



# **Appendix M AWPOW Background, Supporting Environmental Analyses, and Alternatives Development**

**Draft Environmental  
Impact Statement**

**Alaskan Way, Promenade,  
and Overlook Walk**

**May 2015**





**Alaskan Way, Promenade, and Overlook Walk**  
Draft Environmental Impact Statement

**AWPOW Background, Supporting  
Environmental Analyses, and  
Alternatives Development**

Prepared for  
**Seattle Department of Transportation**  
**Seattle, Washington**

May 2015



# Introduction

The location and general design of the proposed Alaskan Way,<sup>1</sup> Promenade, and Overlook Walk projects, which are described in the Alaskan Way, Promenade, and Overlook Walk Draft Environmental Impact Statement (AWPOW Draft EIS), have evolved from a number of planning efforts and studies performed by the Federal Highway Administration (FHWA), the Washington State Department of Transportation (WSDOT), King County, and the City of Seattle. The results of these efforts and studies, taken together, restrict the existence of reasonable alternatives for these projects, which are three of the four projects evaluated as the Action Alternative in the AWPOW Draft EIS. This appendix summarizes the results of these state, county, and city planning efforts and studies, references published reports that document them, and demonstrates how the results led to the Action Alternative.

## Alaskan Way Viaduct Replacement Project Planning Efforts

Planning for the Alaskan Way, Promenade, and Overlook Walk projects began in 2001 after the Nisqually earthquake. This event damaged WSDOT's Alaskan Way Viaduct (AWV or viaduct, a portion of State Route [SR] 99), focused concern on the condition of the City's aging seawall, and was the impetus for WSDOT's initiation of the Alaskan Way Viaduct Replacement Project (AWVRP). The City was a co-lead for the AWVRP due to the critical link between the vulnerable condition of the seawall and the structural integrity of the AWV.

From 2001 to 2011, the AWVRP planning process investigated alternatives for replacing the viaduct and, initially, for replacing the seawall. Some of these alternatives included concepts for replacing the Alaskan Way surface street (also termed the Alaskan Way roadway). Details of the concepts considered for the new surface street are provided in a subsequent section below. The environmental review of the AWVRP was published in the following series of documents:

- **SR 99: Alaskan Way Viaduct & Seawall Replacement Project Draft Environmental Impact Statement** (March 2004). Seventy-six viaduct replacement concepts and seven seawall concepts were organized into six groups. The best ideas from the six groups were shaped into the following five build alternatives, which were evaluated in this 2004 Draft EIS: Rebuild, Aerial, Tunnel, Bypass Tunnel, and Surface.
- **SR 99: Alaskan Way Viaduct & Seawall Replacement Project Supplemental Draft Environmental Impact Statement and Section 4(f) Evaluation** (July 2006). After the public comment period for the 2004 Draft EIS and following further study and design, the five build alternatives were narrowed down to two build alternatives evaluated in this 2006 Supplemental Draft EIS: Tunnel (a cut-and-cover tunnel, a refinement to the original tunnel alternative) and Elevated Structure (a combination of elements of the original rebuild and aerial alternatives).
- **Alaskan Way Viaduct Replacement Project 2010 Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation** (October 2010). In 2007, two build alternatives were put before Seattle residents for an advisory vote: the Elevated Structure Alternative evaluated in the 2006 Supplemental Draft EIS, and a new Surface-Tunnel Hybrid Alternative developed by the Seattle City Council. Seattle voters rejected both alternatives.

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<sup>1</sup>The Alaskan Way project is referred to as the Main Corridor project, or the main corridor, in the AWPOW Draft EIS.

In response, former Governor Christine Gregoire, former King County Executive Ron Sims, and former Seattle Mayor Greg Nickels undertook a systems approach, expanding the study area beyond the SR 99 corridor to include multimodal solutions. The partnership team developed strategies in five different categories for keeping people and goods moving: surface streets, Interstate 5 (I-5), transit, transportation policies and management, and SR 99 replacements. Over 170 possible solution elements, eight complete scenarios, and finally three hybrid scenarios were identified. The three hybrid scenarios were based on the following SR 99 replacement components: a surface street consisting of a pair of one-way surface streets (known as a couplet); an elevated structure; and a twin bored tunnel. This scenario development process is set forth in the Alaskan Way Viaduct & Seawall Replacement Program Central Waterfront Tri-Agency Partnership Independent Project Manager's Final Report, published in August 2009 (IPM).

