



Welcome



Community Design Advisory Group Meeting #8

Multnomah County Department of Community
Services Transportation Division

August 1, 2024

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



Agenda

1. Welcome & Opening Remarks
2. Introductions & Housekeeping
3. Input from BEAM
4. Input from Public
5. Cost Data
6. CDAG Feedback/Discussion
7. Public Comment Period
8. Next Steps & Closing Remarks



The background is a blue-tinted photograph of a city skyline. In the foreground, a large bridge with a complex steel truss structure spans across a body of water. The city buildings in the background are of various heights and styles, some with distinctive architectural features like domes. The overall scene is captured in a monochromatic blue color scheme.

Housekeeping

Virtual Participation Tips

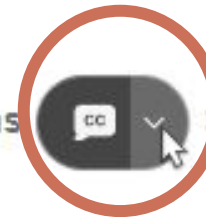
Closed captions in English are available in Webex and YouTube

1. In the bottom menu select "CC" or "closed captioning"
2. Select "view captioning and highlights"

Submit questions for response to burnsidebridge@multco.us



Closed caption options



View captions and highlights.



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.



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



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

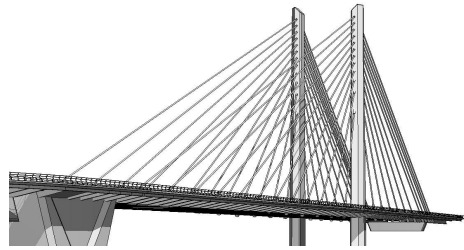
- **Aaron Whelton**, *Portland State University*
- **Anthony Jackson**, *Community Member*
- **Brian P. Kimura**, *Japanese American Museum of Oregon*
- **Carol Gosset**, *Oregon Museum of Science & Industry*
- **Erik Swenson**, *Portland Saturday Market*
- **Fred Cooper**, *Laurelhurst Neighborhood 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**, *Community Member*
- **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*



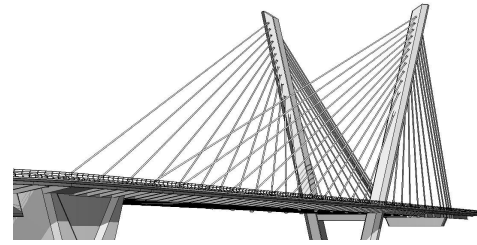
Cost Data



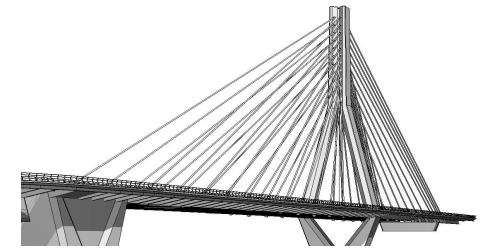
Construction Cost-Delta



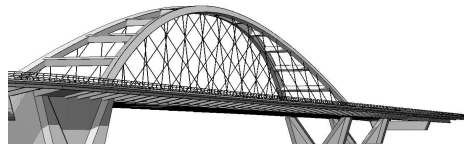
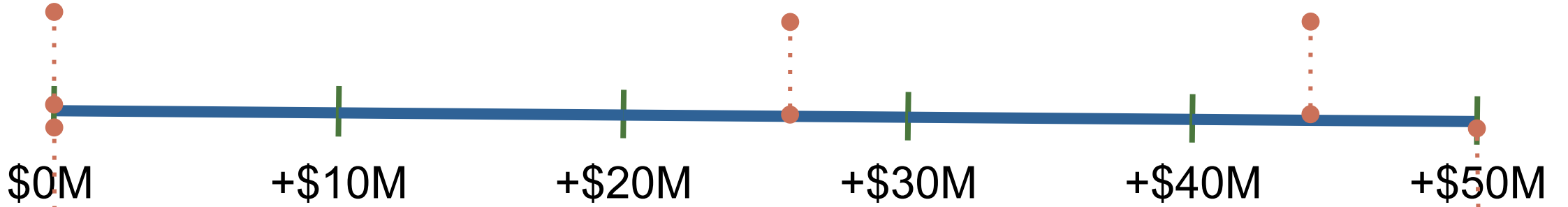
Goalpost Tower



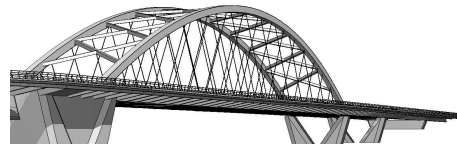
V-Tower



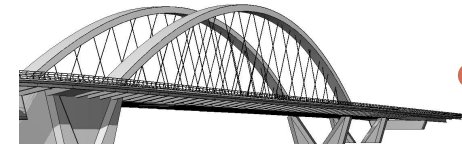
Inverted-Y Tower



Braced Basket Handle



Braced Vertical Arch



Unbraced Thru Arch



An aerial photograph of a city bridge spanning a river. The bridge has a complex steel truss structure. A white car is driving on the left side of the bridge. In the background, a city skyline with various buildings is visible under a clear sky. The entire image is overlaid with a semi-transparent blue filter. The word "BEAM" is written in large, white, bold, sans-serif capital letters across the center of the image.

BEAM



BEAM architects

EQRB Project

CDAG 1st August 2024



CS1- Goalpost tower



CS2- V tower



CS3- Inverted-Y tower



TA1-Unbraced vertical arches



TA2-Braced basket-handle arch



TA3- Braced vertical arches

Tied Arch or Cable Stayed Bridge?

Comparative Discussion



do people inherently 'prefer' arches?
(and if so why?)





Design competition formula:
3:1 ratio of arches to other structure types

Arches are generally perceived as:

- Anthropomorphic (curved)
- Comfortable (not challenging)
- Recognizable (common but not distinctive)
- 'Historic' (but not in respect to context)



But not necessarily the right answer in every setting:



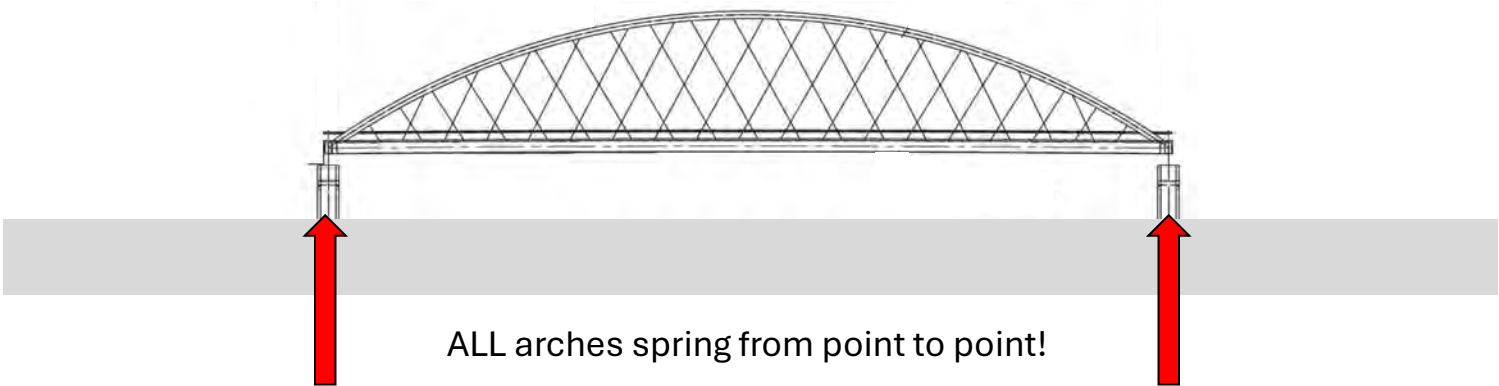
a tied-arch east span would be visually **typical**

(All arches comprise two springing points and an arc)

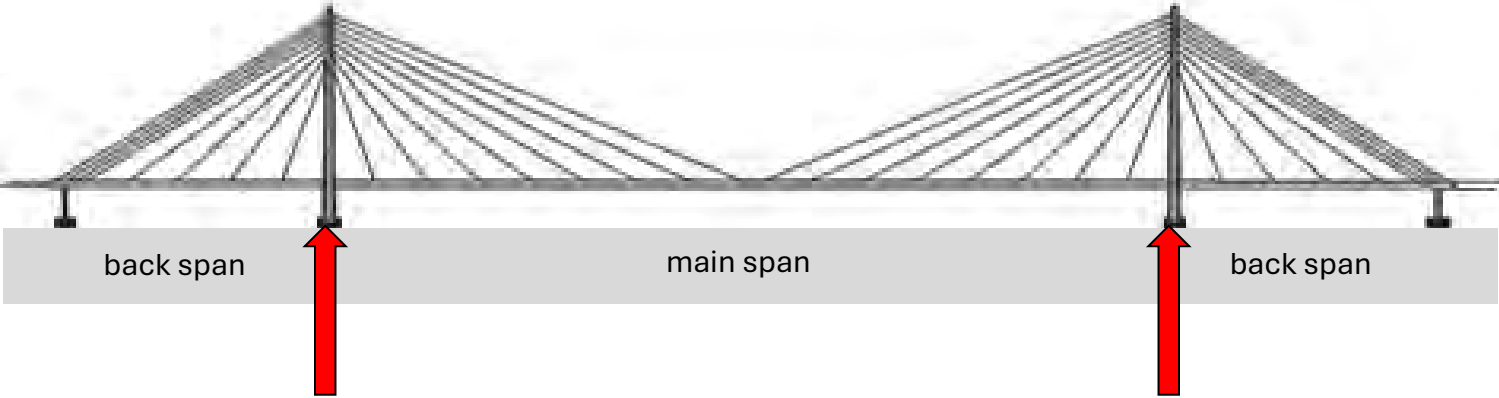
a cable-stayed east span would be visually **atypical**

(Most cable stay bridges have two towers)

Typical
(common)

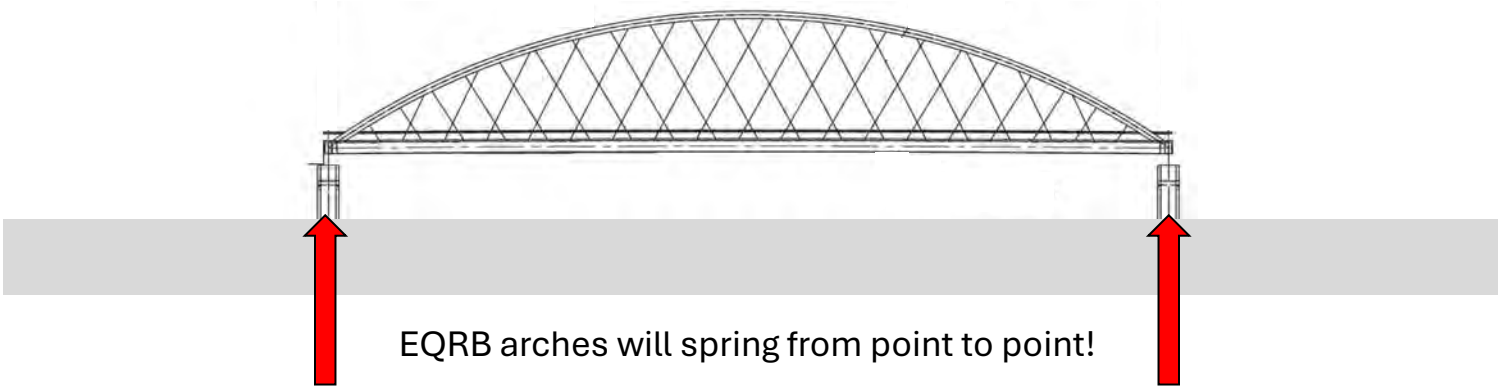


Typical
(common)

