



Community Design Advisory Group Meeting #6

Multnomah County Department of Community Services Transportation Division

May 30, 2024

All CDAG meetings are live-streamed, recorded and available to the public.





Agenda

- 1. Welcome & Opening Remarks
- 2. Introductions & Housekeeping
- 3. Review Updated Workplan
- Review Design Status County Screening Process
- 5. Review Range of Bridge Type Options
- 6. Questions/Discussions
- 7. Public Comment Period
- 8. Next Steps & Closing Remarks



Housekeeping

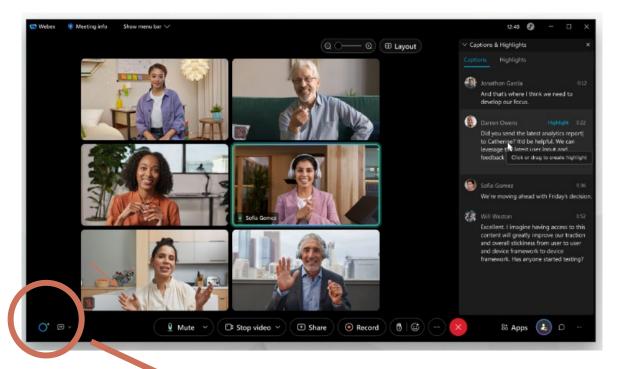


Virtual Participation Tips

Closed captions in English are available in Webex and YouTube

- In the bottom menu select "CC" or "closed captioning"
- Select "view captioning and highlights"

Submit questions for response to burnsidebridge@multco.us









Public Input Instructions

Public comments are welcomed as part of each CDAG meeting and can be shared in several ways:

- In-Person Verbal Comments: Attend and comment in-person at Multnomah Building (Board Room, 1st Floor) 501 SE Hawthorne Blvd, Portland, OR, 97214. Sign-up for comment at the sign-in table.
- Virtual Verbal Comments: Request link to provide virtual comments
 24 hours before the meeting by sending an email with subject line
 "CDAG Comments" to: burnsidebridge@multco.us. A project team
 member will contact you with instructions.
- Written Comments: Send an email to be included in the groups meeting packet 48 hours before the meeting by sending an email with subject line "CDAG Comments" to: burnsidebridge@multco.us.







Housekeeping

SAFETY BRIEFING & MEETING PROTOCOLS

Safety

- Evacuation location: Parking lot on the SE corner of 6th and Hawthorne (cross at light at SE 7th Ave)
- Emergency exits
- Restrooms outside the door

Meeting Protocols

- Question or comment: raise your hand or turn your table tent on the short end
- Speak clearly and toward the microphones
- Limit multitasking, side conversations and noise that could be picked up by the microphones
- All meetings are live to the public and recorded





Housekeeping

MEETING PROTOCOLS

- Be curious and willing to learn.
- Ask questions to gain clarity and understanding.
- Express preferences, interests, and outcomes you wish to achieve.
- Listen respectfully to understand the needs and interests of others.
- Be concise with comments and questions.
- Focus on the scope of the discussion.
- Attend all meetings in a timely manner.
- Respect the role of the facilitator to guide the group process.
- Seek common ground.





Introductions & Roll Call

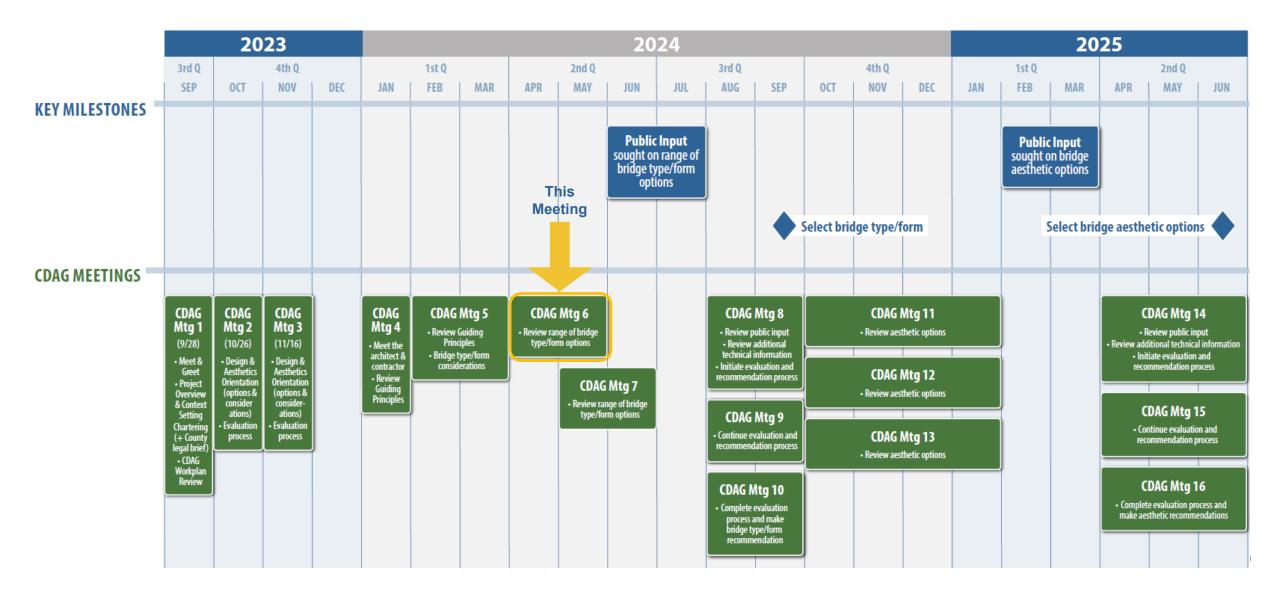
- Aaron Whelton, Portland State University
- Anthony Jackson, Community Member
- Brian P. Kimura, Japanese American Museum of Oregon
- Carol Gosset, Oregon Museum of Science & Industry
- Erik Swenson, Portland Saturday Market
- Fred Cooper, Laurelhurst Neighborhood
 Association & Native American Youth and Family
 Center
- Gabe Rahe, Burnside Skatepark
- **Guenevere Millius**, Sunnyside Neighborhood Association
- Ian Sieren, Community Member
- Jackie Tate, Community Member

- Jason Halstead, Community Member
- Neil Jensen, Gresham Chamber of Commerce
- Paddy Tillett, Architect/Design Professional
- Patrick Sullivan, SERA Architects
- Robert Hastings, Willamette Light Brigade
- Sarah Lazzaro, Community Member
- Sharon Wood Wortman, Historian
- Ed Wortman, Community Member
- **Susan Lindsay**, *Buckman Neighborhood Association*
- Valerie Schiller, Multnomah County Bike/Ped Citizen Advisory Committee
- Todd DeNeffe, Central Eastside Industrial Council





Workplan

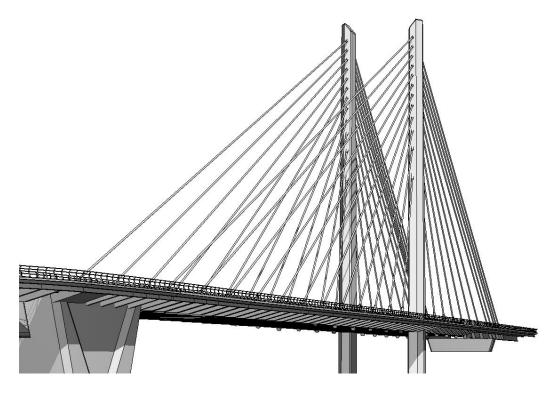


County Screening Process

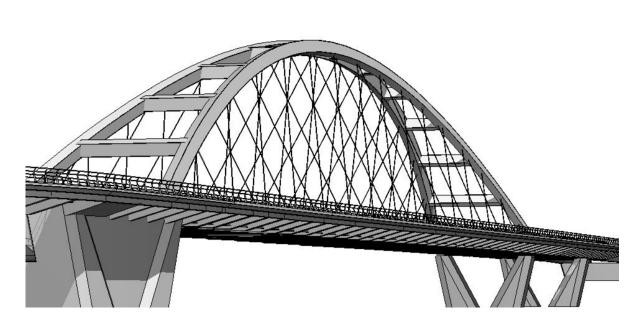


Baseline Options

Comparison of architectural concepts to Baseline NEPA Options



Cable Stayed // Goal Posts



Tied Arch // Braced Basket Handle (570ft)





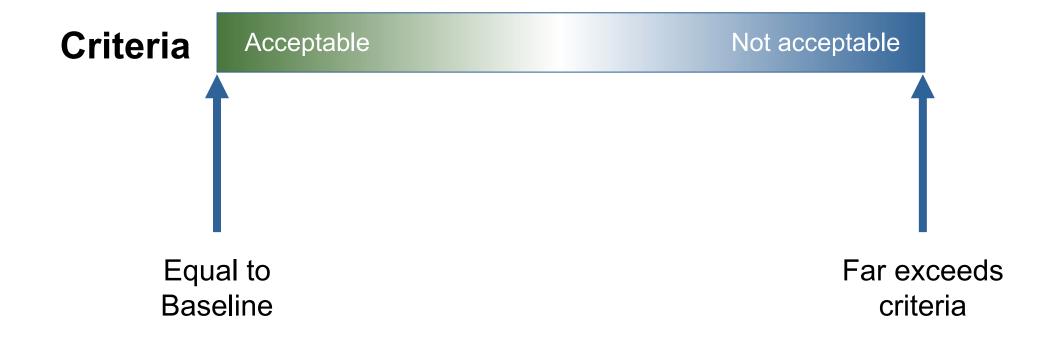
Screening Criteria

Compared to the baseline options...

