

Freight Mobility Strategic Investment Program 2016 Application Form

Project Summary

Project Title:	Granite Falls Bridge #102 (Mnt Loop Hwy) Replacement		
Applicant Organization			
Lead Agency:	Snohomish County		
Contact Person & Title:	James Young, Funding Coordinator		
Email:	James.Young@snoco.org		
Phone:	425-388-3784		
Address:	3000 Rockefeller Avenue, M/S 606, Everett, WA 98201		
Project Location			
City:	Granite Falls	Legislative District(s):	39
County:	Snohomish County		
GPS Coordinates:	48.61018, -121.571047		
STRATEGIC FREIGHT CORRIDOR on which this project is located. (Attach a detailed map of the proposed project and all affected adjacent routes - see Q1)			
SR 92/9			
PROJECT ADDRESSED IN REGIONAL and/or STATE TRANSPORTATION PLANS (see Q9)			
Regional Plan:	T2040		2010
	name of plan(s)		date
State Plan:	Washington State Freight Mobility Plan		2014
	name of plan(s)		date
List of Supplemental Documents:		Project Financial Summary:	
Vicinity Map (required - see Q1B) - Attached			
Traffic Data (required - see Q1C) - Excel Attached		Total Public Sector Match: \$ 25,500,000 100.0%	
Application Tab 3 - Aggregate Forecast		Total Private Sector Match: \$ 0.0%	
Application Tab 4 - New Bridge Design			
		Total Match: \$ 23,000,000 90.2%	
		FMSIB Request: \$ 2,500,000 9.8%	
		Total Project Cost: \$ 25,500,000 100.0%	
Supplemental Application Form			
used	Y		
If yes, # of pages	7		

Funding Detail

Partnerships:		Anticipated	Committed	Total
Public Sector Match				
Lead Agency Funds			\$ 4,400,000	\$ 4,400,000
TIGER	\$ 9,300,000			\$ 9,300,000
FASTLANE	\$ 9,300,000			\$ 9,300,000
				\$ -
				\$ -
Private Sector Match				
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
Partnership Total	\$ 18,600,000	\$ 4,400,000		\$ 23,000,000

Funding Allocation:		PE	RW	CN	Total
FMSIB Request					
Committed Public Sector					
Lead Agency Funds	\$ 1,800,000	\$ 100,000	\$ 2,500,000	\$ 4,400,000	
				\$ -	
				\$ -	
				\$ -	
				\$ -	
Committed Private Sector					
				\$ -	
				\$ -	
				\$ -	
				\$ -	
				\$ -	
Anticipated / Need					
				\$ -	
Total	\$ 1,800,000	\$ 100,000	\$ 2,500,000	\$ 4,400,000	
Tentative Dates	PE Completed Sep-17	RW Completed Jul-16	CN Ad Start	Completed	Sep-17 Mar-18 Oct-19

Cash Flow Needs (\$1,000's):

	pre-2015	2015-2017	2017-2019	2019-2021	2021-2023	Total
Total PE Phase	\$812,000	\$988,000				\$ 1,800,000
Total RW Phase		\$100,000				\$ 100,000
Total Const. Phase			\$ 7,000,000	\$ 16,600,000		#####
FMSIB Request			\$ 750,000	\$ 1,750,000		\$ 2,500,000
			Project Total	\$ 25,500,000		100.0%
			Partnership Total	\$ 23,000,000		90.2%
			FMSIB Total	\$ 2,500,000		9.8%

Detailed Project Information

In addition to the Project Summary and Funding Detail submitted on page 1 and 2, the following information is required in order for this funding application to be considered complete.
Refer to the Freight Mobility Strategic Investment Program 2016 Guidelines and 2016 Criteria documents for further details and additional guidance.

Project Narrative and Required Supplemental Data:

Q1: Description and scope of project and supplemental data:
Q1A: Truck/Rail industry contact names
Q1B: Vicinity and benefitted area map(s)
Q1C: Traffic Data

Freight Mobility for the Project Area:

Q2: Truck travel times, with and without the project, and other freight travel time benefits
Q3: Other project benefits
Q4: Calculate truck volume to capacity ratio
Q5: Rail capacity improvements

Freight Mobility for the Region, State, & Nation:

Q6: Significance of the project to regional economy
Q7: Significance of the project to state economy
Q8: Relation of project to port or international boundary access
Q9: Relation of project to a regional, state, or national freight corridor

General Mobility:

Q10: Non-truck travel times, with and without the project
Q11: If project includes at-grade railroad crossing improvements, reduction in travel delays
Q12: If project includes at-grade railroad crossing improvements, travel time to an unobstructed crossing
Q13: Is project improving an urban principal arterial

Safety:

Q14: Accident history
Q15: Emergency vehicle access
Q16: Extent of railroad crossing closure

Freight and Economic Value:

Q17: Benefit to mainline rail operations
Q18: Key employment areas
Q19: Improved train speed

Environment:

Q20: Non-attainment area
Q21: Sensitive receptor sites
Q22: Sustainability policies and plans
Q23: Air quality

Partnerships / Costs / Special Issues:

Q24: Critical timing of partnership investments
Q25: Project quantitative benefits
Q26: Least-cost alternatives
Q27: Special or unique circumstances

Signature and Certification

Detailed Project Application

Note: If inadequate space is provided for individual responses, please utilize the Supplemental Application Form (if utilized, note its use on the cover sheet)

Project Narrative and Required Supplemental Data:

Q1 Please describe the scope of the freight mobility project and how the project will:
(a) reduce barriers to or increase capacity for improved freight movement; and/or
(b) mitigate the impacts on local communities of increasing freight movement, including rail and road conflicts.

Reducing barriers or increasing capacity includes: truck climbing lanes, realignment and rerouting project to avoid excessive truck climbing grades or general congestion; alternate truck routes; dedicated truck lanes; access into and/or out of ports, intermodal freight facilities and freight terminals; truck turning lanes; changes in roadway or intersection geometry to better accommodate trucks; increasing weight limits; and the use of Intelligent Transportation Systems (ITS).
 Mitigation includes grade separations, mitigating impacts of increasing truck and/or railroad traffic to a community and can be the use of ITS.

Answer: Please see additional information in the Supplemental Application Form. Granite Falls

Bridge #102 is located on the Mountain Loop Highway in East Snohomish County, WA. This is a principal county arterial and a scenic road heavily used by thousands of visitors to the Mount Baker-Snoqualmie National Forest. Heavy trucks hauling thousands of tons of construction materials that support economic growth in the Greater Puget Sound area also use this highway as well as local Granite Falls adults and children making their way to work and school.

