Alaskan Way Viaduct and Seawall Replacement Project

SR 520 Bridge Replacement and HOV Project

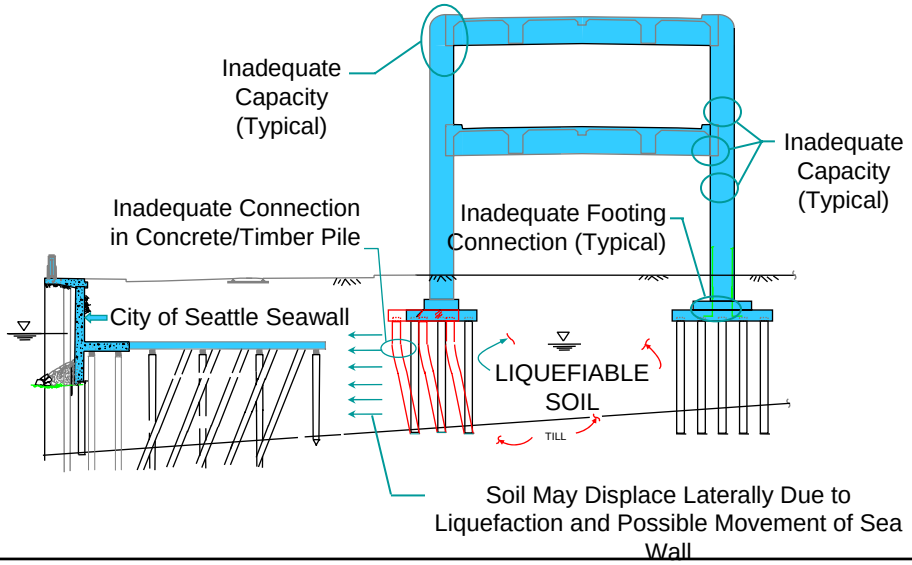
Washington State Department of Transportation

Alaskan Way Viaduct and Seawall Replacement Project

The Alaskan Way Viaduct and Seawall Replacement Project

What alternatives have and are being considered?

Deficiencies Above and Below Ground



Why not a retrofit?

- It doesn't adequately protect us in an earthquake
- It's not cost effective
- It's a "band-aid" approach that transfers the forces from one weak point to another
- The tunnel and rebuild are designed to withstand earthquakes likely to occur every 2,500 years

Evolution of Alternatives: 2001-2006

2001
New viaduct
Stacked cut-and-cover tunnel
Surface boulevard
Bored tunnel

Evolution of Alternatives: 2001-2006

2001	2002
New viaduct	Rebuild the existing viaduct: $3.2 to 3.5 billion
	New aerial structure: $5.7 to $6.4 billion
Stacked cut-and-cover tunnel	Single-level tunnel and single-level aerial structure combination: $7.8 to 8.9 billion
	Stacked cut-and-cover tunnel with ramps to downtown: $8.8 to 10.3 billion
Surface boulevard	Not included
Bored tunnel	Stacked cut-and-cover tunnel, ramps to downtown, a bored/mined tunnel north of the Battery Street Tunnel: $10.1 to 11.6 billion

