

Alaskan Way Viaduct **REPLACEMENT** PROGRAM



WASHTO 2016 Construction Subcommittee

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Salt Lake City, Utah
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Alaskan Way Viaduct **REPLACEMENT** PROGRAM



Building a new **SR 99** Corridor



Alaskan Way Viaduct
REPLACEMENT
PROGRAM

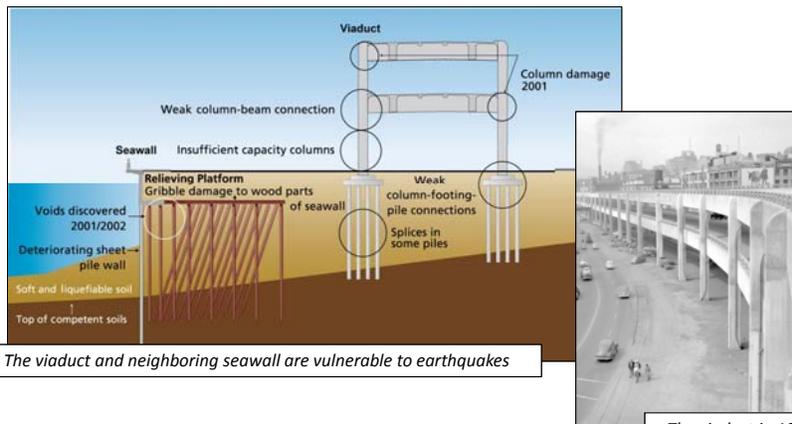


A waterfront

FOR ALL

Alaskan Way Viaduct
REPLACEMENT
PROGRAM

This is a **SAFETY** project



The viaduct and neighboring seawall are vulnerable to earthquakes

The viaduct in 1953

Alaskan Way Viaduct REPLACEMENT PROGRAM

SR 99 Tunnel south portal design concept

SR 99 Tunnel

SR 99 Tunnel north portal design concept

South Access Project

North Surface Street Connections

North Access Project

Viaduct Removal

Battery Street Tunnel Decommissioning

SR 99 Tunnel Construction CONTRACTS

Alaskan Way Viaduct REPLACEMENT PROGRAM

BUDGET *overview*

Other project contracts
\$1.08 billion

WSDOT's contract with Seattle Tunnel Partners
\$1.35 billion

Four other SR 99 tunnel related projects
\$703 million

= \$3.1 billion

Alaskan Way Viaduct REPLACEMENT PROGRAM

COMPLETED work

Map of state-led/funded improvements

South-end replacement	Start	End
Electrical line relocation	2008	2009
Holgate to King (stage 1)	2009	2009
Holgate to King (stage 2)	2010	2012
Holgate to King (Stage 3)	2012	2014

SR 99 tunnel	Start	End
SR 99 tunnel main contract	2011	TBD
North Access Project	2014	TBD
North Surface Street Connections	TBD	TBD
South Access Project	TBD	TBD
South Access (drilled shafts)	2014	2014

Mitigation projects	Start	End
SR 520 Phase 2	2008	2010
Spokane Street Viaduct Fourth Ave. off-ramp*	2008	2010
I-5 active traffic management	2009	2010
I-5 active traffic management sign bridges	2009	2009
I-5 travel time signs	2009	2009
City street intelligent transportation systems	2009	2010
SR 99 intelligent transportation systems	2010	2011
Enhanced transit/bikeand management**	2010	2014
Parking mitigation for central waterfront	2011	2018

Miscellaneous projects	Start	End
Unger Building demolition	2007	2007
Marriott column stabilization near Water Way	2007	2008
WOSCA Building demolition	2009	2009
Flar 48 warehouse demolition	2010	2010
Automated viaduct ramp gates	2010	2011
Western Building structural work	2011	2015
SR 99 south-end flange replacement	2011	2011
Alaskan Way widening	2012	2012
Cedarstrand Building demolition	2012	2012
Waterfront viaduct removal	T80	T80
Battery Street Tunnel decommissioning	T80	T80
New Alaskan Way	T80	T80

