

Chapter 5 Comparison of Alternatives

Chapter 5 – Comparison of Alternatives

5.1 INTRODUCTION

The purpose of the proposed action 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.

In this chapter, the alternatives are compared in several ways. First, the alternatives are compared in terms of how well they meet the purpose of providing reliable two-way transit and HOV operations on I-90 between Bellevue and Seattle. Secondly, a comparison is provided of the potential impacts to other users and transportation modes that would be caused by each of the alternatives. Third, a comparison of differences in impacts to the other elements of the environment is provided.

5.2 PROVIDING RELIABLE TWO-WAY TRANSIT AND HOV OPERATIONS

5.2.1 Transit/HOV – Point-to-Point Travel Time

In the peak direction for both 2005 and 2025, travel times for all alternatives would be approximately 6 minutes, except Alternative R-2B Modified. Alternative R-2B Modified would be longer by approximately 2- to 3-minutes due to increased congestion in the center roadway.

In the reverse-peak direction in year 2005, Alternative R-8A would provide the shortest travel time with an approximately 2-to 3-minute improvement over Alternative R-1. The other build alternatives would be similar to or less than Alternative R-1 by approximately 1 minute. By year 2025, Alternative R-8A would continue to have the shortest travel time: almost 3 minutes less than Alternative R-1 in the AM peak period, and over 5 minutes less in the PM peak period. Alternative R-2B Modified travel times would be slightly longer than R-8A. Alternatives R-5 Restripe and R-5 Modified would have travel times similar to Alternative R-1 in the AM peak period, and times that would be approximately 2½ minutes less in the PM peak period.

5.2.2 Transit Reliability

Improved travel time reliability makes transit a more viable alternative to driving alone. The ability to reach destinations and make transfer connections improves the attractiveness of transit. Improved travel time reliability can help reduce transit operations and maintenance costs by allowing for all buses to be more consistently scheduled. In addition to buses that are in revenue service, the I-90 corridor is a major route for buses that are ‘deadheading’ between Seattle and the Eastside. Deadheading buses are not in revenue service and may be heading to another location to begin service or are heading to or from the bus operations base. Within the I-90 corridor, there are almost two deadheading buses for every revenue bus in the reverse-peak direction during the AM and PM peak periods. Using Sound Transit Route 550 as an example,

the current round-trip time for this route (between downtown Seattle and downtown Bellevue) is approximately 85 minutes. Route 550 provides reliable service in the peak direction during the AM and PM peak periods. In the reverse-peak direction, buses often start on time but travel progressively further behind schedule as the trips continue across I-90. During the PM peak period, only 35 to 40 percent of the westbound trips from Bellevue (buses traveling in the reverse-peak direction) are on schedule by the time the buses reach the Rainier Avenue S transit stop. The rest of the trips range from 2 to 14 minutes late, some even as much as 20 minutes late. Most of this delay is considered to be directly related to I-90 traffic conditions. By 2025 the round trip time would approach 95 minutes with Alternative R-1. The duration of congestion is expected to increase by over an hour during the AM and PM peak periods by 2025. The effects of transit blockages due to roadway incidents would remain similar to existing conditions. All Build Alternatives would improve transit reliability compared to Alternative R-1 by making transit arrivals more consistent and reducing the round trip transit travel times. Potential increases in incidence frequency on the freeway will dampen the reliability benefits, although overall transit reliability would improve with each Build Alternative.

5.2.3 Transit Ridership

All Build Alternatives are projected to have an increase in ridership as compared to Alternative R-1. Increases for Alternative R2-B Modified would be the largest, caused by differences in the HOV rules and the lane configurations and resulting travel time differences between modes.

In 2005, Alternative R-2B Modified shows the greatest increase in ridership with a 6 to 7 percent increase over Alternative R-1. This would be an increase of 760 daily transit passengers, compared with 460 to 490 for the other Build Alternatives. Alternative R-2B Modified would also have the largest increase in ridership in the reverse-peak direction, with 270 more passengers on a daily basis compared to 130 to 150 for the other Build Alternatives. Under Alternative R-2B Modified, the two-way center roadway would be available for use by transit/HOV in the reverse-peak directions, thus reverse-peak travel times would decrease for transit. Travel times in the peak directions would increase relative to Alternative R-1 due to higher per lane traffic volumes, and a decrease in capacity of the center roadway from two lanes per direction to one.

By 2025, the differences between Alternatives R-2B Modified and R-8A would narrow, with the total daily increase for Alternative R-2B Modified at 2.6 percent (550 riders) and Alternative R-8A at 2.4 percent (500 riders). Both R-5 Alternatives would have an increase of 160 fewer riders than in 2005. In the reverse-peak direction, Alternative R-2B Modified would continue to have the largest increase in ridership, with 230 more daily riders than Alternative R-1. Alternative R-8A would have 160 more daily riders than Alternative R-1. However, in the off-peak hours, Alternative R-8A would have the greatest increase in riders, with 280 (4 percent) more than Alternative R-1. Alternative R-2B Modified would have 160 riders. This would occur because the HOV rule in 2025 would be 3+ for Alternatives R-1, R-2B Modified, and R-5, but would be 2+ for Alternative R-8A. Carpools and vanpools in the peak direction under Alternatives R-2B Modified and R-5 would be identical to Alternative R-1. The carpool and vanpool throughput under Alternative R-8A would increase 66 percent from Alternative R-1. This large increase is attributable to the difference in the HOV rule between Alternatives R-1 and

R-8A; where HOV 2+ must travel with general-purpose traffic in Alternatives R-2B Modified, R-5, and R-1.

5.2.4 HOV Usage

For both 2005 and 2025, Alternative R-8A would provide the greatest increase in HOV usage. Estimates for Alternatives R-5 Restripe and R-5 Modified show no increase in HOV traffic because these alternatives would not provide any benefit to carpool operations. In 2005, Alternative R-2B Modified would provide a 2 percent increase in westbound (reverse-peak direction) HOV traffic during the PM peak period and no increase in peak direction HOV traffic. Alternative R-8A would show a 2 percent increase in westbound HOV traffic in both the AM and PM (reverse-peak) peak periods.

By 2025, the differences between Alternatives R-2B Modified and R-8A would widen (assuming an HOV 3+ definition), with Alternative R-8A showing an increase of 10 percent in HOV traffic in the AM peak period as compared to 2 percent for Alternative R-2B Modified, both in the peak direction. Neither would show an increase in HOV traffic in the reverse-peak direction during the AM peak period.

In the PM peak period, Alternative R-8A would provide for a 2 percent increase in eastbound (peak direction) HOV traffic whereas Alternative R-2B Modified would cause a decrease of 3 percent. Westbound (reverse-peak direction) HOV traffic would increase by 8 percent for Alternative R-8A as compared to an increase of 3 percent for Alternative R-2B Modified. If an HOV 2+ rule is used for Alternative R-8A, the HOV volumes would be substantially higher.

5.2.5 Park-and-Ride Facility Usage

Park-and-ride usage was assumed to match capacity. Year 2005 spaces are estimated to be a total of approximately 3,900 in the project area and are expected to increase to approximately 4,500 by 2025. For 2005, the park-and-ride demand for all alternatives, including the No Build, is estimated to be similar. By 2025, Alternative R-8A would show a slight difference with an estimated decreased demand of less than 5 percent due to shifts into HOVs.

5.2.6 TDM/TSM Sensitivity Analysis

Sensitivity tests were performed to determine the potential effectiveness of investing in Transportation Demand Management (TDM) and/or Transportation Systems Management (TSM) investments in the I-90 corridor. Implementation of such investments would require commitments by a variety of agencies, including Sound Transit, King County Metro, WSDOT and local jurisdictions.

The tests examined Alternative R-2B Modified, which would provide two-way operation of the center roadway, and whether the general purpose traffic congestion that is projected to occur with Alternative R-2B Modified could be eliminated or lessened through investments in other modes of travel. Three tests were performed. For Tests 1 and 2, a TDM/TSM investment of \$30 million (Year 2000 dollars) was considered, in addition to the investment cost of Alternative R-

2B. At the time of the analysis, the \$30 million was estimated to be approximately the difference in estimated cost between Alternative R-2B and Alternative R-8A. Subsequent cost estimates indicated that the difference in cost between the two alternatives would be closer to \$70 million. Therefore, Test 3 was included to show the effects of a higher TDM/TSM investment in the I-90 corridor. Each of the tests featured investments that would increase transit service, expand park-and-ride lots along I-90, and provide system management to improve transit speed and reliability. Horizon years 2005 and 2025 were used for the analysis.

Summary of Results

The TDM/TSM sensitivity tests had two primary findings:

- (1) Transit ridership would increase on I-90 with additional TDM/TSM investment, and
- (2) Traffic volumes would not change on I-90 or SR 520.

Transit Ridership

The results show that improvements in transit service would result in a sizeable increase in transit ridership on those affected routes. However, much of that increase would result from riders choosing to shift from other I-90 routes and, to a lesser degree, from SR 520 routes, instead of SOV drivers shifting to transit use. The incremental effects of adding the TSM improvements along I-90 show that the travel time improvements would result in a small net increase in I-90 ridership. Most of this increase would be focused on Sound Transit Route 550, which diverts riders from other corridor bus routes. In Test 3 the results showed that up to 250 persons per hour (2005) and 350 persons per hour (2025) could be attracted to transit in the peak direction using a more aggressive transit service and TSM package. If one were to assume that all of these riders would switch from autos, this could equate to a traffic reduction of 200 vehicles per hour (2005) and 300 vehicles per hour (2025). However, the travel forecasts showed that any reduction in auto usage would be offset by other traffic diverted to the I-90 corridor. The addition of park-and-ride capacity would provide negligible changes in transit demand for the Alternative R-2B Modified Test 2 Sensitivity Test.

