CHAPTER 3 DEVELOPING THE ALTERNATIVES

What actions did WSDOT take prior to proposing the Tukwila to Renton Project?

WSDOT analyzed several alternatives for improving the movement of people and freight along I-405. These alternatives are presented in the I-405 Corridor Program EIS along with mitigation measures proposed for the corridor.

In the EIS, decision-makers considered various travel modes for making potential improvements. The modes evaluated included single-occupant vehicles, carpools, transit, and rail alternatives. The EIS also considered general locations for improvements and how combinations of improvements could work together as a comprehensive system. The I-405 Corridor Program Environmental Process, shown at the right, outlines the overall process.

Once WSDOT completed the Draft EIS, a Preferred Alternative was recommended and analyzed in the Final EIS. The Preferred Alternative combined highway, transit, local arterial, and other improvements within the 30-mile stretch of the I-405 corridor and immediate vicinity.

The Preferred Alternative was modified somewhat to become the Selected Alternative stated in the Record of Decision (ROD). The ROD identifies the basis for advancing the Selected Alternative, and it explains the adopted means to avoid, minimize, and compensate for environmental effects.

In both the EIS and the ROD, WSDOT specified that the improvements cited in the Selected Alternative would be examined further prior to implementation to determine the best combinations for phased construction. WSDOT continues to examine these recommendations within the constraints of the available budget while maintaining good engineering design.

It is expected to take 20 or more years to implement the Selected Alternative for the entire I-405 Corridor Program. Projects have been prioritized to address the most congested areas first.

THE I-405 CORRIDOR PROGRAM ENVIRONMENTAL PROCESS

Discipline Reports
A set of technical reports are written that document the potential effects of a project on an area's natural and built environments, such as air quality.

⇩

NEPA/SEPA Environmental Impact Statement (EIS)
The EIS summarizes the environmental effects of the alternatives proposed for the I-405 Corridor Program.

⇩

Preferred Alternative
A preferred alternative is selected from among the alternatives analyzed in the EIS.

⇩

Selected Alternative
The preferred alternative selected is approved by FHWA and FTA and documented in the Record of Decision.

⇩

Record of Decision (ROD)
A concise document that identifies the decision (selected alternative) and mitigation measures adopted for the Selected Alternative.

⇩

Project
The Selected Alternative is implemented through a series of projects that focus on concise sections of the I-405 corridor.

How did WSDOT identify the improvements included in the Tukwila to Renton Project?

Using the Selected Alternative as the master plan, WSDOT developed plans for congestion relief roadway improvements. WSDOT determined that these improvements needed to be phased to address the highest priority trouble spots and to take advantage of available funding. The first phase was initially funded by the "Nickel" transportation tax passed in 2003 and the Transportation Partnership Account tax passed in 2005. The Phase 1 project for I-405 between I-5 and SR 169 was the Renton Nickel Improvement Project.

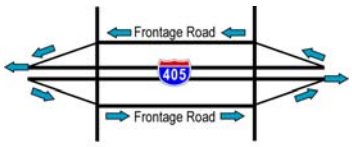
With the Phase 1 determined, WSDOT began to define Phase 2, the Tukwila to Renton Project. The project has been designed with these priorities in mind:

- Improve the worst congestion choke points along I-405.
- Improve safety.
- Increase travel speeds in Tukwila and Renton during peak commuter hours.
- Facilitate freight movement.
- Implement meaningful environmental improvements.

To accomplish these priorities, the Tukwila to Renton Project will reconstruct bridges within this section; improve the SR 181 and SR 169 interchanges; add freeway capacity; redirect traffic in the SR 167 interchange by constructing a split-diamond interchange at Lind Avenue and Talbot Road and adding direct-connector ramps between I-405 and SR 167.

What is a split-diamond interchange?

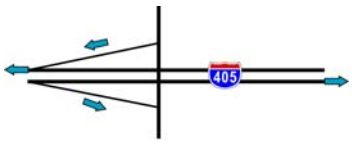
This interchange type consists of two half-diamond interchanges at arterials. These are connected by two, one-way frontage roads. Traffic enters and exits the freeway at the two arterials, creating an elongated diamond configuration as shown.



