

Seattle City Council Transportation & Utilities Committee

West Seattle High-Rise Bridge Safety Project

Sam Zimbabwe and Heather Marx, SDOT

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City of Seattle

Presentation Overview

Background and what has changed since April 20 briefing

- West Seattle High Bridge closure declared a City of Seattle emergency
- Stabilization work underway for High Bridge and planned for Low Bridge
- Moving ahead on repair and replace options simultaneously
- 175 traffic and detour route improvements made to date
- Broad and targeted community engagement to share information and improve traffic
- Identifying potential funding opportunities

Two items for Council discussion to continue progress

- Automated enforcement
- Interfund loan

West Seattle closed March 23

- Bridge closed on March 23 due to rapid growth in cracking along the center section of the bridge
- After closure, crack growth continued, confirming immediate removal of live traffic load was essential
- Safety is our top priority – for maintaining first responder access during the coronavirus pandemic – for people living and working near the West Seattle High Bridge – and for our crews and contractors working on the structure



What Has Changed

Recent findings

- Bridge is outfitted with intelligent 24/7 monitoring and health system; now inspected every two weeks
- Non-destructive evaluation has found substantial strength in the post-tensioning strands
- Technical Advisory Panel confirmed SDOT's determination that repair is feasible

Ongoing work

- 3 categories: On the Bridge, On the Ground, In the Community



On the Bridge

- Declared the West Seattle Bridge an emergency; expected to support funding, permitting and materials acquisition
- Developed emergency contingency plan with City and Agency partners
- Installed 76 monitoring instrumentation devices
- Created a Technical Advisory Panel to inform City's decisions
- Started bridge stabilization
- Finishing search for a team to design eventual I replacement



Stabilization Measures Underway



Work platforms installed in July



Underside of girder. Three layers of CRFP are being applied prior to new external post-tensioning.



Core drilling through bottom of girder will hold new external post-tensioning strands.

Low Bridge Health and Monitoring

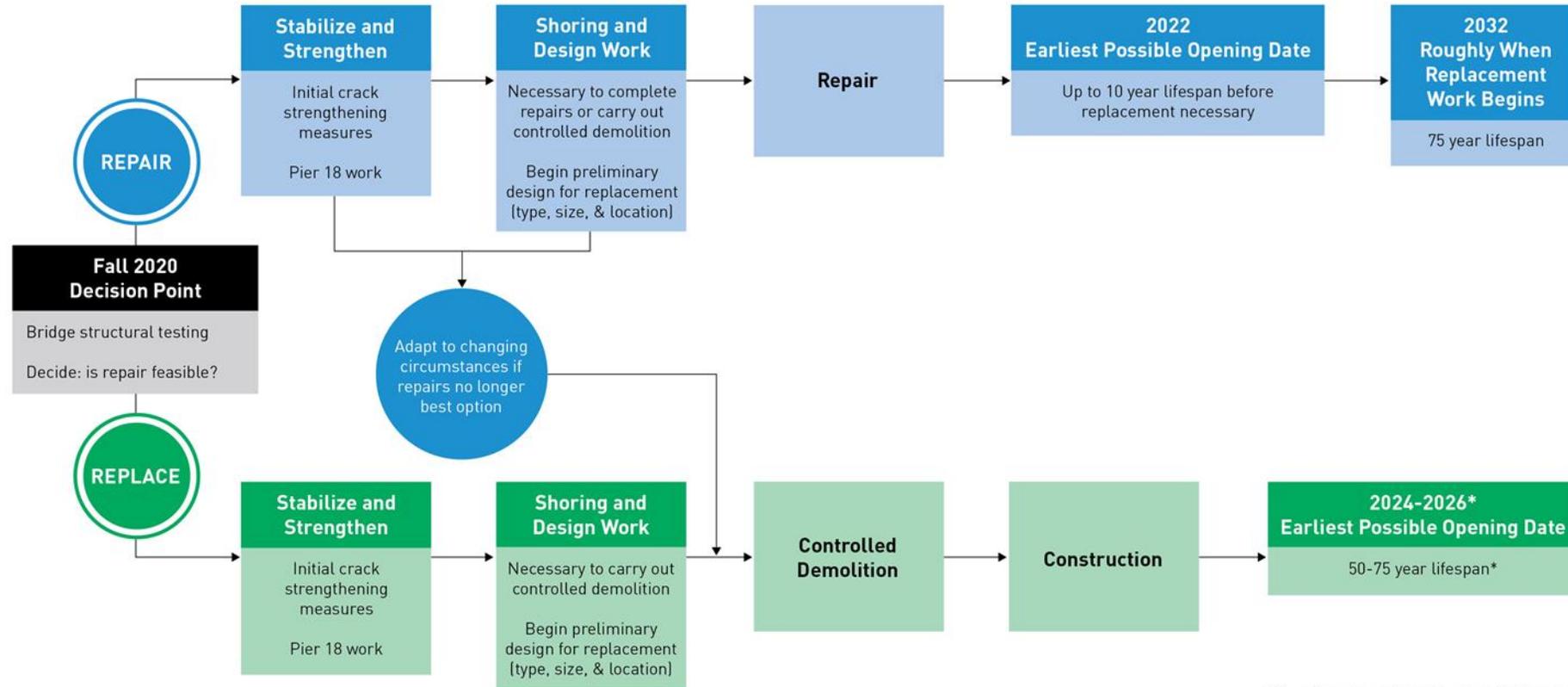
- Low Bridge more essential than ever
- Recent updates in federal regulations require structural and operational response
- Low Bridge is now equipped with complete structural health monitoring instrumentation
- Selecting designer and contractor for strengthening
- Updated operations:
 - Lowering speed limit
 - Added weight restrictions for largest trucks