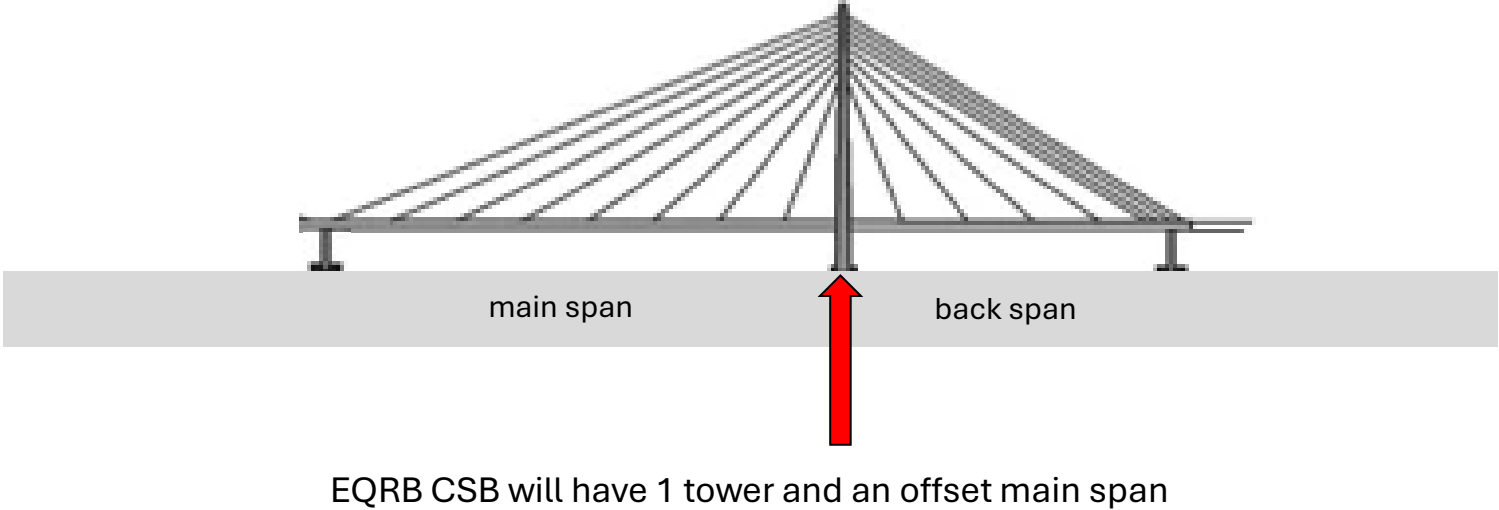


Most CSBs have 2 towers and a central main span

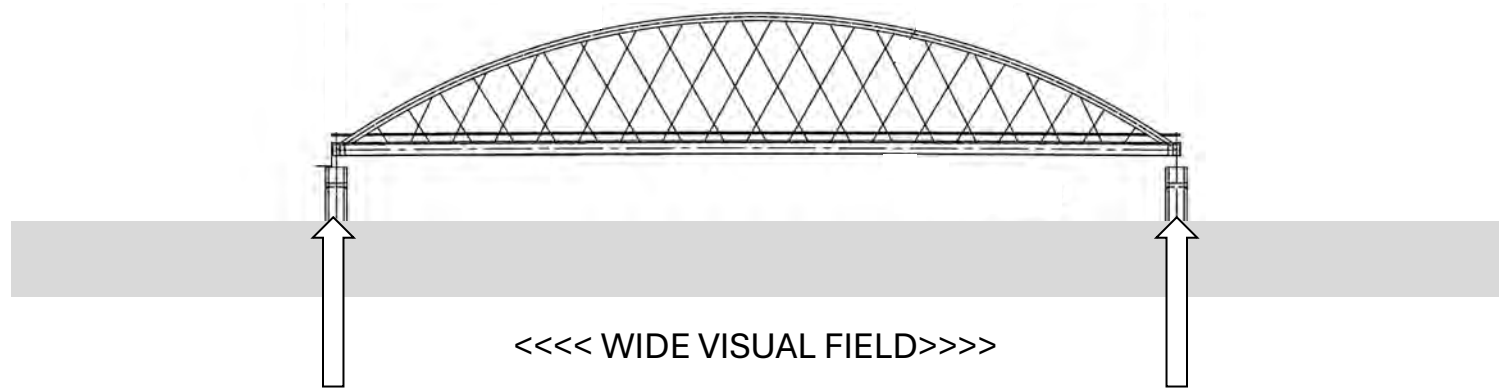
Typical
(common)



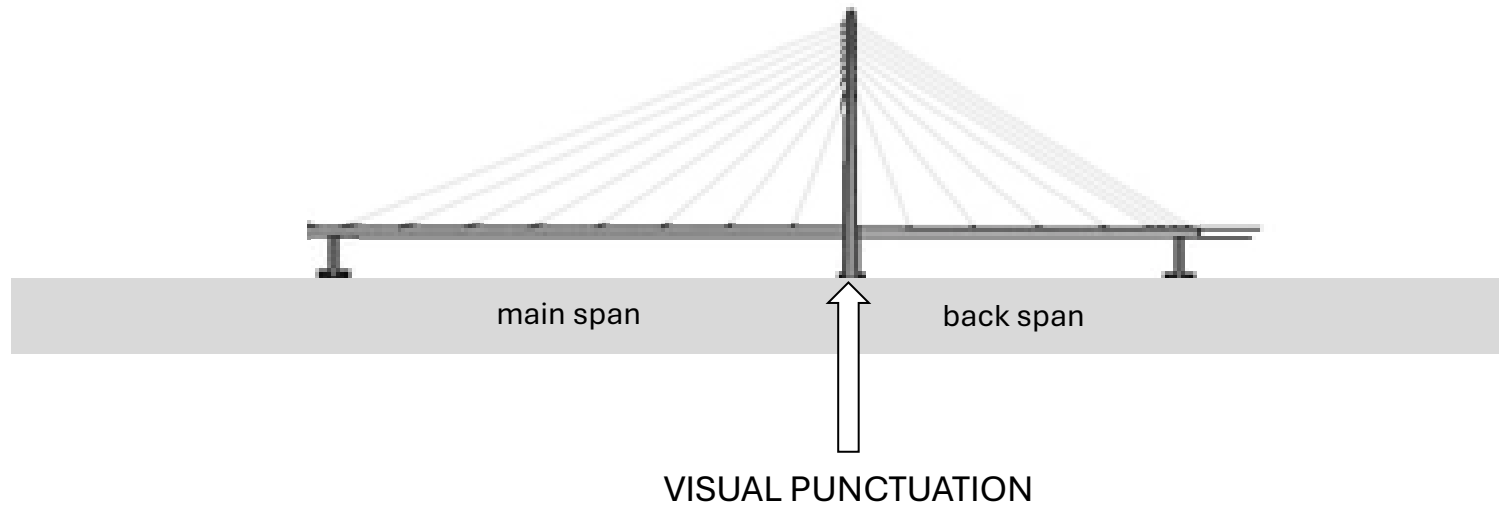
Atypical
(uncommon)



Identifiable
(scale)



Distinctive
(form)





EQRB TA- Typical (common) form



EQRB CSB - Atypical (uncommon) form

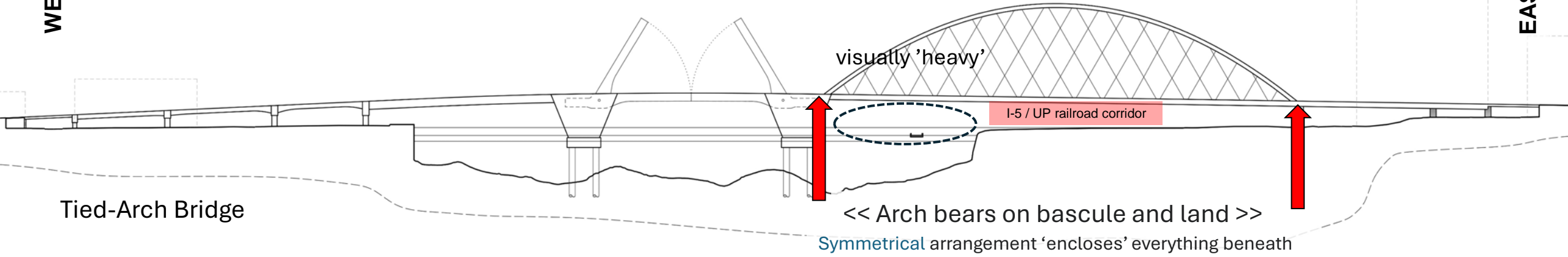


I-5 / railroad corridor

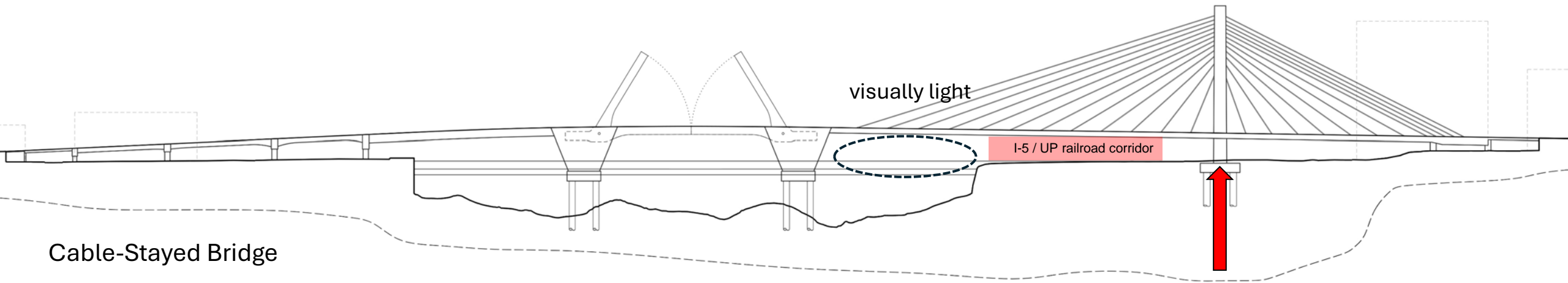
VISUAL RESPONSE TO PROGRAM: The east span bridge is a highway/railroad crossing, but also must span to the east in-river pier

WEST

EAST



Tied-Arch Bridge



Cable-Stayed Bridge

Asymmetrical arrangement has a more easy-going visual relationship with what is below







The arches perform a structural photobomb on the river!





yesterday's controversies

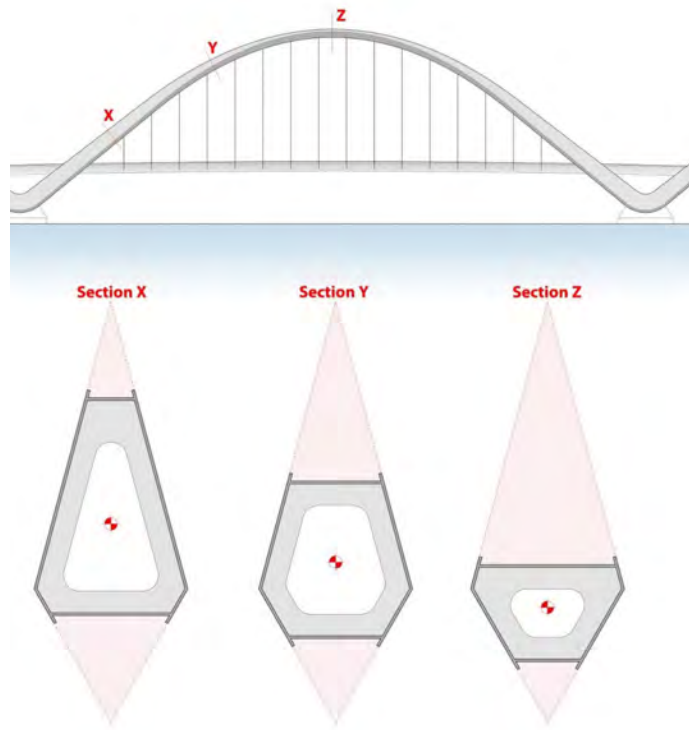
loved today's national treasures

Discussion- Tied Arches



Tied Arches- shaping and materiality





Painted Steel, fully welded variable section 6 sided parabolic arches. Sophisticated aesthetic

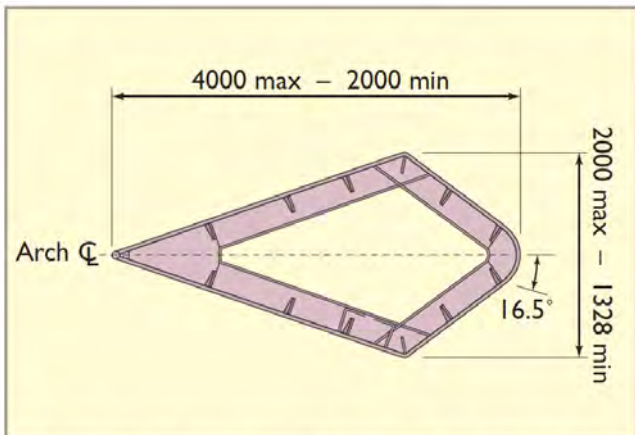


Fig. 6. Cross section of the parabolic steel arch reduces from the roots to the apex (dimensions in mm)



Painted Steel, fully welded variable section 6 sided parabolic arches. Sophisticated aesthetic



Likely EQRB scenario- Weathering steel, bolted/spliced constant section 4 sided box girders- Industrial aesthetic



VERTICAL UNBRACED ARCHES



VERTICAL BRACED ARCHES



VERTICAL K-BRACED ARCHES



BRACED BASKET HANDLE ARCHES



Portland has several early 20th C bridges with an ‘industrial aesthetic’ – the new Burnside should be more sophisticated for the 21st C





Box girders or open girders: internal access requirements and structural feasibility



Girder types and bracing types -aesthetic differences.



