

Brent Spence Bridge

Replacement/Rehabilitation Project

FD No. 75319
HWS 7/75-100/022
KYTC Project Item No. 13-17

U.S. Department of Transportation
Federal Highway Administration



Prepared by
PARSONS
BRINCKERHOFF

Main River Bridge Structure Type Study Step 2 – Recommendation Memo

ATTACHMENT A

Brent Spence Bridge Project Aesthetics Committee (PAC) Meeting #5 April 15, 2010 Meeting Minutes

Introduction

The Project Aesthetics Committee (PAC) meeting began by welcoming the attendees and introducing the project team.

Agenda Item 1: Meeting Purpose / Goals

It was explained that the purpose of this meeting was to receive feedback from the Project Aesthetics Committee (PAC) on the 6 Bridge Type Alternatives in order for the project team to select the Final 3 Bridge Alternatives. It was noted that since the January 29, 2010 PAC Meeting, hundreds of emails were received from the public providing comments on the 6 Bridge Type Alternatives, giving an indication of the importance of the bridge to the community.

The goals of the meeting were to look at the project overview, since the bridge is only a portion of the overall project, provide an update on the Brent Spence Bridge alternatives development, and solicit input from the PAC on the current 6 Bridge Type Alternatives.

Agenda Item 2: Project Update

It was mentioned that the Bridge Type Selection Process is a three step process, and we are beginning Step 3. Step 3 of the Bridge Type Selection Process begins with this presentation to the Project Aesthetic Committee (PAC) of detailed renderings of the 6 Bridge Type Alternatives developed during Step 2.

Agenda Item 3: Role of Project Aesthetic Committee

It was explained that using feedback from the Project Aesthetics Committee (PAC) and the public on the 6 Bridge Type Alternatives presented today, the project team will determine the Final 3 Bridge Alternatives to be carried through Step 3.

Agenda Item 4: Bridge Type Selection – Key Design Criteria

It was explained that the Key Design Criteria are Construction Cost, Constructibility, Maintenance and Durability, and Major Rehabilitation Feasibility. These were described for each of the 6 Bridge Type Alternatives in a handout provided to the PAC. It was noted that all 6 Bridge Type Alternatives were feasible.

It was noted that the existing bridge will remain. The new bridge will be built to the west of the existing bridge between the Duke utility facilities on the Ohio side of the river.

The fixed aesthetic elements for the new bridge are safety lighting and that it will be a double deck bridge. Variable aesthetic elements include the type of bridge (arch or cable stayed), bridge treatments such as shape, pattern, color, texture, lighting, and landscaping, and bridge components. Bridge components include such things as the depth of the arch and the inclination of the leg for arch bridges, and the number of tower legs and the stay cable arrangement for cable stayed bridges. The PAC was provided handouts showing the Key Visual and Aesthetic Criteria and the variable bridge components for both the arch and cable stayed bridges. It was mentioned that some variable bridge components had been removed based on feedback received during the last PAC meeting on January 29, 2010.

Agenda Item 5: Bridge Type Alternatives – Presentation

The 6 Bridge Type Alternatives were then presented to the Project Aesthetics Committee as follows. It was noted that on all of the alternatives the bridge lower deck would have to be lit 24 hours per day for safety because of the large width. The barriers and the railing on top have been approved by the DOTs and will allow the driver to see through the barrier to make it more appealing.



Alternative 1 is a steel tied arch bridge. There are three arch legs; the legs of the arch do not go below the lower deck. The bridge would be difficult to see from the east through the existing bridge.

A question was asked why the Vierendeel deck truss type (with only vertical members) was eliminated on Alternative 1, and it was explained that the member sizes would have to be too large and would not be aesthetically pleasing.

Alternative 2 is a continuous steel arch bridge, where the arch legs do go below the lower deck. There are 3 arch legs which extend down near the water and have a smaller backspan arch. The deck truss will include vertical and diagonal members, and the angles of the arch legs match the diagonal of the deck truss.

A question was asked about the elevation of the pier on Alternative 2 and whether the steel rib would be exposed to water in the event of a flood. It was explained that the top of the pier will be above flood level and the steel will not be submerged in water in a flood. However, the hollow steel arch legs near the water would be filled with concrete to help resist barge impact.

Alternative 3 is a cable-stayed bridge with three tower legs and shallow transverse beams supporting the deck. The cables are aligned with the deck truss lines.

This alternative is nearly 100 feet taller than the arch alternatives, and is more visible from a distance. The colors and shapes of the towers (on all of the cable stayed alternatives) can be decided upon during more detailed design.

Alternative 4 is a cable-stayed bridge with three tower legs, similar to Alternative 3 except that the tower legs are inclined. This is a slightly more dynamic alternative. Underneath the top deck, the bridge is identical to Alternative 3.

Alternative 5 is a cable-stayed bridge with two tower legs and deeper transverse beams supporting the deck because there is no center tower leg to help support the deck. The towers are approximately 25 feet higher than Alternatives 3 and 4, so this alternative is more prominent. The deck truss would be triangular.