Traffic Volumes

Traffic volumes on I-90 and SR 520 would show negligible changes as a result of these actions. The primary focus of the TDM/TSM analysis was on the 'peak' direction of travel. Under Alternative R-2B in 2005, there would be 570-660 vehicles per hour diverted from the center roadway onto the outer roadway by converting to two-way center operations. Most of this diversion would be SOVs. By 2025, the diversion could approach 625-780 vehicles per hour.

The vanpool program element of the TDM strategy was estimated to attract 80 to 120 peak hour SOV users in the peak direction of travel in 2025. The incremental effects of the other TDM strategies could impart a further 1-2 percent trip reduction, on the order of 50-100 vehicles per hour.

Conclusion

Combined, the sensitivity tests illustrated that implementing the TDM/TSM actions might allow up to half of the peak direction excess vehicle demand in Alternative R-2B Modified to be offset by TDM/TSM actions. Meaning, that because travel delay will be reduced for a portion of

vehicles, the peak of congestion will be shorter in duration. However, given the heavily congested conditions along both floating bridge corridors, the capacity freed up by the shift to transit on I-90 is likely to be replaced by traffic shifting from SR 520 or by travel demand that would otherwise be unmet across Lake Washington.

Details of the sensitivity analyses are located in Section 3.1.2 of Chapter 3 – Transportation.

5.2.7 Summary Comparison Table

Table 5-1 summarizes the operational impacts on transit and HOV for the build alternatives in comparison with Alternative R-1. The transit frequency for 2005 was estimated to be 34 westbound and 9 eastbound buses during the AM peak hour, and 9 westbound and 34 eastbound buses during the PM peak hour. For 2025, the transit frequency was estimated to be 47 westbound and 14 eastbound buses during the AM peak hour, and 14 westbound and 47 eastbound buses during the PM peak hour. Transit frequency was assumed to be the same for all alternatives (both No Build and Build).

**Table 5-1
Comparison of Operational Impacts on Transit and HOV**

	Alternative R-1	Alternative R-2B Modified	Alternatives R-5 Restripe and R-5 Modified	Alternative R-8A – Preferred
2005				
Travel Times (between Bellevue Way SE and Rainier Ave T.S.)	6 minutes in peak direction. 9 minutes in reverse-peak direction.	8 – 9 minutes in peak direction. 8 minutes in reverse-peak direction.	6 minutes in peak direction. 9 minutes in reverse-peak direction.	6 minutes in peak direction. 6 – 7 minutes in reverse-peak direction.
Transit Reliability	Good reliability in peak direction. 55 – 60% of bus trips are off schedule (delayed) in reverse-peak direction.	Same as R-1 with HOV 3+; worse with HOV 2+ in peak direction. Improved in reverse-peak direction.	Same as R-1 in peak direction. Improved in reverse-peak direction.	Same as R-1 in peak direction. Improved in reverse-peak direction.
Transit Ridership During Peak Periods	6,200 in peak direction. 1,700 in reverse-peak direction.	6,500 in peak direction. 1,900 in reverse-peak direction.	6,500 in peak direction. 1,800 in reverse-peak direction.	6,500 in peak direction. 1,800 in reverse-peak direction.
Transit Ridership During Off-Peak Periods	1,800 in EB direction. 1,500 in WB direction.	2,000 in EB direction. 1,500 in WB direction.	1,800 in EB direction. 1,500 in WB direction.	1,800 in EB direction. 1,500 in WB direction.
HOV Usage	3,000 – 4,000 in each direction in each 3-hour peak period.	No change in AM peak period; 2% increase in westbound during PM peak period.	No change in either AM or PM peak periods.	2% increase in AM peak period; 2% increase in westbound during PM peak period.

Table 5-3 (Continued)
Comparison of Operational Impacts on Transit and HOV

	Alternative R-1	Alternative R-2B Modified	Alternatives R-5 Restripe and R-5 Modified	Alternative R-8A – Preferred
2025				
Travel Times (between Bellevue Way SE and Rainier Ave T.S.)	6 minutes in peak direction. 12 minutes in reverse-peak direction.	7 – 8 minutes in peak direction. 7 minutes in reverse-peak direction.	6 minutes in peak direction. 9 - 10 minutes in reverse-peak direction.	6 minutes in peak direction. 7 minutes in reverse-peak direction.
Transit Reliability	Good reliability in peak direction. Continues to worsen with increased congestion in reverse-peak direction.	Same as R-1 with HOV 3+ in peak direction. Improved in reverse-peak direction.	Same as R-1 with HOV 3+ in peak direction. Improved in reverse-peak direction.	Same as R-1 with HOV 2+ in peak direction. Improved in reverse-peak direction.
Transit Ridership During Peak Periods	10,800 in peak direction. 3,800 in reverse-peak direction.	10,900 in peak direction. 4,000 in reverse-peak direction.	10,900 in peak direction. 3,900 in reverse-peak direction.	10,900 in peak direction. 4,000 in reverse-peak direction.
Transit Ridership During Off-Peak Periods	3,800 in EB direction. 2,900 in WB direction.	3,900 in EB direction. 2,900 in WB direction.	3,800 in EB direction. 2,900 in WB direction.	4,000 in EB direction. 3,000 in WB direction.
HOV Usage	3,000 – 4,000 in each direction in each 3-hour peak period.	2% increase in westbound during AM peak period; 3% decrease in eastbound and 3% increase in westbound during PM peak hour.	No change in either AM or PM peak periods	With HOV 3+ there would be a 10% increase in AM peak period; 2% increase in eastbound and 8% increase in westbound during PM peak period. With HOV 2+, these volumes would be much higher.

5.3 POTENTIAL IMPACTS TO OTHER USERS AND TRANSPORTATION MODES

5.3.1 Freeway Users

Table 5-2 summarizes the operational impacts for the Build Alternatives on I-90 (a distance of approximately 5.4 miles) in comparison with Alternative R-1.

**Table 5-2
Comparison of Impacts on Freeway Users, Year 2005 and 2025**

	Year	R-1	R-2B Modified	R-5 Restripe and R-5 Modified	R-8A - Preferred
Travel time - peak direction - AM	2005	10.1 minutes	9.9 minutes (-2%)	10.1 minutes (0%)	8.4 minutes (-17%)
	2025	13.1 minutes	14.4 minutes (+10%)	13.1 minutes (0%)	8.6 minutes (-34%)
Travel time - peak direction - PM	2005	11.6 minutes	13.8 minutes (+19%)	11.6 minutes (0%)	8.9 minutes (-23%)
	2025	13.7 minutes	13.8 minutes (+1%)	13.7 minutes (0%)	9.0 minutes (-34%)
Congestion duration - peak direction - Daily Total	2005	7¼ hours	8¾ hours (+13%)	7¼ hours (0%)	<2 hours (-74%)
	2025	10 hours	10 hours (0%)	10 hours (0%)	<2 hours (-80%)
Congestion duration - reverse-peak direction - Daily Total	2005	8¼ hours	5½ hours (-33%)	8¼ hours (0%)	<2 hours (-76%)
	2025	10¼ hours	10¼ hours (0%)	10¼ hours (0%)	3¾ hours (-68%)
Person hours of travel	2005	39,700 hours	42,700 hours (+8%)	39,700 hours (<1%)(R-5R) 40,000 hours (<1%)(R-5M)	33,600 hours (-15%)
	2025	73,000 hours	81,700 hours (+12%)	73,200 hours (<1%)(R-5R) 74,400 hours (+2%)(R-5M)	46,900 hours (-32%)
Delay/person traveling on Transit	2005	1.0 minutes	2.0 minutes (100%)	1.0 minute (0%)(R-5R) 0.8 minutes (-20%)(R-5M) 0.7 minutes (-74%)(R-5R) 0.6 minutes (-78%)(R-5M)	0.3 minutes (-70%) 0.4 minutes (-85%)
	2025	2.7 minutes	1.5 minutes (-44%)		
Daily Traffic Volumes (AWDT)	2005	159,000	159,000	160,000	161,500
	2025	164,500	164,000	164,000	177,000
Delay/person traveling in Vanpools/Carpools	2005	1.7 minutes	2.1 minutes (+24%)	1.7 minutes (0%)	1.2 minutes (-29%)
	2025	4.8 minutes	2.5 minutes (-48%)	4.8 minutes (0%)	0.8 minutes (-83%)
Delay/person traveling in GP Lanes	2005	9.6 minutes	9.7 minutes (+1%)	9.6 minutes (0%)(R-5R)	8.0 minutes (-17%)
Potential Number of Crashes per year*	2005	320-365	285-365 (-11% to 0%)	380-465 (+15% to +27%)(R-5R) 335-460 (+5% to +26%)(R-5M) 435-535 (+17% to +30%)(R-5R) 375-510 (+6% to +24%)(R-5M)	330-515 (+3% to +41%) 360-555 (+1% to +35%)
	2025	355-410	325-415 (-8% to +1%)		
Potential Crash Rate/MVM*	2005	0.81-0.93	0.70-0.93 (-14% to 0%)	0.92-1.18 (+14% to +37%)(R-5R) 0.82-1.17 (+2% to +26%)(R-5M)	0.81-1.25 (0% to +34%)
	2025	0.84-0.97	0.73-0.97 (-13% to 0%)	0.98-1.26 (+17% to +30%)(R-5R) 0.84-1.21 (0% to +25%)(R-5M)	0.81-1.25 (-4% to +29%)

GP Lanes = general purpose lanes
MVM = Million Vehicle Miles

*Potential numbers of crashes and potential crash rates reflect a lower bound with all proposed crash reduction measures, and an upper bound without crash reduction measures. Values shown are for the I-90 outer roadways.