Cost	A difference of more than ~\$50 million
Schedule	A difference of more than ~6 months
Constructability	Significant increase in challenges (e.g. larger equipment, unique materials, heavier falsework, etc.)
Impacts	Significantly greater impacts to adjacent stakeholders and ROW
Risk	Significantly greater risks (e.g. risk of fabrication delays)

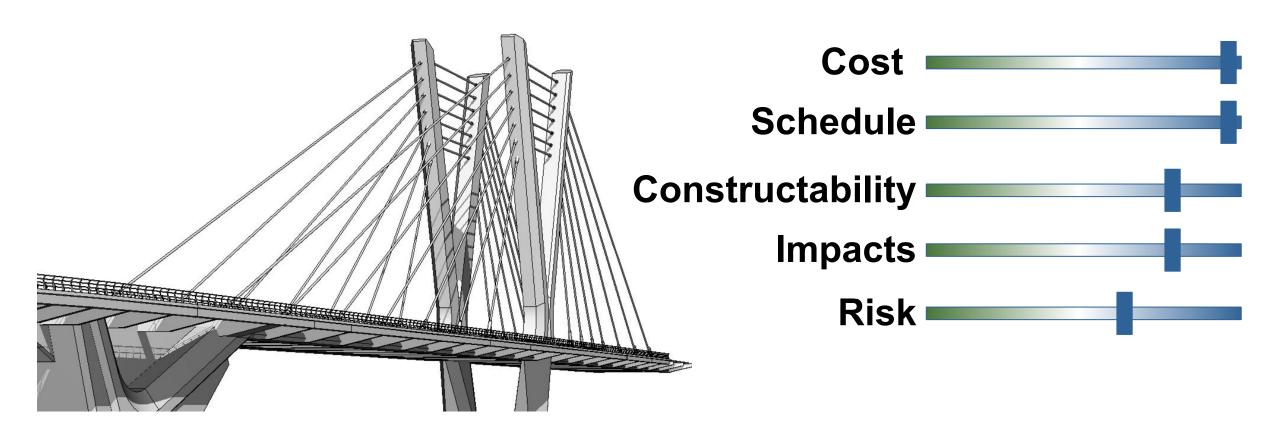


Legend





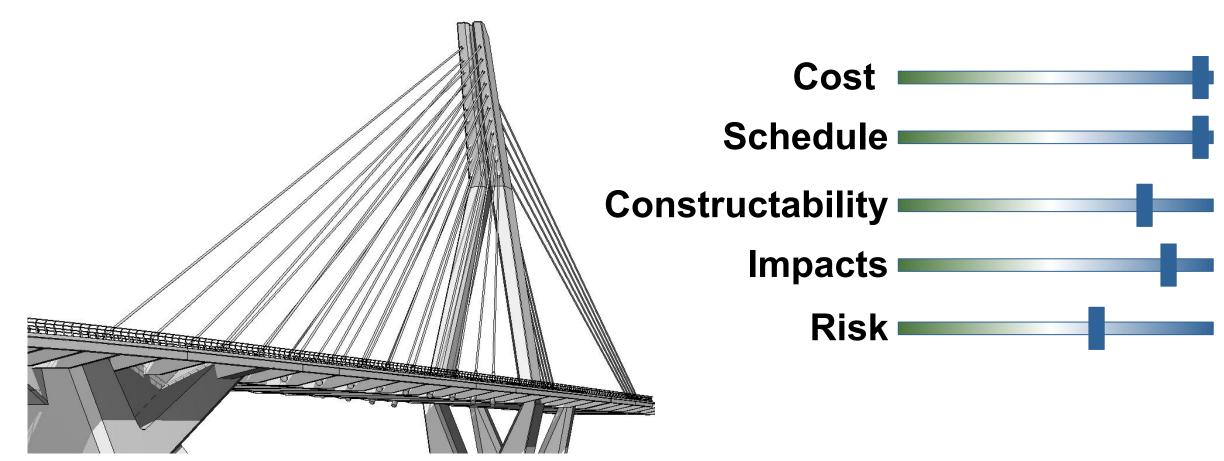








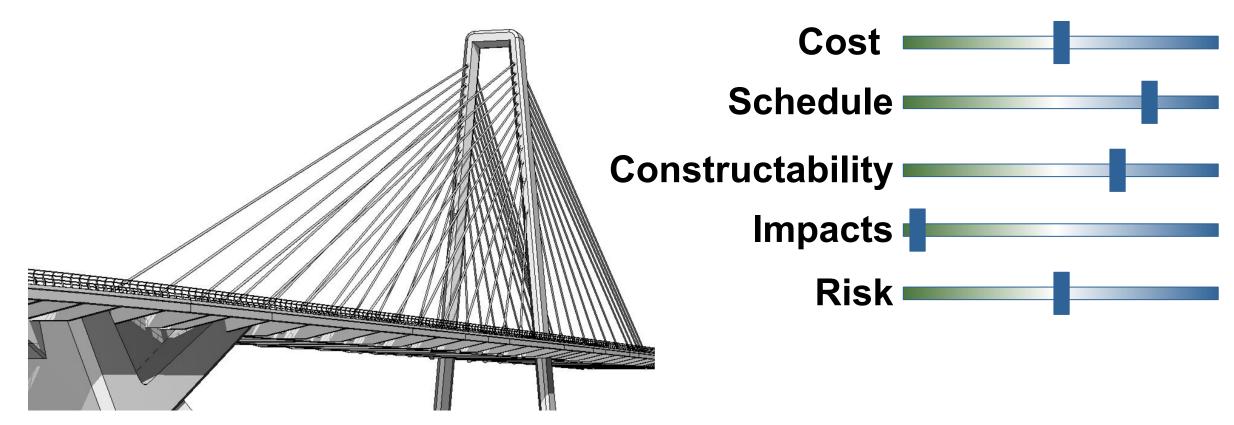








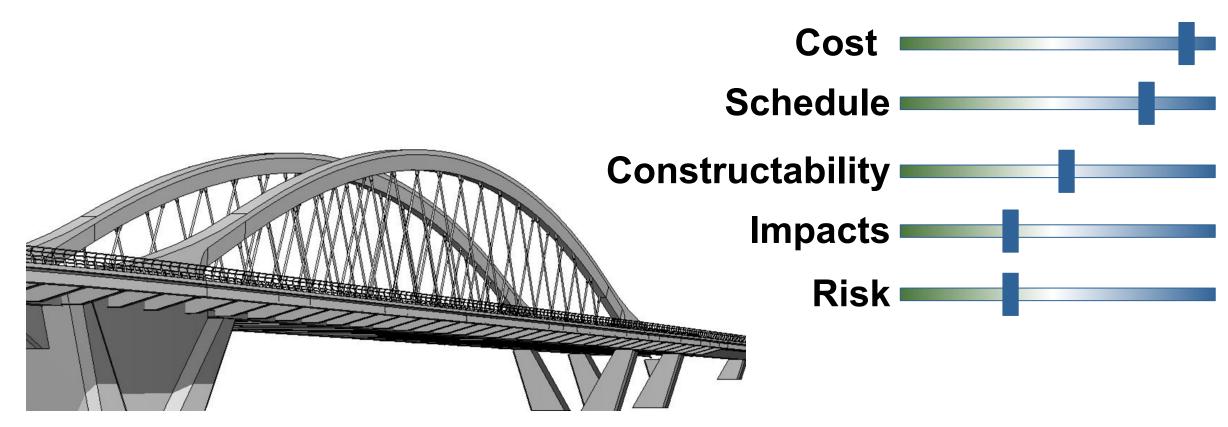












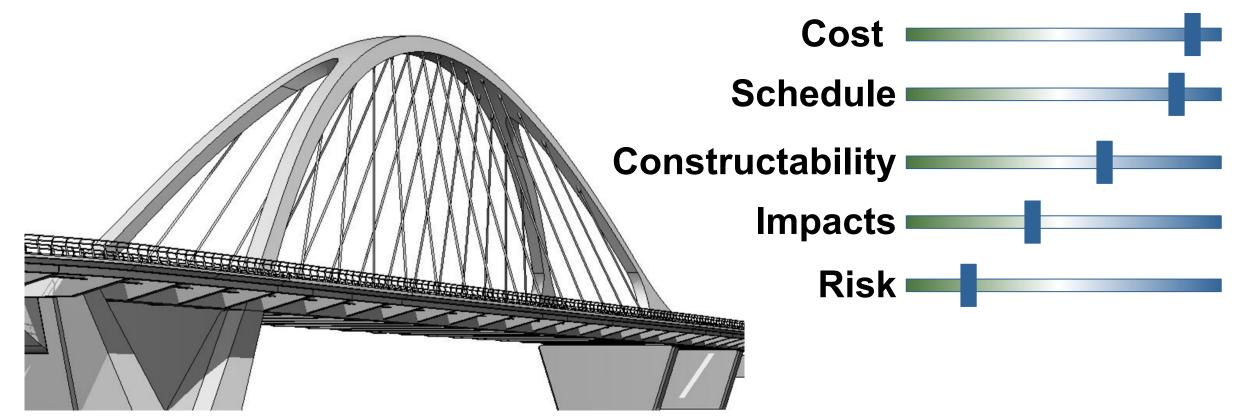
Tied Arch // Low Unbraced Through Arch (570ft)





MultCo Screening Process

Options that did not pass screening criteria



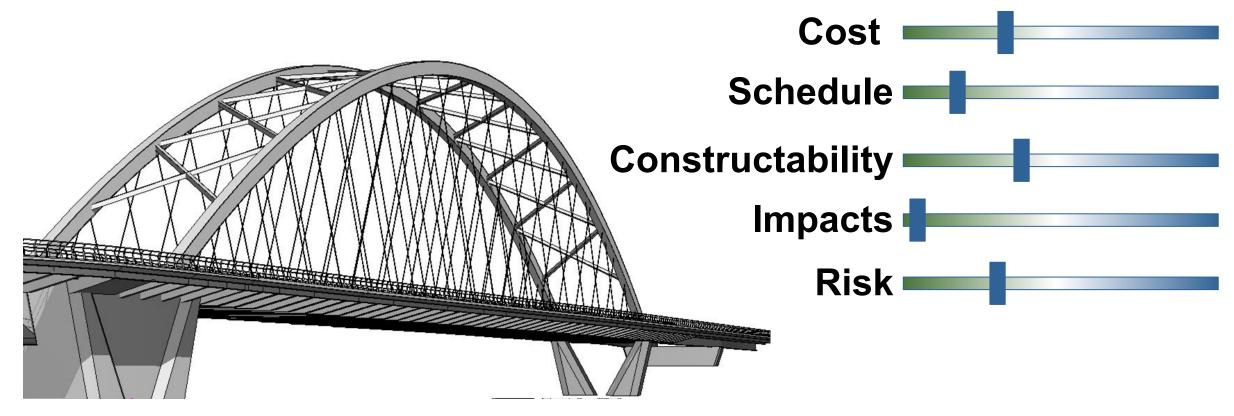
Tied Arch // Self-Braced Basket Handle (530ft)





