15: Short-Term Job-Hours Creation by Time Period

Period	Spending 2013 dollars	Total Direct, Indirect, and Induced Created Job-Hours
2013 - Q3	\$110,000	2,975
2013 - Q4	\$110,000	2,975
2014 - Q1	\$150,000	4,056
2014 - Q2	\$150,000	4,056
2014 - Q3	\$350,000	9,465
2014 - Q4	\$950,000	25,690
2015 - Q1	\$925,000	25,014
2015 - Q2	\$2,625,000	70,984
2015 - Q3	\$3,650,000	98,702
2015 - Q4	\$1,900,000	51,379
2016 - Q1	\$980,000	26,501
2016 - Q2	\$3,113,154	84,185
2016 - Q3	\$2,000,000	54,083
2016 - Q4	\$531,411	14,370
Total	\$17,544,565*	474,434

*Total does not include prior PE expenditures or planned RW expenditures.

3. Livability

The project will enhance livability by better connecting communities separated by the water bodies that make this area so popular and productive. This will broaden economic opportunities by creating predictable and safe access for workers, consumers, tourists, residents and freight. This project expands the use of new technologies that help communicate the best travel options available with ITS cameras providing a direct connection to the Web. It will help achieve broad community economic goals; it will relieve negative effects resulting from idling vehicles waiting in long queues by reducing congestion; and increase safety (see Exhibit 16). The roundabout will provide beautification of the roadway, and serve as a gateway. WSDOT has been voted for a 6th year in the row the most bike friendly state - we have users that demand these improvements - and facilities that make the connections work. This will be part of that solution by providing a separated multi-modal path for connection to existing world class trail networks in Anacortes and the region. Transit in this area has flourished. This area has industrial roots and provides good paying jobs. Improving access helps these industries compete and the works to get to their shifts without delay.

Exhibit 16: Livability Outcome

Livability Outcome	Benefits
Enhances user mobility through more convenient transportation options	<ul style="list-style-type: none"> Improving the capacity and efficiency helps balance our concurrent pursuit of motorized as well as multi-modal and transit access. Island Transit is free of charge and working on becoming more convenient so it can supplement one car one driver trips. This project improves transit stops to help this occur. Travelers will have shorter wait times and a more direct route available, which will reduce their costs, increases convenience, improves reliability, and supports secure mobility. Increases viable transportation choices that reduce congestion and improving travel-time reliability for multiple users. This will provide consumers more predictable scheduling, making it more attractive to travel when they want to. Trail encourages bicycle and pedestrian travel. The project will improve access for more travelers to more commercial markets, tourist activities, retail shopping, and jobs.
Reduces congestion on existing transportation assets	<ul style="list-style-type: none"> With improvements at the Sharpes Corner, more travelers will be able to get to their destinations safety and spend less time waiting. This area has a secure and growing job base that imports works from outside the city – this influx of workers challenges the system, and expansion is needed to accommodate this demand.
Makes goods, commodities and services more readily available	<ul style="list-style-type: none"> The refineries are expanding to take advantage of reasonably priced domestic/ South Dakota generated crude products. They have invested \$53 million in enhanced rail- and need a reliable intersection to accommodate this increased production.
Planning process	<ul style="list-style-type: none"> This project has been selected as the number one regional priority in Island and Skagit counties. The design was created to best meet freight, and will accommodate oversized load and non-motorized,

and transit needs, as well as the increased volume of cars that require this access.

- The pedestrian and bicycle trail is a critical link between Sharpes Corner and the Tommy Thompson trail that gets travelers to downtown Anacortes through a former railroad bridge over Padilla Bay rather than by going over a big hill with fast traffic.
- The Sharpes Corner Intersection serves 40,000 travelers a day. Expansion provided by the proposed project will support additional trips necessary to accommodate the regional growth from commerce, the Naval Base, tourism, commuters, and residents.

Users served

4. Environmental Sustainability

WSDOT is committed to increasing sustainable transportation. Beyond improving system performance, this project promotes a more environmentally-sustainable transportation system by reducing greenhouse gas emissions resulting from idling during prolonged delays at the signal. Intelligent Transportation Systems will be incorporated to improve energy efficiency, and reduces dependence on fossil fuels. The project will benefit the environment by upgrading drainage to improve water quality and conveyance adjacent to of the Puget Sound, an environmentally sensitive eco-system. Removal of the traffic signals will reduce electrical and maintenance costs. The multi-modal trails will provide alternatives to vehicular trips that will also contribute to reducing fuel consumption (see Exhibit 17).

