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# Guiding Principles for the Design of the Burnside Bridge

## Citizens Design Advisory Group

### DRAFT #1 January 18, 2024

The following document is intended to be a summary of overarching design principles and approach for the new Burnside Bridge replacement. The guiding principles are proposed to capture key aspirations that relate to the bridge design, regardless of the structural types. They are intended to be high level, holistic, and concise, rather than citing specifics or details of design. They describe the “what” rather than the “how.”

The principles have been derived from discussions and notes of the Community Design Advisory Group (CDAG). This draft is based on prior content from the Preliminary Type Selection Evaluation Criteria, an Urban Design and Aesthetics Working Group (UDAWG) document. The prior document was used as a discussion guide when making recommendations about bridge type during the Environmental Review Phase. Using a similar format of the UDAWG document, the guiding principles topic headings pose a qualitative question, while the subsequent outline statements address design principles and user experience without limiting opportunities of the bridge designers.

This document is intended to be a guide for the CDAG when making recommendations about the bridge’s design and aesthetics during the Design Phase.

## 1 Urban/Site Context and User Experience

- A. On-bridge Experience:** How well does the bridge provide public benefits for all users?
- Provide clear and/or curated views from the bridge deck of:
    - the bridge itself—its structure, details and form.
    - the cityscape, including downtown and the Eastside.
    - distant landscapes and geographic features such as the West Hills, Willamette River, Mt. St. Helens, and open skies.
    - adjacent up- and down-river bridges.

- other key views such as the Portland Oregon sign, Tom McCall Waterfront Park, the US Bank Tower, the Moda Center, the Oregon Convention Center, and the Lloyd District towers.
  - Ensure that a portion of the bridge deck functions as a flexible open space for public events, such as the Rose Festival Grand Floral Parade and other civic gatherings.
  - Create civic-scaled and/or human-scaled gateways and an enhanced sense of arrival.
  - Recognize the geographic center of the city as a destination for pedestrians.
- B. Below-bridge Experience:** How well does the bridge respond to the user experience of public spaces, transportation, parks and natural environments under or adjacent to the bridge?
- Address human scale and experience by providing column locations, shapes and sizes that minimize pier mass in order to promote openness, personal safety, and sightlines.
  - Maximize the vertical clearance beneath the bridge deck to create an “urban roof” that enhances the under-bridge experience.
  - Enhance flexible spaces within Tom McCall Waterfront Park for community events and other activities such as Portland Saturday Market and Night Strike.
  - Maximize views of the river as experienced from the west side.
  - Enhance the design of the bridge soffit (underside) as viewed from the park, river and roadway/freeway users.
  - Preserve or restore park features such as the Japanese American Historical Plaza, Ankeny Plaza, Bill Naito Legacy Fountain, Better Naito Forever, Vera Katz Eastbank Esplanade, Burnside Skatepark, and Tom McCall Waterfront Park and its existing trees.
- C. Urban Context with Surroundings:** Given that bridges are different structures than buildings, how well does the scale and form of the bridge respond to the scale and character of neighborhoods, buildings, parks, and historic districts while being a distinctive signature of the city?
- Consider the context of the surroundings to include the:
    - Old Town/Chinatown and Downtown Neighborhoods and the Skidmore/Old Town Historic District.

- Kerns and Buckman Neighborhoods and Central Eastside Industrial District, east bridgehead buildings, and Vera Katz Eastbank Esplanade.
- other bridges up-river and down-river.

## 2 Visual Character and Aesthetics

**A. Bridge Visual Coherence:** How well does the composition of the bridge achieve balance, unity, and flow, given its unique three-part structural span requirements?

- Consider views from the:
  - Willamette River.
  - Tom McCall Waterfront Park.
  - Vera Katz Eastbank Esplanade.
  - I-5 / I-84 interstate highways.
  - bridgehead buildings.
  - high-rise buildings.
  - surrounding bridges.
- Resolve both user and cityscape proportions, scale and details between the fixed and movable bridge spans.

**B. Bridge Form and Style:** How well does the bridge acknowledge historic surroundings while presenting a seismically resilient, contemporary, design aesthetic that helps to inform future urban development and growth?

- Consider the ability of the bridge design to:
  - be a distinctive, recognizable landmark on Portland’s skyline and symbolically designate the heart of the city’s urban fabric.
  - provide openness and transparency while conveying the sense of seismic stability and reliability.
  - demonstrate best practices in technologies, materials, engineering, architectural design, and construction of the current era, including potential for expressing movable bridge mechanisms.
  - contribute to Portland’s collection of bridges and moniker as a “City of Bridges.”

- provide opportunities for memorable, distinctive lighting while adhering to “dark skies” best practices.
- ensure the in-water bridge piers’ massing and scale are proportional to the river and minimize impacts on the river.
- enhance user experience relative to the acoustic conditions and qualities.

**C. Bridge Aspirations and Design Flexibility:** How well does the bridge allow flexibility for engineering and architectural features, and address future user needs?

- Consider the potential of the bridge design to:
  - express Portland values and aspirations for all users, including resiliency, artistic expression, timelessness, and sustainability.
  - be an identifiable beacon of safety and destination within the city 24/7.
  - provide cohesive, human-scale features such as overlooks, railings, furnishings, operator’s house, and multi-use path connections.
  - respond to current and future varied river uses and water-level changes.
  - minimize effects on natural resources such as wildlife, birds, fisheries, and shoreline/shallow-water habitat.
  - provide opportunities for works of art, education and interpretation.

**D. Pedestrian and Cyclist Connectivity:** How well does the bridge provide safe, compatible, and accessible pedestrian and bike connections for all users?

- Considers the:
  - Americans with Disabilities Act and Universal Design concepts, including wayfinding and signage for improved safety, guidance, and use as well as the separation of cyclists from other users.
  - Connections from the west and east bridge deck to the surrounding local street networks.

### 3 Cost and Construction Impacts to Users

**A. Immediate Total Project Cost:** How well does the bridge design and construction efficiently use available Project funding to optimize outcomes?

- Consider the costs of:
  - construction, including building over and around existing transportation infrastructure, the Willamette River, adjacent buildings, and utilities.
  - permanent and temporary rights-of-way acquisition.
  - utility relocation and protection.
  - pre-construction design phase.
  - permitting and environmental mitigation.
  - construction inspection and engineering support.

**B. Long Term Costs:** How well does the bridge support post-construction maintenance and operational needs while reducing long-term capital costs?

- Consider how to minimize the direct costs of:
  - bridge operations and inspections.
  - routine maintenance and rehabilitation improvements such as movable bridge repairs, deck wearing surface rehabilitation, re-painting, lighting maintenance, and structural upgrades.
  - bridge repairs following major disruptive events such as major earthquakes, flood, vessel collisions, civic unrest, and fires.
  - potential bridge use changes such as adding streetcar systems, and armatures, more bicycle/pedestrian space, and/or adjusting future lane uses.

**C. Construction Impacts:** How well does the bridge minimize impacts to all user groups and surrounding properties during construction?

- Minimize disruption during construction logistics, including:
  - detour durations and wayfinding for all modes and user types.
  - temporary and long-term property impacts.



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- utility service disruptions.
- safety for workers and surrounding people and facilities.

D. **Schedule Impacts:** How well does the bridge design and construction support a shortened construction timeline?

- Consider how to minimize the overall construction duration, including:
  - developing designs that use locally available material sources and labor.
  - establishing construction methods that are safe and easy to construct.
  - developing design and construction strategies that reduce overall risk to the construction contractor.

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