Hybrid Options Considered to Mitigate Congestion

Potential mitigation for impacts on freeways (I-90), transit, or other modes could include using several components of more than one of the studied alternatives and combining them into a project. The section below describes such a hybrid project option. The hybrid options are no longer under consideration with the identification of Alternative R-8A as the Preferred Alternative.

Several options that would combine the features of Alternatives R-2B Modified and R-8A were developed at a conceptual level of detail. These hybrid concepts were analyzed as a means to

alleviate the impact of displacement of existing center roadway users, and to improve transit operations with full direct access for transit buses and HOV 3+ traffic in the center roadway.

Roadway Operations

If one of these options were to be implemented it would respond to the adverse effects of Alternative R-2B Modified on existing users of the center roadway (HOV 2+ traffic in 2025, and SOV traffic between Island Crest Way and Rainier Avenue S in both 2005 and 2025). The I-90 center roadway would be modified to provide two-way operation restricted to transit and eligible HOV 3+ traffic. A fourth lane would be added to the outer roadways. This fourth lane would accommodate general-purpose traffic and/or HOV 2+ carpools displaced from the center roadway with its conversion to two-way operation.

In one hybrid concept, an additional general purpose lane would be added between Rainier Avenue S and Island Crest Way on the eastbound and westbound outer roadways. The volume of displaced SOV traffic at the floating bridges would range between 600 to 650 vehicles per hour (vph) in 2005, and 850 to 900 vph in 2025. With this combination of features, improved outer roadway operations could be expected west of Island Crest Way, compared to Alternative R-2B Modified alone.

A second hybrid option would provide HOV lanes on the outer roadways for the length of the corridor. This approach would mitigate for the displacement of HOV 2+ traffic in 2025. The volume of displaced HOV 2+ traffic at the floating bridges would range from 650 to 750 vph in the peak directions of travel. This option would provide improved operation on the outer roadway, compared to Alternative R-2B Modified. Volumes in the outer HOV lanes in the reverse-peak direction would be lower than those for Alternative R-8A, because the HOV 3+ component would be traveling in the two-way center roadway. This concept could also be extended to an High Capacity Transit (HCT) conversion of the center roadway, for either bus rapid transit (BRT) or light rail transit (LRT)-based transit modes.

With either of the hybrid concepts, the I-90 outer roadways could be managed as a time-of-day operation, in which the added outer roadway lanes would be open only during limited hours associated with peak traffic demand periods.

Roadway Modifications

A center barrier would be installed on the I-90 center roadway. Two new center roadway exit ramps would be constructed on Mercer Island at 77th and 80th Avenues SE. It is possible that these ramps could be designed to allow for conversion to outer roadway HOV lane access at a future date, should the center roadway be dedicated to HCT operations. The Bellevue Way SE ramp would be converted to two-way operation.

The center roadway would be widened by 2 to 10 feet across Mercer Island, as described for Alternative R-2B Modified. The outer roadways would be restriped and possibly widened to provide a fourth lane in each direction, as in Alternative R-8A. The extent and type of widening would be dependent on the operational mode of the outer roadways.

5.3.1.1 Surface Streets and Intersections

Table 5-3 summarizes the construction and operational impacts on streets for the Build Alternatives in comparison with Alternative R-1.

**Table 5-3
Comparison of Impacts on Streets**

	R-1	R-2B Modified	R-5 Restripe	R-5 Modified	R-8A
Construction Impacts	No impacts	Impacts along 77th and 80th Avenues SE on Mercer Island and along Bellevue Way SE	No impacts	Impacts along 77th and 80th Avenues SE on Mercer Island and along Bellevue Way SE	Impacts along 77th and 80th Avenues SE on Mercer Island and along Bellevue Way SE
Operational Impacts					
Volumes on Surface Streets – 2005					
- Seattle AM	No impacts	Minimal changes	No impacts	No impacts	Minimal changes
- Seattle PM	No impacts	Minimal changes, except one location with a 6% increase	No impacts	No impacts	Minimal changes
- Mercer Island AM	No impacts	Volumes increase by +34% at one location with diverted traffic; decrease by 26% near existing ramp on 77th Avenue SE	No impacts	No impacts	Volumes decrease at some locations due to dispersed traffic at new ramps
- Mercer Island PM	No impacts	Volumes decrease by 26% near existing ramp on 77th increase at W Mercer Way ramp (8%)	No impacts	No impacts	Minimal changes
- Bellevue AM	No impacts	Minimal changes	No impacts	No impacts	Minimal changes
- Bellevue PM	No impacts	Minimal changes	No impacts	No impacts	Minimal changes
Volumes on Surface Streets – 2025					
- Seattle AM	No impacts	Minimal changes, mostly unchanged or decrease	No impacts	No impacts	Minimal changes, except at 1 location (+11%)
- Seattle PM	No impacts	Minimal changes	No impacts	No impacts	Minimal changes, except at 2 locations (+8 to +9%)
- Mercer Island AM	No impacts	Volumes increase by 26% at one location with diverted traffic; minimal change elsewhere	No impacts	No impacts	Minimal changes
- Mercer Island PM	No impacts	Minimal changes	No impacts	No impacts	Volumes increase by 31 to 38% near new ramps; minimal change elsewhere
- Bellevue AM	No impacts	Minimal changes	No impacts	No impacts	Minimal changes
- Bellevue PM	No impacts	Minimal changes	No impacts	No impacts	Minimal changes

**Table 5-3 (Continued)
Comparison of Impacts on Streets**

	R-1	R-2B Modified	R-5 Restripe	R-5 Modified	R-8A
Volumes on Surface Street Ramp Connections					
I-5 Ramp Connections	No impacts	Minimal volume changes in 2005 or 2025	No impacts	No impacts	Volume increases at Spokane Street minimal in 2005, up to 5% in 2025. Volume increases at James St. minimal in 2005, up to 24% in 2025 PM
I-405 Ramp Connections	No impacts	Minimal volume changes in 2005 or 2025	No impacts	No impacts	Minimal changes; some volume reductions along I-405 due to HOV 2+ on I-90
Eastgate Ramp Connections	No impacts	Minimal volume changes in 2005 or 2025	No impacts	No impacts	Minimal volume changes in 2005 or 2025
Intersection Levels of Service – 2005 AM Peak Hour	No impacts	Two intersections improve LOS; one worsens	No impacts	No impacts	Three intersections improve LOS
Intersection Levels of Service – 2005 PM Peak Hour	No impacts	One intersection worsens LOS in Seattle	No impacts	No impacts	One intersection worsens LOS in Seattle
Intersection Levels of Service – 2025 AM Peak Hour	No impacts	One intersection worsens on Mercer Island	No impacts	No impacts	Three intersections worsen LOS in Seattle
Intersection Levels of Service – 2025 PM Peak Hour	No impacts	One intersection worsens LOS in Seattle and one worsens on Mercer Island	No impacts	No impacts	Two intersections worsen LOS in Seattle
Safety	No impacts	In Seattle, the three high accident locations experience less than a one percent change in traffic volumes	No impacts	No impacts	In Seattle, one high accident location has a 1% increase in the AM and a 4% increase in the PM for 2025

5.3.1.2 Nonmotorized Transportation Users

Construction

The construction impacts for the shared-use pathway are summarized in Table 5-4. There would be no impacts for Alternatives R-1 and R-2B Modified. Alternatives R-5 Modified and R-8A would require short-term and intermittent closures of the shared-use pathway, with alternative access providing passage on I-90 for pedestrians and bicyclists. Alternative R-5 Restripe has two options: the pathway could be fully closed for construction or only partially closed, with the adjacent lane closed for construction as shown in the table.

**Table 5-4
Comparison of Nonmotorized Impacts**

Alternative R-1	Alternative R-2B Modified	Alternative R-5 Restripe	Alternative R-5 Modified	Alternative R-8A – Preferred
HMH Floating Bridge Modifications				
The existing configuration of the shared-use pathway would not be affected by this alternative.	The existing configuration of the shared-use pathway would not be affected by this alternative.	PM peak period buses could create gusting conditions for bicycle traffic. At other times, motorized traffic would be 4 feet farther away. A WSDOT type “BP” railing would be installed on the traffic barrier to increase its height to 54 inches.	The westbound outside roadway shoulder would be reduced from 10 feet to 4 feet. A screen would be installed on the traffic barrier.	The westbound outside roadway shoulder would be reduced from 10 feet to 2 to 4 feet. A screen would be installed on the traffic barrier.
Construction Impacts				
None	None	Partial closure of shared-use pathway to install railing; contractor work-hour closures on adjacent westbound lane and shoulder. OR Full closure of shared-use pathway to install railing; users shuttle on existing transit service, possibly deadheading buses.	Temporary closures of shared-use pathway to install screening on barrier. Pathway users could be shuttled between Seattle and Mercer Island on existing transit service, possibly deadheading buses or dedicated shuttle or provisions could be made for detour route center roadway.	Same as R-5 Modified.
Operation Impacts				
None	None	Some decrease in effective width of pathway with installation of higher railing.	Potential increased wind buffeting and road debris in the shared-use pathway with proximity of traffic. Decreases in pathway use could be expected. Some decrease in effective width of pathway with installation of higher railing.	Same as R-5 Modified.

