

The Alaskan Way Viaduct & Seawall Replacement Program



Central Waterfront

Alaskan Way Viaduct
Stakeholder Advisory Committee

Scenario Evaluation Results – Improve Public Safety – Measure 1
Fiscal Responsibility – Measure 3

September 25, 2008

Guiding Principles

- **Improve public safety.**
- Provide efficient movement of people and goods now and in the future.
- Maintain or improve downtown Seattle, regional, the port and state economies.
- Enhance Seattle's waterfront, downtown and adjacent neighborhoods as a place for people.
- **Create solutions that are fiscally responsible.**
- Improve the health of the environment.

Scenario Evaluation Measures for Guiding Principle 1

1. Evaluate seismic performance of SR 99 and the seawall.
2. Assess safety performance for users of all modes of travel.

Design Criteria

- Alaskan Way Viaduct and Seawall Replacement Program Structural Design Criteria
- AASHTO Guide Specifications for Seismic Bridge Design

Key Findings

New structures for each of the eight scenarios can be designed to meet current seismic design criteria.

- Designed for earthquake that occurs once every 1000 years (Seven percent chance in 75 year life of structure).
- Designed for no collapse or flooding of structure during or after earthquake.

What Did We Learn?

Seismic design is not a discriminator between scenarios – all can be designed to meet standards.

Scenario Evaluation Measures for Guiding Principle 5

1. Estimate capital cost and operating costs.
2. Identify available and potential funding and impacts to the State of Washington's bond rating.
3. Compare the design life of the proposed SR 99 and seawall improvements.

Design Criteria

- Alaskan Way Viaduct and Seawall Replacement Program Structural Design Criteria
- AASHTO Guide Specifications for Seismic Bridge Design

Key Findings

Major new structures for each of the eight scenarios can be designed for a 75 year life cycle.

- Steel and concrete can be detailed to resist degradation over 75 year life cycle.
- Structures can be designed to resist environmental loads such as seismic, wind, snow, etc. over 75 year life cycle.

What Did We Learn?

Design Life is not a discriminator between scenarios – all can be designed to meet 75 year life cycle.