Exhibit 17: Environmental Sustainability Outcome

Environmental Sustainability Outcome	Benefits
<p>Improve energy efficiency and reduce dependence on fossil fuels, reduce greenhouse gas emissions and decrease movement of people and goods by less efficient vehicles.</p>	<ul style="list-style-type: none"> • Improving safety and wait times will reduce fossil-fuel consumption, and prevent the release of 3.85 kt of GHG per year that would result from a closure of the intersection, or delay in travel. • Transit and non-motorized transportation options enhanced.
<p>Enhance the environment</p>	<ul style="list-style-type: none"> • Improves air quality by reducing idling, thus reducing greenhouse gas emissions. • The project will be designed and constructed to avoid, minimize and mitigate impacts to the environment. • Implements new storm water detention and treatment facilities that will improve drainage and water quality. • Provides multi-use trail – which will reduce dependence on fossil-fuels by providing options for travel.

5. Safety

The focus of this project is safety. It includes two roundabouts, access management, a separated trail and enhances non-motorized access to transit stops. It also elevates the highway to safeguard from flooding relieving travelers from standing water on the roadway. The development of a roundabout will improve safety by reducing the frequency and severity of

collisions, as well as improve congestion and freight access. Collisions result in delays due to an emergency response; these often block access through this intersection. Fewer collisions reduce delay. The addition of ITS/ATIS will improve emergency response time (see Exhibit 18).

Exhibit 18: Safety Outcome

Safety Outcome	Benefits
Reduce collisions	<ul style="list-style-type: none"> Studies show that roundabouts reduce the frequency of collisions, by eliminating conflict points. It also reduces the travelers speed so if an accident occurs it will be at a slow speed, and result in less severity. Congestion has been shown to increase the occurrence of collisions. This project will reduce congestion, which contributes to rear-end crashes. Separated path minimizes potential conflict points.
Secure travel	<ul style="list-style-type: none"> Facilitates safe travel reducing delays associated with collisions and road closure. NAS Whidbey requires base access, this route provides that access. It serves a National Security function.
Only highway access to Whidbey Island and San Juan Island Ferry as well as the Coupeville-Port Townsend Ferry	<ul style="list-style-type: none"> This intersection is at a strategic location and these improvements will make this function better and reduce the frequency of collisions that shut down the roadway, or cause delays along this very important corridor.

6. Project Readiness

(a) Technical Feasibility

WSDOT has the technical capacity to deliver this project on budget and on time. WSDOT prides itself on its successful delivery record, with 90% of projects on time and 86% under or on budget. (Project delivery performance measures are reported in the WSDOT quarterly Gray Notebook at: www.wsdot.wa.gov/accountability/GrayNotebook.pdf). Below is a chart that identifies potential risks and risk-mitigation strategies that will be employed to keep this project on schedule and on budget.

This project has already gone through an extensive scoping phase that evaluated six options to address the project’s purpose and need. That process resulted in a selected option to construct a roundabout at the Sharpes Corner intersection. Experts from a variety of disciplines and agencies participated in a combined Value Engineering / Cost Risk Study and made recommendations to reduce project risk and increase project benefit. The project team reviewed the recommendations and after additional research, incorporated the recommendations. After the project was taken back off the shelf in 2012, the team verified the traffic volumes and assumptions and made adjustments.

The project has been thoroughly vetted by multiple design teams and experts in various fields. The area has been extensively surveyed, and the designs are based on the data collected. The project is approximately at 30% design and the footprint of the project has been calculated.

Further refinement will be performed as the project moves forward with design, so the construction estimate has a 10% miscellaneous item contingency built into the construction estimate.

This project will build roundabouts on SR 20 at the intersection of Sharpes Corner (the SR 20/SR 20 Spur junction) and at the Miller and Gibraltar roads intersection. SR 20 between the two roundabouts (approx. ½ mile) will be widened to add a slow-vehicle lane, traveling up the grade. Other improvements include median barrier at the SR 20 Spur and S. Fidalgo Bay Rd intersection, constructing a bicycle/pedestrian trail connecting Sharpes Corner and the SR 20/ Marches Point Road intersection, illumination, storm water treatment and ITS.

