# Urban Design and Aesthetics Working Group (UDAWG) – Meeting #4 Notes

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| Project: | Earthquake Ready Burnside Bridge (EQRB) |
| Subject: | Urban Design and Aesthetics Working Group |
| Date: | Wednesday, November 4, 2020 |
| Time: | 1:00 PM – 3:00 PM |
| Location: | WebEx (see email for link) |

## working group members

Randy Gragg, Executive Director, Portland Parks Foundation

Bill Will, Public Works Artist

Paddy Tillett, ZGF

~~Chris Herring, Artistic Director, Portland Winter Lights Festival~~

Megan Crosby, Urban Development + Partners

Ian Williams, Deadstock Coffee

Priscilla Macy, Oregon Outdoor Coalition

Izzy Armenta, Oregon Walks

Dave Todd, Portland Rose Festival

Brian Kimura, Japanese American Museum of Oregon

## AGEnCY GROup members

Patrick Sweeney, PBOT

Teresa Boyle, PBOT

Lora Lillard, BPS

Hillary Adam, BDS

Tate White, PPR

Justin Douglas, Prosper Portland

Bob Hastings, TriMet

Magnus Bernhardt, ODOT

## project team members

Megan Neill, Multnomah County

Mike Pullen, Multnomah County

JD Deschamps, Multnomah County

Emily Miletich, Multnomah County

Suzanne Carey, DEA

Heather Catron, HDR

Steve Drahota, HDR

Cassie Davis, HDR

Michael Fitzpatrick, HDR

Katy Segura, HDR

~~Jeff Heilman, Parametrix~~

Allison Brown, JLA

Carol Mayer-Reed, Mayer/Reed

Jeramie Shane, Mayer/Reed

Josh Carlson, Mayer/Reed

Anne Monnier, KPFF

Joel Newman, Fat Pencil

## COMMUNITY TASK FORCE OBSERVERS

Marie Dodds, Ed Wortman, Gabe Rahe, Susan Lindsay

# Purpose:

# *The purpose of the UDAWG is to serve as a technical resource body to the CTF for urban design and aesthetics by:*

# *Providing informed insights and opinions on the visual features for each type selection option*

# *Recommending measures to enhance aesthetic opportunities or mitigate potential visual impacts*

# *Representing urban design and aesthetic interests*

# *Reflecting the character of Portland by suggesting place-making opportunities*

# Outcomes:

# *The outcomes for the UDAWG group are to:*

# *Inform a set of feasible bridge type options for the CTF’s consideration*

# *Inform a project-specific Visual Performance Standard for use during the Type Selection and Final Design phases*

# *Recommend visual and aesthetic evaluation criteria for consideration by the CTF*

# Notes:

###### Welcome, Intros, Pre-Meeting Info, and General Comments

* Introductions
* Pre-meeting information
* Purpose and Outcomes
* Meeting Objectives
* Project Update

## General Comments

* Randy Gragg: Am I wrong to feel uneasy about this parcelization of the project? In a perfect world we’d want a vision that unites these elements, and perhaps it comes together in the RFP, but it does feel strange to have one group looking at one part and one group looking at another part and then they get put together later.
* Steve Drahota: The reason it is broken into pieces is so that we can focus. If we were to meet four hours each time, then perhaps we could do that. Last time, visuals on the west approach were requested, and in this meeting we have 20 different graphics for the west approach and hopefully that spurs on conversation about what the type might be. We’re trying to build on each other, but Meeting #6 should allow us to bring these things together.
* Carol Mayer-Reed: I would add that bridges are really different design projects (than buildings) that are heavily driven by constraints and technical criteria. So it isn’t that the bridge designer comes in with a vision and says, “this is what you need”. Infrastructure projects are complicated and so breaking it down into some form of components is helpful to get the parts, and the language, around what is possible and then working it back from its parts to the whole. I think it has room to go back and forth.
* Bill Will: We’re discussing fixed bridge types now and movable bridge types in the next meeting, so I’m concerned that we need to look at both at the same time. We will be recommending something today? And can we change our mind after we see what’s possible? Will we regret anything later?
* Carol Mayer-Reed: I don’t think we’re asking for recommendations today. We’re allowing the committee to look deeper into the components that will eventually distill towards what the guidelines will be. Yes, you can go back and forth and have debate, you won’t be stuck with what you’ve said in this meeting.
* Patrick Sweeney: I find myself having to keep reminding myself on how this process is going, and indeed it is atypical. A classic process has a vision and we move it forward, and this one seems to be more working out some details and then organizing them into a cohesive vision. For the project team, to confirm, the final outcome of this group is not to choose a bridge, but to pick a long span bridge family and a lift bridge family. Are they inclined to work together and move forward toward a solution?
* Cassie: The process is intended to be circular at this point, while spiraling in toward a solution.
* Randy Gragg: Who is our voice on the CTF, who represents us?
* Cassie: The Project Team and the CTF members that participates in this meeting.
* Heather: We also have a couple of milestones. At our very first meeting, we went over the process for the communication between the working groups. We are also going to have some UDAWG members bring the groups thoughts and recommendations back to the CTF.

