

Appendix A: Comments and Responses to the Draft Supplemental EIS

March 2013

From: Ryan-Connelly, Leslie (RCO) [<mailto:Leslie.Ryan-Connelly@rco.wa.gov>]
Sent: Friday, November 09, 2012 2:15 PM
To: Smith, Jason
Cc: Robinson, Scott (RCO); Jennings, Darrell(RCO); Jacobs, Karl (RCO); Hahn, Steve (PARKS)
Subject: I-90 Snoqualmie Pass East comments

Jason:

A-01-01

Attached are comments from the Washington State Recreation and Conservation Office (RCO) regarding the I-90 Snoqualmie Pass East Project. Please let me know if you have any questions about RCO's grants located within the I-90 Snoqualmie Pass East Project area.

Please note that our agency name has changed from the Interagency Committee for Outdoor Recreation to the Recreation and Conservation Office.

Leslie Ryan-Connelly
Compliance Specialist
Recreation and Conservation Office
(360) 902-3080
leslie.ryan-connelly@rco.wa.gov

A-01-01

Thank you for your comment.

Natural Resources Building
1111 Washington St. S.E.
Olympia, WA 98501

P.O. Box 40917
Olympia, WA 98504-0917



STATE OF WASHINGTON
RECREATION AND CONSERVATION OFFICE

(360) 902-3000
TTY (360) 902-1998
Fax: (360) 902-3028

E-mail: info@rco.wa.gov
Web site: www.rco.wa.gov

November 9, 2012

Jason W. Smith
Environmental Manager, South Central Region
Washington State Department of Transportation
PO Box 12560
Yakima, WA 98909-2560

RE: I-90 Snoqualmie Pass East Project, DSEIS

Dear Mr. Smith:

A-01-02

The Washington State Recreation and Conservation Office (RCO) administers various grant programs for outdoor recreation. I have reviewed the location of the I-90 Snoqualmie East Project and would like to bring to your attention RCO funded grants in this corridor. I could not find a record that RCO had previously provided comments during development of the final environmental impact statement.

A-01-03

RCO grants come from federal and state funding sources and most often require perpetual obligations to retain the facilities constructed for their useful life and maintain the project area in outdoor recreation use in perpetuity. RCO can approve temporary site impacts for up to 180 days at funded project sites. Impacts longer than 180 days are considered a conversion of use and require appropriate remediation per RCO laws, administrative rules and policies.

Attached is a list of projects that appear to be located within I-90 Snoqualmie East Project corridor. If any of these recreational sites have been impacted or may be impacted, please contact me for additional information. I can be reached at leslie.ryan-connelly@rco.wa.gov or (360) 902-3080. You may also be interested in contacting the grant recipients directly as they should be aware of the RCO funding obligations that come with the grants awarded.

Sincerely,

A handwritten signature in cursive script that reads "Leslie Ryan-Connelly".

Leslie Ryan-Connelly
Compliance Specialist

Enclosure

C: Steve Hahn, State Parks
Karl Jacobs, RCO
Darrell Jennings, RCO
Scott Robinson, RC

Recreation and Conservation Funding Board • Salmon Recovery Funding Board
Washington Invasive Species Council • Governor's Salmon Recovery Office
Habitat and Recreation Lands Coordinating Group

A-01-02

Nikki Fields, RCO Parks Planner, submitted a comment on the 2005 Draft EIS on August 2, 2005. See the response to the comment in the 2008 Final EIS (comment S-003 in Appendix A). All remaining issues were resolved with Tim Schmidt, the RCO representative on the I-90 project interdisciplinary team.

A-01-03

Thank you for the information on RCO grants located within the I-90 project area. None of the RCO-funded recreation sites are located within the design modification area evaluated in the Supplemental EIS.

I-90 Snoqualmie Pass East Project
 Washington State Recreation and Conservation Office Grants
 Potential Impacts
 9-Nov-12

Grant Number	Grant Type	Project Sponsor	Project Name	Location	Funding Program
72-502	Acquisition	State Parks	Lake Easton	Lake Easton State Park	State Bonds and Federal (Other)
88-057	Development	State Parks	Cabin Creek Sno-Park Sanitary Facility	Cabin Creek Sno-Park	Nonhighway and Off-road Vehicle Program
88-060	Development	State Parks	Iron Horse Trailhead	Iron Horse State Park	Nonhighway and Off-road Vehicle Program
93-858	Acquisition	State Parks	Crystal Springs	Crystal Springs	Washington Wildlife and Recreation Program
93-874	Development	State Parks	Iron Horse/John Wayne - Snow Sheds	Iron Horse State Park and John Wayne Trail	Washington Wildlife and Recreation Program
95-047	Development	State Parks	Iron Horse Trail Safety	John Wayne Trail	Nonhighway and Off-road Vehicle Program
96-1266	Development	State Parks	Crystal Springs Trailhead	Crystal Springs	Recreational Trail Program
96-136	Development	State Parks	Iron Horse - Cedar Falls to Cabin Creek	John Wayne Trail	Washington Wildlife and Recreation Program
	Acquisition and				
96-286	Development	State Parks	Iron Horse/John Wayne - Three Trestles	Iron Horse State Park	Washington Wildlife and Recreation Program
96-315	Development	State Parks	Iron Horse - Remote Campsites	Roaring, Gold, Carter and Alice Creeks	Nonhighway and Off-road Vehicle Program
98-1085	Development	State Parks	Iron Horse - Lake Easton Trestle	Iron Horse State Park	Washington Wildlife and Recreation Program
99-1269	Development	US Forest Service	Gold Creek Pond Trail, Phase III	Gold Creek Pond	Nonhighway and Off-road Vehicle Program
00-1457	Development	State Parks	Crystal Springs Groomer Shelter	Crystal Springs	Recreational Trail Program
04-1145	Development	State Parks	Crystal Springs Multi-Use Groomer Shed	Crystal Springs	Recreational Trail Program

From: Karl_Halupka@fws.gov [mailto:Karl_Halupka@fws.gov]
Sent: Friday, November 09, 2012 11:47 AM
To: Allison_O'Brien@ios.doi.gov
Cc: Estyn_Mead@fws.gov; Michael_Roy@fws.gov; Stephanie_Nash@fws.gov; Kandi_Mejia@fws.gov;
Jessica_Gonzales@fws.gov; Moran, Bridget; Jeff_Krupka@fws.gov; Smith, Jason
Subject: Fw: Electronic distribution of ER 12/731 - DSEIS for the I-90 Snoqualmie Pass East, Hyak to Keechelus Dam Project

A-02-01

"No comment" is our response to this DSEIS.
We had extensive input during the scoping phase that led to the development of this proposal (through the interdisciplinary team for this project).
We also are concurrently engaged in reinitiation of section 7 consultation for this proposal.
please contact me if you have questions or want additional info.
cheers,
Karl

Karl Halupka
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
215 Melody Lane, Suite 103
Wenatchee, Washington 98801-8122
Phone: 509.665.3508 x2001
www.fws.gov/wafwo

----- Forwarded by Karl Halupka/WNES/R1/FWS/DOI on 11/09/2012 11:04 AM -----

**Kandi
Mejia/WWO/R1/FWS/DOI** To:Karl Halupka/WNES/R1/FWS/DOI@FWS
10/15/2012 11:10 AM cc
Subject:Fw: Electronic distribution of ER 12/731 - DSEIS for the
1

A-02-01

Thank you for your response.



November 16, 2012

Jason Smith
Washington State Department of Transportation
South Central Region
P.O. Box 12560
Yakima, WA 98909-2560

Re: I-90 Snoqualmie Pass East Avalanche Structures DSEIS

Dear Mr. Smith:

Thank you for the opportunity to comment on the Draft Supplemental Environmental Impact Statement for the I-90 Snoqualmie Pass East Avalanche Structures. We have reviewed the documents and have the following comments.

WATER QUALITY

A-03-01

Project with Potential to Discharge Off-Site

The NPDES Construction Stormwater General Permit from the Washington State Department of Ecology is required if there is a potential for stormwater discharge from a construction site with disturbed ground. This permit requires that the SEPA checklist fully disclose anticipated activities including building, road construction and utility placements. Obtaining a permit is a minimum of a 38 day process and may take up to 60 days if the original SEPA does not disclose all proposed activities.

The permit requires that Stormwater Pollution Prevention Plan (Erosion Sediment Control Plan) is prepared and implemented for all permitted construction sites. These control measures must be able to prevent soil from being carried into surface water (this includes storm drains) by stormwater runoff. Permit coverage and erosion control measures must be in place prior to a clearing, grading or construction.

A-03-02

More information on the stormwater program may be found on Ecology's stormwater website at: <http://www.ecy.wa.gov/programs/wq/stormwater/construction/>. Please submit an application or contact **Bryan Neet** at the Department of Ecology, (509) 575-2808, with questions about this permit.

A-03-01

WSDOT is currently working with the Department of Ecology and Environmental Protection Agency (EPA) to determine the jurisdiction of non-federally managed facilities on federal land. During the 2013 season WSDOT expects this issue to be resolved; however, until then EPA will permit project activities under Section 402 of the Clean Water Act.

A-03-02

Thank you for your comment.

Mr. Smith
November 16, 2012
Page 2

TOXICS CLEAN-UP

A-03-03

If contamination were to be observed during bridge construction, sampling of the potentially contaminated media must be conducted. If contamination of soil or groundwater is readily visible, or is revealed by sampling, Ecology must be notified. Contact the Environmental Report Tracking System Coordinator at the Central Regional Office at (509) 575-2490 if contamination is encountered.

If you have any questions or would like to respond to these Toxics Clean-up comments, please contact **Valerie Bound** at (509) 454-7886.

Sincerely,



Gwen Clear
Environmental Review Coordinator
Central Regional Office
(509) 575-2012

1012

A-03-03

This information is consistent with previously adopted best management practices and WSDOT Standard Specifications. Construction compliance personnel will continue to implement these requirements as part of the I-90 project.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10

1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

November 19, 2012

Ms. Liana Liu, Area Engineer
Federal Highway Administration
Washington Division
711 South Capitol Way, Suite 501
Olympia, Washington 98501

Mr. Jason Smith, Environmental Manager
Washington State Department of Transportation
South Central Region
P.O. Box 12560
Yakima, Washington 98909

Re: Interstate 90 Snoqualmie Pass East Avalanche Structures Draft Supplemental
Environmental Impact Statement (EPA Region 10 Project Number: 99-099-FHW).

Dear Ms. Liu and Mr. Smith:

The U.S. Environmental Protection Agency has reviewed the I-90 Snoqualmie Pass East Avalanche Structures Draft Supplemental Environmental Impact Statement. We are submitting comments in accordance with our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act. We appreciate this opportunity to review the proposed change in project design.

WSDOT is evaluating a design modification to construct avalanche bridges in place of an expanded snowshed that was originally part of the I-90 project Selected Alternative. With the Selected Snowshed design, avalanches and landslides would travel over the structure to avoid impacts to the travelling public; with the Proposed Bridges design, avalanches and landslides would travel beneath the bridge structures. Because both designs meet project needs, the Proposed Bridges design modification is being considered due to its projected long-term operations and maintenance cost savings for the State, which would be derived from the elimination of the electrical, mechanical, and fire suppressions systems that would be required for the Selected Snowshed design.

We appreciate the clarity and presentation of the Draft SEIS and, based on the information provided, agree that the differences in environmental effects from the two alternatives would be small. We are rating the Draft SEIS as LO, Lack of Objections. An explanation of this rating is enclosed. While we would not expect the general conclusions to change, we do recommend that the Final SEIS include the following additional information and updates to refine the analysis for the public and decision maker:

A-04-01

A-04-02

A-04-03

- The threshold at which an extreme avalanche could affect each structure or impact traffic, and how often avalanche control and snow removal may be needed.
- An indication of whether or not, and to what extent, the effects of climate change and the need for adaptation to those effects has been factored into the analysis and proposed designs. For



A-04-01

Thank you for your careful review of the document and for providing meaningful comments.

A-04-02

For the Proposed Bridges, the predicted return period thresholds of extreme avalanches are 50 years for temporary visibility impacts to traffic from powder flow, 100 years for vehicle disturbance by powder flow, and 300 years for structural impacts. For the Selected Snowshed, it is estimated that a 100-year return period avalanche has a 7% chance of damaging the structure. Highway closures over the 75-year design life are expected to average about 5 hours per year. Estimates regarding life-safety indicate that fatalities from avalanches are unlikely during the structure's 75-year design life. WSDOT would consider active avalanche control and/or snow removal from underneath the Proposed Bridges when snow conditions could generate a powder avalanche that approach a 30-year return period. If the Selected Snowshed is constructed and snow infiltration begins to adversely affect safety, maintenance, or operations, WSDOT would implement appropriate measures to remedy the situation, such as installing wire mesh over the lake-side openings. See the Final Supplemental EIS Table 2-1 (Items 10, 12, 14, and 15).

A-04-03

Climate change research suggests that extreme snowfall events will be more frequent and of higher intensity in the future, with more rain likely in the winter as freezing levels rise in elevation. The net result is expected to be reduced winter snowpack, shortened avalanche season occurring later in winter, and wetter snow that is less susceptible to powder flow. The

A-04-03
cont'd.

example, explain whether the 100-year avalanche event predictions incorporate potential increase in rain-on-snow events, and how the potential for more frequent 100-year avalanche events may affect design integrity, maintenance, operations, and cost.

A-04-04

- An update of cost estimates for operations and maintenance that includes:
 - The additional staffing needed to address the aging Proposed Bridges after 20 years of use;
 - The frequency and costs of clearing the avalanche chutes for the Proposed Bridges; and
 - Adjustments to cost projections and comparisons that result from inclusion of all of the above requested information.

A-04-05

- A brief summary of the USFWS Biological Opinion regarding effects to ESA listed species, including bull trout and northern spotted owl (with the Biological Opinion included as an Appendix).

A-04-06

- Any potential additional mitigation due to the increased loss of mature forest that would result from the Proposed Bridges.

Thank you for the opportunity to offer comment on the I-90 Snoqualmie Pass East Supplemental EIS for Avalanche Structures. If you have questions or would like to discuss these comments, please contact me at (206) 553-1601 or via electronic mail at reichgott.christine@epa.gov, or contact Elaine Somers of my staff at (206) 553-2966 or via electronic mail at somers.elaine@epa.gov.

