



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29, 2019

Community Task Force Meeting #4

Meeting information

Project: Earthquake Ready Burnside Bridge

Subject: Community Task Force, Meetings #4

Dates: Meeting #4: Monday, April 29, 2019

Time: 6:00 p.m. to 8:00 p.m.

Location: Mercy Corps, 45 SW Ankeny Street, Portland

Attendees: **CTF Members:**

Art Graves, Multnomah County Bike and Pedestrian Citizen Advisory Committee
Cameron Hunt, Portland Spirit
Ed Wortman, Community Member
Frederick Cooper, Laurelhurst Neighborhood Emergency Team
Gabe Rahe, Burnside Skate Park
Howie Bierbaum, Portland Saturday Market
Jacqueline (Jackie) Tate, Community Member
Kathy Pape, Central City Concern
Matt Hoffman, Disability Rights Oregon
Neil Jensen, Gresham Area Chamber of Commerce
Paul Leitman, Oregon Walks
Robert McDonald, American Medical Response
Stella Funk Butler, Gresham Neighborhood Coalition
Susan Lindsay, Buckman Community Association
Tesia Eisenberg, Mercy Corps
William Burgel, Portland Freight Advisory Committee

Project Team Members:

Megan Neill, MultCo
Mike Pullen, MultCo
Ian Cannon, MultCo
Heather Catron, HDR
Steve Drahota, HDR
Cassie Davis, HDR
Jeff Heilman, Parametrix
Alice Sherring, Enviroissues
Aascot Bohlander, EnviroIssues
Bridger Wineman, EnviroIssues

Apologies:

Dan Lenzen, Rina Eleanor Jimmerson, Timothy Desper, Nathaniel Brown, Sharon Wood, Kiley Wilson and Marie Dodds.





Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29, 2019

Summary Notes

The following meeting materials are appended to this meeting summary; please refer to the materials for more details and images:

- Community Task Force (CTF) Meeting Packet
- Appendix to CTF Meetings #4 & #5 – Interests and Values

INTRODUCTION AND HOUSEKEEPING

Alice Sherring, facilitator, opened the meeting by welcoming everyone. She explained that this work session would continue to explore interests and values to help inform the development of draft evaluation criteria. The session would once again take the form of small group discussions led by facilitators, building on the information provided by the CTF members in meeting #3. She introduced the small group discussion facilitators and the discussion topics that would be addressed in this meeting, which have been developed direct from the CTF's input.

Alice then briefly reviewed the agenda for the evening, relating topics to meeting packet contents and all CTF members introduced themselves.

PUBLIC COMMENT

Alice acknowledged that no registrations had been received for public comment.

WELCOME AND PROJECT UPDATE

Alice invited the project team members to share their progress updates with the CTF members.

Heather Catron, HDR, noted that during the last meeting, the CTF requested a schedule of upcoming committee meetings. She said the project team is continuing to make the final edits to that schedule. As the group moves through the process, things will evolve. The team plans to bring an updated work plan for all project committees to show how all the groups are working together. The group will go over that in their June meeting, scheduled for June 3.

Mike Pullen, Multnomah County, shared that the project team met the previous week to discuss the project's overarching Diversity, Equity, and Inclusion (DEI) Plan. Previously, the CTF expressed the desire to make sure all in the community have input on this project. There have been special efforts to engage the most impacted groups that have been marginalized by public works projects in the past in this project area. The project team is working with many partners to determine best practices in this area. We wanted to hear from them as we develop our plan. There is a consensus on tools to be used to reach those communities. We'll be engaging CELs, also known as community engagement liaisons, to complete this work. Many governmental agencies are trying to work with these groups and we're looking into ways to coordinate with them to create efficiencies. We're still coming up with ideas.





Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29, 2019

Alice noted that the DEI plan will come to the CTF for review.

Mike also mentioned and distributed flyers for an upcoming open house at PSU, where students will be sharing their conceptual designs for a new Burnside Bridge. Mike noted that even though they were a further ahead than where this project was, he encouraged the CTF members to attend the session.

Jeff Heilman, Parametrix, shared an update from the Natural Resources Working Group's first meeting. The meeting centered around understanding jurisdictional authority and regulatory or permitting matters to consider throughout the project. This minimizes surprises down the line when working with key project partners. One key takeaway from the meeting was that the City is in the process of developing new regulations that may impact fill. These new regulations are more restrictive than existing requirements, and the development of these new regulations will be closely monitored by the team to ensure they can be addressed.

Steve Drahota, HDR, shared that he recently took part in a constructability and estimating meeting. They're trying to focus on how to build and move forward with any alternative currently under consideration. They are looking at the range of costs and physical impacts in the act of building the bridge. They are also exploring best practices for building the bridge and a diversion bridge, if selected.

Alice invited Ed Wortman, CTF member who also attended the constructability and estimating meeting to share his observations on that working group session. Ed said he was sobered by the magnitude of the challenges the team will face during the construction of the project. He said that this project and ODOT's I-5 Rose Quarter project could impact one another. However, he came away from the meeting feeling positively about how broad the representation and input from agencies has been thus far. Ed encouraged the CTF members to watch the project carefully as it will impact many community interests and spread the word to their community.

TEMPORARY DIVERSION BRIDGE

Alice introduced the temporary diversion bridge conversation. She noted that the reason why this topic was being introduced now is that the evaluation criteria will need to consider both construction or temporary impacts in addition to the long term or more permanent impacts. She shared that when she herself first learnt about this was when the full scale of the project became more apparent to her. Alice then prefaced the conversation by stating that knowing this topic will be of high interest to the group, it will be coming back to the CTF in the future. For now, she encouraged the CTF to consider their responses to following questions:

- *What are the range of things we'll need to consider as this conversation evolves?*
- *Are there any trade-offs that need to be understood in making this decision?*

Steve gave an overview of the temporary diversion bridge concept, as seen in the meeting packet appended to this summary.



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29, 2019

Alice invited clarifying questions and any comments from the CTF, and the discussion was recorded on flip charts:

- Matt Hoffman: Is a 5-minute bridge lift considered good, bad, or average?
 - Steve: Average. That's just the time to operate the bridge.
 - Cameron Hunt noted this is a similar operation time to the Hawthorne Bridge.
- Jackie Tate: Is 'Is it worth it,' the question this workgroup will answer?
 - Steve: The CTF makes an important recommendation to the project team about whether or not to pursue it.
- William Burgel: Will bikes be able to use the diversion bridge?
 - Steve: We will ask the multimodal working group what width is needed for bike/pedestrian traffic. That recommendation will come back to the CTF for review and consideration.
- William: Have you considered reversible lanes?
 - Steve: There hasn't been a lot of thought about that yet, but yes it will be considered.
- William: Is it difficult to hold a ship in this part of the river?
 - Steve: This slide doesn't do this curve justice. The bridge is right at the apex of the curve. We are also looking at with this wondering if we're affecting vessels from multiple points and debris, like a tunnel. We're working with the Coast Guard on this.
 - Cameron: For our vessels, it's relatively easy. But fleet week would be different.
- Robert McDonald: It looks like buildings are profoundly impacted by either choice. Does that go over the buildings?
 - Steve: At this point, we haven't figured out span configuration in this area. It's difficult to span over the building. Looking at right-of-way impacts, we're coming up with a layout that's practical right now. The second problem is how to build it. It could be there is a right-of-way impacts for a number of buildings around the bridge.
 - Alice: I'd like to encourage the group to keep this to high level considerations only at this time, as remember this is just an introduction to this topic only, it will come back to the group for a deeper understanding of the impacts.
- Frederick Cooper: Is the east work bridge intended to go all along the esplanade area to the south? Is it on fill or floating?
 - Steve: This is an early concept for gaining access to the bridge. That bank is adjacent to I-5. We're not sure if this approach is practical yet to accommodate cranes, trucks, etc. We're diving into concepts for the east side access. It is a really challenging topic.
- Susan Lindsay: How much is diversion bridge?
 - Steve: The cost estimate range is \$80M to \$200M subject to alternative and width variations.
- Susan: Has there been analysis around not having a diversion bridge and the economic impact of losing that transportation corridor?
 - Steve: Not yet.
- Gabe: About the reconstruction of the bridge, is there an estimate of time to tear it down and rebuild the bridge?