In January 2009, Governor Gregoire, King County Executive Sims, and Seattle Mayor Nickels recommended replacing the central waterfront portion of the AWV with a large-diameter, single-bore tunnel. After this tunnel was recommended, the seawall replacement was removed from the project purpose and ten design concepts for replacing the AWV were evaluated and screened. Three were advanced for evaluation as build alternatives in this 2010 Supplemental Draft EIS: the Cut-and-Cover Tunnel (from the 2006 Supplemental Draft EIS), the Elevated Structure (from the 2006 Supplemental Draft EIS), and the Partnership Process Bored Tunnel Hybrid (known as the Bored Tunnel). The options that were considered and the decisions that were made from 2001 onward that led to the evaluation of these alternatives are described in the Alaskan Way Viaduct Replacement Project History Report, published in September 2009.

- **Alaskan Way Viaduct Replacement Project Final Environmental Impact Statement and Section 4(f) Evaluation** (July 2011). This 2011 Final EIS (known as the 2011 AWVRP Final EIS) evaluated the three build alternatives identified in the 2010 Supplemental Draft EIS: Cut-and-Cover Tunnel, Elevated Structure, and Bored Tunnel. Each alternative was evaluated with and without tolls. The 2011 AWVRP Final EIS identified the Tolerated Bored Tunnel Alternative as the preferred alternative.
- **Alaskan Way Viaduct Replacement Project Record of Decision** (August 2011). FHWA approved the decision to construct and operate the Tolerated Bored Tunnel as the preferred alternative.

The Tolerated Bored Tunnel Alternative is currently (2015) under construction. The AWVRP will remove the viaduct when the Bored Tunnel is complete.

The 2011 AWVRP Final EIS identified six independent projects that complemented the Bored Tunnel Alternative. Five of these independent projects are related to the Alaskan Way, Promenade, and Overlook Walk projects: rebuilding and improving the Alaskan Way surface street, constructing a connector to Elliott and Western Avenues, providing transit enhancements, evaluating a First Avenue streetcar that would operate in lieu of a streetcar on the central waterfront, and providing public open space west of the new Alaskan Way surface street and potentially in other areas. The 2011 AWVRP Final EIS noted that the City of Seattle would lead all but the transit enhancements project and that WSDOT had committed to funding the replacement of the Alaskan Way surface street. The 2011 AWVRP Final EIS (pages 59 to 60) described these five projects as follows:

[The Alaskan Way surface street] project involves rebuilding and improving Alaskan Way between S. King Street and Pine Street. The new surface street would be six lanes wide between S. King and Columbia Streets (not including turn lanes) to accommodate ferry traffic and four lanes wide between Marion and Pike Streets. In general, the new street would be located east of the existing Alaskan Way surface street where the viaduct is today to create a wider public

space along the waterfront. The new street would include sidewalks, bicycle facilities, parking/loading zones, and signalized pedestrian crossings at cross-streets. The new surface street would provide a regional truck route for freight traveling to and from the Duwamish/Harbor Island/SR 519 area and the Ballard Interbay Northend Manufacturing and Industrial Center (BINMIC).

...

The Elliott/Western Connector would provide a connection from Alaskan Way to the Elliott/Western corridor that provides access to and from BINMIC and neighborhoods north of Seattle (including Ballard and Magnolia). The connector would be four lanes wide and would provide an overcrossing of the BNSF mainline railroad tracks. In addition, it would provide local street access to Pike Street and Lenora Street and integrate back into the street grid at Bell Street, which would improve local street connections in Belltown. The new roadway would include bicycle and pedestrian facilities.

...

[T]ransit enhancements] would be provided to complement planned transportation improvements . . . Development of specific improvements is underway, but would include [transit service serving West Seattle, Uptown, South Lake Union, and northwest Seattle including Ballard].

...

[The First Avenue Streetcar Evaluation] project will evaluate, in the City's transit plan, a new streetcar line along First Avenue between Pioneer Square and Seattle Center. . . . The Bored Tunnel Alternative does not include building a streetcar on the central waterfront. Instead . . . constructing a streetcar [has been proposed].

...

[The Alaskan Way Promenade and Public Space] project would provide a new, expanded public open space to the west of the new Alaskan Way surface street between S. King Street and Pike Street. The open space would vary in width and would serve Piers 48 through 59 . . . Other potential public open spaces include a triangular space north of Pike Street and east of Alaskan Way, and parcels created by removing the viaduct between Lenora and Battery Streets.

The 2011 AWVRP Final EIS noted that the Elliott/Western Connector would provide a connection that is functionally similar to the AWV ramps at Elliott and Western Avenues and would improve roadway connections for travelers heading to and from northwest Seattle compared to the connections provided by the Bored Tunnel Alternative.