New Option Added

Variation on braced vertical arch added to range of options



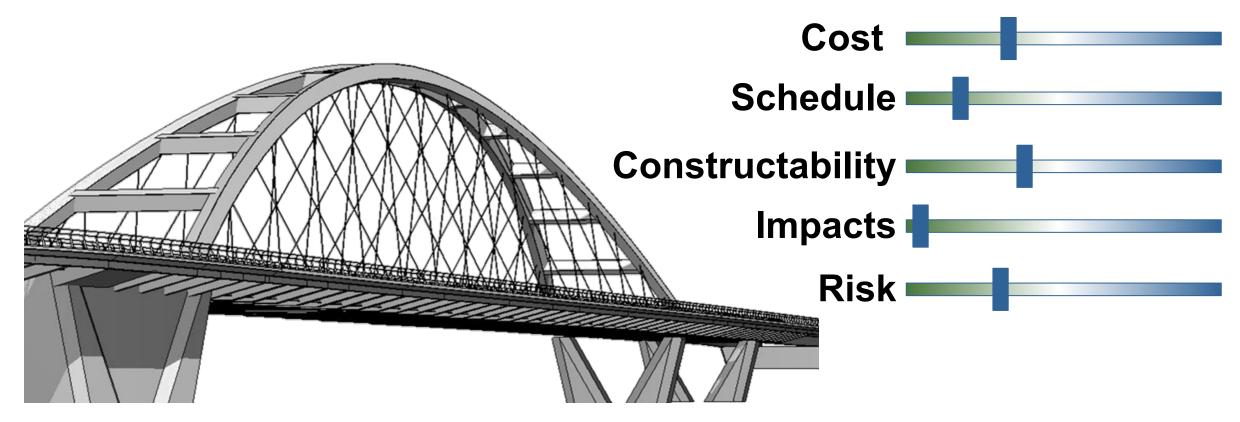
Tied Arch // Long-span braced vertical arches (720ft)





New Option Added

Variation on braced basket handle arch added to range of options



Tied Arch // Long-span braced basket-handle arch (720ft)

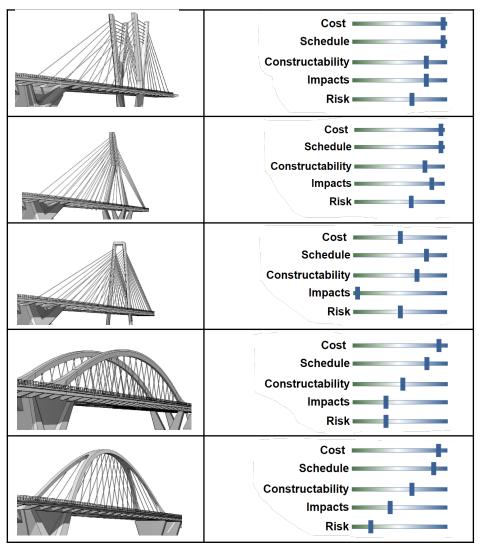




MultCo Screening Summary

What we learned along the way...

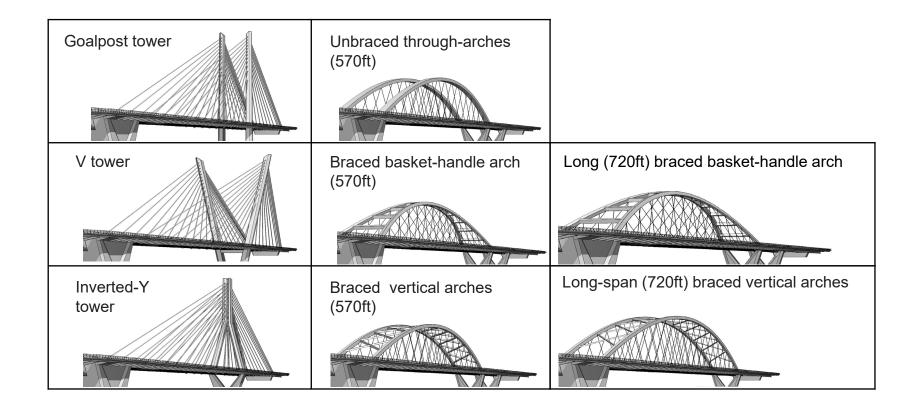
- In-water piers: Cost vs Aesthetics, more work is needed. Refinements will be ongoing through Spring 2025.
- Long (720 ft) braced basket handle and unbraced vertical arch options passed screening.
- Arch vs Cable Stay: cost not a key differentiator.







Options for further consideration





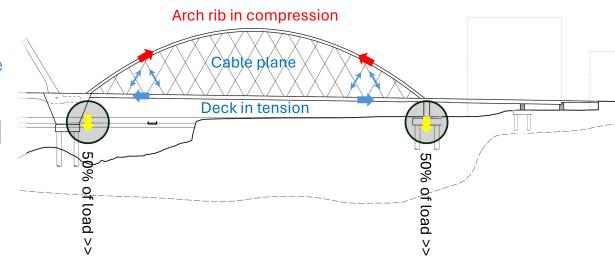
Range of Bridge Types

Type Selection- CS & TA

Generic arrangement with cable-stayed long-span bridge

• Tied Arch Bridge:

- > Arches are in compression
- The arches are 'tied' through the deck to counteract the thrust of the arch creating a 'bow'
- > Cables in tension support the deck at intervals
- Supports at each end transfer half the bridge load each

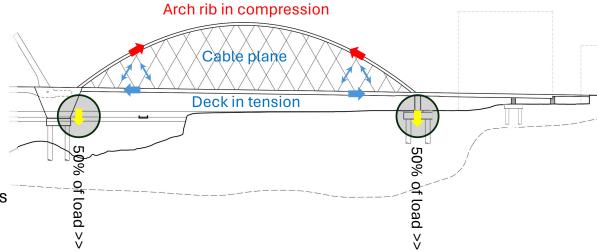


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Key Takeaways

- > The structure is a closed system with equal end supports
- > The arch rib is visually dominant wide and 'low'



• Tied Arch Bridge:

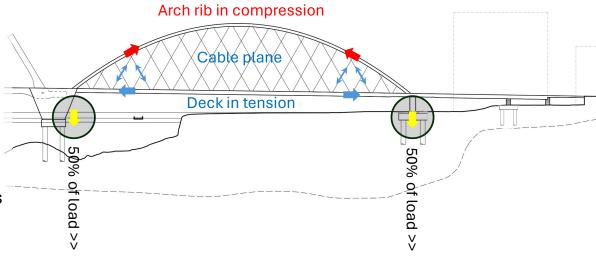
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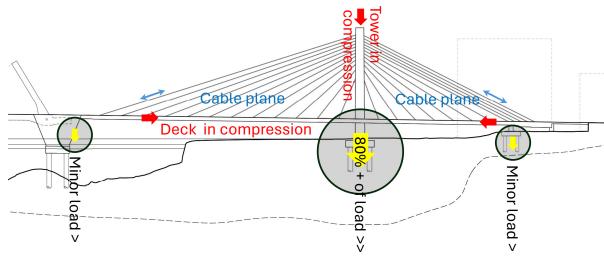
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Cable Stayed Bridge:

- Tower in compression
- Deck in compression
- Stays (cables) in tension support the deck at intervals
- 80%+ of weight thru the central towe





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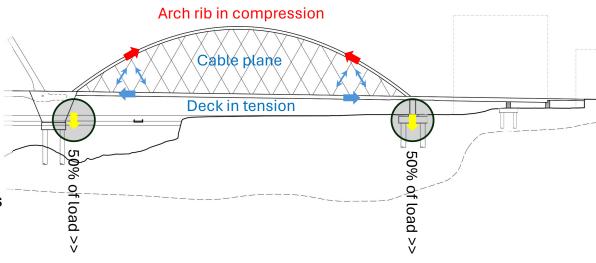
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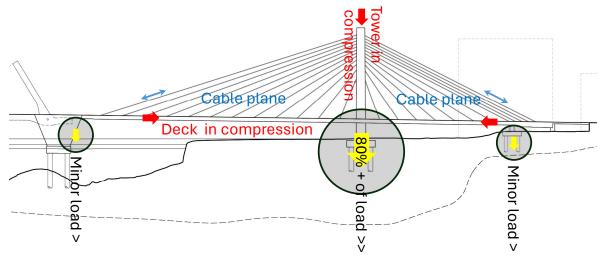
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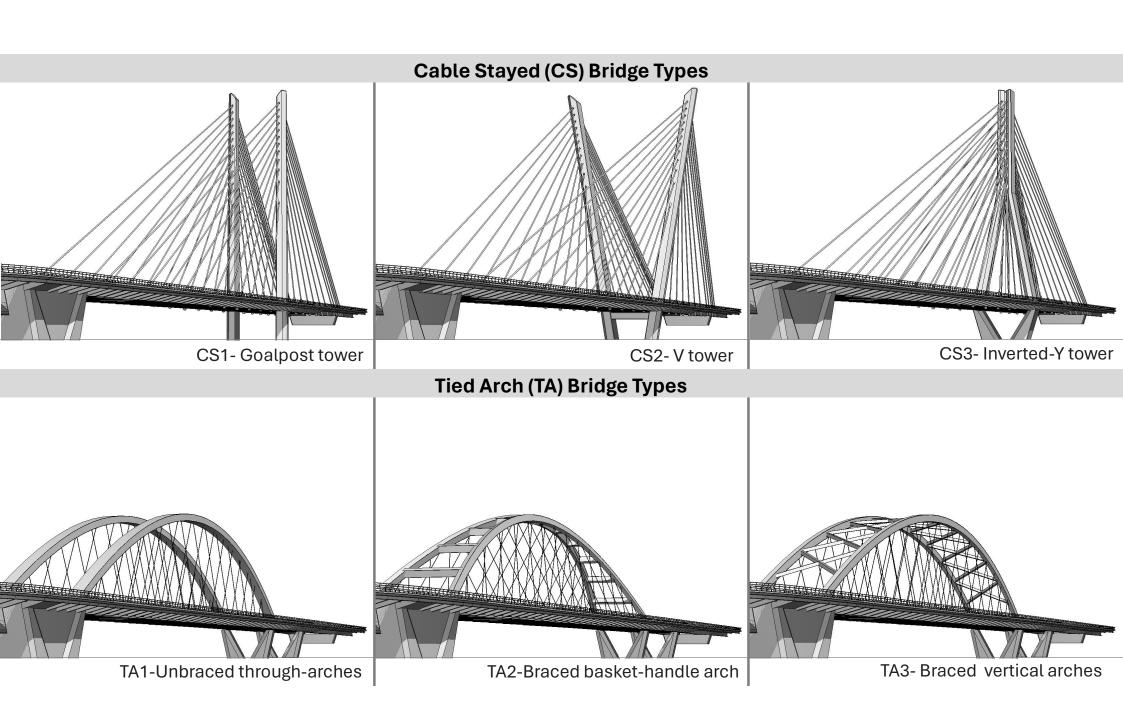
Key Takeaways

