#### Fauntleroy Expressway

#### Bearing Pad Replacement



City Council Michael Terrell & Lorelei Williams, SDOT CPRS July 8, 2014



Seattle Department of Transportation

# SDOT's mission & vision

Mission: delivering a first-rate transportation system for Seattle.



Vision: a vibrant Seattle with connected people, places, and products.

## SDOT's core principles



#### **Presentation overview**

- Project History
- Issue Recognition
- Addressing the Problem
- Next Steps

# **Project History**



# **Project History**



# **Project History**



Seismic Upgrades & Bearing Pad Replacement: Construction Notice to Proceed (NTP) July 29, 2011

# **Bearing Pad**

A bearing pad is an elastomeric structural device which transmits loads and facilitates translation and rotation in a bridge structure from the girder to the substructure of the bridge.



# **Issue Recognition**

- Initial identification at final inspection-July 2012
- Analysis to assure safety of bridge and to evaluate any immediate structural concerns
- Testing of pads



# **Issue Recognition**

- Issue Review with project team and John Stanton (UW Professor, technical expert)
- Durometer did not match existing as specified; durometer is the measure of the hardness/stiffness of the elastomeric pad
- Specification for 60 instead of 70; lower number is less stiff/hard.

# Addressing the Problem

- Develop new reinforced pad design with updated AASHTO standards (2012)
- Negotiations with design consultant for cost reimbursement for design error; no litigation needed
- Additional repair work added as needed for the structure; increased cost for reinforced pad
- Additional funding through existing Bridge Rehab Program; balance approx. \$2.6M, pending design & additional scope
- Current/existing pads not adequate for long term use

# Next Steps

- Engineer & Contractor Inspection for final plans-July 14<sup>th</sup>, 2014
- Identify repairs needed prior to bearing pad replacement
- Complete bearing pad and repair design
- Outreach to community
- Early repairs/prep in late 2014
- Bearing pad order (approx. 3 months for delivery)
- Installation to begin April 2015 (overnight & limited weekend structure closures)

#### Lessons Learned

- Additional evaluation of existing conditions
- Revised process for inspection of bearing pad installations
- Limited because of error element of the problem



#### michael.terrell@seattle.gov | (206) 684-3078 lorelei.williams@seattle.gov | (206) 684-5178

#### http://www.seattle.gov/transportation





Seattle Department of Transportation