Press Briefing

*Embargoed Until April 15, 2020 at 3:30pm*

Sam Zimbabwe, Matt Donahue and Heather Marx
April 15, 2020

West Seattle High-Rise Bridge Safety Project
Presentation overview

• Background and what has changed since March 23
• Future of the bridge remains uncertain
• Stabilization and shoring, tentative schedule
• Phase I: Slow or halt bridge deterioration
  • Pier 18 stabilization and repairs
• Phase II: Shoring the bridge
• Phase III: Bridge repairs
• Technical Advisory Panel
• Order of magnitude budget
Background and what has changed

Background
• Bridge closed on March 23 due to rapid growth in cracking along the center section of the bridge

Recent findings
• Recent inspections have found cracks continue to grow, but at slower rate, confirming immediate removal of live load was essential
• Crews are inspecting the bridge for new and growing cracks each day
• The bridge is safe for crews to work
• SDOT has a better understanding of stabilization timeline, but there is still uncertainty
Safety is top priority

- SDOT continues to inspect the bridge daily
- We are installing intelligent monitoring equipment to monitor any changes to the bridge in real time, with 24/7 alerts
- We are modeling potential cracking scenarios and preparing contingency plans
- These plans will enable rapid response to preserve public safety

City of Seattle
Future of the Bridge Remains Uncertain

- SDOT does not yet know if repair of the bridge is feasible technically or financially.
- If repair is feasible, it could provide up to 10 years of additional use.
- We will need to replace the West Seattle High Bridge, the question is when.
- We do not anticipate traffic returning to the bridge in 2020 or 2021.
- We are committed to clear communication and transparency throughout.
Stabilization and shoring schedule

• Ongoing—Continue field inspection and install instrumentation hardware/real time alerts
• Immediately—Pier 18 restraint release design
• Spring—Shoring and repair design begin, technical advisory panel for peer review launched
• Summer—Pier 18 restraint released; shoring materials procurement begins
• Late Fall—Shoring construction begins
• Early Spring 2021—Shoring construction complete
Phase I: Slow or halt bridge deterioration

• On March 23, SDOT discovered new cracking, confirming growth had rapidly increased over the prior two weeks
• Cracking has slowed since we removed live load, indicating that removing the weight of traffic has helped prevent worse damage
• Stabilization is intended to slow or stop the cracking and preserve the integrity of the bridge
• Next steps: continue to assess repair feasibility, timeline, and costs
What is a lateral bearing?

• Bridge bearings sit between the bridge’s roadway and the support piers holding it up

• Bearings allow the bridge to be move in response to traffic, normal concrete creep and shrinkage, thermal variations

• Pier 18 bearings are compressed and bulging, creating additional pressure and affecting the whole bridge
Stabilization through Pier 18 repairs

• To slow cracking, unlocking Pier 18 lateral bearing is the top priority for repair
• Repairing the locked bearing is contingent on bridge strength analysis to determine if the bridge can handle the stress
• SDOT is procuring a contractor to perform these immediate emergency repairs
Phase II: Shoring the bridge to further stabilize

- The process of “shoring” means adding temporary support to the bridge to preserve its integrity and enable repairs
- Mid-2020 – obtain and build specially fabricated materials for shoring while Pier 18 repairs are made
- Late 2020 – Shoring Construction
Phase III: Bridge Repair

Key elements of uncertainty right now:

• Can bridge be stabilized before further deterioration makes repair infeasible?
• Will repair require permits to impact the navigation channel?
• Will repair require special fabrication or equipment?
• Is repair feasible technically or financially?
Phase III: Bridge Repair

• Repair of the West Seattle Bridge may not be possible

• We are at 0 percent design, and each step will impact what’s feasible and how long it will take

• If repair is possible, we anticipate it could provide up to 10 years of additional use
Establishing Technical Advisory Panel

• The condition of the West Seattle High Bridge and the complexities of monitoring, design, and repair are complex

• The Technical Advisory Panel will provide qualitative review, insight, constructive feedback, and validation

• The Panel will consist of experts with experience in bridge design and construction, geotechnical engineering for bridge structures, and marine/maritime expertise
Traffic Mitigations

• Closing the West Seattle Bridge has a similar level of complexity to our recent Viaduct closure, but with fewer re-route choices, and shorter timeline
• Low Bridge restricted to people driving emergency vehicles, freight trucks, and public transit
• Seattle Police Department is supporting enforcement
• Path open to people walking and biking
• Access to Harbor Island for general public via east channel bridge
Traffic Mitigations

- Traffic signal installed at Highland Park Way SW and SW Holden St
- Detour route signage to 1st Ave S Bridge improved
- Signals at the five-way intersection connected to citywide system for remote monitoring adjustment. Repave intersection.
- Stripe, sign, and smooth alternative routes
- Additional measures to be identified
## Order of magnitude budget through shoring

<table>
<thead>
<tr>
<th>Action</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring*</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Design*</td>
<td>$6,000,000</td>
</tr>
<tr>
<td>Pier 18 repair construction</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Shoring construction</td>
<td>$15,000,000</td>
</tr>
<tr>
<td>Traffic control and mitigations*</td>
<td>$3,000,000</td>
</tr>
<tr>
<td>Project Management, Communications, and outreach</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Swing Bridge Maintenance*</td>
<td>$5,000,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$33,000,000</strong></td>
</tr>
</tbody>
</table>

* Portions of these costs included in current programmatic budgets, but other deliverables may be affected

**Repair**

(TBD)
Bringing Community Together

• Work with West Seattle community and businesses to keep people informed, provide resources, and answer questions
• Share email updates with 1,000+ subscribers so they hear from SDOT about what's happening and how to get around
• Post blogs, new maps and graphics to help with commuting, and answers to important questions online
• Work closely with media, sharing news and answering questions for broader audiences
• Continue to build partnership with Department of Neighborhoods and Office of Economic Development to reach out to the broader community, freight, and maritime communities
Questions / Discussion

www.seattle.gov/transportation/westseattlebridge