Evolution of Alternatives: 2001-2006

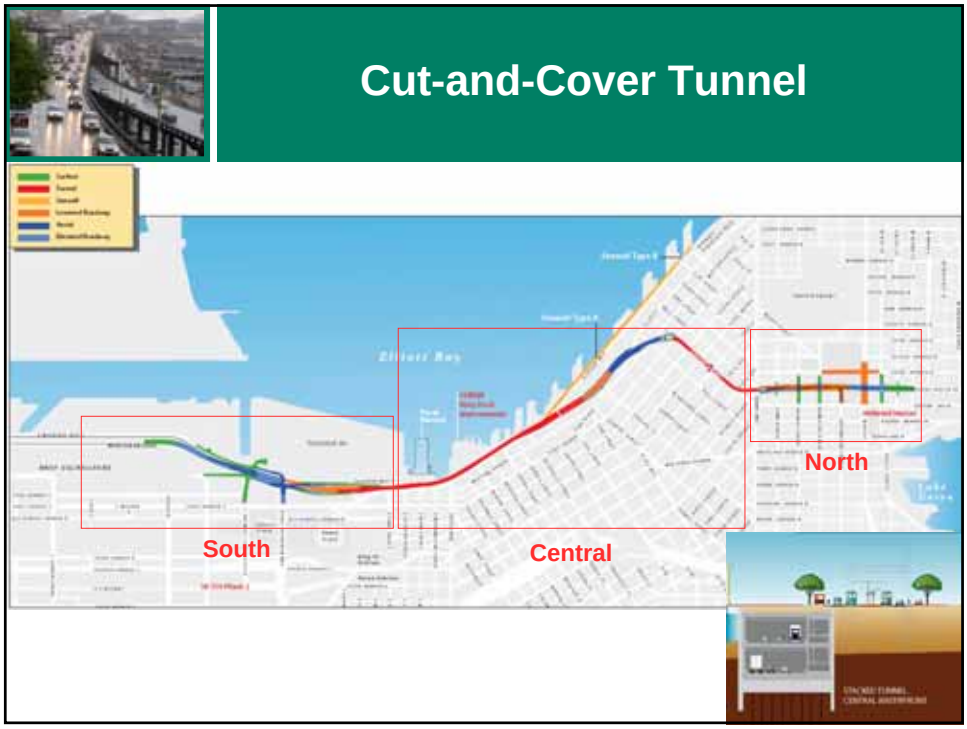
2001	2002	2004
New viaduct	Rebuild the existing viaduct: $3.2 to 3.5 billion	Rebuild: $2.7 to 3.1 billion
	New aerial structure: $5.7 to $6.4 billion	Aerial: $2.7 to 3.2 billion
Stacked cut-and-cover tunnel	Single-level tunnel and single-level aerial structure combination: $7.8 to 8.9 billion	Cut-and-cover tunnel: $3.4 to 4.0 billion
	Stacked cut-and-cover tunnel with ramps to downtown: $8.8 to 10.3 billion	Bypass tunnel: $3.1 to 3.6 billion
Surface boulevard	Not included	Surface boulevard: $2.3 to $2.7 billion
Bored tunnel	Stacked cut-and-cover tunnel, ramps to downtown, a bored/mined tunnel north of the Battery Street Tunnel: $10.1 to 11.6 billion	No longer being considered

