



**THE LOUISVILLE-SOUTHERN INDIANA OHIO RIVER BRIDGES PROJECT
SECTION 2, DOWNTOWN BRIDGE**

PUBLIC OPEN HOUSES

MARCH 21, 2006
4:00 - 8:00 PM
THE 300 SPRING BUILDING
300 SPRING STREET
JEFFERSONVILLE, IN 47130

MARCH 23, 2006
4:00 - 8:00 PM
FRAZIER HISTORICAL ARMS MUSEUM
829 WEST MAIN STREET
LOUISVILLE, KY 40202

MEETING ATTENDEE INFORMATION

TOTAL NUMBER OF ATTENDEES: 206 (NOT INCLUDING SECTION 2 PROJECT TEAM)

JEFFERSONVILLE OPEN HOUSE ATTENDEES: 106

LOUISVILLE OPEN HOUSE ATTENDEES: 100

ATTENDEE ORIGINS:

BORDEN, IN: 1
CLARKSVILLE, IN: 7
FLOYDS KNOBS, IN: 5
JEFFERSONVILLE, IN: 67
LACONIA, IN: 2
MARYSVILLE, IN: 1
NEW ALBANY, IN: 7
SELLERSBURG, IN: 3
CENTRALIA, ILLINOIS: 1
FRANKFORT, KY: 1
LEXINGTON, KY: 4
LOUISVILLE, KY: 104
PROSPECT, KY: 2
SHELBYVILLE, KY: 1

OPEN HOUSE EVENT SUMMARY

Both Open Houses began at 4:00 pm with a brief self-guided tour of the six bridge type alternatives under consideration, where attendees were welcomed by project team members and then directed to the electronic polling preference area. At 5:00 pm and 6:30 pm, a brief presentation was followed by four electronic polling sessions that included each bridge type alternative viewed from various vantage points and preferences on Evaluation Criteria (more details about the polling views are described below). At both

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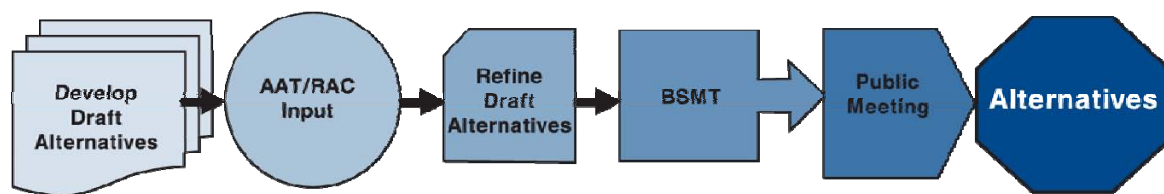
Open Houses, comments on the alternatives were noted and recorded by the project team. Below is the information that was presented, bridge type alternative preferences noted, and comment sheets submitted:

DOWNTOWN BRIDGE: ALTERNATIVES DEVELOPMENT

Meeting Agenda

- Welcome/Introductions
- The Step 3 Process
- What is an Alternative?
- Alternatives Overview
- Bridge Type Preference Polling
- Next Steps

The Step 3 Process: Develop Alternatives



Bridge Type Alternatives Consider:

- Constructibility
- Maintenance
- Cost
- Height
- Compatibility
- Symmetry

Public Comments – During Steps 1 & 2

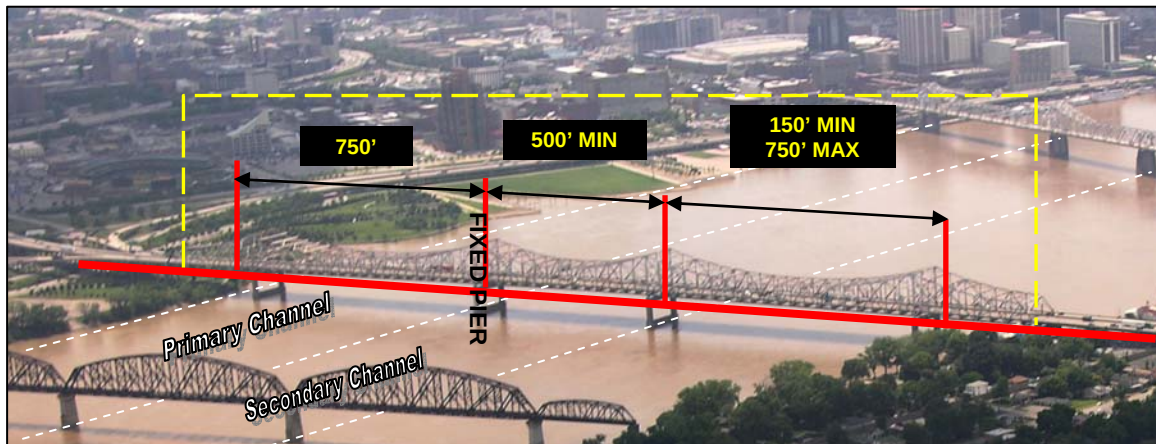
- 84 from the Project Website
- 235 from Meetings (AAT/RAC and Public Open Houses)

Unique Aspects of Downtown Bridge Design

- Urban Context: Proximity of Existing Bridges
- Bridge Width: 115 feet
 - Including pedestrian walkway/bikeway
- Uni-Directional Traffic
 - Supporting elements in the center of the bridge are not possible
- Parks at Both Landings
 - Importance of pedestrian-level considerations
- Navigational Configuration
 - As required by the United States Coast Guard

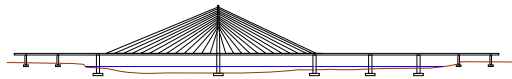
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- Initial span arrangement: 1100' between center pier
- New span (per Coast Guard): 750' from the Kentucky side pier to fixed pier; 500' minimum to the next pier; 105' minimum/750' maximum to the Indiana side pier.

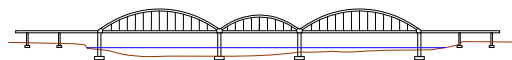


Bridge Types Considered:

- *Cable-Stayed*



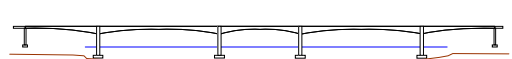
- *Arch*



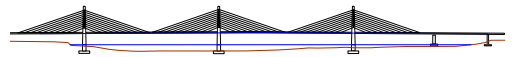
- *Truss*



- *Box Girder*



- *Extradosed*



Preference Polling Results: 6 Bridge Type Alternatives

- Aesthetic Preference: Symmetry

- Symmetric concepts were favored over asymmetric concepts



- Aesthetic Preference: Height

- Lower height concepts were generally preferred to those with tall towers

- Aesthetic Preference: Visual Simplicity

- Visual simplicity is somewhat preferred to a more complex appearance

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- Aesthetic Preference: Enclosure
 - Tall structures – open is preferred
 - Low structures – closed is preferred

Bridge Type Alternatives

1. Three Span Tied Arch

- Vertical hangers and arch ribs
- X-Bracing of arch rib
- Piers line up with Kennedy Bridge piers



