

West Seattle Bridge Community Task Force

Meeting #5
July 22, 2020



City of Seattle

Welcome and Introductions

Introductions from:

- Seattle City Councilmember Tammy Morales

Agenda

- Welcome and Intros – 5 minutes
- Bridge program updates: 10 minutes
- Metro Transit– 15 minutes
- Repair or Replace: Cost Benefit Analysis – 20 minutes
- Task Force Discussion Group – xx minutes
- Next steps & Meeting #6 (Aug 5 @ noon) – 5 minutes

Please note, audio and video for this Webex Event is being recorded and afterward will be available online and accessible to media.

Group working agreement - Paulina

1. Acknowledge/respect differences and similarities
2. Balance advocacy & inquiry
3. WAIT: Why Am I Talking; Why *Aren't* I Talking
4. Assume good intentions *AND* tend to impact
5. Actively participate – Be fully present and remain fully engaged
6. Respect the views of all participants
7. Commit to growing individual equity competence/lens
8. Commit to difficult conversations when necessary
9. Provide honest input and feedback, with constructive solutions
10. If we agree to something, we fulfill it
11. Follow through on promises/commitments
12. Respect everyone's role and rely on each other's expertise
13. Approach everything as a team (all equal participants)
14. Support each other; listen to understand (rather than listening to respond)
15. Be transparent

Meeting Options

- Substantial information for Community Task Force to cover in August and September: Cost Benefit Analysis and Reconnect West Seattle
- In response to Task Force feedback, SDOT wants to provide additional time and opportunity for Task Force members to digest content and engage their communities
- There are options for August to allow more time for Task Enforce engagement; please consider and provide feedback at 2 pm break out group
- Option 1: Longer meetings
 - Add 30-60 minutes to August 5 and August 19
- Option 2: More meetings
 - Add time on Aug 12 or Aug 26
 - Poll Task Force members for good times (consider other days, times)
- Option 3: Optional Office Hours
 - Add additional optional times for Q&A in August with SDOT staff and/or with Task Force members
- Option 4: Other?

Bridge Program Updates

Heather Marx
July 22, 2020



City of Seattle

Bridge Program Updates

- Northbound Duwamish River Bridge Select Grid Deck Replacement - WSDOT
- Seattle Transportation Benefit District (STBD)
- Low Bridge health and monitoring
- Low Bridge Access Policy Recommended Update
- Reconnect West Seattle updates

SR 99 – NB Duwamish River Bridge

Select Grid Deck Replacement

- WSDOT project to replace bridge deck panels on the 1st Ave S bridge to keep bridge in a state of good repair
- Work started last week
- Beginning July 26, fourteen consecutive nighttime closures in the northbound direction
- Starts at 10 pm Sundays and 11 pm Monday-Thursday; bridge will reopen by 5 am the following morning
- After that, several nights of one-lane closures
- Work complete in September or early October

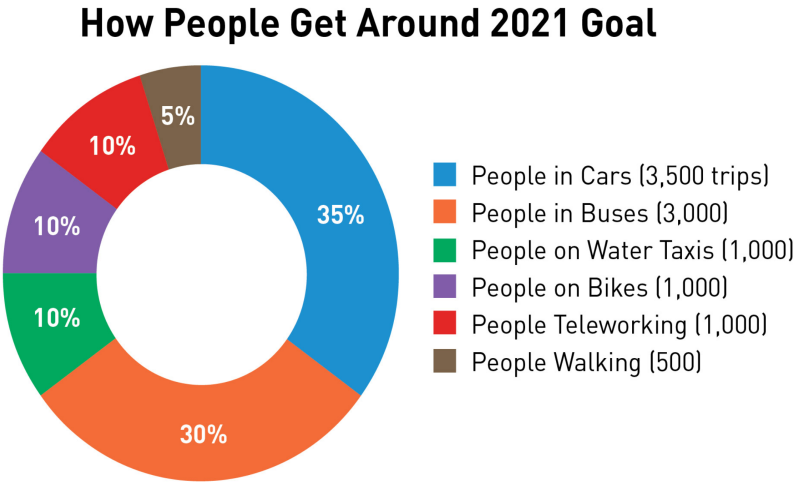
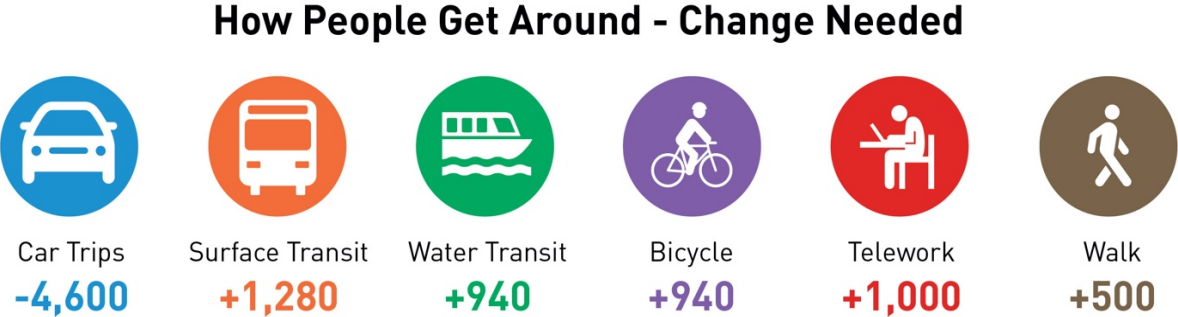
Seattle Transportation Benefit District

November ballot proposition

- Current Seattle Transportation Benefit District (STBD) measure is set to expire at the end of this year
- Mayor Durkan transmitted legislation for a new STBD proposal to go before Seattle voters in November
 - Continues .1% sales tax for 6 more years, generating \$20-30 million per year
 - Funding dedicated to 4 buckets:
 - citywide transit svc (50%+)
 - 1) Emerging transit needs (essential worker mobility/ West Seattle Br transit mitigation)
 - 2) Low income access programs (Orca Opportunity, low income passes)
 - 3) Transit related street maintenance and spot improvements (10%)
 - Supreme Ct decision on I-976 still pending so does not include extension of \$60 vehicle license fee
- City Council select committee has passed amended legislation to full Council
 - Reduces term from 6 to 4 years
 - Council may consider .1% increase; or commit to phase in \$20+10 VLF over 2 years

Make investments that address acute mobility needs

- We are also facing a mobility crisis for all communities in West Seattle and the Duwamish Valley
- Freight and maritime businesses in the region who play a critical role in the vibrancy of our economy,
- Small businesses and communities acutely impacted
- This is not just a traffic issue; it's an equity issue.
- Current detour routes have travelers heading south, cutting through some of the most diverse communities in our city, who already face disproportionate levels of pollution, asthma, and environmental injustice.



