

**SOUND TRANSIT
STAFF REPORT**

MOTION NO. M2003-99

**Identify Preferred Alternative for I-90
Two-Way Transit and HOV Operations Project**

Meeting:	Date:	Type of Action:	Staff Contact:	Phone:
Executive Committee	10/02/03	Deferred	Agnes Govern, Director	(206) 398-5037
Executive Committee	11/6/03	Discussion/Possible Action to Recommend Board Approval	Regional Express Vicki Youngs, Pre-Construction Program Manager, Regional Express	(206) 398-5024
Board	11/13/03	Action	Andrea Tull, Project Manager, Regional Express	(206) 398-5040

OBJECTIVE OF ACTION

- Identify a preferred alternative for the I-90 Two-Way Transit and HOV Operations project.
- Direct staff to address the I-90 Steering Committee's recommendation to accelerate planning for future High Capacity Transit (HCT) investments in the I-90 corridor by analyzing various HCT alternatives consistent with the update of the Regional Transit Long-Range Vision.

ACTION

Identifying Alternative R-8A as the preferred alternative for the I-90 Two-Way Transit and HOV Project.

KEY FEATURES

- Reviews the I-90 Steering Committee's recommendation of a preferred alternative, accelerated analysis of HCT on the I-90 corridor and on their vision of the ultimate configuration of I-90 with HCT in the center roadway.
- Reviews staff's recommendation of the preferred alternative for the I-90 Project.
- Reviews next steps after the completion of the Final EIS, with the Sound Transit Board and the State Transportation Commission selecting the project to be constructed.

HISTORY OF PROJECT

Currently, I-90 includes three general-purpose lanes in each direction in the outer roadways plus a reversible two-lane center roadway for transit, carpool, and Mercer Island single occupant vehicle traffic. The center roadway operates westbound to Seattle in the morning and eastbound to the eastside in the afternoon. No priority is currently provided for transit and

carpools operating in the reverse-peak direction, eastbound in the morning and westbound in the afternoon.

The I-90 project was initiated in 1998. The purpose of the project is to provide reliable and safe two-way transit and HOV operations on I-90 between Seattle and Bellevue, while minimizing impacts on the environment and other users and transportation modes.

I-90 is part of the National Highway System. It carries 150,000 vehicles and 10,000 transit riders per day across Lake Washington. It provides the only HOV facility that crosses Lake Washington. During peak travel periods, approximately 24 to 34 percent of the person trips on I-90 are in carpools and vanpools and approximately 12 to 14 percent are on transit. Currently 60 to 65 percent of buses operating westbound in the PM peak period operate 2 to 20 minutes late. Provisions for an HOV lane in the reverse-peak direction would improve reliability for transit and carpool/vanpool users, which would support continued growth in these high-occupancy modes of travel.

The I-90 Steering Committee was formed in 1998 to provide oversight for the project. The Steering Committee is comprised of representatives from jurisdictions and agencies that signed the 1976 Memorandum Agreement for the operation of I-90. They include the Cities of Seattle, Mercer Island, and Bellevue; King County/Metro Transit; and the Washington State Department of Transportation. The Committee also includes Sound Transit, the Federal Highway Administration, and the Federal Transit Administration.

The Memorandum Agreement specifies that:

“The Washington State Transportation Commission will take no action which would result in a major change in either the operation or the capacity of the I-90 facility without prior consultation with and involvement of the other parties to this agreement, with the intent that concurrence of the parties be a prerequisite to Commission action to the greatest extent possible under law.”

Initially, environmental documentation for the I-90 project was to be done in combination with the Mercer Island Park-and-Ride Lot /Transit Station. The I-90 project was separated from the Mercer Island projects in early 2001 due to the complexities of the I-90 project. A project report was prepared on the I-90 project summarizing the environmental analysis to date. In July 2001, the Board directed staff to prepare an EIS on the project, pending Federal Highway Administration approval to proceed with the environmental analysis. The FHWA approved proceeding with the analysis in October 2001. Environmental scoping was initiated in November 2001. Environmental scoping meetings were held in December 2001.

Four build alternatives along with the no-build alternative were analyzed in the Draft EIS:

- **Alternative R-1: No build (existing condition)**
- **Alternative R-2B Modified: conversion of the center roadway to two-way for transit and carpools.**
- **Alternative R-5 Modified: transit-only shoulder lanes**, in the peak periods, eastbound in the morning and westbound in the evening (outside shoulder eastbound, inside shoulder westbound).