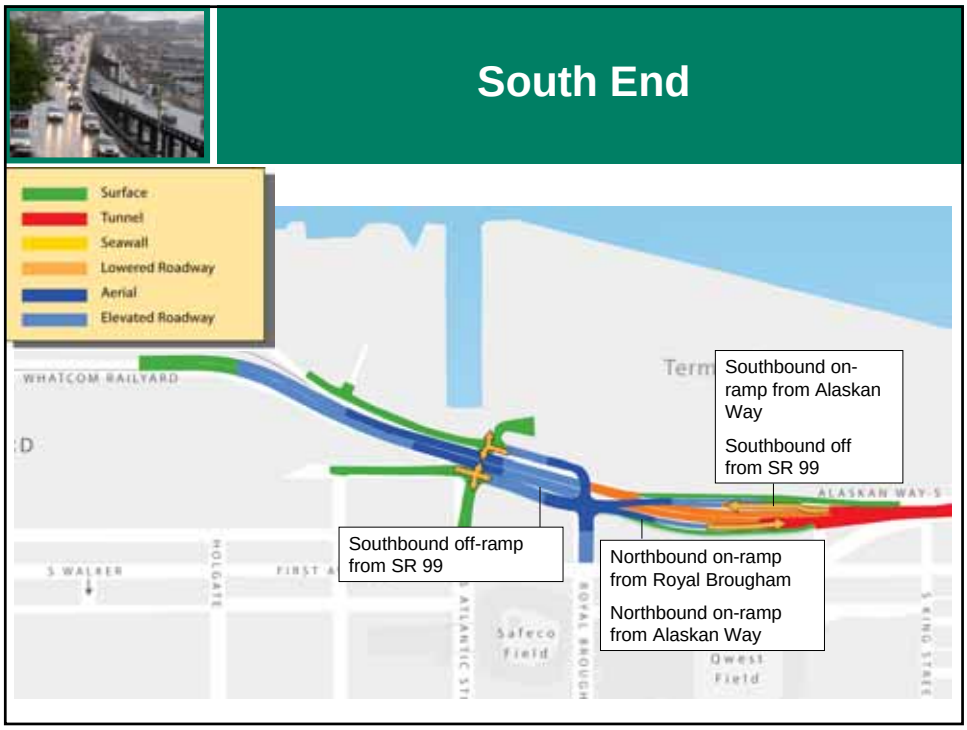
Selection of a Preferred Alternative

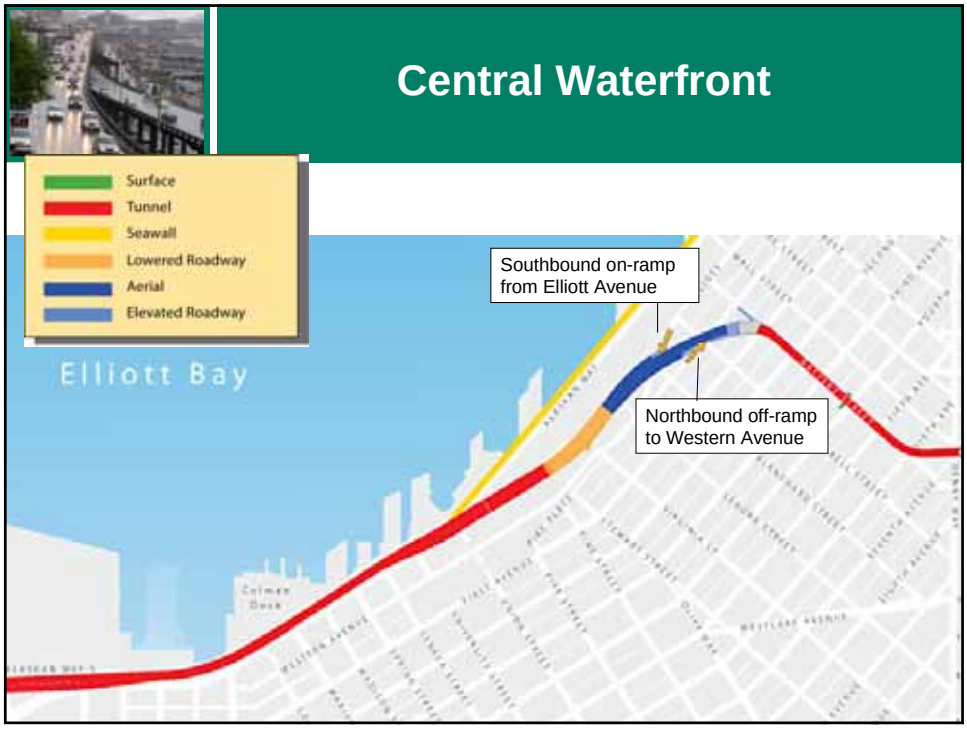
December 2004	WSDOT and City of Seattle select the tunnel as the preferred alternative for purposes of NEPA and the elevated structure as a contingency plan FHWA writes letter in support of tunnel as the preferred alternative
January 2005	Seattle City Council votes 8 to 1 to select the tunnel as the preferred alternative