Photo credit: My Northwest

Moving Ahead on All Paths

Possible Pathways to Reopen West Seattle Bridge



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

Cost-Benefit Analysis: What It Does (and Doesn't) Do

What it IS:

- The cost-benefit analysis weights the pros and cons of multiple options to inform one specific decision – to repair or replace the West Seattle High-Rise Bridge

What it is NOT:

- A tool for evaluating the pros and cons of different types of replacement options, including whether we should build a bridge or tunnel; such questions begin to be explored in an Alternatives Analysis
- A precise cost estimate, though it does consider costs. Cost is so critical that it is a given factor to be layered upon the attributes and factor in the final, quantitative scoring

CBA Process

Phase 1: June - Early August	Phase 2: August – Early October	Phase 3: October
<p>Narrow down the repair vs replace options and apply objective criteria to evaluate the feasibility of each.</p> <ul style="list-style-type: none">• Identify key “attributes” or evaluation criteria• Gain public input on the attributes• Determine the most important criteria to begin the analysis	<p>Apply the agreed-upon attributes to the different options in the cost-benefit analysis.</p> <ul style="list-style-type: none">• Score the attributes• Introduce rough order of magnitude (ROM) \$ costs• Quantify the results• Compare the options through the lens of the CBA• Present the results to the TAP for feedback	<p>Analyze the quantified results and produce a report with the pros and cons of each option and a recommendation.</p> <ul style="list-style-type: none">• Present report to the CTF and TAP for feedback• Make a final determination on whether to repair or replace the bridge

On the Ground: 175 Traffic Improvements

- Added six real-time cameras on detours
- Adjusted signal timing at 30+ intersections
- Displaying travel times on dynamic message signs via West Marginal Way
- Installed a temporary signal at Highland Park Way SW and SW Holden St
- Repaved the 5-way intersection west of the Spokane Street/Low Bridge
- Repaved Roxbury between 16th and 18th
- Improved 16th and Holden with signal and channelization improvements
- Added speed signs and removed tree obstructions from Sylvan Way
- Launched Reconnect West Seattle