## Waterfront Seattle Planning and Design Efforts

In recommending that the central waterfront portion of the AWV be replaced with a large-diameter, single-bore tunnel, former Governor Gregoire, former King County Executive Sims, and former Seattle Mayor Nickels executed a letter of agreement on January 13, 2009 (2009 Letter of Agreement), documenting consensus among the State of Washington, City of Seattle, and King County regarding the viaduct replacement. The letter of agreement states that the State of Washington is responsible for providing a surface connection from approximately Yesler Way to Elliott Avenue<sup>2</sup>; King County is responsible for providing peak express bus service to downtown Seattle and providing city street improvements related to improved bus operations; and the City of Seattle is responsible for providing a promenade along the central waterfront, other city street improvements, and a First Avenue Streetcar.

<sup>2</sup> WSDOT also agreed to fund a surface connection from S. King Street to Yesler Way.

This letter of agreement, along with the 2011 AWVRP Final EIS, established the basic design requirements for the Alaskan Way project (the new Alaskan Way surface street and the connector to Elliott and Western Avenues, including transit considerations) and the Promenade and Overlook Walk (public open space west of the new Alaskan Way surface street and in other areas).

In response to the 2009 agreement and recognizing the opportunities that would be created by the replacement of the AWV with a Bored Tunnel, the City began envisioning infrastructure projects, collectively referred to as “Waterfront Seattle,” to improve Seattle’s downtown waterfront. Several committees established by the Seattle City Council have guided the Waterfront Seattle planning process, leading to the proposal of the Alaskan Way, Promenade, and Overlook Walk projects, which compose a substantial portion of Waterfront Seattle.

First, the Central Waterfront Partnerships Committee, established in November 2009, distilled principles to guide the design of Waterfront Seattle. These Waterfront Seattle Guiding Principles were affirmed by the Seattle City Council in 2011 (Resolution 31264). They are:

- Create a waterfront for all
- Put the shoreline and innovative, sustainable design at the forefront
- Reconnect the city to its waterfront
- Embrace and celebrate Seattle's past, present, and future
- Improve access and mobility (for people and goods)
- Create a bold vision that is adaptable over time
- Develop consistent leadership from concept to operations

The Central Waterfront Committee, which replaced the Central Waterfront Partnerships Committee, then developed a number of documents in its role as the broad overseer of the design, financing, public engagement, long-term operations, and maintenance of Waterfront Seattle. These documents included the Framework Plan, the Concept Design, and the Strategic Plan, which were published in July 2012 and supported by the Seattle City Council in August 2012 (Resolution 31399). These documents provide guidance, goals, and strategies for implementing Waterfront Seattle. The Central Waterfront Committee was replaced in October 2014 by the Central Waterfront Steering Committee (Resolution 31543), which will advise the City on implementing the Concept Design and Strategic Plan.

## **Alaskan Way Surface Street Replacement Concepts Considered During AWVRP Planning Efforts**

The AWVRP planning process analyzed viaduct replacement alternatives that included replacing the Alaskan Way surface street. Concepts that were considered for the Alaskan Way surface street included operating the street as a one-way couplet, and placing the surface street on the western half rather than on the eastern half of the existing Alaskan Way right of way.

The one-way couplet was considered as a replacement for the viaduct and Alaskan Way as well as a replacement for Alaskan Way alone. In both cases, the couplet would have carried southbound traffic on Alaskan Way and northbound traffic on Western Avenue. The potential benefits of this one-way couplet were a narrower street cross section on Alaskan Way and greater traffic-carrying capacity. Both couplet concept options were eliminated from further consideration for several reasons. First, both options would have significantly impacted the character of Western Avenue by routing relatively high traffic volumes on this narrow street. Second, both options would have significantly increased the volume of traffic routed through Pike Place Market. Finally, both of these impacts could be avoided by constructing the Bored Tunnel and a two-way surface street having a total of four through lanes north of Columbia Street, which would be capable of carrying the forecasted traffic volumes.

Placing the Alaskan Way surface street on the western half of the existing Alaskan Way right of way was a concept that was also considered but not selected for several reasons. First, this concept placed the street adjacent to Elliott Bay, leaving the public open space planned for the other half of the Alaskan Way right of way to the east, separated from the water by an arterial street and failing to take full advantage of the primary asset of the right of way: its direct proximity to Elliott Bay and the shoreline. Second, locating the street closest to Elliott Bay would require all traffic entering and exiting downtown from Alaskan Way to cross the public open space, effectively cutting the public space into block-long segments and greatly reducing the utility and potential of the space.

