I-90 Two-Way Transit and HOV Operations Project

Record of Decision

September 2004

U.S. Department of Transportation
Federal Highway Administration

Interstate-90
Two-Way Transit and HOV Operations
FHWA-WA-EIS-3-01-F
Record of Decision
September 2004

Bellevue, Mercer Island, Seattle, King County, Washington

Decision

The Federal Highway Administration (FHWA) concurs with the Washington State Department of Transportation (WSDOT) and Sound Transit in the designation of Alternative R8-A as the selected alternative for the I-90 Two-Way Transit and HOV Operations Project in Bellevue, Mercer Island and Seattle, King County, Washington.

Alternative R-8A is identified as the environmentally preferable alternative that best provides reliable and safe two-way transit and HOV operations on I-90 between Bellevue and Seattle while minimizing impacts to other users and transportation modes.

This decision is based on an evaluation of information presented in the Final Environmental Impact Statement (FEIS), the transportation needs of the project study area, and interagency coordination. This Record of Decision (ROD) incorporates comments received during the 30-day waiting period after the Notice of Availability of the Final EIS appeared in the Federal Register, and responses to those comments.

Additional basis for this decision is contained in the balance of this Record of Decision document.

09/28/04
Date of Approval

Daniel M. Mathis
Division Administrator
Washington Division
Federal Highway Administration

U.S. Department of Transportation
Federal Highway Administration

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Record of Decision

I-90 Two-Way Transit and HOV Operations Project

Project Purpose

The purpose of the project is to improve regional mobility by providing reliable and safe two-way transit and high-occupancy vehicle (HOV) operations on Interstate 90 (I-90) between Bellevue and Seattle, while minimizing impacts to the environment and to other users and transportation modes.

Final Environmental Impact Statement Issued

These improvements are described in the final environmental impact statement (FEIS), FHWA-WA-EIS-03-01-F, approved on April 27, 2004 and issued on May 21, 2004. The Notice of Availability appeared in the Federal Register on May 21, 2004.

Selected Alternative R8-A

Alternative R-8A, as described in this Record of Decision (ROD), was designated as the preferred alternative in the FEIS and is the Selected Alternative in this ROD.

Alternative R-8A is described below with all of the alternatives considered in the Final EIS.

Does Not Restrict Meaningful Consideration of Other Nearby Reasonably Foreseeable Improvements With Independent Utility and Logical Termini

The proposed improvements allow for future improvements to I-90 which may include the future placement of high capacity transit (HCT) in the center roadway. HCT use of the center roadway would be evaluated in a separate NEPA/SEPA environmental process, as appropriate.

Alternatives Considered in the Final EIS

The FEIS examined the following alternatives:

- The No Build Alternative R-1
- Alternative R-2B Modified (Two-Way Center HOV Lanes)
- Alternative R-5 Restripe (Transit-only Shoulders on Outer Roadway)
- Alternative R-5 Modified (Transit-only Shoulders on Outer Roadway)
- Alternative R-8A (HOV Lanes on Outer Roadway)

Basis for Selecting the Alternative

Alternative R-1 (No Build)

With the No Build Alternative R-1, the existing I-90 roadway would remain the same with a reversible two-lane center roadway providing HOV and transit lanes in the peak direction only, westbound in the AM and eastbound in the PM. No environmental impacts related to the I-90 Two-Way Transit and HOV Operations Project would occur, and costs associated with the project would not be spent.

Short-term minor construction necessary for continued operation of the existing roadway facility would be accomplished, and minor safety improvements could be constructed as required.

Operational revisions to the center roadway would likely be required by 2010 in order to maintain a minimum of 45 miles-per-hour in travel speed for transit and other HOV traffic in the center roadway. These revisions could include restricting the use of the center roadway to high-occupant vehicle (HOV) traffic, which would displace single-occupant vehicles (SOVs) traveling between Seattle and Mercer Island to the outer roadways, and/or a change in the HOV eligibility requirement from a two-person minimum to a three- or more person minimum per vehicle.

Alternative R-1 was not chosen as the selected alternative because:

- The No Build Alternative does not meet the project purpose and need, as it does not provide two-way transit or HOV operations, or reliable transit service in the reverse-peak direction in future years.
- The existing outer roadways consist of three general purpose lanes. Alternative R-8A would add one HOV lane in each direction in the outer roadway. These new HOV lanes would not be added with the No Build Alternative.

Alternative R-1 does not improve regional mobility:

- The No Build Alternative was found to have the lowest transit ridership in both peak and reverse-peak directions during the peak period of years 2005 and 2025
- The No Build Alternative would not improve transit reliability in the reverse-peak direction in 2005. Reliability would continue to worsen by year 2025.
- In 2005, the No Build Alternative would have transit travel times of 2 to 3 minutes longer than the selected alternative, and 5 minutes longer travel time by year 2025.
- The No Build Alternative would have lower carpool usage than the selected alternative in both years 2005 and 2025.

Alternative R-1 does not minimize impacts to other users and transportation modes:

- For other freeway users, the No Build Alternative would result in travel times of 10.1 to 13.7 minutes (depending upon the direction) as compared to travel times of 8.4 to 9.0 minutes with the selected alternative.

- The No Build Alternative would result in approximately 8 hours of congestion for peak direction traffic and approximately 10 hours of congestion for reverse-peak direction traffic (same as with Alternatives R-5 Restripe and R-5 Modified). In comparison, the selected alternative would reduce the hours of congestion to less than 2 hours in the peak direction and two to three hours in the reverse-peak direction.
- In year 2005, the No Build Alternative would result in 39,700 hours of travel time for freeway users, increasing to 73,000 hours by year 2025 (same as with Alternatives R-5 Restrpe and R-5 Modified). In comparison, the travel time for freeway users with the selected alternative would be 15% less (33,600 hours) in year 2005, and 32% less (46,900 hours) in year 2025.
- In year 2025, the No Build Alternative would cause the greatest time delays for people traveling on transit. Transit riders during both the AM and PM peak periods would experience an average weekday delay per person of 2.7 minutes as compared to 0.4 minutes with the selected alternative.
- For persons traveling in vanpools or carpools, the No Build Alternative would result in 1.7 minutes of delay in 2005 as compared to 1.2 minutes with the selected alternative, and 4.8 minutes in 2025 as compared to 0.8 minute with the selected alternative (same as with Alternatives R-5 Restripe and R-5 Modified).
- For persons traveling in the general purpose lanes, the No Build Alternative would result in 9.6 minutes of delay (same as with Alternatives R-5 Restrpe and R-5 Modified) as compared to 8.0 minutes with the selected alternative.

Consistency With Regional Transportation Plans

- Because Alternative R-1 would not provide any benefit to carpool operations or improve the attractiveness of higher occupancy modes compared to driving alone, nor increase HOV usage, Alternative R-1 would not be consistent with the objectives of the Metropolitan Transportation Plan, Sound Move, The Commute Trip Reduction Act, Washington State Growth Management Act, and other transportation and growth management policies of local and regional jurisdictions.

Alternative R-2B Modified (Two-Way Center HOV Lanes)

Alternative R-2B would convert the I-90 center roadway to two-way operation by adding a concrete barrier, providing one travel lane in each direction. The center roadway would be restricted to transit and carpools, and HOV eligibility requirements would likely be changed from 2+ to 3+ by 2025. Two additional HOV direct access ramps would be built on Mercer Island at 77th and 80th Avenues, and the Bellevue Way HOV direct access ramp would be converted to two-way operation.

Under Alternative R-2B, transit riders and carpoolers traveling in the peak directions would experience increases in delay in 2005. Poor levels of service would persist on the other roadways for traffic operations in the peak directions of travel both in 2005 and 2025, and congestion levels would increase.

Center lane closures would be necessary to allow access to the Homer M Hadley (HMH) floating bridge pontoons for maintenance, which would limit access to the pontoons to off-peak hours and increase the cost of routine maintenance. Responses to alarms in the pontoons would require an emergency closure of the westbound center roadway, resulting in increased maintenance costs, and decreased reliability of the westbound center roadway for transit and HOV traffic.

Alternative R-2B Modified was not chosen as the selected alternative because:

- The existing outer roadways consist of three general purpose lanes. Alternative R-8A would add one HOV lane in each direction in the outer roadway. These new HOV lanes would not be added with Alternative R-2B Modified.

Alternative R-2B does not improve regional mobility:

- In years 2005 and 2025, transit ridership during peak periods in the peak directions would be the same as for the selected alternative, however by year 2025 transit ridership during off-peak periods would be less than with the selected alternative.
- Transit reliability in the peak direction would be the same as the other alternatives with HOV 3+ use of the center roadway, however it would be worse than the other alternatives with continued HOV 2+ use of the center roadway.
- Alternative R-2B would result in the longest travel times for transit in the peak direction in years 2005 and 2025.
- Alternative R-2B would increase carpool usage in the westbound direction (reverse-peak) during the PM peak period in year 2025; however there would be a decrease in eastbound usage during the PM peak period in year 2025.

Alternative R-2B does not minimize impacts to other users and transportation modes:

- For other freeway users in years 2005 and 2025, Alternative R-2B would result in the longest travel time in the reverse-peak direction of all alternatives.
- Alternative R-2B would result in the longest period of congestion in the peak direction in year 2005 of all alternatives and approximately 10 hours of congestion for reverse-peak direction traffic (same as with the No Build Alternative and Alternatives R-5 Restripe and R-5 Modified). In comparison, the selected alternative would reduce the hours of congestion to less than 2 hours in the peak direction and two to three hours in the reverse-peak direction.
- Alternative R-2B would cause the greatest person hours of travel as compared to all of the other alternatives. With 42,700 hours of travel in year 2005 and 81,700 hours of travel in year 2025, these numbers would be 8% and 12% greater than the No Build Alternative and Alternatives R-5 Restripe and R-5 Modified, and higher than the selected alternative by 27% in year 2005 and 74% in year 2025.
- In year 2005, the Alternative R-2B would cause the greatest time delays for people traveling on transit (2 minutes) as compared to 0.3 minute with the selected alternative.

- For persons traveling in vanpools or carpools, Alternative R-2B would result in the greatest amount of delay in 2005 of all alternatives (2.1 minutes) as compared to 1.2 minutes with the selected alternative, and 2.5 minutes in 2025 as compared to 0.8 minute with the selected alternative.
- For persons traveling in the general purpose lanes, Alternative R-2B would result in the greatest delay of all alternatives (9.7 minutes) as compared to 9.6 minutes for the No Build Alternative and Alternatives R-5 Restripe and R-5 Modified, and 8.0 minutes with the selected alternative.