Sincerely,



Christine B. Reichgott, Manager
Environmental Review and Sediment Management Unit

Enclosure

height of the Proposed Bridges was determined by using conservative snow supply estimates derived from long-term climate data dating as far back as 1907 and as recent as 2003, during which time there have been numerous, considerable changes both increasing and decreasing the snow supply. WSDOT does not expect that climate change would affect the design integrity, maintenance, operations, and cost of either option because climate change was already accounted for in our snow supply estimates, which were used to determine the necessary clearance heights and pier loading. The cumulative nature of the design criteria also provides added protection to account for uncertainties associated with climate change (see the Final Supplemental EIS Table 2-1 (Item 9)).#

A-04-04

The estimated cost to operate, maintain, and rehabilitate both structures was updated to include the cost of structural rehabilitation and miscellaneous costs (such as staffing) that may be incurred due to the aging bridges. These updated costs are provided in the Final Supplemental EIS Table 2-1 (Items 1 and 12).

A-04-05

A summary of the Biological Opinion is provided in the Final Supplemental EIS Table 2-1 (see Items 2, 18, 19, 23, 24, and 31). The Biological Opinion is provided in Appendix B of the Final Supplemental EIS.

A-04-06

The US Forest Service is a cooperating agency in preparation of the Supplemental EIS. As a cooperating agency, they reviewed the Draft Supplemental EIS prior to public review. The US Forest Service will also review the final design plans to ensure that the design of the Proposed Bridges is consistent with its land management documents, including the Northwest Forest Plan. Mitigation for impacts to mature forest is being handled at the corridor level. No additional mitigation is required for the Proposed Bridges.

**U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements
Definitions and Follow-Up Action***

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment, February, 1987.





United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
620 SW Main Street, Suite 201
Portland, Oregon 97205-3026



9043.1
IN REPLY REFER TO
ER12/731

Electronically Filed

November 19, 2012

Jason Smith
WSDOT SCR Environmental Manager
P.O. Box 12560
Yakima, WA 98909

Dear Mr. Smith:

The Department of the Interior has reviewed the Draft Supplemental Environmental Impact Statement for the I-90 Snoqualmie Pass East Project. The Department does not have any comments to offer.

We appreciate the opportunity to comment.

Sincerely,

Allison O'Brien
Regional Environmental Officer

A-05-01

Thank you for your response.

A-05-01



State of Washington
Department of Fish and Wildlife

South Central Region - Ellensburg District Office, 201 North Pearl, Ellensburg, WA 98926
Phone: (509) 925-1015, Fax: (509) 925-4702

November 26, 2012

Jason Smith, Environmental Manager
Washington State Department of Transportation
South Central Region
P.O. Box 12560
Yakima, WA 98909-2560

Subject: I-90 Snoqualmie Pass East Project - Avalanche Structures Draft Supplemental EIS Review Comments

Dear Mr. Smith:

Thank you for the opportunity to review the I-90 Avalanche Structures Draft Supplemental Environmental Impact Statement (DEIS) for the Snoqualmie Pass East project. We are familiar with the site from our many years of work with WSDOT and others on this project. Please consider our comments below.

A-06-01

Although the avalanche structures are not in an ecological Connectivity Emphasis Area (CEA) with special concern for wildlife crossings, we note that animals do use the area and there is value in improving ecological connectivity at this location. The Proposed Avalanche Bridges Option will have a more favorable effect on ecological connectivity, fish and wildlife than the Selected Snowshed Option.

The Selected Snowshed option and the Proposed Avalanche Bridges option have generally similar types of impacts to fish, wildlife and habitat during construction and the life of the project. However, the Proposed Avalanche Bridges option would have the following advantages for fish and wildlife protection when compared to the Selected Snowshed option:

A-06-02

- The avalanche bridges option provides a better travel pathway for wildlife between the lake shore and the terrestrial habitat upslope of the highway. Despite the steep terrain, we expect use of this pathway by wildlife, particularly small mammals, herptiles and invertebrates. We note that even large high-mobility species such as bears will traverse such terrain and can make use of this pathway.
- The Proposed Avalanche Bridges option provides for better continuity of physical processes than the Selected Snowshed option, connecting the uplands to the shoreline, nearshore and aquatic environment of lake Keechelus. This includes the natural flow of water, a more natural delivery of organic material (both fine materials important in the food chain and coarse wood, such as logs and rootwads, important for habitat structure)

A-06-01

Thank you for your comments.

A-06-02

This section of I-90 has not been identified as a habitat linkage area because the hillside is so steep and therefore is not the location of a proposed wildlife crossing for the I-90 project. Both options result in similar impacts to natural resources. However, the Proposed Bridges have been identified as the Preferred Option and would provide some benefit to low-mobility species and fish habitat. Text is provided in the Final Supplemental EIS Table 2-1 (Items 20, 21, and 26) to reflect these advantages.

A-06-02
cont'd

and rocky earthen materials. This improved continuity of physical processes will benefit fish, wildlife and their habitats.

- When compared to the Selected Snowshed option, the Proposed Avalanche Bridges option creates a more complex shoreline with addition nearshore area under and adjacent to the bridges. These shoreline changes would be beneficial for fish and other aquatic life during the periods the lake elevation is high.

The Proposed Avalanche Bridges option will have a slightly greater impact to the uplands adjacent to the highway than the Selected Snowshed option, including removal of 2.8 acres of mature forest. The habitat provided by this forest is used by terrestrial species, and serves aquatic species by providing coarse woody debris to the shoreline (via the steep slopes and avalanche chutes) and organic input to aquatic environment and food chain of Lake Keechelus.

A-06-03

The impacts from the clearing of this forest area would be reduced by relocating all of the cleared trees to suitable riparian areas, salvage of soil and organic matter for use in restoration of the site and revegetation of the slope and shoreline.

We recommend the selection of the Proposed Avalanche Bridges option, and that the following measures be included as part of the Proposed Avalanche Bridges option.

- Place all trees larger than 6-inches dbh removed from the uplands in riparian/aquatic areas associated Lake Keechelus tributaries where the structure and organic material will ultimately benefit fish, particularly bull trout. (The best option would be to add the material to the channels of gold creek in the reach that extends from the Forest Service road bridge upstream to the wilderness boundary.
- Salvage the soil and organic matter cleared from the uplands for use in restoration of the site.
- Plant shoreline and near-shore areas under and adjacent to the avalanche bridges with native willows, taking into consideration the patterns of avalanche flow and maintenance required for the site.

Please let me know if you need additional information from WDFW regarding these project options. We look forward to working with you on this project and the successful completion of this phase.

Sincerely,



Brent D. Renfrow
District Habitat Biologist

Cc: Bob Zeigler, WDFW
William Meyer, WDFW

A-06-03

WSDOT will coordinate with WDFW prior to and during permitting and negotiate the final measures that will be implemented on the project.

11/21/2012 03:18 PM

To "Smith, Jason" <SmithJW@wsdot.wa.gov>, Karl Halupka <karl_halupka@fws.gov>

cc "Liu, Liana (FHWA)" <liana.liu@dot.gov>

Subject: De-icers - environmental effects

Hello, Jason and Karl,

A-07-01

I am mulling the issue of de-icers, water quality, and bull trout! There does not seem to be much information re: effects of de-icers on bull trout (see the two links below). The CRIP Proposed Bridges would essentially add 3 lane miles of PGIS (.5 mile x 6 lanes) that would be treated with de-icers vs. the Selected Snowshed. The SEIS addresses stormwater treatment area differences (SEIS p. 3-14) and pollutant loadings from stormwater (SEIS p. 3-15), but does not explain whether or not de-icers would be treated or captured from runoff, or from other snow removal procedures (SEIS p. 3-16). I expect this issue would be covered in Section 7 consultation, and we have asked that the BO be included in the Final SEIS, but may I request that the Final SEIS include a more complete analysis of this issue? I would so appreciate your thoughts and discussion about this -- maybe next week if you are available?

Meanwhile, have a most wonderful Thanksgiving!
Elaine

Elaine Somers
Environmental Review and Sediment Management Unit
U.S. Environmental Protection Agency, Region 10
1200-6th Ave., Suite 900, ETPA-088
Seattle, WA 98101
phone: (206) 553-2966
fax: (206) 553-6984
email: somers.elaine@epa.gov

A-07-01

As indicated in the email response from Karl Halupka at the US Fish and Wildlife Service on 11/23/12, the original Biological Opinion for the I-90 project summarized the potential environmental effects of de-icer. Specifically, the BO concluded that chloride concentrations toxic to fish and other aquatic life are unlikely to be reached. Further literature review in response to this comment has confirmed that little new information on this topic has developed since that time. The potential effects as documented in the original Biological Opinion remain valid. See additional information in the Final Supplemental EIS Table 2-1 (Item 22).

DEPT OF TRANS

NOV 30 2012



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Washington State Habitat Office
Eastern Washington Branch
304 South Water, Suite 201
Ellensburg, Washington 98926

November 26, 2012

Jason Smith
Environmental Manager
WSDOT South Central Region
P.O. Box 12560
Yakima, WA 98909

Re: NOAA Fisheries response to the Draft Supplemental Environmental Impact Statement for the proposed change to the avalanche structures between milepost 57.9 and 58.4 of I-90 in Kittitas County, Washington.

Dear Jason,

A-08-01

I appreciate the opportunity to respond to the Draft SEIS evaluating the design modifications to construct eastbound and westbound avalanche bridges in place of an expanded snowshed. As you are aware, NMFS completed Section 7 consultation for Phase 1 (MP 55.1 to MP 60.9) in April of 2008 with an effects determination of Not Likely to Adversely Affect (2008/00134). One of NMFS concerns during the 2008 consultation was the treatment of stormwater from pollution generating impervious surface. Although the proposed expansion included stormwater treatment in most areas, there were specific locations where there simply was no room to include treatment. In response to NMFS concerns WSDOT agreed to off-site mitigation on another area of I-90 that also drained into Kacheluss Lake which would result in a net decrease in untreated stormwater reaching Kacheluss Lake. Because the proposed bridges will maintain that overall decrease in untreated stormwater that reaches the lake, and all other BMP's remain as originally proposed, NOAA Fisheries has determined there is no significant difference between the two options as it relates to effects to Middle Columbia River steelhead.

I appreciate you providing me the information needed to review the proposed changes. You can reach me at 509-962-8911 x227 or Diane.Driscoll@noaa.gov.

Sincerely,

A handwritten signature in blue ink that reads "Diane M. Driscoll".

Diane Driscoll
Senior Fisheries Habitat Biologist

A-08-01

Thank you for your response.

Comments:

C-01-01

Looking at the visualizations, the Avalanche bridges appear to be more attractive. It appears that the bridge surfaces will be raised to the same elevation as the snow shed roof. Is this true? So the concept would be only avalanches to flow under the bridges.

C-01-02

I don't recall what the lake's surface is generally like during the winter. Would it be solid ice so that there could be a build-up of snow under the bridges? Would there be a plan to push this snow aside away? That's my main concern. Otherwise, I support the bridge concept.

Name

James L. Chapman

23321 75th Ave
Edmonds, WA 98026



C-01-01

Yes. As shown in the Draft Supplemental EIS Exhibit 2-5, *Elevation Comparison of the Selected Snowshed and Proposed Bridges (Design Visualizations)*, and Exhibit 3-15, *Cross Section Comparison of the Selected Snowshed and Proposed Bridges*, the bridge deck is designed to be at approximately the same height as the roof of the Selected Snowshed. As further described in Section 2.2, *What options are evaluated in this Draft Supplemental EIS?* (Proposed Bridges subsection), a combination of elevating the Proposed Bridges above the existing grade and excavating material below the existing grade would provide adequate clearance to allow avalanches, rock, and debris to pass under the highway without impacting traffic.

C-01-02

The Draft Supplemental EIS Exhibit 2-5, *Elevation Comparison of the Selected Snowshed and Proposed Bridges (Design Visualizations)*, illustrates the lake surface at its typical winter elevation of 2,490 feet above mean sea level. At this elevation, lake water is not underneath the Proposed Bridges. Ice in this portion of the lake usually is not thick enough to support dense flow avalanches, so snow would plunge through the ice rather than building up near the Proposed Bridges. Therefore, WSDOT does not anticipate the need to remove snow from ice on the lake.

Comments:

10/5/12

C-02-01

Sirs,

I favor the
 Avalanche Bridges.

Keep up the good work
 and
 God Speed

Douglas Hoisington Frequent I-90 Driver,
 Hyak Property Owner; Seattle Resident
 dhoising55@gmail.com



C-02-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

I am fine with the
bridges. However:

They must be high enough
to allow passage of large
avalanches. Vehicles

must not be on the
bridges during avalanches,
because of potential
hazard of air blasts.

Thank you. J.R. Siebert

Name _____



C-03-01

The Proposed Bridges are designed high enough to accommodate the cumulative heights of the 100-year snowfall accumulation, plowed snow from the bridge deck, and prior avalanche deposit; plus a 100-year dense flow avalanche; plus a 30-year powder avalanche (see the Draft Supplemental EIS Section 2.3, *What are the avalanche design criteria?* for additional information). These design criteria greatly exceed typical winter conditions.

C-03-02

Traffic on the Proposed Bridges would not be affected by powder avalanches under typical winter conditions (see the Draft Supplemental EIS Section 3.2, *Geology, Soils, Avalanche, and Rock Fall*). During extreme winter conditions, WSDOT would take appropriate action to protect the traveling public and ensure that snow would not accumulate to dangerous levels upslope of the bridges. WSDOT would consider active avalanche control and/or snow removal when snow conditions could generate a powder avalanche that approach a 30-year return period.

Comments:

C-04-01

IT'S NO CONTEST! THE
AVALANCHE BRIDGES WIN
HANDS DOWN!

TED YELLMAN
11614 SE 49 STREET
BELLEVUE, WA 98006

C-04-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Name _____



Comments:

C-05-01

I AM IN FAVOR OF THE SNOWSHED SOLUTION. IT JUST SEEMS TO OFFER MORE PROTECTION FROM AVALANCHES & ROCK FALL.

Name WALTER B. BARKE



C-05-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. The Proposed Bridges will cost less to operate and maintain, improve traffic flow during construction, improve views for drivers, result in less permanent impacts to Keechelus Lake, and create new aquatic habitat underneath the bridge structures for bull trout and other fish. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-06-01

If the bridges do the
trick with less long run
cost - Sounds good to me

Name _____



C-06-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-07-01

~~Active~~ ~~Proposed~~ ~~Active~~ ~~Bridges~~
(~~with~~ ~~active~~ ~~bridges~~) ~~require~~
people + equipment to clear
the road + travelers held up
while this takes place. How
much is this projected to cost
in the next 75 years? Can only
be a guesstimate - will it be
anywhere near \$50 million??