###### Menu of Bridge Types

* Input / Feedback Opportunity
* Achieving balance: symmetry vs. asymmetry
* Composition of bridge components
* Civic scale -east vs. west
* Elements of human scale
* Iconic landmark...or not?
* Lift bridge or bascule opening?
* Use of different structural systems in a tri-part bridge?
* Innovation
* Coherency
* Targeted Redevelopment
* Presented: Page 15 from CC2035 Plan
* “The Big Ideas”:

1. Celebrate Portland’s Civic and Cultural Life
2. Foster Creativity, Innovation and Productivity
3. Enhance the Willamette for People and Wildlife
4. Design Streets to be Great Places
5. Develop the Next Generation of Public Space: The Green Loop
6. Increase the Resilience of the Central City

* Steve Drahota will have the CC2035 Plan uploaded to the online UDAWG Library for the team.
* Bridge Type Summary
* Movable Spans (Technically Feasible)
* Lift: Individual or Truss Tower; Sheave direction; Single or split towers
* Bascule: Delta pier; Twin leaf; Rustic or modern style
* Movable Spans (Discarded)
* Swing
* Unique Movements
* Approach Spans (Technically Feasible)
* Tied Arch: Conventional; Cable Stiffened; With or without rib bracing
* Truss: Conventional towers; Rustic, modern, or other styles
* Cable Stayed: Two towers / cable stay planes
* Extradosed: Two towers / cable stay planes
* Movable Spans (Discarded)
* Suspension
* “Other”
* Fixed Bridge Type Comparisons
* Truss-to-Tied Arch
* Technical trade-offs / comparisons:
* Truss requires cross-framing (i.e., roof) while a tied arch may not
* Truss vertical and diagonal members are larger than the tied arch
* Truss is considered more historic, although can look modern with care
* Truss is consistent with all existing downtown bridges except Fremont and Tilikum
* Trusses require a significant long-term maintenance program (repairs and painting)
* Truss Concept compared to Tied Arch Concept
* UDAWG Key Aspirations & Opportunities:
* Bridge represents forward-thinking: sets tone for next 100 years
* Timeless in design yet represents its era
* Appropriate scale for the location
* Views in all directions
* A celebration; a beacon
* All modes considered, especially pedestrians & cyclists
* Memorable, distinctive lighting
* Question of symmetry, asymmetry, and balance
* Unique bridge that opens -exposed mechanisms or not
* Extradosed-to-Cable Stayed
* Key Technical Trade-offs / Comparisons:
* Shorter towers = bulkier superstructure than cable stayed type
* Larger in-water piers and foundations
* Requires haunched superstructure for sufficient clearances
* West Approach:
* Column placed in Waterfront Park
* East Approach:
* More expensive then cable stayed option
* West Approach Study
* Truss Option
* Tied Arch Option
* Cable Stayed Option
* Girder Option (columns at Naito Parkway)
* Girder Option (columns within Waterfront Park)