GRAFFITI REMOVAL



LIGHTING (ABSORBENCY)



CLIMBING RISK

(Weathering Steel) Arches- peripheral issues



GRAFFITI REMOVAL



LIGHTING (ABSORBENCY)

(Weathering Steel) Arches- peripheral issues



Anti-climb measures



TA1-Unbraced vertical arches



TA2-Braced basket-handle arch



TA3- Braced vertical arches

Arch Types



Vertical Unbraced Arches



Basket-handle arch



Braced basket-handle arch



Vertical Braced Arches – *it's all about the bracing...*



TA1-Unbraced vertical arches

TA2-Braced basket-handle arch

TA3- Braced vertical arches

- Clean aesthetic
- Twin entity
- No bracing
- Most costly of arches
- Largest arch section (widest)

order of preference (arches only)>>>>> **2**

- Less clean aesthetic
- Single entity
- Bracing (alas)
- Less Typical Form than TA3
- Slimmer arch section

order of preference (arches only)>>>>> **2**

- Railroad aesthetic
- Confused Identity
- Bracing
- ‘Typical’ form (Fremont/Wapato)
- Slimmer arch section

order of preference (arches only)>>>>> **5**

Discussion- Cable Stayed Bridges



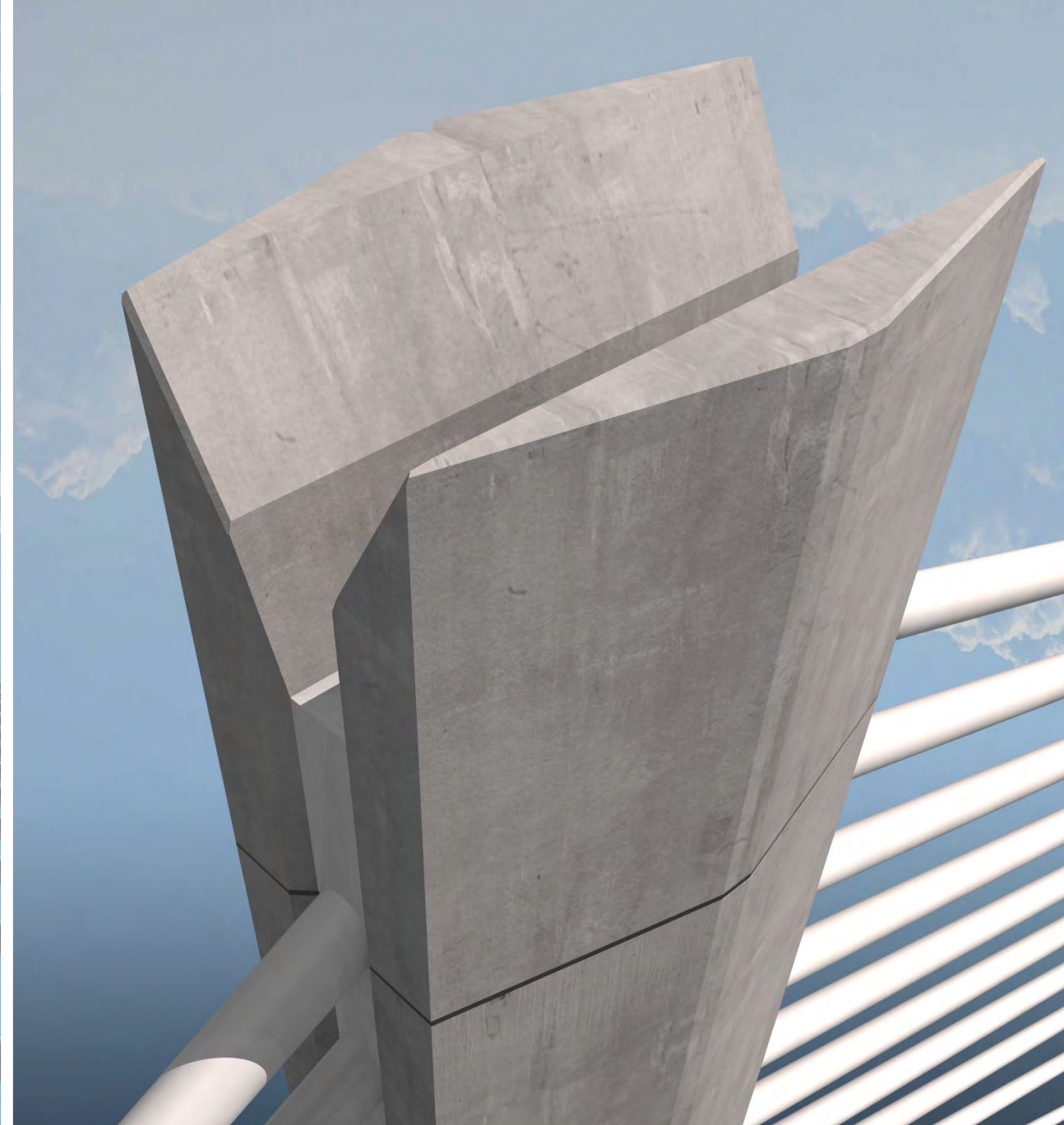
Bridge Tower

Shaping, material and construction

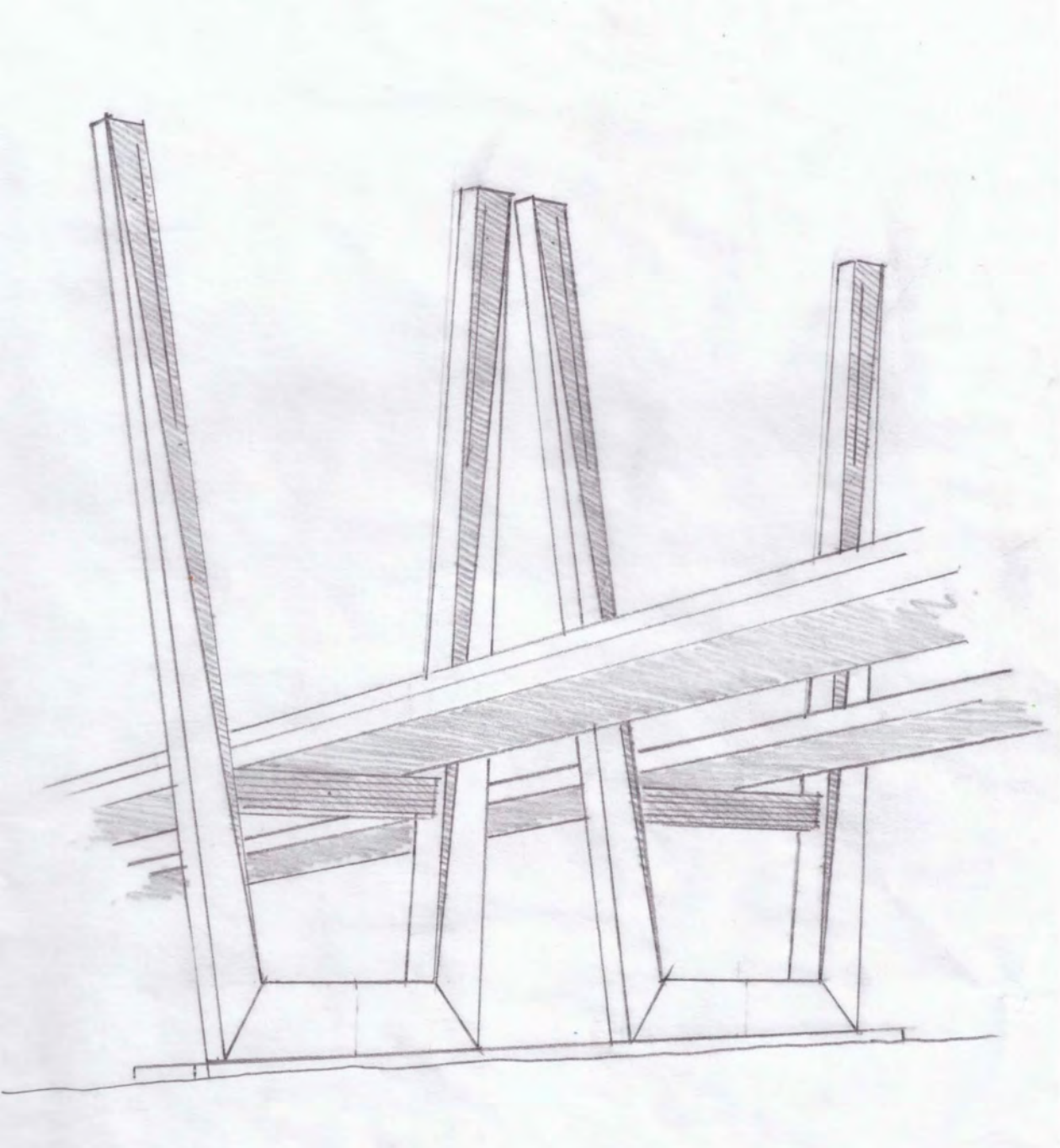




Component shaping – the simpler the form the more the requirement



Component shaping – faceted forms make a significant difference to the perceived slenderness



Component shaping – vertical tapering (migrating seams) make a significant difference to the visual form



V and Inverted Y-Towers – slightly more complex to construct inclined structure relative to vertical but adds 120 years of significant value!



CS1- Goalpost tower



CS2- V tower



CS3- Inverted-Y tower

Cable –stayed Types



Goalposts- increasingly common CSB type most requiring (but infrequently benefitting) from tower shape enhancement



V-Towers- an enhanced silhouette profile over goalposts but a less urban response



Inverted Y-Towers- a significantly enhanced silhouette profile with opportunities for economic tower shaping



CS1- Goalpost tower

- Clean aesthetic
- Twin Form
- Needs tower shaping
- (not novel in Portland (Tillikum))
- Boring

order of preference
(arches only)>>>>>

5



CS2- V tower

- Enhanced aesthetic
- Twin Form
- Needs tower shaping
- novel in Portland
- Not an urban form

order of preference
(arches only)>>>>>

3



CS3- Inverted-Y tower

- Memorable aesthetic
- Single Entity
- Not reliant on tower shaping
- novel in Portland
- Urban and dynamic

order of preference
(arches only)>>>>>

1



Not Preferred

CS1- Goalpost tower



Less Preferred

CS2- V tower



Preferred

CS3- Inverted-Y tower



Less Preferred

TA1-Unbraced vertical arches



Less Preferred

TA2-Braced basket-handle arch



Not Preferred

TA3- Braced vertical arches

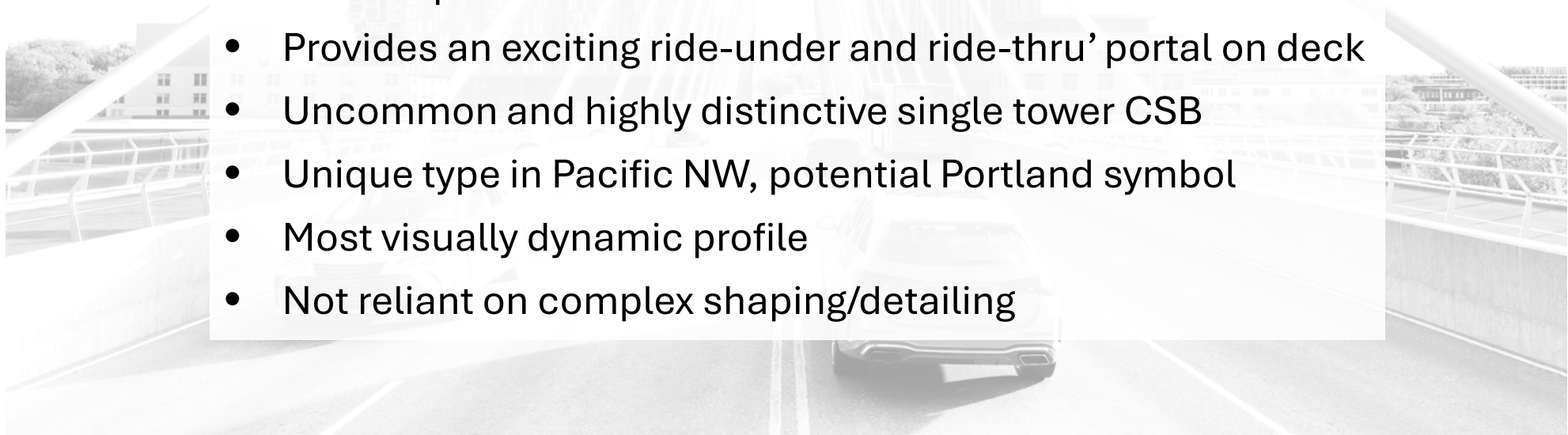
BEAM Architects East Span Bridge Type Preference:
Inverted-Y Cable Stayed Bridge



BEAM Architects East Span Bridge Type Preference: Inverted-Y Cable Stayed Bridge

WHY?