- **Alternative R-5 Restripe: transit-only shoulder lanes**, similar to R-5 modified with transit-only shoulder lanes on outside shoulders of outer roadway.
- **Alternative R-8A: HOV lanes in each direction on the outer roadways for transit and carpools.**

The Draft EIS was issued in April 2003 for a 45-day comment period. The comment period ended on June 9, 2003. Three open houses/public hearings were held (May 20, 21, and 22) to take public and agency comment. Over 600 comments were received from agencies, organizations and the general public. All of the comments will be addressed in the Final EIS.

RECOMMENDATIONS

I-90 Steering Committee Recommendation

At their July 15, 2003 meeting, the I-90 Steering Committee reached a consensus in support of the recommendations identified in letters to the Sound Transit Board and WSDOT from four of the member jurisdictions of the I-90 Steering Committee (Cities of Bellevue, Mercer Island and Seattle; and King County Metro Transit). The recommendations included the following key points:

- R-8A with HCT deployed in the center lanes is the ultimate configuration for I-90.
- Construction of R-8A should occur as soon as possible as a first step to the ultimate configuration.
- Upon adoption of R-8A, move as quickly as possible to implement HCT in the center lanes. HCT is defined as light rail, monorail, or other fixed-guideway technology operating on its own exclusive right-of-way.
- Commit to the earliest conversion of the center roadway to two-way HCT operation based on outcome of studies and funding approvals.
- Development and execution of a future agreement outlining committee members' collective interest in developing and implementing HCT in the I-90 corridor.

Staff Recommendation

Staff's recommendation to the Sound Transit Board is based on the analysis of alternatives and environmental documentation included in the Draft EIS and the consensus of the I-90 Steering Committee.

Staff recommends that the Board consider the I-90 Steering Committee's recommendation for the ultimate configuration for I-90. In addition, staff recommends Alternative R-8A as the preferred alternative for the current I-90 project. The key findings of the analysis of transportation and other elements of the environment evaluated in the Draft EIS support this recommendation. They are reviewed below.

KEY FINDINGS

Purpose and Need

Alternative R-8A (HOV lanes on the outer roadways) best meets the project purpose and need by providing reliable two-way transit and HOV operations.

Alternative R-2B attempts to address the need for reliable two-way transit and HOV operations but it has a significant impact on the operation of the I-90 roadway. It would improve transit and HOV operations in the reverse-peak direction at the expense of the peak direction, by cutting the capacity of the center roadway in half.

The R-5 alternatives do not meet the purpose and need of two-way transit and HOV operations.

Transit/HOV Reliability

Alternative R-8A provides the most improvement in transit and HOV operations. It provides the most substantial improvement in congestion--congestion is defined as speeds below 40 miles per hour—reducing congestion from a projected eight hours per day with the No Build and all the other build alternatives, to less than two hours per day in 2005. In 2025, projected hours of congestion with the No Build and the other build alternatives are projected at ten hours per day. For Alternative R-8A, congestion is projected at four hours per day.

Alternative R-2B would cut the capacity of the center roadway in half. It would improve reverse-peak operations (eastbound in the AM and westbound in the PM) for transit and carpools at the expense of peak operations. It would eliminate the priority for HOV 2+ in the I-90 roadway because capacity soon after opening would require the change from HOV 2+ to HOV 3+ in the center roadway.

Alternative R-2B would cause unacceptable congestion in the I-90 outer roadways. The outer roadways are nearly at capacity now. This displacement of Mercer Island single-occupant vehicles and HOV 2+ would seriously degrade the level of service on the outer roadways and result in unacceptable congestion, over 8 hours per day in 2005 and over 10 hours in 2025.

Safety

Safety can be preserved with Alternative R-8A. With crash reduction measures developed by WSDOT including speed management, increased illumination and lane delineation and signing, shoulder rumble strips and enhanced incident management, accident projections for Alternative R-8A are within the bounds for the No Build condition.

Crash reduction measures were also incorporated into Alternative R-2B to address crash projections. Alternative R-2B would require the installation of a barrier in the center roadway to provide protection to vehicles traveling in both directions on the roadway. The width of the center roadway would be narrowed to two 12-foot lanes with seven-foot shoulders on the outside of the lanes.