Low Bridge Health and Monitoring

- In updating the federally required rating for the Low Bridge, we identified how the structure has limitations in meeting recently updated federal standards
- Low Bridge is equipped with complete structural health monitoring instrumentation
- Updated operations:
 - Lowering speed limit
 - Adding weight restrictions for OL2
 - Fast tracking strengthening measures
- This situation is not analogous to the High Bridge

Low Bridge Access Policy – Background

- Emergency vehicle response remains top priority; SPD enforces at peak periods
- June 25 Policy expanded to:
 - Allow use by all between 9 pm and 5 am
 - School buses
 - Potential for others with more discussing and data sharing: proximate maritime users; employer shuttles
- Analysis indicates that an additional ~160 vehicles can use the Low Bridge



Proposed Low Bridge Access Policy Update for Summer 2020

Access expanded by placard to:

- 75 Maritime/industrial users proximate to Harbor Island
- 22 Employer shuttles
- 8 Vanpools of essential workers
- 113 ILWU

Placard distribution:

- OED will distribute directly to maritime/industrial users
- To use Low Bridge, vehicles must display new placard
- Policy and access **will be reevaluated in the fall** before automated enforcement starts
- At that time, all use tied to license plate numbers

Reconnect West Seattle Update (7/21)

- Mobility Action Plan Surveys: 9,693
- Neighborhood Prioritization Ballots: 1,035
 - South West Seattle: 720
 - Georgetown: 107
 - South Park: 158
 - SODO: 49
- Next week: Office hours, meetings, reminders
- July 31 surveys close

Plan Schedule:

- August 5 & 19 Task Force: Review results and provide input to SDOT
- Early September: Reconnect West Seattle Plan

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!



Metro West Seattle Bridge Closure Response

West Seattle Bridge Community Task Force

July 22, 2020

Transit on the West Seattle Bridge

Metro has 13 routes that used to travel across the West Seattle Bridge

Pre COVID-19:

- ~900 bus trips traveled across the bridge
- Carrying ~19,000 daily passengers

Transit service in and out of West Seattle is crucial to jobs, school, dining, and entertainment.



What is Happening Now

- All routes that would normally travel on the West Seattle Bridge are traveling on the lower bridge.
- These routes are not seeing major delays as traffic volumes are being managed by SDOT
- They are subject to bridge openings on the lower level bridge which at times can cause delays (avg. 4/day 10-15 min/opening).
- Metro is monitoring loads on our reduced network and have recently added trips to the C Line to maintain physical distancing. We will continue to make such adjustments as needed.



Real-Time Service Monitoring – Data Analytics

Metro is monitoring key performance indicators to inform service provision and transit priority needs:

- Route ridership by time period
- Bridge passenger loads and crowding
- Segment travel times (e.g. last stop WS to first stop downtown)
 - Monitoring reliability to understand congested segments/times of day
- Bridge openings/delays



West Seattle Bridge Closure Monitoring - Segment Run Times

This product is intended for use by Metro staff for continuous improvement purposes. Data is not fully processed and may contain errors.

| | | | |
|----------------|-------------------------|---------------------|----------------------------------|
| 1st Ave Bridge | West Seattle - Downtown | West Seattle - SODO | West Seattle/Delridge - Downtown |
|----------------|-------------------------|---------------------|----------------------------------|

Downtown Segments View

Bridge Segments View

% Change in Segment Travel Time Week-Over-Week

1.75%

This Week's Average Travel Time

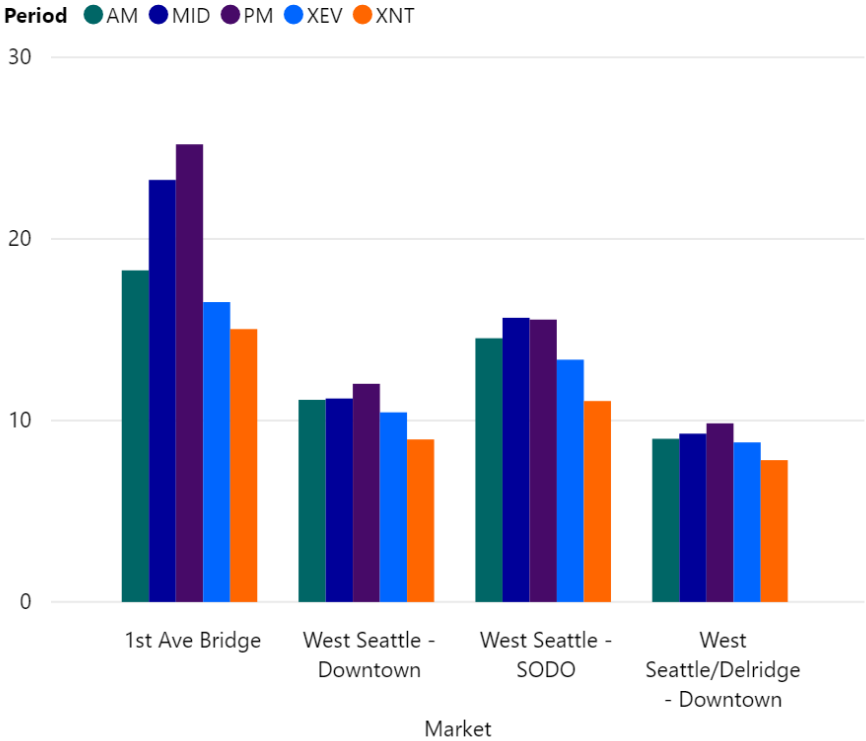
11.38

Last Week's Average Travel Time

11.18

Time is presented in decimal minutes due to software limitations. Negative numbers in the "Change in Week-Over-Week Average Segment Run Time" chart indicate that the average segment time was shorter this week than last week.

Average Segment Run Time (Last 7 Days)