C-07-02

Fire + life safety systems seem
unnecessary - but rules are rules!
A snowshed with roof seems
best, although it seems the most
costly.

Name C A Reiter diana Reiter
10/7/12 10/7/12
 I-90 Snoqualmie Pass East
35303258080

C-07-01

The Proposed Bridges are designed to eliminate the need for active avalanche control and associated road closures within the design modification area (see the Draft Supplemental EIS Section 3.2, *Geology, Soils, Avalanche, and Rock Fall*, and Section 3.7, *Transportation*). During extreme winter conditions, WSDOT would take appropriate action to protect the traveling public, which may include the removal of built up snow, rock, and debris from beneath the Proposed Bridges. Based upon the results of additional studies, WSDOT would consider active avalanche control and/or snow removal when snow conditions could generate a powder avalanche that approaches a 30-year return period. The opportunity costs associated with these actions have not been quantified. However, a powder avalanche with a 30-year return period is likely to occur 2 to 3 times during the 75-year design life of the Proposed Bridges. Therefore, opportunity costs are not anticipated to approach a magnitude of \$50 million.

C-07-02

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. The Proposed Bridges will cost less to operate and maintain, improve traffic flow during construction, improve views for drivers, result in less permanent impacts to Keechelus Lake, and create new aquatic habitat underneath the bridge structures for bull trout and other fish. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-08-01

MR SMITH, WE'VE READ THE WADOT ^{SEA}
INFO ON THE CHANGE FROM SNOW
SHED TO A PROPOSED HIGH BRIDGE ^{OC}
EAST OF SNOQUALMIE PASS.

WE THINK IT MAKES A LOT OF SENSE
IF COMPARABLE PROTECTION OF THE
HIGHWAY IS AVAILABLE WITH
THE HIGH BRIDGE DESIGN. THE
MAINTENANCE COST REDUCTION IS
ALSO A PLUS. WE VOTE FOR THE
BRIDGE OVER A SHED.

THANK THE CONTRACTOR FOR THEIR
PROPOSAL OF THE BRIDGE.

Name MARK & CHRISTY COOK, RENTON, WA.



C-08-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

Comments:

C-09-01

We all know that maintenance costs increase annually. So with construction cost being equal, I would opt to go with the bridges and save \$50 million.

Name _____



C-09-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-10-01

BRIDGES. PASSIVE IS BETTER LONG
TERM. JUST MAKE SURE THEY'RE
HIGH ENOUGH.

Empty lined area for additional comments.

Name

THOMAS E GRANGER
THOMAS E GRANGER
SEATTLE 98112



C-10-01

Thank you for your comment. The design height of the Proposed Bridges is described and illustrated in the Draft Supplemental EIS Section 2.3, *What are the avalanche design criteria?*

C-11-01

Comments:

Thinking of bicycle traffic, it appears the bridge would be safer than the shed. Cars could ^{see} bikes, bikes could have a clear, visible shoulder.

Name

Janet Kimball



C-11-01

Both structures are designed to meet WSDOT and AASHTO standards, including standard shoulder widths that could be utilized by bicycle traffic.

Comments:

C-12-01

The Avalanche Bridges are
the obvious choice to
accomplish this need. Why
is WSDOT wasting more
money to do this ???
Just do it and stop
beating a dead horse and
wasting more \$! on studies

Name Howard Briggs



C-12-01

Uncertainty regarding the design and potential impacts of the Proposed Bridges led to the determination by FHWA and WSDOT that preparation of a Supplemental EIS was appropriate.

Comments:

C-13-01

Dear Mr. Smith
We cannot attend the scheduled meetings, but are strongly in favor of the bridge alternative. Cost considerations make perfect sense for the bridge. Our travel on I90 is mostly during summer, but would much prefer driving over a bridge than through a shed.

Name Gene & Karen Welch



C-13-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-14-01

The Bridge is more attractive -
seems to offer the same
avalanche protection and
saves \$50 million / 75 yrs -
this should be a no ~~contest~~
contest - The bridge should
be constructed

Name

JERRY KENT



C-14-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-15-01

As a local volunteer firefighter I concur that the proposed Avalanche Bridges are the best approach for the following reasons:

- 1.) I have been on an accident scene inside the existing snowshed - extremely dangerous and we had no fuel spills. Getting life saving and fire equip to a scene was enormously difficult at best.
- 2.) Ice and snow builds up from traffic passing in the snowshed. Having an open wide bridge allows the snow clearing units to move at full speed and efficiency.

Name Dick Landen
253.631.4931



C-15-01

Thank you for the additional information regarding emergency response considerations. Both structures are designed to WSDOT and AASHTO standards, which will address many of the emergency response challenges associated with the Existing Snowshed. WSDOT maintenance vehicles (snow plows and de-icing trucks) would be able to travel at the same speed on both structures.

Comments:

C-16-01

Very pleased with the plans for avalanche structures. As to maintenance costs, I am not qualified to give an opinion on that.

Marcia Clarke
Bothell, WA

Name _____



C-16-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

10/6/12 E

C-17-01

I vote for the
avalanche bridges!

Name

Rachael Logan
Bothell



C-17-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-18-01

WHEN YOU SCHEDULE A 2 HR CLOSURE
DON'T MAKE IT A 4 HR CLOSURE LIKE
THURSDAY, OCTOBER 4, 2012.

C-18-02

IF YOU NEED A 4 HR CLOSURE MAKE IT
AT 10 PM TO 2 AM NOT 6 PM!

*
BRIDGES!

Name _____



C-18-01

WSDOT and their contractors strive to make closures as short as possible. For additional information call 1-800-695-ROAD or go to www.wsdot.wa.gov.

C-18-02

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-19-01

Comments:

I like the bridge idea better than the tunnels. Bad things can happen in tunnels, + then it can be hard to respond to the emergency. Also, if the bank under the bridges was properly graded, it would allow animals to access water without crossing the highway - a Big Plus!

Donna Manion



C-19-01

This section of I-90 has not been identified as a habitat linkage area because the hillside is so steep and therefore is not the location of a proposed wildlife crossing for the I-90 project. Both options result in similar impacts to natural resources. However, the Proposed Bridges have been identified as the Preferred Option and would provide some benefit to low-mobility species and fish habitat.

Comments:

I have concerns about the Proposed Bridges alternative:

C-20-01

Has there been a "worst case" study by the Structural Engineer on:

① Is there enough height below the highway to withstand large rocks and trees in the avalanche impacting the supports and allowing them to pass through to the lake?

C-20-02

② Are we certain the structure can withstand such impact loads?

③ Will such avalanches go far enough out on the frozen lake to not back up solid and come over the highway?

④ Will the savings in the initial cost and maintenance over the years be enough to repair or replace the structure?

Will the Contractor/Structural Engineer of the Bridge Proposal take any responsibility for future costs if it fails?

Will avalanche control still be an option if conditions are threatening?

Thank you for providing wildlife migration passages on the new highway.

Name N. Sue Alden, FAIA



C-20-01

Rock fall analysis and avalanche modeling were completed during the design of the Proposed Bridges to determine required clearance heights for the bridge decks and impact loads for bridge piers. See the Draft Supplemental EIS Section 3.2, *Geology, Soils, Avalanche, and Rock Fall* (Unstable Slope Hazards subsection) for additional information.

C-20-02

The Proposed Bridges are designed high enough to accommodate the cumulative heights of the 100-year snowfall accumulation, plowed snow from the bridge deck, and prior avalanche deposit; plus a 100-year dense flow avalanche; plus a 30-year powder avalanche (see the Draft Supplemental EIS Section 2.3, *What are the avalanche design criteria?* for additional information). These design criteria greatly exceed typical winter conditions.

The Proposed Bridges are designed to eliminate the need for active avalanche control and associated road closures within the design modification area (see the Draft Supplemental EIS Section 3.2, *Geology, Soils, Avalanche, and Rock Fall*, and Section 3.7, *Transportation*). During extreme winter conditions, WSDOT would take appropriate action to protect the traveling public and ensure that snow would not accumulate to dangerous levels upslope of the bridges. WSDOT would consider active avalanche control and/or snow removal from underneath the Proposed Bridges when snow conditions could generate a powder avalanche that approach a 30-year return period.

RESPONSES CONTINUE ON NEXT PAGE

Comments:

I have concerns about the Proposed Bridges alternative:

Has there been a "worst case" study by the Structural Engineer on:

① Is there enough height below the highway to withstand large rocks and trees in the avalanche impacting the supports and allowing them to pass through to the lake?

② Are we certain the structure can withstand such impact loads?

③ Will such avalanches go far enough out on the frozen lake to not back up solid and come over the highway?

④ Will the savings ⁱⁿ the initial cost and maintenance over the years be enough to repair or replace the structure?

C-20-03

Will the Contractor/Structural Engineer of the Bridge Proposal take any responsibility for future costs if it fails?

C-20-04

Will avalanche control still be an option if conditions are threatening?

C-20-05

Thank you for providing wildlife migration passages on the new highway.

Name N. Sue Alden, FAIA



C-20-03

Yes. The estimated cost to operate, maintain, and rehabilitate both structures was updated to include the cost of structural rehabilitation. These updated costs are provided in the Final Supplemental EIS Table 2-1 (Item 12).

C-20-04

Liability in the event of an unlikely structural failure of the Proposed Bridges would depend on conditions at the time of failure.

C-20-05

Yes, WSDOT will continue to monitor winter conditions and take action as appropriate to ensure public safety. See response to comment C-20-02.

Comments:

C-21-01

FROM WHAT I AM READING
HERE, I WOULD SAY THE BRIDGES
WOULD BE THE BETTER DEAL.

C-21-02

YOU ALSO NEED TO WORK ON A BETTER
WAY OF CONTROLLING THE TRAFFIC
WHEN WORKING ON THIS PROJECT.
THE WAITING FOR TWO HRS. TOTALLY
SUCK. AND ROLLING SLOW CLOSURES
SERVE NO PURPOSE WHEN THERE
IS NO WORK BEING DONE AT THE
TIME.

Name

L. Willing



C-21-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-21-02

WSDOT and their contractors strive to make closures as short as possible. For additional information call 1-800-695-ROAD or go to www.wsdot.wa.gov.

Comments:

C-22-01

BUILD THE BRIDGES OF COURSE,
LESS \$\$ FOR THE TAXPAYERS &
CONTINUOUS ROAD W/NO INTERRUPTIONS
FOR THE PLOWERS. THX

Name MARIT & TAGE CHRISTIANSEN
931 VIA KACHESS, EASTON



C-22-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

Comments:

C-23-01

I think the bridges would be the best project by saving money over the years and is more pleasing to look at. I feel it would be a better green footprint.

Sig Thompson

Name Sigmund Thompson



C-23-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

THANK YOU FOR ASKING!

I'D GO W/ THE BRIDGES
TO

A. SAVE \$

B. MORE AESTHETIC

C. WHEN AVALANCHES DO

SHUT I-90, I GRIN:
THIS REMINDS ~~US~~ LITTLE
SELF-CENTERED HUMANS

WHO IS BOSS!

Name

Susan Turner



C-24-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-24-01

C-25-01

Comments:

I'm in favor of the bridges option if it is truly a net savings of 50 mil. over 15 yrs. and if this provides comparable protection to motorists and DOT workers.

Name

Ed Greenleaf



C-25-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-26-01

Comments:

AS A KITTITAS COUNTY #8
 FIRE FIGHTER I WOULD PREFER
 TWO ANALYSE BRIDGES RATHER THAN
 1 TUNNEL. THE TUNNEL OPTIONS
 PUT FIRST RESPONDERS AT RISK. PLUS
 TO COST IN SAVINGS TO WSDOT IS
 TREMENDOUS

Name TERI & STEVE SITTALUK



C-26-01

Both structures meet WSDOT and AASHTO design standards and include features that accommodate emergency response. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

C-27-01

Comments:

I believe the
bridging would be best.
It has been shown that
a bridge is working well
on the west slope of
the Pass.

A long snow shed
could be a problem in
case of an accident in the
tunnel, and more to maintain.

Name Darrell L. Nelson

10-10-2017



SEA
12 OC

C-27-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

Comments:

C-28-01

I'm in favor of the avalanche
bridges.
I believe if necessary, it would be
easier to add two lanes

SCOT
WA 9
11/04
FM 3

Name Scott Pellett



C-28-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

Comments:

C-29-01

I support the
Proposed Avalanche Bridge
as an alternative
to the snowshed on I90.

Thank you,

Name U. C. Kautmusse



C-29-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-30-01

*We like the Avalanche
Bridge.*

Name _____



10/11

C-30-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-31-01

WE BELIEVE THE 'AVALANCHE BRIDGE'
TO BE THE BETTER OPTION TO
MITIGATE AVALANCHES AT THAT
LOCATION ON I-90. IT WOULD SEEM
TO BE ALSO THE LEAST EXPENSIVE
OF THE TWO DESIGNS.

Name BOB & JANELE SCARPER
SEATTLE, WA



C-31-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

Comments:

C-32-01

Jason,
I vote for the
bridges.
J.J. Collins
Box 1029
Roslyn, WA
98941

Name _____



C-32-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-33-01

TRYING TO ~~KEEP~~ CONTAIN COSTS
AT THE EXPENSE OF SAFETY IS
IMPORTANT - BUT FROM WHAT
THE PROPOSED AVALANCHE BRIDGE
LOOKS LIKE - I THINK THAT
WOULD BE THE BEST CHOICE

Name LOM RISTON



C-33-01

Both options meet the avalanche design criteria described in the Draft Supplemental EIS Section 2.3, *What are the avalanche design criteria?* FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

Comments:

C-34-01

*I support the Avalanche Bridges
Project.*

15

Name

*Leann Sammons
Northport, WA.*



C-34-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-35-01

I support going with the
Proposed Avalanche Bridges
because of the long-term
savings & benefits derived.
an open highway should have
its own benefit as well -
without going into details.

Name DON YAKESH, SEATTLE 98146



C-35-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-36-01

DEAR WSDOT - AS SOMEONE WHO
REGULARLY CROSSES THE CASCADES ON
I-90, I SUPPORT REPLACING THE SNOW
SHED WITH AN AVALANCHE BRIDGE FOR
THREE REASONS:

- 1) THE BRIDGE WILL BE LESS EXPENSIVE
TO MAINTAIN.
- 2) THE BRIDGE WILL BE SAFER FOR
DRIVERS AND EASIER TO CLEAR IN
CASE OF ACCIDENTS, STALLS, ETC.
- 3) THE BRIDGE WILL OFFER WILDLIFE
WATER ACCESS AND A WAY TO CROSS
UNDER THE HIGHWAY. THIS WILL RESULT
IN FEW ACCIDENTS AND ROAD KILLS.

