

# Joint Transportation Committee

## West Seattle High-Rise Bridge Safety Project

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City of Seattle

# Overview

- Background and what has changed since March 23
- What we've done since the closure
  - On the Bridge
  - On the Ground
  - In the Community
- Repair or Replace Decision
- Funding Strategies

# Regional and Statewide Mobility and Economic Importance

- Critical point in nation's transportation network
- Serving Washington's role as an export leader, import hub, regional connector and freight leader means committing resources to the bridge corridor
- Nearby terminals are key to our state's agricultural and maritime industries
- International cargo businesses headquartered nearby along with companies that serve as a lifeline for residents of Alaska and Hawaii
- Large public investment in Terminal 5 made by The Northwest Seaport Alliance is at risk

# West Seattle High-Rise Bridge closed on March 23, 2020

- Traffic removed from the High-Rise Bridge due to rapid growth in cracking
- After closure, crack growth continued, confirming immediate removal of live traffic load was essential
- Safety is our top priority.
  - Maintaining first responder access
  - Keeping services and goods moving
  - SDOT crews and contractors working on the structure



# What's Changed On the Bridge Since March 23

- Emergency contingency plan created with City and Agency partners
- Bridge is outfitted with intelligent 24/7 monitoring and health system
- Bridge stabilization underway
- Technical Advisory Panel to inform decisions
- Emergency declaration expected to support funding, permitting and materials acquisition
- HNTB selected to design High-Rise Bridge Replacement Option



# Stabilization Measures Underway



Work platforms installed in July



Small “syringes” are placed into affected areas and used to channel epoxy into the cracks.

# Stabilization Measures Underway



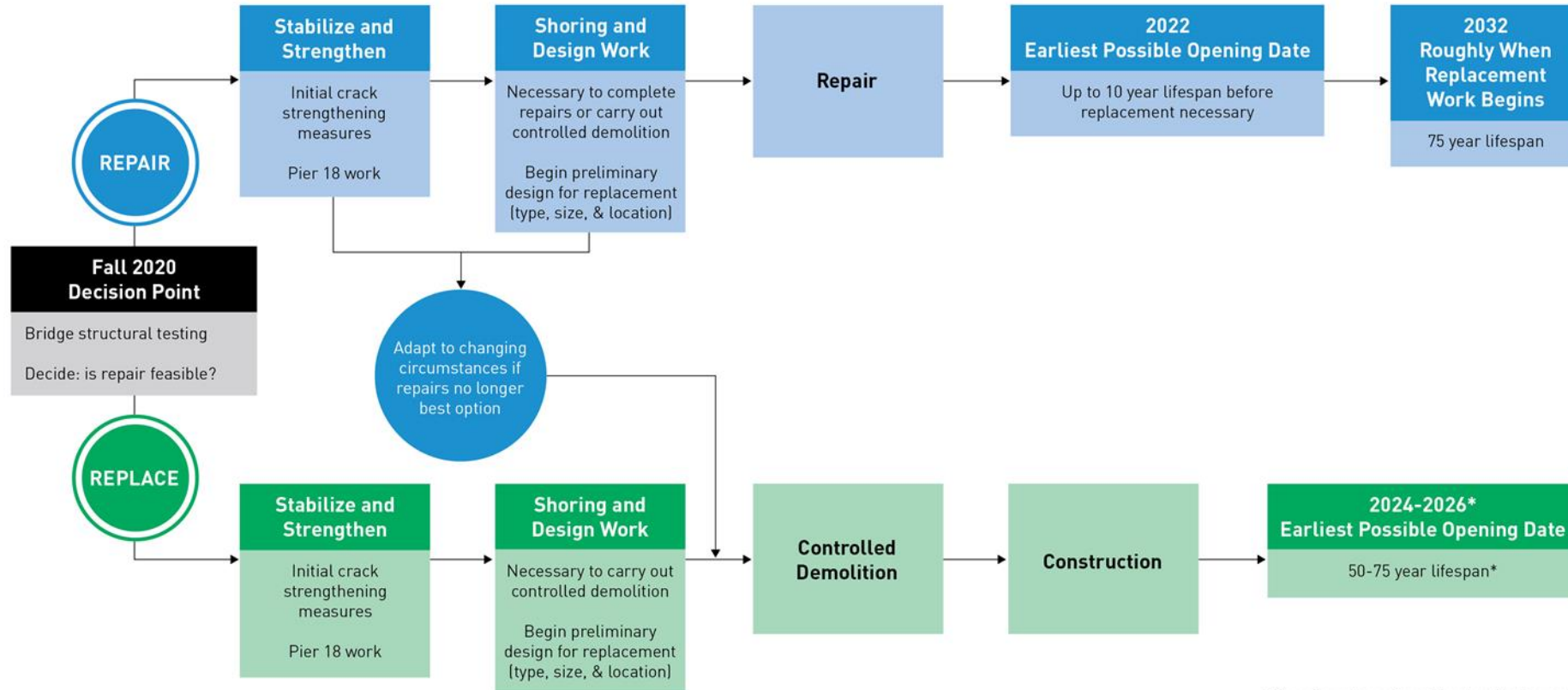
Crews working inside the bridge. In front, the post-tensioning brackets used to reinforce the concrete.