Route

Direction

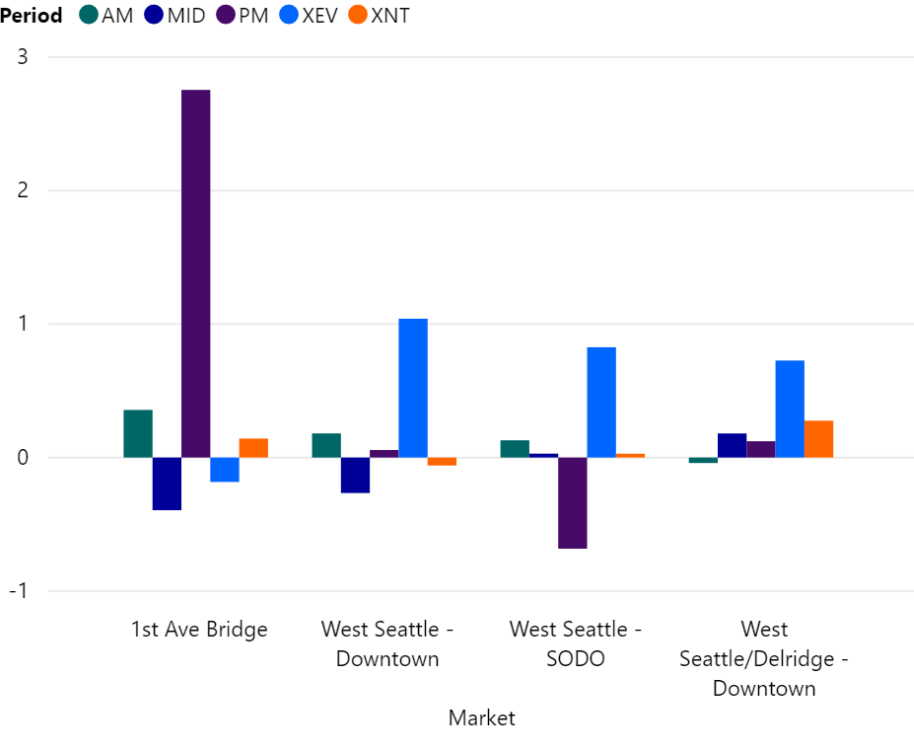
Period

All

All

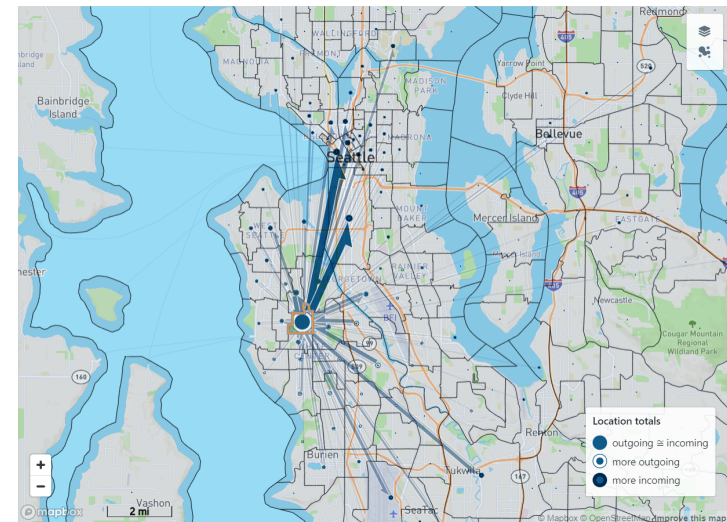
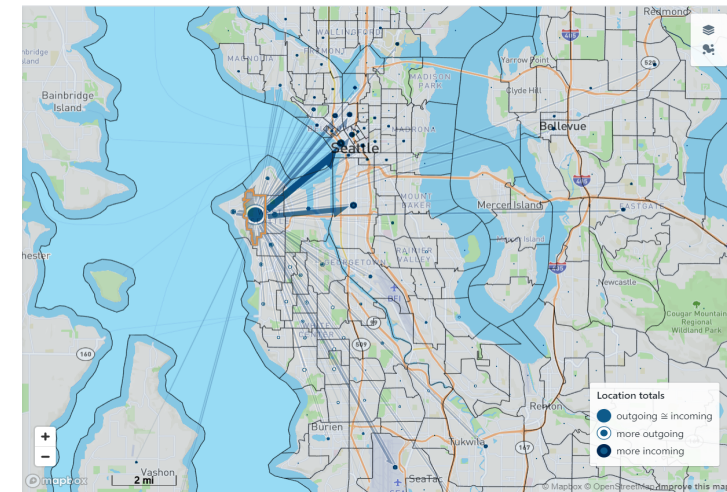
All

Change in Week -Over-Week Average Segment Run Time



Metro's Response

- Immediately established a West Seattle Bridge project team.
- Meet frequently with SDOT to identify opportunities and develop solutions
- Conduct origin and destination analysis to understand travel patterns and needs in and out of West Seattle
- Developing Action Plan to meet customer needs now and into the future



Metro's West Seattle Bridge Action Plan

Anticipates multiple scenarios:

- Low Bridge available and prioritized for transit and other essential traffic
- Short term closures of Low Bridge
- High Bridge instability/long term closure of Low Bridge

Is a living document that will be updated as conditions change:

- Near term needs through March 2021 - focusing on service availability and reliability
 - Adding back Routes 55, 56, 57 to better serve Admiral neighborhood (Sept.)
- March 2021 through September 2021
 - Meet demand that is anticipated to return as COVID fades, residents return to the office and congestion makes driving much less desirable
- Adjusting between service change dates to meet emerging conditions

Metro's West Seattle Bridge Action Plan

Key Objectives:

- Between West Seattle and downtown Seattle/SODO:
 - Provide fast, reliable, comfortable mobility options (Bus and Water Taxi) including convenient transfers to frequent service to the UW, First Hill, and other regional destinations that are travel time competitive with or better than driving alone.
- Offer non-fixed route mobility solutions (such as Vanpool, shared employer shuttles) to destinations not well served by traditional transit
- Ensure transit within West Seattle is continues to link major neighborhood destinations with frequent and reliable service.

Customer Focus Priorities

Priority 1:

Meeting the needs of Metro's current customer base (those most reliant on transit and others who have chosen to continue to ride)

Priority 2:

Gaining back customers temporarily lost to COVID as activities and work patterns rebound

Priority 3:

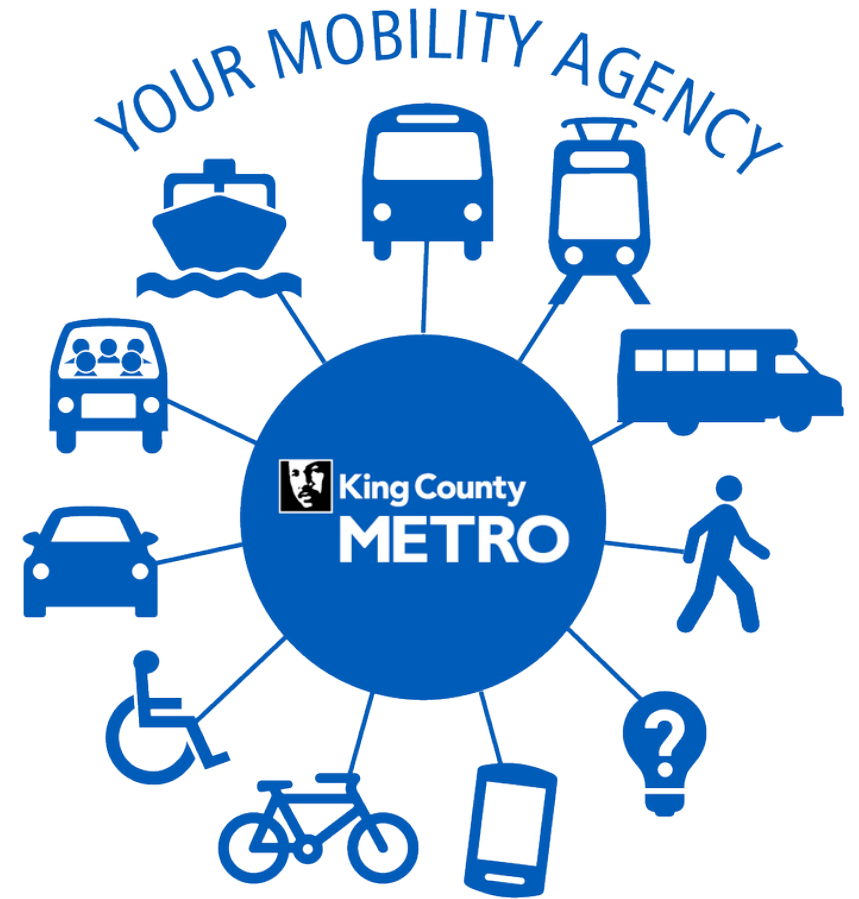
Attracting new customers who previously drove with more convenient, reliable, and time-competitive mobility options

