

This chapter describes the alternatives that have been evaluated since the publication of the FEIS, and explains the process which resulted in the selection of the Preferred Alternative.

### **Alternatives Considered**

#### **From the Spokane River to Francis Avenue:**

1. FEIS Market/Greene Alternative (see **Figure 2.1**)
2. Revised Market/Greene Alternative: generally the same location, at or below existing grade, with interchange redesigns (see **Figure 2.2**)

#### **From Francis Avenue to Gerlach Road:**

1. FEIS Market/Greene Alternative (see **Figure 2.1**)
2. Revised Market/Greene Alternative: shifted to the east (see **Figure 2.2**) Parksmith Drive Interchange added, Stoneman Road Interchange deleted

#### **From Hawthorne Rd to US 395 at Wandermere:**

1. FEIS North Option with interchange at Stoneman Road (see **Figure 2.3**).
2. FEIS Modified North Option with interchange at Parksmith Drive. Same alignment as FEIS North Option except US 2 interchange reconfigured from full cloverleaf to diamond with directional ramps (see **Figure 2.4**)
3. VE South with interchange at Parksmith Drive: This alignment generally follows the FEIS Preferred Alignment to just north of the Kaiser Mead Aluminum plant. At this point, the VE South option proceeds in a more northerly direction, then curves westerly in a depressed section, south of Farwell Road. Paralleling Farwell Road, the alignment continues under US 2 and Pittsburg, Farwell, and Perry Roads in a depressed section, connecting up with the existing US 395 in the vicinity of Wandermere. US 2 is elevated over the new facility and Farwell Road. The intersection of US 2 and Farwell Road is improved to accommodate a single point interchange with US 2 elevated over Farwell Road, eliminating the signal on US 2. Shady Slope Road is elevated over US 2 and connects to Farwell Road at a new signalized intersection. Free-flowing ramps provide for heaviest movements: NSC-north to US 2-north, and US 2-south to NSC-south (see **Figure 2.5**).
4. VE North with interchange at Parksmith Drive: This alignment also generally follows the FEIS Preferred Alignment to a point just north of the Kaiser Mead Aluminum plant. At this point, VE North option proceeds nearly due north along a Bonneville Power Administration transmission line right-of-way to the vicinity of Farwell Road. Just south of Farwell Road, the alignment curves to the west, passing under both Farwell Road and US 2 in a depressed section. The corridor then follows a northwesterly path to a point that brings it between Winger and Garden Roads. Continuing in a depressed section, the route proceeds westerly to the north of the Wandermere Mall development where it curves northerly, joining the existing US 395

route at the Wandermere bridge over the Little Spokane River. The intersection of US 2 and Farwell Road is improved to accommodate a single point interchange with US 2 elevated over Farwell Road, eliminating the existing signal on US 2. Shady Slope Road is elevated over US 2 and connects to Farwell Road at a new signalized intersection. Free flowing ramps provide for heaviest movements: NSC-north to US 2-north, and US 2-south to NSC-south (see **Figure 2.6**).

**[CLICK HERE TO DOWNLOAD FIGURE 2.1 \(837k\)](#)**

**FEIS Market/Greene Alignment  
Figure 2.1**

**[CLICK HERE TO DOWNLOAD FIGURE 2.2 \(732k\)](#)**

**Revised Market/Greene Alignment  
Figure 2.2**

**[CLICK HERE TO DOWNLOAD FIGURE 2.3 \(338k\)](#)**

**FEIS North Option  
Figure 2.3**

**[CLICK HERE TO DOWNLOAD FIGURE 2.4 \(781k\)](#)**

**FEIS Modified North Option  
Figure 2.4**

**[CLICK HERE TO DOWNLOAD FIGURE 2.5 \(336k\)](#)**

**VE South Alignment  
Figure 2.5**

**[CLICK HERE TO DOWNLOAD FIGURE 2.6 \(811k\)](#)**

**VE North Alignment  
Figure 2.6**

## Studies and Coordination

The VE Studies provided the process for consideration and comparison of alternatives, and the selection of the Revised Market/Greene and the VE North as the new Preferred Alignment.