Concepts were also studied for connecting the Alaskan Way surface street to streets in the Belltown area by means of a grade-separated crossing of the BNSF railroad tracks. This Belltown area connection and BNSF crossing would replace the connection and crossing provided by the AWV and would provide an alternative to the existing at-grade railroad crossing at Broad Street. A grade-separated crossing is necessary given the forecasted traffic volumes on the Alaskan Way surface street, the anticipated continuing increase in cruise-ship loading activity at Bell Harbor (Pier 66, north of Pine Street), and the predicted traffic delays at the train crossing on Broad Street. The following concepts were studied for a grade-separated crossing of the BNSF railroad tracks:

- An underpass under the site of the Olympic Sculpture Park
- An overpass at Broad Street adjacent to the Olympic Sculpture Park
- Grade separations in the vicinity of Wall Street
- An overpass connecting Alaskan Way to Elliott and Western Avenues

Only the overpass connecting Alaskan Way to Elliott and Western Avenues proved to be feasible. The opportunity to tunnel under the Olympic Sculpture Park was precluded when the park was built. The Broad Street overpass had major impacts on views of Elliott Bay and the Olympic Sculpture Park, and traffic would be subject to significant traffic delays related to cruise-ship loading. The Wall Street grade-separation option had severe roadway design deficiencies (including grades too steep for freight vehicles and very low design speeds), major view impacts, and conflicts with cruise-ship loading. The connection of Alaskan Way to Elliott and Western Avenues via an overpass, which is the Elliott Way connection proposed as part of the Alaskan Way project, was the only concept that provided a grade separation over the BNSF tracks, met key roadway design standards such as grades for freight vehicles, and provided a reliable route that would not be affected by cruise-ship loading.

The study of these concepts over time led to the identification in the 2011 AWVRP Final EIS of the Alaskan Way roadway rebuilding project and the Elliott and Western Avenues connector project as independent projects complementary to the Tollored Bored Tunnel Alternative.

## **Alaskan Way Surface Street Concepts Considered During Waterfront Seattle Planning and Design Efforts**

### **Surface Street Concepts**

During the Waterfront Seattle planning efforts and design process, the City built on the design requirements established for the surface street of the Alaskan Way project by the 2011 AWVRP Final EIS and the 2009 Letter of Agreement. Those requirements specified that the Alaskan Way surface street would be located east of the existing Alaskan Way and would extend from about S. King Street to Elliott Avenue. The portion between S. King Street and Columbia Street would be six lanes wide (not including turn lanes) to accommodate ferry traffic. The portion between Marion and Pike Streets would be four lanes wide. Alaskan Way would connect to the Elliott and Western Avenues corridor, providing a regional truck route for freight and a route for general-purpose traffic traveling between the Duwamish/Harbor Island/SR 519/south Alaskan Way area and BINMIC, including the

neighborhoods north of Seattle. The connector would be four lanes wide and would provide an overcrossing of the BNSF mainline railroad tracks. In addition, the connector would provide local street access to Pike Street and Lenora Street and integrate back into the street grid at Bell Street, which would improve local street connections in Belltown.

The City began building on the 2011 AWVRP Final EIS and 2009 Letter of Agreement surface street design requirements by first reviewing and testing them through traffic modeling and coordination with WSDOT and King County Metro. The City's review confirmed that:

- Current functions of Alaskan Way at Yesler Way include moving freight to and from Port of Seattle facilities, providing access and queuing space for vehicles bound for the ferry at the Seattle Multimodal Terminal at Colman Dock, serving waterfront visitors, and accommodating traffic related to cruise ships at Pier 66.
- The Alaskan Way surface street will need to serve additional traffic demand resulting from WSDOT's replacement of the AWV with the Bored Tunnel. Because the tunnel will not have exits in downtown Seattle as the viaduct does today, Alaskan Way will need to carry much more traffic bound to and from downtown and northwest Seattle after the AWV is removed. Alaskan Way at Yesler Way will also need to serve increases in traffic over time, with traffic expected to more than triple between 2010 and 2030.
- The greatest concentration of traffic in the future will continue to be at the southern end of Alaskan Way between S. King Street and Yesler Way in the vicinity of Colman Dock. This is because, in addition to accommodating freight, general-purpose traffic, and access and queuing for ferries, this section of Alaskan Way will need to accommodate service and stops for the Southwest Transit Pathway bus routes. These bus routes, which link downtown Seattle with southwest Seattle and King County, will no longer be able to use the viaduct to access downtown Seattle.
- Traffic volumes on Alaskan Way north of Spring Street are expected to be lower than traffic volumes in the southern portion of the project corridor. There are fewer traffic generators to the north, and the steepening topography prevents vehicle access to downtown Seattle via the east-west street grid. This reduction in traffic would allow the roadway to become narrower as it moves north.
- The surface street must be grade-separated from the railroad tracks that traverse the Alaskan Way corridor from north to south to ensure reliable travel times for all modes and to provide consistent emergency access.