Consistency With Regional Transportation Plans

- Alternative R-2B would be consistent with the objectives of the Metropolitan Transportation Plan, Sound Move, The Commute Trip Reduction Act, Washington State Growth Management Act, and other transportation and growth management policies of local and regional jurisdictions.

Alternative R-5 Restripe (Transit-only Shoulders on Outer Roadway)

With Alternative R-5 Restripe, reversible operation would be retained in the center roadway, with both lanes operating in the same direction. On the outer roadways, lane and inside shoulder widths would be narrowed, and transit-only shoulder lanes would be created on the outside shoulders. Transit-only lanes would operate eastbound during the morning peak period and westbound during the afternoon peak period. Poor level of service (LOS) would persist in the outer roadways in both directions of travel.

With the wider westbound outside shoulder, traffic on the HMH floating bridge would be shifted two feet further away from the shared-use pathway, except that transit buses would operate on the transit shoulder adjacent to the pathway during the PM peak period, requiring a higher railing separating the pathway from the adjacent roadway. During construction, temporary closure of the shared-use pathway on the bridge could be required to allow for the required railing modifications and work on the adjacent westbound lane and shoulder.

Alternative R-5 Restripe was not chosen as the selected alternative because:

- The existing outer roadways consist of three general purpose lanes. Alternative R-8A would add one HOV lane in each direction in the outer roadway. These new HOV lanes would not be added with Alternative R-5 Restripe; instead transit-only shoulder lanes would be created for transit use during peak periods.

Alternative R-5 Restripe does not improve regional mobility:

- In year 2005, transit ridership during peak and off-peak periods would be the same as for the selected alternative, however by year 2025, transit ridership in the reverse-peak direction during peak periods and in both directions during off-peak periods would be less than with the selected alternative.

- Transit reliability in years 2005 and 2025 would be improved as compared to the No Build Alternative, however there would be no improvement over reliability measures for the selected alternative.
- Alternative R-5 Restripe would not improve travel times for transit in the peak or reverse-peak direction in year 2005, and would have travel times in year 2025 of 2 to 3 minutes longer than with the selected alternative.
- Alternative R-5 Restripe would not provide any benefit to carpool operations or improve the attractiveness of higher occupancy modes compared to driving alone.
- Alternative R-5 Restripe was found to be no different from existing conditions for HOV usage in 2005 and 2025.

Alternative R-5 Restrpe does not minimize impacts to other users and transportation modes:

- For other freeway users, the Alternative R-5 Restripe would result in travel time of 10.1 to 13.7 minutes (depending upon the direction) (same as No Build and Alternative R-5 Modified) as compared to travel times of 8.4 to 9.0 minutes with the selected alternative.
- Alternative R-5 Restripe would result in approximately 8 hours of congestion for peak direction traffic and approximately 10 hours of congestion for reverse-peak direction traffic (same as with the No Build Alternative and Alternative R-5 Modified). In comparison, the selected alternative would reduce the hours of congestion to less than 2 hours in the peak direction and two to three hours in the reverse-peak direction.
- In year 2005, Alternative R-5 Restripe would result in 39,700 hours of travel time for freeway users, increasing to 73,000 hours by year 2025 (same as with the No Build Alternative and Alternative R-5 Modified). In comparison, the travel time for freeway users with the selected alternative would be 15% less (33,600 hours) in year 2005, and 32% less (46,900 hours) in year 2025.
- In year 2005, Alternative R-5 Restripe would cause delays to people traveling on transit of 1 minute (same as the No Build Alternative) as compared to 0.3 minute with the selected alternative. In year 2025, the delay would be 0.7 minute as compared to 0.3 minute with the selected alternative.
- For persons traveling in vanpools or carpools, Alternative R-5 Restrpe would result in 1.7 minutes of delay in 2005 as compared to 1.2 minutes with the selected alternative, and 4.8 minutes in 2025 as compared to 0.8 minute with the selected alternative (same as with the No Build Alternative and Alternative R-5 Modified).
- For persons traveling in the general purpose lanes, Alternative R-5 Restrpe would result in 9.6 minutes of delay (same as with the No Build Alternative and Alternative R-5 Modified) as compared to 8.0 minutes with the selected alternative.

Consistency With Regional Transportation Plans

- Because Alternative R-5 Restripe would not provide any benefit to carpool operations or improve the attractiveness of higher occupancy modes compared to driving alone, nor increase HOV usage, Alternative R-5 Restripe would not be consistent with the objectives of the Metropolitan Transportation Plan, Sound Move, The Commute Trip Reduction Act, Washington State Growth Management Act, and other transportation and growth management policies of local and regional jurisdictions.

Alternative R-5 Modified (Transit-only Shoulders on Outer Roadway)

Alternative R-5 Modified would retain reversible operation in the center roadway. Portions of the I-90 outer roadways would be widened to allow for a wider inside shoulder for westbound buses. One new transit-only direct access ramp would be constructed at 80th Avenue SE on Mercer Island, and the existing HOV direct access ramp at Bellevue Way would be converted to two-way operation.

Poor LOS would persist in the outer roadways in both directions of travel.

On the HMH floating bridge, with reductions of the westbound outside shoulder width, traffic would operate closer to the shared-use pathway; however, this would be partially mitigated through the addition of screening on the top of the barrier separating pathway users from traffic. During construction, temporary closure of the shared-use pathway on the bridge may occur.

The westbound outside shoulder in the westbound Mount Baker Ridge tunnel, on the HMH floating bridge, and inside the First Hill lid would be reduced in width; therefore, some routine maintenance operations would require closure of the adjacent travel lane.

Alternative R-5 Modified was not chosen as the selected alternative because:

- The existing outer roadways consist of three general purpose lanes. Alternative R-8A would add one HOV lane in each direction in the outer roadway. These new HOV lanes would not be added with Alternative R-5 Modified; instead transit-only shoulder lanes would be created for transit use. Westbound buses would operate on the inside shoulder and eastbound buses would operate on the outside shoulder.

Alternative R-5 Modified does not improve regional mobility:

- In year 2005, transit ridership during peak and off-peak periods would be the same as for the selected alternative, however by year 2025, transit ridership in the reverse-peak direction during peak periods and in both directions during off-peak periods would be less than with the selected alternative.

- Transit reliability in years 2005 and 2025 would be improved as compared to the No Build Alternative, however there would be no improvement over reliability measures for the selected alternative.
- Alternative R-5 Modified would not improve travel times for transit in the peak or reverse-peak direction in year 2005, and would have travel times in year 2025 of 2 to 3 minutes longer than with the selected alternative.
- Alternative R-5 Modified would not provide any benefit to carpool operations or improve the attractiveness of transit travel and other higher occupancy modes compared to driving alone.
- Alternative R-5 Modified was found to be no different from existing conditions for HOV usage in 2005 and 2025.

Alternative R-5 Modified does not minimize impacts to other users and transportation modes:

- For other freeway users, the Alternative R-5 Modified would result in travel time of 10.1 to 13.7 minutes (depending upon the direction) (same as No Build and Alternative R-5 Restripe) as compared to travel times of 8.4 to 9.0 minutes with the selected alternative.
- Alternative R-5 Modified would result in approximately 8 hours of congestion for peak direction traffic and approximately 10 hours of congestion for reverse-peak direction traffic (same as with the No Build Alternative and Alternative R-5 Restripe). In comparison, the selected alternative would reduce the hours of congestion to less than 2 hours in the peak direction and two to three hours in the reverse-peak direction.
- In year 2005, Alternative R-5 Modified would result in 39,700 hours of travel time for freeway users, increasing to 73,000 hours by year 2025 (same as with the No Build Alternative and Alternative R-5 Restripe). In comparison, the travel time for freeway users with the selected alternative would be 15% less (33,600 hours) in year 2005, and 32% less (46,900 hours) in year 2025.
- In year 2005, Alternative R-5 Modified would cause delays to people traveling on transit of 0.7 minute as compared to 0.3 minute with the selected alternative. In year 2025, the delay would be 0.6 minute as compared to 0.3 minute with the selected alternative.
- For persons traveling in vanpools or carpools, Alternative R-5 Modified would result in 1.7 minutes of delay in 2005 as compared to 1.2 minutes with the selected alternative, and 4.8 minutes in 2025 as compared to 0.8 minute with the selected alternative (same as with the No Build Alternative and Alternative R-5 Restrpe).
- For persons traveling in the general purpose lanes, Alternative R-5 Modified would result in 9.6 minutes of delay (same as with the No Build Alternative and Alternative R-5 Restripe) as compared to 8.0 minutes with the selected alternative.

Consistency With Regional Transportation Plans

- Because Alternative R-5 Modified would not provide any benefit to carpool operations or improve the attractiveness of higher occupancy modes compared to driving alone, nor increase HOV usage, Alternative R-5 Modified would not be consistent with the objectives of the Metropolitan Transportation Plan, Sound Move, The Commute Trip Reduction Act, Washington State Growth Management Act, and other transportation and growth management policies of local and regional jurisdictions.

Selected Alternative R-8A (HOV on Outer Roadway) (*Preferred Alternative* in the Final EIS)

Alternative R-8A will provide HOV lanes on the outer roadways. It will retain the existing reversible operations on the center roadway, with both lanes operating in the same direction, westbound in the AM and eastbound in the PM. SOVs will only be allowed to use the center roadway between Rainier Avenue in Seattle and Island Crest Way on Mercer Island. The center and outer roadway HOV lanes will likely operate with a 2 + occupants per vehicle restriction

The outer roadways will be modified by restriping and, where feasible, widening the outer roadways within existing right-of-way to provide one additional travel lane in both directions on I-90 between I-5 and Bellevue Way. Between Raininer Avenue and Bellevue Way, this lane will be for the exclusive use of HOV traffic. New HOV direct access exit ramps will be constructed for eastbound outer roadway HOV traffic at 77th Avenue SE and for westbound outer roadway HOV traffic at 80th Avenue SE on Mercer Island. The existing HOV ramp connecting the I-90 center roadway to Bellevue Way will be modified to provide an HOV-only entrance ramp connection to the westbound outer roadway HOV lane. The existing HOV ramp connecting the I-90 center roadway to I-405 will be modified to provide access to this ramp from the eastbound outer roadway HOV lane.