Operation

No physical modifications to the existing shared-use pathway are currently planned or anticipated to occur within the 20-year analysis period. With Alternative R-1, growth in commuter use of the shared-use pathway would likely follow regional and local increases in population, rather than a shift from motorized to non-motorized modes of travel. With increased

use of the pathway, non-motorized users would experience lower levels of service during weekday evenings and weekend mid-day periods when use of the shared-use pathway is at its highest. Conditions in Alternatives R-2B Modified and R-5 Restripe would be similar.

In Alternative R-5 Modified, the pathway would only be affected on the HMM floating bridge. The width of the westbound outside shoulder of the outer roadway would be reduced from the existing 10-foot width to four feet for the entire 8,500-foot length of the bridge. With the reduction in the shoulder width, a modified railing, 54 inches high, would be provided on the traffic barrier on the south side of the shared-use pathway.

With Alternative R-5 Modified, traffic in the adjacent general-purpose lane would operate at free-flow speeds (at 60-65 mph), except during peak periods, when congestion on the westbound outer roadway would constrain roadway traffic speeds. With traffic operating closer to the shared-use pathway, increased wind buffeting of bicyclists would occur, and increased amounts of road debris could also be kicked up into the shared-use pathway by passing traffic. With this degradation in the user environment on the shared-use pathway, some decreases in use of the path relative to Alternative R-1 could be expected.

In Alternative R-8A, the existing roadway buffer between auto and truck traffic in the westbound outer roadway, and bicycle and pedestrian traffic on the shared-use pathway, would be reduced in width from 10 feet to 4 feet. The reduction would increase wind buffeting of bicyclists and pedestrians due to passing traffic, especially large trucks. Passing traffic could kick increased amounts of road debris into the shared-use pathway envelope. With this degradation in the user environment, some decreases in use of the path relative to Alternative R-1 could be expected.

5.3.1.3 Freight

Construction

The primary effects on freight movement on I-90 during the construction period for each Build Alternative would generally be related to incremental increases in congestion levels during peak periods associated with construction conditions.

Operation

Alternative R-1: Existing/No Build

With Alternative R-1, the roadway configuration and operational configuration would remain unchanged compared to existing conditions. Travel speeds in the outer roadway would deteriorate as congestion spreads to include additional hours of the day. In Alternative R-1, lane and shoulder widths would remain in the existing configuration. Patterns of truck lane distribution are expected to remain stable. Trucks carrying flammable cargoes would continue to use the I-90 tunnels.

Alternative R-2B Modified

The outer roadway configuration would remain unchanged. As with Alternative R-1, trucks carrying flammable cargoes would continue to use the I-90 tunnels. Increased congestion would shift some truck traffic to less congested hours or other corridors. The number of crashes and

incidents affecting the outer roadways were noted in the Freeway impacts. The outside right shoulders would continue to be available for breakdowns and stalls, but as trucks are more often in the outer lanes, the trucks would be impacted more and their travel times increased.

Alternatives R-5 Restripe and R-5 Modified

Even though the widths of two travel lanes and one shoulder would be reduced, truck lane distribution would be similar to Alternative R-1. Trucks transporting flammable cargoes would continue to use the I-90 corridor and tunnels. Travel speeds and the duration of congestion would be similar to Alternative R-1. Any redistribution of truck traffic to less congested hours of the day, or shifts to other corridors, would be similar to that experienced in Alternative R-1. The number of incidents and crashes would be similar to Alternative R-1. In R-5 Restripe, the outside right shoulders would be available for breakdowns. In R-5 Modified, the outside (right) shoulder of the outer roadway would be available to serve stalled vehicles and breakdowns in the eastbound direction. In the westbound direction, the inside (left) shoulder would serve breakdowns and stalls.

Alternative R-8A – Preferred Alternative

With Alternative R-8A, the width of the shoulders would be reduced in the outer roadway through the Mount Baker Ridge tunnel and the First Hill lid. As a result, trucks carrying flammable cargoes may be prohibited from the I-90 tunnels, however no decision has been made by WSDOT or FHWA at the time of preparing this EIS. If prohibited from using the I-90 tunnel and lid, trucks carrying these cargoes would be required to use other regional routes. Trucks that currently cross the lake with these cargoes would reroute to the SR 520 floating bridge (North Alternate Route) or the I-405/I-5 (South Alternate Route). These diversions would affect about 90 trucks daily in each direction of travel (a total of 180 trucks) or about 4 percent of trucks currently using the I-90 corridor in year 2005. The total is projected to increase to a total of 220 trucks, 110 in each direction, by year 2025. Currently, many of these trucks that are carrying flammable liquids obtain their loads on Seattle's Harbor Island from the Olympic Pipeline distribution points, and then use northbound I-5 or local streets in Seattle's industrial area south of downtown to access eastbound I-90. The rerouting of flammable cargo would increase the number of trucks on I-5 either south from Harbor Island to Renton or north to SR 520.

The annual number of all potential crashes could increase compared to Alternative R-1 with the non-standard lane and shoulder widths. Various design features would be implemented that would reduce this increment. Without these design features, truck involvement in crashes could rise to levels observed in other Interstate corridors with similar geometrics. Additional crash exposure would be generated on alternative routes by the additional travel associated with the flammable cargoes.

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 resulting in fires. WSDOT is committed to further study of the issues associated with the movement of flammable liquid cargo in the I-90 tunnels, and means of managing the risks associated with the movement of flammable liquid cargo on I-90 in an attempt to allow the continued use of the I-90 tunnels and lids by trucks carrying flammable liquid cargo. If this effort results in a policy decision to prohibit these trucks in the I-90 tunnels and lids, WSDOT is committed to further studying means of managing risks associated with the movement of trucks on alternate routes. These operational decisions

will be made in consultation with FHWA and other project stakeholders, including local fire departments.

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.

Summary of Impacts on Freight Movement

Table 5-5 compares the potential impacts on freight movement for all alternatives based on existing truck counts.

**Table 5-5
Comparison of Impacts on Freight Movement**

	Alternative R-1	Alternative R-2B Modified	Alternatives R-5 Restripe and R-5 Modified	Alternative R-8A – Preferred
Construction	No impact	Delays due to congestion caused by lane closures; same as for other freeway traffic.	Similar to Alternative R-2B Modified.	Delays due to congestion caused by lane closures; same as for other freeway traffic
Operation	No impact	No impact	No impact	Approximately 120 truck trips per day of flammable cargoes may be rerouted to SR 520 and 60 truck trips to I-5/I-405 in 2005. By year 2025, 150 trucks rerouted to SR 520 and 70 trucks to I-5/I-405.

5.3.1.4 Navigable Waterways

Construction

There would be no construction impacts to navigable waterways from any of the alternatives.

Operation

There would be no operational impacts to navigable waterways from any of the alternatives.

Summary of Impacts on Navigable Waterways

There are no potential impacts to compare.

5.4 IMPACTS TO OTHER ELEMENTS OF THE ENVIRONMENT

Following is a comparison of the impacts from the Alternatives that would occur to each element of the environment, and the unavoidable adverse impacts that would occur as a result of the Build Alternatives. Table S-1 in the Summary summarizes the impacts on the environment from each of the alternatives.

5.4.1 Land Use

All Build Alternatives would be consistent with the relevant policies and goals set out in the City of Seattle, City of Mercer Island, City of Bellevue, and King County comprehensive plans, the land use and city codes, and the shoreline regulations.

No displacements would occur with any of the alternatives and no direct unavoidable adverse impacts to land use would occur. Temporary unavoidable adverse proximity impacts to land use would be limited to the construction phase. These proximity impacts would be caused by dust and noise generation, visual and access control impacts. These impacts would be similar for all alternatives, although less for Alternative R-5 Restripe due to less construction. The duration of impacts would exist for one to two construction seasons, however most construction activities would occur from April 1 through September 30 so impacts would be more limited in time.

5.4.2 Visual Resources

Construction

Short-term or temporary unavoidable adverse visual resource impacts would occur during construction due to the visibility of dust, construction vehicles and lights from all viewpoints. The duration and amount of impact would be greatest with Alternatives R-5 Modified and R-8A, and less with Alternative R-2B Modified. Impacts would be the least with Alternative R-5 Restripe.

Operation

Viewpoint 1 (Neighborhood View from above I-90 at Judkins Park)

Alternatives R-5 Restripe and R-5 Modified would not change the view from this viewpoint. Alternatives R-2B Modified and R-8A would cause minor changes, however park visitors are more likely to be focused on recreation activities, than views of the freeway in this area.