Metro Mobility Solutions

Types of Service

- Fixed Route
- Water Taxi
- Non-Motorized including walking and biking
- Vanpool
- First/Last Mile solutions to get people to and from transit
- Other innovative ideas

All mobility solutions are being considered as part of this plan (budgeted and those requiring 3rd party funding)



High Impact Mobility Improvements

3rd party funding would be needed, but could be implemented quickly (no new capital needs):

- Upgrade Water Taxi service to two boats up to all-day and year round
- Route 773/775 Water Taxi shuttle improvements and/or new third route
- RapidRide C Line service frequency upgrades (peak, off-peak)
- Robust bus service between Admiral and Downtown
- Route 50 service frequency upgrades to SODO Link Station

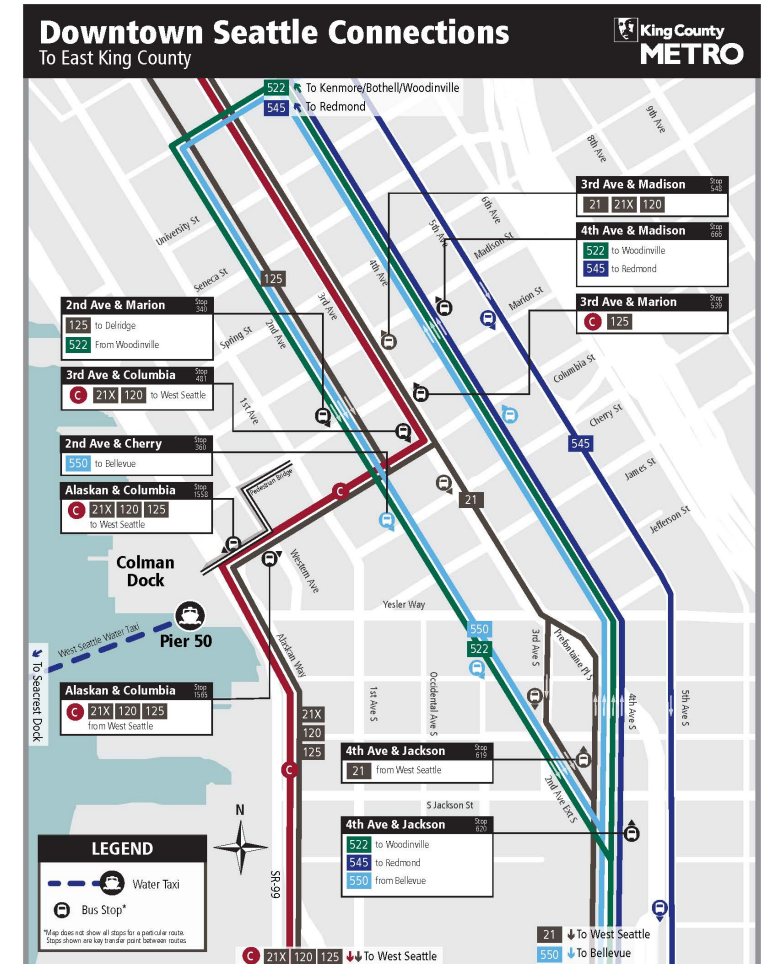
Customer Information and Communication

- Help customers easily understand existing transit options to downtown/SODO



Customer Information and Communication

- Provide easy to understand connections for traveling to key destinations within Seattle, North, South and East King County



Questions?

Cost-Benefit Analysis (CBA)

July 22, 2020



City of Seattle

Cost-Benefit Analysis: Purpose and Need

- The cost-benefit analysis looks at the pros and cons of a multiple options for repairing and replacing the bridge
- The cost-benefit analysis considers the dollar costs in its conclusions, but also looks at many other attributes to determine the “best choice”
- Alternatives analysis consists of 6 different concepts to replace traffic capacity, based on a defined set of evaluation attributes and assumptions
- Cost-benefit analysis will help inform the City’s decision to repair or replace the West Seattle High-Rise Bridge

Cost-Benefit Analysis: Community Task Force Key Dates

- July 22: Community Task Force cost-benefit analysis overview
- August 5: Community Task Force provides input on cost-benefit analysis evaluation criteria; TAP Co-Chairs
- July – August: 1st CBA Deliverables (Basis of Design, Evaluation Criteria, Alternative Design Concepts of Repair/Replace Options)
- August – September: Next part of CBA (cost estimates, risk and opportunity assessment, finalize evaluation criteria)
- October: Complete CBA

While decision-making process is on-going, all options are advancing as quickly as possible.

Cost-Benefit Analysis: Assumptions

- Repairs are technically feasible
- This analysis will use predefined attributes to evaluate the costs and benefits of immediate next steps: repair or replacement
- Replacement options considered are in the same alignment as the current bridge
- All alternatives estimate that travel capacity is restored to the corridor by 2026

Cost-Benefit Analysis: What isn't included

- **Only** a qualitative analysis will be performed for replacement alternatives for different alignment or structures (including a bridge or tunnel)
- IF we decide to replace, we will perform a Type, Size & Location (TS&L) study and deeper analysis to further examine multiple replacement alternatives, including tunnel and bridge options outside the current bridge's footprint
- Based on the TS&L study, we will present a number of alternatives so we can reach the best option for a replacement
- We will then begin design work on the preferred alternative