### ***VE Study 1: Spokane River to Lincoln Road***

The first Value Engineering (VE) Study for the NSC convened in July 1998, to optimize Francis and Wellesley Avenues access points by developing recommendations for a roadway alignment from the Spokane River to the north that are compatible with the surrounding environment, land uses, and regional transportation plans.

The VE Team generated 65 options that included 22 alignment variations, 17 interchange variations, 10 access variations, and 16 overall project alternatives. The evaluation phase narrowed the list down, with input on hazardous waste, City road plans, BNSF constraints and neighborhood concerns.

The following accepted recommendations of this study formed the “Revised Alignment” between the Spokane River and Lincoln Road

1. East Alignment with Partial Cloverleaf Interchange at Francis Avenue and a three-quarter Diamond Interchange at Freya Street. (Since the time of accepting this recommendation, further traffic analysis due to new land use updates and traffic demand modeling has shown that the single-quadrant partial cloverleaf interchange at Francis will not function at appropriate standards. A two-lane northbound off-ramp was added to the interchange at Freya Street to replace the inadequate partial cloverleaf loop ramp. The two-lane northbound off-ramp functions at an appropriate level of service. See **Figure 2.2.**)
2. Redesign the Wellesley Avenue Interchange to be a half urban diamond with single quadrant partial clover configuration.
3. Inclusion of proposed Park & Ride Lot locations in coordination with Spokane Transit Authority

### ***VE Study 2: Lincoln Road to US 395 at Wandermere***

A second VE Study, in March 1999, focused on the proposed project between Lincoln Road and US 395 at Wandermere. The objectives were to optimize access points and maximize operational flexibility by developing recommendations compatible with the surrounding environment, land uses, and regional transportation plans. The study team included WSDOT staff along with representatives of Mead Schools, Spokane County, Federal Highway Administration, and local neighborhoods. Three residents from the Garden City Addition neighborhood and one from the southeast side of the proposed US 2 interchange participated in the study.

Numerous alignment and interchange configurations were considered in light of the known constraints in the vicinity. Constraints were identified by the team as neighborhoods, schools, environmental mitigation areas, businesses, and public utilities.

A preliminary Noise Impact Analysis, preliminary Biological Assessment, Visual Quality Impact Analysis, information on hazardous waste sites, right-of-way acreage and property values, and contacts with area businesses and utilities, were used to evaluate the proposals. The evaluation phase narrowed down the alternatives, resulting in two alignment options with the greatest potential; the VE South and VE North options. At the conclusion of the VE Study, the VE North option was recommended as the preferred alignment north of Hawthorne Road.

Prior to accepting the VE Study recommendations, WSDOT further developed and evaluated a third option, called the Modified FEIS North Option. The alignment of this alternative followed the FEIS North Option, but reconfigured the interchange with US 2. While the FEIS North Option included a full cloverleaf interchange, the FEIS Modified Alternative used a partial cloverleaf interchange which minimized the interchange footprint. The Modified FEIS North Option, VE South and VE North options were each designed, evaluated, and compared to find the optimum alternative to the FEIS North Option.

The following accepted recommendations from this study formed the Preferred Alternative between Hawthorne Road and US 395 at Wandermere.

1. Revise the FEIS proposed “future Stoneman Interchange” to a partial cloverleaf interchange in the vicinity of Parksmith Drive and Hawthorne Road.
2. Select the northern alignment as preferred alternative to the “FEIS North Option.”
3. Select a revised design for the US 395 at Wandermere Interchange.

## **Public Participation**

Preliminary comparisons of the impacts of the proposed alignment change were made and presented at the following open houses. Public input was received during the open houses and by telephone and mail.

1. February 18, 1999: focusing on the Hawthorne Road to US 395 at Wandermere segment, held at Northwood Middle School, 6-10 pm. with 525 people signing attendance sheets (estimated attendance: 700-1000).
2. February 25, 1999: focusing on the Spokane River to Hawthorne Road segment, held at the Northeast Community Center, 6-8 pm. with 337 people signing attendance sheets.
3. June 30, 1999: focusing on the Hawthorne Road to US 395 at Wandermere segment, held at Mead Middle School, 4-8 pm. with 506 people signing attendance sheets.