Levels of service would improve in the outer roadways in both directions, lowering overall levels of congestion, although queues and delays at the system interchanges would increase. Shoulder width reductions in the corridor will require closure of adjacent travel lanes for some routine maintenance operations.

Flammable cargoes may be prohibited from the I-90 tunnels and if prohibited, would be required to use other regional routes. The prohibition of flammable cargoes in the I-90 tunnels and lids requires consideration of both the frequency of occurrence and the consequences of crashes involving flammable cargo. WSDOT, in an attempt to allow the continued use of the I-90 tunnels and lids by trucks carrying flammable cargo, is committed to further study of the issues associated with the movement of flammable cargo and the means of managing risks associated with the movement of these cargoes in the I-90 tunnels and lids.

A follow up study to the analysis included in the EIS is currently underway to assess the consequences of a crash resulting in a fire within the I-90 tunnels and lids. The study will evaluate the performance of the existing ventilation and fire suppression systems and emergency response plans (ingress/egress) in the event of a fire. The study will identify system enhancements and /or modifications that may be required to manage the risks associated with the movement of flammable cargos within the I-90 tunnels and lids. WSDOT is committed to the implementation of all necessary enhancements and modifications prior to implementing the selected R-8A operations and allowing the continued use of trucks carrying flammable cargo within the I-90 tunnels and lids. It is estimated that this study and the subsequent decision-making process will be completed in early 2005.

WSDOT's intent is for flammable cargo to remain on I-90. Before a policy decision is made as to whether flammable and/or hazardous cargo should be prohibited on I-90 in the tunnels and lids, a public participation process would be implemented as outlined in the Code of Federal Regulations (CFR), *Title 49 -- Transportation, part 397 -- Transportation of Hazardous Materials; Driving and Parking Rules, Subpart C -- Routing of Non-Radioactive Hazardous Materials, Section 71 Federal Standards (49CFR397.71),* which states that prior to the establishment of a change in flammable or hazardous route designation, WSDOT shall provide public notification and a 30-day period in which to comment. If a public hearing is determined to be necessary, the public shall be notified 30 days in advance of the hearing date.

Construction of Alternative R-8A will involve temporary closures of the portion of the shared-use pathway on the Homer M. Hadley Floating Bridge to allow for railing replacement, and for work on the adjacent westbound travel lanes and shoulders. On the floating bridge, westbound outer roadway, traffic will be located closer to the shared-use pathway when compared to existing conditions, due to the reduction in width of the outer roadway right-side shoulder. The addition of screening on the top of the existing concrete traffic barrier separating bicycle and pedestrian users of the pathway from westbound I-90 traffic would partially mitigate this impact.

Alternative R-8A was chosen as the selected alternative because:

- Alternative R-8A best meets the purpose of the project, which is to improve regional mobility by providing reliable and safe two-way transit and HOV operations on I-90 between Bellevue and Seattle, while minimizing impacts to the environment and to other users and transportation modes.
- Alternative R-8A would accommodate the ultimate configuration of I-90 (High Capacity Transit in the center lanes). Alternative R-8A adds HOV lanes on the outer roadways which would provide for reliable transit and HOV operations with the ultimate roadway configuration.

Alternative R-8A best improves regional mobility by providing reliable and safe two-way transit and HOV operations as measured by the following criteria:

- In year 2005, Alternative R-8A would result in the lowest travel times for transit in the reverse-peak direction (6 – 7 minutes as compared to 8 minutes for Alternative R-2B and 9 minutes for the No Action Alternative and Alternatives R-5 Restripe and R-5 Modified. In year 2025, Alternative R-8A would result in travel times of 7 minutes in the reverse-peak direction (same as R-2B), 5 minutes less than the No Build Alternative (12 minutes), and 2 -3 minutes less than Alternatives R-5 Restripe and R-5 Modified. The lower travel times for transit with Alternative R-8A result in the best improvements in transit reliability in the reverse-peak direction.
- In the peak periods, transit ridership would be improved with Alternative R-8A as compared to the No Build Alternative to the same levels as predicted with Alternative R-2B, and greater than Alternatives R-5 Restripe and R-5 Modified. In the off-peak periods, for year 2025, transit ridership is predicted to be greatest with Alternative R-8A.
- HOV usage is predicted to be the highest with Alternative R-8A for both year 2005 and year 2025.

Among the alternatives, Alternative R-8A has the greatest effect in minimizing impacts to other users and transportation modes and would greatly improve conditions as compared to the No Build Alternative:

- For other freeway users, Alternative R-8A is predicted to result in the lowest travel times for both the AM and PM peak periods.
- Alternative R-8A would reduce the existing approximately 8 hours of congestion to less than 2 hours (remaining at less than 2 hours by year 2025), unlike the other alternatives which maintain or increase hours of congestion as compared to the No Build Alternative.
- Alternative R-8A would have the greatest reduction in person hours of travel of all alternatives, a reduction of 15% in year 2005 and 32% in year 2025 as compared to the No Build Alternative.
- Alternative R-8A would reduce the delay for persons traveling on transit by the greatest percentage as compared to all alternatives.
- Alternative R-8A would have the lowest delay for persons traveling in the general purpose lanes of all alternatives.

Consistency With Regional Transportation Plans

- Alternative R-8A would be consistent with the objectives of the Metropolitan Transportation Plan, The Commute Trip Reduction Act, Washington State Growth Management Act, and other transportation and growth management policies of local and regional jurisdictions.

- Sound Move provides for two-way transit operations in the center roadway on the I-90 bridge between Bellevue and Seattle, similar to the alternative described as Alternative R2-B. The preferred alternative, Alternative R8-A, differs from the design proposed in Sound Move in that it would place the transit lanes on the

outer roadway instead of in the center roadway. Sound Move permits necessary design modifications such as this under certain circumstances, including infeasibility and/or impracticality. The reasons supporting the proposed design include the unacceptability of Alternative R2-B to certain signatories to the 1976 Memorandum Agreement and the center roadway design which would degrade, rather than improve transit operations. Following the selection of Alternative R8-A as the proposal to be constructed for this project, the Sound Transit Board approved the necessary documentation to support the design modification.

Measures to Minimize Harm

The following is a list of project mitigation measures that will be implemented. As noted below, alternative measures for speed management, delineation and signing, and enhanced illumination at enforcement/refuge areas require further study as part of final roadway design. The most effective and feasible solution will be selected for the alternative measures. The selection criteria will include, but not be limited to, safety benefits, operational effectiveness and cost.

Freeway Operations

The following project elements are designed to minimize the impacts associated with operation of Alternative R-8A.

Speed Management

Variable speed limits will be implemented on I-90 between Seattle and Bellevue, pending further study of the specifics of implementation of variable speed limits in the I-90 corridor. These studies will include development and evaluation of system options and functions to be addressed by the system (e.g. changing speed limits in response to congestion, incidents, weather, etc.) and will consider operational, enforcement, institutional, and legal issues. If variable speed limits are not implemented, other speed management measures, such as reduced speed limits and/or speed advisory signing, will be implemented.

Shoulder Rumble Strips

Rumble strips will be provided to mitigate the effects of non-standard lane and shoulder widths. The rumble strips will be implemented using profiled edge lines, due to the extent of I-90 roadways carried on structures, where ground-in rumble strips would not be desirable.

Enhanced Delineation and Signing

Lane visibility will be enhanced by replacing existing painted edge lines and other lane markings throughout the corridor with profiled edge lines and other enhancements to existing pavement markings.

The latter could include enhancements to lane visibility in the I-90 lids and tunnels by using illuminated pavement markers. The feasibility of installing illuminated pavement markers in the lids and tunnels will be investigated further as a part of final design, including consideration of trade-offs with potential tunnel lighting enhancements.

Additional roadway visibility enhancements within the lids and tunnels could include use of a linear delineation system attached to the face of the traffic barrier in locations where shoulders are of less than standard width. One example of a linear delineation system that could be used consists of aluminum panels 6-inches high by 30-inches long that are laminated with reflective sheeting and crimped in a sharp "wave" shape. The feasibility and specific types and application of linear delineation will be investigated as part of final design.

Existing signs will be replaced or refaced as required to meet current standards for reflectivity and to provide improved legibility for older motorists. The final design will include a survey of existing signs to determine which signs should be replaced or refaced.

Additional illuminated guide signs westbound in the Mount Baker Ridge lid could give motorists more time to change lanes for the Rainier Avenue South and I-5 exits. The feasibility of illuminated guide signs to supplement existing signage in this and other locations within the tunnels and lids in the corridor will be investigated as part of final design.

The feasibility of adding new or supplementing existing variable message signs will be investigated, including a survey of existing variable or dynamic message signs to determine the need for new or supplemental signs.

Enhanced Illumination

The feasibility of providing roadway illumination enhancements at enforcement/refuge areas and areas with reduced shoulder widths adjacent to general purpose traffic will be considered during final design.

Enhancements to existing tunnel lighting systems will be investigated.

Enhanced Incident Management Program

Enhanced incident management will be provided on I-90 in the portions of the corridor with restricted shoulder widths. These areas include the Mount Baker Ridge tunnels and lid, the floating bridges, the First Hill lid, and the Mercer Island Central Business District. The focus of the increased service would be on the outer roadways.

Barrier gates could be used on the HMH floating bridge where access is limited by the available bridge deck width and the feasible limits on deck widening. Final design will include consideration of barrier gates as a part of the development of enhanced incident management provisions.

Other Freeway Measures

An existing auxiliary lane on eastbound I-90 at the I-405 off-ramp will be extended west towards the Bellevue Way SE off-ramp. The limits of the auxiliary lane extension will be determined during final design.

Surface Street Operations

Construction

During construction, information will be distributed to provide drivers with advance notice of road closures and detours. Detour signs will be erected during road closures. WSDOT will specify in the construction documents specific dates, times and/or locations when or where construction activities will be prohibited.

During construction of the ramps at both 77th and 80th Avenues SE, road closures will not occur on 77th Avenue SE and 80th Avenue SE at the same time. This will ensure that access to the Mercer Island CBD is not adversely impacted.

Operation

A warrant analysis will be performed to determine if installing a traffic signal at the intersection of East Mercer Way and the I-90 westbound on/off ramp would meet warrant criteria. If the location meets traffic signal warrants, the project will include installation of a traffic signal at this location to prevent I-90 westbound off-ramp queues from backing up onto the mainline. With a signal in place, the intersection would operate at LOS B during the 2025 PM peak hour, and the off-ramp would have sufficient capacity for westbound queues.