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29, 2019

- Steve: It's a 4- to 5-year duration. That's an estimate based on the prior feasibility phase. We will detail that after an alternative is selected.
- Cameron: I want to clarify river navigation. If the temporary bridge is put on the south side of Burnside, it's easier to navigate. If the diversion bridge was on the northside, it's much harder to navigate.
- Ed: Adding on to Robert's concern about building on the east side, I'm concerned about the construction of approaches on land at both ends. Not just building them, but the process of rebuilding those approaches and keeping the diversion bridge in operation. Would it speed up the project to shut it down and have full access to the bridge for work?
- Paul Leitman: I'd like to consider the impacts, especially timeline impacts, of having a diversion bridge or not, and the mitigation strategies that come along with either one.
 - Alice: So, there may be a concern around the tradeoff between speed of the construction process and overall construction time, versus what might be more inconvenient for a shorter term.
- Cameron: I'm also interested in considering making the diversion bridge connect to Couch instead of Burnside.
- Howie Bierbaum: a diversion on the south side will have greater impact the Saturday Market.
 - Alice: I'd like to encourage the group to keep this to high level considerations only at this time, as remember this is just an introduction to this topic only.
- Neil Jensen: If there is no diversion bridge just shut it down. All the other bridges will see a 20% traffic increase. All the bridges are in gridlock at peak times anyway. An extra 20% of diversion traffic will not noticed. A diversion bridge takes \$200M, creates havoc and displaces a lot of people. It's simpler and lower cost to close the bridge and divert traffic to the other bridges.
 - Stella Funk Butler: I echo Neil.
- Art Graves: When you build a diversion bridge, is the objective to capture 100% of the use that used to take place on Burnside? Is it 40%? What is the metric there?
 - Steve: There are no success metrics yet in the way of types of volumes of users. We're trying to find what success looks like. Which modes make sense? There is no preconceived notion on what works or what is correct. Diversion bridge concept 2 is comparable in space but the first option bridge has better staged approaches.
- Kathy Pape: Is this being considered because of the Rose Quarter work? Or is that considered as a matter of course?
 - Steve: It's a matter of course. Both are large projects. But as bridge engineers, we ask ourselves the import of maintaining traffic, detouring traffic, etc. This is a common question of all bridge projects.
- William: How do we rebuild the approaches if they are being used by the temporary bridge? No temporary bridge. All we do is gain one or two years of construction time and lose \$200M.
- Matt: You've clearly thought this through. I'm concerned about the environmental impact of building additional structures, having to take them down and go up, etc.

- Jackie: I'm concerned about the cost. It also increases construction time, which adds cost, too. I could maybe see some money used for mitigating strategies. Maybe implement a temporary bike/pedestrian ferry. I'd love to see mitigation strategies for both options; with or without a diversion bridge.
- Susan: One tradeoff is the potential loss of business for each side of bridge in the way of freight, car traffic, getting pedestrians to businesses, etc. If we shut down the corridor, it might have a significant business impact – both positively and negatively. The Burnside bridge isn't the Sellwood bridge; it's not in isolation. There are numerous bridges nearby. Same with the Hawthorne Bridge that got done quicker by being closed. I'm looking out for efficiency and the budget. I want to pay attention to the economic costs of shutting down the corridor.

Alice thanked the CTF for their early insights for this conversation. It is not last time this topic will come before the group.

COMMUNITY TASK FORCE WORK SESSIONS (PART ONE)

UNDERSTANDING INTERESTS AND VALUES

Alice asked the group to carry on their conversations from their last meeting. She asked the group to consider the following during their discussion:

- Refer to the list of interests and values from the feasibility phase.
- See the orange box at the end of the table for previous values and interests that need clarification.
- What other interests and values should be added?



See appendix for discussion outcomes.

Each of the facilitators reported out key points of interest from their small group discussions:

Historic Preservation and Aesthetics

Bridger Wineman reported that some of the discussion included:

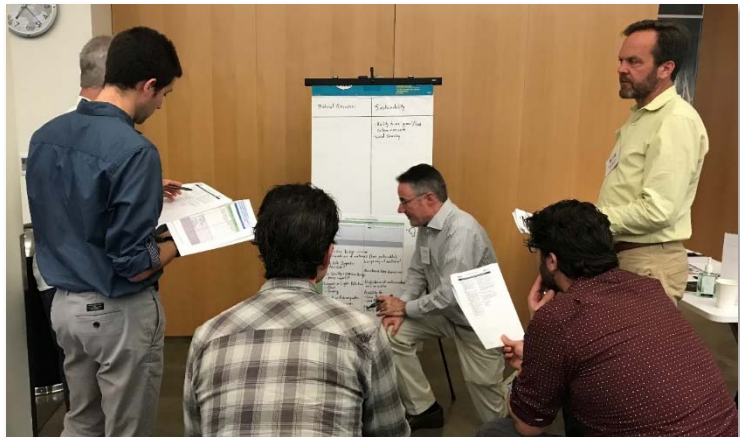
- The historic character of the bridge and components that contribute to the character.
- The group was confused about the construction impacts to historic resources; some examples are needed here.
 - The project could potentially move historic resources out of the way during construction and move them back.

- It is important that the bridge is aesthetically pleasing. The function of the bridge is at least and if not more important to design.

Sustainability and Natural Resources

Mike reported that some of the discussion included:

- Impacts on flooding
- Impacts on natural light under bridge or diversion bridge
- Stormwater treatment
- Impacts on marine mammals
- Pollution generated by deconstructing the old bridge
- Increased use of materials in a diversion bridge
- Light pollution
- Fish migration impacts
- River fill limits
- Transit networks impacted
- Draw bridge versus fixed bridge longevity
- The popularity of bridge as a measure of success
- Contaminated soil
- Potential for the bridge to generate solar or wind power



Community Spaces and Parks

Cassie reported that some of the discussion included:

- Supporting and sustaining community resources
- Impacts to businesses and maintaining access to those businesses
- Parking for community resources like the Saturday Market
- Regarding parks:
 - Aesthetic impacts to East Esplanade, which should be brought back with the same or an improved look and feel when construction is done
 - Access impacts
 - Wayfinding needs
 - Detours through the park, aesthetic impacts like east esplanade we will make sure we brought back the same look and feel when construction is done or better
 - Bike and pedestrian north-south access
- The need to avoid impacts to established structures like the water fountain near the bridge
- Take the opportunity to improve park spaces and uses

Businesses, Indirect Impacts to Uses and Buildings and Social Services

Aascot reported that some of the discussion included:

- Organizations and business impacted like the Saturday Market and others might be relocated during construction and wish to return later
- Indirect impacts to buildings and use
- All agreed that noise, viewshed and light pollution should be considered
- Permanent utilities access for every day and during emergencies
- A higher bridge could increase suicide risk
- Social services impact and mitigation through relocation during construction and the need to provide for the most vulnerable groups
- AMR building impacts and mitigation
- Impact to buildings on national historic register

NEXT STEPS

Alice confirmed that all points needing clarification were addressed. She shared that next week's meeting would see further interests and values discussion.

ADJOURN

Megan thanked everyone for their participation. She is constantly reminded of how diverse the CTF is and that they represent broad groups impacted by this project. She gave kudos to the new people who are catching up.





Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

May 6, 2019

Community Task Force Meeting #5

Meeting information

Project: Earthquake Ready Burnside Bridge

Subject: Community Task Force, Meeting #5

Date: Monday, May 06, 2019

Time: 6:00 to 8:00 p.m.

Location: University of Oregon, White Stag Building – 70 NW Couch Street, Portland; White Box Room

Attendees: **CTF Members:**

Cameron Hunt, Portland Spirit
Ed Wortman, Community Member
Gabe Rahe, Burnside Skate Park
Howie Bierbaum, Portland Saturday Market
Jacqueline (Jackie) Tate, Community Member
Kathy Pape, Central City Concern
Matt Hoffman, Disability Rights Oregon
Paul Leitman, Oregon Walks
Rina Eleanor Jimmerson, Central Eastside Industrial Council
Robert McDonald, American Medical Response
Stella Funk Butler, Gresham Neighborhood Coalition
Susan Lindsay, Buckman Community Association
Tesia Eisenberg, Mercy Corps
Timothy Desper, Portland Rescue Mission

Project Team Members:

Megan Neill, MultCo
Ian Cannon, MultCo
Heather Catron, HDR
Steve Drahota, HDR
Cassie Davis, HDR
Jeff Heilman, Parametrix
Alice Sherring, Enviroissues
Aascot Bohlander, Enviroissues

Apologies:

Art Graves, Dan Lenzen, Frederick Cooper, Kiley Wilson, Marie Dodds, Nathaniel Brown, Sharon Wood, William Burgel.



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

May 6, 2019

Summary Notes

The following meeting materials are appended to this meeting summary; please refer to the materials for more details and images:

- Community Task Force (CTF) Meeting Packet
- Appendix to CTF Meetings #4 & #5 – Interests and Values

INTRODUCTION AND HOUSEKEEPING

Alice Sherring, facilitator, opened the meeting by welcoming everyone. She explained this meeting would once again take the form of a work session, in small group discussions led by facilitators. Alice then briefly reviewed the agenda for the evening, relating topics to meeting packet contents. She introduced the small group discussion facilitators and their discussion topics. She encouraged the CTF to review what they had discussed in meetings #3 and #4 to ensure all items were understood and accurately recorded. Alice noted that the interests and values from these small group discussions will be used by the project team to inform the development of preliminary-draft evaluation criteria. The outcomes of this work will come back to the CTF in the next meet as draft criteria for CTF review.

PUBLIC COMMENT

Alice acknowledged that no registrations had been received for public comment.

PROJECT UPDATE

Alice invited Steve Drahotka, HDR, to provide the progress update.

Steve shared that he took part in two meetings the previous week. The first was with the transportation working group. He stated that they are focusing on traffic modelling and this group is trying to determine how to best model that various modes Burnside bridge carries and which data to use in the next phase of the project. They reached a consensus and will be moving forward.

Steve's second meeting was with the seismic resiliency working group. Their current question is, "What is the right earthquake to design for?" It's a complicated question, because no earthquake is the same. This group has also reached a path forward regarding how to approach the level of design needed for this phase.

Alice outlined that another additional update for the CTF members was that project team members were starting a more specific outreach process with immediate and potentially impacted property owners near the bridge. She wanted to flag that for the group as these conversations would involve

property owners and tenant, some of whom were CTF members. These conversations were important for the project team to understand individual needs.