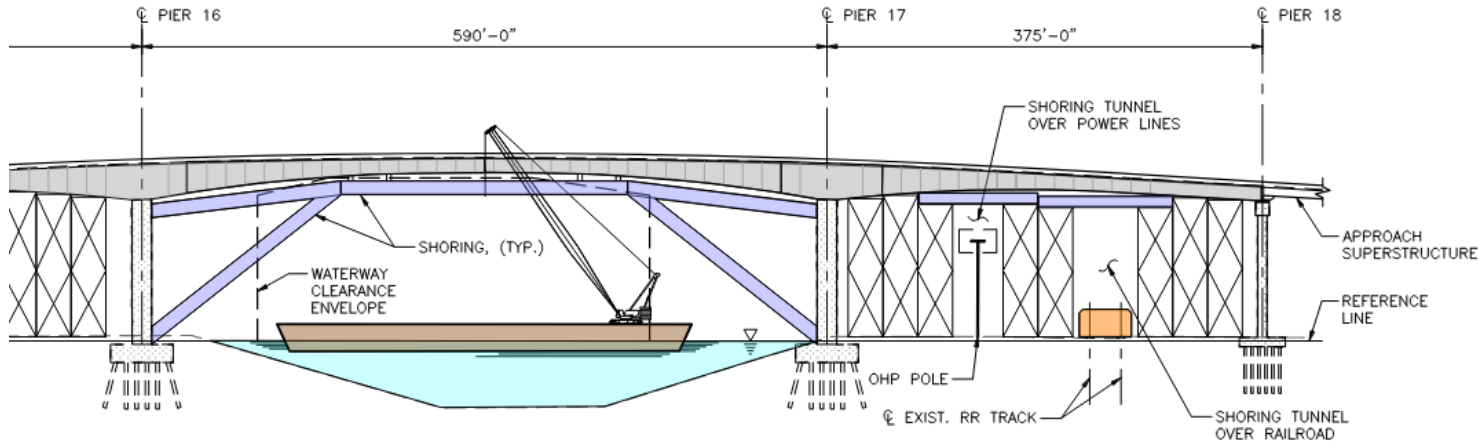
Cost-Benefit Analysis: Framework

| Scenario | Option | Description | Potential to restore traffic in*: | Approximate lifespan* **: |
|----------|--------|----------------------------------------------------------------------------------------|-----------------------------------|---------------------------|
| Shore | 1 | Temporary shoring | 2022 | 3-5 years |
| Repair | 2 | Repairs (carbon fiber wrap and external post-tensioning) with foundation strengthening | 2022 | 15-40 years |
| | 3 | Partial superstructure replacement with foundation strengthening | 2022 | 15-50 years |
| Replace | 4 | Full superstructure replacement with foundation strengthening | 2025 | 50-75 years |
| | 5 | Full bridge replacement in same footprint | 2026 | 75+ years |
| | 6 | Tunnel replacement | 2026 | 75+ years |

** Dates and years are estimates and subject to change.*

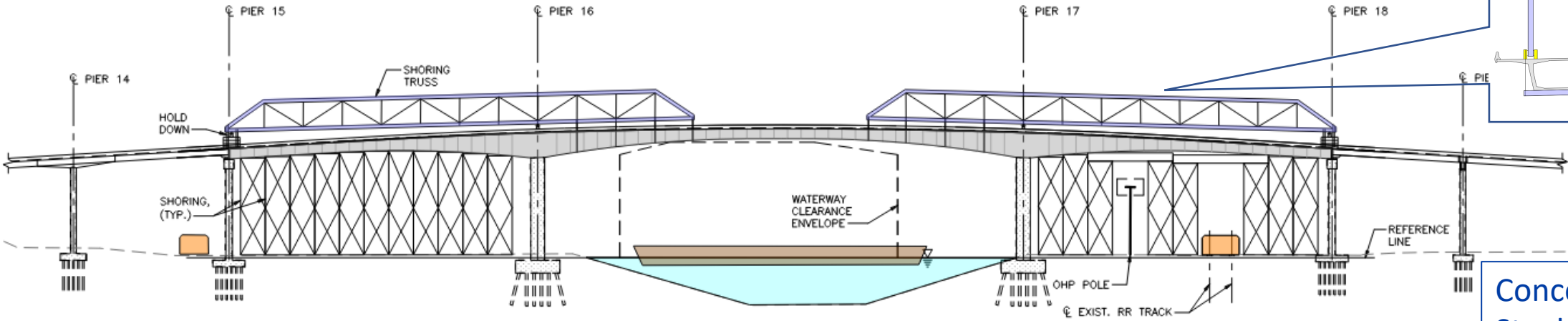
*** Lifespan estimates have increased as a result of better-than-anticipated NDE results, instrumentation readings, and other recent analysis. These large windows of service life (ex., 15-40) will be narrowed as more analysis by the TAP is done.*