The westbound approach at the unsignalized intersection of 76th Avenue SE/I-90 westbound on-ramp/North Mercer Way will be changed to a left turn lane and a shared right and through lane. This improvement, which will only require re-striping of the westbound approach, will improve the AM peak period levels of service from LOS E to LOS B.

An evaluation of the physical roadway area, operational improvements, and funding alternatives will be performed on the feasibility of adding a southbound HOV lane through the intersection of Bellevue Way SE/112th Avenue SE/Bellevue Park-and-Ride. During PM peak period conditions, delay is forecasted to increase compared to Alternative R-1 conditions due to increased southbound volumes on Bellevue Way SE. Adding a southbound HOV lane through the intersection south to I-90 would divert 340 vehicles from the general purpose lanes during the peak hour, and would reduce intersection delay relative to No Build conditions.

Pedestrian/Bicycle Access

If construction activities on the HMH floating bridge require temporary closure of the shared-use pathway, shuttle service will be provided for pedestrian and bicycle users of

the shared-use pathway on the HMH floating bridge. Shuttles could be provided on existing buses, deadheading buses, or with dedicated vehicles.

In addition, a shared-use pathway detour route could be provided on the I-90 center or eastbound roadways. This route could supplement the dedicated shuttle service to accommodate weekend recreational traffic, or could be in lieu of a shuttle. The need for and feasibility of detour route provisions will be evaluated during final design, including consultation with representatives of shared-use pathway user groups.

To reduce the proximity impact of westbound auto and truck traffic operating closer to the shared-use pathway, screening will be provided on top of the 32-inch high traffic barrier. The impacts to be mitigated by screening are noted below.

- Wind buffeting due to passing traffic and/or gusting winds.
- Improved protection from roadway debris for bicyclists.
- Glare from on-coming traffic (present under existing conditions for westbound bicyclists in the winter months, but would be worsened with a reduced westbound outer roadway shoulder width).

The design of screening will include consideration of trade-offs between:

- Wind loads on the floating bridge,
- Maintenance issues including access for bridge inspection
- Safety and security issues for shared-use pathway users
- Reductions in access to the shared-use pathway as a refuge for motorists with disabled vehicles, and
- Aesthetic concerns including views from the shared-use pathway and from the adjacent roadway.

The addition of screening will decrease the effective width of the shared-use pathway. To mitigate this operational issue, rub rails will be installed on the railings on both sides of the pathway, or incorporated into the potential screening on the traffic barrier. Rub rails will reduce the potential for a cyclist to snag a bicycle handlebar in the balusters of the existing railing and the type “BP” railing, and will allow cyclists to ride closer to the railings.

Trade-offs involving screening and rub rails will be evaluated during subsequent design phases of the Project, including consultation with representatives of shared-use pathway user groups.

Visual Resources

Night lighting resulting in glare or light spillover impacts will be kept to a minimum; however, night construction will be required to minimize impacts to roadway users.

Vegetation, including trees, will be preserved or restored where feasible after construction. Mitigation areas for vegetation that cannot be preserved or restored will consist of additional plantings to enhance existing landscaped areas within the I-90 corridor between I-5 and I-405.

I-90 Architectural Design Standards (WSDOT, Revised Edition, December 1986) will be followed for all visual elements including walls and bridge structures, exposed concrete texture and color, lighting, and signing.

Restoration of roadside functions such as guidance and navigation, screening, and roadway buffering will be done in accordance with the WSDOT *Roadside Manual* where these functions would be affected by the Project.

Air Quality

The following controls will be implemented to mitigate air quality impacts where applicable to the specific construction location and activity:

- Control dust emissions by using measures such as spraying water or other dust suppressant on bare surfaces and covering any soils that may need to be transported to, from, and within the construction area.

- Cover soil/materials during transport to minimize wind-borne particulate emissions.

- Minimize the size of the construction area, cover exposed soil and re-vegetate disrupted areas as soon as possible.

- Construct wind barriers to reduce wind velocity over exposed earth.

- Restrict the speed of construction vehicles when operating in areas of exposed earth.

- Use wheel washers to remove mud from construction vehicles prior to exiting site (reduce the potential emissions from re-entrained particulate matter).

- Clean road surfaces regularly to reduce re-entrained particulate matter.

- Locate construction equipment away from sensitive populations and building air intakes. Locate truck/equipment staging zones to minimize impacts to the public, especially the elderly and the very young.

Noise

Construction activities will include the construction industry's best management practices to reduce construction noise at nearby receptors along I-90. Construction activities will comply with local construction noise regulations. Construction mitigation will be incorporated into construction plans and contractor specifications in the construction contract. The following construction noise mitigation measures will be implemented.

- Engines of construction equipment will be equipped with adequate mufflers, intake silencers, or engine enclosures.
- The quietest equipment available will be used where feasible.
- Construction equipment will be turned off during prolonged periods of nonuse.
- Contractors will be required to maintain all equipment and train their equipment operators.
- Stationary equipment will be located away from receiving properties where feasible.
- Where stationary equipment must be located close to residences, temporary noise barriers or curtains will be constructed around the equipment to decrease noise levels at the nearby sensitive receptors.

Biological Resources

Replacement of the outfall in Mercer Slough may be required. If replacement is required, there is a potential for short-term disturbances to wetlands during in-water construction activities. Construction will be conducted during the appropriate in-water work window for the Mercer Slough. The work window for the Mercer Slough is generally between July 16 and September 1, and will be established by WDFW. All work will be completed over one construction season.

- Construction staging for the replacement of the Mercer Slough outfall will occur from dry upland locations. A temporary access road will be placed through the wetlands adjacent to Mercer Slough in the vicinity of the outfall. The access roads will be removed and the shoreline and adjacent wetlands will be restored to preexisting conditions or better.
- New piles for the Mercer Slough outfall replacement will be installed using an impact pile driver. The work area will be isolated by a cofferdam installed along the entire length of the existing pipe, effectively reducing pressure vibrations. The total area enclosed in the cofferdam will be minimized to the greatest extent feasible. The cofferdam will be removed and the shoreline and adjacent wetlands will be restored to preexisting conditions or better.

- Prior to the removal of the existing Mercer Slough outfall pipe, a temporary by-pass system will be installed to divert existing pipe flows around the established work areas. Riprap will be placed around the water end of the Mercer Slough outfall to dissipate the energy of the water leaving the outfall and to prevent shoreline erosion.

- Once the new Mercer Slough outfall pipe is in place, soil will be placed back on top of the new Mercer Slough outfall pipe in the upland areas to the original ground contour.

- Appropriate in-water work BMPs will be followed to minimize the effects to fish and fish habitat.

- Revegetation and landscaping efforts for the I-90 corridor will not use noxious weed species in either seed or plant mixes. In areas disturbed by construction, measures will be taken to prevent noxious weeds from colonizing.

Water Resources

The following measures will be implemented during construction:

- The project will be designed to minimize erosion and to prevent sediment from leaving the construction area. BMPs will be employed to control erosion and sediment. These BMPs are outlined in detail in the WSDOT 2004 *Highway Runoff Manual* which rescinds and supercedes the WSDOT 1995 *Highway Runoff Manual* and the WSDOT Endangered Species Act Stormwater Effects Guidance Instructional Letter (IL 4020.02).

- The best available design practices will be used to maintain existing hydrologic function and drainage patterns based on site geology, hydrology, topography, and practicability.

- The project will provide a Spill Prevention, Control, and Countermeasures (SPCC) Plan for control of construction-related pollutants (such as petroleum products, lubricants, fuel, and oils). BMPs for the SPCC Plan are detailed in the WSDOT 2004 *Highway Runoff Manual*. WSDOT will prepare stormwater pollution prevention, including erosion and sediment control, plans in accordance with guidance in the 2004 *Highway Runoff Manual*.

- Construction equipment will be maintained during the project construction phase in order to prevent spill events, or chronic impacts, such as oil or lubricant drips from vehicles.

- Temporary erosion and sediment control plans will be implemented to minimize impacts to Lake Washington during construction. These may include silt fences, straw bales, and any other means of controlling and filtering stormwater prior to discharge into Lake Washington.

- Spill prevention plans will be implemented to minimize impacts to Lake Washington during construction. These could include booms in the water surrounding vessels/barges or other related construction to minimize and/or prevent spills of petroleum products or other pollutants.

- If in-water work is required, BMPs will be implemented to reduce or eliminate the potential for the release of sediments and water pollutants associated with road construction to the slough and lake.

These measures will be implemented during operation:

- All stormwater runoff from new impervious surfaces will be treated according to the WSDOT 2004 *Highway Runoff Manual* which rescinds and supercedes the WSDOT 1995 *Highway Runoff Manual* and the Endangered Species Act (ESA) Stormwater Effects Guidance Instructional Letter 4020.02 (WSDOT, 2002). The stormwater runoff will discharge into new stormwater treatment facilities for water quality treatment prior to discharge at existing outfall locations. The new stormwater treatment facilities will provide water quality treatment for up to 140 percent of the new impervious area.

- Road maintenance practices will conform to guidance in the WSDOT 2004 *Highway Runoff Manual*, which rescinds and supercedes Section 7 of the WSDOT 1995 *Highway Runoff Manual*. Practices will address disposal of highway-generated waste (street sweepings, catch basin cleanings), maintenance of stormwater facilities (e.g., channel conveyance capacity), and snow and ice control operations.

- Any hazardous materials spills that occur on the roadway will be cleaned up according to the SPCC.

- Drainage structures (culverts, ditches) built or replaced for the project will be designed per WSDOT 1997 *Hydraulic Manual* design guidance.

Energy

The following mitigation measures are recommended to reduce energy consumption:

- Limit the idling of construction equipment and employee vehicles.

- Plan to minimize double handling of fill and construction materials.

- Maintain equipment in good condition.

- Recycle materials generated during construction and use recycled materials.

- Consult with gasoline stations in the area to ensure that adequate gasoline supplies are available during and near the most intensive construction activities.

- Encourage carpooling or vanpooling among construction workers.

- Locate construction staging areas as close as possible to work sites.

Geology and Soils

The duff layer (loose leaf matter, needles, bark, and other easily identified plant parts), native topsoil, and natural vegetation will be retained in an undisturbed state where feasible.