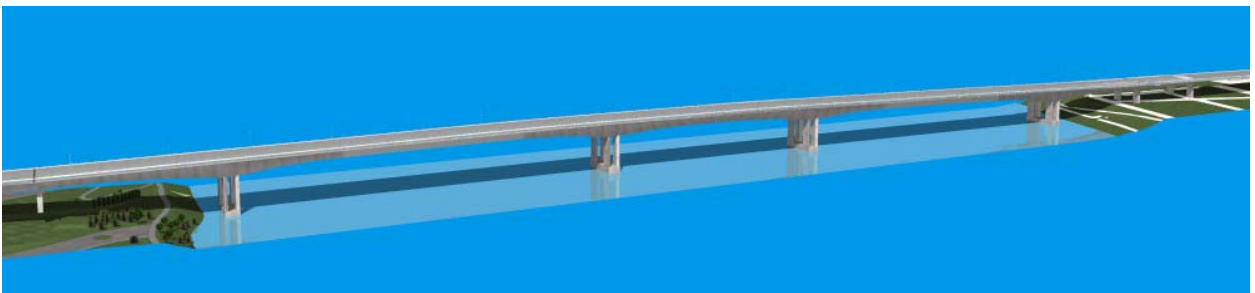
2. Three Span Thru Arch

- Vertical hangers
- Inclined arch ribs
- Horizontal bracing of arch rib
- Arch form extends to water level



3. Hybrid Box Girder

- Superstructure is below deck
- Piers line up with the Kennedy Bridge
- Raised bridge profile is 20' above the Kennedy Bridge at peak



4. Single Tower Cable-Stayed

- One 350-foot tower
- Semi-fan cable arrangement



5. Four Tower Cable-Stayed

- Four 180-foot towers
- Towers inclined outward (open appearance)
- Semi-fan cable arrangement
- Piers line up with the Kennedy Bridge



6. Three Tower Cable-Stayed

- Three 150 to 190-foot towers
- Vertical towers (open appearance)
- Cables are in a vertical plane
- Harped cable arrangement



Bridge Alternative Preference Polling – Public Responses

The Design Team then obtained public feedback on each of the six Bridge Alternatives using an electronic polling system to evaluate members' preferences, the results of which are listed below.

During the polling process, each of the six alternatives was viewed from four different angles: an aerial computer simulation, a drive-through computer simulation, and park views from both the Indiana and Kentucky shorelines. Members of the public polled their preferences for each view, and were then asked to poll the importance of the following bridge evaluation criteria: aesthetics, construction cost, construction impacts, and maintenance issues.

(Note: for images of each bridge type alternative view, please see attached Appendix).

PUBLIC RESPONSES:

1. Aerial Perspective Poll:



- Alternative 6, Three Tower Cable-Stayed – Highest Overall Visual Preference
 - Like the vertical tower legs
 - Like the fan cable arrangement rather than harp
 - Vertical pier legs
 - Low maintenance
 - Lower profile
 - 6, 5, and 3 have no structure over roadway, reduced risk of falling debris
 - Still see Thunder through bridge, plus downtown Louisville
 - Too many angles in design, looks like a maze
 - Contrast too sharply with the Kennedy
 - Would like the tower legs to coincide with Kennedy

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- Alternative 2, Three Span Thru Arch
 - Not overwhelming - positive
 - Fits in with the Big Four - positive
 - Like both shorelines in park
 - Like structural design but would prefer different pier placement
 - Clash between two types of arch bridges, not symmetrical
 - Like the thrust blocks
 - Like the arches being the same height
 - Don't like the three equal lengths of the arches – doesn't match the Kennedy
 - Like the way it flows, seems whimsical
 - Don't like the diagonal on the cables
 - Don't like the basket handle
 - Would prefer that piers line up with Kennedy
 - Like the symmetry
 - Don't like any type of bridge that might have to be painted – higher maintenance
 - Don't like the horizontal bracing across top, creates shadow
 - Structure competes with other structures around it, too messy, too busy
 - Contrasts too much with other structures (arch structures)
 - Design should duplicate the existing bridge (Kennedy)
- Alternative 4, Single Tower Cable-Stayed
 - Dramatic and type of a gateway
 - Competes too much with skyline, overwhelms the cityscape
 - Don't see how it would compete with the skyline, it would augment the skyline, a fantastic gateway, dramatic
 - If the Kennedy Bridge were not there, this would be great
 - Because location in between Kennedy and Big Four, this would be only one visible, dramatic like Owensboro bridge
 - Most striking of the designs, forward thinking – positive
 - It differentiates itself because it dwarfs the Kennedy Bridge, very unique – positive
 - It has a presence but it doesn't interfere with Kennedy
 - Would like to build more a landmark like this
 - More transparent – positive
 - Don't want to overwhelm cityscape
 - Simple and doesn't clutter the environment
 - Makes an interesting bookend on the river
 - Artistic and feels like a lighthouse, doesn't interfere
 - Like it because it's unique
 - Looks like a gateway
 - Elegant
 - So strikingly different, it won't clash with the other bridges
 - Lots of options for lighting
 - More of a signature view
 - Lot of openness