Name JEFF BLAIR (SEATTLE)



C-36-01

This section of I-90 has not been identified as a habitat linkage area because the hillside is so steep and therefore is not the location of a proposed wildlife crossing for the I-90 project. Both options result in similar impacts to natural resources. However, the Proposed Bridges have been identified as the Preferred Option and would provide some benefit to low-mobility species and fish habitat.

Comments:

C-37-01

Avalanche bridge!

C-37-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Name _____



C-38-01

Comments:

Please replace the Snowshed with the elevated Bridge option. The Bridge is superior both for Avalanches control and maintenance and will substantially reduce winter shut down time, as well as improve traffic.

This should have been the first option from the beginning

Thank you for moving to a better option

Sam Blaine Price
Name



C-38-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-39-01

Select the option
that is best for
wildlife

Name Ingrid Rasch



C-39-01

This section of I-90 has not been identified as a habitat linkage area because the hillside is so steep and therefore is not the location of a proposed wildlife crossing for the I-90 project. Both options result in similar impacts to natural resources. However, the Proposed Bridges have been identified as the Preferred Option and would provide some benefit to low-mobility species and fish habitat.

Comments:

10.15.12

Dear WSDOT

C-40-01

I think you'll make a good decision.
If the bridge is just as good &
less expensive - it seems ok to me.

C-40-02

I care about:
• access/quick recovery after traffic jams
• safety
• wildlife corridors
+
• cost ... in that order
TxS

Name Kristina Peterson



C-40-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-40-02

This section of I-90 has not been identified as a habitat linkage area because the hillside is so steep and therefore is not the location of a proposed wildlife crossing for the I-90 project. Both options result in similar impacts to natural resources. However, the Proposed Bridges have been identified as the Preferred Option and would provide some benefit to low-mobility species and fish habitat.

Comments:

C-41-01

I strongly support the snow shed option as the technically superior solution.

C-41-02

The avalanche bridge is prone to long-term performance shortcomings which would be very costly to fix. The snow

C-41-03

shed will provide more predictable, if slightly more expensive, reliability and safety.

Name Andrew Taylor, P.E., S.E.
7214 Palatine Ave. N.
Seattle WA 98103



C-41-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. The Proposed Bridges will cost less to operate and maintain, improve traffic flow during construction, improve views for drivers, result in less permanent impacts to Keechelus Lake, and create new aquatic habitat underneath the bridge structures for bull trout and other fish. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-41-02

Both structures meet AASHTO and WSDOT design standards and avalanche design criteria. The estimated cost to operate, maintain, and rehabilitate both structures was updated to include the cost of structural rehabilitation. The updated costs are provided in the Final Supplemental EIS Table 2-1 (Item 12).

C-41-03

In terms of reliability, both structures have been designed to eliminate the need for active avalanche control and associated road closures within the design modification area. In terms of safety, both options meet avalanche design criteria, national safety design standards, and WSDOT factors of safety. For additional information see Draft Supplemental EIS Section 3.2, *Geology, Soils, Avalanche, and Rock Fall*, and Section 3.7, *Transportation*.

Comments:

C-42-01

We think The PROPOSED
ADVANCE BRIDGES
ARE THE BEST WAY TO
PROCEED. Jim & Sylvia
26 ST ANTON STRASSE
ALPERSA.
10907 176TH CIR. NE
REDMOND WA 98050

Name JAMES R. KASLEY



C-42-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-43-01

In my opinion, the bridges make more sense in costs to operate and maintain.

C-43-02

Consider the west bound bridge at Danny Creek: almost never a problem with avalanches and wildlife can move freely under it.

The bridges would also be more aesthetically appealing, it seems to me, as well.

Thank you for allowing input on this. We travel over the pass every week-end and are very interested in the project. You're doing a great job!

Name Diane Bannister



C-43-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-43-02

This section of I-90 has not been identified as a habitat linkage area because the hillside is so steep and therefore is not the location of a proposed wildlife crossing for the I-90 project. Both options result in similar impacts to natural resources. However, the Proposed Bridges have been identified as the Preferred Option and would provide some benefit to low-mobility species and fish habitat.

Comments:

C-44-01

Since either option will accomplish the stated goals for about the same price, it makes sense to choose the one that will require the least maintenance costs, i.e., the avalanche bridges. I use this route several times a year - in summer - & am looking forward to its completion!

Judy Meredith

DEPT OF TRAN
OCT 22 2012
SCR MAILROOM

Name Judy Meredith



C-44-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-45-01

I vote for the bridge. I think
it is easier to save money
when the effect and safety are
equal. I also think that
it is easier for people to drive
in the open rather than in a
tunnel

Name

Marie Thompson



SEATTLE
WASH 980
20 OCT
PM 4 L

C-45-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:



C-46-01

I AM NOT AN ENGINEER, SO
I SEE THIS AS MORE OF A
SAFETY ISSUE. I Really don't
Like Tunnels, because there
are many Trucks, and you sometimes
get Squeezed, especially if you have
an RV or boat. However, the elevated
bridge needs to be high enough
for the snow to go underneath.

15 OC

C-46-02

Name BONNIE AGUILAR LAKE KACHESS



C-46-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. The Proposed Bridges will cost less to operate and maintain, improve traffic flow during construction, improve views for drivers, result in less permanent impacts to Keechelus Lake, and create new aquatic habitat underneath the bridge structures for bull trout and other fish. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-46-02

The Proposed Bridges are designed high enough to accommodate the cumulative heights of the 100-year snowfall accumulation, plowed snow from the bridge deck, and prior avalanche deposit; plus a 100-year dense flow avalanche; plus a 30-year powder avalanche (see the Draft Supplemental EIS Section 2.3, *What are the avalanche design criteria?* for additional information). These design criteria greatly exceed typical winter conditions.

Comments:

C-47-01

Please go ahead with the avalanche bridges instead of the snow tunnel that is more expensive to maintain.

Also the driver's aspect of the road is much improved with the bridge approach. Chances for blockages are less also.

DEPT OF T
OCT 22 2012
SCR MAILROOM

Name Terrill W. Hendrickson



C-47-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

C-48-01

Comments:

If the bridges work as good
for similar cost, but save
maintenance over the long term,
I vote for Bridges

Name

Richard Prott



C-48-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-49-01

Unless I missed something -
it seems that letting the
Avalanche go under the road
bed like it does on the west
side of the pass makes more
sense than the snow shed
idea. Much less downtime
and better cost savings in
the long run.

Name Chet A. Murro



C-49-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-50-01

Hello - I am one of
the land owners that will be
impacted when the Price creek
snow path gets removed - is there
a plan in place to relocate the
snow path for the land owners
as of now?

Marty Glass

Name _____



C-50-01

Thank you for your comment. However, it does not pertain to the scope of this Avalanche Structures Supplemental EIS. It has been forwarded to the I-90 project team.

Comments:

C-51-01

I am in favor of the proposed bridges for avalanche and rock fall protection.

C-51-02

My only concern about the bridges is if there is a huge avalanche that goes under but also on top of the highway, will there be trucks to clear the highway? nearby

Name

Charlotte Kanemori



C-51-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-51-02

This section of I-90 is already, and will continue to be, actively maintained by WSDOT in the winter. The nearest WSDOT maintenance facility is located in Hyak at the west end of Keechelus Lake. WSDOT will also continue to monitor winter conditions and take additional actions when warranted, including temporary highway closures; active avalanche control; or systematic removal of built up snow, rock, and debris from beneath the Proposed Bridges. These actions would further reduce the risk of avalanches impacting the bridges.

Comments:

C-52-01

Build the bridge!
Cost less
Good visibility
Easier snow removal
Less maintenance
Less invasive

Name D. F. Jeffery



C-52-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-53-01

I would like to encourage WSDOT to choose the Proposed Avalanche Bridges option.

It seems that the considerable cost savings by eliminating the need for \$50 Million fire & life safety costs over the project lifetime more than justify the slight risk of additional inconvenience an event causing traffic issues with the uncovered bridge option.

The bridges structure is also more visually pleasing.

All tradeoffs point to the proposed bridges option as the most beneficial.

Thank-you,

Name Bryan Wyberg Bryan L. Wybug



C-53-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

Comments:

C-54-01

Looking at the pictures at the top of the page, it certainly appears to me that the snowshed provides superior avalanche protection. You say that the two systems are comparable, but I can't see how. However, as you

C-54-02

say the selected snowshed requires fire escape safety systems, I am still in favor of the selected snowshed.

Name

Peter J. Van Zant



C-54-01

Both structures are designed to meet equivalent avalanche design criteria for typical winter conditions (see the Draft Supplemental EIS Section 2.3, *What are the avalanche design criteria?*). As discussed in Section 3.2 *Geology, Soils, Avalanche, and Rock Fall* (Avalanche Hazards subsection), avalanches would not affect the traveling public on either structure under typical winter conditions. Under extreme winter conditions, additional action would be taken by WSDOT to protect the traveling public, such as temporary highway closures, active avalanche control, and removal of snow, rock, and debris.

C-54-02

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. The Proposed Bridges will cost less to operate and maintain, improve traffic flow during construction, improve views for drivers, result in less permanent impacts to Keechelus Lake, and create new aquatic habitat underneath the bridge structures for bull trout and other fish. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-55-01

Comments: I-90 Pass East-Hyak → Kaecklus

Regarding replacing existing snowshed with
new snowshed or avalanche bridges?

Given that both options meet I-90 project
purpose & next cost about the same, same footprint
& have similar impacts

I strongly support the bridges

because of not needing fire & life-safety
systems

* have the \$50 million in operation &
maintenance expenses

Name

Tami Micheletti



C-55-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

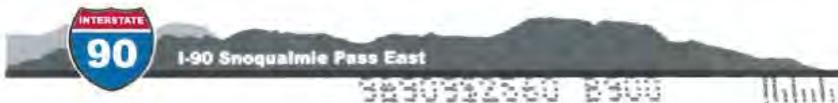
C-56-01

I'm in favor of the avalanche
bridges option.
It is dark for all the way rather
than driving into dark, making it
harder to see.

C-56-02

It provides one more place for
animals to access water.
AND in the long run it's cheaper
to maintain!

Name Marianne Gordon



C-56-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

C-56-02

This section of I-90 has not been identified as a habitat linkage area because the hillside is so steep and therefore is not the location of a proposed wildlife crossing for the I-90 project. Both options result in similar impacts to natural resources. However, the Proposed Bridges have been identified as the Preferred Option and would provide some benefit to low-mobility species and fish habitat.

Comments:

C-57-01

We favor the bridges over
the tunnel because of lower maintenance
costs.

SE
03 14

Ginny Haver
Gerry MacCamy
4003 149th Ave SW
Seattle 98116

Name



C-57-01

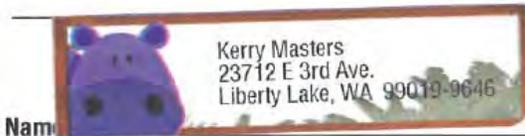
Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

Comments:

C-58-01

Whatever you do, please
dont harm any wildlife
or wildlife habitat

Kerry Masters



Name



C-58-01

This section of I-90 has not been identified as a habitat linkage area because the hillside is so steep and therefore is not the location of a proposed wildlife crossing for the I-90 project. Both options result in similar impacts to natural resources. However, the Proposed Bridges have been identified as the Preferred Option and would provide some benefit to low-mobility species and fish habitat.

Comments:

C-59-01

I have driven through the snow sheds for years, even with hay trucks, and prefer the 2 bridge idea. Snow sheds make the road feel narrow, which slows traffic down. Snow sheds and tunnels are darker unless well lit, which is bad for our elderly drivers!

Name Byron C Bridges



C-59-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-60-1

I support the
"Proposed Bridges"
proposal because of
the cost savings to
the state over time!
Thanks — Ingrid Simonson

Name Ingrid Simonson
Snoq Pass, WA



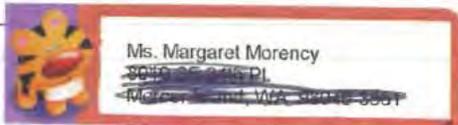
C-60-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

C-61-01

I prefer the Bridge -
to snow under pass



Name:

Margaret Morency



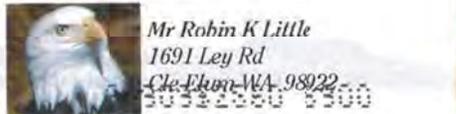
C-61-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Comments:

- C-62-01 | 2 I STRONGLY SUPPORT THE DESIGN FOR THE PROPOSED AVALANCHE BRIDGES TO REPLACE THE EAST SNOWSHED ON I-90 ALONG LAKE KEECHEWIS, RATHER THAN AN EXPANDED SNOWSHED.
- C-62-02 | I WOULD LIKE TO EMPHASIZE THAT THE PIERS FOR THE BRIDGES BE ENGINEERED TO WITHSTAND MUCH MORE ICE & SNOW SLIDING FROM THE MOUNTAIN THAN IS HISTORICALLY DOCUMENTED, JUST IN CASE OUR CURRENT WARMING TREND CONTINUES. THE ANCHOR IN ROCK FOR THE PIERS, THEIR CROSS-SECTION SHAPE & STRENGTH MUST NOT BE MINIMIZED JUST TO SAVE COST!
- C-62-03 |

Name MR. ROBIN K. LITTLE



Mr Robin K Little
1691 Ley Rd
Cle Elum WA 98922
50922550 2500



C-62-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

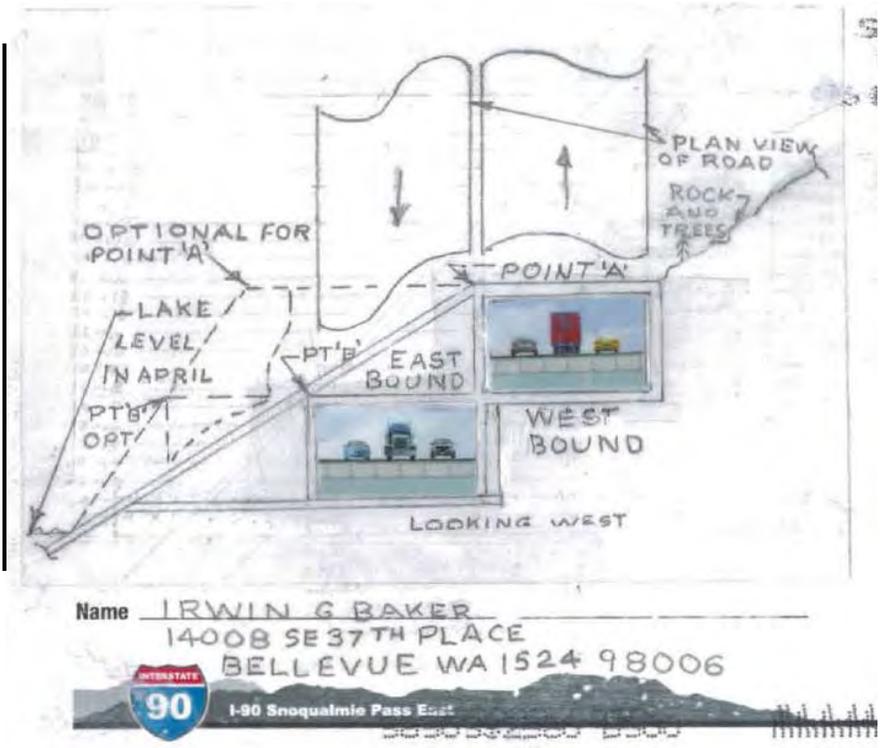
C-62-02

The height of the Proposed Bridges was determined by using conservative snow supply estimates derived from long-term climate data dating as far back as 1907 and as recent as 2003, during which time there have been numerous, significant changes both increasing and decreasing the snow supply. WSDOT does not expect that climate change would affect the design integrity, maintenance, operations, and cost of either option because climate change was already accounted for in our snow supply estimates, which were used to determine the necessary clearance heights and pier loading. The cumulative nature of the design criteria also provides added protection to account for uncertainties associated with climate change (see the Draft Supplemental EIS Section 2.3, *What are the avalanche design criteria?* for additional information).