- The extent of clearing operations and phase construction operations will be minimized.

- Before reseeding a disturbed soil area, soils will be amended with compost wherever topsoil has been removed.

- Slope length and steepness will be minimized.

- Runoff velocities will be reduced to prevent channel erosion.

- Erosion and run-on/runoff control methods and structures will be specified as engineering controls and practices in plans and specifications.

Public Services

The following measures will be implemented during the construction phase:

- To the extent feasible, shoulders will be provided on the I-90 roadways during construction to facilitate passage of emergency vehicles during congested periods.

- Personnel controlling the movement of vehicles in areas where construction works are being carried out will give priority to emergency vehicles over other vehicles. Emergency vehicles will only be allowed to proceed when it is safe to do so.

- Emergency vehicles will not be restricted from responding to emergencies on streets where detours are in effect, provided it is not unsafe for them to proceed.

- Signs will be erected to inform users of detours.

- Construction staging plans will include a schedule of closures of 77th Avenue SE and 80th Avenue SE to avoid closing them at the same time.

- Emergency service providers will be provided with regular updates on the progress of the construction activities and adequate notice of any proposed road closures or lengthy traffic delays.

- Construction equipment will not be parked in front of fire hydrants.

Utilities

The following measures will be implemented during the construction phase:

- Prior to any construction activities or pre-construction excavation, utilities will be located using a locator service. Representatives of each utility will be contacted and involved in the process to ensure that utility infrastructure is not damaged and that services are not interrupted.

- Existing utilities will be protected and kept in operation.

- If necessary, temporary luminaires and traffic signals will be established to maintain safety and traffic flow along the corridor.

- Temporary services will be constructed prior to shut off and/or relocation of existing utility services, where necessary.

Monitoring and Enforcement

The Division Administrator, Federal Highway Administration; Urban Corridors Administrator, Washington State Department of Transportation; Washington Department of Ecology, Sound Transit, the City of Bellevue, the City of Mercer Island, and the City of Seattle will be responsible for monitoring and enforcing mitigation measures.

Agency Permits and Approvals may include:

Federal

National Oceanographic & Atmospheric Administration (NOAA) Fisheries:	Endangered Species Act (ESA) Section 7 Consultation
US Army Corps of Engineers:	Clean Water Act Section 404 permit
US Coast Guard:	Section 9 Navigable Waters Permit
US Federal Highway Administration:	Final Project Decision (Record of Decision) Access Point Decision Report Approval
US Fish and Wildlife Service:	ESA Section 7 Consultation

State

Washington State Dept. of Ecology:	Section 401 - Water Quality Certification (if 404 permit is required)
	Coastal Zone Management approval

Washington Dept. of Natural Resources:	Aquatic Submerged Land Easement Modification
Washington Dept. of Fish & Wildlife:	Hydraulic Project Approval (if outfall improvements require in-water work)
Washington State Office of Archaeology and Historic Preservation (OAHP):	Consultation with OAHP under Section 106 of the National Historic Preservation Act
Washington State Transportation Commission:	Decision on the project to be implemented as required by the 1976 Memorandum Agreement (Alternative R-8A selected as the project to be built by Resolution No. 667 on September 16, 2004)

Regional

Puget Sound Clean Air Agency:	Notice of Construction Air Quality Permit
Sound Transit Board:	Decision on the project to be implemented (Alternative R-8A selected as the project to be built by Resolution No. R2004-09 on August 12, 2004)

Local

City of Mercer Island:	Stormwater drainage plan approval Construction noise variance (If night time work required) Shoreline Substantial Development Permit (if construction is within 200 feet of Lake Washington)
City of Bellevue:	Stormwater drainage plan approval Construction noise variance (If night time work required) Shoreline Substantial Development Permit (if construction is within 200 feet of Lake Washington)
City of Seattle:	Stormwater drainage plan approval Construction noise variance (If night time work required)

Comments Received on the Final EIS and Responses

Sound Transit received six comments on the Final EIS. As summarized below, four were in regard to the potential rerouting of trucks carrying flammable cargo if such cargo were

to be prohibited from using the I-90 tunnels and lids. Each commenter was told that it is WSDOT's intent to retain flammable cargo operations on I-90. Additional information concerning WSDOT's process for further study of the issue and the opportunities for public comment and input are summarized below. The fifth comment was in regards to traffic noise from the East Channel Bridge. The sixth comment was on the screening material proposed for the barrier.Copies of the written comments and responses are included in Appendix A to this Record of Decision.

Chris Lehman, Eastlake community resident

Mr. Lehman made two phone calls to Andrea Tull, Sound Transit's Project Manager concerning the routing of flammable cargo. Ms. Tull told Mr. Lehman that it is WSDOT's intent to retain flammable cargo operations on I-90.

Richard Rogers, Medina resident

Mr. Rogers e-mailed Andrea Tull, Sound Transit's Project Manager, asking whether the concerns about explosion hazard to human life adjacent to the State Route 520 corridor associated with increased tanker traffic had been addressed, and what conclusions had been reached on the basis of what input?

Ms. Tull responded by e-mail to Mr. Rogers. She provided information on obtaining a copy of the risk analysis that is included in Appendix K to the Final EIS, and noted that it is WSDOT's intent to retain flammable cargo traffic on I-90. She also described the process that WSDOT will be following to further study the issues and the opportunities for public input before any policy decisions are made that would change current practices.

A copy of the e-mail is included in Appendix A to this Record of Decision.

Paul Demitriades, Medina resident

Mr. Demitriades commented that the risk analysis included as Appendix K to the Final EIS is inadequate in describing the "worst case scenarios" for tanker trucks routed to I-5 and SR 520; that a supplemented EIS and revised Appendix K is required to include WSDOT's study results on the potential rerouting of flammable cargo including impacts to local fire departments; and the Final EIS does not adequately describe the crash, fire and explosion impacts on the three lids proposed for the widening of SR 520.

Sound Transit responded to Mr. Demitriades with information concerning the current intent of WSDOT to continue to allow trucks carrying flammable cargo to use the I-90 tunnels and lids. They also provided information on the process that WSDOT will use to continue to study the issue, and opportunities for public comment. Sound Transit has provided WSDOT with a copy of Mr. Demitriades comment letter so that his concerns and issues will be considered in future operational decisions concerning trucks carrying flammable cargo.

James Barbee, Medina resident

Mr. Barbee's letter states that the Risk Analysis included as Appendix K to the Final EIS is incomplete. He finds that the analysis does not attempt to factor the geometric and traffic related variables into the equation used to predict crash rates. Mr. Barbee states that the analysis is quite thorough in including details of structural damage and repair cost estimates for I-90, but does not adequately address the magnitude and consequences of crashes on the North Alternate Route including I-5 near the Convention Center or Freeway Park and for the eastern approach to the SR 520 bridge. He also says that the lack of evaluation of potential risks for property damage or loss of life in the route comparisons is a serious omission.

Sound Transit responded to Mr. Barbee with information concerning the current intent of WSDOT to continue to allow trucks carrying flammable cargo to use the I-90 tunnels and lids. They also provided information on the process that WSDOT will use to continue to study the issue, and opportunities for public comment. Sound Transit has provided WSDOT with a copy of Mr. Barbee comment letter so that his concerns and issues will be considered in future operational decisions concerning trucks carrying flammable cargo.

Walter Scott, Beaux Arts resident

Mr. Scott wrote, in an e-mail to Connie Marshall, Mayor of the City of Bellevue, concerning the existing noise levels in the vicinity of Enatai and East Mercer Island from traffic on I-90. His request is for noise mitigation using state and federal funds because he has found that nine receptors currently exceed, or will exceed, FHWA noise criteria. Mr. Scott's e-mail was forwarded to Andrea Tull for response.

On June 3, Ms. Tull responded to Mr. Scott with information concerning the method used by Sound Transit to evaluate noise mitigation. WSDOT and FHWA noise requirements have been followed. Ms. Tull's letter also states the commitment by Sound Transit to evaluate screening on the East Channel bridge to reduce wind buffering, debris, and headlight glare for users of the shared-use path, and to evaluate alternative pavement surfaces to reduce noise. These evaluations would be performed as part of final design for the roadway.

Rob Ketcherside, Shared-use Pathway User

Mr. Ketcherside, in reviewing the images of the proposed screening alternatives that are included in Section 4.3.4 of the Final EIS, asked whether the screening was intended to only stop life threatening projectiles from leaving the roadway, or would also stop sand? He also asked whether any simulations of weathered plexiglass has been prepared as examples in Japan showed that it does not remain clear.

Andrea Tull responded to Mr. Ketcherside by e-mail on June 22, with an explanation of the purpose of the screening (wind buffering, debris reduction, and reduction of glare). Plexiglas™ is one option being considered but no decision has been made.

Appendix A – Comments Received on the Final EIS and Responses

-----Original Message-----
From: Richard [mailto:richard.rogers@comcast.net]
Sent: Thursday, May 27, 2004 10:26 AM
To: Tull, Andrea
Subject: I-90 restripping, diversion of gas tankers to 520, explosion hazard to Bellevue Christian School,etc.

Hi Ms. Tull,

I am under the impression that the explosion hazard to human life adjacent to the 520 corridor associated with increased tanker traffic due to restriping of I-90 has not been directly addressed in the reported safety evaluations to date and that input from affected fire departments has not been obtained.

Have these concerns been addressed? What conclusions have been reached on the basis of what input?

Concerned citizen living adjacent to 520 in Medina Circle, Medina, WA.

Sincerely,

Richard Rogers

-----Original Message-----
From: Tull, Andrea
Sent: Thursday, June 03, 2004 2:54 PM
To: 'richard.rogers@comcast.net'
Subject: FW: I-90 restriping, diversion of gas tankers to 520, explosion hazard to Bellevue Christian School,etc.

Dear Richard Rogers,

The concerns that you mention in your email were addressed in the I-90 Final Environmental Impact Statement (EIS). The FEIS is available for review/downloading at the Sound Transit website at www.soundtransit.org, then projects, I-90, Final EIS. Paper copies are available for review at Sound Transit and at area libraries. I would be happy to send you a CD-ROM of the document if you would like.

A risk assessment of the possible detour of flammable cargo from I-90 was prepared and included in the Final EIS, see Appendix K.

As stated in the FEIS, on page Summary Section S26-S27, it is the Washington State Department of Transportation's (WSDOT's) intent to retain flammable cargo traffic on I-90.