Cost-Benefit Analysis Option 1: Shoring to Restore Traffic Capacity



Concept 1:
K-Frame Shoring System

ELEVATION – SHORING TO RESTORE LIVE LOAD – STAGE 2
CONCEPT ONLY, NOT TO SCALE

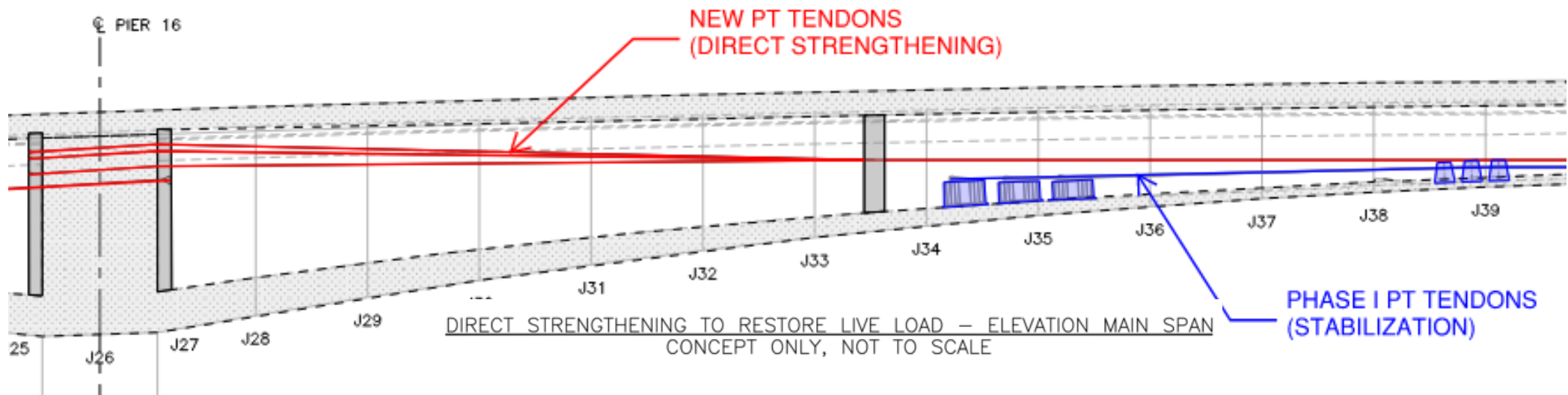


Concept 2:
Steel Truss Shoring System

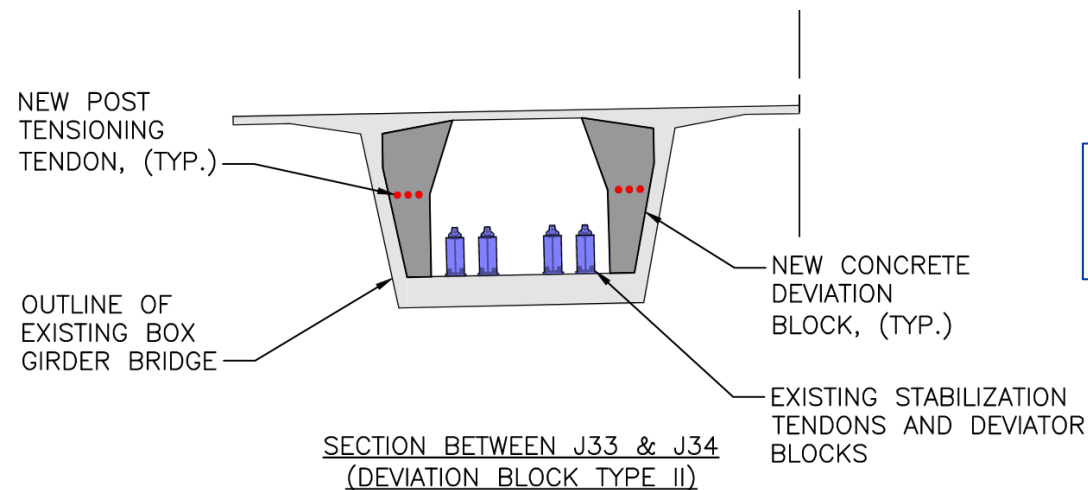
ELEVATION – SHORING TO RESTORE LIVE LOAD – STAGE 2
CONCEPT ONLY, NOT TO SCALE



Cost-Benefit Analysis Option 2: Repair to Restore Traffic Capacity

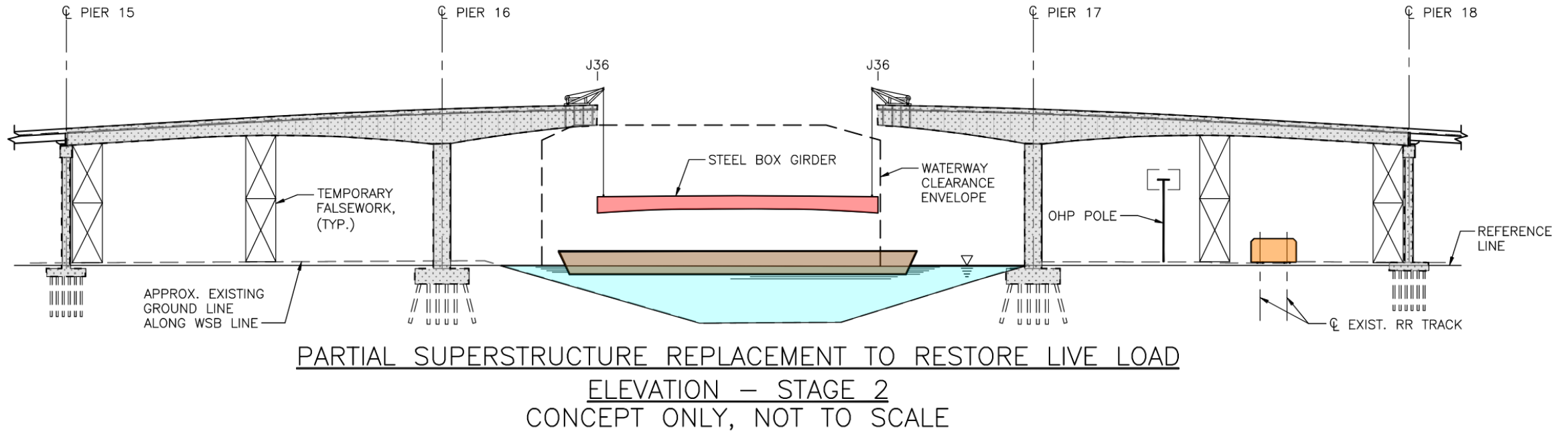


Bridge side view



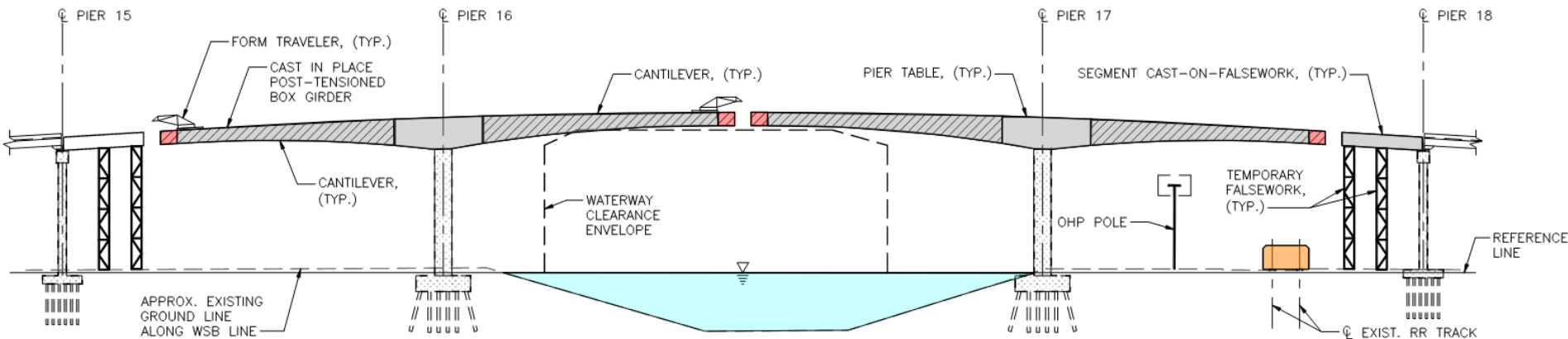
Bridge girder cross-section

Cost-Benefit Analysis Option 3: Partial Superstructure Replacement



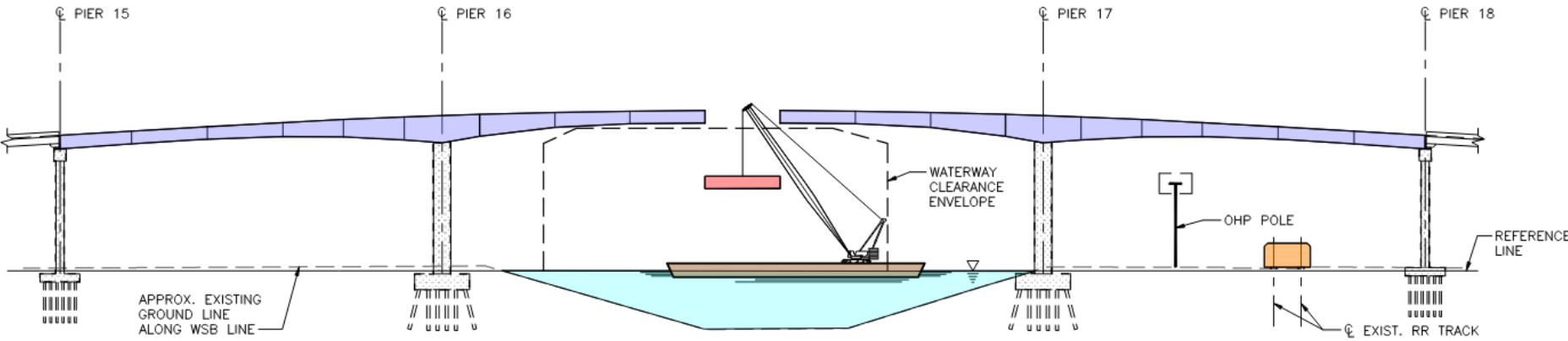
Center section of the bridge
between Piers 16 and 17 to be
replaced with a steel box girder