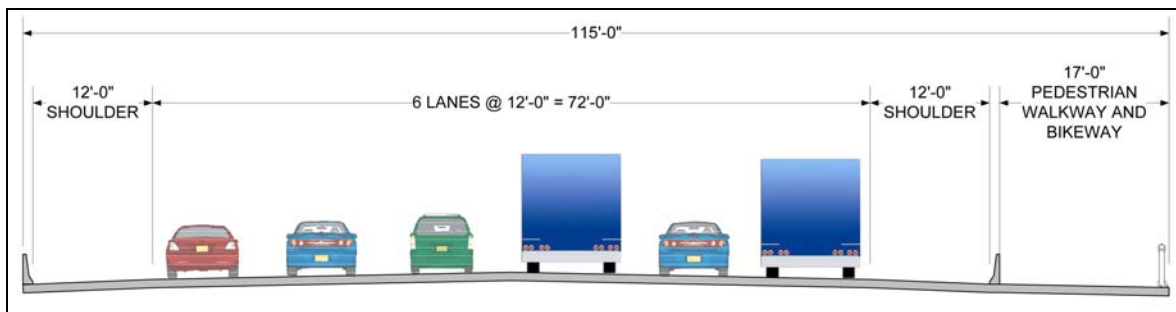
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- Too tall
- Completely clashes with other bridges
- Alternative 5, Four Tower Cable-Stayed
 - Would look better with vertical towers
 - Do not like the inclined towers outward, would prefer an incline inward
 - Aesthetically odd looking
 - Looks awkward
 - Reminds of power line towers – negative
 - Looks randomly angled
 - Doesn't look strong, doesn't look pretty
 - Like that the piers line up, a little too whimsical
 - Looks extremely awkward
 - Looks like electric transmission station
 - Not for the area, not good in the context
 - Like that it's modern; the city would catch up to it
 - Awkward and cumbersome
 - No sensitivity to Louisville
 - Incline towers outward looks like it will fall over, vertical tower looks more stable
 - Looks like it is upside-down
 - Not as airy as east end candidates
 - Would like to see an obelisk type tower to improve the cable stays
 - Like the cable arrangement
 - Don't like the inclined towers
 - Don't like the crossing pattern in middle span
 - Looks upside down
 - Falling apart, pier legs
 - Like the pier legs, looks like you're holding your arms out
- Alternative 1, Three Span Tied Arch
 - Can there be horizontal braces on this one, do not like x bracing
 - Reflects the Big Four – negative and positive
 - Same arches as west end
 - Too many arches
 - Structure compliments the area in general
 - Design not too contemporary
 - Like the horizontal bracing – would like to see it on the other arch bridge as well
 - Too busy in this context
 - Relationship with a candidate on the east end bridge
 - Don't like the thrust blocks, interferes with the park areas
 - Lines up with Kennedy – positive
 - Unimaginative compared to Alternative 2, plainer
 - Like the x-bracing, looks solid, less likely to move
 - Too much for the area, too complex
 - Simple, better than Alternative 2

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- Doesn't have the visual impact of Alternative 2
- Arch bridges match with the convention center
- Like the arch matching the Big Four
- Looks like the safest one with design and structural support
- Takes the most paint
- Alternative 3, Hybrid Box Girder
 - Unobtrusive
 - Since it's so close to the Kennedy, like the unobtrusiveness
 - Too simple and plain
 - Simple to maintain
 - No rusting girder
 - Like the piers lining up with Kennedy
 - Very simple, low maintenance
 - Don't have to make a statement downtown
 - No place for birds to roost
 - Blocks view from Kennedy with raised profile
 - Would like this if it was lower
 - Worried about how this ties into approaches
 - If this were the only bridge in the area it would be good
 - Like the simplicity, better if it had some transparency
 - Can't see from the Kennedy now