Further design and refinement of the alignment continued, including the input from the public. More accurate assessments of residential and business displacements and environmental impacts were developed, and these were presented in the following forums:

4. January 12, 2000: meeting with Hillyard/Bemiss area business owners and operators; held at the Northeast Community Center, 6:30-8:30 pm, with 33 people signing attendance sheet.

5. February 8, 2000: meeting with Garden City and Mead area residents to develop preferred alignment of the pedestrian/bicycle trail in that neighborhood; held at Northwood Middle School, 6:30-8:30 pm, with 32 people signing attendance sheet.
6. February 15, 2000: meeting with Hillyard/Bemiss area residential landowners and occupants; held at the Northeast Community Center, 6:30-8:30 pm, with 84 people signing attendance sheet.
7. February 22, 2000: open house presenting the latest information on alignment and impacts of the Preferred Alternative between the Spokane River and Gerlach Road; held at the Northeast Community Center, 5:00-8:00 pm, with 177 people signing attendance sheet.
8. March 22, 2000: meeting for business owners and operators between Gerlach Road and Wandermere; held at Northwood Middle School, 6:30-8:30 pm, with 16 people signing attendance sheet..
9. April 19, 2000: meeting for residential landowners and occupants between Gerlach Road and Wandermere; held at Northwood Middle School, 6:30-8:30 pm, with 66 people signing attendance sheet..
10. May 24, 2000: open house presenting the latest information on the alignment between the Spokane River and Wandermere; held at Rogers High School, 5:00-8:00 pm, with 127 people signing attendance sheet.

Other opportunities for the public to obtain information and give input on the project are available. Interested individuals may visit the project office, contact the office by letter, phone and e-mail, and access the updated information on the Eastern Region's web page on the Internet.

The VE Study on the portion of the project north of Lincoln Road included residents from certain neighborhoods in the area, which provided another opportunity for public participation. Three residents from the Garden City Addition neighborhood and one from the southeast side of the proposed US 2 interchange were on this VE Study Team.

WSDOT staff also met with neighborhood groups in order to provide more opportunity to focus on specific localized concerns. Specifics on community meetings and further information on public and agency coordination are found in Chapter 5 of this document.

**Table 2.1** presents information, available as of June 10, 1999, which was used to compare the various alternatives following the VE process. The data in this table may be different from the data in Tables S-2 and 4.16, which reflect the further studies and analyses which continued following the selection of the "VE North" alternative.

**Table 2.1 Lincoln Road to US 395 Evaluation Matrix,  
Alternatives to FEIS North Option**

Alternative Route Comparison, Lincoln Road to US 395 using information available as of June 10, 1999.

	Modified FEIS North Option	VE North	VE South
<b>ENVIRONMENTAL</b>			
Noise impacts (> 10 dBA increase after abatement)	8	2	8
Residential Displacements	43	18	16
Business Displacements	7	4	6
Employment (displaced jobs)	32-47 jobs displaced	22-30 jobs displaced	26-41 jobs displaced
Church Displacements	2	none	2
Air Quality	no exceedance of NAAQS projected	no exceedance of NAAQS projected	no exceedance of NAAQS projected
Visual, looking toward facility	6.3	6.7	6.0
Changes and Disruptions to Community	divides neighborhood south of Hastings/ Farwell Rd and schools	divides neighborhood east of NSC from schools	divides neighborhood south of Hastings/ Farwell Rd and schools
Schools: Farwell Elementary and Northwood Middle School	approx. 700' from outdoor recreation area; approx. 1300' from buildings	approx. 1400' from outdoor recreation area; approx. 900' from buildings	approx. 400' from outdoor recreation area; approx. 1100' from buildings
Cultural, Historic & Archaeological Resource	none identified	none identified	none identified
<b>GEOMETRICS</b>			
Driveability	interchanges spread out over approx. 5000'; potential for wrong-way entrance at ramp terminal	interchange located in one vicinity	interchanges spread out over approx. 4800'; potential for wrong-way entrance at ramp terminal
Local Access (County roads affected)	Pittsburg, Shady Slope, Center, Perry, Mead, Farwell	Pittsburg, Shady Slope, Center	Pittsburg, Shady Slope, Center
<b>LAND USE (acres in right-of-way, Francis to US 395)</b>			
Industrial	237	172	183
Agricultural	41	41	41
Residential	97	135	126
Total Acres	375	348	350
<b>ESTIMATED COSTS (in millions)</b>			
Right-of-Way	\$30.8	\$19.1	\$23.8
Preliminary Engineering	\$18.7	\$16.4	\$17.2
Construction	\$108.9	\$105.1	\$107.0