Alternative 6 is a cable-stayed bridge with two tower legs, which also has deeper transverse beams supporting the deck. The deck truss would be triangular. However, it is different from all of the other cable-stayed alternatives because it has a single tower near the Ohio shore instead of two towers. The single tower for this alternative is over 100 feet higher than the other cable-stayed bridges. This alternative is the most prominent because of its tower height. To put this in perspective, the tower in Alternative 6 is 500 feet tall from the water line. The PNC building is 495 feet tall. The tower would be shorter than the downtown Carew Tower.

A question was asked if the river would have to be shut down to barges during construction. The response was that the river traffic would be restricted but not shut down. There are various methods that can be used to limit these restrictions. The arch bridges would tend to have more impact on river traffic than the cable-stayed bridges during construction.

Agenda Item 6: Bridge Type Alternatives: Evaluation

The committee next went through an exercise using the criteria matrix to evaluate the alternatives. The evaluation used a scale of green, yellow, and red (more favorable to less favorable). The attached results showed the cable-stayed bridges to be more favorably received than the arch bridges to the Project Aesthetics Committee.

The committee still needs to look at aesthetics that may not be related to the structure.

For Alternative 2, comments included preferring the 3 arch legs which extend down near the water and have a smaller backspan arch, and liking the lattice style of the top bracing.

For Alternative 5, the question was asked as to why the “checkmark” was previously shown had been taken out. The “checkmark” would only be cosmetic because it would not provide any support. The alternative as shown now has the support going through the tower. An additional option as an alternative to the “checkmark” was discussed and will be submitted by a committee member. Discussion occurred about whether or not the checkmark was liked aesthetically, even though it does not provide support. The project team will consider putting the “checkmark” back in as an ornamental element.

A question was asked if the committee should consider the costs of the “checkmark”. It was indicated that the project team is having discussions about all costs and how they fit in with aesthetics.

The question was asked if the public feedback differed from the aesthetic committee’s feedback. The answer was that the arch bridges were well received, but comments were varied.

Discussion occurred about the deck truss members and the feeling of openness. Alternative 5 outside deck truss members are thicker but only have two tower legs to look through. Maybe the alternatives with three tower legs are not as open because of the center deck truss. It also depends on the direction one is driving on how open it feels. Going northbound, one will always have to look through the old bridge when looking east.

The committee expressed interest on other components they would like to see that have not been shown, such as colors, shapes, and views. It was noted that there are several Art Deco buildings in Cincinnati and there is an opportunity to find a balance where there is a contemporary character of the bridge that fits in with the historic surroundings. There should be richness to towers. These types of elements will be able to be explored in detail design.

A committee member noted that they liked the taller cable-stayed bridges because it can be seen from a far distance.

The comment was made to provide more views of the bridge from even further away and key locations in the area. Possible locations to show views from include the Cut-in-the-Hill in Kentucky, Mount Adams, Devou Park, southbound I-75 from Union Terminal, and the stadiums. The stadiums can be important when games are on national television and views of the bridge can be shown. Some additional views, as well as animations, will be shown in the next phases to give a more realistic view rather than a static view of the bridges.

A committee member mentioned that most of the considerations discussed today were about views but costs also need to be considered. Some of the highest rated bridges based on established criteria seem to be the most costly. The arch bridges would not be eliminated yet just based on aesthetics.

A committee member indicated that, in terms of color, there needs to be a statement without standing out too far. The bridge should not blend in with its background.

It was explained that the 6 Bridge Type Alternatives presented will be narrowed down to the Final 3 Bridge Alternatives based on feedback from this meeting, costs, and public feedback.

Feedback

It was mentioned that the committee is to have any comments sent in by next Friday, April 23. The selection of the Final 3 Bridge alternatives is expected sometime in May 2010. A public hearing for the project is anticipated in February 2011.

The next Project Aesthetics Committee Meeting will take a look at the aesthetics of the overall project and not just the bridge.



CRITERIA MATRIX

Key Visual and Aesthetic Criteria

| <i>Visually Attractive</i> | <i>Visible from Eastern Vantages</i> | <i>Views of Surrounding Context</i> | <i>Distinctive Character/Landmark</i> | <i>Relates Visually to Existing BSB</i> |
|----------------------------|--------------------------------------|-------------------------------------|---------------------------------------|---|
|----------------------------|--------------------------------------|-------------------------------------|---------------------------------------|---|

Arch Alternatives

| | | | | | |
|---|--------|-----|-------|--------|-----|
| 1 | Yellow | Red | Green | Red | Red |
| 2 | Green | Red | Green | Yellow | Red |

Cable-Stayed Alternatives

| | | | | | |
|---|-------|--------|-------|--------|--------|
| 3 | Green | Yellow | Green | Yellow | Yellow |
| 4 | Green | Yellow | Green | Green | Yellow |
| 5 | Green | Yellow | Green | Green | Yellow |
| 6 | Green | Green | Green | Green | Yellow |