Major Construction Activities

Utility Company Utility Relocation: Existing utilities include power and communications (above and underground), water, sanitary sewer and natural gas. Prior to construction several utilities will need to be removed/relocated, in coordination with the utilities responsible under their franchise obligations.

- **Mobilization:** After utility relocation, WSDOT's contractor will mobilize in preparation for construction.
- **Utility Relocation (WSDOT):** Water and sewer relocations (as needed) will be undertaken by WSDOT's contractor. Work will include clearing, trenching and manholes, moving utilities and backfilling.
- **Preparation:** This work requires placing BMP's identifying limits of work to protect sensitive areas. Construction surveying and staking, and clearing/ grubbing will precede removing structures, pavement, curb, guardrail or other items to prepare for earthwork. Earth disturbing activities will be an ongoing activity that progresses in conjunction with construction to minimize the risk of erosion.
- **Drainage and Storm Sewer:** New drainage and storm sewer construction will be ongoing. Temporary drainage/storm water plans will be utilized to maintain environmental compliance. The project will provide treatment for all storm water runoff.

Sharpes Corner Roundabout – The following are the anticipated phases for completing construction:

- **Phase 1** (circulating lanes and portions of south and east legs) completes preparation, earthwork, base course, paving, curb, drainage and foundations, conduit and wiring for illumination and ITS equipment associated. Preparation on the south leg will include ~300' of rock blasting. The majority of this work is completed without traffic control.
- **Phase 2** (west leg and remainder of south and east legs) will complete the same work as above for the west leg and the remainder of the south and east legs.
- **Phase 3** (Anacortes bypass and tie-ins) will complete the same work for the Anacortes bypass and any areas remaining to be tied-in to the existing roadway.
- **Traffic control:** Standard roadway construction traffic control setups (lane and shoulder closures, flagger controlled) may occur throughout construction. Due to high traffic volumes, closures will likely occur at night. Specialized traffic control including a temporary signal and lane shifting will be needed during Phase 2. Phases 1 and 3 should only require standard traffic control setups.

- **Pavement Marking:** After the completion of the roundabout permanent markings will be placed.
- **Multi-Use path:** Construction of the ½ mile long path will occur during construction of the roundabout.

SR 20 Widening: Remove existing shoulders and build out widening from there, including roadway excavation, embankment, base course, paving, curb, drainage and pavement markings. No significant profile changes are anticipated and a majority of the existing roadway will be overlain with new pavement. Single lane and shoulder closures are anticipated for these improvements.

SR 20 / Miller / Gibraltar Roundabout

- **Phase 1 (West Half)** will complete the preparation, earthwork, base course, paving, curb, drainage and foundations, conduit and wiring for illumination and ITS equipment for half of the roundabout.
- **Phase 2 (East Half)** will do the same as above for second half of the roundabout.
- **Traffic Control:** During Phase 1 traffic will be shifted east as far as practicable. SR 20 lanes and shoulders will be maintained in both directions, but likely reduced to the minimum allowable widths. A closure of Miller and Gibraltar roads may be required for a short duration (yet to be determined). During Phase 2 traffic will be shifted west onto the portion constructed in Phase 1. No temporary signals are anticipated for this construction.
- **Barrier Placement at S. Fidalgo Bay Rd.:** Remove existing Impact Attenuators, place ~750' of new concrete barrier. Construction will require single lane closure, at night.
Planting: Planting will occur once all of the improvements are complete.

(b) Financial Feasibility

Preliminary Engineering and right of way phases of the project are fully funded and some construction funding is secured. The secured funding comes from the Transportation Partnership Account which is dedicated to the delivery of specific projects. The final leg of this \$170 million programmed corridor project needs \$13 million dollars to finish. Once this is secured construction of this project can move forward.

WSDOT has already invested \$1.3 million in design to get this project to 30% design. We have secured the remaining funds needed for PE, \$924,000, all the funds necessary for acquiring right of way \$2,884,609, and we have secure \$3,724,565 to begin construction. We require an additional \$13,000,000 in TIGER funds for construction to complete the project (see Exhibit 19). Once this funding is secured, we will be able to obligate by May 2014, and the project will be ready for use in the fall of 2016.