## Discussion / Questions

* Carol Mayer-Reed: Are there any burning questions? Technical questions? Questions about the different combinations?
* Bob Hastings: Why is the existing Burnside Bridge trusses below deck?
* Steve Drahota: The truss itself, the deck truss, extends from the in-water pier to the edge of the park; it’s a much shorter span length. We are lengthening the spans and we have to flip it in order for the truss to be on top.
* Carol Mayer-Reed: There is more of a sea of columns on the west side so we’re trying to clear up the number of columns.
* Steve Drahota: The whole point to a longer span is to avoid the liquefiable zone as much as possible.
* Lora Lillard: If we are looking for transparency, can you clarify about how the truss necessitates a roof of some kind, but the tied arch would not?
* Steve Drahota: Yes, that’s true. We developed a concept that is classical in nature, those can get larger. The span lengths for these trusses do allow that if the tied arch is the preferred type selection, and then that decision would be made during final design.
* Randy Gragg: Can the walkways be outside of the truss and tied arch?
* Steve Drahota: They absolutely can. The green strip represents where a ped/bike path could go.
* Carol Mayer-Reed: Would anyone care to talk about, from a pedestrian experience, what the transparency might be between these two? Or, do we want a truss system that seems to match with other bridges that we have in our bridge collection? Is it important to be similar or be different?
* Ian Williams: I am more of a symmetry person even though I understand one side has to be longer than the other. The tied arch looks more progressive and modern looking; and we want to see as much of the city as much as we can from the bridge. From this graphic, the trusses make it look very full.
* Hilary Adam: The tied arch is more transparent. The truss here looks heavy and I don’t think it’s necessary to repeat other bridges. The truss feels very cagey.
* Bill Will: I agree with both of the comments about how the bridge feels contained, much like the trusses on the neighboring bridges like the Hawthorne, the view is interrupted. It’s like the trusses would terminate six times (if all three parts were truss structures.) I’m also liking this comparison to see where the curve of the tied arch bridge begins and ends at the deck. Cables on the tied arch can disappear. It’s a much more elegant shape than the truncated truss concept.
* Carol Mayer-Reed: Yes, there’s an abruptness to the ends of the truss. You’re either in or out of it instead of moving smoothly through.
* Bill Will: Yes, and the tied arch looks like a wave which is very attractive. The only other tied arch bridge we have is the Freemont Bridge, I believe, and you can’t walk on that bridge. Being able to walk on that kind of bridge would be a new experience for pedestrians.
* Steve Drahota: There is also the Sauvie Island Bridge that is a tied arch and pedestrian friendly.
* Lora Lillard (via chat): The tied arch may serve up more opportunities for transparency with no roof and slender cables (though both of those will result in thicker structures). The truss does feel like more of the others will feel heavy and not as transparent.
* Magnus Bernhardt (via chat): How the bridge looks like at night and the opportunities to highlight the architecture during that period seems important. Tied arch seems to offer more opportunity; structural tension is beautiful: a bowstring.
* Hilary Adam (via chat): It seems like there are more opportunities for creativity with the tied arch (in terms of designing a dynamic landmark bridge).
* Magnus Bernhardt (via chat): How much flexibility is there with the cable design with a tied arch?
* Steve Drahota: It’s shown as a network, but it can also be vertical which would have a structural consequences to it, but it’s a design opportunity.
* Paddy Tillett: The tied arch vs the truss: the main thing is that this is not a symmetrical circumstance. Going eastwards, you can tolerate a tall enclosing structure there, and I think the tied arch bridge on the east side illustrates that very well. Going westward is where you need the openness, there’s a very different sense of arrival into downtown. Once you come out of the tied arch on the east side, particularly if you have a bascule, and not nearly as tall, it’s important to have it be light. I think one needs to look at this bridge as fulfilling two different things, whether you are going east or west, which dictates to me something asymmetrical.
* Randy Gragg (via chat): I'd like to stick up for the truss just to be sure we're thinking of all the angles (pun intended).
* Izzy Armenta (via chat): The truss looks almost industrial, monolithic, and uninviting. The tied arch feels like a good balance when approaching from the busy dense East Burnside bridge head. Having less visual obstructions is more inviting like in the tied arch image shown.
* Carol Mayer-Reed: The point of view we haven’t talked about yet are approaches (as viewed) from the freeway. You might want to think about that as you drive under there (on I-5). When you think about the truss on the east side and the industrial history on the east side, it could create a screening of the freeway on the east side, and this might lend itself to an asymmetrical bridge.