2. Driver's Perspective Poll:



- Alternative 4, Single Tower Cable-Stayed – Highest Overall Visual Preference
 - Has pizzazz to it
 - Looks more impressive from river
 - Draw more attention to the area
 - This would be "The Bridge"
 - Dramatic without being overpowering
 - Like the narrow deck
 - Exhilarating
 - Like this driving experience, similar to Owensboro

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- Question about accommodating air show with height
- Looks like the second lowest maintenance alternative
- Question about aircraft lights
- Might be pushing 500 foot limit for air show
- Major league signature bridge
- Too much contrast with Kennedy, need to blend
- “Can we tear down the Kennedy?”
- Looks contemporary
- Open view, not much clutter
- Very slick but not as slick as Alternative 3
- Feels like you’re driving through something with the towers tied at the top
- Makes you wonder what’s holding the bridge
- Gives a sense of arrival – positive
- Incredibly distracting shadows – negative
- Too tall
- Overpowering
- Out of scale
- Alternative 6, Three Tower Cable-Stayed
 - Uninterrupted view off of deck, noon time shadow no problem
 - Clear view of sky
 - More open, less shadows, easier to see and driver, feel safer
 - Feel safer to have something on sides
 - Visually interesting without being busy
 - Straight vertical legs with four towers would be better
 - Boring, looks like fence posts, repetitive and not exciting
 - The harped cables are less appealing than fanned cables
 - Do something interesting with middle towers
- Alternative 3, Hybrid Box Girder
 - Totally uncluttered, can actually see where you’re going
 - Animations should have traffic and semis
 - Too easy to commit suicide off this alternative
 - More open, better visibility (like Florida bridges)
 - Low maintenance
 - Winter weather concerns when icy
 - Needs more attention to signage and light fixtures
 - Concerned about appearance from underside
 - Looks like an overpass for a creek
 - Light and breezy
 - Question about profile height
 - Like the visibility
 - Looks like a highway
 - Doesn’t compete with the city – positive
 - Like the low maintenance, no paint

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- Unobstructed view from the deck – positive
 - Difference in profile is a negative
 - Difference in profile is a positive; different from Kennedy (anything different from Kennedy is good)
 - Change in profile would obscure the cityscape
 - View from Kennedy into side of box is negative
 - Less busy, very clear, no conflict, better view from driver's perspective, nothing spectacular but fits in
 - No sense of a bridge, don't know you're crossing the river
 - No shadow effect – positive
 - Sets a beautiful stage for the existing bridge – positive (will show the rust from another)
 - Disagree with the shadow problem
 - This does not clash – positive
- Alternative 2, Three Span Thru Arch
 - Shadows make it hard to see, too much clutter
 - Looks like you're driving through a dungeon
 - Visual clutter, particularly the horizontal braces, looks like driving through a ladder
 - Birds are going to love it
 - Don't like the horizontal braces
 - Cluttered perspective
 - Like the abutments lining up with the Kennedy, perfect alignment would be better
 - Want to duck my head when I drive through – negative
 - Alternative 5, Four Tower Cable-Stayed
 - Distracting with towers and cables
 - Would prefer the inclined towers be vertical with tie at top
 - Ugly
 - Gives a distorted perspective as you drive through
 - Looks broken
 - Looks like it will fall
 - When will they fix it?