Photo Credit: Chun Kwan

The Vision - Reconnect West Seattle

- Similar levels of travel across the Duwamish to those seen before the closure of the High-Rise Bridge.
- Reduce the environmental injustices that impact communities in the Duwamish Valley.
- Through a community-led process, identify challenges and prioritize solutions that increase options for transit ridership, bike and pedestrian trips – ***for those who are able*** -- and safety on our streets and sidewalks



Reconnect West Seattle

- **Neighborhood Mitigation Strategies** create specific neighborhood traffic mitigation plans for four communities that are acutely impacted by increased traffic from detour routes.
- **Network Connectivity Plans** develop key connections for freight and bicycles
- **West Seattle Mobility Action Plan** outlines a vision for reimagining, reorienting, and providing the transportation services and facilities that meet the needs of West Seattle travelers

RECONNECT WEST SEATTLE: Neighborhood Prioritization Process

The unexpected closure of the West Seattle High-Rise Bridge has had major traffic and environmental impacts to community members in South Park, Georgetown, SODO, and South West Seattle (Roxhill, Highland Park, Riverview, South Delridge).



If you live or work in any of these four neighborhoods, we want to hear from you!



Public Input Into Reconnect West Seattle

- Mobility Action Plan Surveys: 15,074
(72 surveys completed in language)
- Neighborhood Prioritization Ballots: 1,651
 - Highland Park, Riverview, S. Delridge, Roxhill: 1,072
 - Georgetown: 209
 - South Park: 301
 - SODO: 69(60 ballots completed in language)



- DON Community Liaisons conducted in-person and virtual outreach
- Ethnic Media ads and interviews
- Materials in Spanish, Khmer, Somali, Vietnamese, Oromo, Korean, Chinese

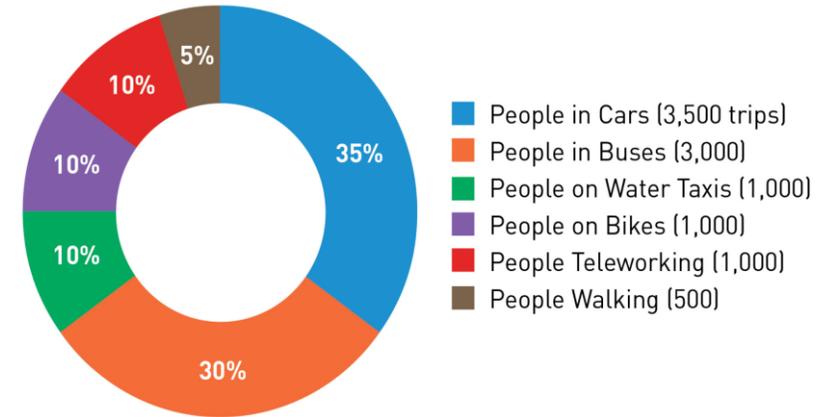
Reconnect Themes - Mobility Action Survey

- Mobility Action plan identifies mode-shift targets to achieve trip reduction goals
- Surveys confirm that social distancing results in fewer trips today than 2019 baseline by every mode except bicycling
- Surveys indicate we can achieve mode split goals – with additional travel options and investments
- When social distancing ends, respondents indicate they plan to drive less than before, and take more trips on water taxi, bikes, carpool and vanpool than they did in 2019

How People Get Around - Change Needed



How People Get Around 2021 Goal



Reconnect Themes - Neighborhood Ballots

- Created for areas disproportionately impacted by the closure of the West Seattle High-Rise Bridge and corresponding detour routes:
 - Highland Park, Roxhill, S. Delridge, Riverview
 - South Park
 - Georgetown
 - SODO
- Most people are concerned about:
 1. Traffic & Congestion
 2. Pedestrian Safety & Accessibility
 3. Speeding
 4. Environmental Impacts & Pollution
- Top priority projects in three categories:
 - In progress
 - Can be done in 2020
 - Advancing to project development / 2021 implementation