Alice outlined that some CTF members will be reached out to individually as part of that process. She noted that those conversations around a CTF member’s individual impacts could not be part of the broader CTF’s conversation as this would create a conflict of interest. Instead, she outlined that those CTF members will be engaged in the same way as other property owners and impacted stakeholders to prevent a conflict of interest arising in CTF discussion. The need to manage individual conflicts will come up again and the group can declare perceived conflicts of interest or recuse themselves due to an actual conflict at that time.

Alice noted that the outcomes from this specific outreach will be formally reported to the CTF.

Alice also reminded the group to attend the upcoming open house showcasing PSU student designs for a new Burnside bridge. Megan Neill, Multnomah County, confirmed the CTF is welcome to promote the event online.

COMMUNITY TASK FORCE WORK SESSIONS (PART ONE AND TWO)

ONGOING DEVELOPMENT OF PRELIMINARY-DRAFT EVALUATION CRITERIA

Alice invited the group to carry on their conversations from their last meeting. She asked the group to consider the following during their discussion:

- Refer to the list of interests and values from the feasibility phase.
- See the orange box at the end of the table for previous values and interests that need clarification.
- What other interests and values should be added?

See appendix for discussion outcomes.

Each of the facilitators reported out key points of interest from their small group discussions:

- Cost: The most interesting aspect to many groups was right-of-way acquisition and relocation.
- Emergency Vehicles: Finding space for emergency vehicles, either using shoulder space or sharing lanes with buses or bicycles.



- Personal safety and non-transportation safety: Folks are concerned about the activation of space and ensuring it's designed to keep traffic moving so people are comfortable and not rushed.
- Motor vehicles and freight: Folks are concerned about detours and the potential diversion bridge. The thinking behind detours without a diversion. What do traffic patterns look like without the Burnside bridge or a diversion bridge?

Regarding alternatives, there's concern about cutting off cross-streets and affecting current traffic flows and public transit routes.



NEXT STEPS

Jeff Heilman, Parametrix, thanked everyone for their hard work. The input from tonight and the previous meetings will be used to develop alternatives evaluation criteria and the measures for those criteria. The next step is for the project team to prepare a preliminary draft of evaluation criteria for presentation to the CTF. What the CTF will not determine at this time is ranking which criteria matter more. Some criteria are required standards, like river navigation clearance. At some point, the criteria will be compared for helpfulness for this phase of the project. It's not that any criterion is not important, it's that some criteria will be more important as a helpful data point to differentiate alternatives.



ADJOURN

Alice confirmed that the group will reconvene on May 20 to review a preliminary-draft version of the evaluation criteria pulled together by the project team with the help of the CTF's input from tonight and previous meetings.

Megan thanked everyone for working through three meetings in rapid succession.



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

Appendix: CTF Meetings #4 and #5 Outcomes

Interest and Values Identification

In meetings #4 and #5, CTF members worked to identify interests and values that would help inform the early development of the evaluation criteria. To achieve this, CTF members responded to the following questions:

- *What interests and values does our community feel strongly about that must be considered?*
- *Finish the statement: We care about...?*
- *Are there interests and values missing?*
- *What else needs to be considered?*

The outcomes from those discussions are listed below. Additions or edits to the prompts appear in red.

Note: These are CTF comments as scribed with spelling errors, short-hand abbreviations and symbology expanded for ease of reading.

Interest and Values were summarized under the following topic areas:

- Historic Resources
- Visuals and Aesthetics
- Natural Resources
- Sustainability
- Business and Economy
- Indirect Impacts to Uses or Buildings
- Social Services
- Community Resources
- Parks
- Active Transportation and ADA
- Cost
- Emergency
- Motor Vehicles and Freight
- Personal Safety and Non-Transportation Safety
- Seismic Resiliency
- Transit
- Utilities
- River Navigation



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

HISTORIC RESOURCES

What you said	<ul style="list-style-type: none"> • Protect historic resources and the character of historic districts and neighborhoods (from direct and indirect impacts) + existing bridges
What we heard	<p>Alternatives</p> <ul style="list-style-type: none"> • Displacement • Context • Indirect impacts <p>Construction</p> <ul style="list-style-type: none"> • Access • Displacement
Additional input from Team	<p>Construction</p> <ul style="list-style-type: none"> • Displacement • Indirect Impacts <ul style="list-style-type: none"> ○ Need examples
CTF discussion	<ul style="list-style-type: none"> • “Historic character” of existing bridge and impacts to that – protected historic aspects • Elements of the historic bridge <ul style="list-style-type: none"> ○ Operating machinery ○ Relation to the history of the city • SHPO permitting <ul style="list-style-type: none"> ○ ID the qualified historic elements • Ability to temporarily move historic resources during construction as mitigation • Consider staging needs for alternatives and temp bridge • Historic nature contributes to the history of the city • Clarify examples of temporary displacement of historic resources • Preserve historical elements of the existing bridge – columns • Relocation of historical elements as mitigation • Vibration impacts during construction • Loss of historic resources



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

VISUALS AND AESTHETICS

What you said	<ul style="list-style-type: none"> • Consider views from the bridge, the esplanade and the water • Enhance the visual look and feel - up close and far away, not obstructing
What we heard	Alternatives <ul style="list-style-type: none"> • View sheds/ corridors
Additional input from Team	Construction <ul style="list-style-type: none"> • Intrusion of temporary structures
CTF discussion	<ul style="list-style-type: none"> • “Pretty” aesthetically pleasing • Bridge design and aesthetics <ul style="list-style-type: none"> ○ The bridge should age well • Temporary structure aesthetics – not a concern <ul style="list-style-type: none"> ○ Aren't as important as usability and cost • Futureproofing of aesthetics; percentage of cost going to aesthetics as measure <ul style="list-style-type: none"> ○ Futureproofing = age well ○ Percent of costs to aesthetics – specific set-aside ○ Thoughtful design Denoting importance to Portland. Not just pretty but well-designed ○ Well-designed, not through ornamentation necessarily ○ Clarity of view from the bridge • Bridge defines Portland, engineering, Importance to Portland • Don't visually overwhelm



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

NATURAL RESOURCES

What you said	<ul style="list-style-type: none"> • Protect air quality • Protect environmental quality and water quality for fish and recreation
What we heard	<p>Alternatives</p> <ul style="list-style-type: none"> • Air quality • Water quality • Aquatic species <p>Construction</p> <ul style="list-style-type: none"> • Air quality • Water quality • Aquatic species
Additional input from Team	[none]
CTF discussion	<ul style="list-style-type: none"> • Diversion Bridge: increased use of materials (less sustainable) longevity of the material • Birdlife impacts: variable? • Air quality and diversion bridge: <ul style="list-style-type: none"> ○ More impacts? • Impact on light pollution <ul style="list-style-type: none"> ○ Glare ○ Shading • Impact on fish migration (in/out) • Limits on fill in the river <ul style="list-style-type: none"> ○ Size of pier ○ Hydraulics • Impact on flooding (bridge height) • Loss of natural light (under the bridge) • Columns of bridge and impacts on uses below • Impact on stormwater treatment • Impact on marine mammals (sea lions gather) • Pollution from deconstruction • EPA offsets of replacing old pilings



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

SUSTAINABILITY

What you said	<ul style="list-style-type: none"> • Balance short-term need and long-term legacy of the project - be <u>smart</u> and wise
What we heard	[none]
Additional input from Team	[none]
CTF discussion	<ul style="list-style-type: none"> • Greenhouse Gas Emissions • Disturbance of contaminated soil or water • Possibility for: <ul style="list-style-type: none"> ○ Solar power ○ Wind power ○ Use of recycled materials (steel) • For other Gp: <ul style="list-style-type: none"> ○ Noise pollution ○ Pile driving noise/damage • Ability to use “green”/low carbon concrete • Local sourcing • Impact on active transportation networks (including transit) • Drawbridge vs. Fixed span: <ul style="list-style-type: none"> ○ Longevity of materials ○ Energy used to build • Impact on the amount of use by bridge users (active, etc.)



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

BUSINESS AND ECONOMY

What you said	<ul style="list-style-type: none"> • Minimize harm to local businesses • Avoid displacement of any buildings • Consider usability of area under bridge (i.e., American Medical Response) • Maintain access for customers to visit local businesses during construction and long-term
What we heard	<p>Alternatives</p> <ul style="list-style-type: none"> • Access • Displacement <p>Construction</p> <ul style="list-style-type: none"> • Access • Displacement
Additional input from Team	<p>Alternatives</p> <ul style="list-style-type: none"> • Redevelopment potential <p>Construction</p> <ul style="list-style-type: none"> • Regional and local economy
CTF discussion	<ul style="list-style-type: none"> • Alt and con: relocating sat. Market and skate park – how to mitigate? <ul style="list-style-type: none"> ○ Skidmore and Ankeny Markets ○ All need to return to where we came • Does this impact pride and rose festivals, Cinco de Mayo, staging for marathons? • Detour vs diversion bridge <ul style="list-style-type: none"> ○ Impacts on local businesses • Parking access • Physical impacts and local businesses and organizations • Improved under-bridge environment