3. Indiana and Kentucky Park Shoreline Perspectives Poll:



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- Alternative 4, Single Tower Cable-Stayed – Highest Overall Visual Preference
 - Less is better from the park viewpoint – this design meets that criterion
 - Less clutter
 - Looks better on the Indiana side, not much difference from the others on the Kentucky side – positive if you live in Jeffersonville
 - Indiana side unobtrusive on street level, not so busy
 - Least obtrusive
 - Cleanest lines, doesn't interfere
 - Don't like steel, maintenance issues
 - Like the pier on Indiana side back, less clutter on visual streetscape
 - See more of river, bottom looks smoother and wide open
 - Like space under
 - Indiana side has the wider gap, like the openness
 - Unobtrusive
 - Elegant
 - Question about piers, like the octagon shape
 - Pier shape adds style to it
 - Like the Indiana side with the pier back and kind of hidden
- Alternative 6, Three Tower Cable-Stayed
 - Not as intrusive on the street front, view is unobstructed
 - Don't like the pier next to the street
 - Kentucky side – doesn't like the tower and base in the park, bulky and gets in way of park
 - Looks more airy and open
 - Question about bottom side being concrete
 - Low maintenance
- Alternative 2, Three Span Thru Arch
 - Thrust blocks would invite daredevils to climb, especially in the parks
 - Thrust blocks in water would get rid of extreme sport enthusiasts
 - Lot more clutter – negative
 - Arches are more obtrusive but more interesting
 - Interesting, BUT, too many things going on, thrust blocks, piers in the park, piers next to the street
 - Too much visual clutter in Jeffersonville, blocks view with arch piece
 - Like it but concerned about safety with kids climbing arch piece
 - Doesn't fit with historic neighborhood (arch piece)
- Alternative 5, Four Tower Cable-Stayed
 - Ugly
 - Three supports create clutter, too many
 - Nice color, underneath deck
 - Works more consistently with Kennedy Bridge (global view)
 - Like the deck looks thinner and not as bulky

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- Like the Indiana side with the wide space
- Like the shape of the columns
- Like the rib in the concrete of the tower leg – could this be done on the large towers?
- Looks like Indiana limestone - nice
- Why no two tower designs?
- Alternative 3, Hybrid Box Girder
 - Clean
 - Still pleased with it
 - Clean and uncluttered
 - Massive – negative
 - Like the open spacing between the girders and the deck – positive
 - Like the hollow concrete
 - Massive – negative, but because of all the concrete it has less maintenance issues
 - Don't like the arch of the bridge
 - Street level on Indiana side simple and appealing
 - More inviting
 - Don't like the higher profile, looks much taller
 - Completely blocks out the Kennedy – generally a negative
 - Does not block the Kennedy enough
 - Don't like the pier on the Kentucky side, the three pier configuration blocks the river
 - Blocks the skyline view of Louisville
 - Deck too massive
 - Box looks too massive
 - Too heavy
 - Question about box sides, can they be angled or decorated with patterns
 - Too much concrete
- Alternative 1, Three Span Tied Arch
 - Blends in with what is already there on Waterfront Park side

4. Evaluation Criteria Perspective Poll:

During this final portion of the polling process, the project team asked the public to rate on a scale of 1 to 10 (one being lowest, 10 being highest) which of the following criteria are most important in evaluating each alternative: aesthetics, construction cost, construction impacts, or maintenance issues.

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Results:

Aesthetics

- Score Average ~ 8.0

Construction Cost

- Score Average ~ 7.2

Construction Impacts

- Score Average ~ 6.2

Maintenance Issues

- Score Average ~ 8.7

Alternatives Comparison

The Open House then continued with information presented that compared alternatives for construction cost, construction impacts, and maintenance issues:

1. Three Span Tied Arch

- Construction Cost: middle to high range
- Maintenance Issues: higher maintenance than cable-stayed alternatives
- Construction Impact: difficult to construct without temporary towers or special equipment

2. Three Span Thru Arch

- Construction Cost: middle to high range
- Maintenance Issues: higher maintenance than cable-stayed alternatives
- Construction Impact: difficult to construct without temporary towers or special equipment

3. Hybrid Box Girder

- Construction Cost: lower to middle range
- Maintenance Issues: lowest maintenance
- Construction Impact: potential for top-down construction and no temporary towers