Use of the highway is growing, proportionally with growth in the Puget Sound Region. In 2011 Snohomish County and the City of Granite Falls completed the Granite Falls Alternate Route Project. This project was funded, in part, by FMSIB and federal and local funds. A principal purpose of the Alternate Route project was to alleviate truck delays created by trucks having to navigate city streets. This was the most significant freight capacity problem (choke point) in moving building materials from quarries and timberlands to the north and east of Granite Falls. The Alternate Route connects the highway with SR 92, a FMSIB Strategic Freight Corridor and T-2 highway. The proposed project will relieve the second most significant freight capacity problem which consists of a bottleneck created by Granite Falls Bridge #102. Projects that solve both of these freight capacity problems have been part of a countywide program to improve connectivity between communities for all forms of highway traffic. Consistent with that effort, an application has been made through the Federal Lands Access Program for an analysis of possible improvements of Mountain Loop Highway between the bridge and the Town of Darrington/SR 530. No decision has been made at the time of this application.
 (Continued in the Supplemental Application.)

Q1A Provide the names, contact information, and comments of the truck and/or rail representatives consulted on this project.

Answer: We contacted three Quarry Businesses: 1) Lee Langley, Iron Mountain Quarry, 20800 North Gun Club Road, Granite Falls, WA, 98252 425-486-3346 and 2) Jason Lian, Plant Superintendent, and Leon Syrdykl, District Manager, CEMEX, 22022 Mountain Loop Highway, Granite Falls, WA 98252 (360) 691-3542. 3) Annette with Aggregates West who was permitted to use the Green Mountain Mine, 26709 Mountain Loop Highway, Granite Falls, WA 98252 (360) 966-3641. All of the companies were helpful in assisting us with delivery information including tonnage, trips and locations.

Q1B Provide a map identifying the extent of the proposed project and identify all transportation facilities directly affected by the proposal. (Provide this information as a separate document submitted with the hardcopy transmittal of the completed application.)

Q1C Provide traffic data within the project boundaries describing four scenarios:

- (1) current traffic values with no project**
- (2) current traffic values with project completed, if different than (1)**
- (3) predicted traffic values 10-years in the future with no project**
- (4) predicted traffic values 10-years in the future with project completed, if different than (3)**

Required "Traffic Values" for each of 1-4 above:

- (1) Percentage of various vehicle types**
- (2) Average weekday/average weekend**
- (3) AM and PM peak period volumes, or 24-hour continuous fluctuation, for both travel directions for vehicles**
- (4) Provide separate peak period data, or 24-hour continuous fluctuation, pertaining to trucks if freight movement has different timing/peak flow characteristics than other traffic**

(Provide this information as a separate document submitted with the hardcopy transmittal of the completed application.)

Freight Mobility for the Project Area:

Q2 Provide travel time for truck traffic between logical termini that reflect the benefits of the proposal:

- **during free-flow with and without the project**
- **during current truck peak hours with and without the project**
- **during truck peak hours 10-years in the future with and without the project**

Include with the response a description of the logical termini utilized.
(Provide this information below or submit this information as a separate document attached to the hardcopy transmittal of the completed application.)

Answer: Please see attached traffic data.

Q2 continued

Describe other freight mobility benefits from reduced truck travel time as a result of the project.

Answer: Due to the nature of what they produce and the cost of transport, these quarries cannot economically ship their product more than 50-75 miles. There is no viable alternative, over the long or even medium term, for shipping aggregate products to the Puget Sound Region; the only truck accessible detour requires a 188 mile round trip which is not sustainable for more than approximately four weeks before it is more effective for the quarries to temporarily shut down. The crossing at Granite Falls is truly an economic lifeline for the success of the Region. PSRC information visit: <http://www.psrc.org/transportation/t2040>

Conversely, there are no other quarries within the 50-75 mile radius to make up the difference over the long term. Thus, the cost of aggregate products for the region can reasonably be expected to rise with the loss of the Granite Falls operations for a protracted period of time.

While heavy trucks account for approximately one-third of the traffic on average, a reliable crossing at the current location benefits general traffic as well.

According to the WA State Department of Natural Resources, on average, each Washington resident uses about 13.5 tons of aggregate per year. Demand can be linked to projected population growth. The cost of transport for aggregate doubles every 25 miles traveled by truck from the mine source. In 2010, Washington State had 955 permitted mines. (Please see 3rd tab - Aggregate Demand Forecast).

Q3 What are some of the benefits that this project will have to improve safety, eliminate noise, reduce emissions, eliminate grade crossings, reduce vehicular delays, or result in other environmental benefits?

Answer: The existing bridge creates a bottleneck and is not wide enough for two trucks to pass. This causes traffic delays and congestion. Trucks need to wait on either end of the bridge to allow for a large vehicle to pass in the opposite direction. This is particularly problematic because the bridge is heavily used by trucks in the mining and timber industries. Construction materials are constantly being transported on the bridge from the local mines and timberlands to the Greater Puget Sound area. The eastern bridge approach profile causes vehicles, especially loaded heavy trucks, to bottom out at the bridge superstructure. Based on Summer 2015 peak hour traffic counts, there is an average of 64 heavy vehicles (trucks and buses) per hour that cross the bridge.

The Granite Falls School District provides transportation for students on the Mountain Loop Highway year round. There are 203 students picked up in the morning and 236 in the afternoon with a total of 36 daily trips across the bridge.

The bridge is only 20 feet wide from face-of-curb to face-of-curb. This narrow width makes it challenging even for two sedans to pass each other. The proposed bridge will be 30' wide face-of-curb to face-of-curb. The new structure will be wide enough for construction trucks and large vehicles to fit concurrently without having to wait on either end of the bridge. The bridge will also include 5 foot sidewalks on both sides. Replacing the bridge will reduce noise and emissions from idling trucks, buses, and passenger vehicles. It will also reduce traffic delays.

Q4 What is the improvement in the volume to capacity ratio (v/c) for truck peak-hour movements? (Perform the following calculation. If you believe this question does not apply or cannot be performed as outlined, explain why within the space provided for assumptions. If multiple intersections and/or dissimilar roadway segments are involved, the applicant should provide this information as a separate document attached to the hardcopy transmittal of the completed application.)

Describe any assumptions utilized in gathering and/or applying the data:

Answer: Please see complete answer in the Supplemental Application Form.