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

INDIRECT IMPACTS TO USES/BUILDINGS

What you said	[none]
What we heard	[none]
Additional input from Team	<p>Alternatives</p> <ul style="list-style-type: none"> • Noise • View and light/shadow
CTF discussion	<ul style="list-style-type: none"> • Agree with w/ noise and view impacts to be considered • Alt and con: Bridge height vs. Cost • Alt and con: frequency of lifts • Permanent utilities access w/ new bridge <ul style="list-style-type: none"> ○ In general and in case of emergency • Mitigating all impacts possible? • Vibrations caused by construction • Lighting: want to consider light pollution <ul style="list-style-type: none"> ○ Dark sky criteria <ul style="list-style-type: none"> ▪ Starwatchers ○ Motion lights • Making bridge sustain buildings falling on it • Lighting and perceived public safety • Suicide rate and impacts • Parking access



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

SOCIAL SERVICES

<p>What you said</p>	<ul style="list-style-type: none"> • Minimize disruption and relocation during construction of social services and their clients • Avoid displacement of any buildings • Minimize permanent, adverse access impacts • Minimize disruption and relocation during construction • Maintain access to social services during construction
<p>What we heard</p>	<p>Alternatives</p> <ul style="list-style-type: none"> • Access • Displacement <p>Construction</p> <ul style="list-style-type: none"> • Access • Displacement
<p>Additional input from Team</p>	<p>Alternatives</p> <ul style="list-style-type: none"> • Level of Service maintained
<p>CTF discussion</p>	<ul style="list-style-type: none"> • Consider use by transient community and homeless <ul style="list-style-type: none"> ○ Tents, displacing transient folks ○ The population is transient by nature; may take care of itself ○ Plan to work w/ providers of services to relocate services, they follow <ul style="list-style-type: none"> ▪ During construction (business as well) ○ A small percentage of the population – do not prioritize this population <ul style="list-style-type: none"> ▪ Disagree ○ Most vulnerable groups are most impacted • Building affected is AMR, if AMR, for the good of all, I understand <ul style="list-style-type: none"> ○ Access for temporary bridge helps emergency services ○ Restructuring staging locations and needs • Buildings on National Historic register, depending on alternative chosen, may impact



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

COMMUNITY RESOURCES

What you said	<ul style="list-style-type: none"> • Consider usability of area under bridge (i.e. Skatepark, Saturday Market) • Minimize impacts to festivals and events such as Rose festival • Maintain access to buildings during construction
What we heard	<p>Alternatives</p> <ul style="list-style-type: none"> • Access • Displacement <p>Construction</p> <ul style="list-style-type: none"> • Access
Additional input from Team	[none]
CTF discussion	<ul style="list-style-type: none"> • Importance of prioritizing interests/impacts • Businesses/ community organization impacts (for biz/org. Topic) <ul style="list-style-type: none"> ○ Waterfront events (Cinco de Mayo/ shamrock run, Blues Festival) • Parking for community resources like Saturday market • Being a resident without a local employer, Eastside gets forgotten and there are underserved communities there. • Consider Central Eastside, don't want to minimize momentum: <ul style="list-style-type: none"> ○ Don't want stacking, obstructed space, limiting parking



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

PARKS

What you said	<ul style="list-style-type: none"> • Minimize impacts to parks on both sides of the river • Support access to parks and the esplanade from the bridge, and in general • Promote usability of area under the new bridge
What we heard	<p>Alternatives</p> <ul style="list-style-type: none"> • Access – north/south and east/west • Displacement <p>Construction</p> <ul style="list-style-type: none"> • Access • Displacement
Additional input from Team	<p>Alternatives</p> <ul style="list-style-type: none"> • Functionality • Multi-use/ADA/Ramps versus stairs <p>Construction</p> <ul style="list-style-type: none"> • Functionality
CTF discussion	<ul style="list-style-type: none"> • Visual impacts of trying to access parts from new businesses Bridge; wayfinding • Alternatives <ul style="list-style-type: none"> ○ Aesthetic impacts (I.e. if esplanade is impacted – make sure to restore it to its same look/feel or better) • Travel bike/ped uses through parks – both in alternatives and construction • Avoid impacting established structures (alternatives and construction) • Maintain as much parking as possible (other topic area) • Opportunities to improve park spaces/uses if they are being impacted • Access to the whole area



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

ACTIVE TRANSPORTATION AND ADA

<p>What you said</p>	<ul style="list-style-type: none"> • Maintain and improve access and connections for bikes, peds, ADA: <ul style="list-style-type: none"> ○ Esplanade ○ Riverbanks ○ Businesses ○ Services ○ Parks • Ensure accessibility for different users <ul style="list-style-type: none"> ○ Ease of use, particularly for people in a wheelchair/disabled. ○ Make the bridge accessible, comfortable and inviting for all ages • Have places for bikes and peds to linger • Design should avoid need to regularly block bike and ped for maintenance • Promote efficiency for all modes • Maintain routes for pedestrian commuters during construction, but don't sacrifice long term benefits • Safety/comfort: <ul style="list-style-type: none"> ○ Ensure safe, comfortable, and welcoming pedestrian and bike facilities ○ Ramps should not be too steep (consider icy conditions and emergencies) even to the esplanade ○ Bridge grade allows all to cross ○ Wide sidewalk and bike lanes ○ Separate bike from ped and all from motor vehicles
<p>What we heard</p>	<p>Alternatives</p> <ul style="list-style-type: none"> • Access / connectivity • Capacity • Travel time • Safety/Comfort (thinking about surfaces, slippery, traction, materials) <p>Construction</p> <ul style="list-style-type: none"> • Access/connectivity
<p>Additional input from team</p>	<p>Construction</p> <ul style="list-style-type: none"> • Travel time
<p>CTF discussion</p>	<ul style="list-style-type: none"> • Pullouts <ul style="list-style-type: none"> ○ For safety/ comfort- after an earthquake ○ Seating • Where do scooters and new modes fit into this? • Think about how other bridges will address active transportation and what we can learn • Universal design/accessibility



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

	<ul style="list-style-type: none"> ○ full range of considerations include sound impaired (vision/hearing) or people with untypical ADA needs ● Accessibility of fixed bridge is a large concern for people in wheelchairs and with disabilities due to slope ● Avoid impacts/conflicts for bike-ped, scooters-bikes, ped-scooters, etc. <ul style="list-style-type: none"> ○ Provide sufficient space for different modes to travel safely- bike and pedestrians ● Transportation during construction <ul style="list-style-type: none"> ○ Ferry's, water taxis, alternative modes/options outside of TDB <ul style="list-style-type: none"> ▪ how does that impact riverboat traffic? ○ Utilizing shuttle or other means for transportation ● Travel paths/routes for pedestrian during construction ● Safety for ped/bike with dividers, not just a curb ● S-curve bike/ped safety off-tracking ● Consider Rose Festival activities <ul style="list-style-type: none"> ○ floats, recreation ● Materials used <ul style="list-style-type: none"> ○ Availability after earthquake ● Connections: <ul style="list-style-type: none"> ○ ADA access challenges and feasibility ○ What's the easiest?
--	---



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

COST

<p>What you said</p>	<ul style="list-style-type: none"> Promote ease of long-term maintenance, lower maintenance costs and construction cost
<p>What we heard</p>	<p>Alternatives</p> <ul style="list-style-type: none"> Long-term maintenance Direct construction
<p>Additional input from team</p>	<p>Construction</p> <ul style="list-style-type: none"> Temporary direct - materials staging, tempt bridge, detours Temporary indirect - Local business
<p>CTF discussion (Natural Resources)</p>	<ul style="list-style-type: none"> Cost factors: fixed vs. lift vs. rise, long-term effects, longevity, alternative modes, vision zero Liquefaction resiliency <ul style="list-style-type: none"> Design and alternatives costs Value of temporary diversion bridge <ul style="list-style-type: none"> Subsidize/reallocate to impacted business and organizations Use local materials Construction cost vs. height Operational cost vs. height <ul style="list-style-type: none"> Wait time impact of life and ops Tug assist cost during construction Till fee to help pay for it Cost of moving emergency services relocation (AMP)(ROW) <ul style="list-style-type: none"> Cost of moving Saturday Market ROW cost (AMR, Saturday Market, Mercy Corps) Cost < boats can get through post-earthquake Ask TriMet to pitch in Explore mitigation cost (bus bridge) <ul style="list-style-type: none"> Cheaper than regular temp bridge? (no) Funding sources- who pays for it helps choose an alternative <ul style="list-style-type: none"> Construction and maintenance costs Don't want to count out alternatives yet Cost vs. Benefits Taxes for voters to help pay



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

EMERGENCY VEHICLES

<p>What you said</p>	<ul style="list-style-type: none"> • Minimize traffic pinch points to reduce emergency travel times • Ensure first responders can cross the river after the project • Smooth and unencumbered access for emergency vehicles during construction • Minimize choke points like I-84 and I-205N; ensure shoulders are available.
<p>What we heard</p>	<p>Alternatives</p> <ul style="list-style-type: none"> • Access • Travel time <p>Construction</p> <ul style="list-style-type: none"> • Access • Travel time
<p>CTF discussion</p>	<ul style="list-style-type: none"> • A temporary bridge will displace EM services in the area, ambulance services and communications • Shoulders and potential bike lanes/bus lanes used for EM services • Choke points- on Burnside make viable • Access points w/ curve of bridge entrance can create more choke points • One option, series of lights in one location, isn't enough • Opticom • EM + Transit • Plenty of shoulder space • Freight to use bus/ EM Lanes • Ambulatory services- Talk w/ vocal EM services (fire, ambulances) • Inventory of E-W services <ul style="list-style-type: none"> ○ Understanding port services • Fixed bridge adds time to get across <ul style="list-style-type: none"> ○ Lift bridge can cause reroute as well • Divider to prevent U-turns when the bridge lifts • Consider the placement of bridge access points • S-curve redesign- it's scary w/ cars and bikes • The shoulder is for EM, not cars or bikes • Dividers can be good if removable • Shoulder space- wide shoulders encourage speeding • Emergency Vehicles <ul style="list-style-type: none"> ○ S-curve: affect all vehicles especially EM vehicles <ul style="list-style-type: none"> ▪ Not good for people in a hurry ▪ Maybe straight rode would be better