4. Single Tower Cable-Stayed

- Construction Cost: lowest range
- Maintenance Issues: lowest maintenance of cable-stay alternatives
- Construction Impact: special equipment, possible temporary supports

5. Four Tower Cable-Stayed

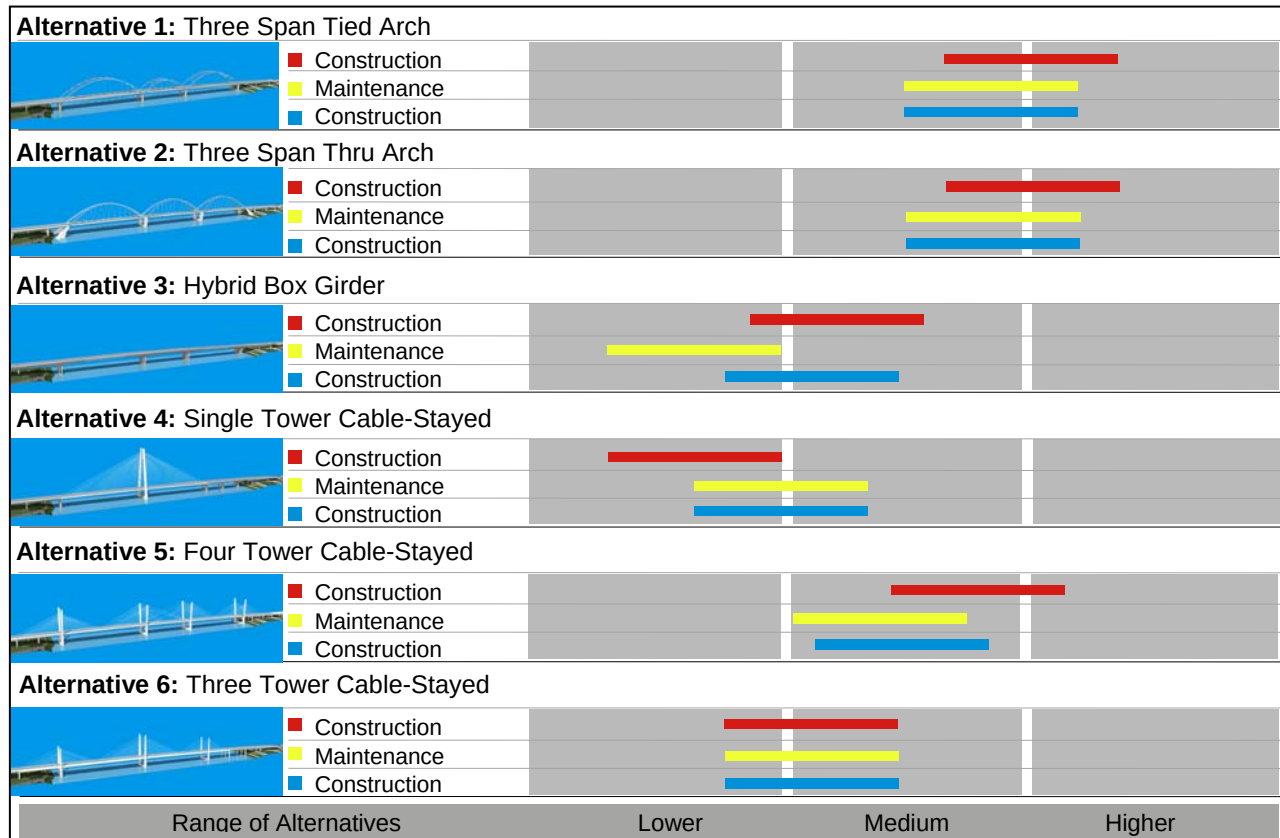
- Construction Cost: middle to high Range
- Maintenance Issues: lower maintenance than arch alternatives

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- Construction Impact: special equipment, no temporary supports