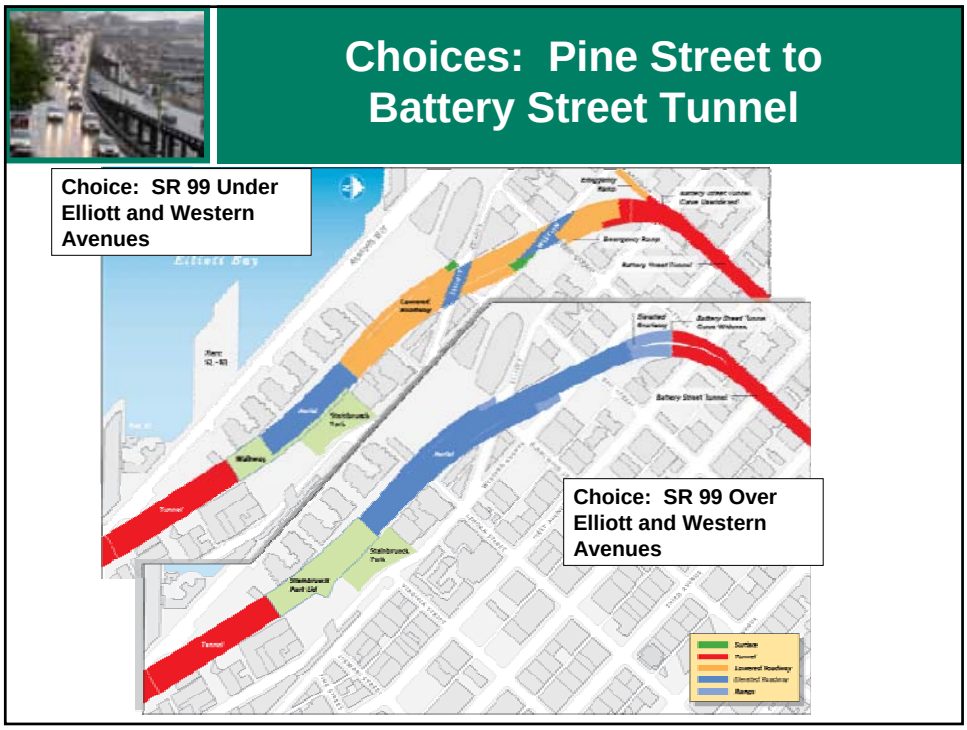
Evolution of Alternatives: 2001-2006

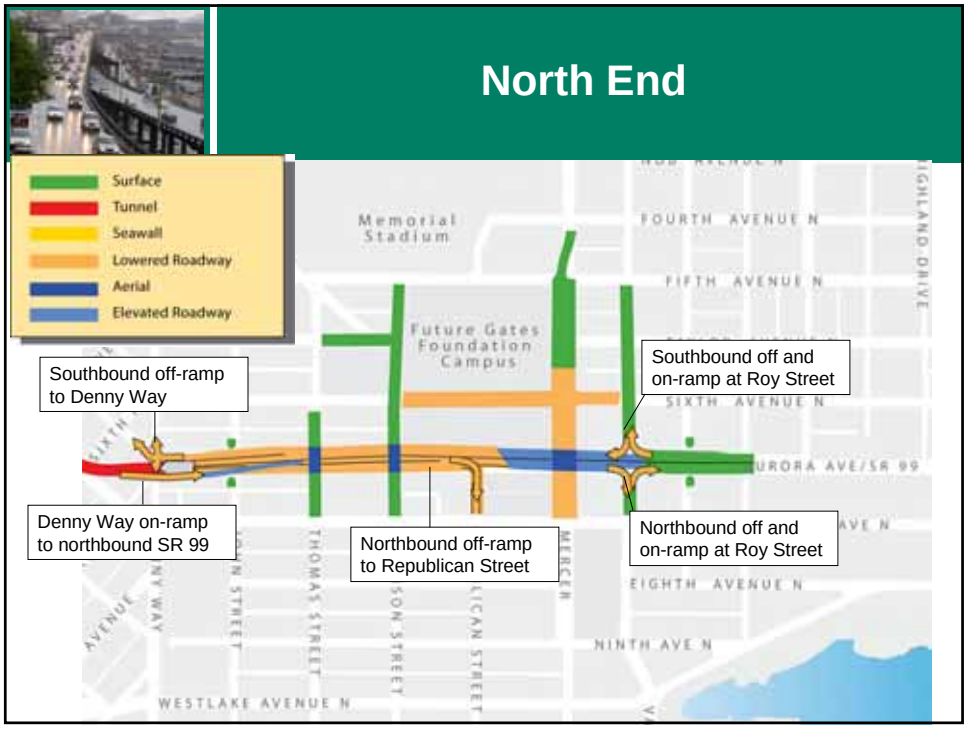
2001	2002	2004	2006
New viaduct	Rebuild the existing viaduct: $3.2 to 3.5 billion	Rebuild: $2.7 to 3.1 billion	Elevated structure: $2.7 to 3.1 billion
	New aerial structure: $5.7 to $6.4 billion	Aerial: $2.7 to 3.2 billion	
Stacked cut-and-cover tunnel	Single-level tunnel and single-level aerial structure combination: $7.8 to 8.9 billion	Cut-and-cover tunnel: $3.4 to 4.0 billion	Cut-and-cover tunnel: $3.7 to 4.5 billion
	Stacked cut-and-cover tunnel with ramps to downtown: $8.8 to 10.3 billion	Bypass tunnel: $3.1 to 3.6 billion	No longer being considered
Surface boulevard	Not included	Surface boulevard: $2.3 to $2.7 billion	No longer being considered
Bored tunnel	Stacked cut-and-cover tunnel, ramps to downtown, a bored/mined tunnel north of the Battery Street Tunnel: $10.1 to 11.6 billion	No longer being considered	


Cut-and-Cover Tunnel
South
Central
North


South End
Surface
Tunnel
Seawall
Lowered Roadway
Aerial
Elevated Roadway
WHATCOM RAILYARD
Southbound on-ramp from Alaskan Way
Southbound off from SR 99
Southbound off-ramp from SR 99
Northbound on-ramp from Royal Brougham
Northbound on-ramp from Alaskan Way
ALASKAN WAY S
S WALKER
HOLGATE
ATLANTIC ST
ROYAL BROUGH
Safeco Field
Qwest Field
KING STREET


Central Waterfront
Surface
Tunnel
Seawall
Lowered Roadway
Aerial
Elevated Roadway
Elliott Bay
Southbound on-ramp from Elliott Avenue
Northbound off-ramp to Western Avenue