In the Community

- Met with 60+ stakeholder groups
- Created a Community Task Force to inform and guide City's response to the Bridge closure
- Communicated regularly through our website, blog, emails lists, and media
- Expanded Low Bridge access – for transit, freight and emergency vehicles initially - to include specific maritime workers, essential vanpools, employer shuttles and to support businesses access



Automated Enforcement Legislation

- Update the Seattle Municipal Code in accordance with recent changes to state law establishing additional uses for automated traffic safety cameras.
- RCW 46.63.170 and RCW 46.68 were updated during the 2020 legislative session by ESHB 1793 which took effect in June 2020.
- New state law allows use of automated enforcement cameras for transit lanes, blocking the box, and travelling in restricted lanes.
- Cameras are permitted in greater downtown and select arterials including Spokane Street Low Bridge.
- Existing privacy safeguards and public noticing requirements will apply to the pilot program.
- The Ordinance will be transmitted as soon as the fiscal note is finalized.



Low Bridge Access: Automated Enforcement

- Pilot project could begin this fall and is authorized through June 2023
- Pole mounted cameras at bridge entry points
- Cameras capture license plate numbers to compare to list of authorized vehicles
- SPD traffic officers currently enforce these restrictions.
- Similar to red-light and school enforcement
- Registered owner receives warning notice, with no penalty, through end of 2020
- Monetary penalties begin January 2021 (\$75 maximum fine)
- Requires local legislation
- Additional locations in the city are expected to be rolled out in 2021



Interfund Loan and new CIP

- Given the nature of the emergency, we could not follow a typical planning and budgeting cycle, and instead began incurring non-budgeted costs in existing programs, such as our Bridge Rehab and Replacement.
- To ensure we are resourced to do what is best for West Seattle and the surrounding region for the long-term, we are looking into all possible federal, state, and local ways to fund repairs or replacement of the High-Rise Bridge.
- In the meantime, however, we have an immediate need for additional revenues.
- The \$70 million interfund loan legislation will provide the needed cashflow to cover West Seattle Bridge Program expenses in 2020 and the first quarter of 2021.
- Currently, the CIP only goes through 2021 and does not include all repair- or replacement-related costs.
- We will refine the project costs for this CIP as we move beyond the repair or replace decision.

Interfund Loan and new CIP

- We estimate spending between \$160 million and \$225 million over 2020-2021 on the West Seattle Bridge Program.
- Again, still a great deal of uncertainty and this range could change.
- The \$70 million interfund loan, backed by a bond sale, would be borrowed from the City's Constructions and Inspections Fund and REET II Capital Projects Fund, and be repaid by SDOT with a \$100 million bond sale in 2021.
- In addition to paying off the \$70 million interfund loan, the \$100 million bond sale in 2021 will also support an additional \$30 million of spending on the project in 2021.
- Any needed spending above \$100 million through 2021 will be supported by a separate interfund loan established, if necessary, in early 2021, to be repaid by a 2022 bond sale.

Interfund Loan and new CIP

These costs include expenses related but not limited to:

- Temporary shoring
- Emergency West Seattle High-Rise Bridge stabilization
- Traffic and travel mitigation projects, including Reconnect West Seattle projects
- Low Bridge monitoring, maintenance and strengthening improvements
- Program development, including communications contracts, long-term funding-related contracts, and funding for the TAP
- Planning/Design contract for eventual replacement of the West Seattle High-Rise Bridge in the more immediate- or longer-term.
- Monitoring, testing, and maintenance of other bridges in the West Seattle Bridge corridor.

Funding Strategies

- Working with partners to develop a comprehensive funding strategy:
 - Federal partners, including the Local FHWA Division and Build America (TIFIA)
 - Washington State delegation
 - Washington State Department of Transportation (WSDOT)
 - Puget Sound Regional Council (PSRC)
 - Port of Seattle
 - Northwest Seaport Alliance
 - Sound Transit
 - King County Metro

- Began search for a consultant to perform a Traffic and Revenue Study

Questions / Discussion

www.seattle.gov/transportation/WestSeattleBridge