Cost-Benefit Analysis Option 4: Full Superstructure Replacement



Concept 1:
Concrete Balanced
Cantilever

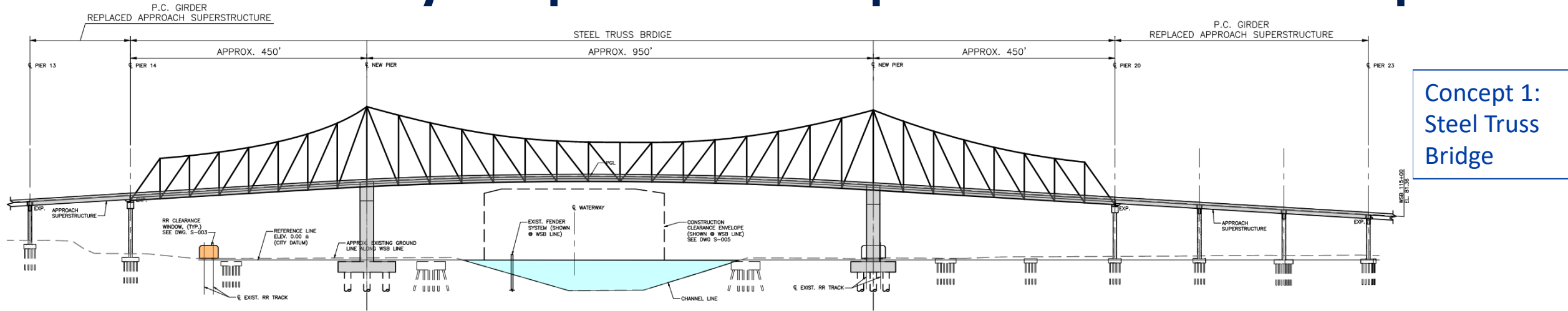
ACCELERATED SUPERSTRUCTURE REPLACEMENT
ELEVATION - STAGE 2
CONCEPT ONLY, NOT TO SCALE



Concept 2: Steel Box Girder

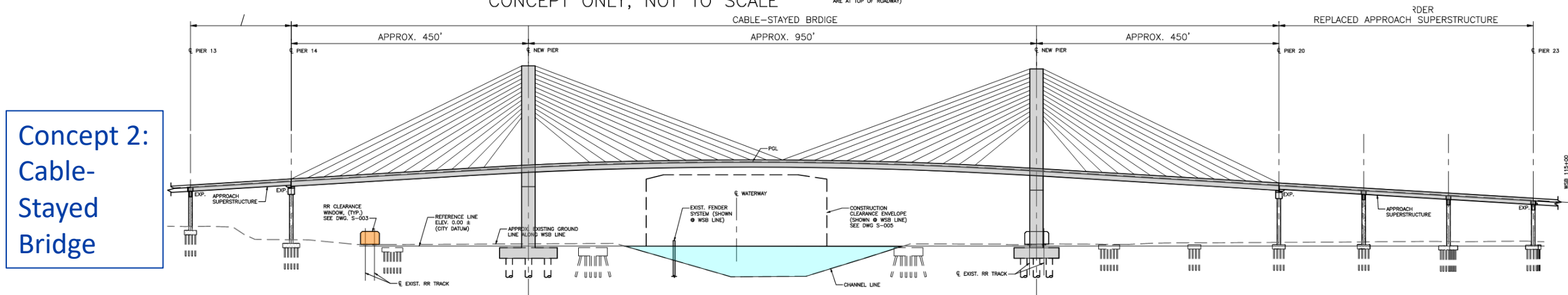
ACCELERATED SUPERSTRUCTURE REPLACEMENT
ELEVATION - STAGE 3
CONCEPT ONLY, NOT TO SCALE

Cost-Benefit Analysis Option 5: Full Replacement in Same Footprint



Concept 1:
Steel Truss
Bridge

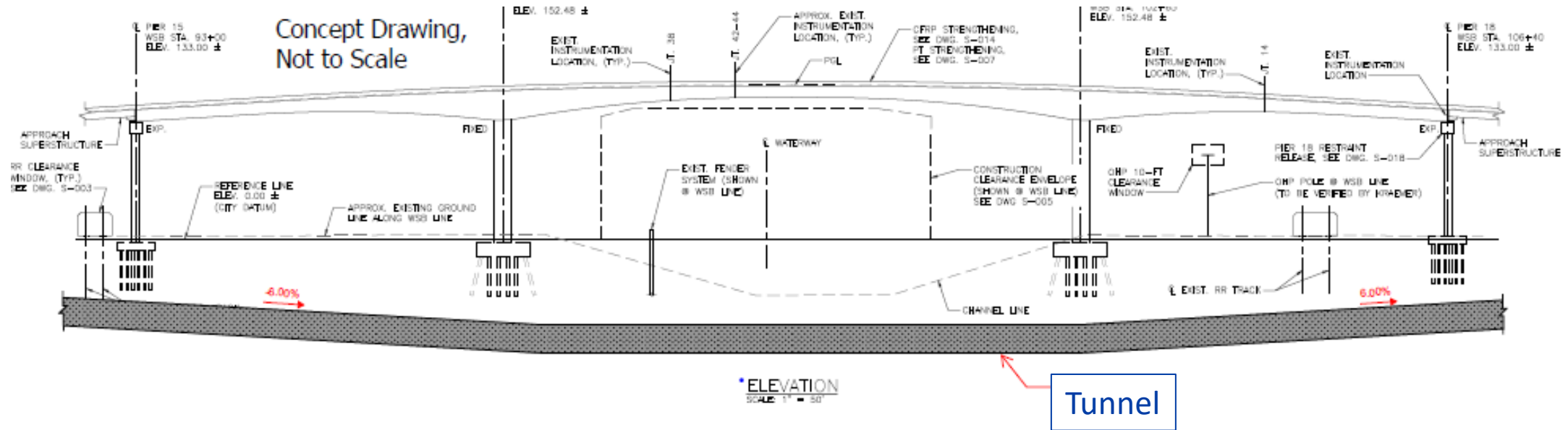
ELEVATION — IN-KIND BRIDGE REPLACEMENT
CONCEPT ONLY, NOT TO SCALE
(GRADE ELEVATIONS SHOWN ARE AT TOP OF ROADWAY)



Concept 2:
Cable-
Stayed
Bridge

ELEVATION — IN-KIND BRIDGE REPLACEMENT
CONCEPT ONLY, NOT TO SCALE
(GRADE ELEVATIONS SHOWN ARE AT TOP OF ROADWAY)

Cost-Benefit Analysis Option 6: Tunnel in Same Footprint



The tunnel concept we are exploring in the CBA would run underneath the current bridge.

Cost-Benefit Analysis: Proposed Evaluation Criteria

- Constructability
- Environmental
- Equity
- Forward compatibility
- Funding
- Multimodal impacts
- Maintenance and inspection
- Mobility
- Regional business
- Safety/Seismic

Proposed Evaluation Criteria

- **Constructability** Will the contractor be able to build the bridge given site constraints and schedule?
- **Environmental** What kind of temporary and permanent impacts will the bridge have on the Duwamish River and surrounding area? Can we build it within the mandated in-water work windows?
- **Equity** Will underrepresented communities be positively or negatively impacted by the preferred alternative?
- **Forward compatibility** It is compatible with Sound Transit light rail or other transit?
- **Funding** Is the preferred alternative eligible for federal, state, local, or emergency funding?

Proposed Evaluation Criteria

- **Maintenance, inspection & operation needs** What will the preferred alternative need over its lifespan in terms of maintenance and inspection?
- **Mobility** Does the preferred alternative facilitate or hinder the movement of people and goods? How will it impact current local and regional traffic?
- **Multimodality** Will the preferred alternative accommodate multiple modes of transportation, including transit, pedestrian, and vehicle traffic?
- **Regional business** How will the preferred alternative impact regional and local businesses as pertains to the movement of people and goods and overall access? Will it impact the ship channel? Will construction affect business access?
- **Safety/seismic** What seismic standards will the preferred alternative have to meet?