Shared-Use Path (Bicycle/Pedestrian Facility)

Many comments on the Draft EIS focused on the shared-use pathway. With Alternative R-8A, the wider shoulder would move to the inside (left) side of the roadway due to constraints with the location of the current drainage facilities. Traffic would be moved closer to the shared-use path, from the width of the existing 10-foot wide shoulder to within two feet of the barrier for 5,550 feet in the central portion of the northern floating bridge and four feet of the barrier for 3,000 feet on the bridge approaches. To mitigate that effect, a higher barrier would be installed to protect bicycles and pedestrians from wind and debris. The barrier will be between 72 and 96 inches in height. Sound Transit will solicit input from the bicycle and pedestrian communities regarding the final design of the barrier. The higher barrier will effectively reduce the width of the barrier due to “shy distance” from adjacent barriers or fixed objects. To address this issue, a rub rail on the outer railing is being considered, to prevent bicycle handlebars from getting

caught in the railing. In addition, a center stripe could be added to delineate the pathway and enhance safety.

With Alternative R-8A, the existing ten-foot width of the shared-use path on the floating bridge will be preserved, either through reconfiguration of the existing lanes on the outer roadway or by adding two feet to the waterside of the bridge. If the bridge is widened, the pathway would have to be closed for up to two construction seasons. With reconfiguration of the existing lanes, the construction period is estimated at approximately one construction season with only temporary closures of the shared-use path to install railing. These options and other trade-offs between shoulder and travel lane width would be further evaluated in subsequent detailed design phases of the project.

High Capacity Transit (HCT)

Alternative R-8A is an essential first step towards the ultimate configuration of the I-90 corridor with HCT, as identified by the I-90 Steering Committee. Alternative R-8 would provide capacity in the outer roadway for transit and carpools, which is needed now to address transit and carpool needs and will serve as a first step toward future conversion of the center roadway to HCT.

Alternative R-2B would convert the two-lane reversible center roadway to two-way for transit and carpools (one lane in each direction). This modification would require subsequent changes to I-90 operations for HCT to be operated in the center roadway of the I-90 corridor, including the provision of transit and HOV lanes in the outer roadway to accommodate the vehicles displaced by HCT.

Environmental Impacts

The environmental impacts of Alternative R-8A can be adequately mitigated. The Draft EIS identifies crash reduction measures to be incorporated into each of the build alternatives. The measures identified for Alternative R-8A reduce the accident projections to within the bounds of accident projections of the No Build Alternative. The construction and operational impacts to users of the shared-use pathway can be mitigated through the use of temporary detours or shuttles during construction closures, and through railing improvements.

The traffic congestion effects of Alternative R-2B cannot be adequately mitigated. They include substantial congestion on the I-90 outer roadway, back-ups on I-90 from traffic bound to/from I-405.

Flammable Cargo Traffic

Due to the narrowing of shoulders with Alternative R-8A, it is possible that WSDOT may restrict the use of the Mt. Baker tunnels from trucks carrying flammable cargo. Today there are approximately 90 trips per day in each direction (180 trips per day total). Comments were received on the Draft EIS expressing concern about the possible alternative routes those trucks may use. To respond to the comments, counts of flammable cargo trucks were taken on I-90, I-5, SR 520 and I-405 during both times when the I-90 tunnels were open to trucks carrying flammable cargo and when trucks were required to use alternative routes due to planned maintenance on I-90. The counts confirmed that the majority of flammable cargo traffic was detouring to SR 520 when the I-90 tunnels were closed to flammable cargo. Approximately 120 trips per day detoured to SR 520 and 60 trips per day detoured to I-5 and I-405. Contacts were also made to truck haulers of flammable cargo to verify this data. Analysis is underway to identify the potential likelihood and implications of incidents.

Project Funding

The projected total cost to implement Alternative R-8A is estimated at \$128 million in YOES\$. This was confirmed in WSDOT's recent Cost Estimate Validation Process (CEVP). Sound Transit's budget for the I-90 project totals \$18.9 million in YOES\$. WSDOT has received \$15 million in the State Transportation budget approved in by the 2003 State Legislature. The funds will be allocated to the I-90 project from 2003 through 2007. Sound Transit is working closely with the project partners to request project funding. Requests are included in the Regional Transportation Investment District (RTID) plan and in TEA-21, the reauthorization of the Transportation Equity Act for the 21st Century. See budget section for more information.