Epoxy crack injection and carbon fiber wrap in a section where many of the larger cracks were identified.

# Moving Ahead on All Paths

## Possible Pathways to Reopen West Seattle Bridge



\*Depending on type, size, and location of replacement.



# Design Team Selected for Eventual Bridge Replacement

- HNTB selected to design the West Seattle High-Rise Bridge Replacement Option
  - Designing a replacement will be necessary even if we decide to repair the bridge first and reopen it for some time. The bridge will eventually need to be replaced
  - Specialists in structural engineering, environmental planning and permitting, geotechnical engineering, infrastructure funding and project delivery
  - Other projects include South Park Bridge emergency replacement, SR 99 Alaskan Way Tunnel and Alaskan Way Main Corridor Reconstruction, the second Tacoma Narrows Bridge
- City's Cost-Benefit Analysis process continues to inform a decision this fall of whether to replace now or repair to restore traffic while we plan the replacement

# Cost Benefit Analysis (CBA) Process

<b>Phase 1: June - Early August</b>	<b>Phase 2: August – Early October</b>	<b>Phase 3: October</b>
<p>Narrow down the repair vs replace options and evaluate the feasibility of each</p> <ul style="list-style-type: none"><li>• Identified key “attributes” or evaluation criteria</li><li>• Invited public input on the attributes and which are most important</li></ul>	<p>Apply the agreed-upon attributes to the different repair vs replace options</p> <ul style="list-style-type: none"><li>• Introduce rough order of magnitude (ROM) \$ costs</li><li>• Identify risks</li><li>• Compare the options through the lens of the CBA</li></ul>	<p>Analyze the quantified results with the pros and cons of each option and a recommendation</p> <ul style="list-style-type: none"><li>• Incorporate community and technical expert feedback</li><li>• Make a final determination on whether to repair or replace the bridge</li></ul>

# On the Ground: 175 Traffic Improvements

- Added traffic monitoring devices and cameras on detours
- Adjusted signal timing at 30+ intersections
- Displaying travel times on dynamic message signs
- Improved detour routes through repaving, new channelization and temporary signals
- Managing limited access to the now-restricted Spokane Street Low Bridge through placards; preparing for transition to automated enforcement
- Launched Reconnect West Seattle traffic mitigation process