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The south portal work zone on Dec. 11, 2015

Building the SOUTH PORTAL

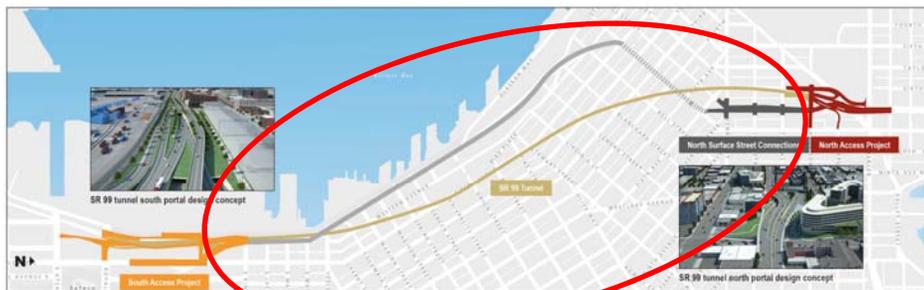
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Completed portion of the south cut-and-cover tunnel, Oct. 22, 2015

**Building the SOUTH
PORTAL**

**Alaskan Way Viaduct
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- South Access Project
- SR 99 Tunnel Project
- Viaduct Removal
- North Surface Street Connection
- North Access Project
- Battery Street Tunnel Decommissioning

**SR 99 Tunnel Construction
THE TUNNEL**

**Alaskan Way Viaduct
REPLACEMENT**

About Bertha

Vital stats:

- 57.5 feet in diameter
- 326 feet long
- Nearly 7,000 tons

**Alaskan Way Viaduct
REPLACEMENT**

1 - Cutterhead

2 - Tunnel shield

3 - Concrete panels

4 - Conveyor belt

5 - Trailing gear

Understanding
BERTHA

Alaskan Way Viaduct
REPLACEMENT
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Understanding

BERTHA

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On Dec. 6, 2013,

just hours after the machine passed the 1,000 foot mark ...

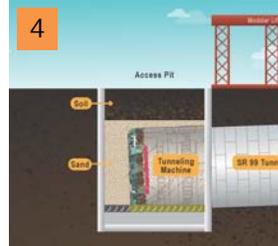
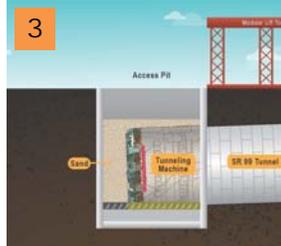
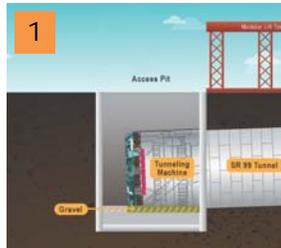


Crews stopped tunneling after measuring increased temperatures in the machine



Aerial view of access shaft
February 2015

Repairing
BERTHA



Next
STEPS

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Repairing Bertha's cutting tools
July 29, 2015