C-62-03

The Proposed Bridges meet AASHTO and WSDOT design and safety standards.

C-63-01



C-63-01

Thank you for your design suggestion. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Tunnel designs have been evaluated and were rejected due to cost considerations during the 2008 Final EIS.

From: launil@hotmail.com
Date: October 3, 2012, 5:07:28 PM PDT
To: smithJW@wsdot.wa.gov
Subject: WSDOT Feedback form

The following is the contents of a form submitted on 10/3/2012 5:07:28 PM

====My Contact information=====

Name: Launi Ritter
E-mail: launil@hotmail.com
Phone:
Street Address: PO Box 638
City: Electric City
State: WA
Zip Code: 99123

==== My Question/Comment/Complaint =====

E-01-01

I very much like the idea of building a bridge instead of another snowshed. I hope that either of the designed bridge plans gets implemented, both for the cost savings and for practicality reasons. Thank you for considering the bridge idea.

E-01-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

From: Gene Laughlin [<mailto:genelaughlin@avvanta.com>]
Sent: Thursday, October 04, 2012 9:39 AM
To: Smith, Will
Cc: McFadden, Meagan
Subject: I-90 Snoqualmie Pass East Project - Construction - Bridges option

E-02-01

Regarding the avalanche bridges option, whatever savings in cost and time this option promises, one has to wonder if the cost of snow and debris removal at the bridge pillars won't pile up even higher. And won't those pillars have to be extra thick (extra cost) to withstand the season's repeated avalanches?

E-02-02

Gene Laughlin
P.O. Box 778
Duvall, WA 98019
(425) 844-9470

E-02-01

Estimated annual operation and maintenance costs for the Proposed Bridges include infrequent clearing of debris from the avalanche chutes and snow containment trench (see Section 2.5, *How would the Proposed Bridges affect I-90 project costs?*).

E-02-02

The bridge piers have been structurally designed to withstand potential impact forces from avalanches, which are reflected in the current cost to design and construct (see Section 2.2, *What options are evaluated in this Draft Supplemental EIS?* and Section 2.5, *How would the Proposed Bridges affect I-90 project costs?*).

-----Original Message-----
From: stephjohn@inlandnet.com [mailto:stephjohn@inlandnet.com]
Sent: Wednesday, October 03, 2012 8:46 PM
To: Smith, Jason
Subject: WSDOT Feedback form

The following is the contents of a form submitted on 10/3/2012 8:45:48 PM

=====My Contact information=====
Name: Stephanie Eberle
E-mail: stephjohn@inlandnet.com
Phone: [509-649-2615](tel:509-649-2615)
Street Address: 41 Howdy St, Box 129
City: Roslyn
State: WA
Zip Code: 98941

===== My Question/Comment/Complaint =====

E-03-01

After Review I see the bridge option as being the best overall, lets get on with it and expedite, traffic delays on I-90 are costing us all money.

=====

E-03-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

From: lsouthern@clearwire.net
To: Smith, Jason
Subject: WSDOT Feedback form
Date: Saturday, October 06, 2012 11:12:51 AM

The following is the contents of a form submitted on 10/6/2012 11:12:51 AM

=====My Contact information=====
Name: Larry Southern
E-mail: lsouthern@clearwire.net
Phone:
Street Address:
City: Sunnyside
State: WA
Zip Code: 98944

===== My Question/Comment/Complaint =====

E-04-01

With what is presented to be equal impacts, combined with the long term maintenance savings, the two avalanche bridges, closest to the existing roadbed, would be more advantageous for contractors, tax payers and travelers.

=====

E-04-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

From: jrknight@acninc.net
To: [Smith, Jason](#)
Subject: WSDOT Feedback form
Date: Wednesday, October 10, 2012 10:08:11 PM

The following is the contents of a form submitted on 10/10/2012 10:08:10 PM

=====My Contact information=====

Name: Jim Knight
E-mail: jrknight@acninc.net
Phone:
Street Address: 25209 45Ave S
City: Kent
State: WA
Zip Code: 98032-4224

===== My Question/Comment/Complaint =====

E-05-01

I only go through the pass 4 or 5 times a year. I have many friends that do the same or more. I think the bridge is a very good idea. It seems to me it should provide a big savings for the enviroment as well as the pocket book. JK

E-05-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

-----Original Message-----

From: Julia Bent [<mailto:jbent@avyanta.com>]
Sent: Wednesday, October 10, 2012 5:03 PM
To: Smith, Jason
Subject: Avalanche Structures

Hi Jason,

E-06-01

I think the Proposed Avalanche Bridges are a GREAT idea! I like the ones west of the summit--they make so much sense, and the eastern snow shed has never really worked well. I like the idea of not going from a lighted structure into either the dark (night) or the bright light (day) upon exiting what is essentially a tunnel. Go for the Bridges!

Julia Bent

E-06-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

From: Gayle Hunt [mailto:gmh507@hotmail.com]
Sent: Tuesday, October 09, 2012 3:04 PM
To: Smith, Jason
Subject: comment on avalanche structures draft supplemental EIS

E-07-01

Since there would be a cost savings over the years for operation and maintenance with a bridge rather than a snowshed it would make sense to go with the bridge. I am not an engineer so I am assuming that you all know what you are doing regarding a bridge - i.e. will it be high enough to permit an avalanche to go under it and will the bridge supports be strong enough to withstand the impact of snow hitting the bridge supports.

E-07-02

E-07-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

E-07-02

The Proposed Bridges are designed high enough to accommodate the cumulative heights of the 100-year snowfall accumulation, plowed snow from the bridge deck, and prior avalanche deposit; plus a 100-year dense flow avalanche; plus a 30-year powder avalanche (see the Draft Supplemental EIS Section 2.3, *What are the avalanche design criteria?* for additional information). These design criteria greatly exceed typical winter conditions.

The bridge piers have been structurally designed to withstand potential impact forces from avalanches (see Section 2.2, *What options are evaluated in this Draft Supplemental EIS?*). The potential for the bridge piers to be directly impacted by avalanches is also reduced by locating bridge piers between avalanche paths where avalanches forces are less, placing the piers on raised benches, and building up fill materials around the piers to form chutes that direct avalanches and rocks between the piers.

From: bass@bassresource.com
To: [Smith, Jason](#)
Subject: WSDOT Feedback form
Date: Sunday, October 14, 2012 5:00:25 PM

The following is the contents of a form submitted on 10/14/2012 5:00:24 PM

====My Contact information=====

Name: Glenn May
E-mail: bass@bassresource.com
Phone:
Street Address:
City: Maple Valley
State: WA
Zip Code:

==== My Question/Comment/Complaint =====

E-08-01

My concern is about driver safety. Not during winter conditions, but peak summer traffic conditions. Which design is less likely to have collisions?

I gotta think the bridge design is more safe from that perspective. But you guys are the experts.

Whichever has the lowest accident ratio when little sports cars are weaving around RV's and semis wins my vote.

E-08-01

Both structures meet AASHTO and WSDOT design standards. The geometric configuration of both structures is consistent with other structures in the I-90 corridor. For additional information about the safety of the structures, see the Draft Supplemental EIS Section 3.7, *Transportation*.

From: Lyle Christopherson [mailto:landmchris@gmail.com]
Sent: Saturday, October 13, 2012 5:47 PM
To: McFadden, Meagan
Subject: Bridge?

E-09-01

Hello,
In one of your Snoq. Pass alerts you mention people sharing a vote on some of the construction. One of the questions was if we think an "Avalanche Bridge" would be the better way to build.
I have skied the Cascades most of my life and feel a bit stumped on just what is a "Avalanche Bridge?"
I go caught in a Powder Snow avalanche one time, but did not have to look for a bridge of any kind.
Appreciate any enlightenment.
Lyle C.

E-09-01

An avalanche bridge is a structure designed to allow avalanches to pass under the road. This term is used in the I-90 Snoqualmie Pass East Avalanche Structures Draft Supplemental EIS which is available on the I-90 project website at www.wsdot.wa.gov/Projects/I90/SnoqualmiePassEast. The document compares and contrasts the two structures considered by WSDOT that would protect vehicles from avalanches on I-90 at MP 58.1.

From: barry brunson [mailto:mathisfun@mac.com]
Sent: Thursday, October 18, 2012 10:02 PM
To: Smith, Jason
Subject: Draft Supplemental EIS

Dear Jason Smith,

After reading the Avalanche Structures Draft Supplemental EIS for I-90 Snoqualmie Pass East, I have a question.

Section 3.7 (Transportation) includes discussion of the vertical grade and cross slope of the Selected Snowshed and the Proposed Bridges. We read on pp. 3-34/3-35:

"The maximum vertical grade for the Proposed Bridges is 2.6 percent, which is less than the maximum vertical grade of 4.1 percent used elsewhere on the I-90 Project ... The most substantial curve associated with the Proposed Bridges is a 5 percent cross-slope, which is flatter than the 6 percent cross-slope for the Selected Snowshed ... Overall, the curves associated with both options are comparable to the curves of other structures throughout the I-90 corridor and do not present a safety risk to the traveling public."

Granted that both the maximum vertical grade and the most substantial cross-slope are *individually* comparable with those same characteristics of other structures, does the *combination* of 2.6 percent vertical grade *together with* 5 percent cross-slope *in the same location* make any comparable appearance elsewhere—on I-90 or on other Northwest highways? If not, this combination would seem to call for particularly careful, and additional, scrutiny. Given the heavy traffic and frequent presence of adverse winter conditions on I-90, questions of safety compel me to ask.

I note that Exhibit 3-14 confirms for the Selected Snowshed a higher 6 percent cross slope, but this is in combination with a lower 2.3 percent vertical grade.

Thank you for the opportunity for posing this question. In case you were wondering, I am a part-year resident of Cle Elum.

Respectfully,

Barry Brunson

Barry Brunson
Professor, Department of Mathematics
Western Kentucky University
1906 College Heights Blvd #11078
Bowling Green, KY 42101-1078
270.745.3653, fax 270.745.3699

mathisfun@mac.com
barry.brunson@wku.edu

E-10-01

E-10-01

The maximum profile and cross-slope grades on the Proposed Bridges do not occur at the same location. Where there is a 5% cross-slope, the maximum westbound bridge profile is 1.91% and the maximum eastbound bridge profile is 1.3%. These slopes meet WSDOT and AASHTO design standards. The Final Supplemental EIS provides clarification on this point (see Table 2-1, Item 27).

From: dinoburner@hotmail.com
To: [Smith, Jason](#)
Subject: WSDOT Feedback form
Date: Sunday, October 21, 2012 11:17:02 PM

The following is the contents of a form submitted on 10/21/2012 11:17:02 PM

====My Contact information====
Name: John Haedt
E-mail: dinoburner@hotmail.com
Phone: 425 485 5400
Street Address: 4408 196th St Se
City: Bothell
State: WA
Zip Code: 98012

==== My Question/Comment/Complaint =====

E-11-01

The 70 year old existing snowshed has demonstrated a solid roof covering this area of roadway is the most dependable alternative. An unusally large snowpack or rockslide may be able to overtop or even topple a bridge. The bridge relies on the volume of flow underneath not to exceed a certain amount. Are we willing to assume that constant?

E-11-01

Experience on I-90 and elsewhere has demonstrated that bridges, such as the bridge at Denny Creek, are a viable option for passive avalanche protection. For the Proposed Bridges, clearances and impact loads were based on historic snowfall and avalanche records, conservative design criteria, and additional factors of safety. WSDOT will continue to monitor winter conditions, and when warranted will take necessary actions to protect the travelling public. These actions may include temporary highway closures; active avalanche control; or systematic removal of built up snow, rock, and debris from beneath the Proposed Bridges. This would renew the structure's ability to pass avalanches.

From: rhonda.j.kennedy@comcast.net
To: [Smith, Jason](#)
Subject: WSDOT Feedback form
Date: Tuesday, October 23, 2012 7:09:57 AM

The following is the contents of a form submitted on 10/23/2012 7:09:57 AM

====My Contact information====
Name: Rhonda Kennedy
E-mail: rhonda.j.kennedy@comcast.net
Phone: 253-863-9578
Street Address: 10206 201st AVE CT E
City: Bonney Lake
State: WA
Zip Code: 98391

==== My Question/Comment/Complaint =====

E-12-01

After reviewing the Draft Supplemental EIS, it makes sense to move forward with the proposed bridges rather than the new snowshed. As long as they are built to withstand the forces of nature, the cost savings for maintainence over the next 50-75 years is tremendous and cannot be overlooked. My vote would be to move forward with the proposed bridges. Thank you!