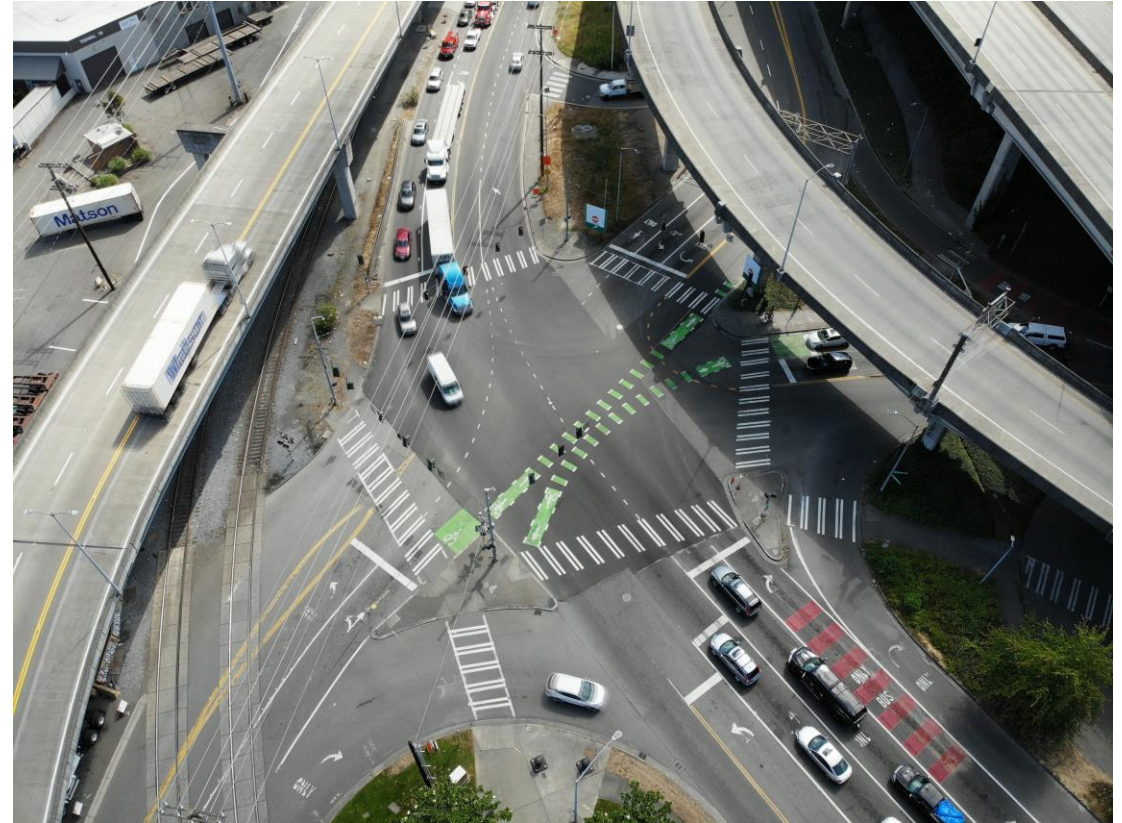


Photo Credit: Chun Kwan

# Reconnecting West Seattle

## A traffic management plan to:

- Allow similar levels of travel across the Duwamish to those seen before the High-Rise Bridge closure
- Reduce negative environmental impacts to the Duwamish Valley resulting from increased traffic congestion and pollution along detour routes



# Traffic Mitigation Plan Highlights

- Projects identified by affected communities and prioritized by ballots and survey results
- Initial investment of \$6M for 2020-2021 project implementation, with additional funding allocation informed by project scoping and emerging needs
- Build 23 community-prioritized projects in 2020 to improve mobility and neighborhood safety
- Design 32 additional mobility projects and programs for 2021 implementation
- The project list is not exhaustive – it describes initial planned investments to support neighborhoods and travelers – work with community will continue as traffic conditions change
- Mode Share goals for West Seattle within reach – with projects and programs implemented in partnership with our agency partners and employers across the region

# In the Community

- 75+ meetings with stakeholder groups
- Community Task Force created to inform and guide City's response to the closure
- Host monthly meetings with Maritime and Employer stakeholders
- Communicate regularly through our website, blog, emails lists, and media



# Local Funding Approach

- City has demonstrated a significant commitment to addressing the Bridge through \$100M initial investment, including a \$70M interfund loan to provide the needed cashflow through the first quarter of 2021
- Will refine the project costs for this CIP as we move beyond the repair or replace decision and are conducting search for a consultant to perform a Traffic and Revenue Study

# Other Funding Strategies

- We are looking at all possible federal, state, and local ways to fund repairs or replacement of the High-Rise Bridge
- Working with partners to inform and develop a comprehensive funding strategy:
  - Federal partners, including local FHWA Division and Build America (TIFIA)
  - Congressional delegation
  - Governor, Legislature, and Washington State Dept of Transportation
  - King County, Puget Sound Regional Council, Port of Seattle & Northwest Seaport Alliance
- Looking at user fees, tolling and other strategies to contribute to a broader funding package

# Questions / Discussion

[www.seattle.gov/transportation/WestSeattleBridge](http://www.seattle.gov/transportation/WestSeattleBridge)