- Modern, urban and urbane solution
- Non-industrial aesthetic
- Doesn't photobomb the river
- Provides an exciting ride-under and ride-thru' portal on deck
- Uncommon and highly distinctive single tower CSB
- Unique type in Pacific NW, potential Portland symbol
- Most visually dynamic profile
- Not reliant on complex shaping/detailing









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



TA2-Braced basket-handle arch



TA3- Braced vertical arches



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TA1-Unbraced vertical arches



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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



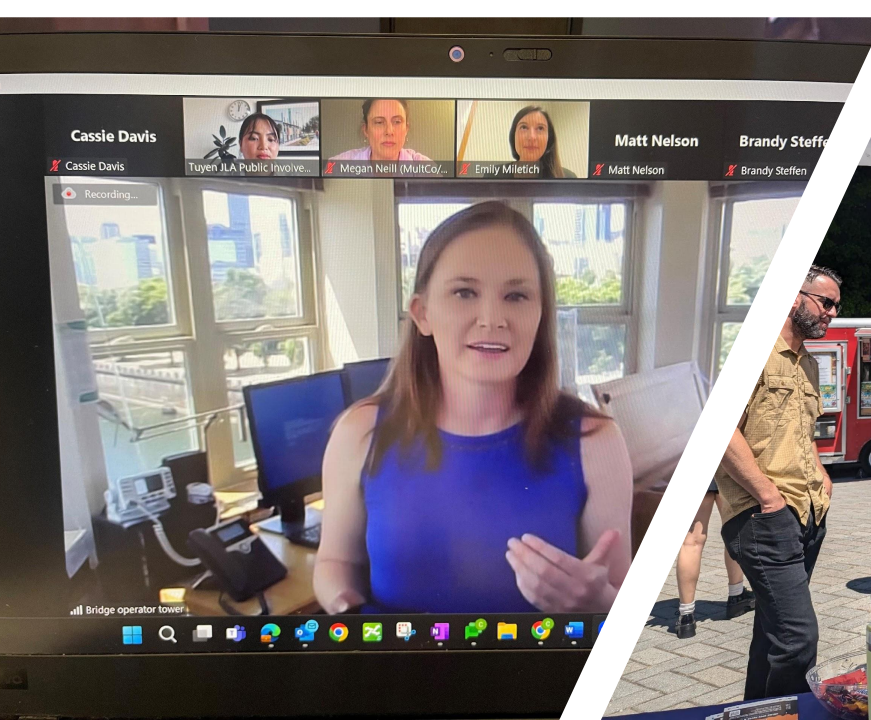
TA2-Braced basket-handle arch



TA3- Braced vertical arches

The background is a blue-tinted photograph of a cityscape. In the foreground, a large steel truss bridge spans across a body of water. The city buildings and hills are visible in the background, all rendered in a monochromatic blue color. The text is centered over the bridge and water.

Summer Outreach Activities



By the Numbers

- 119K+** Survey views
- 19K+** Survey responses
- 20** Briefings
- 19** DEI organizations reached
- 50+** Breakfast on the Bridge attendees
- 90+** OMSI panel attendees
- 2** Webinars
- 7** Translations of the online open house & survey
- 26** News releases, newsletters & news articles
- 111K+** Facebook reach
- 8** Videos and animations



Night out with the Burnside Bridge Team



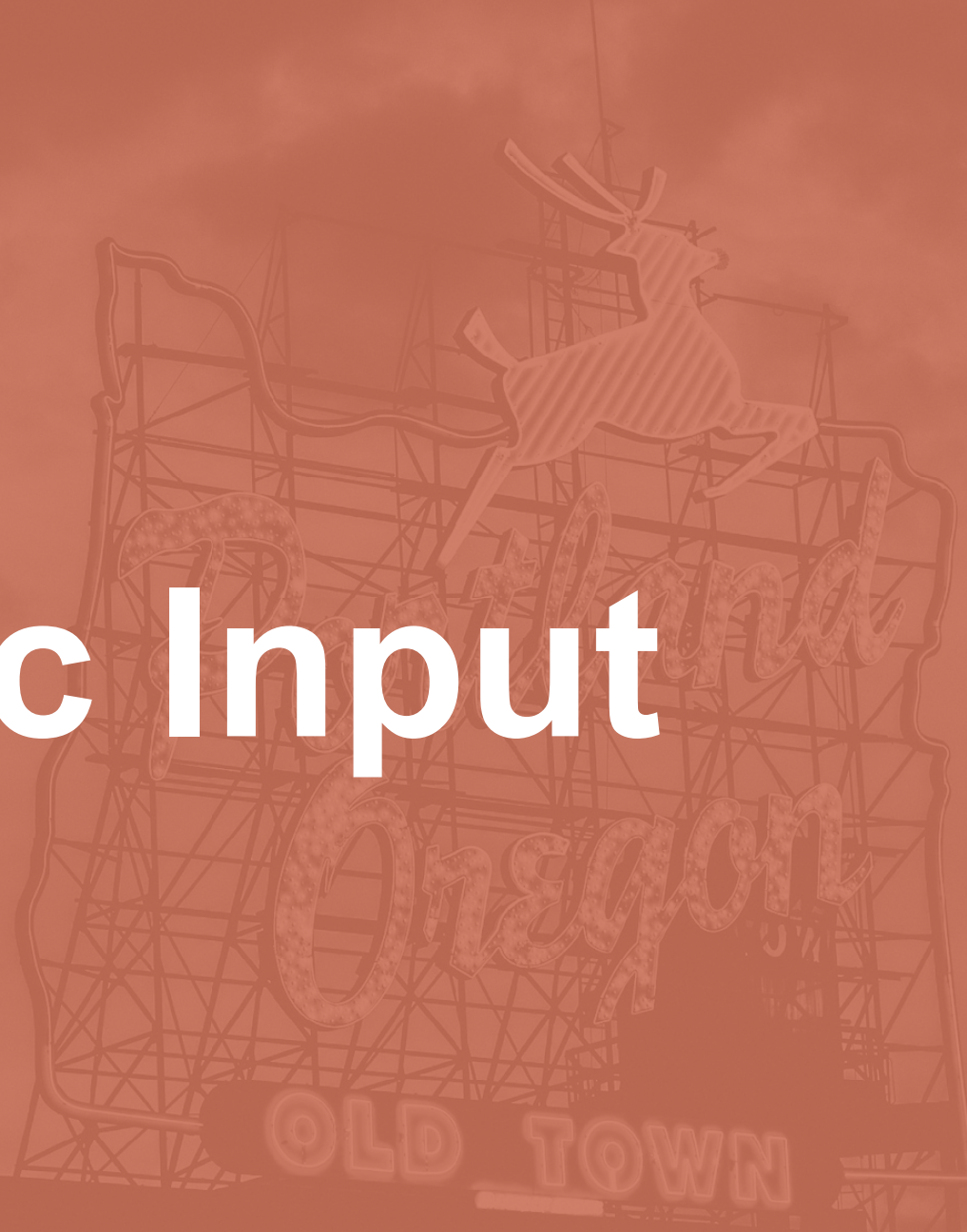
Community Engagement Liaisons Program

CEL's engaged their communities, conducted focus groups and translated materials. CEL Program includes the following community groups:

- Arabic
- Black / African American
- Chinese
- Japanese
- Native American
- Russian
- Ukrainian
- Somali
- Spanish
- Vietnamese

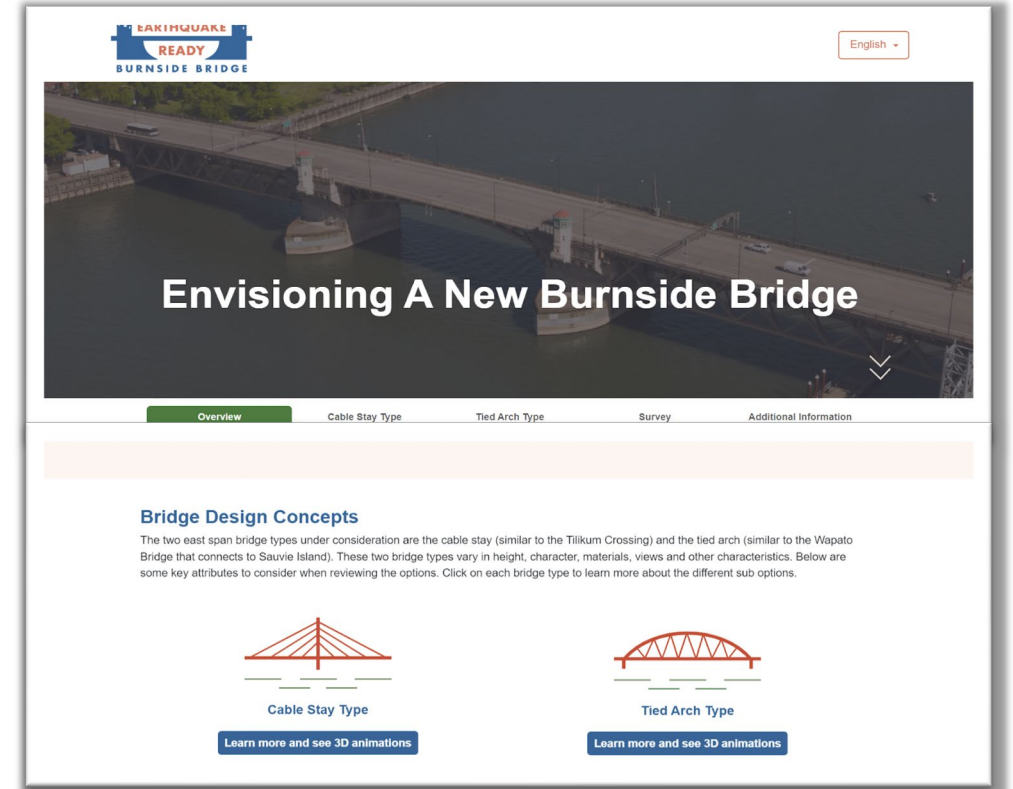


Public Input



Overall Survey Stats

- **SURVEY DATES:** July 1 through July 31
- **TOTAL SITE VIEWS:** 119,781 views
- **TOTAL SURVEYS SUBMITTED:** 19,411
- **TOTAL IN-LANGUAGE SURVEYS SUBMITTED:** 337
- **TOTAL MULTNOMAH COUNTY RESPONDENTS:** 73%



Survey Demographics

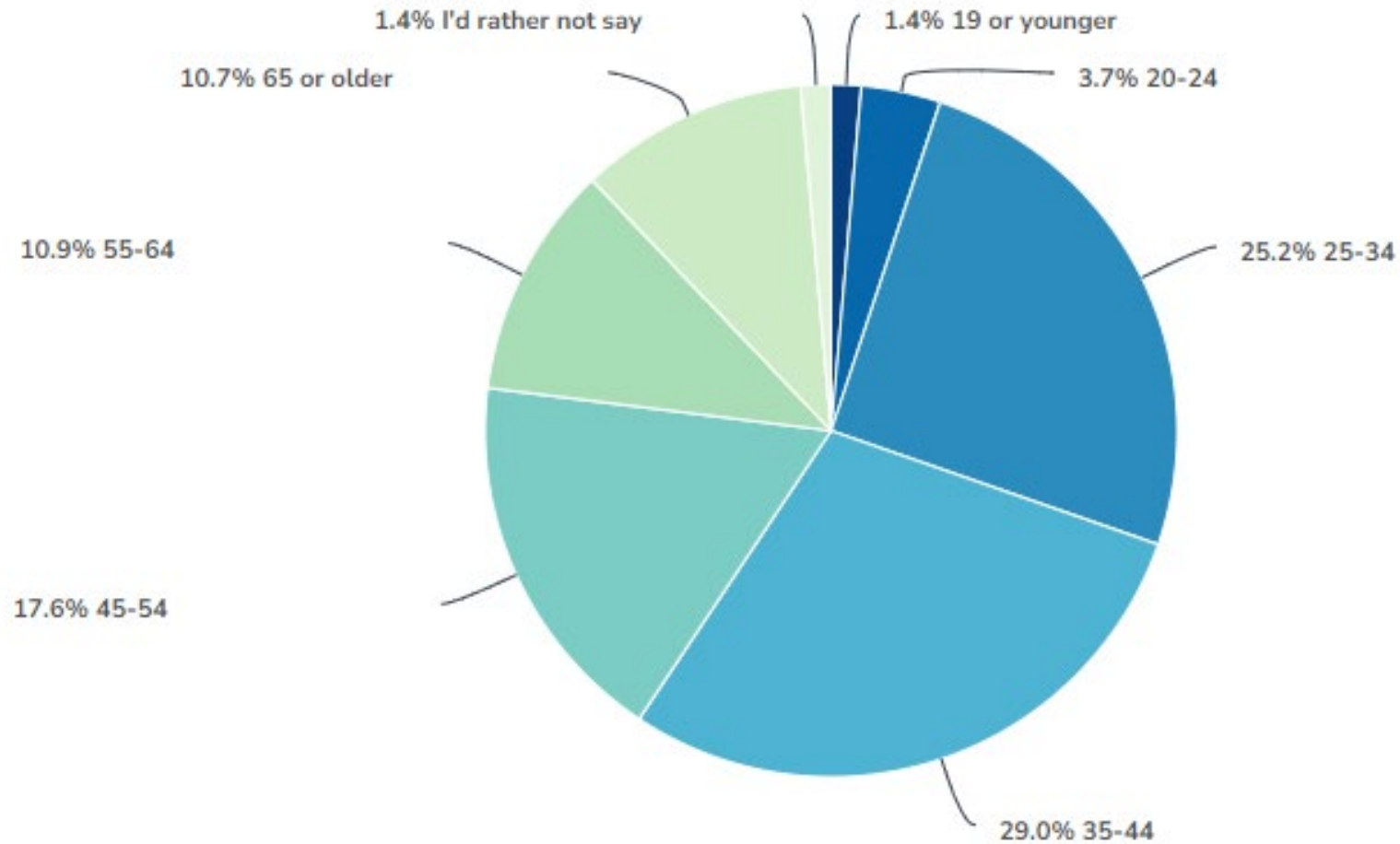
NUMBER OF RESPONDENTS BY RACE/ETHNICITY

Value	Percent		Responses
African	0.3%		40
African American/Black	1.9%		269
Indigenous North American	1.7%		240
Indigenous Central or South American	0.2%		32
Native Hawaiian or Pacific Islander	0.6%		91
Asian	4.8%		681
Hispanic/Latino/a/x	5.4%		776
Middle Eastern	1.0%		148
Slavic	1.3%		188
White/Caucasian	78.7%		11,286
Prefer to self-describe (click to view)	1.5%		221
I'd rather not say	9.9%		1,414