City engineers and analysts then considered various concepts for the surface street portion of the Alaskan Way project, including some concepts that had been considered and rejected during the AWVRP planning efforts. The goal of the engineers and analysts was to optimize roadway operations for all modes while minimizing the project's impacts, including impacts on adjacent residences, businesses, and neighborhoods. The concepts that the City's engineers and analysts considered included:

- *A roadway alignment that kept Alaskan Way in its current location adjacent to Elliott Bay and placed the Promenade on the upland side of the Alaskan Way right of way.* This design would allow people to reach the Promenade from downtown Seattle without having to cross Alaskan Way, as well as reduce the number of needed utility relocations. However, separating the new Alaskan Way's main pedestrian open space from the water would not support the project purpose of providing public amenities along the shoreline, and would also conflict with policies in the City's Shoreline Master Program that prioritize public access to the waterfront over transportation uses. Further, access to and use of the numerous buildings and properties abutting the east side of the Alaskan Way right of way would conflict with the function of an upland Promenade. These findings were

similar to those resulting from the AWVRP planning efforts, and this concept was eliminated from consideration.

- *A configuration that attempted to reduce the width of Alaskan Way between S. King Street and Yesler Way.* This concept incorporated “Flex Lanes”—lanes that would be actively managed to allow use for transit, ferry access, general-purpose traffic, or parking and loading, depending on the time of day. The Flex Lane concept was eliminated from consideration because it did not adequately accommodate the various uses. In particular, the concept did not allow for the provision of a northbound prioritized transit lane during the afternoon peak period or for the provision of prioritized transit lanes during off-peak periods.
- *An alignment in which the intersection between Alaskan Way and the connector to Western and Elliott Avenues (Elliott Way) was shifted south from Pine Street to near Pike Street.* This configuration, initially evaluated by WSDOT, would have created an intersection approximately 6 feet above the surrounding elevation, supported by walls or a fill slope. This elevated intersection would have been needed to allow Elliott Way to cross above the BNSF tracks to the north while maintaining a grade of less than 7 percent for freight mobility. The configuration would have created an “island” of open space, bordered to the east by Elliott Way climbing toward the BNSF overpass, and bordered to the west by Alaskan Way continuing to the north. Such a configuration would have required the “touch down” of the proposed Overlook Walk to be within the open space island; required pedestrians walking from Pike Place Market to the waterfront via the Overlook Walk to cross Alaskan Way in order to access the Promenade, Pier 62/63, and Waterfront Park; eliminated the opportunity to create a substantial public open space at the waterfront near the Seattle Aquarium (Aquarium Plaza); and severely constrained the design of the northern portion of the Promenade. For these reasons, the City eliminated this concept.

## Local and Regional Transit Concepts

During the Waterfront Seattle planning efforts and design process, the City designed the Alaskan Way surface street to incorporate facilities for local and regional transit.

### Local Transit Concepts

The 2011 AWVRP Final EIS and the 2009 Letter of Agreement required the City to evaluate and provide a new streetcar line along First Avenue between Pioneer Square and Seattle Center. Although the 2011 AWVRP Final EIS anticipated that this First Avenue streetcar (also called the City Center Connector streetcar) would operate in lieu of a streetcar on the central waterfront, the City understood that a local waterfront transit service would still be important. Such a transit service would provide access along the length of Alaskan Way. It would thereby reduce the need, for transit users, to traverse steep east-west streets to reach existing and planned transit routes (such as the planned First Avenue streetcar line) on First, Second, Third and Fourth Avenues that generally run parallel to the waterfront. Local transit service on Alaskan Way would also provide connections to Southwest Transit Pathway bus service, the First Hill Streetcar, and the planned Madison Bus Rapid Transit route, all of which pass through or terminate near the waterfront.

City engineers and analysts evaluated five local waterfront transit service concepts comprising both higher and lower cost historic streetcar options, a modern streetcar, and two battery-powered, rubber-tire transit options. All of the concepts consisted of transit connecting a variety of community destinations along the nearly 2-mile stretch of Alaskan Way from Pioneer Square to the Olympic Sculpture Park. Recreational visitors, local waterfront employees, and residents were anticipated to be the primary users of this service. The evaluation criteria included system capacity and operations, connectivity, travel time, traffic impacts, safety, accessibility, rider attraction, noise, air quality, visual quality, utility conflicts, and costs.