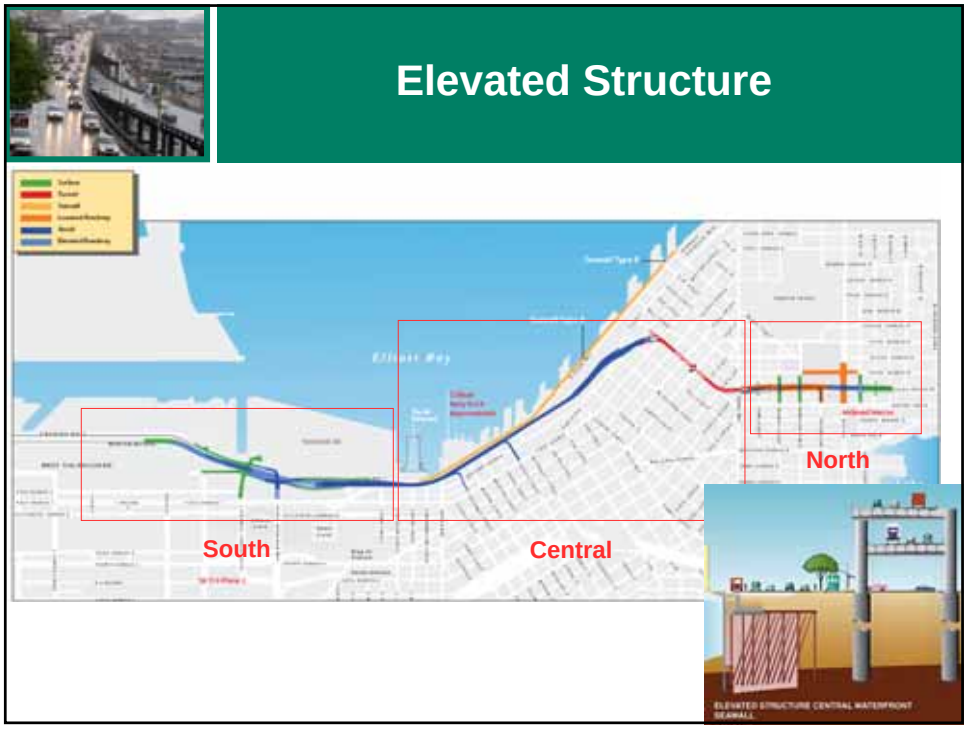

Choices: Pine Street to Battery Street Tunnel
Choice: SR 99 Under Elliott and Western Avenues
Choice: SR 99 Over Elliott and Western Avenues
Elliott Bay
Battery Street Tunnel

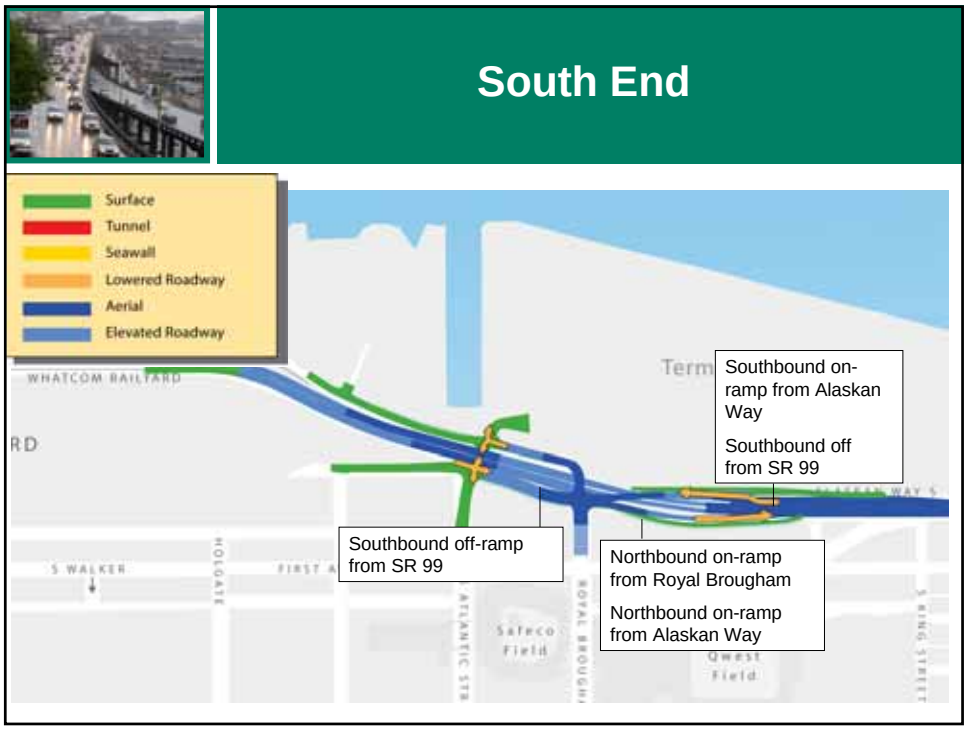

North End
Surface
Tunnel
Seawall
Lowered Roadway
Aerial
Elevated Roadway
Memorial Stadium
FOURTH AVENUE N
FIFTH AVENUE N
Future Gates Foundation Campus
SIXTH AVENUE N
AURORA AVE/SR 99
EIGHTH AVENUE N
NINTH AVE N
WESTLAKE AVENUE N
THOMAS STREET
MERCER
Southbound off-ramp to Denny Way
Southbound off and on-ramp at Roy Street
Denny Way on-ramp to northbound SR 99
Northbound off-ramp to Republican Street
Northbound off and on-ramp at Roy Street