Repairing

BERTHA

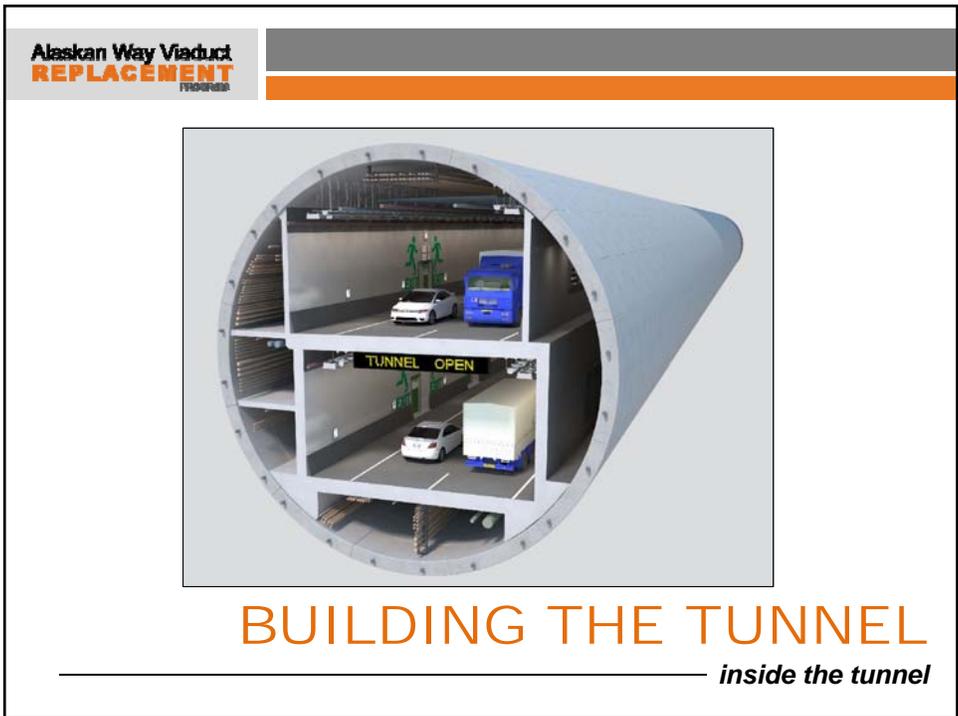
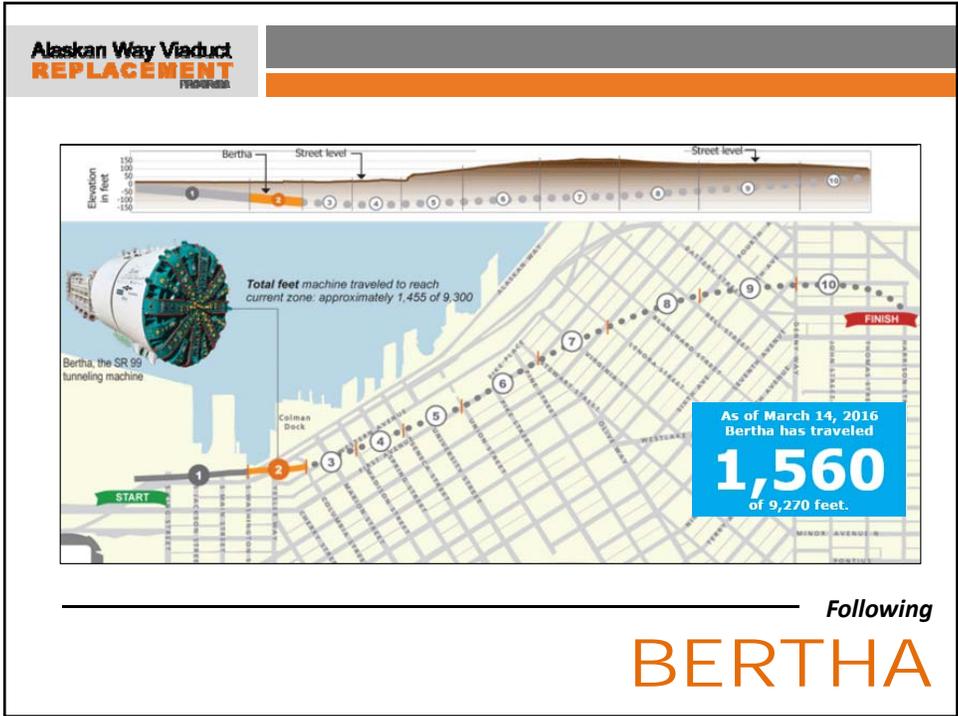
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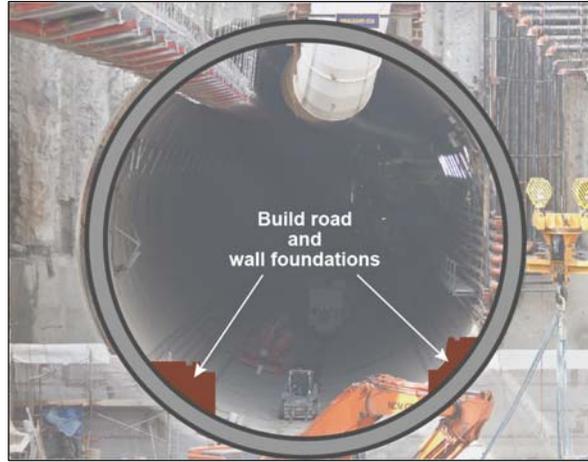