Split Diamond

What is a half-diamond interchange?

It is an interchange where traffic exits or enters the freeway in one direction. This creates a triangular or half-diamond configuration as shown.



Half Diamond

What alternatives are studied in this Environmental Assessment?

This EA evaluates a Build Alternative and a No Build Alternative:

- **A Build Alternative**, which will:
  - Reconstruct the SR 181 interchange by constructing a new on-ramp and a new off-ramp to SR 181 and extending Tukwila Parkway as a new bridge across the Green River to connect with SR 181.
  - Remove the Tukwila Parkway to northbound I-405 on-ramp.

- Construct one additional lane in both directions on I-405 from SR 181 through SR 167.
- Reconstruct five bridges over the Green River.
- Construct an auxiliary lane on northbound SR 167 from S 43rd Street to I-405.
- Construct general-purpose direct-connector ramps from I-405 to southbound SR 167.
- Construct HOV direct-connector ramps from southbound I-405 to southbound SR 167 and from northbound SR 167 to northbound I-405.
- Construct a new split-diamond interchange at Lind Avenue and Talbot Road, and build a southbound and a northbound frontage road connecting Lind Avenue and Talbot Road.
- Construct two additional general-purpose lanes in both directions on I-405 from SR 167 through SR 169.
- Reconstruct the two local street accesses to Renton Hill.
- Relocate the Burlington Northern Santa Fe (BNSF) Railroad Bridge over the Cedar River north of its current alignment and reconstruct three bridges over the Cedar River.
- Close Houser Way where it crosses the Cedar River and remove this bridge. Traffic will be rerouted from the north via Bronson Way, which will be striped to accommodate the new traffic pattern.

Chapter 4 describes the Build Alternative in detail.

- **A No Build Alternative**, which will not make the transportation improvements listed above.

  The No Build Alternative assumes that only the improvements associated with the Renton Nickel Improvement Project are constructed. Only routine activities such as road maintenance, repair, and safety improvements would be expected to take place between 2014 and 2030. This alternative does not include improvements that would increase roadway capacity or reduce congestion beyond baseline conditions. For these reasons, it does not satisfy the project's purpose to reduce

What are baseline conditions for this project?

Baseline conditions describe the site conditions just before construction of the project begins. This can include the build condition of earlier phased projects that are already approved and funded and expected to be complete before the next project begins. Baseline provides an important point of comparison for understanding the effects of the proposed Build Alternative.

For the Tukwila to Renton Project, the baseline condition assumes that the Renton Nickel Improvement Project has been completed.

congestion on I-405 between I-5 in Tukwila and SR 169 in Renton.

The No Build Alternative has been evaluated in this EA as a comparison for the effects associated with the Build Alternative.

What environmental issues influenced project design?

WSDOT has actively pursued ways to protect and preserve the important natural resources in this area and to preserve the integrity of the area's neighborhoods. This intent has influenced the project design in several ways:

What is liquefaction?

Liquefaction usually occurs in saturated, loose, granular soil such as sand, silty sand, and sandy silt. During a strong earthquake, these soils lose their grain-to-grain contact and essentially become a slurry with characteristics like quicksand.

- Soil conditions: Some soils in the study area are more susceptible to liquefaction during an earthquake, which influences how bridges are designed.
- Streams: I-405 and SR 167 cross several streams and rivers or are adjacent to them. To protect these resources, design solutions such as retaining walls were considered and bridges were designed to span streams and rivers where possible.
- Wetlands: This resource occurs adjacent to I-405 and SR 167 in several areas. To avoid or minimize effects as much as possible, design solutions such as ramps built as bridges and retaining walls were incorporated where feasible. WSDOT also used an innovative design for the SR 167 interchange with stacked ramps to reduce the roadway footprint and its effect on wetlands.
- Cedar Valley Aquifer and public water wells: This is a sole-source aquifer and the City of Renton's wells in this area provide most of the City's drinking water. Design solutions were evaluated that would allow the wells to remain in place and would not disturb the aquifer. These solutions include using spread-footing foundations, where feasible, that do not penetrate the aquifer on all bridge modifications over the Cedar River and maintaining spill containment ponds to capture accidental chemical spills from the highway.
- Historic sites: Several historic sites are in the area. Some of the sites are listed as Washington State Historic Properties and two, the James Nelsen House and the

Renton History Museum, are also eligible for listing in the NRHP. The design considered alignment adjustments and the use of retaining walls to minimize effects to protected properties.