Note: HCM = 2000 ITE Highway Capacity Manual

For determination of truck volume to capacity ratio for intersection improvements, go directly to Step 4, skipping Steps 1 and 3.

Step 1: Calculate the current peak hour truck volume

Current peak volume	(A)	<input type="text" value="332"/>	vehicles / hour
Current truck percentage	(B)	<input type="text" value="20.0"/>	%
Current peak hour truck volume (C = A x B / 100)	(C)	<input type="text" value="66.4"/>	trucks/peak hour

Step 2: Convert peak hour truck volume to passenger car equivalents

Factor for converting trucks to passenger car equivalents (PCE) Use a factor of 1.5 except for the following conditions: For <u>upgrades</u> use the value from Exh 21-9 of the HCM using the specific site conditions For <u>downgrades</u> use the value from Exh 21-11 of the HCM using the specific site conditions	(D)	<input type="text" value="2.40"/>	PCE
Passenger car equivalents (E = C x D)	(E)	<input type="text" value="159"/>	PCE's / peak hour

Step 3: Determine the current facility capacity (without the project)

Highway capacity value from the HCM For multilane highways, use the value from Exh 21-2 for the posted speed and LOS D For basic freeway sections on four-lane or more freeways, use Exh 23-2 for the posted speed and LOS D	(F)	<input type="text" value="1550"/>	PCPHPL
Number of current lanes in the direction of peak hour flow	(G)	<input type="text" value="1.0"/>	lanes
Current capacity (H = F x G)	(H)	<input type="text" value="1550"/>	PCPH

Step 4: Determine the current truck volume to capacity ratio (v/c)

For Intersections --- The capacity value (I) is typically computed using computer software developed for this purpose, or can be hand calculated using the procedure established in the HCM (Chapter 16 for signalized intersections, or Chapter 17 for un-signalized intersections)	(I)	<input type="text" value=""/>	capacity
Intersection truck v/c (J = E / I)	(J)	<input type="text" value="#DIV/0!"/>	int. truck v/c
OR			
For Highways			
Highway truck v/c (J = E / H)	(J)	<input type="text" value="0.103"/>	hwy. truck v/c

Step 5: Determine the projected truck volume to capacity ratio using the methods presented in the above Steps 1 through 4 with the proposed improvements in place

Step 1:

Current peak volume	(a)	404	vehicles / hour
Current truck percentage	(b)	20.0	%
Current peak hour truck volume (c = a x b / 100)	(c)	81	trucks/peak hour
Step 2:			
1.5 or HCM Exh 21-9 or HCM Exh 21-11	(d)	2.30	PCE
Passenger car equivalents (e = c x d)	(e)	186	PCE's / peak hour
Step 3: With project improvements in place			
HCM Exh 21-2 or HCM Exh 23-2	(f)	1550	PCPHPL
number of lanes	(g)	1.0	lanes
Capacity (h = f x g)	(h)	1550	PCPH
Step 4:			
Intersection capacity with improvements in place	(i)		capacity
Intersection truck v/c (K = e / i)	(K)	#DIV/0!	int. truck v/c
OR			
Highway truck v/c (K = e / h)	(K)	0.120	hwy. truck v/c
Step 6: V/C Improvement			
Enter "J" from the intersection <u>or</u> highway calculation above	(J)	0.103	v/c w/o project
Enter "K" from the intersection <u>or</u> highway calculation above	(K)	0.120	v/c w/ project
V/C Improvement (L = J - K)	(L)	-0.017	
(Note: a value of zero will be utilized for evaluation purposes if the calculation result is less than zero)			

Q5 If this project results in improved railroad operating efficiencies, please describe the increases to train velocity, the reduction in train delays, and increases in capacity.

Answer: N/A This is a bridge replacement project on a freight corridor.

Freight Mobility for the Region, State, & Nation:

Q6 What is the significance of this project to the regional economy? Describe the project's impact on the regional freight transportation system and the regional economy (i.e., nature of the improvement and principal freight moved; improved intraregional and interregional freight movement in terms of products, industries and direct employment; improved freight movement and access to domestic and international markets in terms of freight, industries and direct employment; benefits to other regional industries; and access and links to intermodal connections and facilities.)

Answer: **Please see additional information in the Supplemental Application Form.** The replacement of Granite Falls Bridge # 102 will improve the movement of freight within Snohomish County and into the Greater Puget Sound Region. The principal freight being transported consists of construction materials (quarried sand and gravel that produce raw materials known as aggregate. Also, timber) that are prime products in the construction industry. For instance, aggregate is necessary to manufacture concrete, asphalt, and other products. These products are essential building materials for homes, businesses, roads, and bridges. Washington produces approximately \$363 million worth of aggregate annually. Aggregate is the most valuable mineral commodity in the state. **(Continued in the Supplemental Application).**

Q7 What is the significance of this project to the state economy? Describe the project's impact on the state (outside the region) freight transportation system and the state (outside the region) economy. (i.e., improved intrastate freight movement in terms of products, industries and direct employment; improved freight movement to domestic and international markets in terms of freight, industries and direct employment; and benefits to other state industries.)

Please see complete information in the Supplemental Application Form.

Q8 Does the project improve the freight movement for direct port access or across an international border?

Yes No

If yes, explain the proximity and the relationship of the project to the port or border and how it improves freight flow.

Answer: Quarries in the bridge replacement area deliver aggregates and other materials to the Port of Everett, including the Burlington Northern Santa Fe (BNSF) Delta Rail Yard at the Port of Everett. They also deliver to the Naval Yard, Department of Transportation, and local area businesses. One of the largest volume companies (permit to haul 1.5 million tons) is on the breakwater supply list for the Port of Everett. There are many upcoming construction projects on the waterfront in Everett and Mukilteo; including a new Ferry terminal. In order for the quarries on the far side of the bridge to deliver aggregates and other materials to the port, the quarries must cross the Granite Falls Bridge #102, the Granite Falls Alternative Route, Highway 92, Highway 9, Highway 2, and Interstate 5. The approximate mileage from the largest quarry to the Port of Everett is 23 miles one way.

Q9 Is this project part of a regional corridor solution or major system improvement?

Yes No

If yes, is your regional planning council supportive of the project? Describe.