Viewpoint 2 (Driver's and Passenger's View on the HMM Floating Bridge Toward Mercer Island)

The views of Lake Washington or Mercer Island in the distance would not be altered by the addition of a median barrier between the center roadway lanes with Alternative R-2B Modified or the addition of a WSDOT type "BP" bicycle/pedestrian railing on the traffic barrier between the westbound roadway and the shared-use pathway with Alternative R-5 Restripe. With both Alternatives R-5 Modified and R-8A, screening would be added on top of the concrete barrier. With Alternative R-8A, the median barrier between the westbound and center roadways would be moved south 2 feet. The existing I-90 elements such as cars, freeway lanes, and median barriers that currently dominate a driver's foreground and middleground views on the HMM floating bridge would remain the same with both alternatives.

Viewpoint 3 (Bicyclist's or Pedestrian's View from Shared-Use Pathway on HMH Floating Bridge Looking East)

Alternative R-2B Modified would not change the view from this viewpoint. With Alternative R-5 Restripe, the roadway modifications would not alter the views to the north of Lake Washington or Mercer Island in the distance. The addition of a WSDOT type "BP" bicycle/pedestrian railing to the traffic barrier would, to a limited degree, restrict views to the south. Alternatives R-5 Modified and R-8A would not change northerly views of Lake Washington or easterly views of Mercer Island from the path, however views to the south would be screened by the higher screening options, to a limited degree with Option "A", and to a greater degree with Options "B" and "C" (see Chapter 3 for a description of railing options). Railing Options B and C would decrease the levels of nighttime light and glare currently seen from this view.

Viewpoint 4 (View from a Boat on Lake Washington Looking South to HMH Floating Bridge)

The changes with the Build Alternatives would not be discernible from a boat on Lake Washington looking south toward the bridge.

Viewpoint 5 (Driver's and Passenger's View from I-90 Center Roadway Eastbound at 76th Avenue SE on Mercer Island)

With Alternative R-5 Restripe there would be no changes to the center roadway. Alternatives R-2B Modified and R-8A would decrease the vividness, intactness, and unity of the view however mitigation is planned to lessen the impact. The addition of a second center roadway ramp at 77th Avenue SE would increase the amount of built structure and decrease the amount of roadside planting, particularly trees, breaking the current visual continuity of the corridor. To compensate for this change, the additional structure would follow established I-90 architectural design standards and remain consistent with existing retaining wall and bridge structures in the corridor. Also, the roadside planting functions of the trees removed for the new ramp would be replaced by plantings consistent with the existing vegetation in the corridor, such as the lower plantings that currently exist along and under the existing ramp bridge structure.

Alternative R-2B Modified would increase levels of nighttime light and glare currently seen from this view, in that an opposing traffic stream would be introduced into the center roadway. No change in levels of nighttime light and glare would occur with Alternative R-8A. Similar impacts would occur in the center roadway in the vicinity of 80th Avenue SE, where a new ramp would also be added with Alternatives R-2A Modified and R-8A. At this specific viewpoint, no changes would occur with Alternative R-5 Modified. In the vicinity of 80th Avenue SE, however, a new transit-only ramp would be constructed. Impacts at that location would be similar to those described for Alternatives R-2B Modified and R-8A.

Viewpoint 6 (Driver's and Passenger's View Looking West from the Center Roadway at East Mercer Way)

The greatest impacts to viewers from this viewpoint would be with Alternative R-2B Modified. The addition of a median barrier in the center roadway and roadway widening for two-way operation would increase the amount of freeway roadway paving and decrease the amount of roadside planting seen from Viewpoint 6a.

Viewpoint 7 (Pedestrian View Looking West at I-90 From Shorewood Avenue Overpass on Mercer Island)

None of the Build Alternatives would substantially change the view from this viewpoint. With Alternative R-2B Modified, the addition of a median barrier in the center roadway and widened lanes for two-way operation would only minimally increase the amount of freeway structure and decrease the amount of median planting seen from Viewpoint 7.

Viewpoint 8 (Resident's View of I-90 Looking West from Shorewood Apartments at E Lexington Way on Mercer Island)

The roadway modifications would only minimally increase the amount of freeway structure and decrease the amount of median planting seen from Viewpoint 8, although the number of trees in the medians between the outer and center roadways would be decreased with Alternatives R-2B Modified, R-5 Modified, or R-8A.

No unavoidable adverse visual resource impacts for operation have been identified.

5.4.3 Air Quality

Construction

Air quality impacts due to the construction of the Build Alternatives are likely to be small in both magnitude and duration. It would be difficult to calculate the air quality impacts from the construction of the various alternatives due to the lack of specific data during this preliminary design phase of the Project; however, the actual construction activities associated with the Build Alternatives are relatively minor. The construction activities for all of the Build Alternatives would involve roadway restriping and/or minor roadway widening. The construction of all Build Alternatives would require the use of scrapers, graders, pavers, loaders, haul trucks and other miscellaneous equipment. There is a potential for short-term, localized, minor adverse air quality impacts during construction that can be mitigated through dust control and other measures. No unavoidable adverse air quality impacts have been identified.

Operation

None of the alternatives included in this study had an intersection with a modeled CO concentration that exceeded the 1-hour or 8-hour NAAQS during operation. The CO concentrations at intersections common among all alternatives could not provide any distinction with respect to air quality impacts; therefore, the total number of intersections with LOS designations of D or lower were compared among the alternatives. Since Alternatives R-2B Modified 3+ (HOV lanes with 3+ occupants per vehicle), R-8A 2+ (HOV lanes with 2+ occupants per vehicle) and R-8A 3+ would create the fewest D or lower LOS rated intersections (17) in the Seattle region; these alternatives are likely to have the least impact to air quality. Alternative R-2B Modified 2+ would produce the greatest number of LOS D or lower rated intersections in the Seattle area and, therefore may have a greater impact on air quality. All Mercer Island intersections included in this study would have LOS ratings of C or above. The Bellevue Way SE/112th Avenue SE intersection would have an LOS rating of F for all alternatives and study years.

5.4.4 Noise

Construction

Under Alternative R-1, No Build, construction impacts would not occur. Alternatives R-2B Modified, R-5 Modified, and R-8A would include demolition of concrete retaining walls, barriers, pavement, and other structural elements. Alternative R-5 Restripe would result in relatively lower construction noise impacts.

Construction noise would be reduced with reasonable measures, such as restrictions on nighttime construction noise, mufflers on engines, and turning off equipment during periods of nonuse. Construction activities would be required to comply with the applicable construction noise provisions of the Seattle, Mercer Island, and Bellevue noise ordinances, and any potential noncomplying nighttime construction activity could require a variance from those ordinances. With the construction noise mitigation measures to be included with the proposed Project, daytime construction noise impacts would be low. An unavoidable adverse impact could occur during potential times of nighttime construction activities near residential areas, if the impacts could not be mitigated.

Operation

FHWA and WSDOT use a two-part test to assess traffic noise impacts. A noise impact is deemed to occur if design-year traffic noise levels either substantially exceed existing noise levels by 10 dBA or approach or exceed FHWA noise abatement criteria. Design-year L_{eq} noise levels with the alternatives would increase by 1 to 2 dBA compared with the Existing Conditions. An increase of 2 dBA or less would be imperceptible to the human ear.

Noise impacts were found to occur at some locations because design-year noise levels would approach or exceed FHWA criterion of 67 dBA. These locations are affected by all alternatives, including the No Build Alternative, and include residences along South Judkins Street, the base of Beacon Hill, in Leschi, north of the Mercer cut, and north of I-90 in Bellevue.

For the 40 locations where noise levels were evaluated, noise levels are not predicted to change by year 2025 for 18 locations for the No Build Alternative, or with Alternatives R-5 Restripe and R-5 Modified. For those locations where a change is predicted, the change from existing conditions to year 2025 from traffic noise would be limited to 1 – 2 decibels, a noise increase that would be imperceptible to humans.

The predicted 2025 noise levels for the No Build Alternative, Alternative R-5 Restripe and Alternative R-5 Modified would be similar for all receptors. Alternative R-2B Modified is predicted to have noise levels 1 decibel lower in four locations than the No Build Alternative, and Alternative R-8A is predicted to have noise levels 1-2 decibels higher in 18 locations. The highest noise levels are predicted for the Leschi area along 35th Avenue South. Existing noise levels are 72 dBA, and this level is predicted to be one decibel higher for Alternative R-8A in year 2025, and 72 dBA for the other alternatives, including the No Build.

Noise mitigation was evaluated for each of the impacted locations and found not to be feasible and reasonable (see Section 4.5.3). The traffic noise impacts at these locations would therefore be considered an unavoidable adverse impact.

5.4.5 Biological Resources

Construction

A potential exists for short-term disturbances to wetlands during in-water construction in Alternatives R-5 Modified and R-8A if the Mercer Slough outfall requires replacement.

Operation

No unavoidable impacts adverse to biological resources are expected for Alternatives R-1 or R-5 Restripe. The additional impervious surface area for Alternative R-2B Modified (2.61 acres), R-5 Modified (3.90 acres), or R-8A (5.76 acres) as the potential, via unmitigated stormwater discharge, to increase fine sediments and vehicle pollutants such as oil or gas, as well as metal and tire fragments into Lake Washington. These pollutants are an avoidable impact if proper stormwater controls and filtration are implemented at all discharge locations. Impacts to listed fish species may occur in the nearshore areas where slackwater allows accumulation of pollutants to occur. These nearshore areas are important for Threatened & Endangered (T&E) fish species for rearing and migration. Pollutants occurring in the open water areas of the lake are less likely to impact the listed T&E fish species because the deep open water is used less by the fish and the wind and waves would tend to disperse and dilute any pollutants present. The level of impact would be similar for these three alternatives and would be minor with proposed mitigation measures. A Biological Assessment was prepared for the Preferred Alternative R-8A which concluded impacts to Chinook Salmon, Coho Salmon and Bull Trout were determined to “may affect, not likely to affect”. The project was determined to have no effect on Bald Eagles. NOAA Fisheries concurred in these determinations on January 20, 2004 and the United States Fish and Wildlife Service concurred on February 24, 2004.

5.4.6 Water Resources

Construction

Impacts from the alternatives would be mitigated through standard design and construction practices common to the industry. A potential exists for short-term unavoidable adverse impacts to water quality from the release of water pollutants associated with potential in-water construction, such as sediment and petroleum hydrocarbons. The potential for these impacts to occur would be similar for Alternatives R-2B, R-5 Modified and R-8A at the Mercer Slough where in-water work may be required for drainage improvements.

Operation

Water quality impacts from road operation are already occurring in the study area. The impacts of road operation on water quality would essentially be due to the build-up of pollutants from

road traffic between storms and the subsequent run off of pollutants during storm events. Three of the Alternatives (R-2B Modified, R-5 Modified and R-8A) would increase impervious surface which could add to the runoff potential. However, the amounts in increases are relatively small as compared to the total impervious surface for the existing I-90 facility and surrounding areas, and the stormwater collection and disposal would occur at a 7 different locations spread along the 8-mile roadway section. The level of impact for all Alternatives would be minor.

5.4.7 Energy

Although mitigation measures would be carried out to minimize energy consumption during construction and operation, the operation of Alternatives R-2B Modified, R-5 Restripe and R-5 Modified would consume approximately the same amount of energy as Alternative R-1 (No Build). The Preferred Alternative R-8A would consume slightly more than the other alternatives due to Alternative R-8A's ability to accommodate a higher vehicle miles traveled (VMT).

5.4.8 Geology and Soils

Construction

The construction activities associated with each of the proposed Build Alternatives have the potential to cause erosion as a consequence of removing some existing road pavement and landscaping, moving of heavy equipment, grading to create a level surface, importing fill and road base, temporarily stockpiling materials, incremental roadway widening, adding/moving/removing of median barriers, constructing new ramps, and adding to existing ramps. This impact would be minimal for all Alternatives with the implementation of mitigation measures, however would be greater with Alternatives R-5 Modified and R-8A due to the roadway widening than for the other Alternatives.

Operation

After completion of construction and implementation of mitigation measures, it is expected that there will be negligible impacts on the geology and soils during operation.

5.4.9 Hazardous Materials

Construction

Record searches have indicated few, if any, potential hazardous waste sites near construction areas for the proposed Project for all Build Alternatives. There is a possibility that unknown sites may be encountered during construction. Mitigation would be implemented to address public health, worker health and safety, and to prevent the spread of any existing contamination encountered during construction.

Operation

No impacts are expected for Alternatives R-1, R-2B, R-5 Restripe or R-5 Modified. The Preferred Alternative R-8A may require the prohibition of flammable cargoes from the I-90 tunnel and could cause a need to reroute trucks from Harbor Island in Seattle to I-90 east of I-405. (See Section 3.5 in Chapter 3 for a discussion of the impacts on freight movement.)

A risk analysis was performed to evaluate the direct impact of rerouting flammable cargo (Class 3) from I-90 to the north and east via I-5 and SR 520 (North Alternate Route) or to the south and east via I-5 south to I-405 and then I-405 north to I-90 (South Alternate Route). See Section 4.10 or Appendix K for a complete discussion.

The projected likelihood of a crash involving a truck carrying flammable cargo would be higher on the combined North and South Alternate Routes than on I-90 (due to additional miles traveled and higher crash rates on the South Route). The projected number of these crashes resulting in a fire or explosion would also be higher on the alternate routes, however these numbers are extremely small.

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 resulting in fires. 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.

If this effort 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. 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, *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.

5.4.10 Public Services

Construction

Traffic delays, lane changes, and detours that would occur during construction would be unavoidable and could have some adverse impacts on public services, such as on the response times of the emergency service providers who use I-90 to respond to emergencies or respond to emergencies on the roadway itself. The level of impact would be similar for Alternatives R-2B Modified, R-5 Modified and R-8A, and less for Alternative R-5 Restripe because the construction activities would be more involved and could potentially cause greater traffic delays and require more lane changes and detours. These impacts will be mitigated through notice to emergency service providers.

Operation

Implementation of any of the alternatives will result in continued access to and from I-90, not unlike today. The estimated travel times may be the only differentiating aspect between Alternatives for public services. (Refer to Chapter 3 – Transportation for travel time details.) No adverse impacts are anticipated.

5.4.11 Utilities

Construction

The level of impact to utilities is minor at most due to the construction occurring within existing right-of-way. Alternatives R-2B Modified, R-5 Modified and R-8A would have approximately the same impacts to utilities, but these impacts would be minor. Alternative R-5 Restripe would not have any impact to power and gas lines, sanitary or storm sewers, or to cable TV as all of these lines are outside the right-of-way. However, there may be some minor adjustments to WSDOT-owned utilities within the right-of-way for irrigation lines, communication lines, and for illumination and traffic signals for crash mitigation measures.

Operation

Implementation of any of the alternatives would result in continued utility placement along the I-90 corridor, not unlike today. No unavoidable adverse utilities impacts are anticipated.

5.4.12 Historic and Archaeological Resources

Construction

No adverse impacts to historic or archaeological resources are anticipated. Should any archaeological materials be encountered during construction activities, all work in the vicinity of the find shall stop until a determination of significance is made. Impacts to any sites that are determined to be important resources (i.e., eligible for nomination to the NRHP) would require mitigation such as avoidance or data recovery. In this instance, the Washington Office of

Archaeology and Historic Preservation and tribes with jurisdiction or an interest in the resource would be contacted as necessary.

Operation

No unavoidable adverse impacts to historic or archaeological resources are anticipated.

5.4.13 Parklands

Construction

None of the Alternatives would result in direct adverse impacts on parklands or Section 4(f) resources in the study area. Overall, the functions of or available activities at the parks adjacent to or in the vicinity of the I-90 corridor would not be affected by the Project; however, the appeal of the parks may be affected temporarily during construction due to additional visual, dust or noise changes.

The restriping activities for Alternative R-5 Restripe would be visible from some parklands such as the East Portal Viewpoint; however, these activities would not impact the recreational use of or available activities at any parklands in the study area, and the alternative would not have an impact on surrounding land use that would adversely impact the parks.

With Alternatives R-2B Modified and R-5 Modified and the Preferred Alternative R-8A, there are anticipated to be some temporary noise and visual impacts on Taejon Park and Sturgus Park due to their proximity to I-90. Construction activities for Alternatives R-2B Modified, R-5 Modified or R-8A on the HMH floating bridge would be visible from the East Portal Viewpoint but would not have an impact on the recreational or scenic value of the viewpoint. The construction activities on the HMH floating bridge may have some temporary noise impacts on Day Street Park. The impacts for the three alternatives would be similar.

The most intensive construction activities would occur in the vicinity of the Mercer Island CBD section of the corridor. With Alternatives R-2B, R-5 Modified and R-8A, construction could have temporary noise, visual, and dust impacts on the Mercer Island I-90 Outdoor Sculpture Gallery. While the impacts would be similar, the least impacts would be anticipated to be caused by the construction of Alternative R-5 Modified, and slightly greater impacts for the construction of Alternative R-8A, with impacts for the construction of Alternative R-2B Modified similar but slightly less than impacts from Alternative R-8A. None of the alternatives would require the closure or restricting access to the Sculpture Gallery itself at anytime during construction.

It is not anticipated that the construction activities for Alternatives R-2B Modified, R-5 Modified and R-8A along the Mercer Island/First Hill lid section of I-90 would have an adverse impact on the Park on the lid or Mercer Island Boat Launch. Impacts to Luther Burbank Park would be limited to the pedestrian overpass connecting the north and south parts of Luther Burbank Park. The pedestrian overpass is on a lid over the freeway and there would be temporary noise, dust and visual impacts from construction occurring approximately 30 feet below the lid on the roadway.

There would be no impacts on Enatai Beach Park from Alternative R-5 Modified or Alternative R-8A. With Alternative R-2B Modified, there could be some temporary noise and visual impacts on Enatai Beach and the area of Mercer Slough Park adjacent to the corridor. These proximity impacts would have some temporary adverse impact on people's enjoyment of the parks in the area adjacent to the corridor. The construction of Alternatives R-5 Modified or R-8A would also have similar proximity impacts on Mercer Slough Park, however the proximity impacts to the park would be less with this alternative compared to Alternative R-2B Modified.

Operation

Implementation of the Build Alternatives would not require acquisition of parkland. Operation of any of the proposed alternatives would not have adverse impacts on parklands or Section 4(f) resources in the study area.

Chapter 6 Public Meetings

Chapter 6 – Public Meetings

The public process that has been conducted for the I-90 Project has included 12 public meetings or workshops, distribution of newsletters and meeting notices, briefings and meetings with various community and advisory groups and other efforts over the past four years. Feedback from the public has helped to shape the alternatives being reviewed in this FEIS. Additional information on the selection process for the alternatives can be found in Chapter 2.

The I-90 project has been the subject of numerous articles in the *Seattle Times*, the *Seattle Post-Intelligencer*, the *Eastside Journal*, the *Mercer Island Reporter* and the *Daily Journal of Commerce* since the Project was initiated in 1998. Information about the project and upcoming meetings and open houses is provided on the Sound Transit website, which has been in operation since 1998. Public comments can also be sent via the website to the Project team.

6.1 PUBLIC MEETINGS

The public process was initiated in October 1998 with a Project newsletter sent to 11,000 residents along the I-90 corridor, in Mercer Island, Bellevue and Seattle. Two scoping meetings were held in Mercer Island on October 8 and 29, 1998, at the Mercer Island High School Commons. The scoping meetings were advertised in newspapers in Seattle, Mercer Island and the Eastside. The purpose of the meetings was to obtain public comment on the Project and get suggestions for alternatives, issues and options to consider.

Meeting notices and newsletters were distributed at the Eastgate, South Bellevue and Mercer Island Park & Ride lots, and in the Mount Baker area of Seattle. Newsletters announcing public meetings and providing project updates were mailed to individuals, organizations and public agencies during the following months: September 1998, March 1999, October 1999, March 2000, November 2001 and May 2003.

Open houses to obtain public comment during the Environmental Assessment phase of the Project have been held as follows:

- March 1999 - Mercer Island and Bellevue
- April 1999 - Seattle
- April 1999 - Mercer Island
- October 26, 1999 - Mercer Island
- March 2000 - Mercer Island Workshop
- October 2000 - Mercer Island

The I-90 Project team also participated in five of the SR 520 Project open houses in Seattle, Mercer Island and Bellevue in March 2001 to provide information on the I-90 project and receive public comment on the Project. These took place in Seattle on March 8 and 20, Mercer Island on March 21, and Bellevue on March 8 and 22, 2001.

In May of 2003, three public hearings on the Draft EIS were held to distribute information contained in the Draft EIS and obtain official public comments. A court reporter was present to

take verbal comments, and written comments were also accepted. These took place on Mercer Island on May 20, Seattle on May 21, and Bellevue on May 22, 2003. Attendees numbered approximately 128, 47, and 44, respectively.

6.2 BRIEFINGS

The Project team has briefed Sound Transit's Bicycle Leaders team on the I-90 project on numerous occasions to discuss their concerns about preserving bicycle access across the bridge. The Bicycle Leaders Team was briefed at the following meetings:

September 21, 2000	June 7, 2001 (Sound Transit Annual Bicycle Forum)
November 16, 2000	June 11, 2002
January 4, 2001	July 11, 2002 (I-90 Workshop)
March 12, 2001	May 30, 2003
April 12, 2001	

Briefings to committees and groups, starting in 1998, include:

- Seattle City Council Transportation Committee - throughout the project
- King County Council Transportation Committee - throughout the project
- Bellevue City Council—throughout the project
- Eastside Transportation Partners—August 2000, June 8, 2001, March 15, 2002
- South King County Area Transportation Board July 3, 2001
- Sierra Club Transportation Committee, January 17, 2001
- Trans-Lake Executive Committee, February 14, 2001.

Sound Transit has also met with representatives from 1000 Friends of Washington, Transportation Choices Coalition, the Bicycle Alliance of Washington, Cascade Bicycle Club, the League of Women Voters and the Seattle Neighborhood Federation. Meetings with these organizations were held in 2001 on: January 19, March 2, March 29, and April 20.

Sound Transit also held a workshop on the shared-use pathway on July 11, 2002, which was attended by approximately 30 people including those representing bicycle and pedestrian organizations. Discussion at the workshop focused on the width of the pathway, its effective width due to the railings, and construction mitigation. Surveys of trail users also were conducted during weekday, weekend, the Labor Day and Memorial Day holiday weekends, and Bike-To-Work Day in August/September 2001, May 2002, and July/August 2002.

Results of these meetings and the amendments to the alternatives that were developed and studied can be found in Chapter 2.

6.3 STEERING COMMITTEE

A Steering Committee provides oversight on the Project. The Steering Committee comprises representatives from the cities and agencies that were signatory to the 1976 Memorandum Agreement on I-90, and include the cities of Mercer Island, Seattle and Bellevue; King

County/Metro Transit; and the Washington State Department of Transportation (WSDOT). In addition, Sound Transit, the Federal Highway Administration and the Federal Transit Administration are represented on the Steering Committee. The Committee has met regularly since August 1998. The Committee meetings are open to the public and an opportunity for public comment is always provided as part of the meetings.

On July 15, 2003, the Committee identified Alternative R-8A, which would add HOV lanes on I-90 on the outer roadways, as its Preferred Alternative. The Preferred Alternative R-8A is described in Section 2.2.5 of the EIS.

6.4 OUTREACH TO MINORITY AND LOW INCOME POPULATIONS IN THE PROJECT AREA

Distribution of newsletters within low-income and minority areas in Seattle adjacent to I-90, conducting briefings and public meetings as described above, advertising in ethnic newspapers, and newsletter mailings to interested parties within the 98144 zip code (Between E Yesler Way and S Charlestown and between 12th Avenue S and Lake Washington) were used in an effort to reach out to all who may be affected by the I-90 project, including minority and low-income communities. The following list of community groups in the Beacon Hill area received the I-90 newsletter and scoping notice information:

- Atlantic Street Center
- Beacon Alliance of Neighborhoods
- Beacon Hill Chamber of Commerce
- Center Park Residents Council
- Central Area Development Association
- Central District Council
- City of Seattle Department of Neighborhoods—Jackson Street
- DHHS I-90 Dev. Advisory Council—Paul Crane
- El Centro de la Raza
- Friends of Cheasty Boulevard
- Jackson Place Community Council
- Jefferson Advisory Council
- Judkins Park Community Council
- Iraqi Community Center
- Lao Community Center
- League of Women Voters—address in neighborhood
- Mt. Baker Community Council
- Mt. Baker Community Club
- North Beacon Hill Coalition
- North Beacon Hill Community Council
- North Beacon Hill Council
- North Beacon Hill Neighborhood Planning Association
- North Rainier Valley/I-90 Neighborhood Planning
- Rainier Chamber of Commerce
- Raining Community Council
- Seattle Samoan Center
- Southeast District Council
- South Atlantic Community Council
- South Atlantic Street Community Association
- Starkey's Orchard Neighborhood Group
- 1000 Friends of Washington—address in neighborhood

Advertising for the Project was in *El Mundo*, *Northwest Asian Weekly/Seattle Chinese Post*, *The Facts*, and *The Seattle Medium* as well as the *Seattle Times*, *Seattle Post-Intelligencer*, *Eastside*

Journal, Mercer Island Reporter, and Daily Journal of Commerce. Refer to the Environmental Justice Report in Appendix A for more details.

6.5 EIS SCOPING

Purpose of Scoping

Scoping is the first step in the EIS process. Scoping informs the public, interest groups, affected tribes and government agencies about the EIS and presents the proposed actions, alternatives and environmental impacts for review and comment. The purpose of scoping is to determine the alternatives and significant issues to be analyzed in the EIS and is also intended to eliminate detailed study of those issues that are not significant and those issues that have been covered by prior environmental review. The Federal Highway Administration and Federal Transit Administration, as NEPA leads, and Sound Transit and WSDOT, as SEPA leads, initiated the public scoping process in the autumn of 2001 after deciding to prepare an EIS for the Project.

Scoping Activities

Sound Transit conducted the following activities as part of the scoping process for this EIS:

- Identified proposed alternatives for evaluation and environmental issues to be addressed.
- Met or corresponded with local, regional, state and federal agencies, tribes and other organizations regarding the project EIS. A public agency scoping meeting was held on December 4, 2001. The scoping notice was sent to government agencies, community organizations, and the Duwamish, Muckleshoot, and Puyallup tribes.
- Conducted three public open houses to present project information and gather comments.
- Received written comments during a 30-day formal scoping comment period that formally closed on December 17, 2001. Although the scoping comment period closed on December 17, comments were received through January 23, 2002.
- Reviewed comments received at the scoping meetings or received during the scoping period. The alternatives, including a potential combination of alternatives that would mitigate potential impacts, that came out of the scoping process and topics for environmental analysis become final following this review process.
- Prepared a scoping report and made the report available for public review.

Public Scoping Open Houses

Public scoping meetings were held from 4:00 to 7:00 PM as listed below:

- Bellevue: December 4, 2001, at the Bellevue City Hall campus. Approximately 53 people attended.
- Mercer Island: December 5, 2001 at the Mercer Island High School Commons. Approximately 78 people attended.
- Seattle: December 6, 2001 at the Sound Transit boardroom. Approximately 47 people attended.

The meetings were publicized using various media. Newsletters which listed the scoping meetings were mailed to all addresses (10,225) on Mercer Island, the 1,885 addresses on the Sound Transit I-90 Project list, the Sound Transit 98144 zip code list with 400 addressees of people interested in any Sound Transit project, and an additional 50 addressees from Sound Transit's Central Link mailing list. Newsletters were distributed to Seattle libraries and to Seattle Central Community College and other community colleges. Meetings were announced on the Sound Transit website, on signs posted on the bicycle/pedestrian pathway on I-90, in the *Seattle Post-Intelligencer* "Community Calendar" and in display advertisements in local newspapers. Newspaper listings include:

- *The Seattle Times* - all three meeting times and addresses
- *Seattle Post-Intelligencer* - all three meeting times and addresses
- *Eastside Journal* - December 4 meeting information
- *Mercer Island Reporter* - December 5 meeting information
- *El Mundo, Northwest Asian Weekly/Seattle Chinese Post, The Facts Cost and The Seattle Medium* - December 6 meeting information

The following lists include public agencies, tribes, and organizations that received the SEPA notice. Results of these meetings and the amendments to the alternatives that were developed and studied can be found in Chapter 2.