E-12-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

From: shielais@yahoo.com
To: Smith_Jason
Subject: WSDOT Feedback form
Date: Tuesday, October 23, 2012 10:57:33 AM

The following is the contents of a form submitted on 10/23/2012 10:57:33 AM

====My Contact information====

Name: Mindy Owley
E-mail: shielais@yahoo.com
Phone: 509-293-1234
Street Address: 211 Pace Dr #53
City: East Wenatchee
State: WA
Zip Code: 98802

==== My Question/Comment/Complaint =====

E-13-01

I like the bridge alternative very much. My one concern is the sides of the bridges. Are they substantial enough to prevent all types of vehicles traveling over them from falling over the sides in the event of an accident, especially in the winter? The information shown did not give much detail in that regard.

Sincerely,
Mindy Owley

E-13-01

The barriers on the Proposed Bridges are 3 feet 6 inches tall. This is in accordance with current AASHTO and WSDOT design standards for bridges.

-----Original Message-----

From: Mark D. Blitzer [<mailto:pfeffer828@comcast.net>]
Sent: Mon 10/22/2012 4:32 PM
To: Smith, Jason
Subject: Avalanche structure choice

E-14-01

Thanks for letting me express my opinion on the issue of which avalanche structure to build at Keechelus Lake along I-90. Everything else being equal, I prefer bridges over a snowshed. I have trouble with tunnels in general as, to my eyes, they are never well enough lit. This is especially true when driving on a bright sunny day with sunglasses. I have to remove them when entering a tunnel (at least those in the Seattle area), then replace them when exiting, all of which causes distractions to actual driving. Even without sunglasses, most of the tunnels in this area are too dark in my opinion, so I wouldn't have much hope that the interior of any snowshed, even if not totally blocked from outside light, would be bright enough for me.

Sincerely,

Mark D. Blitzer

Seattle

E-14-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

From: Molly Graham [mailto:mollyg1@comcast.net]
Sent: Friday, October 26, 2012 6:24 PM
To: Smith, Jason
Subject: Comments on I90 avalanche structures

E-15-01

Hi Jason, just a note to tell you that the new plan for the bridge structures looks like a more optimal approach for minimizing avalanche issues for travelers on I-90. It appears that the mitigation plans will be the best attempts to avoid negative impact to the lake/habitat as much as possible for a project of this size/nature. I think the difference between the two would be negligible in the big scheme of things and the end result will be an improved plan.

E-15-02

Do you know where are the PCB and high toxin levels currently being observed in the lake fish tissue are coming from?

Thanks, Molly



FreshCut™
Floral Design

Molly Graham
p: 206.779.3750
e: mollyg1@comcast.net
www.freshcut.me

E-15-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

E-15-02

The origination of these manufactured compounds in the lake is currently unknown.

From: Dave Luxem [mailto:dave.luxem@zones.com]
Sent: Monday, October 08, 2012 12:44 PM
To: Smith, Jason
Subject: I-90 Snoqualmie Pass Exit

Dear Jason,

I am emailing for two reasons;

E-16-01

1. Seems obvious to go with the bridge to save the millions in future operating costs.
2. Can you please remove me from the snail-mail paper mailing list?

Thanks!

Regards,
Dave

David Luxem
1903 SW Hillcrest Rd
Seattle, WA 98166-3321
(206) 932-4439

E-16-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*. We have removed you from the mailing list.

From: Scott Holman [mailto:scootwhoman@gmail.com]
Sent: Mon 10/29/2012 6:19 PM
To: Smith, Jason
Subject: Interstate 90 Avalanche structures

Mr. Smith,

E-17-01

In view of the abrupt illumination change involved in a snowshed, I favor the proposed bridges as a replacement for the existing snowshed.

Thank you,

Scott P. Holman

E-17-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

The following is the contents of a form submitted on 10/30/2012 6:35:54 PM

====My Contact information=====

Name: Steve Walker
E-mail: walkman57@mac.com
Phone: 509-448-5314
Street Address: 3516 E. 64th Ct.
City: Spokane
State: WA
Zip Code: 99223

==== My Question/Comment/Complaint =====

E-18-01

I support the snow bridge idea as proposed by the contractor. I think having the bridges further away from the cliffs makes sense, and the operational costs would be decreased with that option. I have a rather unique perspective on this project. On April 3, 2012, I was traveling east on I-90 at this location. I moved into the inner lane to get around a semi, and a wall of snow immediately was in front of me. An avalanche had come down over the top of the existing snow shed and dumped snow in the lane I was traveling in. The impact caused me to spin backwards across the lanes of traffic and hit the guardrail near the lake. That impact caused me to spin the other way and hit the guardrail again. I then spun again and ended up broadside in the middle of the two lanes. Although I drove my car slowly home to Spokane, it was deemed totaled. This is a dangerous area and needs to be done well. The contractor's proposal is the better solution.

E-18-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

The following is the contents of a form submitted on 11/5/2012 8:42:34 PM

====My Contact information=====

Name: Deborah Fain
E-mail: dgfain@yahoo.com
Phone:
Street Address:
City:
State: WA
Zip Code: 98946

==== My Question/Comment/Complaint =====

E-19-01

I personally would prefer the bridges over the snowshed. Like the idea of less road closures and also saving money. I travel the pass about once a week.

E-19-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

From: sue stark [<mailto:starkperformancehorses@yahoo.com>]
Sent: Tue 11/6/2012 2:40 PM
To: Smith, Jason
Subject: SNOQUALMIE PASS EAST INPUT

E-20-01

My vote is for the avalanche bridges

E-20-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

From: Jerry Watts [<mailto:jerrygwatts@gmail.com>]
Sent: Fri 11/9/2012 8:44 AM
To: Smith, Jason
Subject: bridges versus snowshed

Dear Mr. Smith,

E-21-01

I am sending you this e-mail on behalf of the Kachess Ridge Maintenance Association. Our community is located about two miles north of Exit 62 on I-90. Our residents and property owners are all frequent users of the current snowshed.

We are strongly in favor using bridges instead of a new snowshed. We believe that the bridges will be safer than a snowshed, and we appreciate that the long-term maintenance will be cheaper.

Please contact me if you have questions or need further information.

Thank you,

Jerry Watts
Director and Treasurer
Kachess Ridge Maintenance Association
509 656 0217 (home)
206 375 8449 (cell)
jerrygwatts@gmail.com

E-21-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

The following is the contents of a form submitted on 11/11/2012 4:00:15 PM

====My Contact information====

Name: Greg Holbron
E-mail: geowela@gmail.com
Phone: (509)375-4255
Street Address: 2223 Camas Ave
City: Richland
State: WA
Zip Code: 99354

==== My Question/Comment/Complaint =====

E-22-01

I support the proposed option of bridges over the avalanche zone.

=====

E-22-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

From: Jerry Watts [<mailto:jerrygwatts@gmail.com>]
Sent: Sunday, November 11, 2012 11:09 AM
To: Smith, Jason
Subject: bridges versus snowshed

Dear Mr. Smith,

E-23-01

I am sending you this e-mail on behalf of Kittitas County Fire District #8. The snowshed that is to be replaced by bridges or a new snowshed is located within our District.

Our Board of Commissioners, Officers, Firefighters, and EMTs are all strongly in favor using bridges instead of a new snowshed. We believe that the bridges will be safer than a snowshed, and we appreciate that the long-term maintenance will be cheaper.

Please contact me if you have questions or need further information.

Thank you,

Jerry Watts
Commissioner
Kittitas County Fire District #8
509 656 0217 (home)
206 375 8449 (cell)
jerrygwatts@gmail.com

E-23-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

====My Contact information====

Name: Edris Jorgensen
E-mail: edie4creeks@yahoo.com
Phone:
Street Address:
City:
State: WA
Zip Code:

==== My Question/Comment/Complaint =====

I apologize for not having time to read and analyze all the documentation related to this project. I further apologize for not knowing if this is the right place to ask these questions/make comments.

E-24-01

My concerns are with the question of climate change impacts to anticipated likelihood of extreme weather events. Either alternative, of which I prefer the No Snowshed alternative, must take into consideration the likelihood of greater precipitation and shorter time frames during which it is delivered. Will there be sufficient space for the greater snow accumulations and for the likely land/rockslides that occur as a result of harsher short-duration rain and snow dumps? I believe there would be environmental impacts of carving back the mountainside further, but it seems logical to do so in order to have a further degree of safety against the possibility of the landslide or snow accumulation impacting the travelway of the highway.

E-24-02

Thanks for listening.
Sincerely,
MS. Edris Jorgensen

=====

E-24-01

The height of the Proposed Bridges was determined by using conservative snow supply estimates derived from long-term climate data dating as far back as 1907 and as recent as 2003, during which time there have been numerous, significant changes both increasing and decreasing the snow supply. WSDOT does not expect that climate change would affect the design integrity, maintenance, operations, and cost of either option because climate change was already accounted for in our snow supply estimates, which were used to determine the necessary clearance heights and pier loading. The cumulative nature of the design criteria also provides added protection to account for uncertainties associated with climate change (see the Draft Supplemental EIS Section 2.3, *What are the avalanche design criteria?* for additional information).

E-24-02

The potential effects of cutting into the hillside to create space for avalanches and rocks to pass beneath the bridge structures is discussed in the Draft Supplemental EIS Section 3.2, *Geology, Soils, Avalanche, and Rock Fall* (Unstable Slope Hazards subsection).

E-25-01

From: Sigsworth, Sterling
Sent: Monday, November 19, 2012 2:36 PM
To: Norman, Mark (Consultant)
Cc: Smith, Jason; Reynolds, Mark
Subject: I-90 SPE Avalanche Structures Draft SEIS comment

Mark N,
The bridge decks in Exhibit 2-6 of the Avalanche Structures Draft SEIS appear to be too low when compared with the bridge decks in Exhibits 3-4 and 3-15, while the bridge decks in Exhibit 2-4 may be too high relative to the bridge decks in Exhibits 3-4 and 3-15. Looking at the right hand (eastbound) bridge deck, it is apparent that the deck is much closer to the lake surface in Exhibit 2-6 than it is in Exhibit 3-4. You can also use the background mountain range as a reference.

Both Exhibit 2-6 and Exhibit 3-4 have an assigned milepost of 58.13 which means that they have to be within about 50 feet of each other along the length of the bridge. At the maximum vertical grade for the Proposed Bridges of 2.6 percent, the vertical height change over 50 feet of bridge length would be only 1.3 feet. Since the milepost value for Exhibit 2-4 is MP 58.15 rather than MP 58.13, it is not as certain that there is a discrepancy in deck heights even though it looks like it.

If these exhibits will be included in the Final SEIS, please adjust the vertical position of the decks as needed to make the drawings consistent.

Sterling Sigsworth
WSDOT - South Central Region
Environmental
509-577-1928
sigswos@wsdot.wa.gov

E-25-01

These illustrations are renderings intended to convey design concepts. While the renderings are conceptually accurate, they are not scaled design drawings and do not reflect the precise design of the Proposed Bridges nor do they represent the exact physical conditions of the adjacent lake or surrounding mountains. The milepost markers on several of the illustrations as presented in the Draft Supplemental EIS are incorrect. The correct milepost markers are now provided in the Final Supplemental EIS Table 2-1 (Item 8, 11, 13, and 28).

-----Original Message-----

From: Randy Cryer [mailto:randycryer@comcast.net]
Sent: Wed 10/24/2012 8:32 PM
To: Smith, Jason
Subject: Re: WSDOT Plans re I-90 Avalanche shed

Jason,

Please see my comments and opinions on the snow shed replacement below. This is the email I shared with my friends at the Meany Ski Lodge near Stampede Pass. I have been traveling this pass since 1983. For my first 11 years here, I traveled the pass weekly. I have always wondered why the snow shed was not extended over the entire road when the highway was widened. I was also confused by the removal of the shed on the eastbound lanes just west of the summit. Why did they spend all that time and effort on a wall? Anyway, please find my choice for the shed replacement below.

Best Regards,
Randy Cryer
Consultant
Snow Hydrology/Meteorology
206-510-8621
snow@weathermaninc.com
www.weathermaninc.com

----- Original Message -----

From: Randy Cryer
To: Ray and Phyllis Nelson ; shawnb63@yahoo.com ; James Kotlik ; Patti Polinsky ; Jim Fahey ; Tom VanDevanter ; mike@lonergans.net ; Dunstan, Tom ; Don Finrow ; Damm, Doug ; BentlerKellogg@earthlink.net ; Emilio Marasco ; Phillip C Christy ; Lee Helser ; GRASS, Bob ; Jan Lamers ; Jim Noyes ; Adcock, Bill - Netscape ; Gerald Thompson
Cc: Claar, Dave ; Chuck Welter
Sent: Wednesday, October 24, 2012 3:17 PM
Subject: Re: WSDOT Plans re I-90 Avalanche shed

Fellow Meanyites,

I went to the DOT public meeting yesterday to see what they are proposing for the I-90 snow shed/bridge. Based on what I saw, here are my observations and opinions, for what it's worth, along with contact information so you can send comments to WSDOT.

The bridge idea would start by building an elevated bridge along side the existing highway and the lake shore, in the vicinity of the old snow shed. Once completed, traffic would divert to the bridge while the old shed is demolished and the west bound bridge section is built. Once complete, avalanches would presumably slide under the bridges into the lake bed.

The snow shed idea would be longer the existing shed and would cover the entire highway, allowing the avalanching snow to slide into the lake bed. There is also a generator shack built in for power to the shed. This seems practical and simple. In my opinion this is the best option.

Here are my pros and cons;

Bridges;

- E-26-02 | a.. Will freeze over more readily than a road bed
- E-26-03 | b.. Will have also be more prone to blocking accidents due to elevation/slope/icing and more confined area.
- E-26-04 | c.. Will have to be plowed anytime it snows, along with the rest of the highway, so no savings there.
- E-26-05 | d.. Deicing chemicals will run off directly into the lake (not sure of that impact)

E-26-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. The Proposed Bridges will cost less to operate and maintain, improve traffic flow during construction, improve views for drivers, result in less permanent impacts to Keechelus Lake, and create new aquatic habitat underneath the bridge structures for bull trout and other fish. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

E-26-02

Both options have the potential for icy conditions. See the Draft Supplemental EIS Section 3.3, *Water Resources*, and Section 3.7, *Transportation*.

E-26-03

Both options meet AASHTO and WSDOT design standards and include features that accommodate emergency response. See the Draft Supplemental EIS Section 3.7, *Transportation*.

E-26-04

Comment noted.

E-26-05

Permanent water quality impacts due to the use of de-icer for both options are discussed in the Draft Supplemental EIS Section 3.3, *Water Resources*. For additional information see the Final Supplemental EIS Table 2-1 (Item 22).