- ➤ The structure is configured around a primary central support
- > The tower is visually dominant tall and 'slender'

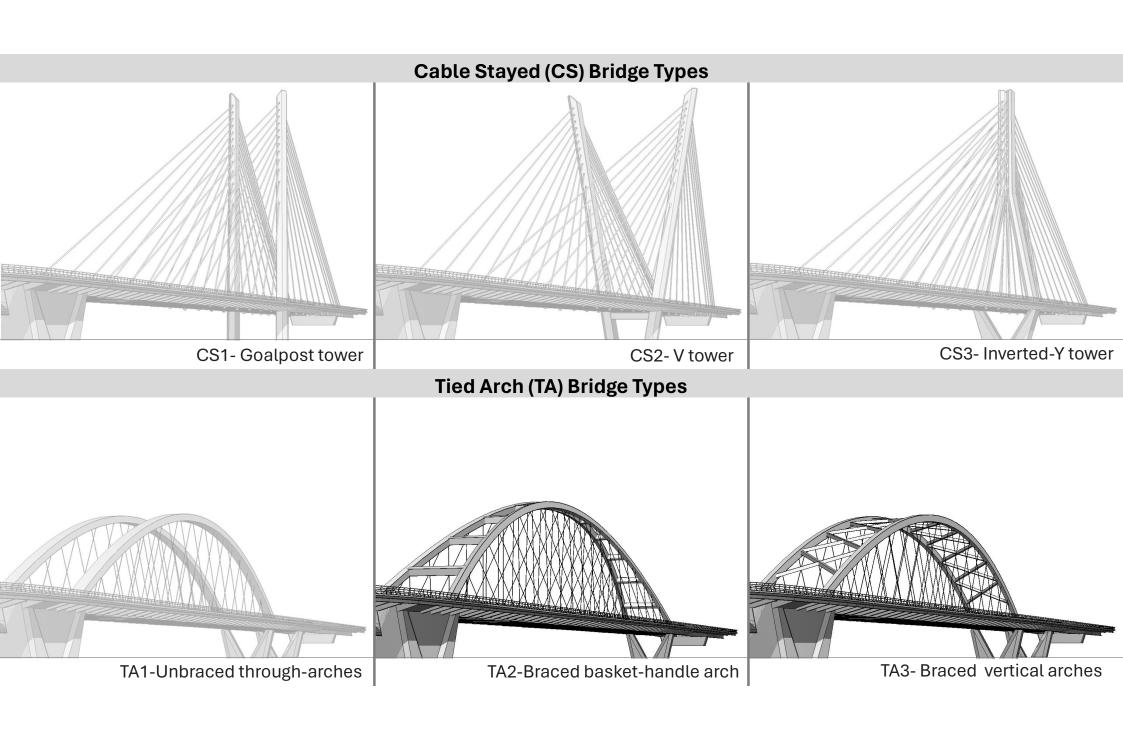


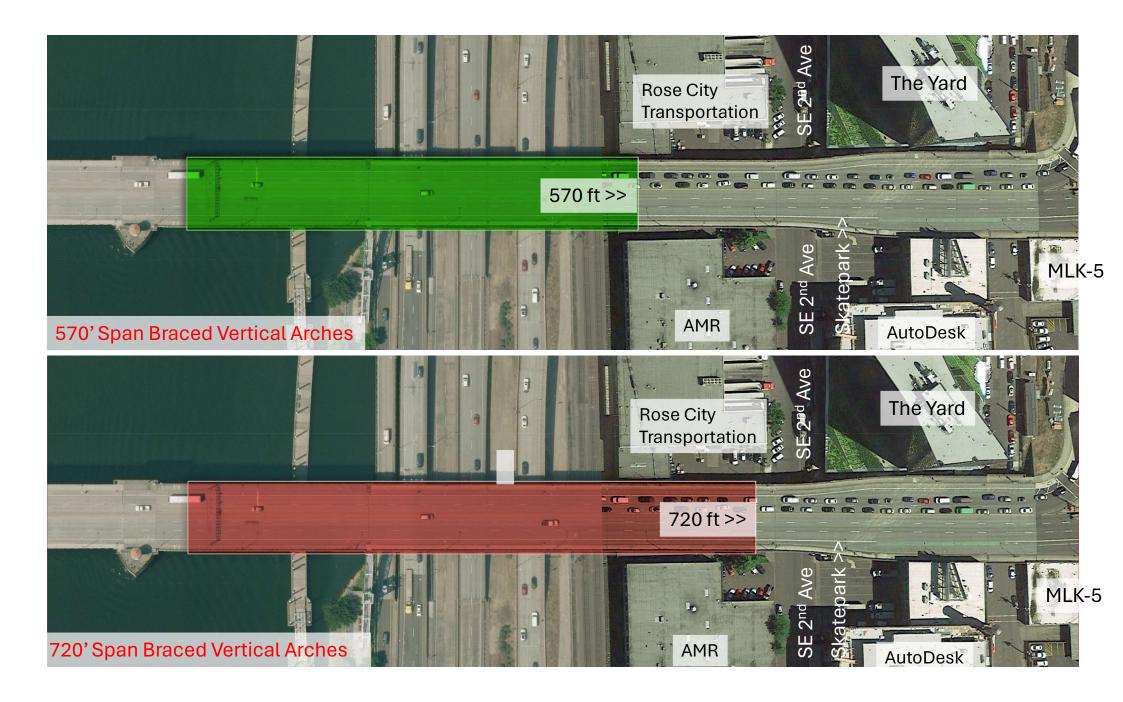


Structural Configuration

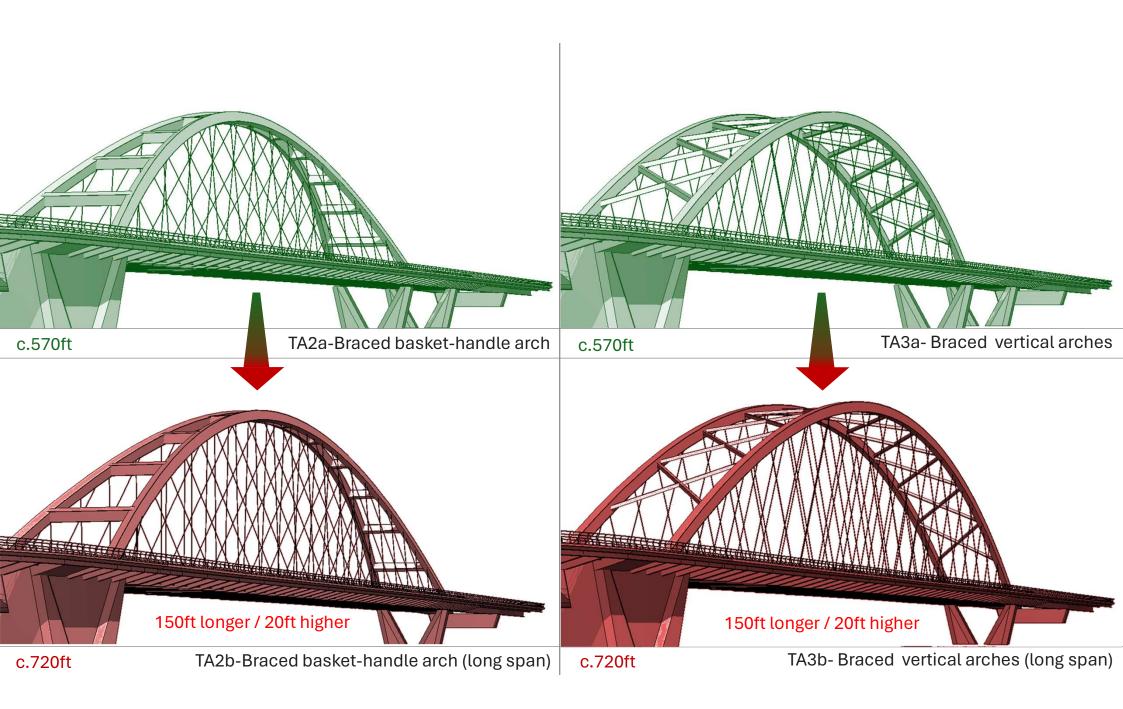


Size Variants









Factors to Consider

HEIGHT Cable-stayed bridge (CSB) towers are much taller than arch ribs for the same span

PROFILE Arches fill a wider visual field than cable-stayed structure.

CHARACTER Cable-stayed bridge towers are spire-like, arches are more organic.

MATERIAL Cable-stayed towers are CONCRETE, arch ribs are WEATHERING STEEL

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UNIQUE

Many examples of all bridge types exist elsewhere but some would be unique in Portland area

CONTEXT

Tall buildings distinguish the east-side context which is otherwise low height/density

VIEWS

Cable-stayed bridge and arch bridge options will be distinctively different in key views eg:

- Arches arc over the entire 1-5 corridor making a gateway structure on the interstate
- CSB tower(s) terminate the view axis of the River looking south
- The options offer different responses to the 'gap' between Yard and MLK 5

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CSB towers draw focus east away from the river. Arches draw focus west to the river

COHESION The options have different effects on the visual cohesion of the overall crossing

EXPERIENCE The options offer different experiences fro travellers on the highway and the bike/ped path

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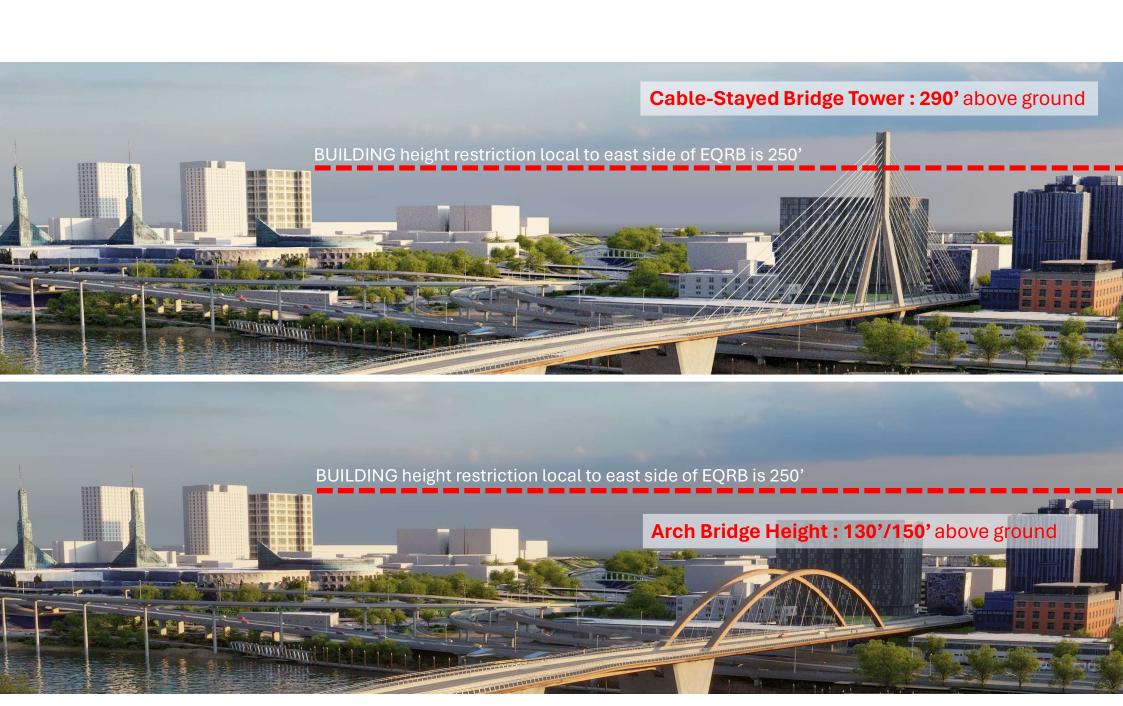
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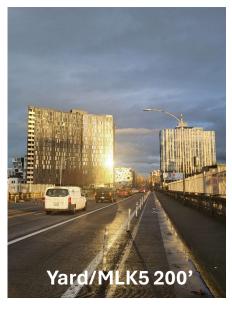
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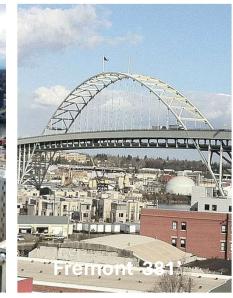
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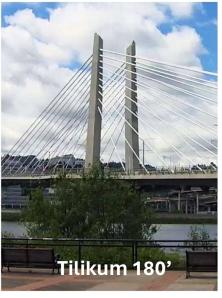












Structure Height Comparisons

CSB tower height 290' above ground

250' above deck

Arch height **130'** above ground

90' above deck

Long Arch height 150' above ground

110' above deck

The Yard / MLK5 ~200' above ground
Convention Cntr spires ~ 325' above ground
Steel Bridge ~ 260' above water
Big Pink ~540' above ground
Broadway Bridge ~150' above water

Fremont Bridge - 381'

Tilikum Crossing - 180'

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CONCRETE BRIDGE TOWER

WEATHERING STEEL ARCH

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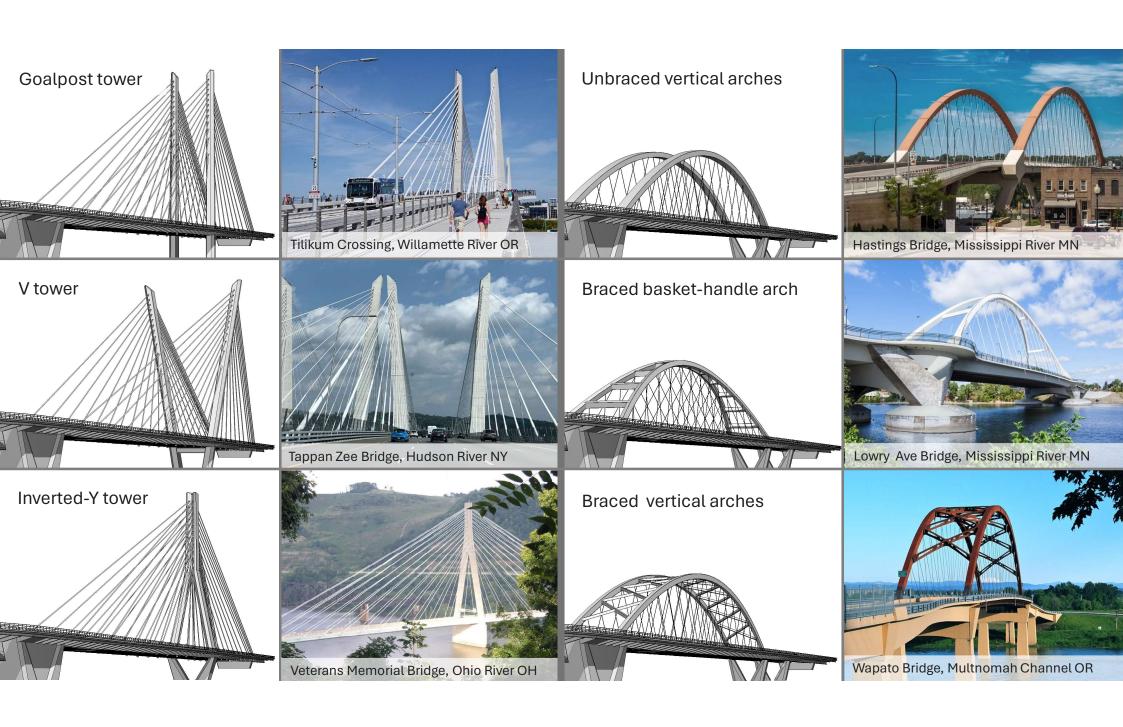
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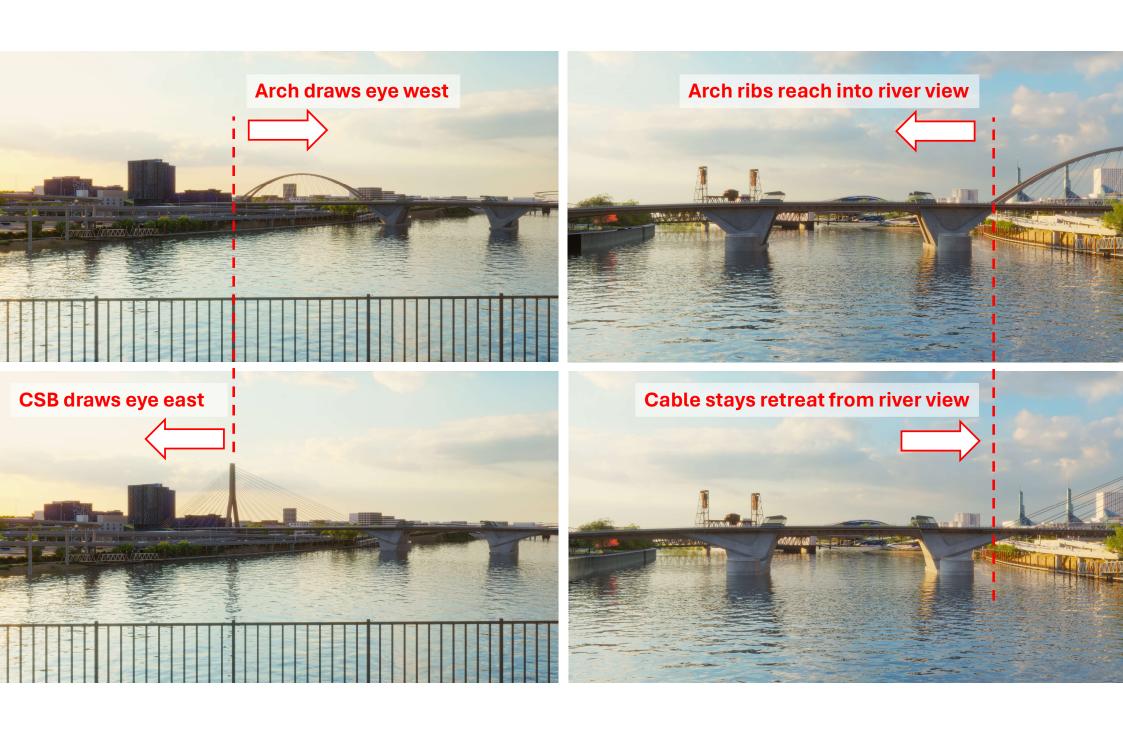
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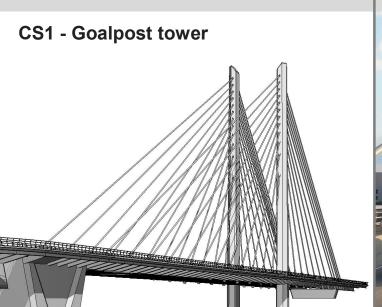






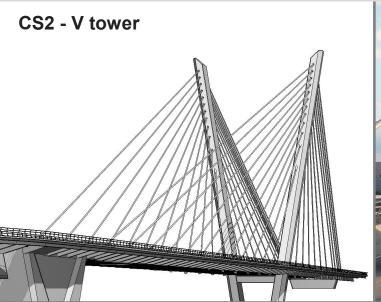


East Span Types



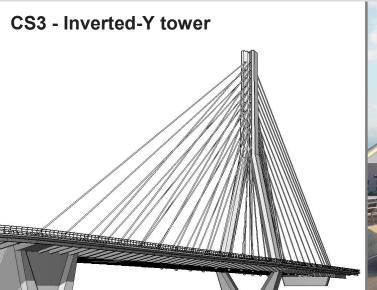
- Two vertical towers that can be shaped during final design refinement
- Has a modern style, and is similar in look to the Tilikum Bridge
- Towers extend to ~90ft above the height of The Yard
- Transparent and open feel when viewed from I-5 / I-84
- Creates open portal when viewed from bridge's roadway section