Tunnel at Madison Street

SEATTLE

Main Street


Elevated Structure
Elliott Bay
South
Central
North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WHATCOM RAILYARD
Southbound on-ramp from Alaskan Way
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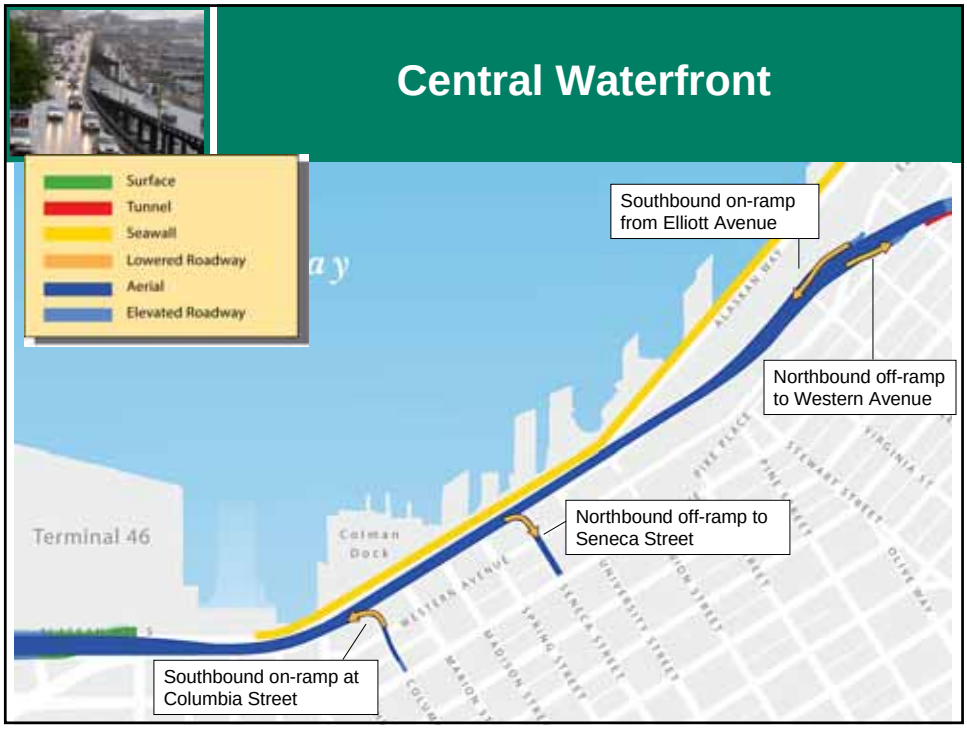
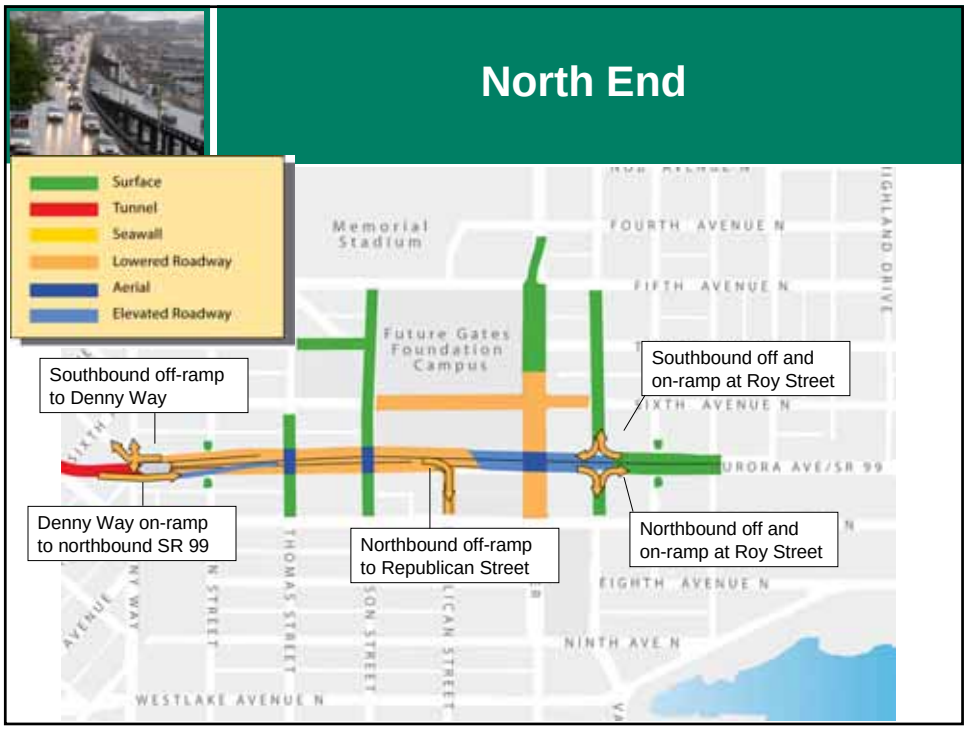
HOLGATE
ATLANTIC STR
ROYAL BROUGHAM
Safeco Field
Qwest Field
S KING STREET