Answer: The proposed project is specifically included in the Transportation Element of the Snohomish County GMA Comprehensive Plan (Comp Plan). Because of its connection with the Granite Falls Alternate Route (GFAR) Project, it is implicitly included in Transportation 2040 (T2040, ID#1950), Appendix J, the Regional Freight Strategy, the Metropolitan Transportation System (MTS), and on the Washington State Truck Freight Corridors Map contained in the Washington State Freight Mobility Plan. The Granite Falls Bridge #102 Replacement project proposed in this application is designed and aligned to intersect with the GFAR Project to efficiently move heavy trucks around the community, intercept with SR 92 (a T-2 freight corridor) and channel freight materials to the Puget Sound Metro Area.

If yes, list the state and regional plans which include the proposed project. List the stakeholders involved and describe the process by which the proposed project was selected and prioritized.

Answer: T2040, Regional Freight Strategy – 2010
 Adopted by the region’s Economic Development District in September 2005, the Regional Economic Strategy is a federally required “comprehensive economic development strategy” (CEDs). It also serves as the economic functional plan of VISION 2040.

This Regional Freight Strategy represents PSRC’s efforts to create recommendations that will support the continued efficiency and productivity of the regional freight transportation system. These recommendations recognize the importance of freight, while at the same time recognizing PSRC’s commitments to supporting strong, healthy communities, inclusive growth patterns, and protection of the natural environment. These recommendations (which are summarized in Section 5 of this Strategy) will be carried forward within the Transportation 2040 framework and will form the basis of a long-term regional freight strategy that both supports freight, while minimizing its impacts on communities and the natural environment.

Transportation 2040 prioritizes investments for those parts of the region expected to accommodate the most growth, especially centers and compact urban communities. It implements the VISION 2040 Regional Growth Strategy by targeting transportation investments that provide capacity for 5 million people in 2040, ensuring that people can get to work and recreation, that freight and goods movement can supply businesses and factories, and that ports can continue to function as regional and international trade gateways.

Washington State Freight Mobility Plan

General Mobility:

Q10 Provide travel time for non-truck traffic, between logical termini that reflect the benefits of the proposal:

- free-flow with and without the project
- during current AM and PM peak hours with and without the project

Note if this is the same logical termini as used in Q2. If it is a different one, include with the response a description of the logical termini utilized.
(Provide this information below or submit this information as a separate document attached to the hardcopy transmittal of the completed application.)

Answer: One set of travel times was run for all vehicles due to the following reasoning. There is no passing allowed on this narrow 2-lane facility so we reasoned the truck values will be the same as the values for all vehicles. The section evaluated for travel time was the Mountain Loop Highway from State Route 92 (Quarry Road) to Canyon Drive. That corresponds to Road Log Number 98960: Milepost 0.964 – 2.340 in CRAB Mobility Database. Bridge 102 runs from milepost 1.740 to milepost 1.800 with the Bridge Center at milepost 1.770. The posted speed on this section is 35 mph. Please see the Q2 description for further information including logical termini and other factors.

Describe other non-truck traffic benefits from reduced travel time as a result of the project.

Answer: The obsolete geometry of the bridge requires significant speed reductions, i.e., the posted speed limit on both bridge approaches is 45 mph while the approaches and the bridge are posted at 35 mph; when a heavy truck passes any vehicle on the bridge the effective speed is significantly less than the posted speed for safety reasons. The Granite Falls Bridge is a bottleneck. The new bridge’s geometry and vertical profile will improve conditions to accommodate trucks and passenger vehicles at the same time.

Q11 If the project involves an at-grade road/railroad crossing, what is the reduced queuing and backup as a result of this project? (perform the following calculation or **ignore if not applicable**)

Using the Watson Equation: $Q = V \times R$
 Q = Average queues length (in number of vehicles per lane)
 V = Volume expressed in ADT divided by number of lanes in one direction
 R = Percentage of time per day either the crossing is closed or vehicles are stopped at a crossing

Step 1: Calculate the current queuing (without the project)		
Current Average Daily Traffic (ADT)	(A)	vehicles / day
Number of lanes in one direction	(B)	lanes
Volume per lane ($C = A / B$)	(C)	#DIV/0! vehicles / lane
Current closure or stoppage time either measure or calculated	(D)	%
Average queue length ($E = C \times D / 100$)	(E)	#DIV/0! vehicles / lane
Step 2: Calculate the projected queuing with the proposed improvement		
Projected Average Daily Traffic (ADT) (current +10-years)	(F)	vehicles / day
Number of lanes in one direction with proposed improvements	(G)	lanes
Volume per lane ($H = F / G$)	(H)	#DIV/0! vehicles / lane
Estimate or calculated closure or stoppage time	(I)	%
Average queue length ($J = H \times I / 100$)	(J)	#DIV/0! vehicles / lane
Step 3: Reduction in queuing ($K = E - J$) (Note: a value of zero will be utilized for evaluation purposes if the calculation result is less than zero)	(K)	#DIV/0! vehicles / lane

Supplemental Notes:

Q12 If the project involves an at-grade road/railroad crossing, what is the shortest travel time to an unobstructed crossing in minutes?

Answer: N/A No Railroad Crossing.

If present queuing can result in emergency vehicle delay, describe the most logical alternate emergency vehicle route and include the added distance and travel time.

Answer: If the bridge was to fail, the detour route is 94 miles long which takes approximately three hours.

Q13 Is the project on a designated urban principal arterial?

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
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Safety:

Q14 Have there been any accidents at the project location that this freight project will help reduce?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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If yes, summarize the 5-year accident history and explain how the project will reduce each type of accident.
(Separate railroad crossing accidents from non-railroad crossing accidents. Provide this information below or submit this information as a separate document attached to the hardcopy transmittal of the completed application.)

Answer: Please see complete answer in the Supplemental Application Form.

Q15 Is the project located on an essential emergency vehicle access route?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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If yes, describe (i.e., fire, police, ambulance, school bus route and include closest alternative emergency access)

Answer: Please see complete answer in the Supplemental Application Form.

Q16 Does this project result in additional road/rail closures?

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
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If yes, how many and where?

Answer: The existing bridge will remain open during construction.

Freight and Economic Value:

Q17 Does the project result in operational efficiencies to the railroad network/system and benefit economic development and the overall capacity and movement of freight within the State/Region?

Answer: Please see additional information in the Supplemental Application Form. Granite Falls Bridge #102 is of strategic importance to Snohomish County and the Puget Sound area because it is a direct connection between resource materials and a T-2 freight corridor that moves 4 to 10 million tons of construction materials per year. The Granite Falls Bridge #102 Replacement project proposed in this application is designed and aligned to intersect with the Granite Falls Alternate Route Project to efficiently move heavy trucks efficiently around the community to intercept with SR 92 and channel them towards the Puget Sound Metro Area. (Continued in the Supplemental Application.)