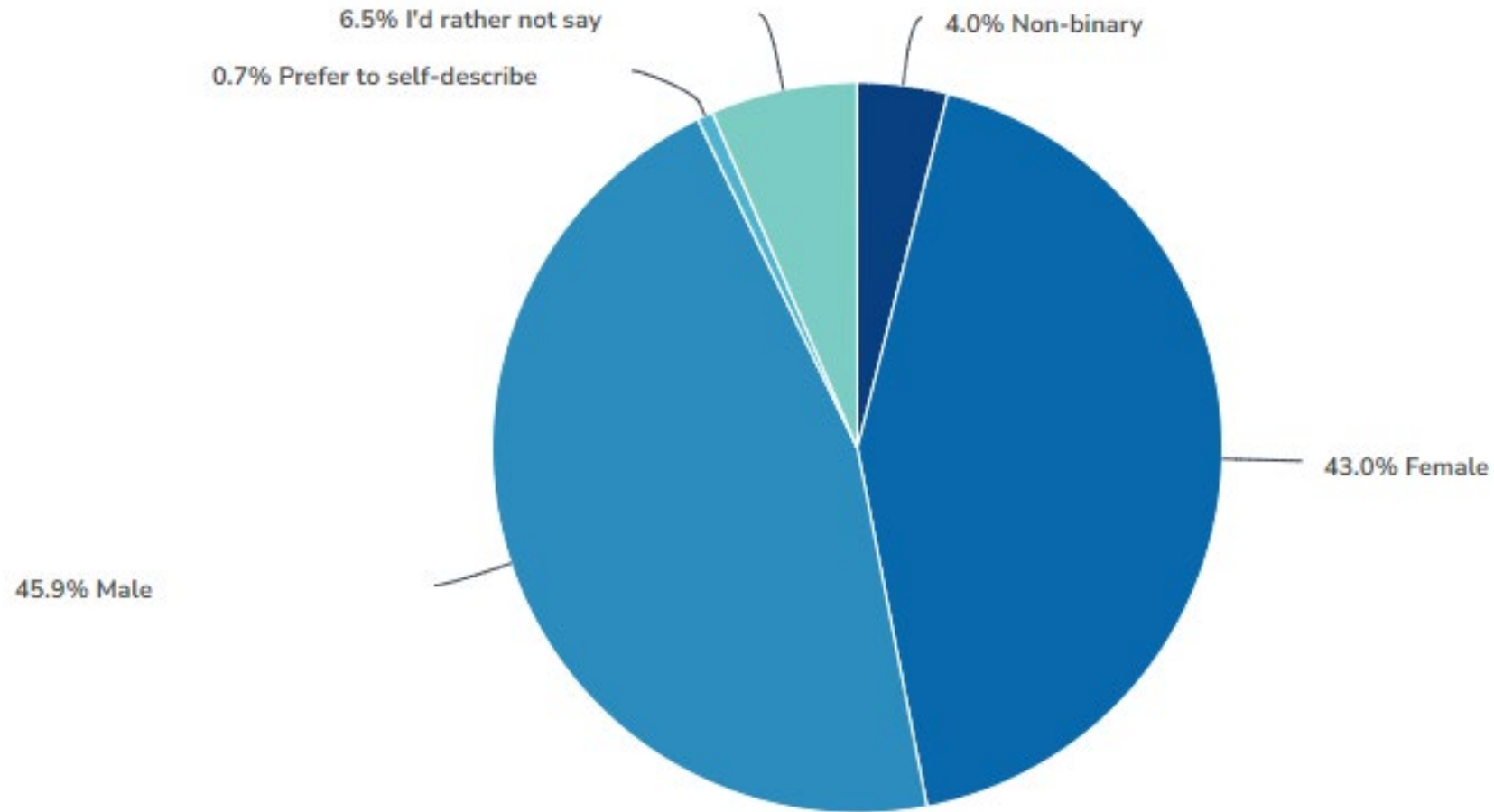
Survey Demographics

PERCENTAGE OF RESPONDENTS BY AGE



Survey Demographics

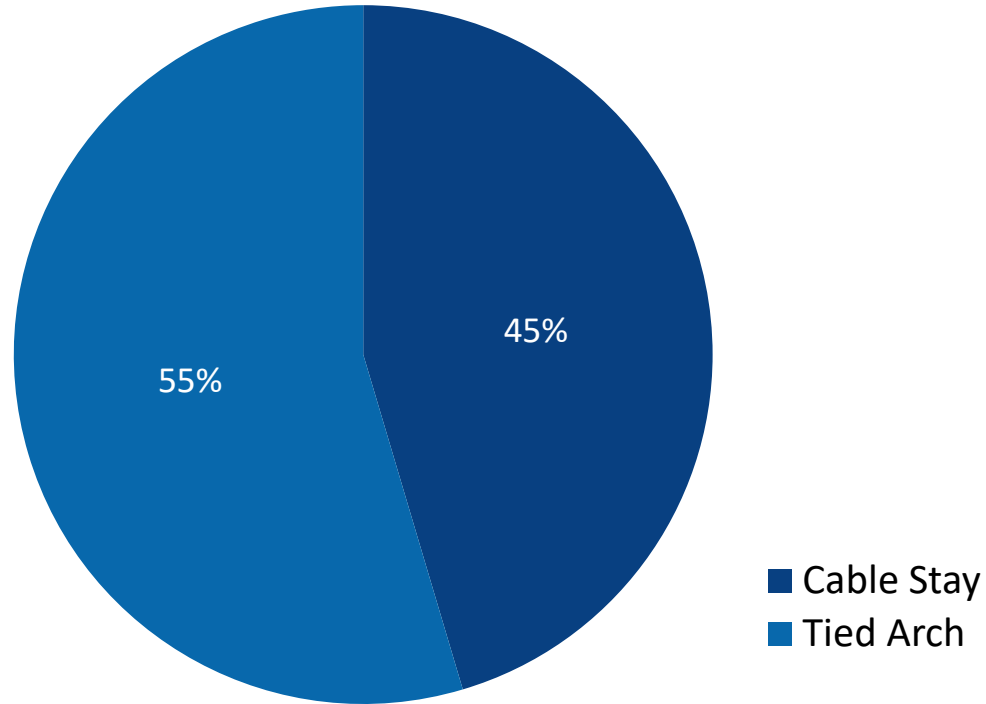
PERCENTAGE OF RESPONDENTS BY GENDER



Survey Results For Each Bridge Type

Respondents were asked to review information through the online open house before taking the survey.

After reviewing the information on the two east span bridge types, which bridge type do you feel would be the best option for our city?"



	Count	Percent
Tied Arch	10,494	54.6%
Cable Stay	8,740	45.4%

More than 80% of survey respondents chose to only provide comments about their preferred bridge types

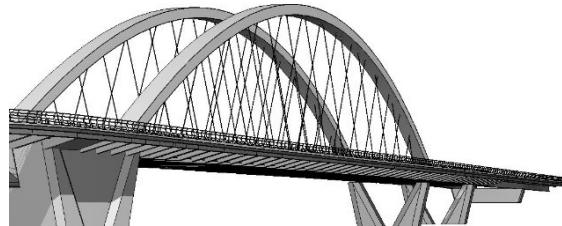
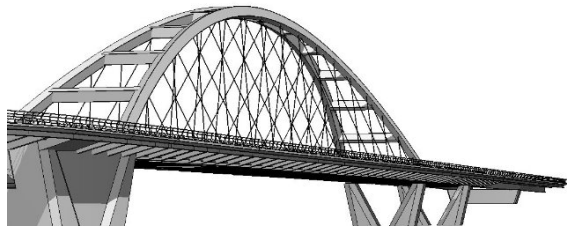
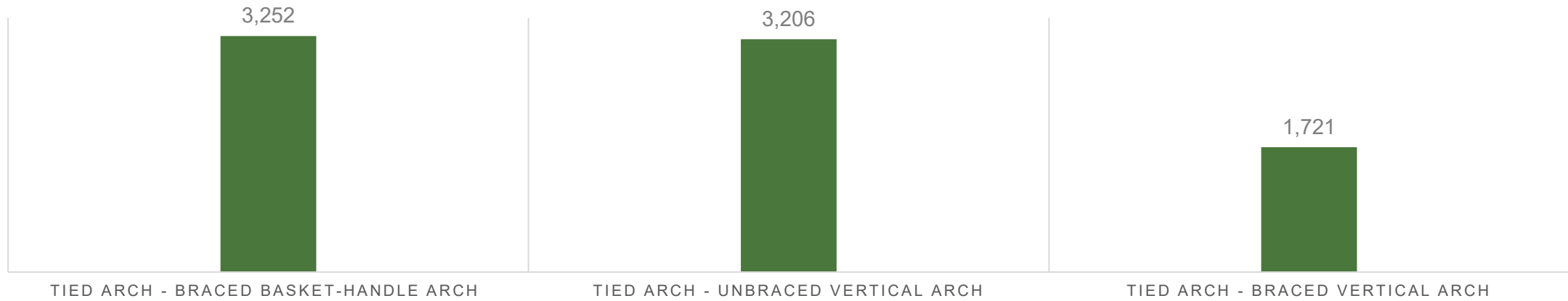


The background is a blue-tinted photograph of a city skyline. In the foreground, a bridge with a complex steel truss structure spans across a body of water. The city buildings in the background are of various heights and styles, with some featuring distinctive architectural elements like domes. The overall scene is captured in a monochromatic blue color scheme.

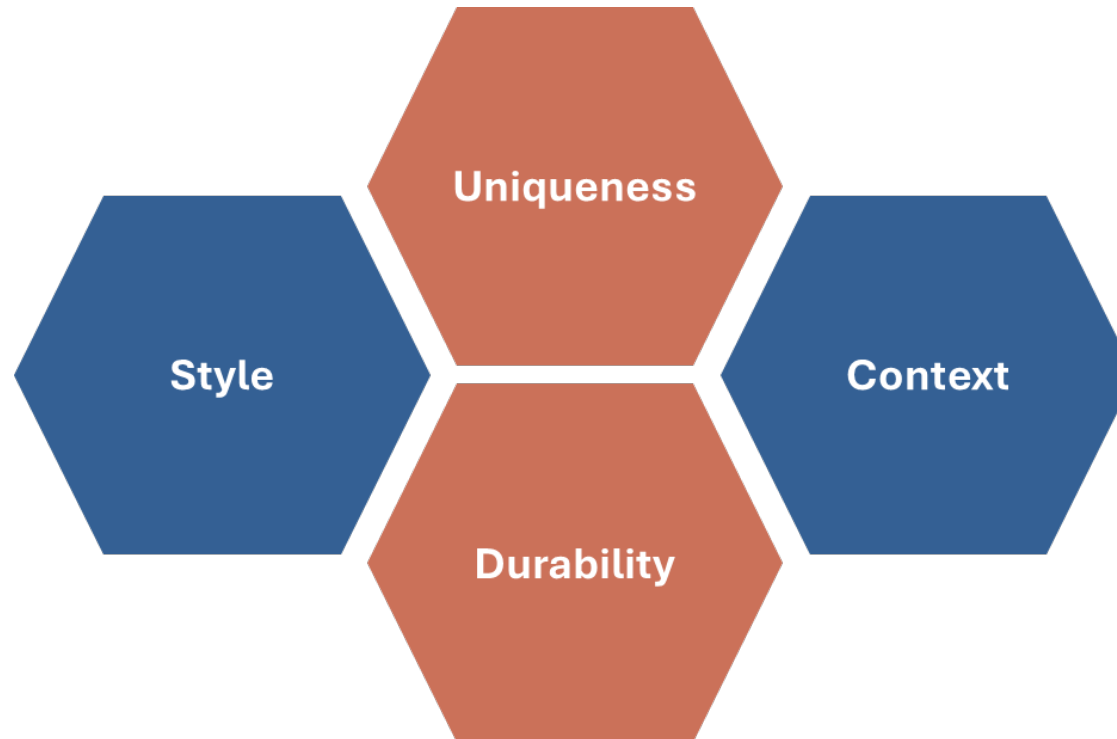
Tied Arch Survey Results

Survey – Tied Arch #1 Rankings

For those that chose tied arch as their preferred option, below are the number of first choice selections for each sub option.