* Randy Gragg: There is a way to design the truss with more delight and patterning to it, but the truss does afford the opportunity for a compression-and-release notion. There is an openness to it. I wouldn’t preclude the opportunity of the truss. I agreed that the tied arch looks a little cleaner and more modern, but it’s all in the articulation of it and a truss could be made more interesting than the tied arch. Don’t rule it out.
* Megan Crosby (via chat): Truss feels very closed off and isolated for an experience both driving and as a pedestrian. The openness of the tied arch offers a much more pleasant experience both on foot and driving with its transparency. With the central eastside industrial being on one side and the downtown core on the other side, the tied arch seems like a nice pause or balance in between the two areas.
* Patrick Sweeney (via chat): A truss, or an arch, can look lighter and less bulky with a cross section similar to the Hawthorne Bridge
* Magnus Bernhardt (via chart): Can we see a rendering/picture of a tied arch concept with no horizontal ties? I think it really changes the architectural character.
* Steve Drahota: The Hastings Bridge from the last meeting is a great example of that.
* Lora Lillard (via chat): I agree that the truss doesn't have to look bulky, but I think it's a little tougher to pull off.
* Brian Kimura (via chat): If a lift, what height is estimated for the towers?
* Steve Drahota: 180 feet above the deck, for all alternatives, for the ship passageway.
* Brian Kimura: From the images you are showing, the tied arch provides openness, but what we don’t see is the height of this, and from the scale, it looks very large, if it is 2/3 of the size of the Yard (building). As you approach this, it will change the east side skyline dramatically.
* Hilary Adam (via chat): Agree with Brian. Would like to see a wider view of the bridge rendering in context that show the historic buildings in Skidmore/Old Town on the west side.
* Randy Gragg: Why are extradosed bridges less common? Do they cost more?
* Steve Drahota: I don’t have a good answer to that, but they generally cost a little more – a cable stay is more cost effective because of what you are saving in the girder and the decks.
* Michal Fitzpatrick: Agencies like to work with proven bridge types. Like Steve mentioned, most extradosed bridges are in Japan and Korea. Also, from an aesthetics standpoint, they look best when they have more pier above deck than below deck. We don’t have a lot of code for them and they do cost a little more and the cable stayed is more efficient.
* Mike Pullen: I don't think Portland has a true extradosed bridge. Would it require a costly maintenance program to maintain, or new expertise for county bridge team?
* Steve Drahota: That’s a good question and we will continue that conversation as we go forward. I tried to create the fundamental differences between the two.
* Carol Mayer-Reed: I think it would be good to talk about landmarks at this point. How tall is the Yard?
* Mike Pullen: It is 17 stories tall. (Now after research, the height is revised to 21 stories.)
* Carol Mayer-Reed: Would this bridge (tower) be taller than the Tilikum?
* Steve Drahota: Yes.
* Carol Mayer-Reed: Then I would ask “is there room for it?” It’s very transparent, but at this point, it talks to scale and begs the conversation about landmarks.
* Mike Pullen: The Yard is built on an angle, probably to avoid the CSO below, so it faces more southwest than due west.
* Bob Hastings (via chat): The reason the Tilikum Crossing isn't a "true" cable stayed is because of the cultural values expressed by the community, which is important in this exercise to understand. Also, when we begin to make these adjustments over true types, one of the factors that led to that (was that) the community believed that if it were a true cable stayed, it would affect what people felt about the city and the view. One is empirical, one is subjective. I think we’re trying to find where the equilibrium is in these places along the sequence of things between east and west – less so than symmetry vs asymmetry.
* Paddy Tillett: I wanted to pick up what Carol said about the scale of the building on the east side. I think that’s why the tower is in the right place and it prepares you for that scale as you travel east and continues it as you travel west. If we put a cable stayed on each side, the tower on each side would be at the edge of the river. It seems like the right thing to be doing, given the 75‑foot height limit. It seems reasonable to me to pair it with the bascule. The other possibility that was shared last week was a cable stayed at the height of the bridge lift – that might be worth looking at a bit further.
* Randy Gragg: I agree a lot with Paddy. I find myself intrinsically attracted to this. This seems to have an appropriate scale. Also, the Yard is a great backdrop, it’s undistinguished with any real texture. To Paddy’s point, the scale differences on the different sides of the river creates opportunities to add to the overall experience to the center of our City.
* Hilary Adam (via chat): Agree with Paddy about scale on the east and west. Apologies to anyone who likes the Yard, but having a taller structure in front of the Yard might be a good distraction from it.
* Patrick Sweeney (via chat): The nighttime view of a lighted cable-stayed could be stunning - it is the center of the City.
* Magnus Bernhart (via chat): It certainly has landmark and gateway qualities, but may be out of scale. Also, I find this bridge type to have a "sameness" quality and to be more appropriate in a larger landscape setting that is more open.