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

	<ul style="list-style-type: none">○ A divider is a problem for EM vehicles<ul style="list-style-type: none">▪ In case they need to go in the opposite lane▪ Wouldn't stop people from crossing○ Bus lane divided off and shared w/ EM vehicles○ Dividers for sidewalk/pedestrians can be safer instead of curb○ EM access on the fixed bridge is a benefit<ul style="list-style-type: none">▪ If lift-bridge can create a barrier for EM▪ Fixed-bridge is a pro
--	--



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

MOTOR VEHICLES & FREIGHT

<p>What you said</p>	<p>Access/Connectivity</p> <ul style="list-style-type: none"> • Maintain access and connections for motor vehicles to neighborhoods and other uses. • Provide approaches that promote access and safety • Ensure bridge allows for freight and large truck use in both directions <p>Capacity/Congestion</p> <ul style="list-style-type: none"> • Provide travel capacity for commuters and all modes - balance for all modes • Consider future traffic volumes • Consider traffic impacts caused by bridge lifts • Promote efficiency for all modes • Safety for traffic on bridge, avoid S- curve • Provide adequate width for car lanes (e.g., Hawthorne bridge has too narrow car lanes) • Preserve on-street parking in the vicinity • Traffic flow across river isn't harmed during construction • Travel speed for all modes • Traffic flow disruptions during construction: timelines, lift times • Maintain access to the neighborhoods during construction
<p>What we heard</p>	<p>Alternatives</p> <ul style="list-style-type: none"> • Access / connectivity • Capacity • Travel time • Safety • On-street Parking <p>Construction</p> <ul style="list-style-type: none"> • Access • Travel time
<p>Additional input from team</p>	<p>Construction</p> <ul style="list-style-type: none"> • Safety • On-street Parking • Capacity
<p>CTF discussion</p>	<ul style="list-style-type: none"> • Streetcars readiness and potentials shared w/ bus lanes • Don't increase vehicle capacity-> promote active Transportation and alternative modes <ul style="list-style-type: none"> ○ Also discourage about maintaining capacity (including for freight) • Don't encourage speed increase- reduce it



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

	<ul style="list-style-type: none"> ○ Design in a way that slows people down and encourages people to drive safer • Construction- what are the detours routes that are available, and where is traffic going, how is it being accommodated? • How will alternatives affect access to cross streets or existing travel patterns <ul style="list-style-type: none"> ○ Maintain existing traffic/access patterns, bus routes, bikes routes, and how does it impact business and related services (garbage, deliveries) • Potential for freight to utilize bus only lanes • Separate freight from bikes (site lines are too difficult for freight driver to see bikes) • Space for emergency vehicles to pull of shoulders • Opportunity to improve traffic or do something better to address capacity/ traffic needs, future readiness, ready to flex for • Motorized vehicles- reversible lanes • Comparisons to other crossing for success metrics
--	---



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

PERSONAL SAFETY AND NON-TRANSPORTATION SAFETY

<p>What you said</p>	<ul style="list-style-type: none"> • Promote safety and comfort through lighting, visibility, connection points: <ul style="list-style-type: none"> ○ crime prevention through environmental design (CPTED) Techniques – ensure bridge doesn't encourage crime • Make areas below the bridge on land safe for everyone - crime and during construction (falling debris)
<p>What we heard</p>	<p>Alternatives</p> <ul style="list-style-type: none"> • CPTED principles
<p>CTF discussion</p>	<ul style="list-style-type: none"> • Suicide prevention <ul style="list-style-type: none"> ○ Height of bridge matters (or not, cry for help) ○ Signs with physical helpline phone numbers ○ Physical barriers (Vista Bridge) <ul style="list-style-type: none"> ▪ Concern for preserving aesthetics ▪ Plexi-glass ▪ Net extending out to sides ○ Might be less of a concern for emergency management personnel <ul style="list-style-type: none"> ▪ People jump from all bridges ▪ Not strong differentiator • Activation of space- comfortable lingering- also designed to keep traffic moving <ul style="list-style-type: none"> ○ Use of proper lighting- solar/LED ○ Cameras ○ keeping “nooks and crannies” in mind-> clear line of sight to help deter crime <ul style="list-style-type: none"> ▪ Have the main bridge be wider so they are not under the bridge in an enclosed space ○ Elevators- cause for concern <ul style="list-style-type: none"> ▪ Mixed options regarding elevators/ramps/ escalators- depending on the height of the bridge ▪ Cost ▪ Hygiene • Fall Risk • Skate parks as an example-> self-policed, always active <ul style="list-style-type: none"> ○ Spaces that are less active are less comfortable ○ Make spaces under bridge more of a community space at all hours (night markets, grassroots community- can seed it but not replicate downtown) ○ Consider houseless communities- create deliberate space for them <ul style="list-style-type: none"> ▪ This can facilitate networks and friendships ▪ Provide facilities like showers, bathrooms ▪ More incentives to self-police than a parking lot





Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

	<ul style="list-style-type: none">▪ More sustainable○ Higher bridge means more deactivated space<ul style="list-style-type: none">▪ Accessibility of lower bridge○ Connection points- distance on a higher bridge will likely be longer<ul style="list-style-type: none">▪ Nearby businesses/homes would be in the dark○ Toxins from construction- air quality, dust, vehicles emissions
--	---



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

SEISMIC RESILIENCY

<p>What you said</p>	<ul style="list-style-type: none"> • Expedite project to be in place before an earthquake • Emergency response will be improved with a wider bridge • Ensure that bridge components have post-event reparability • Emergency response will be improved with a fixed bridge • Travel for motor vehicles post-earthquakes - immediate use
<p>What we heard</p>	<p>Alternatives</p> <ul style="list-style-type: none"> • Duration to resilient bridge completion • Post-earthquake operability and reparability confidence • Post-earthquake emergency vehicle access <p>Construction</p> <ul style="list-style-type: none"> • Duration to resilient bridge completion
<p>Additional Input from Team</p>	<ul style="list-style-type: none"> • Debris falling on the bridge?
<p>CTF discussion</p>	<ul style="list-style-type: none"> • Likelihood of earthquakes <ul style="list-style-type: none"> ○ Intensity, distance, etc? • Post-event reliability • Flooding as a result of an earthquake • Movement of river bottom and fill <ul style="list-style-type: none"> ○ Preventing(?) water navigation post-event? • Stability of bridge users during an earthquake (or displacement) • Orange: • Best-ling-range decision re: quality of construction material • What investments are necessary to keep the bridge operable (useable by vehicles to cross not lift) soon after an event? • Liquefaction resiliency- pilings under the bridge • Emergency response time impacts • Performance during and after an earthquake (not falling) • “Regular” bridge shape (rectangle) vs. Irregular bridge shape • Design plex foundations to resist lateral spread



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

TRANSIT

<p>What you said</p>	<ul style="list-style-type: none"> • Maintain routes for transit commuters during construction, but don't sacrifice long term benefits
<p>What we heard</p>	<p>Construction</p> <ul style="list-style-type: none"> • Access
<p>Additional input from Team</p>	<p>Alternatives</p> <ul style="list-style-type: none"> • Streetcar readiness • Bus accessibility <p>Construction</p> <ul style="list-style-type: none"> • Travel times
<p>CTF discussion</p>	<ul style="list-style-type: none"> • Options w/ streetcar be considered- get stuck in traffic though <ul style="list-style-type: none"> ○ Pedestrian access to the bridge ○ Buses • The bridge has a lot of traffic-transit could help <ul style="list-style-type: none"> ○ Ferry-in lieu of transit access • Comes down to time. Prioritize bridge for ped, bike, bus not cars, auto <ul style="list-style-type: none"> ○ Temp bridge bus focus to relieve congestion • Shuttle services taking people around to temp bridge (not comfortable with temp) <ul style="list-style-type: none"> ○ Impacts to business w/ loss of transit • Not a form of diversion bridge <ul style="list-style-type: none"> ○ Pedestrian access ○ In favor of temp bridge • High bridge- have different access points <ul style="list-style-type: none"> ○ Transit lanes in the center, streetcar and bus shared • SC is a great idea if it's ready <ul style="list-style-type: none"> ○ Bus routes around the bridge to other bridges • Diversion bridge will have more impacts- the volume of vehicles • Work w/ TriMet to see what will be best for and can add 20 minutes • Transit <ul style="list-style-type: none"> ○ Access to business ○ Streetcar- which angle is needed? ○ Determine ridership data, changing condition ○ Scooter in bike lanes or sidewalk ○ Add a bus lane- is it a possibility



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

UTILITIES

What you said	[none]
What we heard	[none]
Additional input from Team	<p>Alternatives</p> <ul style="list-style-type: none"> • Major utility impacts (e.g., Ankeny Pump Station) <p>Construction</p> <ul style="list-style-type: none"> • Major utility impacts (e.g., Ankeny Pump Station)
CTF discussion	<ul style="list-style-type: none"> • Access to power bridge life post-event <ul style="list-style-type: none"> ○ Generator • Solar power as an option? <ul style="list-style-type: none"> ○ Light ○ Alternative energy ○ Wind turbine • Is there a need for more utility crossing? <ul style="list-style-type: none"> ○ A fixed bridge could serve this • Emergency radio tower <ul style="list-style-type: none"> ○ Allows for redundancy in communications • Considers other uses that could be served by earthquake ready bridge • Audio and visual signals for bike and ped-universal accessibility • Taking advantage of the construction period to build a trench for utilities- in the case of movable • The new bridge needs to accommodate major pipes on both sides of the current bridge



Multnomah County is creating an earthquake-ready downtown river crossing.