Cost-Benefit Analysis: Weighting the Attributes

Which evaluation criterion contributes more to the overall success of the project?

RATINGS SHOWN ARE FOR ILLUSTRATION ONLY

| | | | | | | | | | | |
|--------------------------------------------|---|---|---|---|---|---|---|---|---|---|
| Bridge Maintenance, Inspection & Operation | A | B | C | D | A | F | G | H | I | J |
| Constructability | B | B | D | D | B | F | B | H | B | B |
| Environmental | C | D | C | F | G | H | I | C | | |
| Equity | D | E | D | G | D | I | D | | | |
| Forward Compatibility | E | F | E | H | E | E | | | | |
| Funding Opportunities | F | G | F | I | J | | | | | |
| Local Business Impacts | G | G | I | J | | | | | | |
| Mobility Impacts | H | I | J | | | | | | | |
| Multi-modal Impacts | I | I | | | | | | | | |
| Seismic/Safety | J | | | | | | | | | |

| TOTAL | % |
|-------|-------|
| 2.0 | 3.6% |
| 7.0 | 12.7% |
| 4.0 | 7.3% |
| 7.0 | 12.7% |
| 5.0 | 9.1% |
| 6.0 | 10.9% |
| 6.0 | 10.9% |
| 5.0 | 9.1% |
| 8.0 | 14.5% |
| 5.0 | 9.1% |

Number of times
"D" appears in
the table

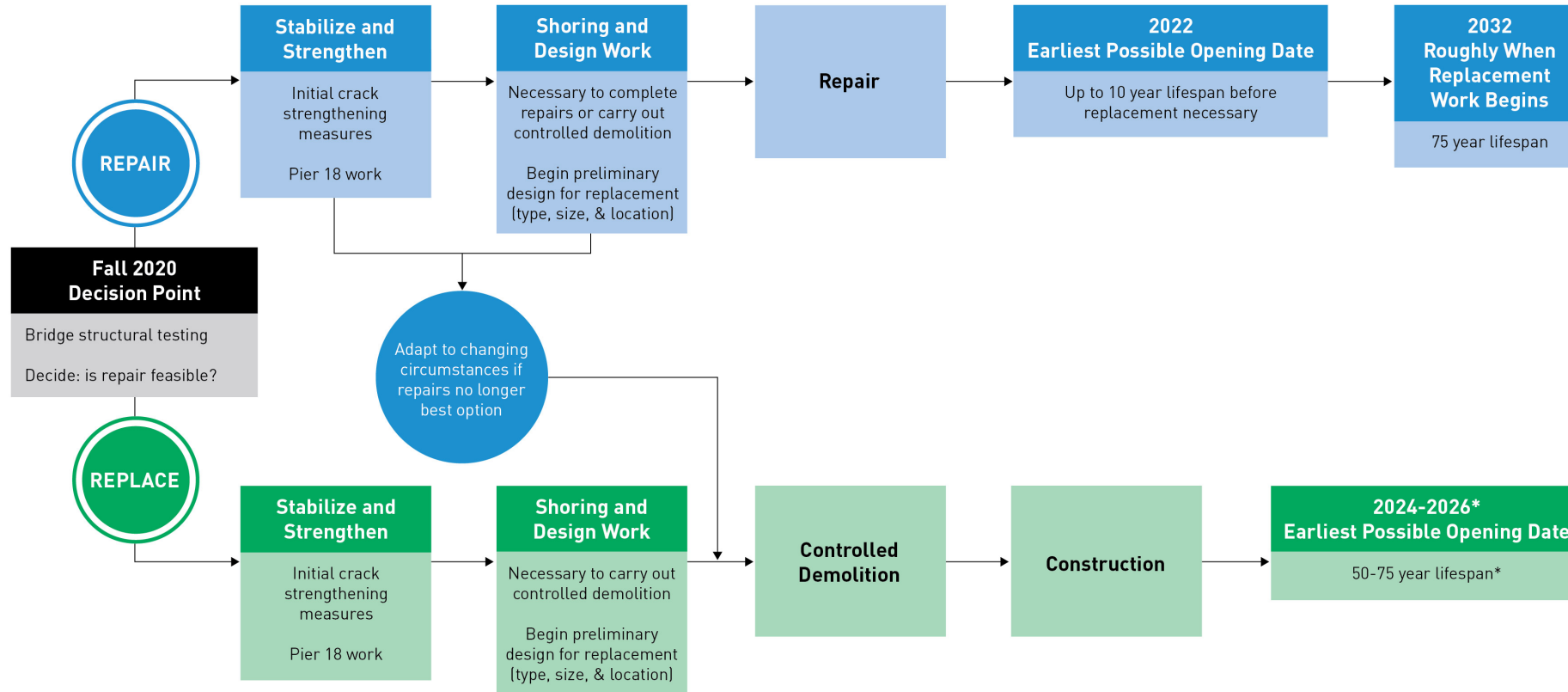
Weight factor

*NOTE: Evaluation Criteria Ratings shown have been provided for illustration purposes only. Actual ratings to be determined with input from the City.

| | |
|------|------|
| 55.0 | 100% |
|------|------|

Cost Benefit Analysis Informs Our Path

Possible Pathways to Reopen West Seattle Bridge



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

Next Steps & Potential Agenda Topics

- August 5
 - Technical Advisory Panel Co-Chairs; Repair Feasibility and Cost Benefit Analysis
 - Reconnect West Seattle Priorities and Survey Results; Part 1
- August 19
 - Cost Benefit Analysis
 - Reconnect West Seattle Draft Plan
- September 9
 - Cost Benefit Analysis – Part 2
 - Reconnect West Seattle Final Plan

Task Force Breakout Groups

Breakout Group Questions

1. Responses to today's agenda items
 - Reconnect West Seattle outreach
 - Low bridge access policy
 - Cost-Benefit Analysis criteria
2. How to better accommodate time for meaningful dialogue going forward?

Breakout Group Assignments

Group A

Co-Chair Paulina Lopez- South Park

Cody, Eileen
Barker, Deb
Morales, Tammy
Ramirez, Greg
Austin, Dan
Thompson, Aley
Smith, Rachel
Carden, Todd
Bowden, Ken
Bestock, David
Goodman, Erin
Goldman, Peter
Daitch, Shayna
Persak, John
Radford, Lora
Fitzgibbon, Joe
Pedersen, Alex

Group B

Co-chair: Greg Nickels - Admiral

Aytch, Mark
Steinbrueck, Peter
Carpenter, Marci
Higuera, Ann
Nguyen, Joe
Watters, Bob
Kirk, Amanda
Able, Charlie
Haas, Jolene
Mackie, Jill

McConnell, Tim
Mehdi, Yazmin
McDermott, Joe
Herbold, Lisa
Desmond, Colleen
Garrow, Katie
Robins, Charlene

Thank you!

www.seattle.gov/transportation/WestSeattleBridge