- Neighborhoods and businesses: Several neighborhoods and businesses border the freeway. The design considered how to shift the roadway alignment and use retaining walls to have the least effect possible on neighborhoods and businesses.
- Water wells and parks: WSDOT and the City of Renton formed the Wells & Parks Task Force in an effort to address the freeway design constraints within the area of the Cedar River Park, Liberty Park, and the City's Narco property and the City's drinking water supply system. This task force met and developed design solutions for the off-ramp from northbound I-405 to SR 169 that minimized the effects on Cedar River Park and also avoided effects to the City's wells that are adjacent to I-405.

Because the I-405 Team planned for these issues, WSDOT has avoided or minimized potential negative project effects by incorporating specific design features. These features are described below from west to east (northbound) along the study area.

I-405, I-5 to SR 167

To minimize effects to Gilliam Creek between I-405 and Tukwila Parkway southwest of 66th Avenue S, the project incorporated retaining walls. These walls will be along I-405, 66th Avenue S, and Tukwila Parkway.

To extend Tukwila Parkway to SR 181, a new bridge will be built over the Green River. To minimize effects to the Green River and its floodplain, WSDOT selected a bridge structure that will span the river and will have its abutments outside the 100-year floodplain.

To minimize and avoid effects to the environmental resources east of the Green River resulting from extending Tukwila Parkway and constructing the new on-ramp to northbound I-405, other features have been incorporated into the project design. Portions of the new on-ramp for Tukwila Parkway will be built as a bridge structure rather than on fill. This will occur where the new roadway crosses over the Nelson Side

Channel and over the northbound I-405 off-ramp to SR 181. This design minimizes the project's effects on the Nelson Side Channel, which is considered a high quality wetland. Additional design features that minimize encroachment on this wetland are retaining walls that will be used along the extension of Tukwila Parkway east of the Green River to SR 181 and along the northbound I-405 to SR 181 off-ramp. Another benefit of using retaining walls for Tukwila Parkway east of the river is that the project will avoid the need to move or demolish the barn on the James Nelsen House property; the house is eligible for the NRHP.

To minimize effects on SW Grady Way and the businesses north of I-405, the majority of the widening was done to the south. This avoided having to move Grady Way and has the least effect on the businesses in that area.

SR 167, I-405 to SW 43rd Street

WSDOT incorporated several design features to widen SR 167 and add direct-connector ramps between I-405 and SR 167 that minimized effects on the wetlands and businesses along SR 167. First, the team designed "stacked" freeway ramps to minimize the width required for the interchange. Second, widening at the interchange and south to SW 27th Street occurs as far west as possible to minimize effects to the Panther Creek wetlands while limiting how much area would need to be acquired from businesses to the west of SR 167. Third, retaining walls will be used along SR 167 and East Valley Road to minimize wetland and stream effects.

I-405, SR 167 to SR 169

WSDOT plans to use retaining walls in areas adjacent to both Thunder Hills Creek and Rolling Hills Creek to minimize effects to both streams.

Design in this area also accommodated the needs of businesses, the City of Renton, and residents. To minimize effects to Renton Village, I-405 will be widened to the south. WSDOT also avoided effects to City Hall by moving the widening to the east. Within the area of the Renton Hill Neighborhood, widening will occur to the north and west to minimize effects to this area, which is already restricted by the "S" curves. Also, in this area, WSDOT has designed the widening of the southbound I-405 mainline to be cantilevered

over Main Avenue and to be built above a section of Renton Avenue to avoid the need to encroach on the neighborhood. Local road improvements for access to Renton Hill will include a "stacked design" to minimize effects and to maintain two local accesses to the Renton Hill Neighborhood.