Exhibit 19: Major Construction Activity Costs

MAJOR CONSTRUCTION CATEGORIES	TOTALS			
	Estimated Cost	% OF CN TOTAL	TIGER Funds	State Funds
MOBILIZATION	\$ 844,263.62	5.05%	\$ 656,246.11	\$ 188,017.51
PREPARATION	\$ 212,715.00	1.27%	\$ 165,343.37	\$ 47,371.63
GRADING	\$ 826,492.00	4.94%	\$ 642,432.23	\$ 184,059.77
DRAINAGE	\$ 346,055.00	2.07%	\$ 268,988.55	\$ 77,066.45
STRUCTURE	\$ 224,250.00	1.34%	\$ 174,309.53	\$ 49,940.48
SURFACING	\$ 276,165.00	1.65%	\$ 214,663.05	\$ 61,501.95
CEMENT CONC. PAVEMENT	\$ 359,700.00	2.15%	\$ 279,594.81	\$ 80,105.19
HOT MIX ASPHALT	\$ 1,850,935.00	11.07%	\$ 1,438,731.78	\$ 412,203.22
EROSION CONTROL AND ROADSIDE PLANTING	\$ 1,094,096.00	6.54%	\$ 850,440.82	\$ 243,655.18
TRAFFIC	\$ 1,754,870.00	10.49%	\$ 1,364,060.45	\$ 390,809.55
OTHER	\$ 559,287.50	3.34%	\$ 434,734.17	\$ 124,553.33
MISC.	\$ 1,876,141.38	11.22%	\$ 1,458,324.69	\$ 417,816.68
SUBTOTALS	\$ 10,224,970.49	61.14%	\$ 7,947,869.56	\$ 2,277,100.93
ENGINEERING, CONTINGENCIES, SALES TAX & OTHER ITEMS	\$ 6,499,594.85	38.86%	\$ 5,052,130.44	\$ 1,447,464.42
TOTAL	\$ 16,724,565.35	100.00%	\$ 13,000,000.00	\$ 3,724,565.35

(c) Project Schedule

The project has completed 30% design, and the funds have been secured to complete the design and right of way acquisition phases to prepare the project for a design-build construction method. WSDOT is working to complete the remaining environmental discipline reports and their approvals with an anticipated Documented Categorical Exclusion (DCE) NEPA approval by March 2014. It is anticipated that NEPA could be approved as early as December 2013, but March 2014 was used to be conservative. WSDOT will also finalize the right of way plans needed for property acquisition and attain design approval in that same timeframe. Once NEPA approval is attained, right of way acquisition will begin. The final Wetland Mitigation Report will be completed and approved concurrently with the right of way acquisition. Funds will be obligated in May 2014, a Design-Build Contract awarded in September 2014, and the project should be open to the traveling public in September 2016. The project will be Physically Completed in November 2017 after plants have been established and will reach Final Completion in February 2018. (See Exhibit 20)