The probability of a crash involving a truck carrying flammable liquid cargo is extremely low and an even smaller number would be predicted to result in a fire. The risk analysis showed little difference in risk among routing alternatives. Additional analysis will be completed by WSDOT before final operational decisions will be made, within a year. WSDOT is committed to further studying the issues associated with movement of flammable cargo in the I-90 tunnels and the means of managing the risks associated with the movement of flammable cargo on I-90 in an attempt to allow the continued use of the I-90 tunnels by trucks carrying flammable cargo.

As included in the Final EIS, current detour routes were identified, based on the routes used by flammable cargo carriers when the I-90 tunnels are closed to flammable cargo during maintenance and testing periods. Flammable cargo truck counts were prepared during an I-90 closure. The I-90 tunnels are closed to flammable cargo approximately 14% of the time on an annual basis now for maintenance and testing of the fire suppression system in the tunnels. It was identified that approximately two-thirds of flammable cargo trucks travel on a north detour route on I-5, SR 520, I-405, then to I-90. Approximately one-third of the flammable cargo trucks use a south detour route on I-5, I-405, then to I-90.

If this effort results in a policy decision to prohibit the trucks in the I-90 tunnels, WSDOT is committed to further studying the means of managing risks associated with the movement of trucks on alternative routes. An operational decision will be made in consultation with the Federal Highway Administration and other project stakeholders, including local fire departments.

Sincerely,

Andrea Tull
Project Manager

May 25, 2004
pg 4

Ms. Andrea Tull
Project Manager
I-90 Two Way Transit & HOV operations Project
Sound Transit
401 ~~Second~~ Jackson St.
Seattle, WA. 98104

Re: Comments on Final EIS, Volumes I & II, I-90 Two-Way Transit & HOV operations Project, dtd May 12, 2004.

As a city of Medina resident; since 1993 as a citizen/elected official, having participated in regional transportation projects, I have reviewed the FEIS (CD-ROM) for the I-90 project & submit the following comments:

1. The Final EIS/Appendix K is inadequate in describing "worst case scenarios" for tanker trucks routed to I-5 & SR520:

The final EIS describes the possibility of up to 180 flammable liquid-tanker trucks are re-routed onto I-5/I-405 & SR520 from I-90. Not covered are life threatening catastrophic incidents - fire & explosion - as recently occurred on I-5 & I-95 - see enclosed media coverage. Appendix K - Risk Analysis only

describes possible structural damage to highway structures - not threats to human life. An incident on the existing 4-lane SR-520 (Medina) highway, near the adjacent Bellevue Christian School site, could have a major impact on teachers/students & school property. Depending on incident time/location, Medina & Hunts Point properties/residents could be affected? Also, at 84th & Hunts Point Drive (near the 84th St/SR520 overpass) the gas station could be impacted? SR-520 is also a heavily used commuter bus corridor - impact?

The City of Medina/Bellevue Fire Dept. have a joint strengthening Preparedness Among Neighbors (SPAN) program to plan for significant disaster response. Has the Bellevue Fire Dept reviewed the FEIS/Appendix K? See enclosed brochure.

2. A Supplemental EIS/revised Appendix K is required to meet NEPA/SEPA:

A recent interview (enclosed) with the I-90 Sound Transit Project Manager states: "the goal is to have flammable cargo remain" — on I-90. But, the RSA preferred alternative narrows lanes from 12 feet to 11 feet! This causes trucker concerns. Since the hazardous tanker truck diversion is still being studied by WSDOT — the FEIS is not complete, & a supplemental EIS is required upon WSDOT study completion —

upon study completion - Probably public hearings will be required, IAW federal statutes.

Major crash/fire/explosion impact studies should be done by the Bellevue Fire Dept. It is unclear if similar studies have been done by the Seattle Fire Dept, for tanker-truck diversions to I-5 especially reviewing incidents (fire/explosions) under the WA. Trade & Convention Center? Can local fire depts. handle catastrophic incidents? The recent Issaquah (I-90) tanker truck explosion/fire required fire suppression help from the Boeing Co. fire department.

3. The I-90 Final EIS does not adequately describe crash/fire/explosion impacts on the 3-proposed SR-520 Bridge Replacement & HOV project lid structures.

WSDOT is planning for the 6 & 8 lane replacement alternatives, 3 500 foot lid structures over SR 520. Fire suppression systems within/under these 3 lids are not planned? Again, impact is described in Appendix K for only structural damage - impact to human life is not covered! structural damage cost estimates appear to be limited to $1M - media reports the recent 2004 I-95 incident cost $3-10M?

Finally, Sound Transit should heed the advice of the Report of the Presidential Commission on the Space Shuttle Challenger accident (June 6, 1986) page 182:

> " safety includes the preparation & execution of plans for accident prevention".

Thank you for the opportunity to comment.

Paul B. Hinrichs

Enclosures (4)

cc: Mayor Fred McCarthy (Hunts Pt.)
Mayor Mary Odermat (Medina)
Rep. Rodney Tom (R) 48th
Rep. Ross Hunter (D) 48th

SOUNDTRANSIT

August 19, 2004

Paul B. Demitriades
2254 Evergreen Point Road
Medina, WA 98039

Dear Mr. Demitriades:

Your May 25, 2004 letter about flammable cargo on I-90 and a draft response were shared with the Federal Highway Administration (FHWA) and the State Department of Transportation (WSDOT) in June 2004. The response was inadvertently not sent to you; however, FHWA and WSDOT were apprised of your concerns.

The FHWA has not made a final decision on the project yet. They anticipate making a final decision and issuing a Record of Decision in early fall 2004. WSDOT is completing additional analysis of the fire suppression system in the I-90 lids and tunnels. It is WSDOT's intent to retain flammable cargo traffic on I-90.

WSDOT is committed to further study of the issues associated with the movement of flammable cargo and the means of managing risks associated with the movement of these cargoes in the I-90 tunnels and lids. Currently, the I-90 tunnels are closed to trucks carrying flammable cargo due to maintenance approximately 14 percent of the time, or about 50 days per year. During these closures, approximately two-thirds of the re-routed trucks (approximately 120 trucks per day) use the North Alternate Route over SR 520, and approximately one-third (approximately 60 trucks per day) use the South Alternate Route on I-405.

If WSDOT's additional study results in a policy decision to prohibit trucks carrying flammable cargo in the I-90 tunnels and lids, WSDOT is committed to further studying the means of managing risks associated with the movement of these cargoes on alternate routes. I forwarded a copy of your letter to WSDOT so that they can be aware of the issues associated with potential rerouting of trucks carrying flammable cargo onto the North Alternate Route, including under the potential for life threatening catastrophic incidents such as those depicted in your enclosed news articles, and potential impacts on planned lids over SR 520. An operational decision will be made in consultation with FHWA and other project stakeholders, including local fire departments including those of Medina and Bellevue.

WSDOT is also studying an extension of the current operating policy that prohibits flammable cargo to also include all hazardous cargo in the I-90 tunnels and lids while the fire suppression systems is undergoing routine maintenance.

Before a policy decision is made to prohibit flammable and/or hazardous cargo on I-90, a public participation process would be implemented as outlined in the Code of Federal

Central Puget Sound
Regional Transit Authority
Union Station
401 S. Jackson St.
Seattle, WA 98104-2826
Reception (206) 398-5000
Facsimile (206) 398-5499
www.soundtransit.org

Regulations (CFR), *Title 49 -- Transportation, part 397 -- Transportation of Hazardous Materials; Driving and Parking Rules, Subpart C -- Routing of Non-Radioactive Hazardous Materials, Section 71 Federal Standards (49CFR397.71),* which states that prior to the establishment of a change in flammable or hazardous route designation, WSDOT shall provide public notification and a 30-day period in which to comment. If a public hearing is determined to be necessary the public shall be notified 30 days in advance of the hearing date.

If a policy decision is made to allow the continued use of the I-90 tunnels and lids by trucks carrying flammable cargo, public notification will be provided by WSDOT.

Please contact me at tulla@soundtransit.org or 206.398.5040 if you have any questions about the I-90 project.

Sincerely,

Andrea Tull

Andrea Tull
Project Manager

CC: Fred McConkey, Mayor, Hunts Point
Mary Odermat, Mayor, Medina
Representative Rodney Tom
Representative Ross Hunter
Perry Weinberg, Sound Transit, Environmental Compliance
Steve Kennedy, Sound Transit, Environmental Compliance

2891 Evergreen Point Road
Medina WA 98039
June 14, 2004

Andrea Tull, Project Manager
I-90 Two-Way Transit and HOV Operations Project
Sound Transit
401 South Jackson Street
Seattle WA 98104

Re: Comments on Final EIS for the I-90 Two-Way Transit and HOV Operations Project

My review and judgment regarding the reference FEIS, specifically Appendix K/Risk Analysis, concludes the effort is quite incomplete. As a Medina resident and Boeing engineer (retired) with several years experience in system analysis and system trade-offs, I submit the following comments pertaining to the North Alternate Route with which I am familiar and concerned.

The crash analysis (Appendix K) utilizes a national "generic" equation to predict crash rates. This equation may be valid for "typical" highway conditions, but is not adequate for the North Alternate Route, which cannot be considered typical. The analysis does, in fact, recognize that geometric and traffic related variables might affect crash occurrences, but does not attempt to factor such conditions intro the analysis.

The analysis is strictly oriented toward identifying the structural impact of crashes on the I-90 bridge, the highway overpasses, freeway lids, and I-90 tunnels. It is quite thorough in that it includes details of structural damage and estimated costs for repair. It does not adequately address the magnitude and consequence of crashes on the North Alternate Route in many critical areas. For example:

I-5 Downtown Seattle

It is hard to imagine the extent of the disaster that would result should a crash of a flammable liquid truck occur under or near the Washington Trade and Convention Center and/or the Freeway Park,

resulting in a fire or explosion. Extensive loss of property and injury and/or loss of human life is surely probable. I understand this area lacks fire suppression equipment.

Eastern Approach to Lake Washington SR520 Bridge

The SR520 exit off I-405 and the section of SR520 highway approaching the SR520 bridge pass through a business and residential district, including two schools, a gas station, and several homes located within 100 to 200 feet of the roadway. Commuter traffic, including a heavy volume of Metro buses, results in severe congestion, particularly at the entrance of the 520 bridge due to merging of the HOV lanes and entering lanes with the regular lanes.