* Izzy Armenta (via chat): Concerned that the west column would be placed in Waterfront Park.
* Paddy Tillett (via chat): Izzy, the west tower would be between Waterfront Park and the river.
* Bob Hastings (via chat): Where is the (east) tower placed relative to the railroad and freeway/ramps?
* Steve Drahota: It’s a little further to the east of the railroad.
* Mike Pullen: If the extradosed doesn’t have long columns below the deck, like Mike Fitzpatrick mentioned, it might look too heavy. Steve, the columns would be on the short side for the Burnside Bridge, is that correct?
* Steve Drahota: Correct.
* Patrick Sweeney (via chat): People spend more time off and under the bridge than on it. The space created under the bridge is extremely important here.
* David Todd (via chat): Definitely agree with Patrick on this.
* Bob Hastings (via chat): In Eugene, I-105 extended into the neighborhood west of downtown, and really impacted the city's human/pedestrian scale, something with we need to be cognizant of.
* Carol Mayer-Reed: Let’s talk about what level of clearance in Waterfront Park is unacceptable. When that ceiling starts to come down, how low is too low?
* Steve Drahota: From the conversations thus far, an action item for me is to bring the clearance that comes with each of the options to the group.
* Lora Lillard (via chat): The girder option with the columns at Naito seems pretty unacceptably low. I keep looking at that image, 14 feet seems really low. I appreciate exploring other options to make that girder work so it’s not so low.
* David Todd (via chat): The only real gain of girder over present setup is elimination of all the extra support columns.
* Carol Mayer-Reed: So let’s ask the question if *any* columns are acceptable.
* Randy Gragg (via chat): Girder feels like a freeway overhead. Would prefer columns to that. I don't object to the columns in the park, but suspect it will be challenging politically.
* Bob Hastings (via chat): Could the bridge's structure extend above the road deck?
* Ian Williams (via chat): I agree, the thickness of the girder is too much in my opinion. I think the columns would be alright.
* Teresa Boyle: As people load into the park and unload and stage events under the roadway, it would be good to uncover what clearance is needed for event vehicles, particularly that in the now, as long as we’re still dealing with concepts. Nineteen feet clearance over Naito is required. It’s 18 ft to the bottom of a traffic signal and 14 ft for Parks.
* Tate White: I continue to be concerned about it. Steve, isn’t there a cap for that?
* Steve Drahota: There are various design options, but generally speaking there is some reduction in the space between the columns, you can think in the 8 to 10 foot clearance. Just east of it is in the 14 foot range.
* Tate White: Those are the biggest concerns and might be a deal-breaker. The thickness of the bridge deck has been noted in the chat. Knowing that there is going to be structure above deck to the east, although I am for asymmetry, I’m questioning what we are gaining from this girder in the overall bridge design.
* David Todd (via chat): Girder options all visualize as much more cave-like than even the current maze of pillars.
* Randy Gragg (via chat): Feels like this is the one thing we all agree on: no girder!
* David Todd (via chat): Remember that the walkway next to the seawall is also designated as state highway with clearance requirements.
* Izzy Armenta (via chat): The girder options with columns at Naito make it feel like the bridge structure is prioritizing autos on Naito and putting park use as a second thought.
* David Todd (via chat): Concur with Izzy, girders are not addressing aspirations.
* Randy Gragg (via chat): I think programming would be necessary for the columns to not be just graffiti boards. Skate park west?
* Bill Will: Seeing the 3 bridge choices here, and how the over-the-bridge structure impedes the view of downtown, this is a viewpoint that I don’t think that anyone would see. I would be curious to see this same view, but from pedestrian view.
* Steve Drahota: Will provide at the next meeting.
* Carol Mayer-Reed: In the interest of time, with 7 minutes left, I think we need to move forward, but I think it’s ok to leave this as an open-ended conversation at this time.
* Steve Drahota: I definitely want to come back to this topic at the beginning of this at our next meeting. There is a consequence to all of the options, exploring this notion of the columns in waterfront park is what needs to happen to achieve clearance. As a homework assignment, please look through these slides and determine which set of trade-offs is the “best of the worst”.

###### Movable Bridge Features

* [Due to time constraints, these slides were not discussed]

## Discussion / Questions

###### Next Steps and Closing Remarks

* Proposed Meeting Dates and Durations:
* Mtg #5 (2 hrs) –Wed 11/18/20 (Movable Bridge)
* Key Topics: Exploring the Movable Bridge Design elements
* Mtg #6 (2 hrs) –Wed 12/2/20 (Comprehensive Bridge Composition)
* Key Topics: Range of Feasible Alternatives; Preliminary Evaluation Criteria
* Mtg #7 (2 hrs) –Wed 12/16/20
* Key Topics: Input on the Range of Feasible Alternatives and Visual Design Guidelines; Recommended Type Selection Evaluation Criteria
* Mtg #8 (2 hrs) –Wed 3/10/21
* Mtg #9 (2 hrs) –Wed 6/2/21