Q18 Does the project improve access to key employment areas?

Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
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If yes, describe and include the number of temporary jobs created during construction and the number of permanent jobs preserved and/or created. Include the names of businesses and/or the types of permanent jobs affected.

Answer: Please see complete answer in the Supplemental Application Form.

Q19 If, as a result of this improvement, train speed limits can be increased, will the applicant be supportive?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
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If yes, describe level of support. If no, why?

Answer: N/A

Environment:

Q20 Is the project located in a non-attainment area for air pollution control?

Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
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Q21 How many sensitive receptor sites are affected by the reduction in train whistle noise in the vicinity of the grade separation? (Vicinity is identified as a quarter of a mile up and down the track and 600 feet each side of centerline. Sensitive receptor sites include residences, schools, churches, hospitals, hotels and motels, each counted as individual facilities.)

Answer: There are no sensitive receptor sites affected by train whistle noise. This is a bridge replacement project on a freight corridor.

Q22 What sustainability (i.e., greenhouse gas reduction (GHG)) policies and plans has the applicant adopted? (These could be in project design, construction, maintenance and/or operations.) Will these plans or policies be used in developing the project and to reduce the use of fossil fuels (GHG) emissions?

Answer: Snohomish County is making government operations more environmentally and economically sustainable. Through a combination of policy development, adjustments to existing programs and processes, and projects that produce results, the County is working across departments and agencies to implement change. We have a Sustainable Operations Action Plan (SOAP), an Environmentally Preferable Purchasing Policy and monitor our Benchmark and Progress Reports. Snohomish County Public Works operates in a sustainable manner that allows new solutions to be developed in environmentally and socially responsible ways, while striving to deliver services and infrastructure which citizens expect, with the best economic choice in the long run. Granite Falls Bridge #102 Replacement project will follow environmentally sustainable design and construction best practices. The environmental benefit to this project is that diesel emission related air quality impacts remain at minimum levels as trucks will continue to use the most energy efficient route. Maintaining air quality is a major environmental benefit.

Q23 Freight projects have the potential to not only improve the movement of commerce, but also improve local air quality. Explain how this project provides an overall health and environmental benefit. (e.g. reduction of particulate emissions, contribution to attainment standards in non-attainment area, etc.) How was the information and evaluation arrived at to support the benefit statement? (e.g. traffic model, air emissions model, etc.)

Answer: **Please see additional information in the Supplemental Application.**

Should the bridge fail, or need to be closed for maintenance, the detour route is 94 miles on a route that is closed during the winter months and a portion of it is built to minimal forest service standards. The detour is approximately three hours long. This alternative route results in lost time, lost value, higher rate of diesel-related emissions and increased safety conflicts on the detour route.

Snohomish County is making government operations more environmentally and economically sustainable. Through a combination of policy development, adjustments to existing programs and processes, and projects that produce results, the County is working across departments and agencies to implement change. We have a Sustainable Operations Action Plan, an Environmentally Preferable Purchasing Policy and monitor our Benchmark and Progress Reports.

- Snohomish County Public Works operates in a sustainable manner that allows new solutions to be developed in environmentally and socially responsible ways, while striving to deliver services and infrastructure which citizens expect, with the best economic choice in the long run. Granite Falls Bridge #102 Replacement project will follow environmentally sustainable design and construction best practices. The proposed project implements this approach. The proposed structure will be designed to current, rigid seismic standards. This ensures it stays open, even following a major seismic event and thus prevents the detour situation previously described. The environmental benefit to this approach is that diesel emission related air quality impacts remain at minimum levels as trucks will continue to use the most energy efficient route. Maintaining air quality is major environmental benefit. (Continued in the Supplemental Application.)

Partnerships / Costs / Special Issues:

Q24 What is the timing for the implementation of the proposed project (i.e., matching with other state/federal funds, phasing with other projects, meeting a concurrency requirement)? Are there critical timing issues associated with this project? (e.g. available funding that may expire, project impact, deteriorating infrastructure or other critical timing issues.)

Answer: Please see additional information in the Supplemental Application Form

Significant Schedule Milestones include:
 ROW Phase Summer 2016
 60% PS&E Fall 2016
 90% PS&E Spring 2017
 Final PS&E Fall 2017
 Environmental Phase Fall 2017
 Construction Spring of 2018 – Fall of 2019 (two construction seasons)
 of funds is anticipated to occur in late 2017 or in the early months of 2018. Obligation

The schedule presented above is dependent on a unique confluence of opportunities that address a principal concern expressed freight stakeholders during preparation of T2040, Appendix J, the Regional Freight Strategy. Specifically – freight stakeholders expressed concern over the lack of dedicated freight funding in view of the deteriorating condition of freight dependent infrastructure equal to or greater than the pace of deteriorating general purpose infrastructure. Last mile/first mile improvements such as this application are consistently subjugated to projects that serve more vehicles but are only coincidentally, if at all, related to freight mobility. This Call for Projects by FMSIB comes at a unique time to concurrently pursue two other funding programs that address this obstacle to freight mobility improvements. It is also significant to note that this FMSIB opportunity is a timely and critical counterbalance to the lack of other non-federal funding assistance. The Highway Bridge Program, administered by BRAC, is not an option. Due to funding limitations on that program, BRAC will only accept applications for bridge with Sufficiency Ratings (SR) of less than 40; the SR for the Granite Falls Bridge is 41. This SR does not mean that the investment should not be made; the SR does not consider operational efficiency, only load bearing capacity. As shown in the Funding Detail matrix, this application is fiscally structured so that local and FMSIB contributions are substantially consistent with the non-federal portion of the Highway Bridge Program – 20%. (Continued in the Supplemental Application.)

Q25 What are the greatest quantitative benefits of this project? (i.e. reduced truck/train delay, lowered v/c ratio, improved travel for trucks, job creation/retention, etc. --- this information will be used by FMSIB to develop a cost effectiveness measure.)

Answer: Granite Fall Bridge #102 was first recommended for replacement in the 2012 Snohomish County Public Works Annual Bridge Report due to the following:

A. Current Transportation Challenge
 The existing bridge is not wide enough for two trucks. Trucks need to wait on either end of the bridge to allow for a large vehicle to pass in the opposite direction. This is particularly problematic because the bridge is heavily used by trucks in the mining and timber industries. Construction materials are constantly being transported on the bridge from the local mines and timberlands to the Greater Puget Sound area. In 2014, there was an average of 1,200/day heavy trucks that crossed the bridge. Also, the bridge is a school bus route. The Granite Falls School District provides transportation for students on the Mountain Loop Highway year round. There are 203 students picked up in the morning and 236 in the afternoon with a total of 36 daily trips across the bridge. The bridge is only 20 feet wide from face-of-curb to face-of-curb. This narrow width makes it challenging even for two sedans to pass each other.