To protect the City of Renton's public water well system on the east side of I-405 near SR 169, WSDOT's design shifts the widened freeway to the west. WSDOT also designed the northbound I-405 off-ramp to SR 169 as a bridge structure to maintain access between the Cedar River Park and the well buildings located east of I-405. The City of Renton's Tri-Park Master Plan developed for this area accommodates this design.

WSDOT incorporated measures to minimize effects to the Cedar River due to reconstructing three bridges and relocating the BNSF Bridge. Piers will be placed outside of the ordinary high water mark (OHWM) to avoid effects to fish habitat and spread-footing foundations are intended to be used to avoid penetrating the Cedar Valley Aquifer. The existing Houser Way bridge will be permanently removed.

How has the public been involved?

In accordance with the I-405 Public Involvement Plan, WSDOT has involved the public in the I-405 Corridor Program that led up to the Tukwila to Renton Project through a wide range of activities such as:

- Inviting citizens to participate in the project scoping and development process.
- Conducting public open houses, producing newsletters, and giving presentations at neighborhood meetings.
- Providing other outreach efforts such as establishing Executive, Steering, and Advisory committees and holding meetings.
- Providing project information in multiple languages and in easily accessible locations such as public libraries.

Several committees have also provided dialogue and coordination for the project as part of the I-405 Corridor Program agency and public involvement process. These groups include:

How have we communicated with the public?

Speaker's Bureau – I-405 Team personnel made formal presentations to community organizations.

Environmental Outreach – Field studies put WSDOT in touch with residents living in the area. For example, WSDOT contacted agencies who provide services to low-income and minority populations to discuss the project and how it could affect their services.

Public Events – WSDOT has provided booths at community events and held open houses to have direct dialog with citizens.

Project Website – WSDOT provided the I-405 Project Website at www.wsdot.wa.gov/projects/I-405, as a resource for the public. WSDOT updates the site regularly.

Newsletters/Project Updates – Newsletter mailings and email updates offered an ideal opportunity to inform the public of project progress.

Postcard – Mailings offered an opportunity to comment on the project and to request WSDOT's participation at organization meetings. We distributed individual postcards to libraries, multifamily apartment/condominium associations, and special housing establishments.

- The I-405 Executive Committee was comprised of executives from FHWA, FTA, WSDOT, King County, and Sound Transit, as well as members from the Washington State Transportation Commission and elected officials from cities along the I-405 corridor.
- A Renton Advisory Committee and Tukwila Advisory Committee were effective in reaching area neighborhoods by engaging the community in the visual appearance of highway improvements. These committees were made up of citizens, business people, elected officials, partnering agencies, WSDOT, and city staff.
- The I-405 Steering Committee was responsible for providing technical and policy guidance. The committee consists of senior staff from the local, regional, state, and federal agencies having jurisdiction within the study area. The Steering Committee provides valuable feedback on technical feasibility, environmental acceptability, costs, and performance.

Viewing information at a public scoping meeting

What public outreach is planned for the Tukwila to Renton Project?

WSDOT held a public scoping meeting on May 23, 2006. Attendees were invited to submit written and/or verbal comments to WSDOT during a public comment period.

Following these meetings, WSDOT compiled the comments into the scoping report. The comments addressed topics such as noise, stormwater management, and effects on property. Many people asked about traffic and transportation as it related to the purpose and the need for this project.

On March 20, 2007, we held an access hearing relating to the proposed SR 515 half-diamond interchange. The hearing was for owners abutting SR 515 where the access rights are proposed to change. Notices went out to all property owners whose property will be affected by the funded SR 515 Interchange Project; notices were also published in the Seattle Times and Seattle Post-Intelligencer.

A Tukwila to Renton Project public open house

An open house on October 4, 2007 presented the discipline report analysis findings to the public and provided an opportunity for people to learn more about the project's potential effects. In winter 2008, a public hearing and meeting will be held to discuss this EA. This meeting will occur during

the comment period following the EA publication. During the comment period, the public is encouraged to submit formal comments on the project and its effects.

What special efforts did WSDOT make to reach minority, low-income, and non-English speaking individuals?