Central Waterfront
Surface
Tunnel
Seawall
Lowered Roadway
Aerial
Elevated Roadway
Southbound on-ramp from Elliott Avenue
Northbound off-ramp to Western Avenue
Northbound off-ramp to Seneca Street
Southbound on-ramp at Columbia Street
Terminal 46
Colman Dock
WESTERN AVENUE
ALASKAN WAY
PIKE PLACE
PINE STREET
STEWART STREET
VIRGINIA ST
OLIVE WAY
SENECA STREET
UNIVERSITY STREET
SPRING STREET
MADISON STREET
MARION ST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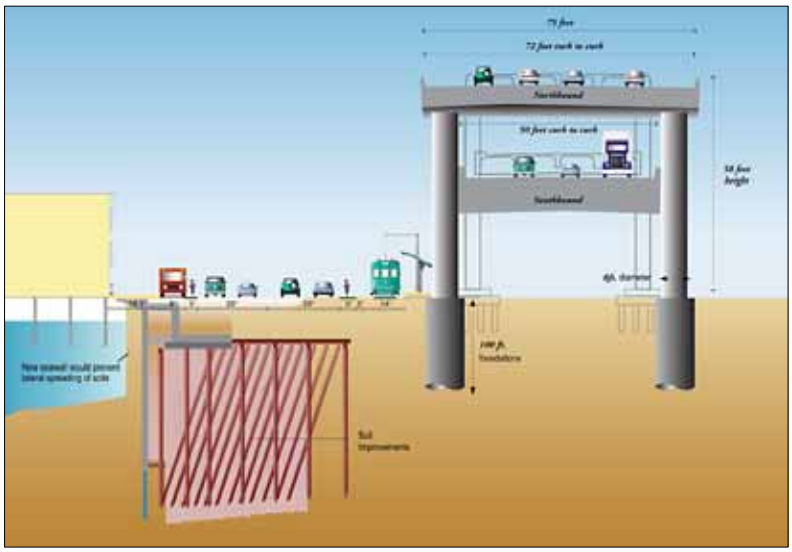
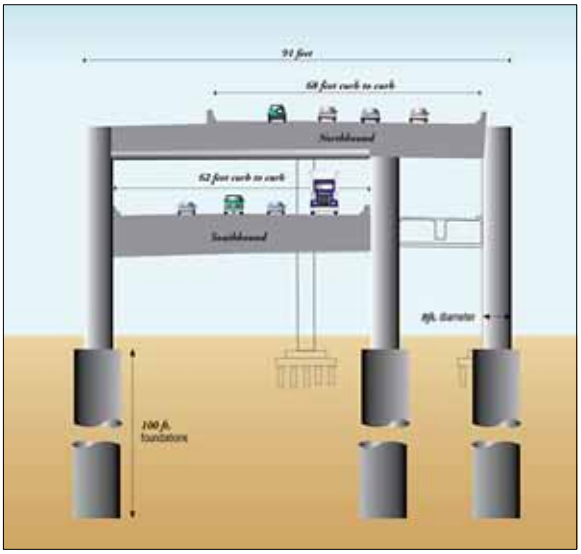
EIGHTH AVENUE N
NINTH AVE N
WESTLAKE AVENUE N
THOMAS STREET
N STREET