- Two externally leaning towers that create a "V" shape
- Creates a unique, modern style for Portland
- Towers extend to ~90ft above the height of The Yard
- Transparent and open feel when viewed from I-5 / I-84
- Creates "V" shaped, open portal when viewed from bridge's roadway section, but competes with buildings





- A triangularly shaped tower that extends to a single column above the roadway
- Creates a unique, modern style for Portland
- Towers extend to ~90ft above the height of The Yard
- Transparent and open feel when viewed from I-5 / I-84
- Creates an "Inverted-Y shape portal when viewed from bridge's roadway occupying the gap between buildings



TA1 – Unbraced vertical arches



- Hallmarked by an open, 570' long arch that extends from the in-water pier to a support near 2nd Ave
- Creates a more conventional arch unique for Portland*
- Arch top is 70' below the top of The Yard
- Weathering-steel arch ribs are a dominant feature
- Creates open portal when viewed from bridge's roadway section



^{*} Although similar to Blumenauer Bridge

TA2 - Braced basket-handle arch



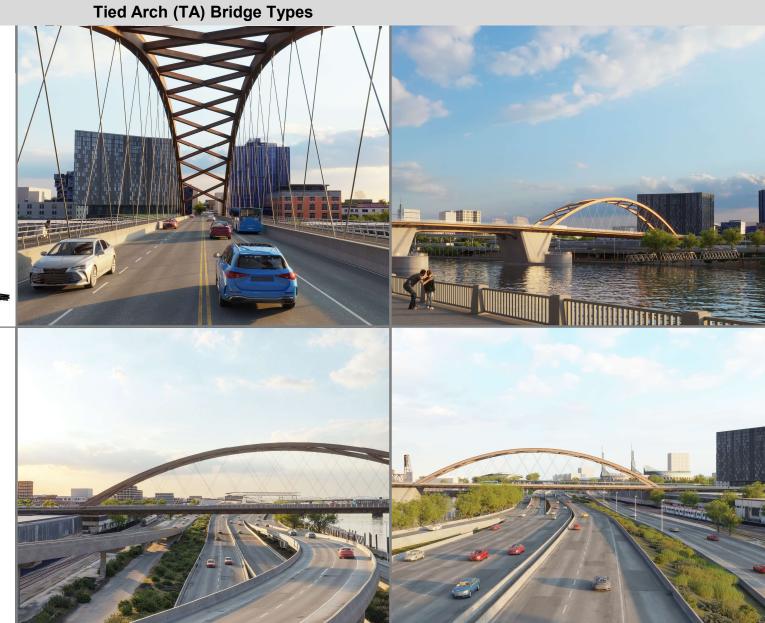
- Possesses 570'-long, inwardly slanted arch ribs
- The arch extends from the in-water pier to a support near 2nd Ave
- Creates a more modern arch unique for Portland
- Arch top is 70' below the top of The Yard
- Weathering-steel arch ribs are a dominant feature
- Creates a portal with the bracing when viewed from bridge's roadway section



TA3 – Braced vertical arch (short)

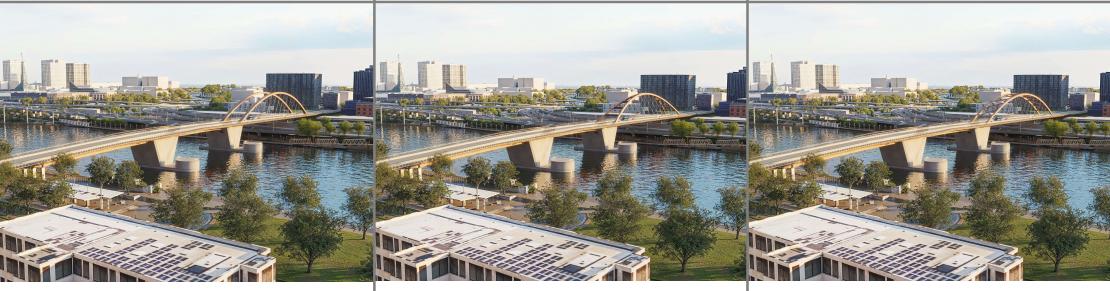


- Hallmarked by transverse braces between its ribs, this 570' long arch extends from the in-water pier to a support about 150' west of E. 2nd Ave.
- Creates a more conventional arch style, similar to that of the Fremont Bridge
- Arch top is 70' below the top of The Yard
- Weathering-steel arch ribs are a dominant feature
- Creates a narrow portal when viewed from bridge's roadway section