The evaluation adhered to the Waterfront Seattle Guiding Principles by balancing transit needs with two other goals: reserving space for pedestrians and public gathering, and minimizing the width and number of pedestrian crossings of north-south transportation corridors (such as the roadway, an off-street cycle track, and any dedicated streetcar corridor). Analysts determined that local waterfront transit would best be accommodated in shared travel lanes within the new Alaskan Way surface street. City engineers and analysts then identified a battery-operated, rubber-tire transit system as the preferred concept for local waterfront transit service. The concepts and analyses of local waterfront transit are described in the Local Waterfront Transit study published by the City of Seattle Office of the Waterfront in January 2015.

Because the battery-operated, rubber-tire transit system was identified as the preferred local waterfront transit, the Alaskan Way project will include the construction of street-level facilities, such as curb extensions and transit shelter foundations, that will support the future operation of such a transit system by the City of Seattle, King County, or others.

### **Regional Transit Concepts**

The 2011 AWVRP Final EIS and the 2009 Letter of Agreement stated that transit enhancements would include transit service serving West Seattle, Uptown, South Lake Union, and northwest Seattle, including Ballard. King County would be responsible for providing peak express bus service to downtown Seattle and providing city street improvements related to improved bus operations.

Over 22,000 riders per day currently travel on buses from West Seattle, Delridge, and Burien to downtown Seattle. The buses currently access downtown using the existing AWV Columbia and Seneca ramps and then travel through downtown on Third Avenue. In 2012, King County Metro and the City of Seattle studied concepts for a bus route that would serve southwest King County after the AWV is closed. The results of this study are described in the Downtown Southend Transit Study, published by King County Metro in August 2012, and in the South Downtown Transit Priority Pathways study, published by the City of Seattle in August 2012. The study examined potential routes the buses could use after the AWVRP is completed.

The study evaluated routes on SR 99 and the Alaskan Way surface street as well as routes on the Spokane Street Viaduct, First Avenue, Fourth Avenue, the E-3 Busway, Airport Way, and Interstate 5. Routes using SR 99 and Alaskan Way proved to have significantly shorter transit travel times than the other routes. In addition, routes not using SR 99 had significant additional capital costs to build ramps or bridges necessary to provide a transit route that would avoid at-grade crossings of mainline, freight, and railroad operations.

The study then analyzed SR 99 route concepts using various east-west streets between Jackson and Marion to connect Alaskan Way and Third Avenue. The study focused on four east-west connections: Main and Washington Streets; Main Street Two-Way; Columbia and Marion Streets; and Columbia Street Two-Way. For each connection the study considered transit travel time and reliability; transit maneuverability and performance (including grades, turning radii, and stop locations); accessibility, transit coverage, and multimodal connections; and neighborhood and stakeholder impacts. The Columbia Street Two-Way, a two-way transit priority street on Columbia Street, performed the best overall. Columbia Street had the shortest travel times and the added advantage of serving a major intermodal hub at Colman Dock. Main and Washington Streets are quiet, non-arterial streets that the historic Pioneer Square neighborhood has prioritized for pedestrian enhancements. Marion Street is a major ferry terminal exit and also has a much steeper uphill grade than Columbia Street.

Because the SR 99, Alaskan Way, and Columbia Street concept performed the best of all of the considered concepts, the Alaskan Way project design incorporated transit-priority treatments on this route to ensure reliable transit service. In particular, the design included transit priority lanes in both directions on Alaskan Way between S. King and Columbia Streets and on Columbia Street between Alaskan Way and First Avenue. A separate project led by King County addresses street design changes needed to complete the transit priority lanes on Columbia Street to Third Avenue.

## Bicycle and Pedestrian Facility Concepts

The 2011 AWVRP Final EIS stated that the new Alaskan Way surface street would include bicycle facilities, sidewalks, and signalized pedestrian crossings at cross-streets, with the connector to Elliott and Western Avenues also including bicycle and pedestrian facilities. Seattle’s “complete street” policy required the surface street to promote safe operations for all users. Based on these requirements, and with a primary purpose of creating safe, efficient, and reliable travel for pedestrians and bicycles, the City engineers and analysts determined that the best way to promote safe operations for pedestrians and bicycles was to have dedicated, separate facilities for bicycle and pedestrian travel. City engineers and analysts then determined the type of facilities that would best serve each travel mode.