Design-build delivery schedule by milestone

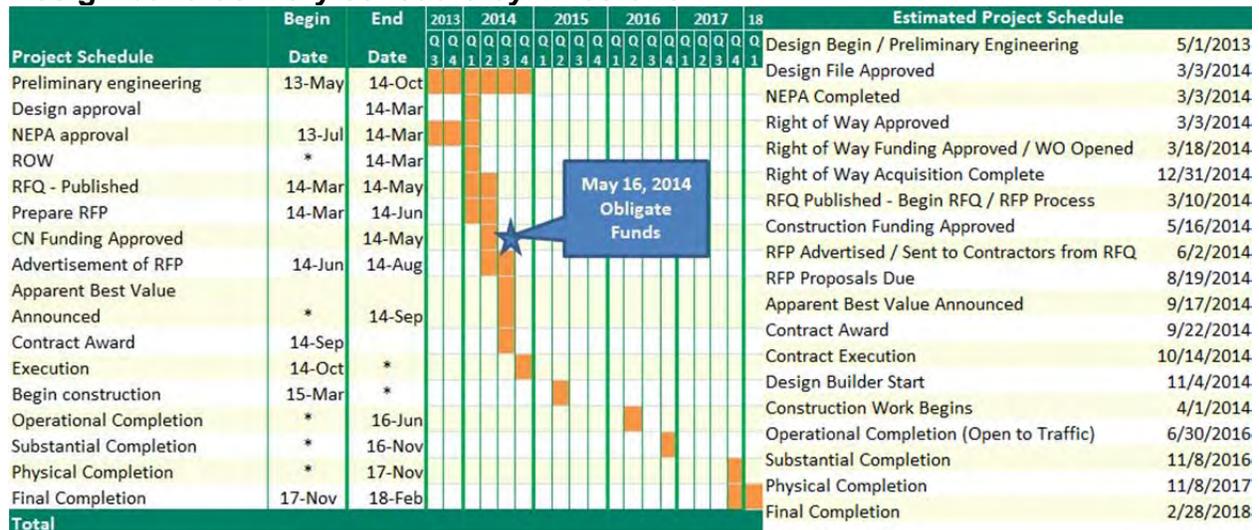


Exhibit 20: Project Major Milestones

Right of way acquisition

Right of way acquisition won't hold up the obligation of construction funds because it will be completed early in the design-build phase of the project. The right of way acquisition will be completed while the design-builders prepare their proposals and initial designs. Acquisition will start immediately upon receiving NEPA approval, which is estimated to occur between December 2013 and March 2014, and be finished by December 2014, several months after obligation of funds.

(d) Assessment of Project Risks and Mitigation Strategies

This project will utilize the design-build process to help save money, expedite project implementation, and get jobs to the private sector more quickly. This process will also reduce the risk of project delivery not being on time and on-budget.

Preliminary design and NEPA work is currently under way with existing funds to facilitate a request for proposals by June 2014. Right of way acquisition and design-build will partially take place concurrently, resulting in time savings that will get the project under way more quickly. Design-build also reduces the chances of cost escalation. Potential project delivery risks and associated mitigation strategies are reflected in Exhibit 21.

Exhibit 21: Potential Project Delivery Risks & Mitigation Strategies

Potential risk	Mitigation strategy
Right of way attained on time	<ul style="list-style-type: none">This risk is largely mitigated by going with Design-Build. We can advertise the RFP prior to acquiring all the right of way needed for the project. That significantly reduces the risk of not being able to obligate the funds by the deadline. The start of the right-of-way phase was based on the longest anticipated duration to obtain NEPA approval.
Wetland Mitigation Plan not approved on time	<ul style="list-style-type: none">The project already has funded the creation of 0.22 acres of wetland at the Quiet Cove Mitigation site and that area has been reserved for mitigating for unavoidable impacts on this project. Prior designs and current designs calculate the actual impacts to be lower than 0.2 acres. If unexpected impacts would push the project over the previously mitigated threshold, we would investigate the use of walls to minimize wetland impacts or investigate whether we could use some excess wetland creation that we will be constructing next year on a different project for this project as well.
Utilities not relocated in time (right of way related)	<ul style="list-style-type: none">The design-build process reduces the risk that utilities will impact our ability to obligate funds by the deadline. It also gives more opportunities for the design-builder to coordinate with the utility companies to avoid impacts. We have significant background information regarding the utility locations and have a pretty good idea of what will need to be relocated. We started coordinating with some of the utilities that may need to be relocated 5 years ago so they took this into account in their long range plans.

B. Innovation

This project incorporates an innovative project-delivery method and implements innovative approaches to maximizing efficiency.

Design-build project delivery: Design-build is a method of project delivery in which WSDOT executes a single contract with one entity (the Design-Builder) for design and construction services to provide a finished product. WSDOT's current design-build project delivery system is effective in advancing projects through the developmental stages of project scoping, concept design, environmental compliance efforts, and preliminary and advanced design, while ensuring conformance with design criteria and quality standards. The resulting design is packaged in a formal contract document that is used in a bidding process, where the construction contract is awarded to the lowest responsive bidder.

C. Partnerships

Collaborative roles amongst many different interests have been fostered through the common interest of improving safety, wait times, freight access, and improved multi-modal access with cost-effective solutions. These are important for livability of our region. This priority project emerged from partnerships at multiple levels: state, regional, and a direct agency-to-agency collaboration.

Although WSDOT is the sole party responsible for this application, WSDOT is developing the project in close coordination with the city of Anacortes. Anacortes is actively preparing the infrastructure needed to support 150 acres of industrially zoned land, 40 acres which they own adjacent to this project location. They have invested \$1.3 million to better develop the local roadway network necessary to connect to the state system. They continued South Fidalgo Bay Road in reliance on this project moving forward, so it will complement the state system by relieving local trips that currently only have access on the state system through this intersection. This investment was a necessary part of this improvement and was done in advance to support the project.