Public Agencies, Tribes, and Organizations Contacted

Alliance of Chinese Organizations
Asia Appliance
Asia Pacific Chamber of Commerce
Asian Bar Association
Asian Counseling & Referral Service
Asian Pacific Women's Caucus
Asian Resource Center
Batangas Club
Bing Kung Tong
Chew Lun Association
Chinese Arts & Music Association
Chinese Cultural Service Center
Chinese Parents Service Organization
Chinese Student Association
Chinh Luan Weekly Newspapers
Chong Wa Benevolent Association
Chua Co-Lam Temple
Consejo Counseling And Referral Svcs - King County
Demonstration Project for Asian Americans
Duc's Auto Repair
Duoc Su Temple
Duwamish Tribal Office
El Centro De La Raza
Federal Transit Administration-Region 10
Federal Transit Administration-Region 10
Filipiniana Arts & Cultural Center
Filipino American National Historical Society
Filipino Chamber Of Commerce Of The Pacific NW
Filipino Cultural Heritage Society Of WA (Fchsw)
Filipino Pentecostal Church
Filipino Youth Activities
Gee How Oak Tin Foundation
Hip Sing Tong
Ho Nam Association
Hong Kong Club of Washington
House of Teriyaki
Indochina Chinese Refugee Association
Kay Ying Senior Citizen Club
King County
King County Dept of Transportation
King County/Metro Transit
Lee's Auto
Lily Nails
Little Quarter
Locke Family Association
Luck Kgi Musical Society
Muckleshoot Indian Tribe
National Asian Pacific Center of Aging
National Marine Fisheries Service
Ngoc Thanh Video
North Seattle Community College
Office of Senator Murray
Pacific Fish & Chips
Pharmacy Hoang
Pho Bac Ha
Pho Hien Vuong
Puget Sound Clean Air Agency
Puyallup Tribal Council
Refugee Federation Service Center
Refugee Women's Alliance
Renton Technical College
Rex Beauty Salon
Saigon Radio
Seattle Central Community College
Seattle Chinatown Intl. District PDA
Seattle Hispanic Ministry
Seattle Housing Authority
Seattle Video
Shoreline Community College
Sierra Club - Cascade Chapter
Soo Yuen Benevolent Association
South Seattle Community College
Speedee Lube
Suey Sing Association
Sunlite Salon
Tacoma Hispanic Community
Teo Chew Mutual Association
Thanh Thao Restaurant
Thanh Vi Restaurant
U.S. Army Corps Of Engineers
U.S. Dept of Fish And Wildlife - Pacific Region
U.S. Dept Of The Interior
U.S. Dept of Transportation - FHWA
United Friends Of Filipinos In America
UW Libraries
V & S Company
Van Hanh Pagoda
Vietnam Times
Vietnamese American Business Dev. Of S. Seattle
Vietnamese Buddhist Assoc. Of Washington
Vietnamese Catholic Community
Vietnamese Christian Fellowship Church
Vietnamese Senior Citizens Assn
Vietnam's Pearl
WA Assoc of Chinese Herbalists & Dealers
WA Overseas Chinese Artists Assoc
WA State Attorney General's Office
WA State Commission On Asian Pacific Amer Affairs
WA State Dept Of Community Trade And Economic Dev
WA State Dept Of Ecology (DOE)
WA State Dept Of Fisheries & Wildlife
WA State Dept of Social And Health Services (DSHS)
WA State Dept of Transportation (WSDOT)
WA State Hispanic Chamber Of Commerce
WA State Office Of Archaeology And Historic Preser
WA State Patrol
Win Realty
Wong Family Association

Chapter 7 References

Chapter 7 – References

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Section 4.14 Parklands

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**Chapter 9 Final EIS
Distribution List**

Chapter 9 – Final EIS Distribution List

Federal

Environmental Protection Agency
Federal Transit Administration
NOAA Fisheries
US Army Corps of Engineers
US Coast Guard
US Department of Fish and Wildlife
US Department of the Interior

Tribes

Duwamish
Kikiallus
Muckleshoot
Puyallup
Snoqualmie
Suquamish
Tulalip
Yakama

State

Washington State Attorney General
Washington State Department of Community Trade and Economic Development
Washington State Department of Ecology
Washington State Department of Fisheries and Wildlife
Washington State Department of Natural Resources
Washington State Department of Transportation
Washington State Office of Archeology and Historic Preservation
Washington State Patrol
Washington State Utilities and Transportation Commission

Regional

Puget Sound Regional Council
Puget Sound Clean Air Agency
Port of Seattle

Counties

King County Department of Transportation
King County Metro Transit
Seattle/King County Economic Development Council

Cities

City of Bellevue
City of Clyde Hill

City of Issaquah
City of Medina
City of Mercer Island
City of Newcastle
City of Seattle
Town of Beaux Arts Village
Town of Hunts Point
Town of Yarrow Point

Schools and Libraries

King County Library System
 -Bellevue Regional Library
 -Mercer Island Library
Seattle Central Community College
Seattle Public Libraries – Downtown Branch, Columbia Branch
Shoreline Community College
South Seattle Community College
University of Washington Libraries
 -UW Architecture & Urban Planning Library
 -UW Government Publications
Washington State Department of Transportation Library

Organizations

1000 Friends of Washington
Bellevue Downtown Association
Bicycle Alliance of Washington
Bike Works
Cascade Bicycle Club
DHHS I-90 Advisory Committee
Eastlake Community Council
Eastside Transportation Partnership
League of Women Voters
Mountain to Sound Greenway Trust
People for Modern Transit
Seattle Bicycle Advisory Board
Seattle Bike Club
Seattle Community Council Federation
Seattle Pedestrian Advisory Board
Sierra Club
The I-90 Safety Coalition
Transportation Choices Coalition
Washington Trucking Association

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Katie Meyer
Cathy Miller
Bridgett Miller
Bob Miller
Lynn Milloy
Ed Mills
Dayna & Gregory Mills
Greg Moen
Matt Monahan
Maria Moreina
Angela Morgenstern
Ruth Mortimer
Jessica Mosher
Erna Naert
D. Najera
Andy Neff
Bailey Nieder
J. Nishimori
Patricia Noritake Matsuda
Rosemary O'Brien
Sharon O'Grady
Helen Olson
Kathryn Osborne
Teresa Oswald
William Ovens
Daniel Owen
T. A. Parkinson
Robert Paterson
Joseph Pentheroudakis
Liborio Penulozu Cruz
Samuel Perry
Claire Petersky
Marion Peterson
Mark Phelps
Heather Phillips
Lorna Phipps
Robert Polasek
Nancy Pollock
Mark Proa
Robert Puett
Alan Quigley
Angela Quinton
Adrian Ramirez
Helen Read
Scott Reagan

Laurel Rech
Teresa Reeves
Cheryl Reigle
Terrence Reilly
Sheila Reynolds
Barbara Rhoads-Weaver
Kipper Richards
W. Michael Richardson
Clark Rider
Christine Robinson
Lawrence Robinson
Kathleen Rogers
David Rogers
Patrica Rolern
Vicki Ronillard
Leslie Rubenstein
Adrienne Rubenstein
Jeremy Rudo
JoAnne Rudo
James Ruppel
Dave Russell
Kelly Ryan
Richard Samuel
Eric Sassaman
Michael Schaffer
David Schaub
Fred Schilling
Marvin Schmidt
S. Schneider
Kristiann Schoening
Herbert Schuck
Sharon & Michael Schuffler
Robert Scroggs
Paul Senio
Joyce Shaffer
Jonathan Shakes
Anu Shanbhag
Sunitha Shankar
Audrey Sheffield
Barbara Shephard
Brenda & Phil Sheridan
Eri Shimasaki
Earl Shimogawa
Daniel Shoe
Howard Shulman
Joy Shultz

Sarajane Siegfriedt
Christine Silves
Justin Simmons
Robert & Patricia Simpson
William Smith
Saraliene Smith
Susan Smith
Stephanie Sohl
Lucinda Sohl
Michelle Soliel
Regina Sparks
Nicholas Stackelberg
Sue Stewart
Roberta Strasser
Dorothy Garrison Swarts
Richard Swezey
DJ Talarico
Eugene Taylor
Tammi Terzopoulos
Grant Thacker
John Thelan
Nancy Thomas
Paul Thompson
Paul Tisell
Janette Todd
Duke Trevino
Herman Uscateoui
Dean Uttech
W Vaughn
Pat Vevnie
Jeffrey Vickers
Patrick Von Behren
Tuyen & King Vu
Hla Yin Yin Waing
John Ward
Daniel Warren
Susan Warwick
Eric Waterman
Ronald Webb
Kristina & Thomas Weir
Selma Weisman
Joseph Weisnewski
Tom Whalen
Tom Wilcox
Casey Wilkes
Jean Williams

Henry Williams
Cara Wilson
Glynis Wilson
Richard Wilson
Betty Wolfe
Winnie Wong
Lyle Wood
Emily Woodson
Sheila Wyckoff-Dickey
Corrie Yackulic
Rachael Zorn
Bruce Zornow