### Bicycle Facility Concepts

Many bicyclists use the Alaskan Way corridor for commuting or recreation. The current path on the east side of the Alaskan Way surface street is used by bicyclists and pedestrians and has numerous street crossings. The Bicycle Master Plan shows Alaskan Way as a gap in the existing bicycle network and recommends a separated bicycle facility as part of an overall strategy to improve bicycle connections to and within the center city. Based on this strategy and as part of the Waterfront Seattle planning efforts, the City conducted an evaluation in the fall of 2012 to determine the most appropriate bicycle facility for the Alaskan Way surface street. The fundamentals of the approach included recognizing the Waterfront Seattle Guiding Principles, defining the bicycle facility’s purpose, and recognizing the tradeoffs of different bicycle facility concepts. City engineers and analysts considered four bicycle facility concepts:

- Off-Street Path
- Bike Lanes and Reduced Off-Street Path
- Two-Way Cycle Track
- One-Way Cycle Tracks

The concepts were evaluated based on three “critical” and six “general” criteria, with the critical criteria, listed in Table 1, being weighted more than general criteria. The Off-Street Path and the One-Way Cycle Tracks concepts scored poorly with respect to two of the critical criteria: minimizing potential conflicts between bicycles and pedestrians and minimizing potential conflicts between bicycles and automobiles. This made the two concepts inferior to the Bike Lanes and Reduced Off-Street Path and the Two-Way Cycle Track concepts, which both scored “moderate” or “optimum” on all three critical criteria. Of those two concepts, the Two-Way Cycle Track concept had stronger ratings than the Bike Lanes and Reduced Off-Street Path concept with respect to two of the three critical measures.

**Table 1. Bicycle Facility Concept Evaluation—Critical Criteria**

Critical Criteria	Description
Bicycle/Vehicle Conflicts	Potential to avoid conflicts between bicycles and vehicles
Bicycle/Pedestrian Conflicts	Potential to avoid conflicts between bicycles and pedestrians
User Share	Ability to attract and serve the widest range of cyclists

The City engineers and analysts also considered the location of the Two-Way Cycle Track (also known as the protected two-way bicycle facility). Locating the bicycle facility along the west side of the Alaskan Way surface street would reduce the potential for bicycle conflicts with vehicles, such as those that could occur at the Alaskan Way and east-west street intersections if the bicycle facility were on the east side of the surface street. Accordingly, a protected bike lane on the west side of the Alaskan Way surface street between King and Pine Streets was integrated into the design of the Alaskan Way surface street.

City engineers and analysts chose protected one-way bicycle lanes for Elliott Way, rather than a two-way cycle track, based on Elliott Way's planned configuration and the bicycle facilities that currently exist on Elliott and Western Avenues. At Blanchard Street, the two-way Elliott Way will split to join the northbound Western Avenue and southbound Elliott Avenue, each of which has a one-way bicycle facility that travels in the same direction as the avenue. The one-way bicycle lanes on Elliott Way, with the northbound lane on the east side of Elliott Way and the southbound lane on the west side of Elliott Way, will connect with the north- and south-bound one-way bicycle lanes on Elliott and Western Avenues at the north end of Elliott Way.

## **Pedestrian Facility Concepts**

The Waterfront Seattle design focused on creating an attractive and safe place for pedestrians. Historically, the waterfront has attracted large numbers of pedestrians, the number of which is anticipated to increase following removal of the AWW. City engineers and analysts therefore selected a surface street concept that enhances, accommodates, and reflects this high level of pedestrian use. In particular, the surface street would have speed limits similar to those of other downtown streets; signalized intersections that provide safe and convenient pedestrian crossing places; a street width as narrow as possible given the traffic functions that the roadway must accommodate; and generous sidewalks.

From King Street to Yesler Way, City engineers and analysts selected an approximately 30-foot-wide sidewalk for the east side of the surface street; this side is anticipated to have the greatest number of pedestrians due to the Pioneer Square district and its building frontages. A narrower sidewalk was selected for the west side of the street at this location because uses, such as Terminal 46 and Pier 48, are less likely to generate significant pedestrian volumes. North of Yesler Way, the eastern sidewalk narrows to about 14 to 20 feet wide, which is a generous sidewalk by downtown standards. The western sidewalk will be about 10 to 12 feet, due to the public open space and pedestrian areas provided by the Promenade, which is farther to the west along the waterfront and discussed separately below.

In addition to the sidewalks along the Alaskan Way surface street, the design of the Alaskan Way project serves pedestrians via two elevated pedestrian connections that cross the street at key locations—one at Marion Street and one between Pike Place Market and the waterfront (named the Overlook Walk, also discussed separately below). Each of these locations experiences high pedestrian volumes with the crossing structures taking advantage of the unique topography in this area. The elevated pedestrian connection on Marion Street (Marion Street pedestrian bridge) will replace the existing pedestrian bridge with a widened structure that adds an elevator on the east side of Alaskan Way.