Getting ready to resume tunneling
Dec. 15, 2015

Repairing

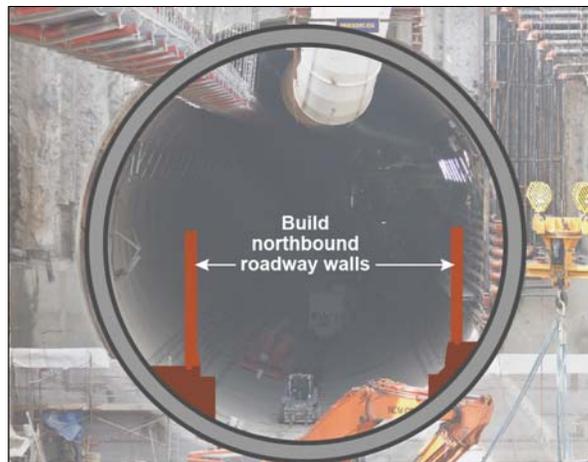
BERTHA





BUILDING THE TUNNEL

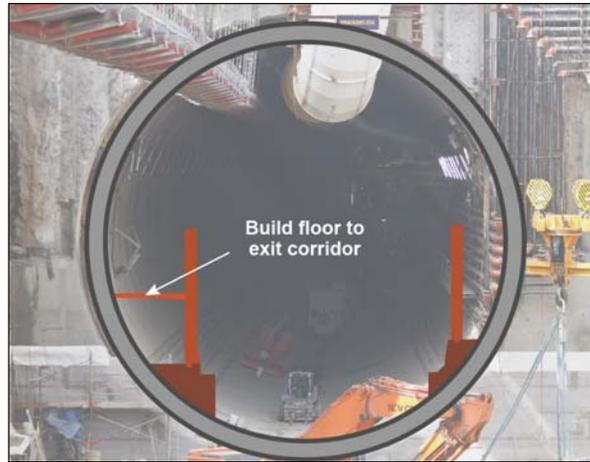
inside the tunnel



BUILDING THE TUNNEL

inside the tunnel

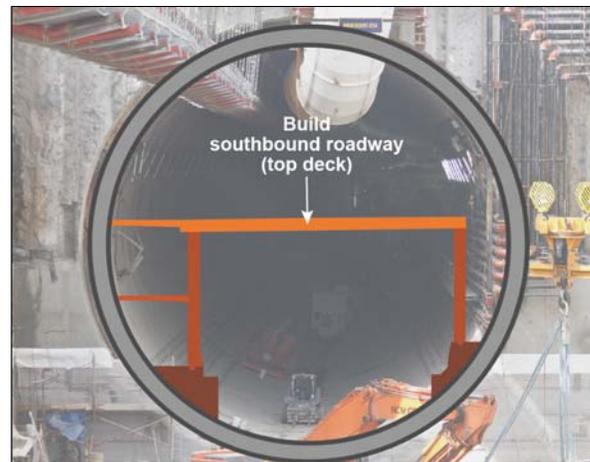
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BUILDING THE TUNNEL