View Comparisons





TA1-Unbraced vertical arches

TA2-Braced basket-handle arch

TA3- Braced vertical arches





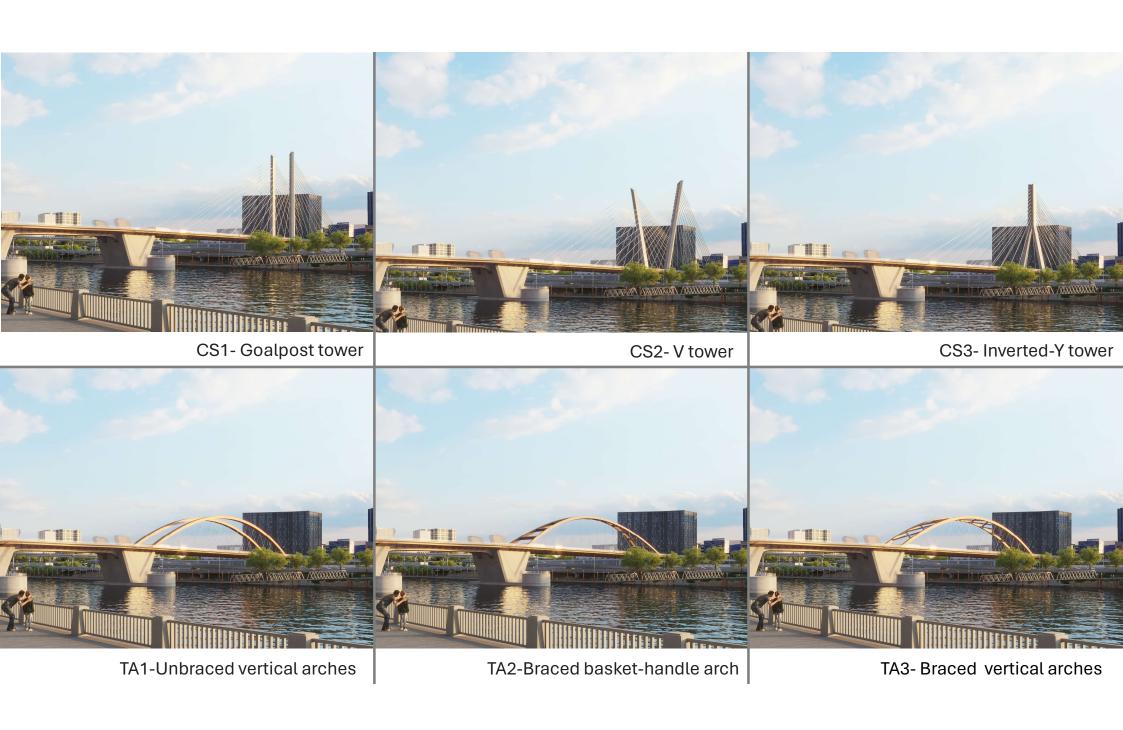


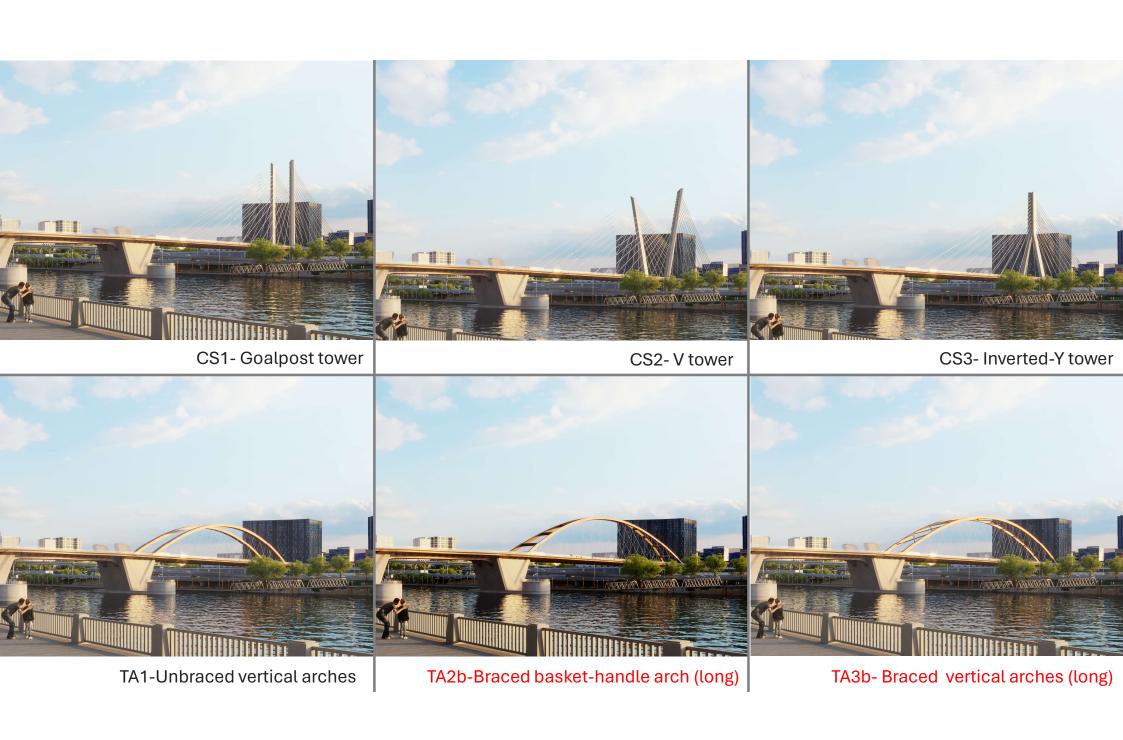


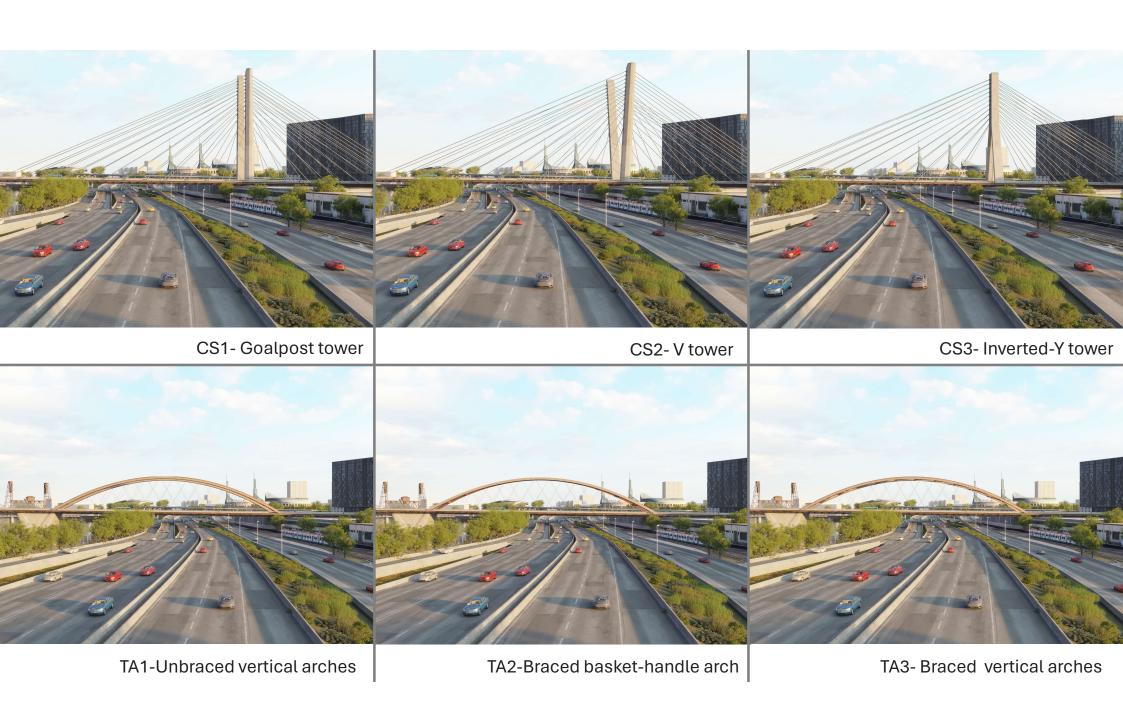
TA2b-Braced basket-handle arch (long)

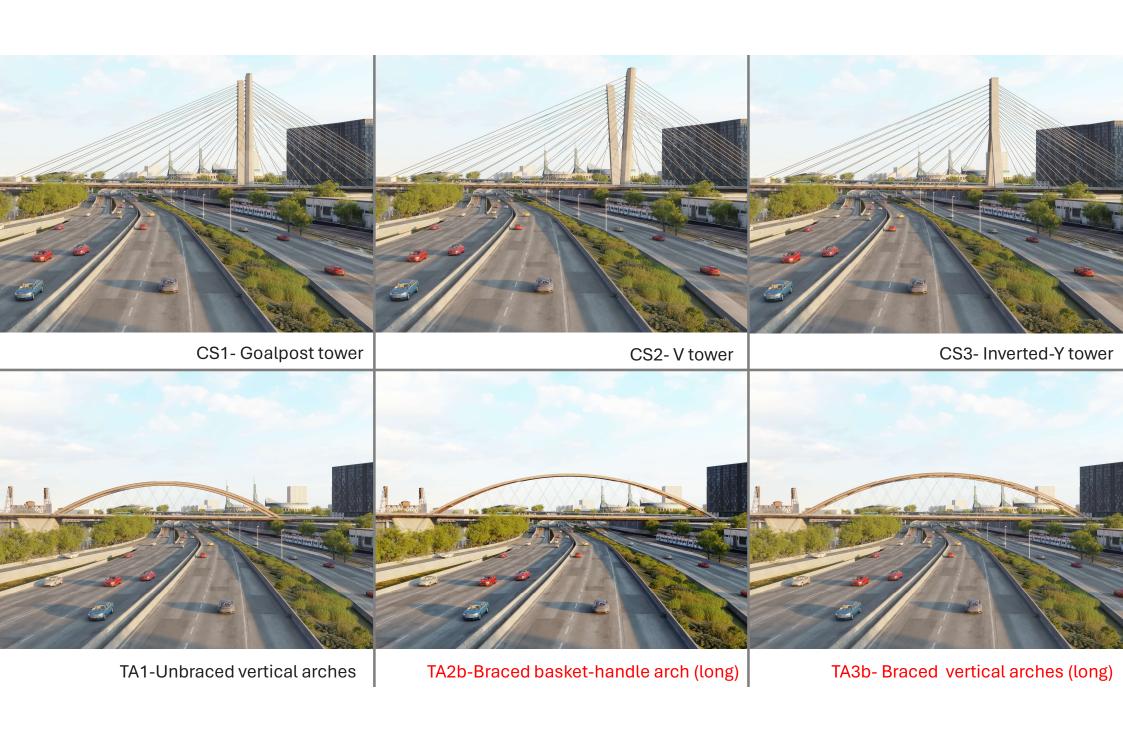


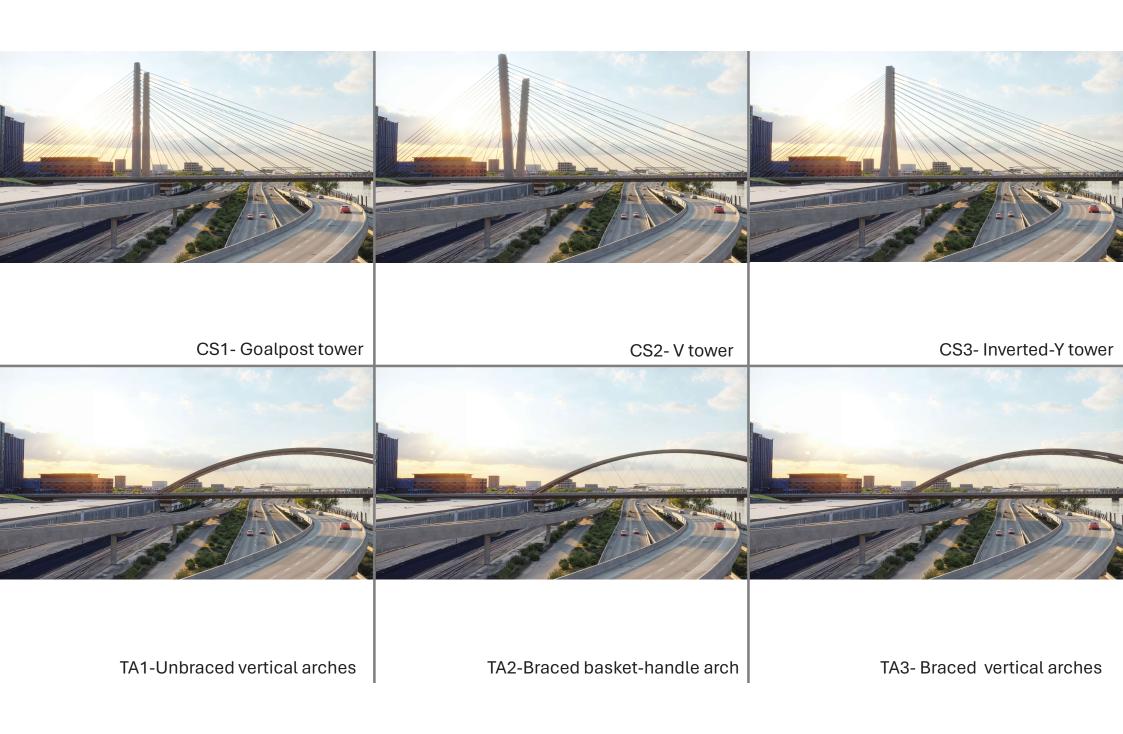
TA3b- Braced vertical arches (long)