B. Bridge Strategic Value (Preventive Measure)
 The condition of the existing bridge is not reliable in the long term. The bridge is eighty-one years old and coming close to the end of its useful life. The structure is a hinged steel truss which eliminates the possibility of widening the bridge. This type of bridge is no longer approved for construction. The existing structure is structurally deficient, functionally obsolete, and fracture critical (has a sufficiency rating of 41). With this in mind, we know it is only a matter of time before the existing structure can no longer support traffic. If the current bridge was to fail, the detour route is 94 miles on a route that is closed during the winter months and a portion of it is built to minimal forest service standards. The detour is approximately three hours long.

Q26 Describe the degree to which least-cost alternatives were analyzed and considered for this project.

Answer: Snohomish County has assessed the technical feasibility of the Granite Falls Bridge #102 Replacement project by conducting early planning design activities. These activities include an Alternative Creation Workshop and the completion of a Type, Size, and Location Study Report (TS&L Report) completed in November 2012. For Granite Falls Bridge #102 TS&L Report, see project Website (<http://wa-snohomishcounty.civicplus.com/DocumentCenter/View/20885>)

The TS&L Report includes investigation and documentation on:

- Existing Conditions
- Code Design Requirements
- Roadway Geometrics and Alignment
- Right-of-Way and Easements
- Surface Water Management
- Environmental
- Utilities
- Geotechnical Design Recommendations
- Alternative Constructability Analysis
- Alternative Cost Comparison

Q27 Describe the uniqueness of this project based on factors not addressed by previously asked questions.

There are several unique considerations associated with this proposed project; these include but are not limited to: 1.) the alternative to this improvement is a 94 mile detour route which is both non-economical and below national standards for emergency service; 2) this is a preventive as well as corrective project as future traffic consistent with the provided projections will not be adversely affected by the functional obsolescence of the bridge; 3.) the bridge is of strategic importance as the materials transported support growth and development in both a regional and statewide context; 4.) it completes a last mile or bottleneck in a transportation facility delivering critical material to major destinations and, as such, supports T2040 and; 5.) it supports prior FMSIBG investments at both the Granite Falls Alternate Route and the Port of Everett. For additional information, please see the project website: <http://snohomishcountywa.gov/608>

Signature and Certification

<p>Freight Mobility Strategic Investment Program Application Form</p> <p>Certification</p> <p>Applicant Organization (To be signed by the Mayor, Chair or Executive Director of the Sponsoring Agency)</p>			
<p><i>I certify that</i> Snohomish County <i>supports the proposed enhancement</i> (sponsoring agency)</p> <p><i>project, has the legal authority to pledge matching funds, and has the legal authority to apply for Freight Mobility Strategic Investment Board funds. I further certify that matching funds are available or will be available for the proposed project. I understand that this is a request for reimbursement through the state system, and that all state rules for contracting, auditing, and payment will apply to this project.</i></p>			
Signature		Date	14-Mar-16
Printed Name and Title	Steven E. Thomsen, Public Works Director		
Project Title	Granite Falls Bridge #102 (Mnt Loop Hwy) Replacement		

Submission Requirements:

1. Respond to all applicable questions and prepare/provide all requested information;
2. Print a hardcopy of the completed application form (including the supplemental application form if used), sign, and date;
3. Transmit electronically the above completed application form to FMSIB in .xls format, including completion of the cover sheet noting the supplemental documents that will be attached to the submission; and
4. Mail or otherwise deliver the signed hardcopy application form, including all required and optional supplemental documents as attachments.

Detailed Project Information --- Supplemental Application Form

Utilize this Supplemental Application Form ONLY for those responses that do not fit within the space provided on the FMSIB Application Form

Project Narrative and Required Supplemental Data:

Q1: Description and scope of project

Purpose and Need

-Increase freight capacity by reducing barriers to freight movement

The existing bridge is not wide enough for two trucks. Trucks larger than FHWA Class 5 and/or school buses, FHWA Class 4, need to wait on either end of the bridge for similarly sized vehicles to pass in the opposite direction. This is particularly problematic because the bridge is heavily used by trucks in the mining and timber industries. Traffic counts from 2015, the most recent complete information available, indicate that these classes of vehicles comprise over 13% of bridge traffic during peak hours. Moreover, the obsolete geometry of the bridge requires significant speed reductions, i.e., the posted speed limit on both bridge approaches is 45 mph while the approaches and the bridge are posted at 35 mph; when a heavy truck passes any vehicle on the bridge the effective speed is significantly less than the posted speed for safety reasons. The Granite Falls Bridge is a bottleneck. The new bridge's geometry and vertical profile will improve conditions to accommodate trucks.

-Mitigate the impact on local communities of increasing freight movement

Discussions with quarry operators and the USFS indicate projected increased activity in the mining and timber industries that transport building materials over the bridge. Quarry customers and destinations include The Port of Everett, including Naval Station Everett, WSDOT, BNSF and various building supply destinations. For example, the Boeing 777X wing plant was receiving a truck from these quarries every six minutes during construction of the foundation. Aggregate products typically comprise approximately 60%, by volume, of the material in any large commercial building.

Freight traffic on the bridge is expected to increase as mines southwest of the bridge are closed due to declining material and urban growth pressure. The Urban Growth Boundary for Granite Falls extends almost to the bridge; Granite Falls UGA is the fastest growing community in Snohomish County based on population, employment and housing units. Similarly, much of the land along the Mountain Loop Highway is owned by private timber companies. As with aggregates, the private timber owners are expecting future growth which is associated with the growth in the Puget Sound region. Both industries are strategically located to provide primary building materials to the I-5 corridor.

Q1A: Truck/Rail industry contact names

Answer:

Q1B: Vicinity and benefitted area map(s)

Provide as a supplemental document attached to the hardcopy signed application only.

Q1C: Traffic Data

Provide as a supplemental document attached to the hardcopy signed application only.