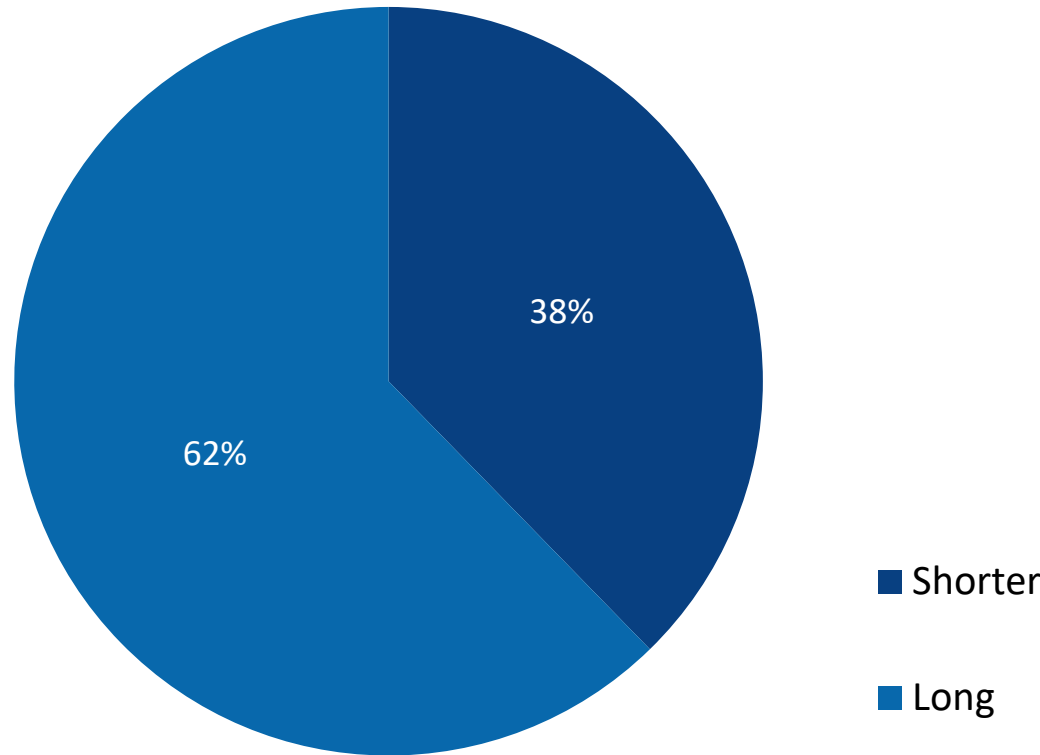


Survey – Tied Arch Key Themes



Survey – Tied Arch long/shorter option

For those that chose the **tied arch as their preferred option**, when asked their preference for a longer or shorter versions of the basket-handle and braced vertical arch, they chose:



	Count	Percent
Shorter	2,199	37.7%
Long	3,635	62.3%
Totals	5,834 (56% of TA respondents)	



Survey – Tied Arch long/shorter themes

Long version of the basket-handle and braced vertical arch

- **Style**
- **Form**
- **Landmark**

Shorter version of the basket-handle and braced vertical arch

- **Style**
- **Sightlines**
- **Scale**

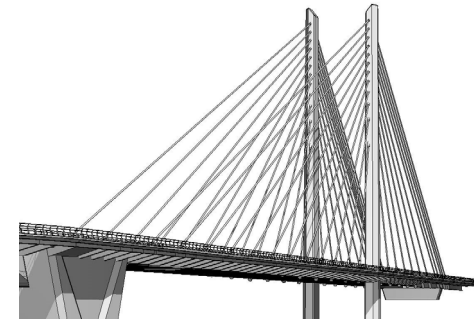
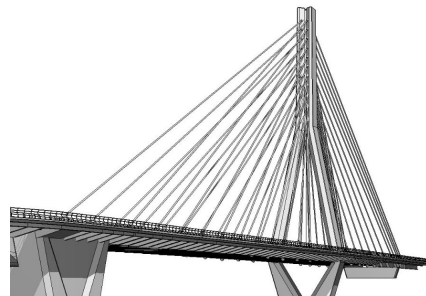
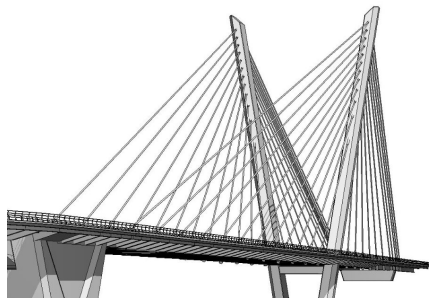
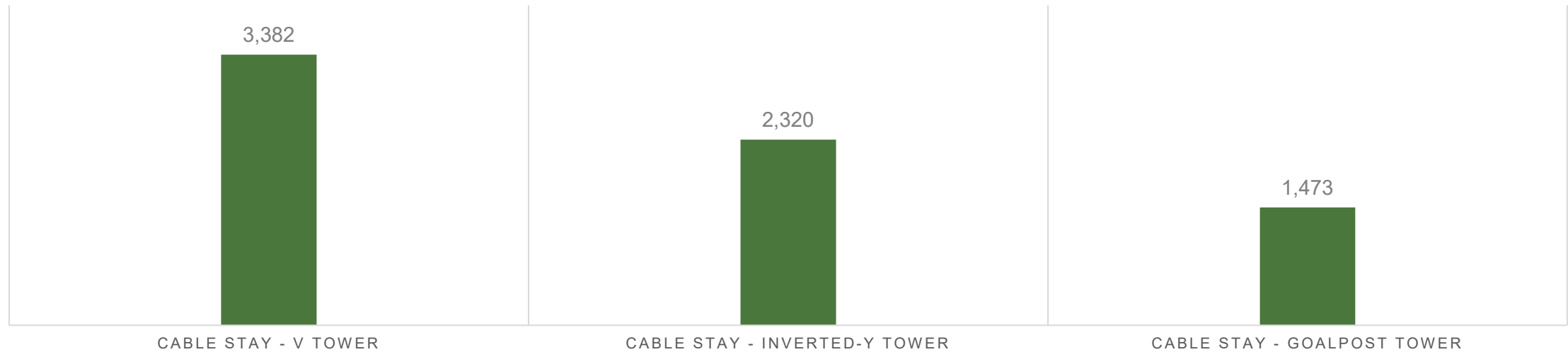


The background is a blue-tinted photograph of a city skyline. In the foreground, a bridge with a complex steel truss structure spans across a body of water. The city buildings in the background are of various heights and styles, with some featuring distinctive architectural elements like domes. The overall scene is captured from a low angle, looking across the water towards the city.

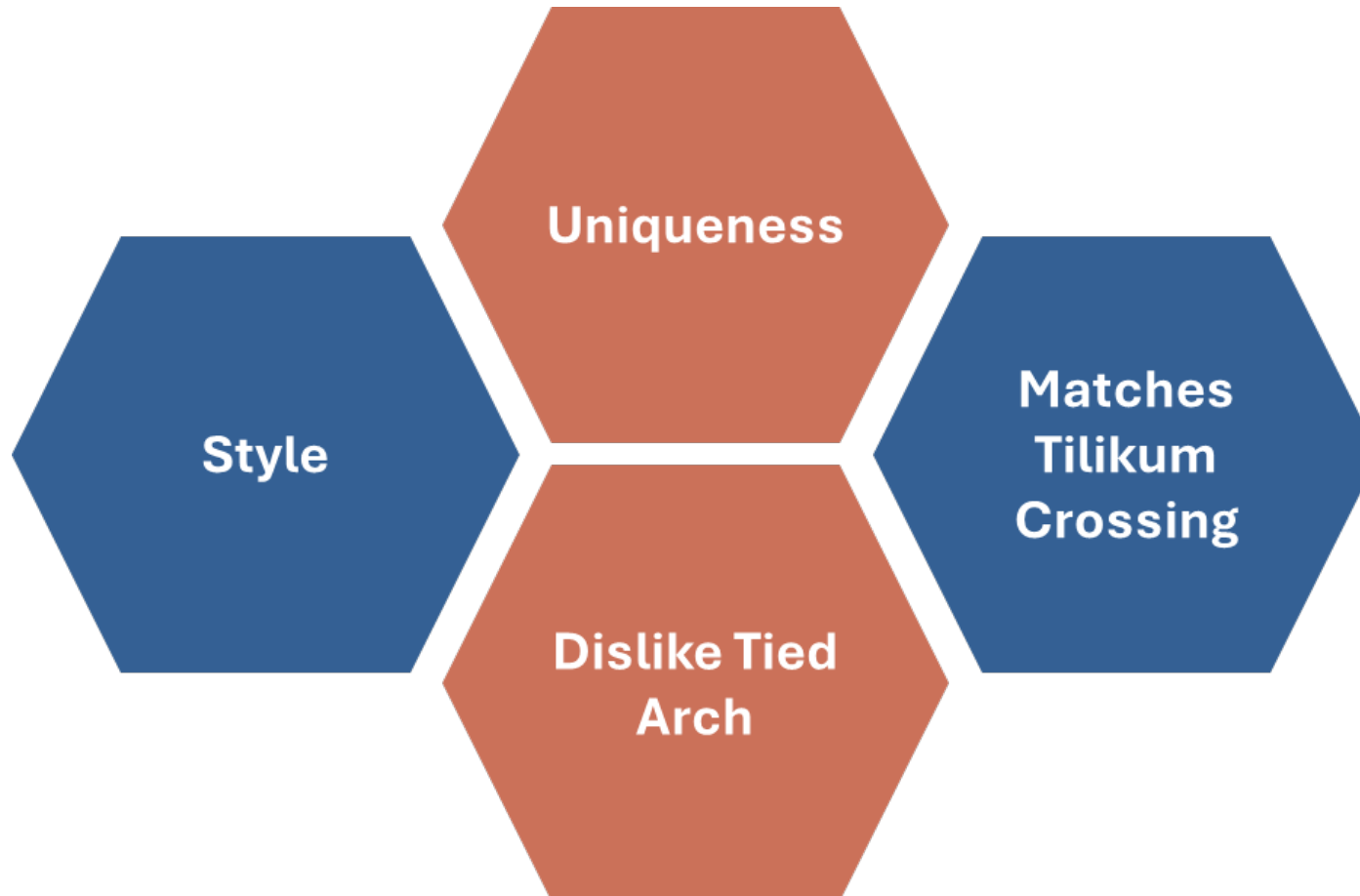
Cable Stay Survey Results

Survey – Cable Stay #1 Rankings

For those that chose **cable stay as their preferred option**, below are the number of first choice selections for each sub option.



Survey – Cable Stay Key Themes

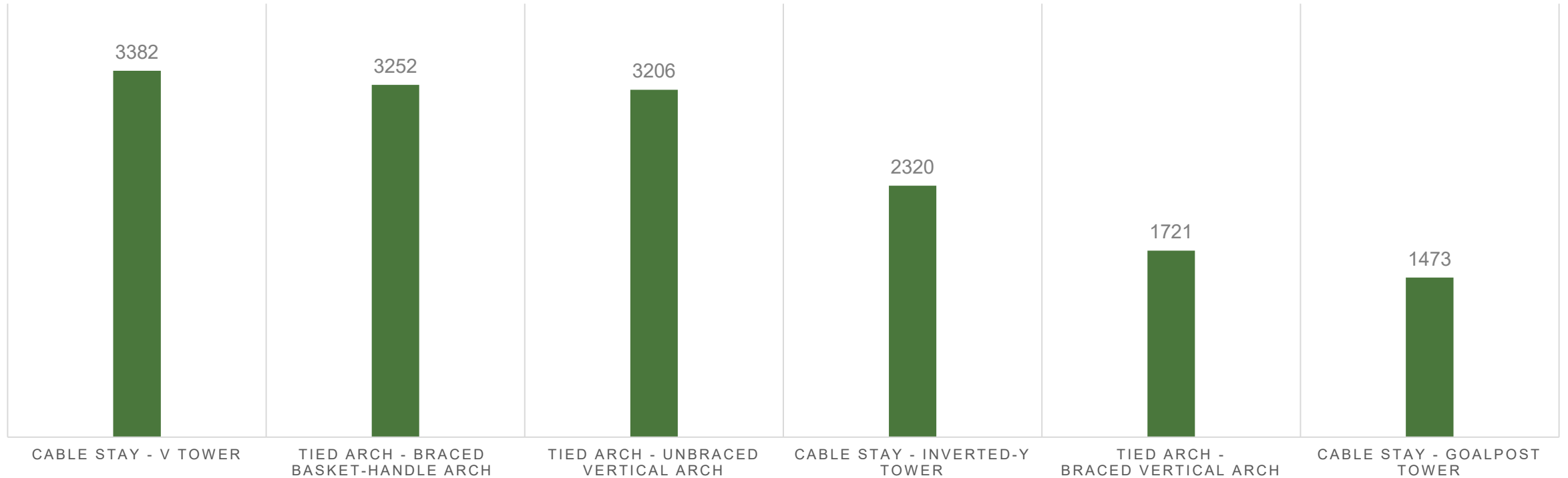


The background is a blue-tinted photograph of a city skyline. In the foreground, a large bridge with a complex steel truss structure spans across a body of water. The city buildings in the background are silhouetted against a light sky. The overall scene is a cityscape viewed from across a river or bay.