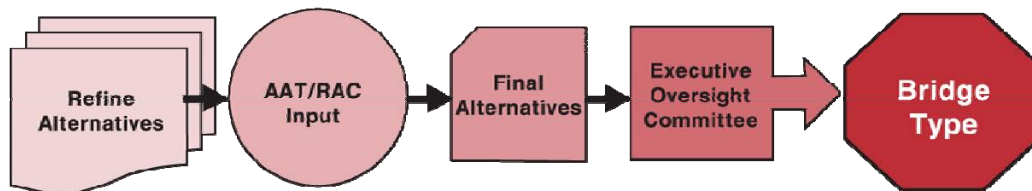
6. Three Tower Cable-Stayed

- Construction Cost: low to middle range
- Maintenance Issues: lower maintenance than arch alternatives
- Construction Impact: special equipment, no temporary supports



Next Steps

- Step 4 : Select Bridge Type
 - Refine Alternatives
 - Obtain AAT/RAC Input
 - Present Final Three Alternatives to the Executive Selection Committee



There being no other questions or comments; the meeting was adjourned.

OPEN HOUSE COMMENT SHEETS

Do you have any further thoughts on Bridge Type Alternatives?

- This entire plan is outdated and needs to be redone. Louisville should look into how to make this city great, not how to make do with a bad idea. Please consider the proposal to tear down I-64 downtown. (Comment sheet from the Louisville Open House)

Any other comments?

- Any design needs bike and pedestrian access in the riverfront parks, not far from the river. (Comment sheet from the Jeffersonville Open House)

APPENDIX: BRIDGE TYPE VIEW RENDERINGS



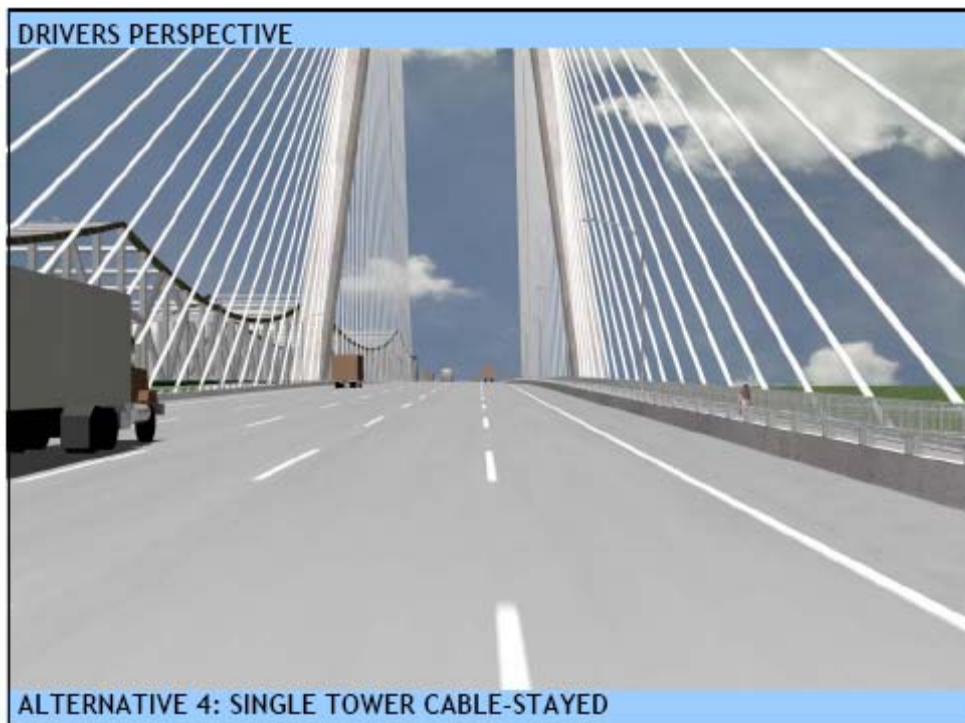


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Downtown Bridge - Section 2: Open House Event Summary, March 21 and 23, 2006





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