Freight Mobility for the Project Area:

Q2: Truck travel times, with and without the project, and other freight travel time benefits

Answer:

Q3: Other project benefits

Answer:

Q4: Calculate truck volume to capacity ratio

Answer: Calculating the Volume/Capacity Ratio for this project is not a reliable analytical exercise for this project. The calculation assumes that there will be changes in the way passenger cars and large freight vehicles co-exist in a corridor or on a structure. Passenger cars are essentially unaffected by the current operating characteristics of the bridge as they can pass the largest vehicles with relative safety. Rather – it is freight traffic and school buses that are uniquely impacted by lack of the improvement, i.e., two such vehicles not being physically able to pass each other safely.

Using weekday traffic count data from June, 2015 it appears that the volume of impacted traffic, heavy freight vehicles ranges between 41-55 vph; directional data is not available but it can be assumed that it is relatively equal as these vehicles do not make long trips – typically, less than 75 miles each way. Therefore it is reasonable to expect that a majority of these trucks experience the several minutes waiting period for one direction or the other. These hours cannot be effectively spread out to relieve the impact due to the just-in-time delivery requirements of the products being moved.

Statistically, v/c analysis does not yield any meaningful results in this instance. The traffic volume over the bridge averages about 5,000 vph. This is not sufficient to yield any results that could be interpreted. The analysis appears to only yield any analyzable results if vpd is 10,000 or greater.

The other significant capacity consideration that is not captured in the prescribed analytical format is emergency access. Under the current configuration, even a relatively minor incident can close the bridge. This necessitates emergency vehicles using the previously referenced 94 mile detour to provide the dispatched service. This is far in excess of national standards for emergency service provision.

Q5: Rail capacity improvements

Answer:

Freight Mobility for the Region, State, & Nation:

Q6: Significance of the project to regional economy

Snohomish County GMA Comprehensive Plan (Comp Plan). Because of its connection with the Granite Falls Alternate Route (GFAR) Project, it is implicitly included in Transportation 2040 (T2040), Appendix J, the Regional Freight Strategy, the Metropolitan Transportation System (MTS), and on the Washington State Truck Freight Corridors Map contained in the Washington State Freight Mobility Plan. The Granite Falls Bridge #102 Replacement project proposed in this application is designed and aligned to intersect with the GFAR Project to efficiently move heavy trucks around the community, intercept with SR 92 (a T-2 freight corridor) and channel freight materials to the Puget Sound Metro Area.

The Comp Plan specifically acknowledges that freight mobility is a pivotal factor in the County's ability to stay economically competitive in the regional marketplace. It goes on to note that the transportation industry is emphasizing just-in-time delivery of products, thereby relying on the transportation system to function so as to provide a reliable flow of goods. This is an important consideration given that the majority of freight traffic on the Granite Falls Bridge transports mineral aggregates. In such instances, these products are being delivered directly to the work site. In constrained urban work areas there is no room for stockpiling. Thus, the freight transportation system fills two functions: 1.) product delivery and 2.) that of a mobile "on-deck area" where availability is timed to coincide with that material just installed. Reliable and predictable delivery of construction materials is a critical factor. Thus, replacement of the bridge was specifically identified in the County Transportation Needs Report in 2013, shortly after completion of the Granite Falls Alternate Route Project.

It is significant to note that one of the implementation strategies in the Transportation Element is to "aggressively seek funding for freight and goods-related improvements". Traditional bridge replacement funding sources are not available to this project. The Highway Bridge Program, administered through BRAC, has set the sufficiency rating (SR) for bridge replacement applications slightly below the SR for this structure. The SR calculation does not include delay/congestion data, only load bearing capacity and ADT. The project is outside the boundary of eligibility for the Transportation Improvement Board and CRAB resources for the 2017-2019 biennium are already committed. Subsequent to this application, the County is pursuing funding from both the TIGER and FASTLANE programs. Local and FMSIB funding is set at approximately 20% to be equivalent to BRAC funding if it were available.

Q7: Significance of the project to state economy

Answer: The replacement of Granite Falls Bridge # 102 will improve the movement of freight within Snohomish County and into the Greater Puget Sound Region by providing a more efficient connection to SR 92, a T2 Highway connecting to SR 9, a Highway of Statewide Significance, which is also on the National Highway System. The principal freight being transported consists of construction materials (sand, gravel, rock and timber) that are prime, fundamental, products in the construction industry. Improved access to state highways provides statewide and, indeed, national benefits, including those of national defense and international trade.

Mineral aggregate products from the quarries benefitting from the project distribute as far north as Mt. Vernon, as far west as Whidbey Island and as far south as Seattle. Multiple destinations within those points are of significant benefit to the state directly and international trade; these include: the City of Seattle itself, the state’s financial center and one of the fastest growing major cities in the country; the Port of Seattle, a major international gateway; the Port of Everett, with heavy barge (un)loading facilities and; Boeing – Everett, the largest manufacturing facility in the state. For these reasons, SR 92, including the Alternate Route, is identified on the WSDOT Freight and Goods Transportation System.

Equally significant is the relationship between the Granite Falls’ area products and the national defense related facilities within the same geographic boundaries: Naval Station Everett, Whidbey Island Naval Air station and the Port of Everett. Mineral aggregate products from this area have been approved for use as Class I Railroad ballast as well as more commonly identified building materials. As can be seen on the Military Goods Movement System Map, the Alternate Route, as connected with SR 92, is efficiently connected to the Department of Defense’s Strategic Highway Network (STRAHNET) and its Strategic Rail Access Network (STRACNET), thereby serving these defense facilities.

Both SR 92 and SR 9 are identified by FMSIB as Strategic Freight Corridors.

Q8: Relation of project to port or international boundary access

Answer:

Q9: Relation of project to a freight corridor

Answer:

General Mobility:

Q10: Non-truck travel times, with and without the project

Answer:

Q11: If project includes at-grade railroad crossing improvements, reduction in travel delays

Answer:

Q12: If project includes at-grade railroad crossing improvements, travel time to an unobstructed

Answer:

Q13: Is project improving an urban principal arterial

Answer:

Safety:

Q14: Accident history

Answer: The existing structure is, by urban standards, a low volume and, hence, a low incident facility. Thus, the safety improvements associated with this application are preventive, rather than corrective in nature. The current structure does not meet current design standards for either accident prevention or incident impact mitigation. The fact that there have been minimum serious incidents is largely attributed to the fact that users are generally familiar with the bridge. For example, the one truck at a time characteristic is self-monitored. However, regional projections assume that both industrial and personal traffic will increase steadily through 2040. Local data already demonstrates that the Granite Falls area is one of the most rapidly growing in Snohomish County. Thus, the familiarity that has helped keep the accident rate down will decrease while the opportunity for accidents increases. This trend has two major potential types of implications: on the structure and off the structure. This bridge is too narrow for two large vehicles to pass at the same time. There have been minimal traffic crashes on the bridge. There were several minor side-swipe crashes on the bridge over the last five years. One minor crash involved a vehicle striking the guardrail just after exiting the bridge. Comparing the existing and proposed structures, simply stated: a minor incident on the proposed structure is easily a major incident on the existing structure and vice versa. Barring a catastrophic, head on collision between two large vehicles on the proposed structure the incident could be quickly cleared at least sufficiently to resume traffic flow for personal and moderate sized vehicles; significant damage to the structure is unlikely. In the case of a side swipe incident, the most likely, the deflected vehicle would be safely captured by the shoulder buffer, higher curb and bridge railing. On the current structure, a serious deflection would easily result in the lighter vehicle being completely thrown through the railing and into the river ninety feet below.