The Bellevue Christian School and playground in Medina is immediately adjacent to this congestion. A flammable liquid crash at this location, causing a fire or explosion, could result in a tragic loss of children and/or teachers' lives.

A serious omission in this FEIS risk analysis is any attempt by Sound Transit/WSDOT to evaluate the potential risks for property damage or loss of life in the route comparisons. The available USDT Motor Carrier Management Information System database of flammable liquid vehicle crash-caused property damage and loss of life, including the circumstances of the crash, could possibly be factored for use with the crash data in this analysis

Respectfully,

James E. Barbee

Copy to:
Mary Odermat, Mayor, Medina

SOUNDTRANSIT

August 19, 2004

James E. Barbee
2891 Evergreen Point Road
Medina, WA 98039

Dear Mr. Barbee:

Your letter about flammable cargo on I-90 and a draft response were shared with the Federal Highway Administration (FHWA) and the State Department of Transportation (WSDOT) in June 2004. The response was inadvertently not sent to you; however, FHWA and WSDOT were apprised of your concerns.

The FHWA has not made a final decision on the project yet. They anticipate making a final decision and issuing a Record of Decision in early fall 2004. WSDOT is completing additional analysis of the fire suppression system in the I-90 lids and tunnels. It is WSDOT's intent to retain flammable cargo traffic on I-90.

WSDOT is committed to further study of the issues associated with the movement of flammable cargo and the means of managing risks associated with the movement of these cargoes in the I-90 tunnels and lids. Currently, the I-90 tunnels are closed to trucks carrying flammable cargo due to maintenance approximately 14 percent of the time, or about 50 days per year. During these closures, approximately two-thirds of the re-routed trucks (approximately 120 trucks per day) use the North Alternate Route over SR 520, and approximately one-third (approximately 60 trucks per day) use the South Alternate Route on I-405.

If WSDOT's additional study results in a policy decision to prohibit trucks carrying flammable cargo in the I-90 tunnels and lids, WSDOT is committed to further studying the means of managing risks associated with the movement of these cargoes on alternate routes. I forwarded a copy of your letter to WSDOT so that they can be aware of the issues associated with potential rerouting of trucks carrying flammable cargo onto the North Alternate Route, including under the Convention Center and along the eastern approach to the SR 520 bridge. An operational decision will be made in consultation with FHWA and other project stakeholders, including local fire departments.

WSDOT is also studying an extension of the current operating policy that prohibits flammable cargo to also include all hazardous cargo in the I-90 tunnels and lids while the fire suppression systems is undergoing routine maintenance.

Before a policy decision is made to prohibit flammable and/or hazardous cargo on I-90, a public participation process would be implemented as outlined in the Code of Federal Regulations (CFR), *Title 49 -- Transportation, part 397 -- Transportation of Hazardous Materials; Driving and Parking Rules, Subpart C -- Routing of Non-Radioactive*

Central Puget Sound
Regional Transit Authority
Union Station
401 S. Jackson St.
Seattle, WA 98104-2826
Reception (206) 398-5000
Facsimile (206) 398-5499
www.soundtransit.org

Hazardous Materials, Section 71 Federal Standards (49CFR397.71), which states that prior to the establishment of a change in flammable or hazardous route designation, WSDOT shall provide public notification and a 30-day period in which to comment. If a public hearing is determined to be necessary the public shall be notified 30 days in advance of the hearing date.

If a policy decision is made to allow the continued use of the I-90 tunnels and lids by trucks carrying flammable cargo, public notification will be provided by WSDOT.

Please contact me if at tulla@soundtransit.org or at 206.398.5040 if you have any questions about the I-90 project.

Sincerely,

Andrea Tull
Project Manager

CC: Mary Odermat, Mayor, Medina
Perry Weinberg, Sound Transit, Environmental Compliance
Steve Kennedy, Sound Transit, Environmental Compliance

-----Original Message-----
From: Walter Scott [mailto:wscott@legacy-commercial.com]
Sent: Thursday, May 20, 2004 12:46 AM
To: Marshall, Connie
Subject: R-8A

Mayor Marshall:

Your letter of 7/15/03 supports this alternative(R-8A) ; You knew then that one result of this plan will be to divert some traffic(estimated @ 1-2% of the total 520 traffic) South on I-405 through Bellevue diverting from SR 520 and , further , that trucks carrying flammable materials will be diverted through Bellevue on I-405 N to access SR 520. Is this correct ?

Regards;

W.A. Scott

Legacy Commercial

425-450-2300 x 2

NOTE: Mr. Scott is referring to the 7/15/03 letter from the City of Bellevue to Sound Transit in support of Alternative R-8A.

-----Original Message-----
From: Marshall, Connie
Sent: Thursday, May 27, 2004 9:25 AM
To: 'Walter Scott'
Cc: Carlson, Diane; Becklund, Kim; Van de Kamp, Bernard
Subject: RE: R-8A

Mr. Scott – Any letters sent under "my signature" are sent on behalf of the entire Council. The statements made in the letters are approved by the entire Council.
Council's support of R8A is tied to the overall benefits provided by R8A vs. the potential impacts. For example, the improvement in mobility upon project opening is considerable. The Draft EIS, which disclosed all potential impacts of R8A and the other alternatives was released prior to the July 2003 Preferred Alternative selection of R8A. I emphasize potential impacts because the Draft EIS examines "worst case" scenarios. Since that time, further analysis suggests that it may not be necessary to re-route flammable loads. Further, the estimated 520 diversion projections will not affect the overall I-90 corridor operations.
Thank you for asking for clarification.
connie

-----Original Message-----
From: Walter Scott [mailto:wscott@legacy-commercial.com]
Sent: Friday, May 28, 2004 4:43 PM
To: Marshall, Connie
Cc: Carlson, Diane; Becklund, Kim; Van de Kamp, Bernard; Charles.R.Lowry@pjc.com; jrose@snwsc.com; Heckhb@aol.com; WellJ@foster.com; okdx1@msn.com; tomr@corp-strategies.com; townhall@beauxarts-wa.gov
Subject: RE: R-8A

Mayor Marshall: Your comments are appreciated and, from my reading of the FEIS, accurate that flammable materials may not be directed off the I-90 bridge which is better for downtown Bellevue and a potential detriment to Enatai and other South Bellevue area communities along the lake - OK. The 520 diversion, however, will divert traffic South through I-405 Bellevue from SR 520 to the I-90 bridge - which is our focus . I might also clarify some other issues that have been misinterpreted:

1) B. Van de Kamp indicated that, of noise levels along I-90 at E Mercer Island / Enatai , "many" were "below state and federal noise abatement criteria" . yes, "many" were below ...and many EXCEEDED the FHWA threshold of 67 dBA ; Sound Transit (ST) has stated that the resultant noise level from this project will increase "1-2 dBA". There were 3 receptors in Enatai alone measuring 69, 65 , & 63 . So, one is over the threshold already ; the next one will be at or over the threshold after the project is completed and the 3rd one will be very close .

ST(Sound Transit) has argued that it is economically unreasonable to mitigate the noise for these receptors. This is unknown and will be challenged: 1) The Sound Transit FEIS noise mitigation analysis depends on how many households are deemed affected by the mitigation (the denominator of the equation) . If one subjectively makes the denominator low, then the cost per household exceeds the "reasonable limit". 2) More significantly, the "mitigation analysis" only considered sound walls or berms - which benefit mostly in line - of - sight situations. There is no analysis or consideration of sound absorbing "quiet " pavement which benefits a much larger population in all directions from the bridge(much larger denominator) . 3) There are other omissions in the FEIS which will be noted later.

2) Van de Kamp stated that the Beaux Arts waterfront was measured @ "approximately half the abatement criteria "
ST measured this area @ "57-58 dBA" . Is this "half " the FHWA threshold of 67 dBA ? Moreover, depending on how this Beaux Arts waterfront area is defined as it's specific use, there are FHWA guidelines that require mitigation below the manadated threshold limit of @ 57 dBA for certian specific uses which the subject waterfront may be defined.

3) I informed the Beaux Arts Town Council on May 11 that the ST Board mtg of May 20 th did NOT include the I-90 HOV revision project on the agenda ; but recommended an appearance @ that time because it is becoming apparent that ST continues w/ untenable legal "excuses" and will not voluntarily do what the people request and therefore, we

must look to our elected officials to protect our health, welfare and safety ; this is best addressed before the entire ST Board and should not be delayed until the subject project appears on the full Board agenda .

4) Federal and state funds will be availiable for noise mitigation because 9 receptors either currently or will exceed FHWA limits (#'15,16 , 28 , 36 ,30,24,6,13, 38) and ST has not made a sincere effort to evaluate mitigation techniques availiable.

More significantly, the most expensive piece of interstate ever built through Mercer Island(now exceeded by Boston's "big dig") - including the Mercer Island "lid" was not specificantly mandated by FHWA thresholds , yet the elected officials in that case, did the "right" thing ; the positive results of which are now obvious. We are looking now to our elected officials to seize the opportunity to do the "right" thing for an increasing problem that will not "just go away" by itself.

Regards;

W.A. Scott

Legacy Commercial

425-450-2300 x 2

Preliminary Response to EIS issued May 21, 2004 for HOV Revision Plan (R-8A)

1. **Noise Mitigation required by Law:** Table 4.5-5. Receptors 15,16,28 & 36 exceeded the Federal Threshold of 67dBA. Receptors 30, 24, 6, 38 and 13 exceeded 65 dBA, therefore, with the 1-2 dBA increase forecasted by S.T., these receptors will also exceed federal limits so, nine (9) receptors have or will exceed FHWA limits legally requiring mitigation. Further, 18 total receptors exceeded 60 dBA. Bellevue receptor #36 (111th Ave.) was 69 dBA. Bellevue receptor #38 (SE Lake Road) was 65 dBA and therefore will exceed the Fed. Limit and Bellevue receptor #37 (Enatai Park) was 63 dBA.

2. **Noise Mitigation Analysis not comprehensive (inconclusive):** The noise mitigation analysis in Section 4 deals exclusively with “line-of-sight” type barriers and does not indicate the total costs for such barriers nor does it indicate the number of households included as “benefited” (the denominator of the “reasonable” equation) from such barriers in such calculations. In determining the “uneconomical” feasibility of such structures, many other sites where the Federal noise threshold was exceeded did not lend themselves to “line of sight” type barriers; however in no circumstance was analysis of sound absorbing “quieter” alternative pavement discussed or evaluated which would benefit households in all directions (large denominator) nor in

situations where line-of-sight applications were deemed inappropriate. Without a proper evaluation and cost benefit analysis in the EIS for alternative sound absorbing "quiet" pavements, the EIS is insufficient and subject to legal challenge.