WSDOT has used the public outreach program to ensure that minority, low-income, and non-English speaking individuals have opportunities to stay informed about the project and provide their input. To achieve this, services that are used by these groups have been contacted at each stage and have been provided with information to hand out to their clients. Notices of meetings, documents available for review, and comment periods have all been published in a variety of local journals in various languages:

- *Russian World* (Russian)
- *El Mundo* (Spanish)
- *Chinese Post* (Chinese)
- *Phuong Dong Times* (Vietnamese)
- *The Skanner* (English)
- *Renton Reporter* (English)
- *King County Journal* (English)

The I-405 Corridor Program's public involvement process has been inclusive of all members of the public. All meetings for the project conformed to Americans with Disabilities Act requirements, and we provided materials in formats accessible by everyone. All public meetings and hearings were accessible by public transit and clear directions for how to access the appropriate bus lines were made available.

How has WSDOT involved government agencies?

Government agencies have played major roles in developing the Tukwila to Renton Project. WSDOT has involved these agencies through regular meetings and other means to address issues on an as-needed basis. Examples include:

- Congressional and legislative briefings in late June and early July 2004. These briefings were conducted to inform Washington State legislators within the I-405 corridor study area and U.S. Congress members from the Washington State delegation.
- Briefings and site visits with resource agencies to review existing sight conditions. An interdisciplinary team preformed several days of field observations as part of the environmental data collection for this and other projects.
- Sessions to review stormwater management strategies with the Federal Aviation Administration (FAA) and the City of Renton's airport manager to address wildlife hazards to air safety.
- Monthly coordination and strategy meetings with City of Tukwila staff. Project development was also presented to Tukwila City Council for concurrence on major project design decisions.
- Regular coordination meetings with City of Renton staff including monthly coordination and strategy meetings with department management leaders; task force meetings to address drinking water wells, parks, traffic, emergency response, utilities, business and residential issues; and executive level meetings with city administrators. Presentations on project development were also given to City Council for concurrence on major project design decisions.
- Scoping meetings with agencies to discuss traffic, air, noise, endangered species, water, wetlands, and mitigation strategies.
- Discussions with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service on issues related to the Endangered Species Act.
- Consultation with EPA regarding the sole source aquifer and discussion about potential effects and the mitigation that would be needed for any effects.
- Meetings and field visits with the Department of Archaeological and Historic Preservation to resolve questions and issues regarding cultural and historic resources.

What is project scoping?

A scoping meeting is designed to:

- Inform the public and agencies of proposed actions and alternatives.
- Serve as a forum to gather comments and help identify potential environmental impacts.
- Ensure that the environmental documents consider reasonable alternatives.
- Help identify issues or concerns to promote a focus on items important to the local community and to agencies.

- Discussions with the Washington State Recreation and Conservation Office for investigation and determination of Section 4(f) resources and similar discussions with the National Park Service to identify Section 6(f) resources.

How has WSDOT involved tribal governments?

Tribal governments help WSDOT to identify social, cultural, environmental, and other issues of concern to tribal members. WSDOT commits itself to respectful, effective consultation and communication with tribal governments in recognition that project activities may affect their rights and interests. WSDOT Executive Order E1025.00 on Tribal Consultation (February 19, 2003) established this commitment to an effective working relationship with tribal governments.

WSDOT initiated consultation with the Muckleshoot Tribe, the Snoqualmie Tribe, and the Confederated Tribes and Bands of the Yakama Nation on November 8, 2006 for the Tukwila to Renton Project. In addition, WSDOT has coordinated with the Duwamish Tribe.

In January 2007, WSDOT initiated consultation and coordination with the tribes for developing the I-405 Programmatic Agreement. This agreement is included in Appendix C.

To date, tribal representatives have participated by meeting with WSDOT to discuss issues of interest such as investigations of cultural resources and analyses of effects on fish and fish habitat. In particular, WSDOT met with the Muckleshoot Tribe on September 19, 2007 to review issues related to natural resources. This consultation and coordination helps to involve tribal governments in the environmental analysis. Appendix B contains letters relating to this coordination.

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