Q15: Emergency vehicle access

Answer: In 2014, the Snohomish County Sheriff's Office responded to 1,294 service calls from Granite Falls to the Town of Darrington. A recent 29 month study showed that Snohomish County's Search and Rescue team used the Granite Falls Bridge #102 for 121 missions to rescue hundreds who were lost or injured. As of December 2014, seven bodies had been recovered. These missions accounted for 31% of their total. Uniformed deputies and volunteers made 932 vehicle trips during the missions and without this critical access point on the Mountain Loop Highway, more lives could have been lost due to the long detour. A total of 9,680 hours were spent by Sheriff's Office personnel and members of Snohomish County Volunteer Search & Rescue responding to missions on the Mountain Loop Highway.

Granite Falls Fire District 17 has five grids east of Bridge #102 which constitutes five square miles of their 38.5 square mile district. The response area continues east on the Mountain Loop Highway to the bottom of Sand Hill; however, they also provide coverage in the outlying area in conjunction with Robe Valley Fire District 23. They average 165 fire and aid calls per year.

There is not another emergency access route that could be used for life saving measures other than a helicopter. The detour route is not feasible when time is of the essence. It is a 94 mile detour one way.

Q16: Extent of railroad crossing closure

Answer:

Freight and Economic Value:

Q17: Benefit to mainline rail operations

Answer: The lack of a modern structure is also a hindrance to the regional and, by extension, national economy. The primary heavy truck traffic is serving several quarries on the far side of the bridge. These trucks haul rock, aggregate and sand to the growing Puget Sound Region and are significantly involved in the development of major facilities such as the Boeing 777x Wing Plant and Naval Station Everett. These products are also essential to the building industry as they comprise 80-90% of the concrete material for buildings and roadways. These quarries are conveniently located with respect to SR 9, a part of the National Highway System with significant military and economic centers. The quarries served by this bridge are the closest to the rapidly growing manufacturing and international trade oriented Seattle -Everett Metropolitan area and well within the fifty mile radius the National Aggregates Association identifies as the economically viable distance for high volume, low value per ton products. The proposed project will reliably connect goods to SR 9 via SR 92 for which a new interchange will connect them with I-5. In the event of a failure of the current structure, the "alternative" is a 94 mile detour (188 miles round trip). This alternative route results in lost time, lost value, higher rates of diesel-related emissions and increased safety conflicts on the detour route. It is not economically viable for more than a few weeks.

Yes, the project does benefit economic development and the overall capacity/movement of freight goods within Snohomish County and the Greater Puget Sound Region.

Q18: Key employment areas

Answer: Yes; construction of this bridge will contribute to the economic competitiveness and ensure preservation of good paying jobs due to its regional framework. The Puget Sound Regional Council has identified that construction aggregates constitute the largest single product moved by truck in the Central Puget Sound Region. The most recent data available indicate that in 2010 volume of this commodity totaled 35 Million tons and is projected to increase to approximately 42 million tons by 2035. The quarries served by this bridge account for four million tons of that trade and transport. According to the Washington State Employment Security Office, the quarries utilizing the crossing at Granite Falls employ over 250 employees with average wages of over \$57,000/year; their annual payroll is over \$14.5 Million. Residents must use this bridge to access key employment areas in the greater Puget Sound area. Although this bridge has an Urban classification, it is located in a very rural setting.

Q19: Improved train speed

Answer: N/A

Environment:

Q20: Non-attainment area

Answer:

Q21: Sensitive receptor sites

Answer:

Q22: Sustainability policies and plans

Answer:

Q23: Air quality

Answer: This same analysis applies to serious incidents on the bridge. Even a serious collision would only close the bridge for one day and would not inflict long term structural damage; again, this ensures availability of the most energy efficient route to market. Comparing this situation to the current structure, serious collisions would be cleared more slowly due to geometry and load bearing capacity. Structural damage is highly likely and repairs are difficult and time consuming to implement because of the structural type and multiple potential failure points. The current alignment is not environmentally friendly. It does not avoid or protect wetlands or wildlife habitat. The NEPA evaluation for the proposed project is underway. Critical habitat, including wetlands, has been mapped along with potential cultural resources; avoidance, protective and mitigation measures have been developed. These measures have been incorporated into the design and cost estimate to ensure their long term viability. The location of the project, in a national forest and over a river, requires consultation with multiple agencies; this process has been initiated and will result in environmentally sustaining features and actions being incorporated into the design and construction.

Partnerships / Costs / Special Issues:

Q24: Critical timing of partnership investments

Answer: Snohomish County is aggressively pursuing two federal funding sources for the majority of funding for this project. Applications are due in April of this year; FMSIB participation will significantly enhance the likelihood of success: 1) FASTLANE – this component of the FAST Act is the first dedicated freight funding source identified in national transportation acts. Consistent with the Regional Freight Strategy findings and concerns, a significant portion FFY 2016 funding for this program is set aside for small and/or rural project projects and 2) TIGER – this project was submitted in 2015 and scored very well – the application passed all the technical reviews and was forwarded to the United States Secretary of Transportation as a “highly recommended” project. Snohomish County is updating and resubmitting this project with a smaller funding request.

Q25: Project quantitative benefits

Answer:

Q26: Least-cost alternatives

- Existing Conditions
- Code Design Requirements
- Roadway Geometrics and Alignment
- Right-of-Way and Easements
- Surface Water Management
- Environmental
- Utilities
- Geotechnical Design Recommendations
- Alternative Constructability Analysis
- Alternative Cost Comparison

Q27: Special or unique circumstances

Answer:



