

Chapter 3 Developing the Alternatives

Chapter 3 explains the development and screening of project alternatives, how the Preferred Alternative was chosen, and the public and agency involvement that was conducted.



Evergreen Point Bridge—Existing Structure

What factors affected the development of alternatives?

The range of alternatives that we considered was greatly narrowed by the need to satisfy the UPA requirements and the short timeframe of the project.

WSDOT plans to replace the existing Evergreen Point Bridge in 2016. This project is an interim project that will be built and operated only until the new bridge opens. Alternatives that take several years to plan, design, and construct would not operate long enough to justify implementing. Therefore, we did not consider any alternative that expanded or changed the configuration of SR 520 between I-5 and I-405.

The SR 520 Bridge Replacement and HOV Project, which will replace the existing bridge, and the SR 520 Eastside

Open vs. Closed Tolling Systems

Two common tolling methods are used, open and closed systems.

Open System

In the open system, there are toll facilities (such as a toll booth or electronic toll point) along the main-line toll road. Drivers pay a toll at each facility they encounter.

Closed System

In a closed system, typically used with ticketed toll facilities, the driver stops and receives a ticket stamped with the location of the entrance to the toll facility. The driver stops again upon exiting the facility and pays the toll, which is based on the point of entry and point of exit along the facility route.

Transit and HOV Project, are considering alternatives that will expand or change the configuration of SR 520 in this area. Environmental review for these projects is taking place concurrently with the SR 520 Variable Tolling Project.

What alternatives were considered for the EA?

All of the alternatives we considered involved different ways to implement tolling in the SR 520 corridor. Details describing the various tolling alternatives considered can be found in the *Identification of Toll Configuration Alternatives* memo located in Appendix F.

In summary, we initially considered 10 tolling configuration alternatives for the SR 520 Variable Tolling Project. Variations among the alternatives included different locations for tolling, including various numbers of tolling points, and whether tolling collection equipment should be on the mainline or on off- and on-ramps. We also considered various toll pricing alternatives and discount options.

We used a screening process to identify one toll configuration and one pricing alternative to evaluate in this EA as the Preferred Alternative. In addition, we also evaluate a No Build Alternative in this EA.

What is the No Build Alternative?

The No Build Alternative establishes a baseline for comparing the effects associated with the proposed project. The No Build Alternative maintains the status quo meaning only routine activities, such as road maintenance, repair, and safety improvements, or other projects that are already planned and permitted, would take place. SR 520 across Lake Washington will remain as it is today, which consists of a four-lane highway (two lanes in each direction of travel) with no shoulders on the floating part of the bridge. The only difference between

What is Photo Tolling?

Photo tolling is a cutting-edge system of toll collection that uses high-definition cameras to record the license plates of vehicles that pass through a tolling point. The plate is then traced to the owner, who is billed.

Toll Collection Method

Three types of toll collection are used at modern toll facilities:

Manual, or staffed, toll facilities
Drivers pay the toll to an attendant who then raises a gate to permit the vehicle to pass.

Coin-basket facility
The coin-basket facility uses an unstaffed booth where drivers stop at the tollbooth and toss the exact change in coins into a basket. The machine determines whether the correct amount of toll has been paid and, if so, raises a gate to permit the vehicle to pass.

Electronic Toll Collection (ETC) systems
In the ETC system, drivers subscribe to a service and are given a transponder. Toll facilities are outfitted to detect the transponder and subtract the toll money from the driver's account when the vehicle passes the booth.

the No Build Alternative and the proposed project is the toll and the tolling equipment.

What screening criteria were used to evaluate the alternatives?

The screening criteria we used to evaluate each preliminary alternative were primarily based on the purpose and need of the project, which is described in Chapter 2 of this EA. The following screening criteria for evaluating various toll configurations and pricing alternatives related to the purpose and need were used:

- ▶ Will the alternative reduce congestion along SR 520?
- ▶ Will the alternative meet the implementation schedule?
- ▶ How will the alternative affect the complexity of processing transactions?
- ▶ How easily can the tolling and pricing be explained to the public?
- ▶ Will the alternative be accepted by the traveling public?
- ▶ What is the likely effect of the alternative on congestion in the I-90 corridor?
- ▶ What effect will the alternative have on improving safety in the corridor?
- ▶ What effect will the alternative have on improving roadway operations in the corridor?
- ▶ What is the effect of the alternative on generating potential toll revenue?

In addition to the specific criteria related to the purpose and need, the following additional screening criteria were also used:

- ▶ Will the alternative cause local diversion of traffic from the corridor?



Aerial view of the existing Evergreen Point Bridge looking west

- ▶ What is the relative ease of enforcing an HOV 3+ discount requirement for the alternative?
- ▶ Does the alternative facilitate a phased approach to implementing a new toll system?
- ▶ How easy would it be to enforce toll payment under the alternative?
- ▶ How much would the alternative cost to implement?
- ▶ What is the effect of the alternative on the environment?

Details about how each of these criteria was applied and the result of the screening can be found in the *Screening Criteria for Toll Configuration and Pricing Alternatives* memo located in Appendix F.

How was the Preferred Alternative chosen?

Toll configuration alternative

The screening criteria listed above were used to identify the Preferred Alternative that is now the proposed project. This process is described in detail in the *Qualitative Evaluation of Toll Configuration Alternatives* memo found in Appendix F.

Based on the results of the alternative screening, the alternative known as Alternative 1 was chosen as the Preferred Alternative for the SR 520 Variable Tolling Project. Alternative 1 will consist of a single, two-way tolling location with variable pricing. It will be a multi-lane, open system. Tolls will be collected by a method known as all electronic toll collection (ETC). This equipment will be mounted on the existing truss structure on the east side of the bridge, or on a separate gantry structures near the eastside of Lake Washington.

This alternative will:

- ▶ Reduce peak period congestion on SR 520 by implementing a tolling system.
- ▶ Meet the schedule of opening in mid-2010.
- ▶ Simplify the tolling operations by using only one tolling location.
- ▶ Be more readily accepted by the public since it will be simple and easy to use.
- ▶ Increase transit use by encouraging travelers to use transit instead of paying the toll.

We decided to place the tolling location on the eastern end of the bridge over Lake Washington so only people crossing the bridge pay the toll, which minimizes diversion to local streets.

We also considered other locations on land at either end of the bridge. Having the detection equipment and cameras on the bridge structure is preferable to a site located east or west of the bridge. There is little room on the land on the west side of the bridge to build the structures required to hold the equipment, and the area is more environmentally sensitive than the east side. The land on the east side of the bridge would not be preferable either because of the potential for conflicts with two other SR 520 projects (the Eastside Transit and HOV Project and the SR 520 Bridge Replacement and HOV Project). Both projects will include construction just east of the bridge that will likely include lane shifts and require the relocation of any tolling equipment placed over those lanes. If most of the equipment is on the existing bridge structure itself, it will not have to be disturbed until it is moved to its final location upon completion of the new bridge.

Variable pricing alternative

There are two types of variable pricing – static and dynamic. The main difference between the two is that static pricing has a set schedule of toll prices in advance of the trip, where dynamic pricing can change at any given time in response to changes in the amount of traffic.

Dynamic pricing works best when the decision to use the toll facility can be made close to where the toll will be applied. For SR 520, this decision would need to occur very far away from the corridor, such as south of I-90, or north of SR 522. Because of the distance required for notification, by the time a driver reaches SR 520, the toll could change dramatically. Also, static pricing does a better job of congestion reduction because a commuter will be able to make more informed decisions on their route. For example, commuters would know (while planning their trip from home or work) what tolls to expect at certain times of day. Static pricing should result in a more stable and reliable trip pattern for the corridor. Based on these reasons, we chose variable static pricing as the preferred pricing alternative.

One element of pricing that is still being studied on how to implement as part of the SR 520 Variable Tolling Project is discounted access for vehicles with 3+ occupants. We also considered other discount programs, such as resident discounts and low-emission vehicles discounts. We concluded that only the HOV discount program would help reduce traffic congestion by encouraging carpooling. However, since there is not a dedicated HOV lane at the tolling location, identifying HOV users is difficult. WSDOT has not yet found an effective method for identifying them and is working to resolve this issue. This issue does not substantially affect the traffic analysis or any other effects analysis completed for this EA.

For a detailed description of the screening of the pricing alternatives and the discount programs considered, see the *Identification and Evaluation of Pricing Alternatives* memo located in Appendix F.

How have the public, tribes, and agencies been involved?

Scoping Process

The SR 520 Variable Tolling Project team conducted two public scoping meetings. The first was held on June 24, 2008, from 4:00 p.m. to 7:00 p.m. at the Naval Reserve Building, Lake Union Park, 860 Terry Ave. N in Seattle. The second meeting was held on June 25, 2008 from, 4:00 p.m. to 7:00 p.m. at Bellevue City Hall, 450 110th Avenue NE in Bellevue.

Most of the comments generally supported the project. Some of the more common specific comments submitted at these meetings included:

- ▶ Would like to see the project implemented as soon as possible.
- ▶ Concerned about privacy and electronic toll collection.
- ▶ Would like to see what effect this will have on air quality.
- ▶ Concerned about how tolling impacts low-income families.
- ▶ Encouraged by the potential reduction in congestion.
- ▶ Increase the number of buses and bus routes.
- ▶ Like the plans for the electronic signage.

We held a separate scoping meeting for federal, state and local agencies, as well as Native American tribes on August 6, 2008, at the WSDOT Urban Corridors Office in downtown Seattle. We mailed letters on July 24, 2008, to

Scoping

NEPA regulations use the term "scoping" to refer to the process of defining the content (scope) of environmental documents and the range of alternatives that will be analyzed in the document. The scoping process is used to explain the project to agencies and the public and identify the major issues of concern to both regulatory agencies and local citizens.

all the agencies and tribes that have jurisdiction or possible interest in the project inviting them to this meeting. The letter also stated that if interested parties could not attend the meeting, written comments were welcome. Several municipalities attended the meetings. No Native American tribes attended the scoping meeting. We did receive feedback from a Muckleshoot Indian Tribe staff person over the phone. Her primary concern was the potential effect of additional lighting on fish in Lake Washington.

Details about the public and agency scoping meetings, including all comments received and responses to those comments, can be found in the *SR 520 Urban Partnership Variable Tolling Project Scoping Report* located in Appendix G.

Other Outreach

The 520 Tolling Implementation Committee conducted additional public outreach between June and December 2008. The Committee solicited feedback from the public on several SR 520 tolling concepts, including tolling SR 520 in 2010 as proposed by this project. Rather than conduct an extensive parallel public outreach program to ask similar questions, we instead relied on the outreach efforts of the Committee.

The Committee conducted 9 open houses, 10 public meetings, and numerous presentations to over 20 local jurisdictions. More than 16,000 people visited the Committee's website, over 700 attended an open house, and 13,000 submitted comments or took an on-line survey to share their opinions on tolling options for the SR 520 corridor. In addition, the Committee conducted a statistically valid, random-sample telephone survey with results very similar to those received from the 8,000 people who took the on-line survey. Their surveys found:

What is the 520 Tolling Implementation Committee?

The 520 Tolling Implementation Committee was created by the state legislature in 2008 and comprised of the Executive Director of the Puget Sound Regional Council, the Washington State Transportation Secretary, and a Washington State Transportation Commissioner.

The Committee was responsible for gathering input from the public, evaluating diversion of traffic from SR 520 to other transportation corridors, evaluating different tolling technology, exploring opportunities to partner with businesses to reduce congestion and contribute to funding the project, and reporting to the governor and legislature by January 2009. Detailed information can be found on the Web at www.build520.org.

- ▶ Three-fifths of the respondents supported tolling the Evergreen Point Bridge as a means of paying for a portion of future corridor improvements.
- ▶ When respondents learned that electronic tolling means vehicles travel at normal speeds through the toll area, a third or more were much more likely to support tolling the Evergreen Point Bridge.
- ▶ More than half supported beginning tolling of the existing Evergreen Point Bridge in 2010 when they knew that such early tolling will result in lower tolls and financing costs.
- ▶ About half supported beginning tolling of the existing Evergreen Point Bridge in 2010 when they knew that such early tolling will result in faster travel speeds on the Evergreen Point Bridge.
- ▶ Most supported variable rate tolling, and it was even more appealing when respondents knew that the toll rates during off-peak times will be about half of peak toll rates.

Outreach to Low-Income and Minority Populations

As mentioned above, the 520 Tolling Implementation Committee hosted a number of open houses. The Committee ran advertisements in the following newspapers to engage low-income and minority people:

- ▶ *Northwest Asian Weekly* (English language publication that serves an Asian-American audience)
- ▶ *Siete Dias* (Spanish language publication, translated advertisement)
- ▶ *The Seattle Medium* (targeting African-American audiences)
- ▶ *Northwest Observer* (targeting African-American audiences)

Placards advertising the open houses were placed on 1,300 King County Metro and Sound Transit buses.

In November and December of 2008, the Committee public involvement team held interviews with agencies that serve low-income and minority people. They initially sought to interview 10 to 12 agencies that serve low- and moderate-income people, but many of the agencies contacted declined the opportunity. The Committee public involvement team was successful in interviewing these agencies:

- ▶ Catholic Community Services
- ▶ King County Housing Authority
- ▶ YWCA of East King County

We also considered feedback documented in summaries of meetings that the SR 520 Bridge Replacement and HOV Project outreach team conducted with social service agencies in 2004 and 2006. These organizations included:

- ▶ Circle of Friends
- ▶ Foundation for International Understanding through Students
- ▶ Fremont Public Association
- ▶ University of Washington Ethnic Cultural Center and Theater Complex

In addition, we reviewed comments submitted by Hopelink in 2006 for the SR 520 Bridge Replacement and HOV Project Draft EIS.

The *Environmental Justice Discipline Report*, Appendix D of this document, includes summaries from the meetings with social service agencies and the public comments from Hopelink.

In general, the outreach to low-income and minority populations indicated varied support for tolling SR 520 among these groups. Of the comments received that did

not support tolling, most concerned not being able to afford the tolls. Also, most thought that transit was not a good alternative to paying the toll, but that un-tolled routes were viable. Comments were also received indicating that discounts for low-income users would make tolling more fair.