- E-26-06** | e.. A bridge will require higher and more expensive maintenance and upkeep than a road bed
E-26-07 | f.. Deicing chemicals will degrade the steel in the bridge over time.
E-26-08 | g.. I suspect in a heavy snow year, avalanche accumulation could eventually build up to the height of the bridge deck since there is not enough slope to the lake bed to continue the slide. The reason the bridge works at Denny Creek is due to the steep terrain. I would also like to point out the condition of the road surface on the bridge a Denny Creek (west bound just west of the summit). This lends to the argument about road chemicals, higher maintenance, etc.
Snow Shed;
E-26-09 | a.. It appears the ceiling will be high enough for any trucking loads that travel that section of highway. (height was my only concern)
E-26-10 | b.. less road to plow since the inside will only need sanding for ice.
E-26-11 | c.. less maintenance over all than a bridge.
E-26-12 | d.. Less costly to build.

That's pretty much the strait and simple. I would choose the snow shed.

I have materials I can share with anyone if you would like or you can get the information on line. Here is the link to the information page.

<http://www.wsdot.wa.gov/Projects/190/SnoqualmiePassEast>

Please send your comments and opinions to Jason Smith at Smith.JW@wsdot.wa.gov no later than November 19, 2012 to be included in the public comments evaluations.

Take Care,
Randy Cryer
Consultant
Snow Hydrology/Meteorology
206-510-8621
snow@weathermaninc.com
www.weathermaninc.com

----- Original Message -----

From: Ray and Phyllis Nelson
To: shawnb63@yahoo.com ; Randy Cryer ; James Kotlik ; Patti Polinsky ; Jim Fahey ; Tom VanDevanter ; mike@lonergans.net ; Dunstan, Tom ; Don Finrow ; Damm, Doug ; BentlerKellogg@earthlink.net ; Emilio Marasco ; Phillip C Christy ; Lee Helser ; GRASS, Bob ; Jan Lamers ; Jim Noyes ; Adcock, Bill - Netscape ; Gerald Thompson
Cc: Claar, Dave ; Chuck Welter
Sent: Wednesday, October 03, 2012 7:49 PM
Subject: Fw: WSDOT Plans re I-90 Avalanche shed

FYI

Ray

----- Original Message -----

From: Lee Helser
To: Lee Helser
Sent: Wednesday, October 03, 2012 4:28 PM
Subject: WSDOT Plans re I-90 Avalanche shed

Hi Gang,

Here is something I think we might want to follow up. Ray, maybe spread this to the extended Meany gang as I do not have the full list. If we want to have input, I can easily attend the Oct 23rd meeting....actually there is a Bellevue Parks trail from my place to the Lewis Creek Vis Center. Cheers,
Lee

E-26-06

The Final Supplemental EIS Table 2-1 (Item 12) provides updated operations, maintenance, and rehabilitation costs for each option. The Proposed Bridges would result in a savings of approximately \$37 million over the structure's 75-year design life compared to the Selected Snowshed.

E-26-07

The de-icing products used by WSDOT include anti-corrosion agents to preserve the metal in reinforced concrete structures and roads. In addition, all reinforcing steel in the bridge decks is epoxy coated to help resist corrosion for the design life of the bridge.

E-26-08

The Proposed Bridges are designed high enough to accommodate the cumulative heights of the 100-year snowfall accumulation, plowed snow from the bridge deck, and prior avalanche deposit; plus a 100-year dense flow avalanche; plus a 30-year powder avalanche (see the Draft Supplemental EIS Section 2.3, *What are the avalanche design criteria?* for additional information). These design criteria greatly exceed typical winter conditions.

E-26-09

Both options meet AASHTO and WSDOT design standards.

E-26-10

Both options would increase the area where traction sand and de-icer is used. However, the Selected Snowshed would protect the highway from direct snowfall and therefore may receive less treatment with de-icer and require less snow plowing.

E-26-11

See response to comment E-26-06.

E-26-12

Construction of the Proposed Bridges is anticipated to cost essentially the same as construction of the Selected Snowshed. See the Draft Supplemental EIS Section 2.5, *How would the Proposed Bridges affect I-90 project costs?*

We need your input on an important decision
WSDOT Will host three public hearings

The Washington State Department of Transportation is considering a change to the I-90 Snoqualmie Pass East Project and we're hosting informal public hearings to educate the public about the proposal and seek their input.

An important project objective is reducing road closures due to avalanches. Originally, WSDOT was going to accomplish this objective by replacing the existing snowshed with a new, larger snowshed. WSDOT is now considering replacing the existing snowshed with two avalanche bridges instead.

WSDOT recently released a Draft Supplemental Environmental Impact Statement that evaluates the proposed change, and we're presenting the findings at public hearings in Bellevue, Snoqualmie Pass and Ellensburg. Please join us at any time during the events to learn more and tell us what you think.

Oct. 23, 2012, 4 p.m. to 7 p.m.
Lewis Creek Visitors Center
5808 Lakemont Boulevard SE
Bellevue, WA 98006

Oct. 24, 2012, 4 p.m. to 7 p.m.
The Summit Inn at Snoqualmie Pass
603 SR 906
Snoqualmie Pass, WA 98068

Oct. 25, 2012, 4 p.m. to 7 p.m.
Hal Holmes Community Center
209 North Ruby Street
Ellensburg, WA 98926

If you are unable to attend the meetings, please visit www.wsdot.wa.gov/Projects/SnoqualmiePass/HyaktoKeechelusDam/ to view the Draft Supplemental Environmental Impact Statement and submit your comments.

The public comment period ends on Nov. 19, 2012.

We look forward to hearing from you!

Draft Supplemental EIS Comments
Lewis Creek Visitors Center – Bellevue
Oct. 23, 2012

Comments due by Nov. 19, 2012

H-01-01

Bridges seem to be the best alternative + long term
CRST -



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

H-01-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

Draft Supplemental EIS Comments
Lewis Creek Visitors Center – Bellevue
Oct. 23, 2012

Comments due by Nov. 19, 2012

H-02-01

Lower cost of Bridges will be a good
long term choice. Both options appear to be
excellent choices to improve safety + availability
to the traveling public.
Please keep commerce in mind with nighttime
restrictions



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

H-02-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

H-03-01

The Bridges are an excellent Idea!
Are they built yet?
Thanks for the good work!



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

H-03-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

H-04-01

H-04-02

- 1) PREFER THE BRIDGE OPTION OVER THE SNOW SHED.
- 2) STRONGLY FEEL THAT THE ^{PROPOSED} WSDO LIFE OVER CROSSING AT M.P. 62 SHOULD BE CHANGED TO A AVIOL LIFE UNDER CROSSING. HAVING TRAFFIC PASS THROUGH A TUNNEL WILL SIGNIFICANTLY IMPACT US WEEK TRAFFIC AS DRIVERS WILL SLOW AS THEY APPROACH THE TUNNEL, ESPECIALLY AT HEAVY TRAFFIC TIMES.
- 3) THE CONSTRUCTION UPDATES ONLINE COULD BE MORE FREQUENT.
- 4) PLEASE CONTINUE TO INCREASE THE # OF CAMERA VIEWS THAT ARE AVAILABLE ONLINE. IT SEEMS THAT THE CAMERAS HAVE BEEN UNAVAILABLE MUCH MORE FREQUENTLY THIS YEAR.
- 5) PLEASE FOR EB EMSTON HILL THE ROAD SURFACE IS TERRIBLE

Please send information on setting the traffic speeds.
~~and~~ dataadina1@gmail.com
Name: MERCE MCDONALD
Address: 1150 OLD CEDAR ROAD
CLE EUM. WA 98922



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

Thank you
Maha

H-04-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

H-04-02

Your comments do not pertain to the scope of this Avalanche Structures Supplemental EIS and are being forwarded to the I-90 project team.

Draft Supplemental EIS Comments
 The Summit Inn - Snoqualmie Pass
 Oct. 24, 2012

206 604 1998
 10/24/12 tom.kilroy@msn.com

Comments due by Nov. 19, 2012
 Name: Tom Kilroy
 Address: 2306 Summit Peak Ave S
 Seattle WA 98118

Concern: Winter Access/Plowing
 of FR 4832 parallel
 to I90.

I spoke Mark Reynolds and Jason Smith about My and SKI TUR Valley Homeowners Associations concerns about FR 4832. With the northward expansion of I90 at the curve ^{NORTH} west of the the two New elevated Bridges across Gold Creek (For a Habitat corridor) - the FR 4832 is ~~now~~ now closer to I90, and ~~from~~ likely winter I90 plowing covering ~~plowing~~ into FR 4832. 4832 has been ~~was~~ underserved in recent years for winter plowing often only 1 lane ^{open} and often NOT maintained for 1-2 days after a big snow due to I90 ~~plows~~ plowing taking priority. 4832 needs increased maintenance to keep 2 lanes of traffic open and a lane of parking. This road serves since 2007 as access to Gold Creek Snow Park and Snowmobile Access at the end of maintained 4832 and parking for OUR Homeowners Association.

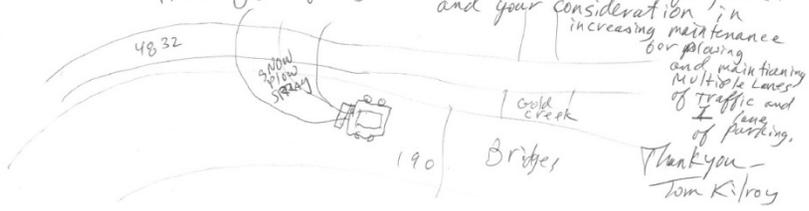


Mail comments to: Jason Smith
 WSDOT SCR environmental manager
 P.O. Box 12560
 Yakima, WA 98909-2560

over

→ FR 4832 is congested and dangerous since the designation as snow park. Often only 1 way traffic, causing huge backups for traffic and requiring users to back up to the I90 highway interchange to allow exiting cars and trailers an exit, only ^{to} enter again and have to repeat this process ~~to~~ and backup to allow yet another car to exit. This can take an hour to find a spot anywhere close to our association access point at Gold Creek Snow Park.

Thank you for your concern ~~and~~ In this safety hazard and your consideration in increasing maintenance



H-05-01

H-05-01

Thank you for your comments. However, they do not pertain to the scope of this Avalanche Structures Supplemental EIS and are being forwarded to the I-90 project team and the WSDOT South Central Region Area 1 Maintenance Superintendent.

Draft Supplemental EIS Comments
The Summit Inn – Snoqualmie Pass
Oct. 24, 2012

Comments due by Nov. 19, 2012
Name: Tom Dwyer
Address: PO BOX 678
Phonon, WA 98225-0678

H-06-01

THE ELLEVATED ROAD IS OK IF YOU KEEP AWAY FROM THE WATER. THE FOG THAT COMES OFF THE LAKE FOLLOWS THE WATER LINE. IF THE BRIDGE IS OVER THE WATER IT WILL BE IN THE FOG.

H-06-02

ALSO COULD THE ELLEVATED PART BE HEAT TO KEEP DOWN FOGING

H-06-01

Fog could affect drivers on the Proposed Bridges and in the Selected Snowshed in a manner similar to other sections of I-90 that parallel Keechelus Lake.

H-06-02

The use of heated bridge decks is not considered an industry-standard practice due to cost and technological difficulties (FHWA 1999). There are currently no heated bridges in the State of Washington and the relatively flat grades on the decks of the Proposed Bridges do not warrant heating.

As discussed in the Draft Supplemental EIS Section 3.7, *Transportation*, icing on bridges is a typical winter condition on structures in the I-90 corridor. WSDOT actively maintains the corridor (e.g., applies traction sand and de-icer) and strongly urges drivers to consider winter conditions to reduce the potential for accidents.



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

Draft Supplemental EIS Comments
The Summit Inn – Snoqualmie Pass
Oct. 24, 2012

Comments due by Nov. 19, 2012
Name: Steve Stachowitz
Address: 411 Cascade Pl
Snoqualmie Pass WA 98068

H-07-01

- Bridges over tunnel are a good idea.
- less maintenance; but also better for people to drive
Thanker for doing the project.

H-07-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

Draft Supplemental EIS Comments
The Summit Inn - Snoqualmie Pass
Oct. 24, 2012

Comments due by Nov. 19, 2012
Name: John Carlson
Address: P.O. Box 113
Snoqualmie Pass 98068

H-08-01

I have followed the developing scenario of the I-90 corridor across Snoqualmie Pass. My background includes exposure to and working with the import industry and the cargo transport industry. I believe the I-90 corridor is extremely important to both import and export cargo (eastbound and westbound traffic). I believe it is critically important to maintain open travel across the Snoqualmie Pass area for commercial traffic and very important to have a safe travel corridor for passenger vehicle traffic. The "bridge" build-out alternative appears to meet all the safety standards I am aware of and to be more cost effective for long term maintenance than a new tunnel. Given a 75-year longevity I support the "bridge" alternative.

John M. Carlson
10-24-2012



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

H-08-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Draft Supplemental EIS Comments
The Summit Inn - Snoqualmie Pass
Oct. 24, 2012

Comments due by Nov. 19, 2012
Name: Shawn Carlson
Address: P.O. Box 432
Easton, WA 98925

H-09-01

I prefer the avalanche bridge option - the cost of maintenance for the tunnel option is now deciding factor.



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

H-09-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

Draft Supplemental EIS Comments
The Summit Inn - Snoqualmie Pass
Oct. 24, 2012

Comments due by Nov. 19, 2012
Name: Rob Drenberg
Address: 250 Pioneer Trail
Cl Elum, WA 98922

H-10-01

1st: Great Job with the work done in 2012.
2nd: Like the idea of the bridge instead of the extended Snow bridge tunnel
3rd: Great Job Keeping the public informed - keep it up
4th: Good luck with the upcoming years.



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

H-10-01

Thank you for your comments. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*

Draft Supplemental EIS Comments
The Summit Inn - Snoqualmie Pass
Oct. 24, 2012

Comments due by Nov. 19, 2012
Name: Patrick O'Connor
Address: P.O. Box 11650 Stampede Pass Rd.
Snoqualmie Pass, WA 98068-0008

H-11-01

I enjoyed your info session, it was very informative.
I prefer the bridge idea, was concerned about icing problems, but feel it will be ok. I live at exit 62, Stampede Pass Rd. next to Crystal Springs SnoParks. I'm interested in any information about the I-90 project especially as it gets closer to me. I don't have email and would appreciate if info about could be ~~sent~~ mail to me at my PO Box.
Thank you Pat O'Connor if you have any ?'s you can reach me at 509-656-0239
Please send me a copy of the EIS. Thank you

H-11-02

H-11-03



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

H-11-01

Icing on the Proposed Bridges is discussed in the Draft Supplemental EIS Section 3.7, *Transportation*. Additional information regarding tools that WSDOT would use to monitor conditions on the Proposed Bridges is provided in the Final Supplemental EIS Table 2-1 (Item 29).

