

# Alaskan Way Viaduct **REPLACEMENT** PROGRAM



July 2015

## Keeping the Alaskan Way Viaduct safe during construction

The Alaskan Way Viaduct was built in the 1950s, and decades of daily wear and tear have taken their toll on the concrete structure. It remains safe for everyday use, and continues to provide a vital link to and through downtown Seattle. But the viaduct remains vulnerable to earthquakes like the Nisqually quake in 2001, so the Washington State Department of Transportation is replacing the structure with the SR 99 tunnel and other improvements.

### Regular viaduct inspections

Four times every year, WSDOT bridge engineers inspect the viaduct. Two of these inspections are done visually by crews in bucket trucks, and don't require a closure of the viaduct. The other two inspections require a weekend closure of

Until the tunnel opens and the viaduct can be permanently closed to traffic, it is WSDOT's job to protect the viaduct and keep it safe and open to drivers. This is done in a number of ways, including:

- Regular inspections and maintenance of the structure
- Structural improvements
- Real-time monitoring for settlement

the structure so crews can methodically scrutinize it, measuring existing cracks and looking for new ones, checking for structural movement and examining the the viaduct's foundations.

### For more information

#### Visit the website at:

[www.alaskanwayviaduct.org](http://www.alaskanwayviaduct.org)

#### Call the hotline:

1-888-AWV-LINE

#### Follow on Twitter:

@BerthaDigsSR99

#### Send an email to:

[viaduct@wsdot.wa.gov](mailto:viaduct@wsdot.wa.gov)

#### Send a letter to:

Alaskan Way Viaduct Replacement Program  
c/o Washington State Department of Transportation  
999 Third Ave., Suite 2200  
Seattle, WA 98104



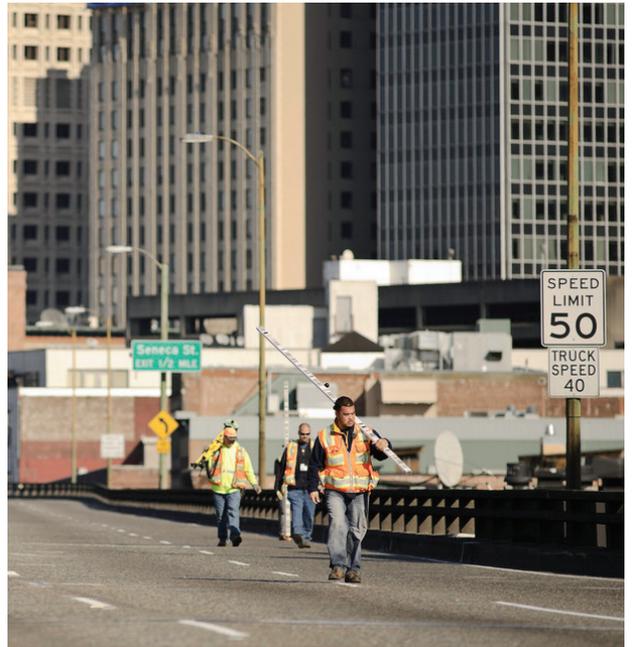
Visual inspections are part of WSDOT's process for keeping the viaduct safe for driving.

## Structural improvements

We've done a significant amount of work to reinforce and maintain the viaduct.

- Immediately after the 2001 Nisqually quake, WSDOT repaired damaged support columns and other structural elements to make the viaduct safe and functional.
- In 2008, WSDOT strengthened viaduct foundations at four locations between Columbia Street and Yesler Way where settlement had continued despite the initial repairs.
- In 2011, the project installed an automated closure system as an earthquake safeguard. If the system detects significant ground movement, automatic gates will lower at all viaduct access points, safely closing the viaduct in two minutes.
- The tunnel contractor, Seattle Tunnel Partners, built underground walls to protect the viaduct's foundations and wrapped sections of the structure in carbon fiber. These measures were requirements of the tunnel contract.

WSDOT has also imposed weight restrictions on vehicles using the viaduct, and requires trucks and buses to travel only in the right-hand lane to limit the number of heavy vehicles atop one cross-section of the structure at one time.



Twice a year the viaduct is closed so crews can inspect the structure and make any needed repairs.

## Real-time monitoring for settlement

Crews closely track ground settlement beneath and near the viaduct, but not all settlement poses a risk. Some settlement of the viaduct was expected due to the tunnel project, and we strengthened the viaduct to account for that. We monitor ground movement near the structure in real time using monitors installed on the viaduct and throughout Pioneer Square and Downtown.

No single measurement represents an acceptable or unacceptable level of settlement. Those limits vary along the length of the viaduct based on ground conditions and the condition of the structure. How the ground settles is also important. A structure that settles uniformly is less likely to be damaged than a structure that settles unevenly. We will continue to carefully monitor the viaduct during construction and will take additional steps to reinforce the structure if needed.



Sections of the Alaskan Way Viaduct are wrapped in a reinforcing fiber (the lighter gray material seen here) to protect the structure during tunnel construction.

### Americans with Disabilities Act & Title VI information

Americans with Disabilities Act (ADA) Information: This material can be made available in an alternate format by emailing the WSDOT Diversity/ADA Affairs Team [wsdotada@wsdot.wa.gov](mailto:wsdotada@wsdot.wa.gov) or by calling toll free, 855-362-4ADA (4232). Persons who are deaf or hard of hearing may make a request by calling the Washington State Relay at 711.

Title VI: WSDOT ensures full compliance with Title VI of the Civil Rights Act of 1964 by prohibiting discrimination against any person on the basis of race, color, national origin or sex in the provision of benefits and services resulting from its federally assisted programs and activities. For questions regarding WSDOT's Title VI Program, contact Jonté Sulton at 360-705-7082 or [SultonJ@wsdot.wa.gov](mailto:SultonJ@wsdot.wa.gov).