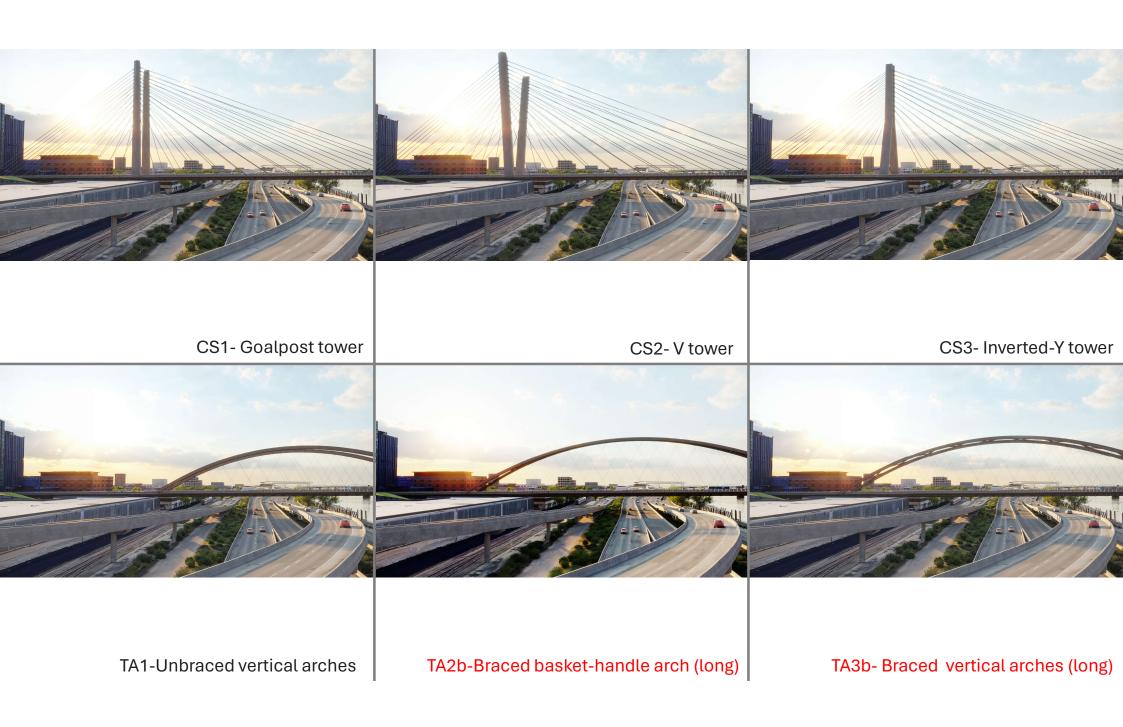


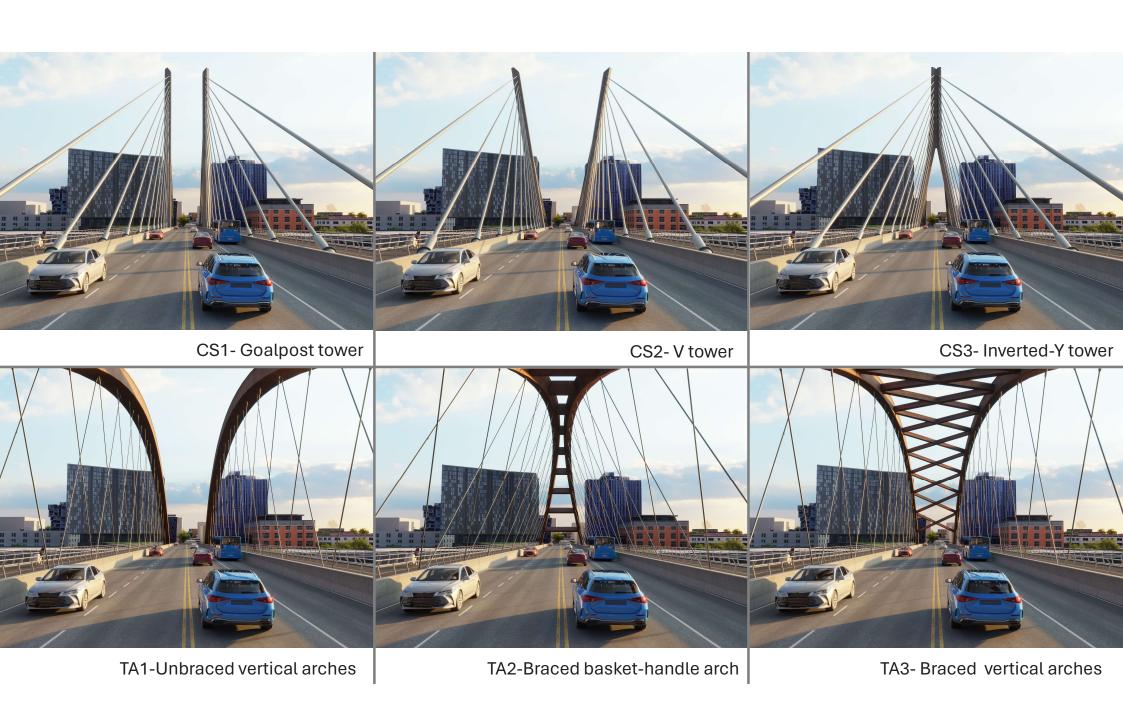


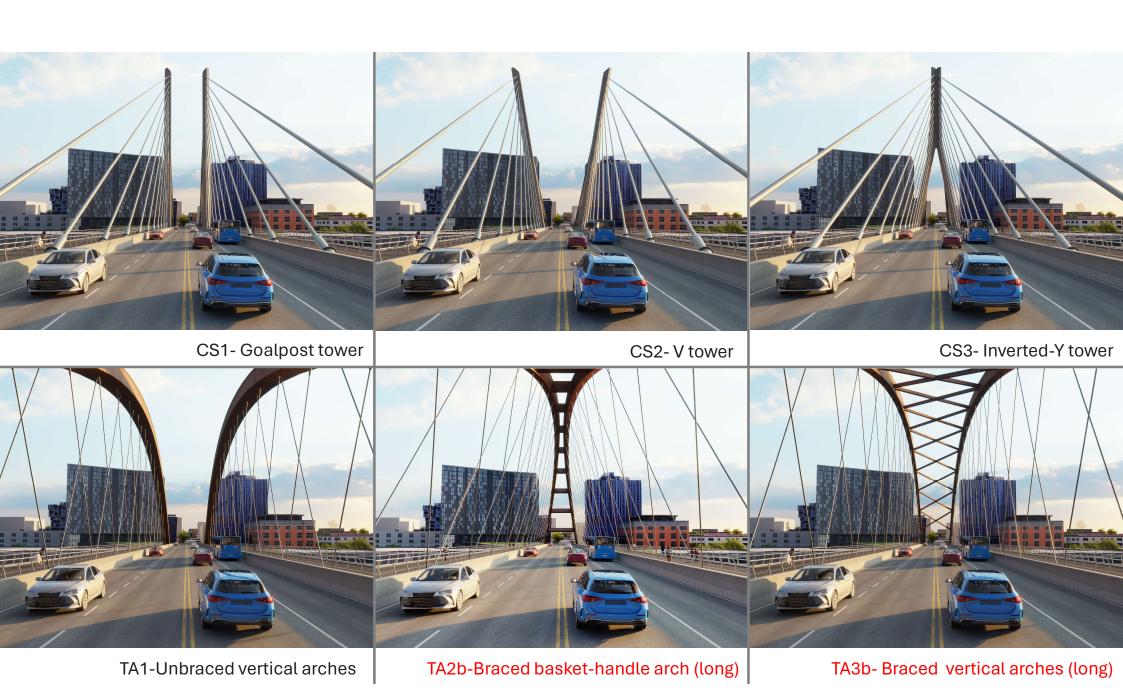


















CS2-V tower



CS3- Inverted-Y tower



TA1-Unbraced vertical arches

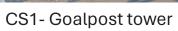


TA2-Braced basket-handle arch



TA3- Braced vertical arches







CS2- V tower



CS3- Inverted-Y tower



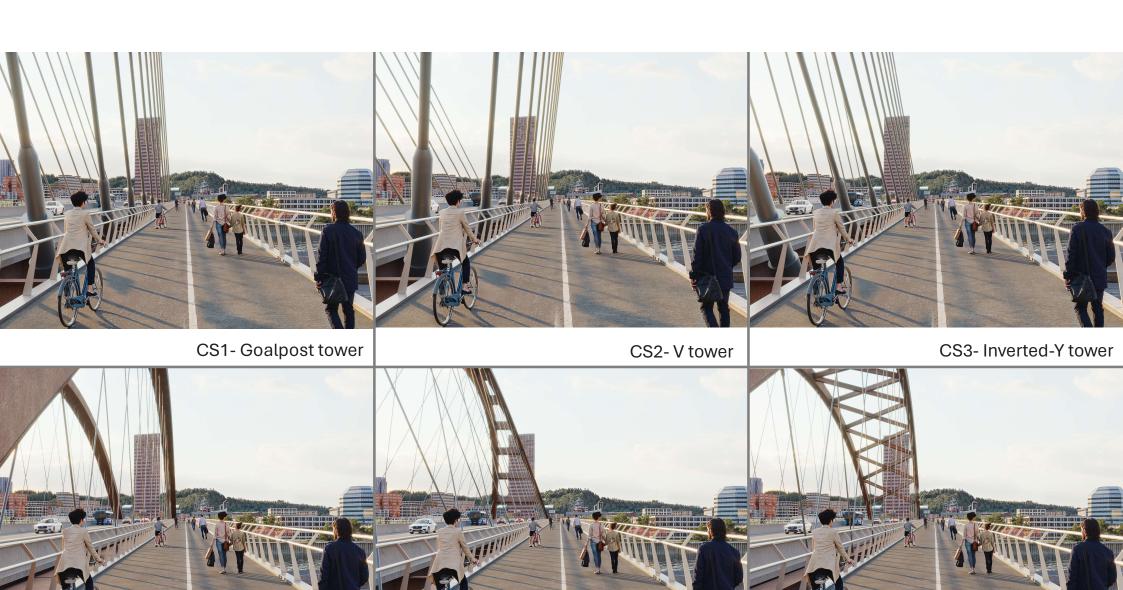
TA1-Unbraced vertical arches



TA2b-Braced basket-handle arch (long)



TA3b- Braced vertical arches (long)



TA1-Unbraced vertical arches

TA2-Braced basket-handle arch

TA3- Braced vertical arches





TA1-Unbraced vertical arches

TA2b-Braced basket-handle arch (long)

TA3b- Braced vertical arches (long)





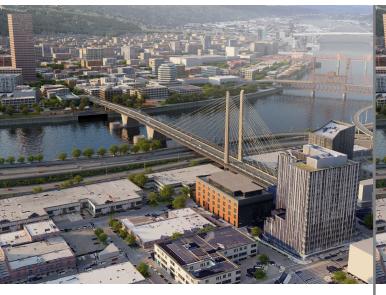




TA2b-Braced basket-handle arch (long)

TA3b- Braced vertical arches (long)

TA1-Unbraced vertical arches



CS1- Goalpost tower



CS2-V tower



CS3- Inverted-Y tower



TA1-Unbraced vertical arches



TA2-Braced basket-handle arch



TA3- Braced vertical arches



CS1- Goalpost tower



CS2- V tower



CS3- Inverted-Y tower



TA1-Unbraced vertical arches



TA2b-Braced basket-handle arch (long)



TA3b- Braced vertical arches (long)

Questions & Discussion



Public Comment

- State your first and last name
- Speak clearly and concisely
- Limit your comment to three minutes

If you have questions that you would like a response to, please submit them to <u>burnsidebridge@multco.us</u>



Next Steps & Closing Remarks



CDAG Workplan thru Type Recommendation

Public Input

Online Open House (6/24 - 7/31)

Mtg #6
(5/30/24)

Present Range of Options

Mtg #7 (6/6/24)

Review & Discuss Range of Options

Prepare for Public Online Open House Input **Mtg #8** (8/1/24)

Review Summer
Outreach &
Online Open
House Results

Mtg #9 (8/8/24)

Bridge Type Evaluation Process Mtg #10 (8/15/24)

CDAG Recommendation



Stakeholder Briefings







Next Steps

- CDAG Mtg #7: June 6, 6-8 p.m.
- Summer Outreach: Late June through July 31





Closing Remarks