3. **Mercer Island Lid Comparable:** When reconstructing the I-90 floating bridge and widening through Mercer Island, the Mercer Island elected officials required WSDOT, and using federal funds, to construct what as known as the Mercer Island Lid which was not specifically mandated by the criteria; yet, the benefits of this additional expense are inherently obvious to all.

4. **WSDOT rule inapplicable:** Paragraph 4.5.2 refers to a WSDOT rule which says that "Sound Mitigation is required if "such project will "substantially" exceed previous noise levels by 10 dBA". to use the EIS example in paragraph 4.5.1, this would involve an increase of something like four times the traffic level of a receptor at 60 dBA. Obviously, these "guidelines" are ineffective in dealing with noise with higher baselines such as the receptor measurements for this project.

5. **FEIS basis of noise measurement flawed:** While it is a known fact that traffic at higher road speeds create higher noise levels due to the tire contact with the road surface, the assumption that the base level of measurement should occur during peak morning traffic hours (9-10 am) where traffic "cannot exceed 50 mph" renders a flawed analysis.

6. **Other FHWA Standard:** Paragraph 4.5.3 states in the FHWA table that the standard of 57 dBA is a maximum for areas in which "serenity and quiet are extraordinarily significant to serve public need and continue its intended purpose". Based upon this standard alone, perhaps the sensitive areas of Beaux Arts and in Enatai, the park and waterfront areas, open to the public and/or private, should be evaluated for qualifications of this standard.

7. **FEIS nonsense:**

   (a) Paragraph 4.1.5 states that due to the logarithmic nature of the dBA scale that "two sources at 60 dBA combined would equal approximately 63 dBA total". To comprehend the lucridity of such statement in terms of practical application, we suggest that you visit Enatai Park (receptor #37 at 63dBA)
   (b) Paragraph 4.16.3.8 states, "a one to two dBA increase, as predicted from R8-A, will not be perceivable" Given that the logarithmic scale nature as described by S.T. in paragraph 4.1.5, this means that a nearly doubling of traffic would not be perceivable.

8. **East Channel I-90 Bike/Pedestrian Barrier:** While the wire mesh/plexi-glass extended barrier is described in the EIS for the main floating bridge separating Westbound traffic from the bike/pedestrian path, there is no reference to this for the East Channel Bridge which suffers from the same issues which are principally safety in nature. Many e-mails were written to Andrea Tull, Project Manager from residents in North Mercer Island, Enatai and Beaux Arts describing safety concerns and degradation issues with this bike/pedestrian path. Some of the principal concerns were danger to users of the bike/ped path in the event of an accident from flying debris and glass. Also, during normal circumstances, flying dirt and grit/trash degrades the bike/ped path. This continues to be a safety and qualitative issue of concern by the local residents and several bicycle clubs and pedestrian advocates, which has not been addressed. Sound Transit relies on the excuse that they are "not modifying the East Channel Bridge". However, they are modifying the main floating bridge and other aspects of the I-90 course. Despite flimsy legal excuses, how will they feel if someone is injured or killed knowing that the right thing was requested and could have been done, but was not?

9. **FEIS Citizens Response Section:** Many e-mails and letters sent to Andrea Tull, project manager, were omitted from this section which appears to be "a warmed up" version of the DEIS with minor changes. The "CR" sections are missing sections on the East Channel Bridge noise concerns and East Channel Bridge safety of the bike/ped path. While we appreciate that ST must adhere to legal guidelines, we believe that the "Citizen's Response" section of the FEIS is misleading, and incomplete.

10. **Citizens request their elected officials for relief:** It should also be noted that sound absorbing "quiet" pavement will equally benefit residents on the south side of the East Channel bridge and therefore it is straight-forward that the basis support for these improvements are more than double that presented thus far. The citizens of SW Bellevue, Beaux Arts, and North Mercer Island wish to sidestep S.T.'s invalid legal excuses and demand that their elected officials protect their quality of life, property values, health, safety and welfare. Clearly, this is an issue which will continue to concentrate over time and will not "just go away".

SOUNDTRANSIT

June 3, 2004

Mr. Walter Scott
Legacy Commercial
400 112th Avenue NE, Suite 230
Bellevue, WA 98004

Dear Mr. Scott:

This letter responds to your May 28, 2004 email to the City of Bellevue, which the City forwarded to Sound Transit.

We appreciate your email and your support for the I-90 Two-Way Transit and HOV Operations project; however, we disagree with some of your points about the environmental documentation for the project.

Sound Transit has responded to your emails over the last year, sent you letters and met with you to discuss your concerns about the I-90 project. Based on your letters and our meeting, we reviewed our environmental analysis and evaluated the costs and benefits of certain measures that you suggested, including a concrete barrier wall on the East Channel Bridge.

In evaluating the noise effects of the I-90 project, Sound Transit has followed the Washington State Department of Transportation (WSDOT) and Federal Highway Administration (FHWA) noise requirements. We followed these requirements because I-90 is a federal roadway operated by WSDOT, and because WSDOT is the co-lead agency (along with Sound Transit) for review under the State Environmental Policy Act and FHWA is the lead agency for review under the National Environmental Policy Act. We understand from your email and past correspondence that you believe that other standards should be applied. The noise measurements, analysis, and mitigation measures included in the Final Environmental Impact Statement are all consistent with FHWA and WSDOT procedures, and with the requirements of SEPA and NEPA.

In our March 19, 2004 letter to you (which was a follow-up to our March 10 meeting), we made several commitments regarding further evaluations during the final design phase of the project:

Central Puget Sound
Regional Transit Authority
Union Station
401 S. Jackson St.
Seattle, WA 98104-2826
Reception (206) 398-5000
Facsimile (206) 398-5499
www.soundtransit.org

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- We committed to evaluate screening on the shared-use path on the East Channel Bridge to reduce wind buffeting, debris and headlight glare for bicyclists and pedestrians; and
- We committed to evaluating alternative paving surfaces to reduce noise.

We will work with WSDOT to evaluate these issues during final design before a decision is made on whether we can implement them.

We look forward to discussing the results of these evaluations with you during the final design process, which should be initiated later this year.

Sincerely,

Andrea Tull
Project Manager

Cc Connie Marshall, Sound Transit Boardmember, Bellevue Mayor
Perry Weinberg, Sound Transit, Environmental Compliance
Jim Edwards, Sound Transit, Sounder and Regional Express Capital Projects
Steve Kennedy, Sound Transit, Environmental Compliance

From: Robert Ketcherside [mailto:tiger@zombiezodiac.com]
Sent: Wednesday, June 16, 2004 1:49 PM
To: Express Community Relations
Subject: I-90 Screens
Hello,

I was reviewing the images of screening material that are included in 4.3.4 of the Final EIS for I-90 HOV lanes.

I'm curious about what the railing is supposed to solve. It doesn't seem to be explicitely mentioned in the EIS. The goal of the facility may dictate the best solution.

Is this only supposed to stop life-threatening projectiles from leaving the roadway? In my experience walking across I-90 during the morning rush hour, there is an existing problem with sand leaving the roadway, which enters eyes and mouth of non-motorized commuters. This problem is especially bad on the east bridge, where the shoulder is narrower. Most or all of the railings and meshes depicted wouldn't have an impact at all on sand, though all but the lowest would stop a chunk of tire, tail pipe or hub cap.

In the written description of mitigation, plexiglass is listed as an alternative. Did you create any simulations of alternatives with weathered plexiglass? I suspect that plexiglass is my preferred mitigation because it will entirely stop sand, but I also know that plexiglass does not stay clear, based on those I've seen on freeways in Japan.

Sincerely,
Rob Ketcherside

-----Original Message-----
From: Tull, Andrea
Sent: Tuesday, June 22, 2004 4:16 PM
To: 'tiger@zombie zodiac.com'
Subject: I-90 Screens

Dear Mr. Ketcherside,

I am the project manager for the I-90 Two-Way Transit and HOV Operations project. I am responding to your recent email about the I-90 project.

With the Preferred Alternative R-8A, the traffic lanes would be moved closer to the shared-use pathway on the Homer Hadley floating bridge. Currently the shared-use pathway is separated from traffic by a 32-inch high traffic barrier and a 10 foot shoulder. The shoulder would be reduced to 2 feet in width. The screening options depicted in the

figures in Section 4.3 are described in Section 3.4 Pedestrian/Bicycle Access as mitigation measure TRAN-30 (page 3.4-10 of the Final EIS). They are intended to reduce the proximity impact of the westbound traffic, specifically wind from passing vehicle, roadway debris, and glare from on-coming traffic. Additional screening will be added on the floating bridge, but the decision has not been made as to what type of screening will be installed.

The standard railing is a type "BP" railing, simulated as "Railing Option A". Other design options include chain-link fencing, wire mesh panels, lightweight concrete panels, or Plexiglas™ panels mounted on top of the concrete barrier for a total height of 6 to 8 feet. The simulation of "Railing Option B" shows wire mesh panels. "Railing Option C" depicts Plexiglas™ panel screening.

As part of final roadway design, a decision will be made by WSDOT on the type of screening to be used. Design issues that would be considered include wind loads on the bridge, maintenance issues, safety and security issues, reductions in access to the shared-use path as a refuge for motorists with disabled vehicles, and aesthetic concerns including views to the south from the pathway and views to the north from the roadway.

The travel lane proximity to the shared-use path on the East Channel Bridge would not be changed by the implementation of Alternative R-8A. It is recognized that similar issues of wind, debris and headlight glare exist for pathway users today crossing the East Channel Bridge. Sound Transit has committed to evaluate the addition of screening on the barrier separation on the East Channel Bridge as part of final design work. We will work with WSDOT to evaluate the effectiveness of the screening options, maintenance issues and the design issues before a decision is made on whether additional screening can be added in this location.

Work on the final design is expected to begin later this year. It will likely be sometime in mid-2005 before screening is selected for the Homer Hadley floating bridge, and before we have the results of the evaluation for additional screening for the East Channel Bridge.

Sincerely,

Andrea Tull
Project Manager
Sound Transit