Overall Bridge Sub Option Preferences

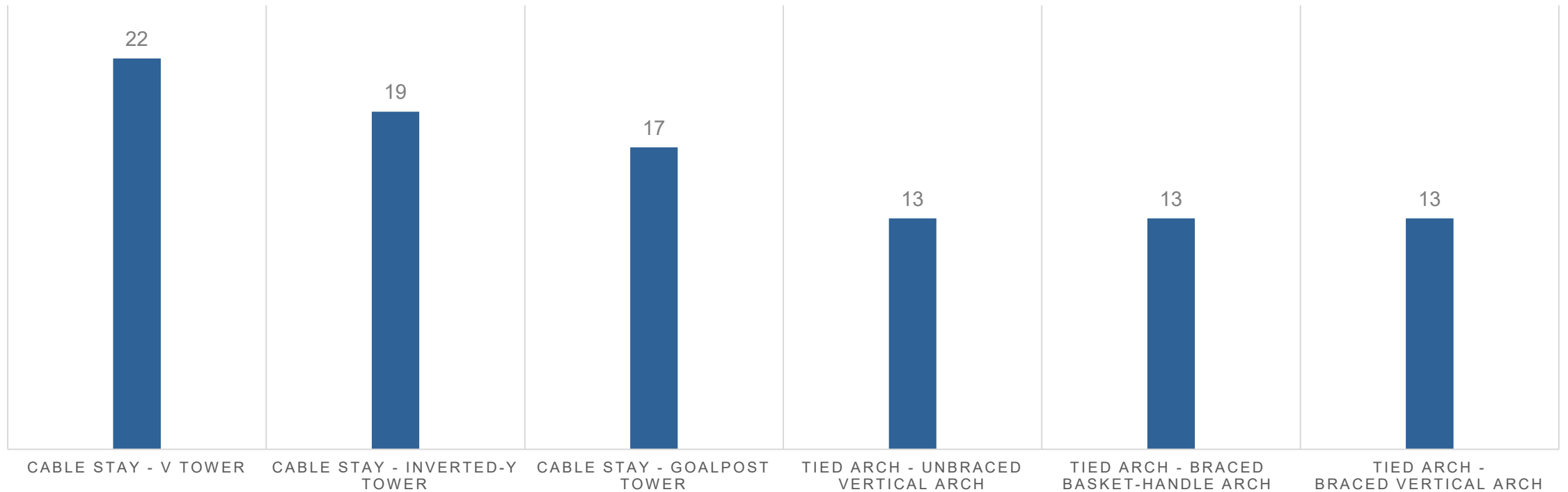
Survey – Preferred Overall Rankings

Ranking of sub options that were selected as the respondents #1 pick for their **preferred bridge type**



Survey In-language/CEL Rankings

Ranking of sub options that were selected as the respondents #1 pick for **in-language and CEL discussion group preferred bridge type**

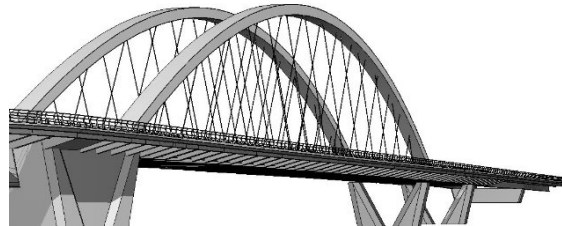
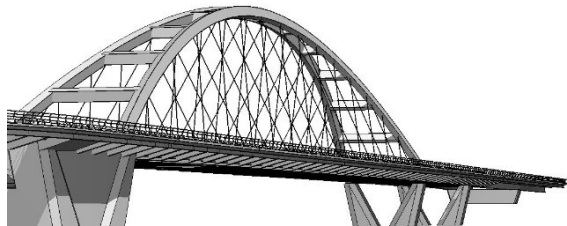
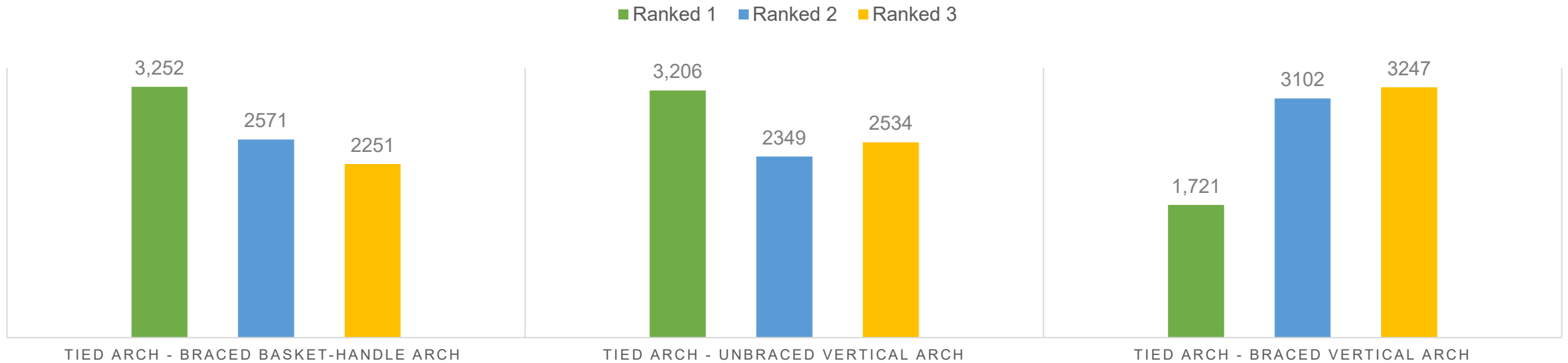


The background is a blue-tinted photograph of a city skyline. In the foreground, a large bridge with a complex steel truss structure spans across a wide river. The bridge has several large concrete piers. In the background, a city skyline is visible, featuring various buildings, including a prominent one with a dome on the left and several taller skyscrapers on the right. The sky is clear and blue. The overall scene is captured from an elevated perspective.

EXTRA SLIDES

Survey Status – Tied Arch Rankings

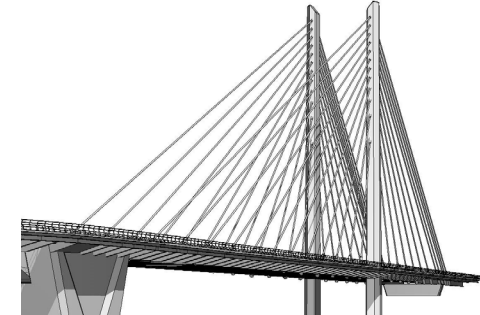
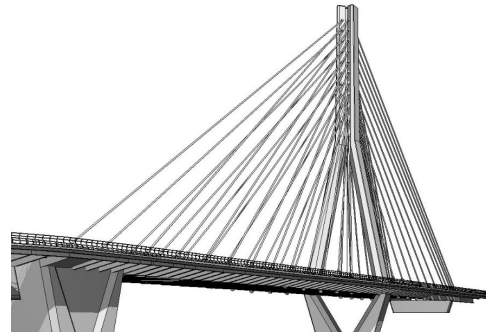
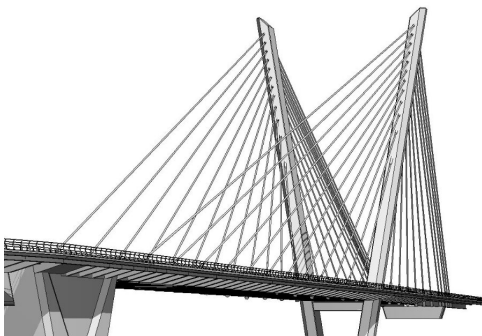
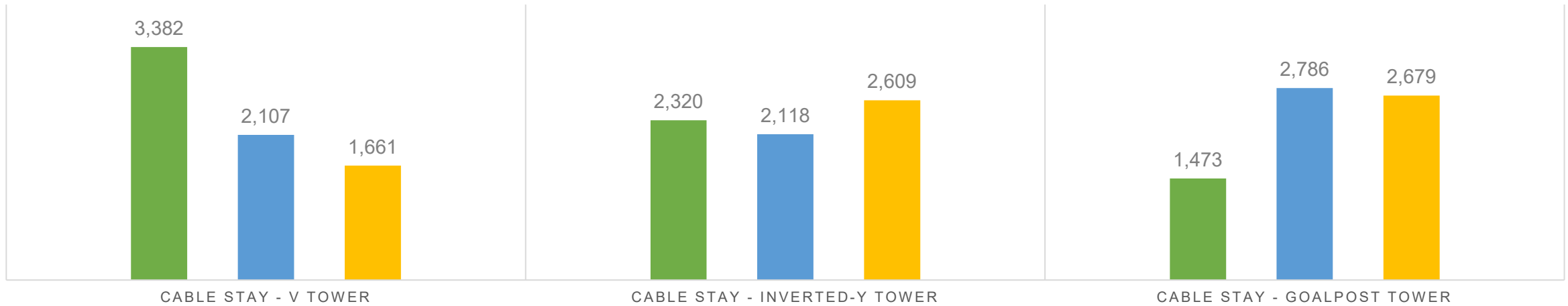
For those that chose the **tied arch as their preferred option**, below are their votes for each sub option, ranked from most preferred (1) to least preferred (3).



Survey Status – Cable Stay Rankings

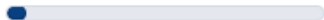
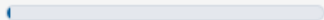
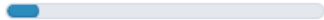
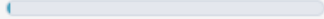
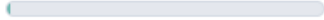
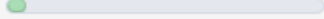
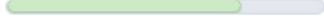
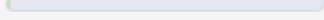
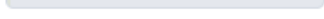
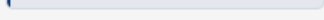
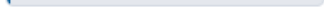
For those that chose the **cable stay as their preferred options in**, below are their votes for each sub option, ranked from most preferred (1) to least preferred (3).

■ Ranked 1 ■ Ranked 2 ■ Ranked 3



Survey Demographics

NUMBER OF RESPONDENTS BY MODE

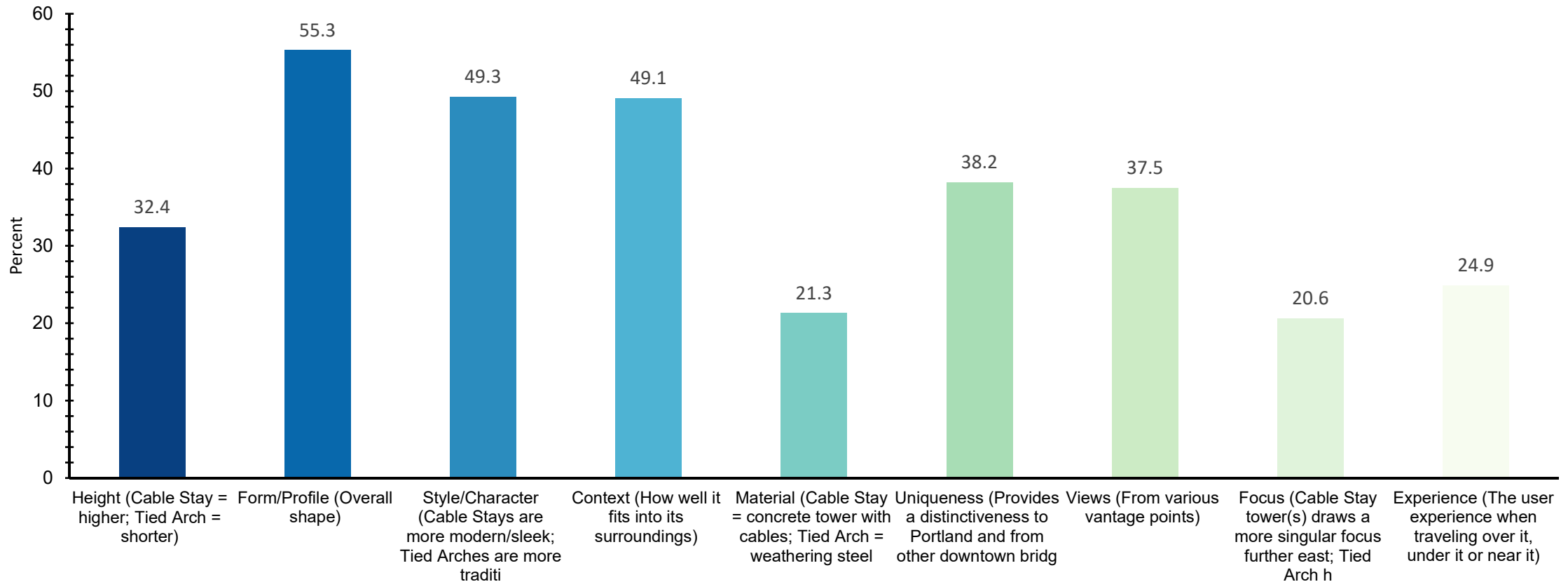
Value	Percent		Responses
Walking	6.4%		943
Using a mobility device, scooter or wheelchair	0.2%		32
Cycling	10.0%		1,476
Skating	0.2%		27
Riding an upright scooter	0.3%		39
On transit	6.3%		922
Driving a car	73.9%		10,885
Riding a motorbike	0.6%		93
Driving a truck	0.4%		62
Using a rideshare	0.6%		84
Other (click to view)	1.1%		159