inside the tunnel

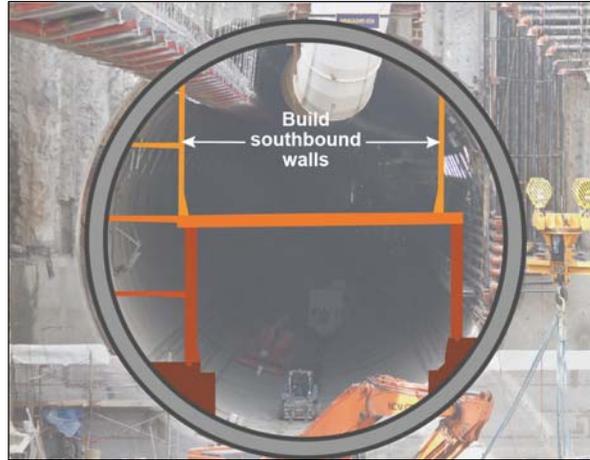
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BUILDING THE TUNNEL

inside the tunnel

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BUILDING THE TUNNEL

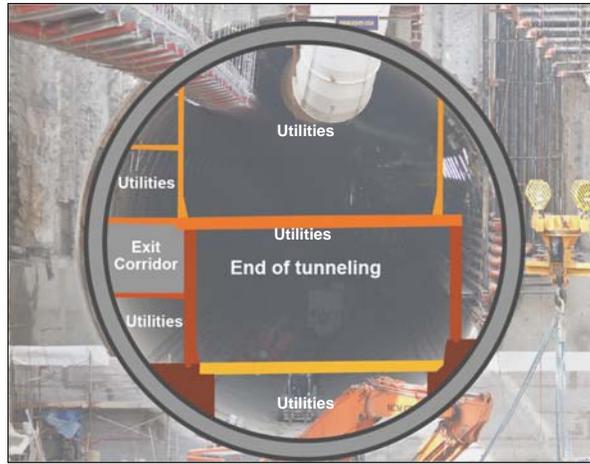
inside the tunnel

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BUILDING THE TUNNEL

inside the tunnel



BUILDING THE TUNNEL

inside the tunnel



BUILDING THE HIGHWAY

inside the tunnel



Southbound roadway deck
platform construction
January 2015

BUILDING THE TUNNEL

inside the tunnel

WSDOT and the contractor have

shared contingency funds

- Tunneling/subsurface risk
- Settlement mitigation and building repairs



Sharing
RISK

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SR 99 Tunnel Construction

THE NORTH PORTAL

Alaskan Way Viaduct REPLACEMENT PROGRAM

North portal work zone in January 2016

South end

Central

North end

Building the NORTH PORTAL

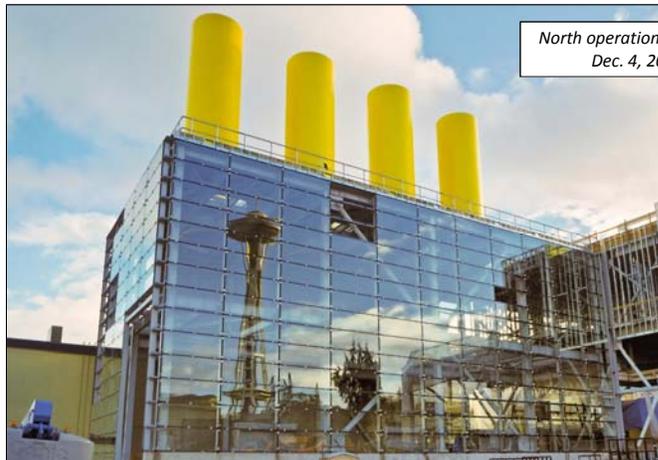
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Receiving pit October
2015

Building the
NORTH PORTAL

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North operations building,
Dec. 4, 2015

Building the
**NORTH
PORTAL**

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REPLACEMENT**



Envisioning the **NORTH
PORTAL**

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REPLACEMENT**



A waterfront
FOR ALL

Alaskan Way Viaduct
REPLACEMENT

How to **REACH US**



Thanks!

Chris Christopher
WSDOT

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