Other pedestrian bridges were considered but not included in the Alaskan Way surface street design for the following reasons:

- The Alaskan Way surface street is designed to be easy to cross for pedestrians with signalized pedestrian crossings at every block. Crossings feature high-quality intersection design treatments (including paving treatments and raised roadway grade) designed to make pedestrians feel comfortable and alert drivers to the presence of pedestrians. Signal cycles will favor short wait times for pedestrians.
- The Alaskan Way surface street's at-grade pedestrian crossings include features to provide accessibility for the disabled.
- Pedestrian bridges require climbing more than 20 feet in elevation in order to cross the street and typically are not well utilized when there is an attractive at-grade crossing available.
- Pedestrian bridges have significant view impacts and the required stair/elevator structures take up significant space within sidewalks and other pedestrian spaces on both sides of the street.

- Pedestrian bridges remove pedestrians from the street and can make drivers less careful, undermining efforts to create a high-quality pedestrian environment.
- Pedestrian bridges are costly to build and operate. Elevators are required on both ends of the bridge in most cases, unless the east side of the bridge happens to match existing street grade.

## Promenade Concepts Considered During Waterfront Seattle Planning and Design Efforts

The 2011 AWVRP Final EIS and the 2009 Letter of Agreement stated that the City of Seattle would be responsible for providing a promenade along the central waterfront that consists of a new public open space between S. King Street and Pike Street, is approximately 70 to 80 feet wide between Marion and Pike Streets, and serves Piers 48 through 59.

As discussed above, the decision to locate the new Alaskan Way surface street towards the eastern side of the existing right of way was made to allow creation of the Promenade on the west side of the street adjacent to the water. This location for the Promenade, a pedestrian-focused public open space, responds to the public's strong desire to be as close to Elliott Bay and the shoreline as possible. It also moves the open space areas dedicated to pedestrian use and public gathering away from bicycle travel corridors and sidewalks along the Alaskan Way surface street.

To address the need for vehicular access to each waterfront pier for deliveries, trash pickup, and other services, City engineers and analysts considered two concepts for access across the Promenade between the Alaskan Way surface street and the piers: driveways aligning with the ends of east-west streets, and driveways located at mid-block. City engineers and analysts concluded that the mid-block access concept, limiting vehicular access to the piers to right-in/right-out, was superior. Mid-block access would require vehicles accessing the piers to travel at slower speeds when crossing the cycle track and Promenade. Mid-block access would also allow the street ends to be free of vehicle conflicts and allow the creation of public gathering spaces in optimum locations, with views of the water.

## Overlook Walk Concepts Considered During Waterfront Seattle Planning and Design Efforts

The 2011 AWVRP Final EIS identified the triangular space north of Pike Street and east of Alaskan Way as potential public open space. City engineers and analysts planned to use that space in order to provide a direct, safe, and human-scaled route with open space and view opportunities between Pike Place Market and the waterfront. The structure, named Overlook Walk, would negotiate the 100 feet of elevation change between the market and waterfront and provide public open space with elevated views of the bay, port, and city.

In establishing the location for the Overlook Walk, City engineers and analysts determined that the slope between Pike Place Market and the waterfront was the best location for a wide, grade-separated, and therefore safe, east-west pedestrian route because it provided sufficient space to connect these two major attractions while providing public open space, views, and public amenities, including several buildings. Additionally, once the AWV is demolished, this location will be unique in having the most space predominantly within currently existing City property to accommodate a structure providing the intended pedestrian connection and open space between Pike Place Market and the waterfront. A location farther north of this area would not meet the goals for the structure because it would be blocked by the Waterfront Landings condominium building. Locations to the south of the area would affect public views down Pike Street and would require awkward, long, pedestrian bridge connections back to Pike Place Market.

As discussed under “Alaskan Way Surface Street Concepts Considered During Waterfront Seattle Planning Efforts,” the function of the Overlook Walk would be affected by the location of the intersection of Alaskan Way and Elliott Way. The proposed location, which is in line with an extension of Pine Street, would allow the Overlook Walk to provide a grade-separated east-west pedestrian route because it could cross over Elliott and Alaskan Ways and touch down directly at the waterfront. If the intersection were shifted to the south, to be in line with Pike Street, the Overlook Walk would need to touch down in the “island” of open space between Elliott Way and Alaskan Way. This would eliminate the safe, grade-separated crossing provided by the proposed Overlook Walk and require pedestrians traveling between the market and the waterfront to cross Alaskan Way.

In establishing the shape of the Overlook Walk, the City evaluated concepts providing varying amounts of open space and incorporating buildings of different shapes and sizes. Although concepts that maximize the areal extent of the Overlook Walk (the Overlook Walk “lid”) would provide the most open space, their scale, cost, and view impacts created concerns for the City and some stakeholders. As a result, the City eliminated larger lids from further consideration in favor of the current smaller-scale design that still provides for substantial open space, elevated view opportunities, and accessible and distinct pedestrian connections.