BETTER – SAFER – CONNECTED

April 29 and May 6, 2019

RIVER NAVIGATION

What you said	[none]
What we heard	[moved to design criteria]
Additional input from Team	<p>Construction</p> <ul style="list-style-type: none"> • Temporary direct • Temporary indirect
CTF discussion	<ul style="list-style-type: none"> • Access to power bridge life post-event <ul style="list-style-type: none"> ○ Generator • Solar power as an option? <ul style="list-style-type: none"> ○ Light ○ Alternative energy ○ Wind turbine • Is there a need for more utility crossing? <ul style="list-style-type: none"> ○ A fixed bridge could serve this • Emergency radio tower <ul style="list-style-type: none"> ○ Allows for redundancy in communications • Considers other uses that could be served by earthquake ready bridge • Audio and visual signals for bike and ped-universal accessibility • Taking advantage of the construction period to build a trench for utilities-in the case of movable • The new bridge needs to accommodate major pipes on both sides of the current bridge

INTERESTS AND VALUES

Multnomah County is creating an earthquake-ready downtown river crossing.

(SHEET 1)

	<i>Business and Economy</i>	<i>Indirect Impacts to Uses/Buildings</i>	<i>Social Services</i>	<i>Community Resources</i>	<i>Parks</i>	<i>Historic Resources</i>	<i>Visuals and Aesthetics</i>	<i>Natural Resources</i>	<i>Sustainability</i>
What you said	<p>Minimize harm to local businesses</p> <p>Avoid displacement of any buildings</p> <p>Consider usability of area under bridge (i.e., American Medical Response)</p> <p>Maintain access for customers to visit local businesses during construction and long-term</p>		<p>Minimize permanent displacements and relocations</p> <p>Avoid displacement of any buildings</p> <p>Minimize permanent, adverse access impacts</p> <p>Minimize disruption and relocation during construction of social services and their clients</p> <p>Maintain access to social services during construction</p>	<p>Consider usability of area under bridge (i.e., Skatepark, Saturday Market)</p> <p>Minimize impacts to festivals and events such as Rose festival</p> <p>Maintain access to buildings during construction</p>	<p>Minimize impacts to parks on both sides of the river</p> <p>Support access to parks and the esplanade from the bridge, and in general</p> <p>Promote usability of area under the new bridge</p>	<p>Protect historic resources and the character of historic districts and neighborhoods (from direct and indirect impacts) + existing bridges</p>	<p>Consider views from the bridge, the esplanade and the water</p> <p>Enhance the visual look and feel - up close and far away, not obstructing</p>	<p>Protect air quality</p> <p>Protect environmental quality and water quality for fish and recreation</p>	<p>Balance short-term need and long-term legacy of the project - be smart and wise</p>
What we heard	<p>Alternatives</p> <ul style="list-style-type: none"> • Access • Displacement <p>Construction</p> <ul style="list-style-type: none"> • Access • Displacement 		<p>Alternatives</p> <ul style="list-style-type: none"> • Access • Displacement <p>Construction</p> <ul style="list-style-type: none"> • Access • Displacement 	<p>Alternatives</p> <ul style="list-style-type: none"> • Access • Displacement <p>Construction</p> <ul style="list-style-type: none"> • Access 	<p>Alternatives</p> <ul style="list-style-type: none"> • Access • Displacement <p>Construction</p> <ul style="list-style-type: none"> • Access • Displacement 	<p>Alternatives</p> <ul style="list-style-type: none"> • Displacement • Context • Indirect impacts <p>Construction</p> <ul style="list-style-type: none"> • Access • Displacement 	<p>Alternatives</p> <ul style="list-style-type: none"> • View sheds/corridors 	<p>Alternatives</p> <ul style="list-style-type: none"> • Air quality • Water quality • Aquatic species <p>Construction</p> <ul style="list-style-type: none"> • Air quality • Water quality • Aquatic species 	
Additional input from team	<p>Alternatives</p> <ul style="list-style-type: none"> • Redevelopment potential <p>Construction</p>	<p>Alternatives</p> <ul style="list-style-type: none"> • Noise • View and light/shadow 	<p>Alternatives</p> <ul style="list-style-type: none"> • Level of service maintained 		<p>Alternatives</p> <ul style="list-style-type: none"> • Functionality • Multi-use/ADA/Ramps versus stairs <p>Construction</p> <ul style="list-style-type: none"> • Functionality 	<p>Construction</p> <ul style="list-style-type: none"> • Displacement • Indirect Impacts <ul style="list-style-type: none"> ○ Need examples 	<p>Construction</p> <ul style="list-style-type: none"> • Intrusion of temporary structures 		

INTERESTS AND VALUES

Multnomah County is creating an earthquake-ready downtown river crossing.

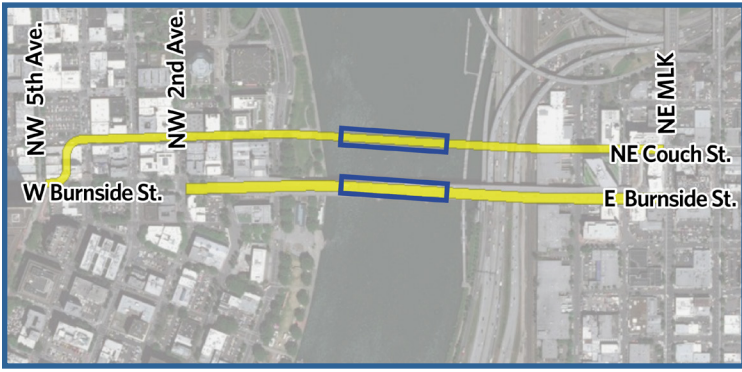
BETTER – SAFER – CONNECTED

May 9, 2019

(SHEET 1)

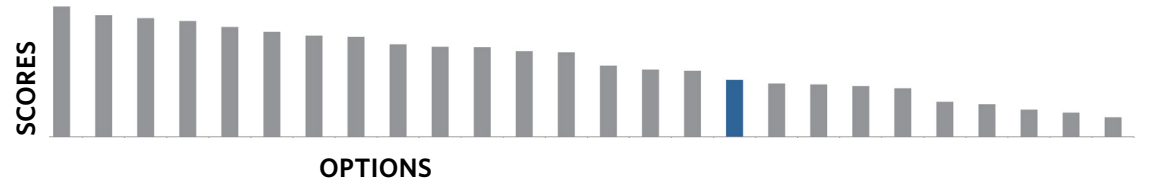
	Business and Economy	Indirect Impacts to Uses/Buildings	Social Services	Community Resources	Parks	Historic Resources	Visuals and Aesthetics	Natural Resources	Sustainability
	<ul style="list-style-type: none"> Regional and local economy 								
CTF Work session Discussion	<ul style="list-style-type: none"> Alt and con: relocating Saturday Market and Skate park – how to mitigate? <ul style="list-style-type: none"> Skidmore and Ankeny markets All need to return to where we came Does this impact pride and Rose Festivals, Cinco de Mayo, staging for marathons? Detour vs diversion bridge <ul style="list-style-type: none"> Impacts on local businesses Parking access Physical impacts and local businesses and organizations Improved under-bridge environment 	<ul style="list-style-type: none"> Agree with w/ noise and view impacts to be considered Alt and con: bridge height vs. cost Alt and con: frequency of lifts Permanent utilities access w/ new bridge <ul style="list-style-type: none"> In general and in case of emergency Mitigating all impacts possible? Vibrations caused by construction Lighting: want to consider light pollution <ul style="list-style-type: none"> Dark sky criteria <ul style="list-style-type: none"> Starwatchers Motion lights Making bridge sustain buildings falling on it 	<ul style="list-style-type: none"> Consider use by transient community and homeless <ul style="list-style-type: none"> Tents, displacing transient folks The population is transient by nature; may take care of itself Plan to work w/ providers of services to relocate services, they follow <ul style="list-style-type: none"> During construction (business as well) A small percentage of the population – do not prioritize 	<ul style="list-style-type: none"> Importance of prioritizing interests/impacts Businesses/ community organization impacts (for biz/org topic) <ul style="list-style-type: none"> Waterfront events (Cinco de Mayo/ Shamrock Run, Blues Festival) Parking for community resources like Saturday Market Being a resident without a local employer, Eastside gets forgotten and there are underserved communities there. Consider Central Eastside, don't want to minimize momentum Don't want stacking, obstructed space, limiting parking 	<ul style="list-style-type: none"> Visual impacts of trying to access parts from new bridge - businesses, wayfinding Alternatives <ul style="list-style-type: none"> Aesthetic impacts (i.e., if esplanade is impacted – make sure to restore it to its same look/feel or better) Travel bike/ped uses through parks – both in alternatives and construction Avoid impacting established structures (alternatives and construction) Maintain as much parking as possible <ul style="list-style-type: none"> Other topic area Opportunities to improve park 	<ul style="list-style-type: none"> “Historic character” of existing bridge and impacts to that – protected historic aspects Elements of the historic bridge <ul style="list-style-type: none"> Operating machinery Relation to the history of the city SHPO permitting <ul style="list-style-type: none"> ID the qualified historic elements Ability to temporarily move historic resources during construction as mitigation Consider staging needs for alternatives and temp bridge Historic nature contributes to the history of the city Clarify examples of temporary 	<ul style="list-style-type: none"> “Pretty” aesthetically pleasing Bridge design and aesthetics <ul style="list-style-type: none"> The bridge should age well Temporary structure aesthetics – not a concern <ul style="list-style-type: none"> Aren't as important as usability and cost Future proofing of aesthetics; percentage of cost going to aesthetics as measure <ul style="list-style-type: none"> Future proofing = age well Percent of costs to aesthetics – specific set-aside Thoughtful design denoting importance 	<ul style="list-style-type: none"> Diversion Bridge: increased use of materials (less sustainable) longevity of the material Birdlife impacts: variable? Air quality and diversion bridge: <ul style="list-style-type: none"> More impacts? Impact on light pollution <ul style="list-style-type: none"> Glare Shading Impact on fish migration (in/out) Limits on fill in the river <ul style="list-style-type: none"> Size of pier Hydraulics Impact on flooding (bridge height) Loss of natural light (under the bridge) Columns of bridge and impacts on uses below 	<ul style="list-style-type: none"> Greenhouse Gas Emissions Disturbance of contaminated soil or water Possibility for: <ul style="list-style-type: none"> Solar power Wind power Use of recycled materials (steel) For other Gp: <ul style="list-style-type: none"> Noise pollution Pile driving noise/damage Ability to use “green”/low carbon concrete Local sourcing Impact on active transportation networks (including transit) Drawbridge vs. Fixed span: <ul style="list-style-type: none"> Longevity of materials