## Selection of Alignment

Upon completion of the preliminary environmental studies and engineering analysis associated with the North, South, and Modified Alternative routes, the VE North alternative was selected for the following primary reasons:

- Fewest overall adverse environmental impacts
- Best overall traffic operations
- Least expensive construction

This document supplements the FEIS by providing updated information on the affected environment within the study area, and compares the VE North and Revised Market/Greene Alignments to the FEIS Market/Greene and North Option alignments. The VE North and Revised Market/Greene are hereafter referred to as the Preferred Alternative. See Preferred Alternative map, Figure 2.7.

## Summary of Differences from FEIS

This Supplemental EIS documents the new or different impacts and mitigation associated with the following changes in the proposed alignment as compared to the FEIS Preferred Alternative.

1. Between the Spokane River and Fairview Avenue, changes are due to further refinements of the location of the BNSF Railway.
2. Between Fairview Avenue and Wellesley, railroad and NSC mainline locations switched. Wellesley Interchange is redesigned.
3. Between Wellesley Avenue and Francis Avenue, mainline shifted up to 152m (500 ft) to the west.
4. Between Francis Avenue and Parksmith Drive, mainline shifted up to 122m (400 ft) east.
5. Interchange at Parksmith Drive rather than Stoneman Road.
6. Between Parksmith Drive Interchange and US 395 at Wandermere, alignment in entirely new location, and mostly below existing grade, passing under rather than over US 2.
7. Pedestrian/Bicycle Trail within NSC right-of-way between Spokane River and US 395 at Wandermere

**[CLICK HERE TO DOWNLOAD FIGURE 2.7 \(290k\)](#)**

**Preferred Alternative  
Figure 2.7**

## Access To, From, and Across the NSC

**Table 2.2 Revised Market/Greene and VE North Alignment  
Access and/or Grade Separation Locations**

<b>Vehicle Access To, From, and Across NSC</b>	
Upriver Drive	crosses under NSC
Carlisle Street	crosses under NSC
Euclid Avenue	crosses over NSC
Wellesley Avenue	access to/from , and crosses over NSC
Francis Avenue Interchange	eastbound to southbound access to, and under NSC
Freya Street Interchange	access to/from, and under NSC
Lincoln Road	crosses under NSC
Gerlach Road	crosses under NSC
Market Street	crosses under NSC
Parksmith Dr. Interchange	access to/from, and under NSC
Farwell Road	access to/from, and over NSC
US 2 Interchange	southbound access to, and northbound access from and over NSC
Shady Slope Road	southbound access from, and over NSC
Perry Street	crosses over NSC
Wandermere Road	crosses under NSC
<b>Pedestrian/Bicycle Trail Access Across NSC</b>	
Garland Avenue	Pedestrian/Bicycle bridge over NSC
Lincoln Avenue	crosses under NSC
<b>US 2</b>	crosses over NSC
<b>Railroad Crossings</b>	
BNSF Mainline, vic. Market St.	crosses over NSC
BNSF Mainline, vic. Francis Ave.	crosses under NSC
BNSF Mainline, vic. Hawthorne Rd.	crosses under NSC
BNSF Kaiser Aluminum spur line	crosses under NSC