Next Steps

The Final EIS is planned to be issued in spring 2004. More detail is being provided in the Final EIS to address public and agency comments about the Transportation Demand Management (TDM) analysis and flammable cargo traffic on I-90 and SR 520. Staff will then return to the Board for a final decision on the project to be built. If the Board ultimately selects Alternative R-8A for construction, a change to Sound Move will be required since Alternative R-8A is not currently identified in Sound Move. A Record of Decision (ROD) is anticipated from FHWA in spring/summer 2004. After the ROD, final design will be initiated. Construction will be initiated in late 2005 to be complete in early 2007.

While the environmental process is on-going, Sound Transit is working with the project partners to obtain funds for the construction of the project, from the funding sources identified above.

BUDGET IMPACT SUMMARY

Current Status: Preliminary engineering/environmental documentation phase. The Final EIS will be issued in spring 2004.

Projected Completion Date: The environmental documentation process for the I-90 Project will be complete in spring/summer 2004 with a ROD. Final design will be initiated at that time. Construction will be initiated in late 2005, to be complete in 2007, pending full project funding.

Action Outside of Adopted Budget:	Y/N	Y	Requires Comment
This Line of Business	N		
This Project	N		
This Phase	N		
This Task	N		
Budget amendment required	N		
Key Financial Indicators:	Y/N	Y	Requires Comment
Contingency funds required	N		
Subarea impacts	N		
Funding required from other parties other than what is already assumed in financial plan	N		

N = Action is assumed in current Board-adopted budget. Requires no budget action or adjustment to financial plan

BUDGET DISCUSSION

The 2004 proposed budget includes \$18.9 million (YOES) for the I-90 Two-Way Transit and HOV Operations Project. This budget provides funds for the completion of the preliminary design and environmental documentation phase and the final design phase. Funds are needed for the construction of the project. They are being requested from other sources.

The cost to complete for Alternative R-8 totals \$128 million (YOES) including expenditures to date of \$5 million (Sound Transit and WSDOT federal grant funds) for preliminary engineering/environmental documentation.

REVENUE, SUBAREA, AND FINANCIAL PLAN IMPACTS

The Board and the I-90 Steering Committee were informed of the pending budget shortfall in 2000, when preliminary construction cost estimates for the alternatives were prepared. At that time, Sound Transit informed the project partners that due to change in scope, funds would be required from others to construct the project. Sound Transit and representatives from other partner jurisdictions are working together to identify and request funds from several funding sources.

In addition to the Sound Transit funds for the project, WSDOT will receive \$15 million in funding from the State Transportation package from 2003 to 2007.

Potential funding sources include:

Reauthorization of TEA-21: Joint WSDOT/Sound Transit request of \$30 million.
RTID: I-90 project is included in the package.

No budget action is being proposed at this time.

M/W/DBE – SMALL BUSINESS PARTICIPATION

Not applicable to this action.

HISTORY

Prior Board or Committee Actions and Relevant Board Policies

Motion or Resolution Number	Summary of Action	Date of Action
M2003-27	Amendment to URS Contract for completion of Environmental Analysis for the I-90 Project.	4/3/03
M2003-17	Supplement to WSDOT Agreement for the completion of Environmental Analysis/Preliminary Engineering for the I-90 Project.	4/3/03 and 2/20/03
M2001-75	Provided direction on how to proceed on the Environmental Analysis for the I-90 Project.	7/26/01
M2001-07	Provided direction on how to proceed on the I-90 Project.	1/25/01
M2000-112	Approved supplement to the existing Agreement with WSDOT for the I-90 Project.	12/7/00
R98-11	Authorized Preliminary Engineering/Environmental Documentation for Mercer Island/I-90 Project Grouping.	4/9/98
R98-12	Authorized execution of a Master Agreement with WSDOT for the Big Four Projects (including Mercer Island/I-90 Projects).	4/9/98

CONSEQUENCES OF DELAY

A significant delay beyond October 9, 2003, for Board action in identifying a preferred alternative will delay preparation and issuance of the Final EIS. The Final EIS will identify a preferred alternative.

In addition to the Final EIS, other analysis is tied to the identification of the preferred alternative. These analyses include: the Added Access Report, Design File, and Biological Assessment. In order for the project schedule to be met, work on these analyses and reports depend on the selection of the preferred alternative.