Evaluation Rating Topics and Criteria (as of 8/8/18)	SEISMIC		NON-MOTORIZED			TRANSPORTATION			EQUITY		BUILT ENVIRONMENT				FINANCIAL		Weighted Score (0-100%)	
	Unreinforced Masonry Risk	Disabled Vehicles Risk	Ease of Ped + Bike Use	Safe Ped + Bike Connections	Personal Security for Ped + Bikes	Street Network Connection	Crossing Safety and Convenience	Moveable Bridge (Periodic Delay)	Social Service Impacts	Low Income Housing Impacts	Visual Impacts to Existing Buildings	Commercial + Industrial Impact	Long Term Housing	Park + Recreation Impact	Historic Structures + District Impacts	Capital Cost		Longterm Maintenance
Low Existing Alignment (3a-1d)	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	●	●	92%
Enhanced Seismic Retrofit, No widening (4b1)	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	○	●	86%
Enhanced Seismic Retrofit, Widened (4b2)	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	○	●	84%
Low Northeast Wishbone (3a-2b)	●	●	●	●	●	●	●	○	●	●	○	●	●	●	●	●	●	82%
Low Southeast Wishbone (3a-3b1)	●	●	●	●	●	●	○	○	●	●	●	●	●	●	●	●	●	78%
97' High Existing Alignment (3b-1b1)	●	●	●	○	●	●	●	●	●	●	●	●	○	○	●	●	●	74%
Low South Twin - Mode Separated (3a-7d1)	●	●	●	●	●	●	●	○	●	●	●	●	○	●	●	○	●	72%
97' High South Twin - Mode Separated (3b-7d1)	●	●	●	●	●	●	●	●	●	●	●	●	○	○	●	●	●	71%
Low North Twin - Mode Separated (3a-5d1)	●	●	●	●	●	●	●	○	●	●	○	●	○	○	●	○	●	66%
97' High Northeast Wishbone (3b-2b1)	●	●	●	○	●	●	●	●	●	●	○	●	●	○	●	●	●	64%
97' High Southeast Wishbone (3b-3b1)	●	●	●	○	●	○	○	●	●	●	○	●	●	○	●	●	●	63%
97' High North Twin - Mode Separated (3b-5d1)	●	●	●	●	○	●	●	●	●	●	○	●	○	○	●	●	●	61%
Low Stacked (3a-8d)	●	●	●	○	○	●	●	○	●	●	●	●	●	●	●	●	●	60%
Low Double Wishbone (3a-9d)	○	●	●	●	●	●	○	○	●	●	○	○	●	○	●	●	●	51%
97' High North Twin (3b-4d1)	○	●	●	●	●	●	○	●	●	●	○	○	●	○	●	●	●	48%
97' High South Twin (3b-6d1)	○	●	●	●	●	●	○	●	●	●	○	○	●	○	●	●	●	47%
Low North Twin (3a-4d1)	○	●	●	●	●	●	○	○	●	●	○	○	●	○	○	○	○	40%
120' High South Twin - Mode Separated (3b-7d2)	○	○	○	●	○	○	●	●	●	○	●	●	○	○	○	○	○	38%
Tunnel - Mode Separated (3c-1a)	●	○	●	●	●	○	○	●	○	○	○	○	○	○	○	○	○	37%
Low South Twin (3a-6d1)	○	●	●	●	●	○	○	○	●	●	○	●	●	○	●	○	○	36%
120' High North Twin - Mode Separated (3b-5d2)	○	○	○	●	○	○	●	●	●	○	○	●	○	○	○	○	○	35%
120' High Northeast Wishbone (3b-2b2)	○	○	○	●	●	○	○	●	○	○	○	○	○	○	○	○	○	25%
120' High Existing Alignment (3b-1b2)	○	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○	23%
120' High Southeast Wishbone (3b-3b2)	○	○	○	●	●	○	○	●	○	○	○	○	○	○	○	○	○	19%
120' High South Twin (3b-6d2)	○	○	○	●	●	○	○	●	○	○	○	○	○	○	○	○	○	17%
120' High North Twin (3b-4d2)	○	○	○	●	●	○	○	●	○	○	○	○	○	○	○	○	○	14%



Description: New twin movable bridges that carry vehicles, bicyclists, and pedestrians at about the same height as the current bridge. The north twin bridge carrying westbound traffic begins and ends on Couch Street, which requires its conversion from a 2-way street to a 1-way street on the downtown side of the Willamette River. The eastbound bridge begins and ends on Burnside Street. **Recommendation:** Dropped from further consideration.

TOTAL SCORE
40%



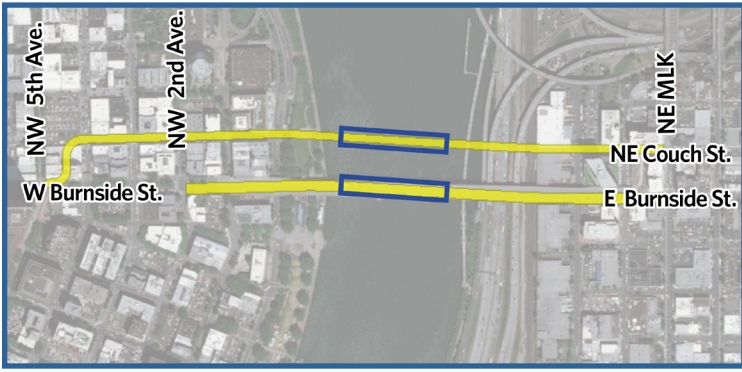
EVALUATION CRITERIA		SCORE	SCORING RATIONALE
SEISMIC	1.1 Unreinforced Masonry Risk	○	Possesses one of the highest URM risks of the alternatives considered.
	1.2 Disabled Vehicles Risk	◐	Consists of a relatively short vehicular bridge, with a narrower twin bridge, which creates some challenges for emergency vehicle use.
NON-MOTORIZED TRANSPORTATION	2.1 Ease of Ped + Bike Use	●	Possesses a short length of grade exceeding 3.5%.
	2.2 Safe Ped + Bike Connections	◐	Provides average connectivity potential to high quality existing and planned bicycle and pedestrian facilities.
	2.3 Personal Security for Ped + Bikes	●	Avoids creating new paths or ramps that would visually isolate bicyclists and pedestrians.
CONNECTIVITY	3.1 Street Network Connection	◐	Severs one existing street and bypasses up to three existing cross streets.
	3.2 Crossing Safety and Convenience	○	Degrades roadway geometrics versus the existing condition, and changes some local street classifications.
	3.3 Moveable Bridge (Periodic Delay)	○	Consists of a movable bridge.
EQUITY	4.1 Social Service Impacts	◐	Impacts access to one existing social service agency.
	4.2 Low Income Housing Impacts	●	Removes potential for 5 future low income housing units.
BUILT ENVIRONMENT	5.1 Visual Impacts to Existing Buildings	◐	Creates new bridge structure adjacent to 1,200 feet of existing buildings.
	5.2 Commercial + Industrial Impact	○	Permanently displaces/relocates 22 businesses and 423 employees.
	5.3 Low Long-term Housing Impact	○	Displaces 70 long-term housing units.
	5.4 Park + Recreation Impact	●	Has an average amount of parks displacement, and avoids impacts to the North Park blocks and the Waterfront Park walkway.
	5.5 Historic Structures + District Impacts	○	Visually obstructs 7 historic resources and adds 1.9 acres of new bridge structure in historic districts.
FINANCIAL	6.1 Capital Cost	○	Falls within the second highest cost tier (between \$1.0B and \$1.1B).
	6.2 Long-term Maintenance	○	Possesses a high long-term maintenance cost.