H-11-02

You have been added to the I-90 project mailing list.

H-11-03

A copy of the Draft Supplemental EIS was sent as requested.

Draft Supplemental EIS Comments
Hal Holmes Community Center – Ellensburg
Oct. 25, 2012

Comments due by Nov. 19, 2012
Name: Yvonne Jackson
Address: 7740 Third Rd
Ellensburg WA 98916

H-12-01

I have reviewed the information made public about the
Hyak to Keelele's Dam project. It appears quite obvious to me
to build the bridge instead of the snowshed. I noticed the initial cost
of the project is the same either way, however, the proposed cost
of maintenance is far less ~~than~~ the bridge, as opposed to the snowshed.
Also constructing the bridge over the snowshed will appear to cause
less traffic congestion during construction. I travel this stretch of highway
frequently and as a traveler this is the ~~same~~ direction I would like to
see the project go; and should leave more of a budget for
future projects on I-90 and otherwise

H-12-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

Draft Supplemental EIS Comments
Lewis Creek Visitors Center – Bellevue
Oct. 23, 2012

NOV 15 2012
SCRMALROOM

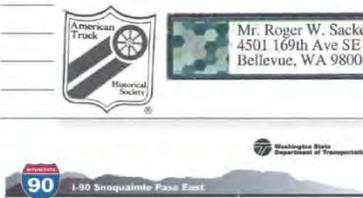
Comments due by Nov. 19, 2012

H-13-01

PLAN LOOKS GOOD! HOPE YOU SELECT BRIDGE OVER SNOWSHED.

H-13-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option.*



Mr. Roger W. Sackett
4301 169th Ave SE
Bellevue, WA 98006-6504

ROGER W. SACKETT
BELLEVUE & EASTON

Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

Draft Supplemental EIS Comments

Lewis Creek Visitors Center – Bellevue
Oct. 23, 2012

Comments due by Nov. 19, 2012

Philip White
1930 NE 35th Pl
Renton WA 98056

H-14-01

The economy of maintenance and aesthetic appeal of the bridge option, not to mention the traffic flow preservation over a tunnel (slow down just because you are going into a new environment) make the bridge my choice.

I drive approximately 30 Round Trips across the pass annually.

Thank you!



Mail comments to: Jason Smith
WSDOT SCR environmental manager
P.O. Box 12560
Yakima, WA 98909-2560

H-14-01

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

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WSDOT PUBLIC HEARING

October 23, 2012

Held at:
Lewis Creek Visitors Center
5808 Lakemont Boulevard SE
Bellevue, WA 98006

REPORTED BY: CHRISTIE LEATIOTA, CCR NO. 3289

Yamaguchi Obien Mangio Reporting & Video * www.yomreporting.com
1200 Fifth Avenue, Suite 1820, Seattle, Washington 98101 * 206.622.6875 * 1.800.831.6973

2

1 Bellevue, Washington; October 23, 2012

2 4:00 p.m.

3 --OO--

4

5 ANONYMOUS PARTICIPANT: I've looked

6 through all of this, and I'm concerned about more about

7 the forest service and the ability to get in and out.

8 But the fire department is something that would be

9 helping this whole project too, if there's any

10 accidents or anything that needs a paramedic or, you

11 know, rapid response to help with whatever's going on.

12 So I kind of like the fire department to be able to do

13 its job, the Kittitas County Fire Department, on that

14 section of the road there.

15 Then as far as the difference between a snow

16 shed and a bridge goes, the bridge looks like it would

17 offer a lot of benefits that the snow shed wouldn't.

18 Although when I look at these posts up in the air here,

19 that looks like the road is kind of dangling up there,

20 you know? But we drive on bridges like that all the

21 time and never even notice how big a drop it is to the

22 actual ground underneath, you know?

23 And there's that big intersection in Snohomish

24 County/Bothell area where they -- like my mom said

25 years ago, they built this whole great big circular

H-15-01

H-15-02

H-15-03

H-15-01

The US Forest Service is a cooperating agency in preparation of this Supplemental EIS and will review the final design plans to ensure that the design of the Proposed Bridges is consistent with US Forest Service land management documents.

H-15-02

Both options meet WSDOT and AASHTO design standards and include features that accommodate emergency response.

H-15-03

Thank you for your comments. Both options include piers in Keechelus Lake supported by drilled shafts that anchor into bedrock. Both options meet WSDOT and AASHTO design standards.

H-15-03
cont'd.

3

1 things that go here and there, and sometimes -- you
2 know, highway up in the air, out in the middle of a
3 field. But now it's connected up to all kinds of
4 things, you know, 405 and 520. Is it 520? Anyway,
5 whole bunches of -- oh, Highway 2, the one that goes
6 through Monroe and out to Stevens Pass. And that's way
7 up in there, so this is probably similar and probably
8 will be doing well.

9 And there are other -- apparently there are
10 other bridges that we drive on on the west side on I-90
11 going towards Seattle that we don't even notice when
12 we're driving on them. Well, I kind of know we're up,
13 but I didn't know, you know, how high or anything.
14 This does involve a lake, though, which is -- seems
15 like a potential problem.

16 But all in all, I'm thinking that the bridges
17 would probably be the better choice, but I'm wondering
18 about the safety with the lake involved and, you know,
19 water lapping at the supports and with the -- but then
20 Golden Gate Bridge goes right across, you know, the Bay
21 down there in San Francisco, and that's all in the
22 water, you know.

23 So I think these guys probably have a -- what
24 do you call the -- enough experience to know what
25 they're doing when they build things like that. So

H-15-04

1 basically I guess I'm coming down on the side of the
2 bridges as opposed to the side of the snow shed.
3 That's basically what you guys want to know is what
4 people think about the two options, right? All right.

H-15-05

5 Start at the beginning with she comes -- this
6 person is saying that the bridges sound like maybe the
7 most effective way to deal with the highway running
8 through that area, concern that the Kittitas Fire
9 Department can get to the highway. I'd like them to be
10 able to get to anything from where their station is out
11 to the highway.

12 I read all those things, and most of the
13 impacts of the bridges seem to be positive. And some
14 of the things that were negative were both projects
15 included a -- you know, different portions of those
16 things. And it wasn't so much that it would -- it
17 seemed to be -- you know, it balanced out in the end
18 that this would probably be best.

19 (Hearing ended at 7:00 p.m.)
20
21
22
23
24
25

H-15-04

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.

H-15-05

Both options meet WSDOT and AASHTO design standards and include features that accommodate emergency response.

NOV 16 2012

3CR MAILROOM

Mr. Jason Smith

November 10, 2012

Environmental Manager Washington State Department of Transportation
P. O. Box 12560
Yakima, WA 98909

Dear Mr. Smith,

This letter is in response to the Avalanche Structures Draft Supplemental EIS presented at the Summit Inn, Snoqualmie Pass, October 24th 2012.

Introduction:

The following comments are made to address the proposed 1200 foot 3 lane bridges (east and west bound) at mp57.9 to mp58.4 on I-90 in lieu of the currently approved snow shed design covering all six lanes. It is understood that one of the solutions will be used to replace the current snow shed (westbound only) in use since 1951.

Let me introduce myself. I am a resident in the exit 62 area of I-90 and have been traveling this highway to Seattle and back multiple days per week for 27 years, all year round. I feel my exposure to the harsh winter (WSDOT words) driving conditions require that I make this detailed input. On a scale of 1 to 10 for winter driving, I rate Snoqualmie Pass at an 8.5 with 10 being the worst case.

My professional background is in the aviation industry since 1963 as an electrical engineer with 27 years at DOT/FAA as a flight test engineer. One of the basic FAA certification requirements for Transport Category Airplanes is for the applicant to show compliance with FAR Part 25.1301. This regulation requires the demonstrated equipment "Be of a kind and design appropriate to its intended function"; and function properly (PERFORMS IT'S INTENDED FUNCTION). Details of the function being evaluated are supplied by the applicant and additional Part 25 regulations may apply.

Safety Comments:

In my opinion, one of the basic design criteria for any interstate highway must be to provide a safe and stable (seismic/liquefaction compliance,

Page 1 of 4

minimize icing hazards) road surface for the traveling public and trucking commerce. The word safe in this case, to me, implies engineering will execute best efforts at minimizing known hazards in the design and location of the highway and its associated bridges.

It is understood, from various WSDOT references, that the current I-90 Hyak to Easton configuration is an attempt to duplicate the Banff Trans-Canada Highway design and its extensive use of bridges to facilitate animal and ecological connectivity. The major meteorological difference is Banff Canada receives on average 6 feet of powdered snow (champagne powder, extremely dry) while Snoqualmie Pass receives 30 to 40 feet of heavy snow (wet concrete), freezing rain, freezing fog and possibly 4 feet of powdered snow.

The addition of the 1200 foot three lane bridges in place of a snow shed being coupled with the 50 foot elevation change (both up and down) will expose the motorist 24-7 to potential icing conditions (black ice, differential ice). Differential icing has been demonstrated to me on the Franklin Falls Bridge just west of the summit. The highway at the lower end of the bridge can be radically different than the bridge surface which is ice or packed snow to an ice condition. This 1200 foot bridge design when combined with the 22 additional bridges scheduled for installation between Hyak and Easton will provide 25,000 lane feet of insidious highway to trap the unsuspecting motorist in an extremely hazardous condition.

The current approved design with 22 bridges, plus the new proposed bridges at the new snow shed, will create a Human Factor Trap for the motorist. The bridge locations are not easily discernable in the best of visual conditions. Add night time plus a snow storm and the motorist will be completely exposed to the insidious/inconsistent hazards of randomly placed bridges.

It is well documented and common knowledge that bridges ice earlier than their connecting roadway (abrupt transition) and can remain this way for extended periods even after all non-bridge roadways have thawed.

Let's review the current demonstrated bridge design as installed at Hyak and Gold Creek.

1. Approaching motorists can not identify bridge location or when transiting the bridge. This is caused through lack of visual

L-01-01

L-01-01
cont'd.

annunciation of the bridge approach and visual cues that you are on a bridge.

2. Lack of safety wire or railing of any type on top of bridge sidewall to alert the public that they are indeed on a bridge and in this case be elevated 30 to 70 feet above ground. The Franklin Falls Bridge is equipped with such safety wires and may have precluded deaths during the 15 car accident in 2007. The 27 vehicle accident that occurred on the snowy evening of March 11, 2012 at milepost 59, which could easily occur on one of your new bridges, is a perfect example of how early victims may be out of their vehicle, impacts are still occurring, and they decide to seek safety on the opposite side of the barrier.

Summary, Comments and Conclusions:

L-01-02

1. The current design path that WSDOT is on will severely degrade the WINTER SAFETY INTEGRITY of I-90 between Hyak and Easton.

L-01-03

2. The extensive use of these non required bridges, for example installing a 120 foot bridge at exit 62 where currently two 6 foot box culverts exist, may open the state to additional icing lawsuits similar to the recent 2 death event on highway 395 near Ritzville Washington December 15th, 2003. The public's inability to discern the 24 bridge locations and their inherent dangers, especially when outside their vehicle(s), adds a new hazard dimension to traversing Snoqualmie Pass.

3. I fail to see evidence of compliance with Executive Order E 1028.02 which requires in part "Ensure the project is a safe facility for both users and the community".

L-01-04

4. The additional attention required to service the 24 bridges (25,000 lane feet of bridge surface) during the winter may easily overwhelm the maintenance ability to stay on top of a degrading weather situation.

L-01-05

5. I conclude that the current proposal to construct two 1200 foot bridges at the snow shed coupled with the additional 22 bridges between Hyak and Easton will grossly degrade the WINTER SAFETY MARGINS and preclude the highway of Performing Its Intended Function. The location of

L-01-01

As discussed in the Draft Supplemental EIS Section 2.2, *What options are evaluated in this Draft Supplemental EIS?* the eastbound bridge would be lower than the westbound bridge, providing a visual cue to drivers that they are on a bridge structure. The barriers on the Proposed Bridges are 3 feet 6 inches tall, in accordance with current AASHTO and WSDOT design standards for bridges.

L-01-02

Both options considered in the Supplemental EIS meet WSDOT and AASHTO design and safety standards.

L-01-03

The Proposed Bridges meet WSDOT and AASHTO design and safety standards. Other bridge structures located outside of the design modification area do not pertain to the scope of this Avalanche Structures Supplemental EIS. Your comment has been forwarded to the I-90 project team.

L-01-04

Typical WSDOT preventative maintenance actions for either option are discussed in the Draft Supplemental EIS Section 3.7, *Transportation*. Additional information regarding tools that WSDOT would use to monitor conditions on the Proposed Bridges and determine when maintenance action is needed is provided in the Final Supplemental EIS Section Table 2-1 (Item 29).

L-01-05

The Proposed Bridges meet WSDOT and AASHTO design and safety standards. Additional information regarding transportation safety and the potential for icy conditions on the Proposed Bridges is provided in the Draft Supplemental EIS Section 3.7, *Transportation*. Other bridge structures located outside of the design modification area do not pertain to the scope of this Avalanche Structures Supplemental EIS. Your comment has been forwarded to the I-90 project team.

L-01-05
cont'd.

the 1200 foot bridges adjacent to the lake will increase the exposure to icing due to the higher humidity caused by the presence of lake water.

L-01-06

6. I vote "NO" on the proposed 1200 bridges at the old snow shed. The new 1200 foot snow shed by its inherent design, when considering safety from all aspects, is the safest solution. The new snow shed will also minimize the impact on maintenance hours required to preclude icing of the roadway surface as is a constant exposure on the bridges.

Regards,



Clyde Halstead

Clyde Halstead
P. O. Box 20
Snoqualmie Pass, WA 98068

L-01-06

Thank you for your comment. FHWA and WSDOT have identified the Proposed Bridges as the Preferred Option. The Proposed Bridges will cost less to operate and maintain, improve traffic flow during construction, improve views for drivers, result in less permanent impacts to Keechelus Lake, and create new aquatic habitat underneath the bridge structures for bull trout and other fish. For additional information see the Final Supplemental EIS Section 3.1, *Reasons for Identifying the Proposed Bridges as the Preferred Option*.