REGIONAL PARTNERSHIP AND COOPERATION

The I-90 Steering Committee provides guidance for the Project. This committee has met over 25 times in the last five years to provide direction to the project team. The committee is comprised of representatives of the cities and agencies that were signatories to the 1976 Memorandum Agreement for I-90, the Cities of Bellevue, Mercer Island and Seattle; King County and WSDOT. Sound Transit, the Federal Highway Administration, and the Federal Transit Administration are also represented on the Steering Committee.

The I-90 Steering Committee reached consensus on the ultimate configuration of I-90 with Alternative R-8A endorsed as a necessary first step. Letters in support of the ultimate

configuration of I-90 with HCT and Alternative R-8A, were sent to Sound Transit and WSDOT from the cities and agency that were signatories to the 1976 Memorandum Agreement: the Cities of Seattle, Bellevue and Mercer Island; and King County Metro Transit.

PUBLIC INVOLVEMENT

An extensive public process has been implemented for the I-90 project. Over 15 public meetings have been held on the I-90 Two-Way Transit and HOV Project since project inception in 1998. The I-90 Steering Committee meetings are open to the public and the meeting agendas include an opportunity for public comment. Three open houses/public hearings were held in May 2003 as part of the public review process for the Draft EIS. Over 600 comments were submitted on the Draft EIS.

LEGAL REVIEW

MB 9-9-03

SOUND TRANSIT

MOTION NO. M2003-99

A motion of the Board of the Central Puget Sound Regional Transit Authority that Alternative R-8A be identified as the preferred alternative for the I-90 Two-Way Transit and HOV Project.

Background:

I-90 Steering Committee Recommendation

At their July 15, 2003 meeting, the I-90 Steering Committee reached a consensus in support of the recommendations identified in letters to the Sound Transit Board and WSDOT from the I-90 Steering Committee members from the Cities of Bellevue, Mercer Island and Seattle; and King County which included the following key points:

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- Development and execution of a future agreement outlining committee members' collective interest in developing and implementing HCT in the I-90 corridor.

Staff Recommendation

Staff's recommendation to the Sound Transit Board is based on the analysis of alternatives and environmental documentation included in the Draft Environmental Impact Statement (DEIS) and the consensus of the I-90 Steering Committee.

Staff recommends that the Board consider the I-90 Steering Committee's recommendation for the ultimate configuration for I-90. In addition, staff recommends Alternative R-8A as the preferred alternative for the current I-90 project. The key findings of the analysis of transportation and other elements of the environment evaluated in the DEIS support this recommendation.

Alternative R-8A (HOV lanes on the outer roadways) best meets the project purpose and need by providing reliable two-way transit and HOV operations. Alternative R-2B attempts to address the need for reliable two-way transit and HOV operations but it has a substantial impact on the operation of the I-90 roadway. It would improve transit and HOV operations in the reverse-peak direction at the expense of the peak direction, by cutting the capacity of the center roadway in half.

Alternative R-8A provides the most improvement in transit and HOV operations. It provides the most substantial improvement in congestion—reducing congestion from a projected eight hours per day with the No Build and all the other build alternatives, to less than two hours per day in 2005. In 2025, projected hours of congestion with the No Build and the other build alternatives

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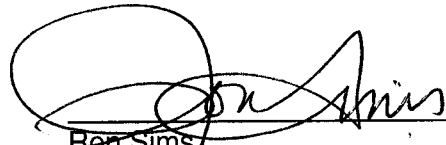
Alternative R-B would cause unacceptable congestion in the I-90 outer roadways. The outer roadways are nearly at capacity now. This displacement of Mercer Island single-occupant vehicles and HOV 2+ would seriously degrade the level of service (LOS) on the outer roadways and result in unacceptable congestion, 8+ hours per day in 2005 and 10+ hours in 2025.

For these reasons, Alternative R-8A is recommended as the preferred alternative for the I-90 Project.

Motion:


It is hereby moved by the Board of the Central Puget Sound Regional Transit Authority that Alternative R-8A be identified as the preferred alternative for the I-90 Two-Way Transit and HOV Project.

APPROVED by the Board of the Central Puget Sound Regional Transit Authority at a regular meeting thereof held on November 13, 2003.



Ron Sims
Board Chair

ATTEST:



Marcia Walker
Board Administrator