LEGEND

● = High Score ◐ = Medium Score ○ = Low Score

A more detailed analysis can be found in the Earthquake Ready Burnside Bridge Feasibility Report - Draft September 2018, Appendix D

Low North Twin



Description: New twin movable bridges that carry vehicles, bicyclists, and pedestrians at about the same height as the current bridge. The north twin bridge carrying westbound traffic begins and ends on Couch Street, which requires its conversion from a 2-way street to a 1-way street on the downtown side of the Willamette River. The eastbound bridge begins and ends on Burnside Street. **Recommendation:** Dropped from further consideration.

TOTAL SCORE
40%



EVALUATION CRITERIA		SCORE	POINTS AVAILABLE:	TOTAL
1. SEISMIC RESILIENCY	SUPPORT RELIABLE AND RAPID EMERGENCY RESPONSE AFTER AN EARTHQUAKE		16.7	TOTAL (SCORE X POINTS = TOTAL)
	Measures			
	1.1 To what degree is the option vulnerable to traffic blockage or damage to the bridge from adjacent facilities?			
	1.1.1 Area (length X height) of unreinforced masonry buildings located adjacent to the bridge.	1	8.3	8.3
	Scoring Rationale: Possesses one of the highest URM risks of the alternatives considered.			
2. NON-MOTORIZED TRANSPORTATION	SUPPORT ACCESS AND SAFETY FOR BIKES, PEDESTRIANS AND PEOPLE WITH DISABILITIES		16.7	TOTAL (SCORE X POINTS = TOTAL)
	Measures			
	2.1 How does the profile grade affect bicycles, pedestrians and people with disabilities ease of use?			
	2.1.1 Percent and length of grade.	5	5.6	27.8
	Scoring Rationale: Possesses a short length of grade exceeding 3.5%.			
3. CONNECTIVITY	SUPPORT STREET SYSTEM INTEGRATION AND FUNCTION (CARS, FREIGHT, TRANSIT, BIKES, PEDESTRIANS AND ADA)		16.7	TOTAL (SCORE X POINTS = TOTAL)
	Measures			
	3.1 How well does the option connect with the existing and planned street network (for all modes)?			
	3.1.1 Number of streets permanently closed (including number of modes closed in those sections)? 3.1.2 Number of streets bypassed?	3	35.6	16.7
	Scoring Rationale: Severs one existing street and bypasses up to three existing cross streets.			
3. CONNECTIVITY	3.2 How safe and convenient are the crossing roadway and the roadway connections to the existing and planned street grid at both ends?			
	3.2.1 Extent to which the crossings grade and curvature potentially affect vehicle safety. 3.2.2 Degree to which the option diverts vehicle traffic from an arterial to a non-arterial street. 3.2.3 Extent of non-standard intersection layouts and vehicle movements.	1	5.6	5.6
	Scoring Rationale: Degrades roadway geometrics versus the existing condition, and changes some local street classifications.			
	3.3 Will bridge openings cause periodic delay in crossing time (affects all modes)?			
	3.3.1 Is the crossing a movable bridge?	1	5.6	5.6
Scoring Rationale: Consists of a movable bridge.				

LEGEND

1. High Score = 5, Medium Score = 3, Low Score = 1

2. Total points ÷ # of Criteria = Points available per criteria: (100 ÷ 6 = 16.666 or 16.7)

A more detailed analysis can be found in the Earthquake Ready Burnside Bridge Feasibility Report - Draft September 2018, Appendix D

DRAFT Preferred Alternative Evaluation Criteria

The following preliminary draft evaluation criteria are organized into 12 groups. Each group includes one to three different types of criteria. The first two types described below will be used to help evaluate the Draft Environmental Impact Statement alternatives in order to select a Preferred Alternative. The third type described will be applied in a future project phase. A number of the criteria applied to the Preferred Alternative decision may also be applied at future phases. Collectively these criteria reflect the Community Task Force input on Interests and Values:

1 Seismic Resiliency

Long Term	1a.1	Maximize confidence in post-earthquake operability and reparability.
	1a.2	Maximize post-earthquake emergency vehicle access and travel time.
	1a.3	Maximize ability for all modes to use the crossing post-earthquake.
During Const.	1b.1	
Future Phase	1c.1	Ability to include equipment (such as communication devices, message boards, antennas/facilities) on bridge to create additional resilient functions after a major earthquake.

2 Community Quality of Life (includes Social Services, Indirect Land Use Impacts, Community Resources, Personal Safety)

Long Term	2a.1	Minimize social service displacements and long-term access impacts.
	2a.2	Maintain social service providers' long-term ability to provide current level of service.
	2a.3	Minimize long-term noise and light/shadow impacts on adjacent land uses.
	2a.4	Minimize long-term impacts to community facilities and events under and near the bridge (e.g., Skatepark, Saturday Market, park festivals, parades, organized runs, etc.).
	2a.5	Promote personal safety and crime reduction by following principles of Crime Prevention Through Environmental Design (CPTED).
During Const.	2b.1	Minimize temporary access impacts for social service providers.
	2b.2	Minimize temporary noise and light/shadow impacts on adjacent land uses.
	2b.3	Minimize temporary impacts to community facilities and events under and near the bridge.
Future Phase	2c.1	Maintain a safe construction site.
	2c.2	Implement design that minimizes risk of attempted suicide from the structure.

3 Business and Economics

Long Term	3a.1 Minimize business displacements and permanent access impacts. 3a.2 Support redevelopment potential consistent with local plans.
During Const.	3b.1 Minimize temporary access impacts to businesses. 3b.2 Minimize temporary regional economic impacts.
Future Phase	3c.1

4 Parks and Historic Resources

Long Term	4a.1 Minimize park displacements, access and functionality impacts. 4a.2 Minimize historic resource impacts (including destruction or damage, changes in access and context impacts).
During Const.	4b.1 Minimize temporary impacts to parks (including temporary displacement, access and functionality impacts).
Future Phase	4c.1

5 Visual and Aesthetics

Long Term	5a.1 Minimize adverse impacts on existing views and view corridors and support the potential for new scenic views.
During Const.	5b.1 Minimize visual intrusion of temporary structures during construction.
Future Phase	5c.1 Enhance pedestrian/bicycle aesthetic experience on the bridge. 5c.2 Provide a structure that instills a sense of community pride. 5c.3 Respect the historic character of the existing bridge and area and integrate with the urban fabric.

6 Natural Resources and Sustainability

Long Term	6a.1 Minimize impacts to water quality and flooding. 6a.2 Minimize impacts to fish and wildlife. 6a.3 Minimize impacts to air quality and greenhouse gas emissions.
During Const.	6b.1 Minimize temporary impacts to water quality and flooding. 6b.2 Minimize temporary impacts to air quality and green-house gas (GHG) emissions. 6b.3 Minimize temporary impacts to fish and wildlife.
Future Phase	6c.1 Promote waste reduction and use of sustainable materials in design and construction. 6c.2 Promote energy sustainability in design.

7 Pedestrians, Bicycles and ADA

Long Term	7a.1 Promote safety and comfort for bicyclists and other low-impact vehicles. 7a.2 Promote access/connectivity for bicyclists and other low-impact vehicles. 7a.3 Promote safety and comfort for pedestrians. 7a.4 Promote access/connectivity for pedestrians. 7a.5 Promote improved travel time and capacity for bicyclists and pedestrians.
During Const.	7b.1 Minimize temporary travel time and access/connectivity impacts for bicyclists and pedestrians 7b.2 Maximize potential to provide permanent and temporary ADA facilities that are comfortable and safe and promote efficient access and connectivity for users of the facilities. 7b.3 Minimize temporary safety impacts for bicyclists and pedestrians.
Future Phase	7c.1

8 Motor Vehicles, Freight and Emergency Vehicles

Long Term	8a.1 Promote safety for motor vehicles and freight. 8a.2 Promote travel time and capacity for motor vehicles, freight and emergency vehicles. 8a.3 Promote access/connectivity for motor vehicles, freight and emergency vehicles. 8a.4 Minimize impacts to on-street parking.
During Const.	8b.1 Minimize temporary access and travel time impacts for motor vehicles, freight and emergency vehicles. 8b.2 Minimize temporary safety, on-street parking, and capacity impacts for motor vehicles, freight and emergency vehicles.
Future Phase	8c.1

9 River Navigation

Long Term	9a.1 Minimize permanent direct and indirect impacts to navigation.
During Const.	9b.1 Minimize temporary direct and indirect impacts to navigation.
Future Phase	9c.1

10 Transit

Long Term	10a.1 Promote streetcar readiness. 10a.2 Promote bus accessibility.
During Const.	10b.1 Maximize potential to provide enhanced transit capacity and improvements in travel times. 10b.2 Minimize temporary impacts on transit access, safety and travel times.
Future Phase	10c.1

11 Utilities

Long Term	11a.1 Minimize long-term impacts to major utilities, such as the Ankeny Pump Station.
During Const.	11b.1 Minimize construction-related impacts to major utilities, such as the Ankeny Pump Station.
Future Phase	11c.1

12 Fiscal Responsibility

Long Term	12a.1 Minimize total construction cost (including right-of-way, impacts mitigation and utility relocation). 12a.2 Minimize long-term maintenance effort/cost.
During Const.	12b.1
Future Phase	12c.1