Anacortes will provide trail maintenance as this project connects to the local system as well as landscaping upkeep of the roundabout area since these serve as the gateway to their city. This partnership is important to preserve the functionality of this corridor for longer term growth by developing ways to decrease the impact by providing a way for local trips to not be dependent on the state system.

- **Jurisdictional & Stakeholder Collaboration**

This project is the result of a regional dialogue, and coordination on needs for this area. The stakeholders have collaborated on the design needs and solutions proposed, and have also participated in some aspect of construction along this corridor to improve the overall operations, and function of this system. This project is the number one priority in both Island and Skagit County.



City Funded Road Linkage-Sharpes Corner

- **Disciplinary Integration**

Economic vitality depends on reliable, responsible and sustainable transportation. Our agency depends on partnerships with the local communities that invest in our system for the long-term. Our system in this area depends on both rail and roads to support the adjacent refineries productivity. Refining fuel is a highly competitive market, and keeping the transportation costs in check is essential. Tesoro is so committed to this location that they recently invested \$56 million in a rail offloading facility. These transportation systems work in tandem to make sure this industry is supported.

- The city of Anacortes has invested another \$1.3 million for a backage road, Old Brook Lane, to support the city road network needed to keep local trips off the state system. This project was done in conjunction with the State project, and both are required to support development of the city’s urban development. The city project was necessary to accommodate the access management improvements.
- The Swinomish tribe is also investing another \$1.5 million in further refinements to SR 20 to increase a right turn pocket for access to their tribal center.
- The Shell refinery is also looking at investing \$1.2 million for intersection widening that will allow for their oversized trucks to more easily enter the highway.

We are all working together to make the improvements needed to support the economic advancements in this area. Direct public and private investments are needed to support the economic vitality, preservation, safety and mobility. The system stewardship has been a group effort requiring, national, state, regional, tribal, city and private investments to keep people and goods moving. Our economy wants to grow and our government resources are dwindling. We are making investments that make what we have function better to serve the needs of the worst traffic hotspots first. This intersection constrains flow, limits commerce, and this investment requires the addition of a federal partner to secure this corridor’s future – so it supports this international gateway, helping the national and state economies, supporting national defense, and helping to sustain jobs and the livability of the area.

D. Results of Cost Benefit Analysis

Our benefit-cost analysis (BCA) follows the guidance set forth in the TIGER BCA Resource Guide. The guide identifies a number of cost-benefit categories that may be considered. We reviewed each of the categories to determine the availability of objective and reliable data for inclusion in our BCA (see Appendices C-1 and C-2)

The total project benefit-cost ratio, based on project design, right of way and construction costs, as well as all monetized benefits, including travel time savings, lower fuel consumption, costs, emissions, and reduction in collisions, are estimated to be 1.49 and 1.01 using 3% and 7% discount rates, respectively (see Exhibit 22). Project costs begin to accrue in 2013 and continue into 2016. The project is estimated to be operationally complete in mid-2016. Benefits begin accruing in 2016 and continue through 2035 over the project’s estimated useful life.

Exhibit 22: Benefit-Cost Summary

Benefit/Cost Summary @ 3% and 7% discount Rates		
	3%	7%
Present Value of Benefits	\$27,968,539	\$18,004,781
Present Value of Direct Project Costs (PE, RW and CN)	\$19,334,999	\$17,907,875
Benefit/Cost Ratio	1.45	1.01

Methodology

Refer to Appendix C-1 for the BCA Executive Summary, and Appendix C-2 for a detailed list of assumptions, calculations and spreadsheets used to determine the benefit-cost ratio for the proposed project.

Travel Time Reduction Benefits

This project will increase capacity and reduce wait times. It is calculated that drivers will save a combined 1,383,575 hours for cars, and 57,649 hours for trucks in the next 20 years. The societal benefits of these reductions are calculated to be \$26.7 million for cars, and \$1.52 million for trucks over 20 years (not discounted). (Refer to Appendix C-2 for information regarding travel time factors and calculations.)