Totals: 14,722



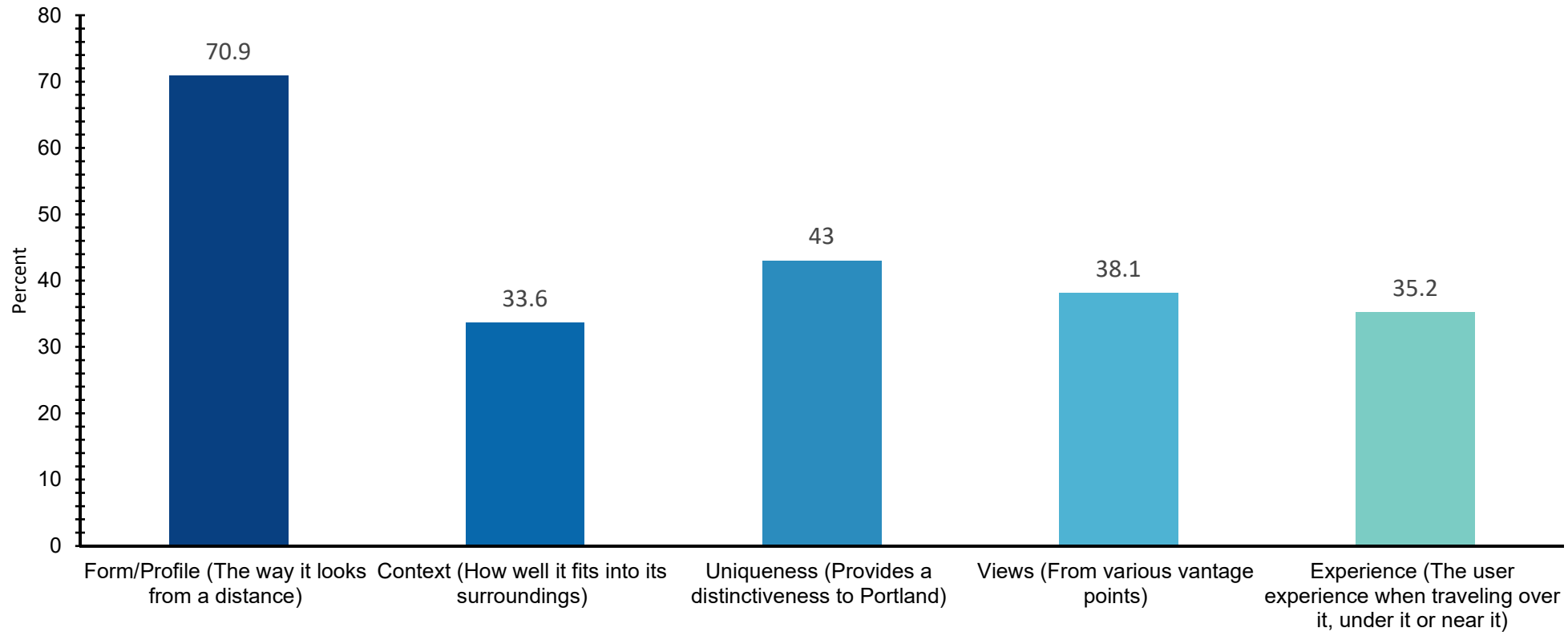
Survey – Tied Arch Characteristics

What impacted your decision in selecting the Tied Arch bridge type? Select up to four.



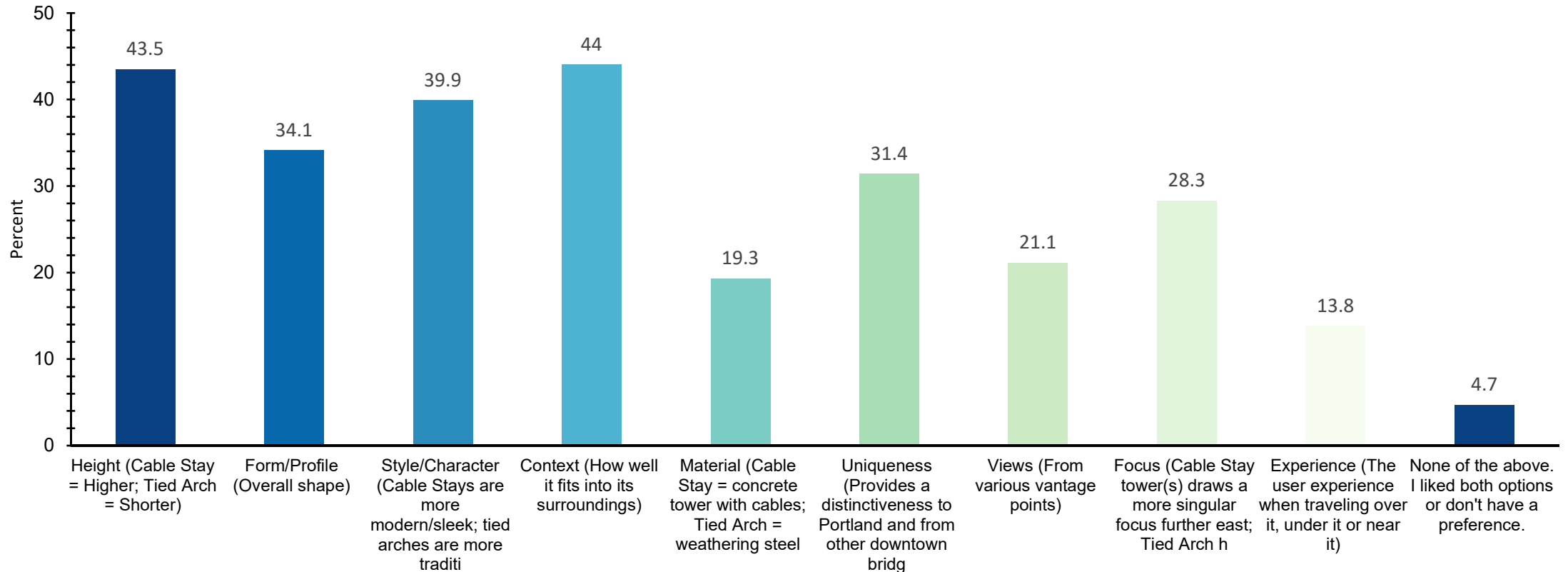
Survey – Tied Arch Sub Option Characteristics

Which characteristics most impacted your rankings of the Tied Arch sub options? Select up to three.



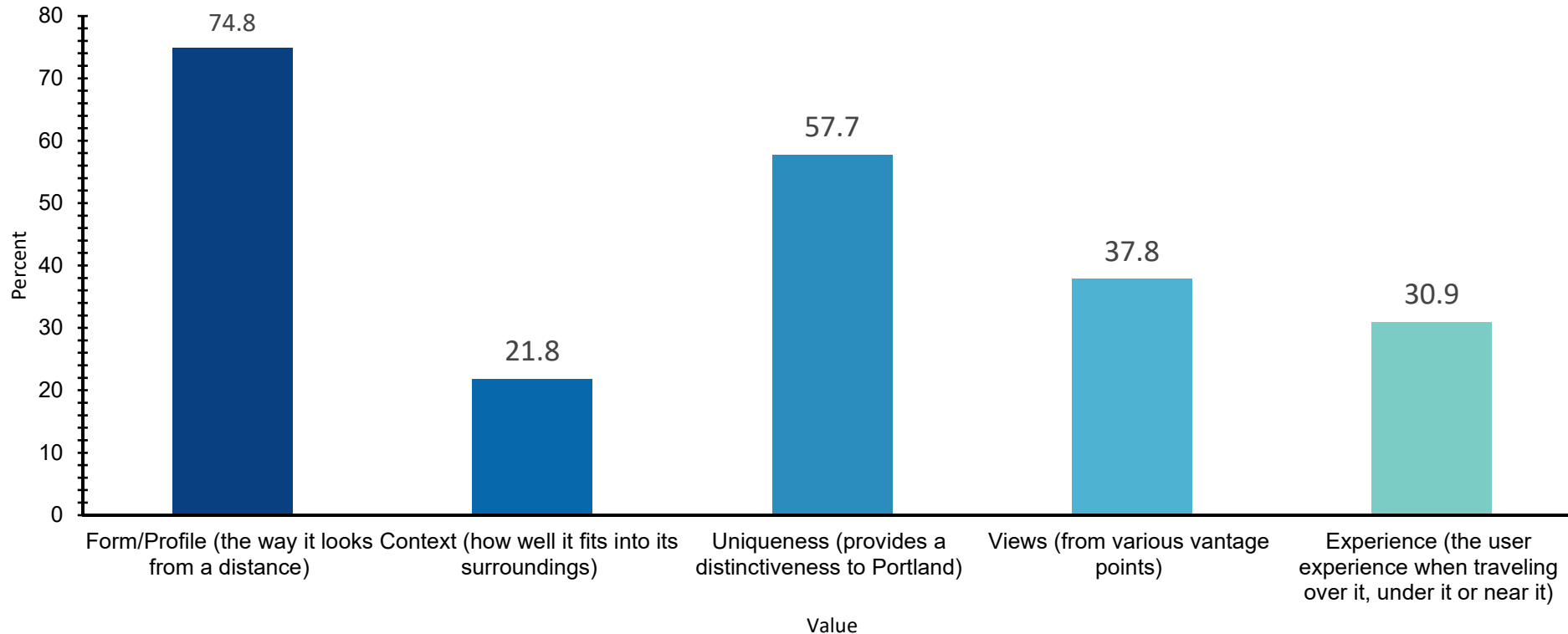
Survey – Cable Stay Characteristics


What impacted your decision in selecting the Cable Stay bridge type? Select up to four.



Survey – Cable Stay Sub Option Characteristics

Which characteristics most impacted your rankings of the Cable Stay sub options? Select up to three.





CDAG

Discussion

An aerial photograph of a city bridge spanning a river, with a city skyline in the background. The entire image is overlaid with a semi-transparent blue filter. The bridge has a prominent steel truss structure. A white car is visible on the bridge's roadway. The text 'Public Comment' is centered in white, bold font.

Public Comment

Public Comment

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

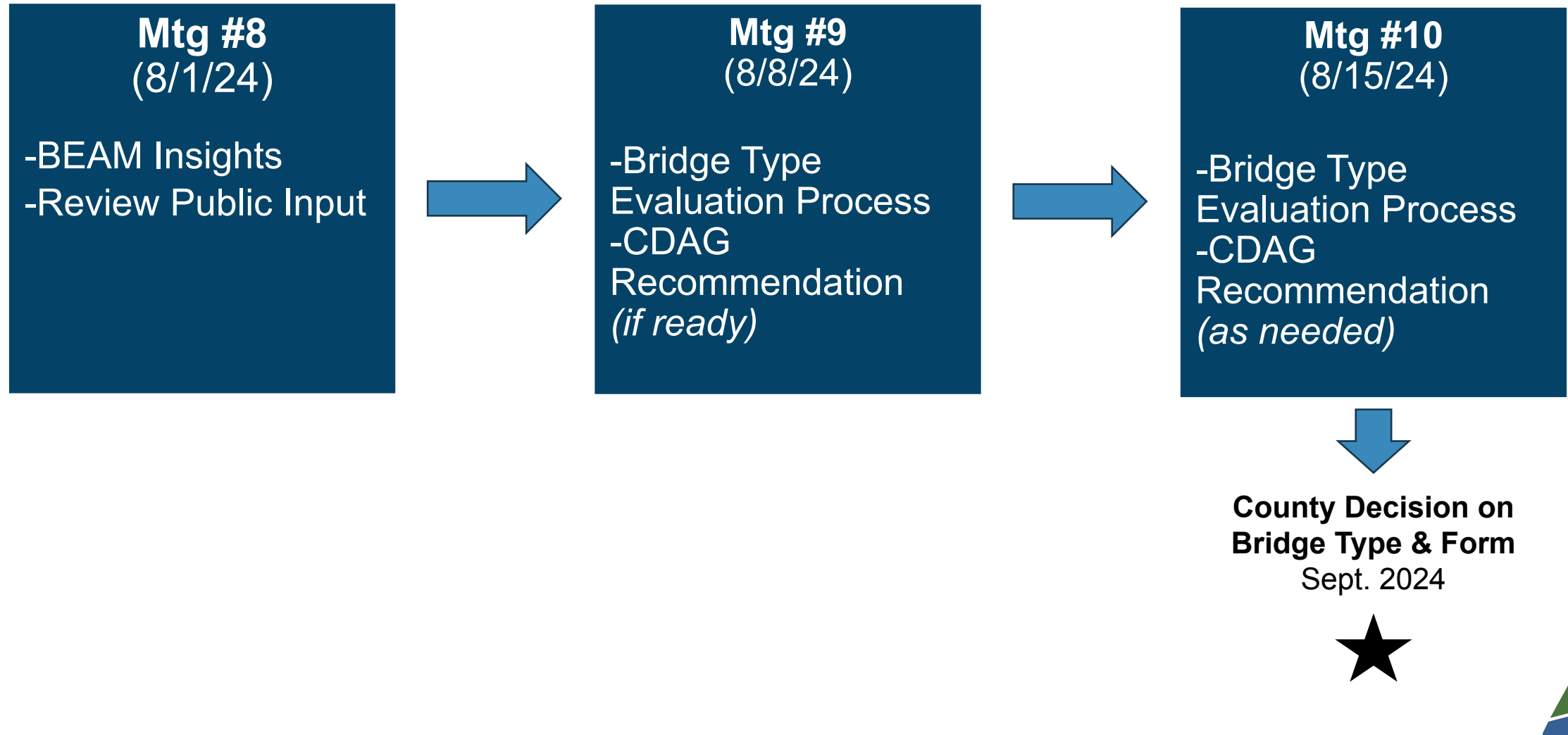


If you have questions that you would like a response to, please submit them to burnsidebridge@multco.us.

Next Steps



CDAG Workplan thru Type Recommendation





Closing Remarks

The background image is a blue-tinted aerial photograph of a city. In the foreground, a large steel truss bridge spans across a wide river. A single white car is visible on the bridge's roadway. In the background, a dense urban skyline is visible, featuring several tall skyscrapers and other buildings. The overall scene is captured from an elevated perspective, looking down at the bridge and the city beyond.

Thank you