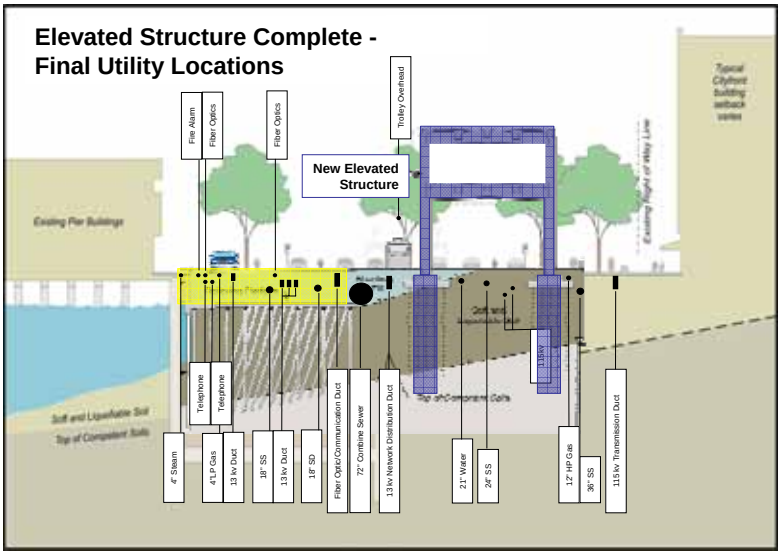
Elevated Structure at Seneca Street



Elevated Structure at Jackson Street



Utilities After Construction



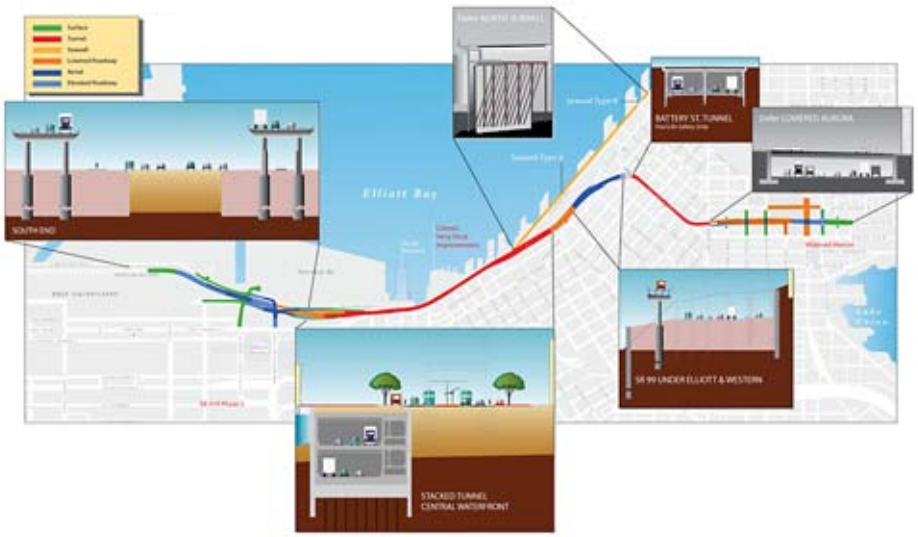
Key Assumptions for Cost and Schedule Estimates

- Cost estimates are based on full funding and unconstrained flow of funds
- A preferred alternative is selected in 2007 in order to begin section design and be ready for construction contract award in 2010
- There will be some complete closures of SR 99 during major roadway construction

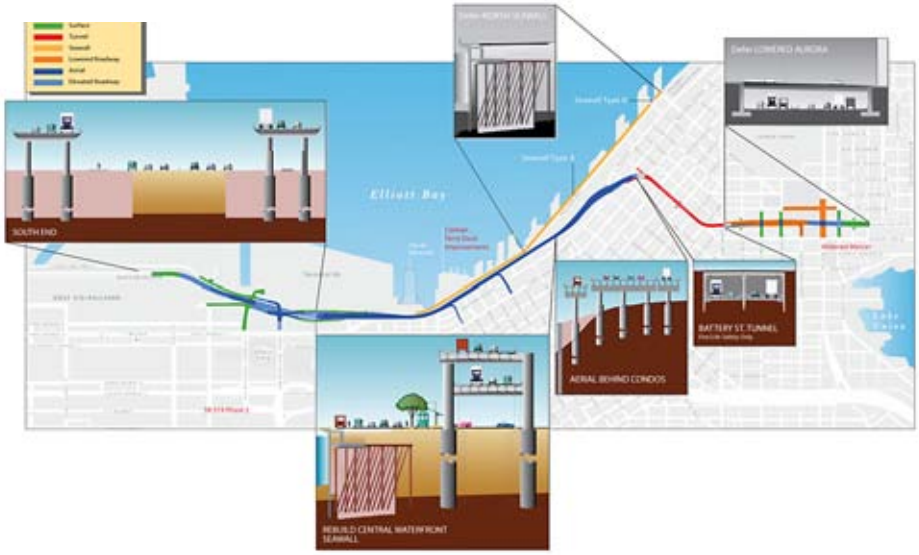
Cost and Schedule for Full Projects

Full Tunnel	Full Elevated Structure
$3.7 to 4.5 billion	$2.7 to 3.1 billion
7 to 10 years	7 to 12 years

Core Tunnel Project



Core Elevated Structure Project



Cost and Schedule for Core Projects

Core Tunnel	Core Elevated Structure
$3.0 to 3.6 billion	$2.0 to 2.4 billion
7 to 10 years	7 to 12 years