Emissions Reduction Benefits

The basis of our travel-time evaluation is a finding of reduced vehicle-idling time at two key intersections, attributed to the project improvements. A variety of sources were used to convert idling-time reductions over the life of the proposed project into reduced gasoline and diesel fuel consumption, and commensurate reductions in emissions. Our BCA includes reductions in carbon dioxide, nitrogen oxides and particulate matter. Refer to Appendix C-2 for sources of emission-reduction factors and calculations.

Reduced idling will result in the following 20 years of benefits*:

- Reduced fuel consumption: 445,454 gallons saving \$3.1 million (cars & trucks)
- Reduced CO2 emissions: 4,039 MT reducing the societal cost of carbon by \$91,977
- Reduced NOx emissions: 78 MT for trucks resulting in a societal benefit of \$497,843
- Reduced PM emissions: 0.19 MT for trucks resulting in a societal benefit of \$60,136

*Societal benefits listed above are in dollars before present value discounting except for the societal cost of carbon which is discounted at 3%.

Collision Reduction Benefits This project provides intersection roundabouts and left-turn restrictions that reduce vehicle conflict points, speed and queuing at observed collision locations that will reduce the frequency and severity of collisions. With these improvements, collisions will be reduced by 157 and the societal benefit will exceed \$9.3 million over the next 20 years (not discounted).

V. Other Environmental Reviews and Approvals

National Environmental Policy Act

WSDOT has initiated environmental documentation as part of our current preliminary engineering efforts. We anticipate completing NEPA review by March 2014.

- **Proposed NEPA class of action:** This project has been scoped as a Documented Categorical Exclusion under NEPA. The following discipline reports will be required: Biological Assessments for threatened and endangered species, Wetland and Stream Assessment Report, Wetland Mitigation Report, Cultural Resources Survey, and a Hazardous Materials Report.

- ***Estimate of time required to complete NEPA and federal approvals:***
Environmental documentation in accordance with NEPA is under way but not yet completed. It is anticipated that NEPA will be completed by March 2014. The proposed project area was evaluated several years ago during a preliminary design effort, and the results of that effort will expedite the current NEPA review process. Turnaround time to complete the discipline reports is estimated at 120 days. Estimated time to complete informal ESA consultation with USFWS and NOAA Fisheries is 90 days.
- ***Planned and anticipated consultation:*** Endangered Species Act (ESA) concurrence from National Oceanic and Atmospheric Administration (NOAA) Fisheries and US Fish and Wildlife Service (USFWS); Section 106 concurrence from the Washington Department of Archaeology and Historic Preservation (DAHP).

In addition to the NEPA related approvals, the proposed project will require permits from the US Army Corps of Engineers, Washington Departments of Ecology and Fish & Wildlife, and the city of Anacortes. Wetlands are a primary resource of concern at the site, and impacts will be minimized through site specific design efforts. For unavoidable wetland impacts, WSDOT has already constructed a successful mitigation site that will serve to mitigate for any wetland impacts.

Legislative approvals

WSDOT has secured appropriate approvals for this project. This is a regional priority, and the attached letters in Appendix A serve as evidence of broad support for this necessary project.

State and regional support

Washington State Legislature, 40th District Delegation, Senator Kevin Ranker, Representative Kristine Lytton, and Jeff Morris, Skagit-Island (MPO/RTPO), Skagit, Island and San Juan Counties, Naval Air Station Whidbey, Cities of Anacortes, Oak Harbor, Coupeville, Friday Harbor, Samish and Swinomish Tribes, Tesoro and Shell Refineries, Trident and Seabear Seafood Industries, and Dakota Creek Marine Industry, Economic Development Agencies and Local Chambers.

State and local planning

This project has had many partners and participants who have advised us in the development of this project. These partners range from, international, Native American Tribes, Naval Air Station Whidbey Island, MPO/RTPO, counties, cities and industries to local chambers of commerce. This project is a priority for all these different groups because it addresses congestion issues that impact them all. Below are adopted plans that reference the need for this project that have undergone formal approval and screening.

- The project is included in the Skagit Council of Governments MPO/RTPO “Regional Project Priority List” <http://connect.paladinpanoramic.com/Project/2013/1768> and in the regional transportation plan http://resources.wcog.org/planning/plan_2007wtp.pdf.
- This project is in the STIP, and will be updated to reflect federal funding: <http://www.wsdot.wa.gov/LocalPrograms/ProgramMgmt/STIP.htm> (See Appendix D)

VI. Federal Wage Rate Certification (See Appendix E)