## Project Costs and Scheduling

### Proposed Construction Sequence

#### **Phase 1 - Four Lanes from Wandermere Vicinity to I-90**

Sections 1 through 6 establish a four lane limited access facility between I-90 and US 395 at Wandermere, which is access controlled from Wandermere Vicinity to 2<sup>nd</sup> Avenue. In this phase, the northbound alignment will initially carry four lanes of two-way traffic from I-90 to the vicinity of Garland Avenue on the northbound side of the NSC roadway. From the vicinity of Garland Avenue to the vicinity of US 395 at Wandermere, the alignment will carry two northbound and two southbound lanes of divided traffic. City streets will be improved, as well as realignment of the BNSF railroad. Interchanges will be constructed at Wellesley, Francis/Freya, Parksmith, US 2, and Wandermere. A

pedestrian/bicycle trail will be constructed from the Spokane River to the Wandermere vicinity. Park and Ride lots are proposed in the vicinity of Farwell Road/Cherry Street, Freya Street interchange, and Market Street/Haven Street.

**Phase 2 - Full Build Out from I 90 to Wandermere Vic.**

Sections 7 through 9 complete the fully access controlled facility between I-90 and US 395 at Wandermere by constructing the collector-distributor system between the Liberty Park and Sprague Ave. interchanges, the I-90 access connection including the directional ramps to and from I-90, the southbound lanes from Garland Ave. to I-90, and the remaining lanes from Garland Ave. to US 2.

**Background For Sequencing Changes From the FEIS**

As described above, the basic sequence for the NSC is to start by constructing a four lane roadway from I-90 to US 395 at Wandermere that utilizes a partial build of the ultimate roadway. This is a change from the sequence listed in the FEIS which proposes to build completed freeway sections. It was decided that the expense of building complete freeway sections would limit the length of individual sections of roadway and therefore diminish the immediate mobility benefits. Longer limited access sections of roadway will result in greater mobility by allowing motorists to travel further within a limited access corridor for relatively the same amount of funds.

**Cost Summary**

Although the only funding received to date have been state funds, the North Spokane Corridor is eligible for Federal Funding. **Tables 2.3 and 2.4** show costs broken down by phase and section.

**Table 2.3 Phase 1 - Four Lane I-90 to US 395 at Wandermere Vicinity**

*Costs are shown in Year 2000 Millions of Dollars*

	<b>Section Description</b>	<b>Construction Schedule</b>	<b>Prelim. Eng.<sup>1</sup> &amp; Right of Way</b>	<b>Construction<sup>2</sup></b>	<b>Total Section Cost</b>
1	Hawthorne Rd. to US 2	2003-05	22.9	75.3	98.2
2	US 2 to US 395 at Wandermere Vic.	2005-07	16.9	68.4	85.3
3	Spokane River to Francis Ave. - City Street Improvements and Railroad Realignment	2007-08	9.2	28.4	37.6
4	Francis Ave. to Hawthorne Rd.	2008-10	35.8	115.0	150.8
5	Trent Ave. to Francis Ave.	2010-13	33.1	136.3	169.4
6	I 90 to Trent Ave.	2013-15	40.0	63.5	103.5
<b>Subtotal - Phase 1</b>		<b>13</b>	<b>158.0</b>	<b>486.9</b>	<b>644.9</b>

**Table 2.4 Phase 2 - Full Build Out I-90 to US 395 at Wandermere Vicinity**

*Costs are shown in Year 2000 Millions of Dollars*

Section Description		Construction Schedule	Prelim. Eng. <sup>1</sup> & Right of Way	Construction <sup>2</sup>	Total Section Cost
7	Collector Distributor System	2015-17	67.5	77.3	144.8
8	I-90 to Spokane River Access Connection	2017-22	26.0	259.9	285.9
9	Spokane River to US 2	2023-24	1.4	14.0	15.4
<b>Subtotal - Phase 2</b>		<b>9</b>	<b>94.9</b>	<b>351.2</b>	<b>446.2</b>

<b>Total - I-90 to US 395 at Wandermere Vic.</b>		<b>21</b>	<b>252.9</b>	<b>838.1</b>	<b>1091.0</b>
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Notes:

1. Preliminary Engineering calculated at 10% of Construction cost. Right of way for sections 8 and 9 acquired under other sections, cost shown is Preliminary Engineering only.
2. Construction cost includes: 6% for Mobilization, 8.1% for Sales Tax, 10% for Construction Engineering, and 5% for Contingencies.