



FRAMING A  
MODERN MASTERPIECE  
THE CITY+THE ARCH+THE RIVER | 2015

# Comment and Analysis on Final Design Entries

Technical Advisory Group + National Park Service and Consulting Partners

This report is an integrated summary of the findings of the Technical Advisory Group's review of the design entries on August 13, 2010, and the National Park Service and Consulting Partners' review of the design entries on August 16-20, 2010. These reviews were undertaken as a service to the process in order to help facilitate feasible and realistic solutions. This report will be provided to the competition jury as part of the final selection process. These reviews do not supplant any required regulatory or compliance processes. The selected entry will be required to meet all NPS and other jurisdictional requirements and procedures.

## Design Competition

FRAMING A MODERN MASTERPIECE | The City + The Arch + The River | 2015 is an international design competition organized by national park supporters, the design community and leadership from both Missouri and Illinois. The National Park Service provided the framework for change through its Fall 2009 General Management Plan and the competition has the backing of federal, state and local government officials.

A 10-month process that runs from December 2009 until September 2010, The City + The Arch + The River competition presents the opportunity of a lifetime for architects, landscape architects, designers, and artists. The challenge is great – to take one of America's first urban park sites and weave it into the fabric of the St. Louis region – as well as connect it with both sides of the Mississippi River.

Integral to the competition is the achievement of a balance between new ideas and the retention of the character-defining features of the site, the core of which is a National Historic Landmark. The intent of the competition is to honor the Arch and the grounds immediately surrounding while reinvigorating the larger area surrounding the Arch, the downtown St. Louis entry ways and both the Missouri and Illinois riverfronts.

As part of the competition process, a Technical Advisory Team (TAG) -- see page 12 for a listing of TAG members -- was formed to serve as an advisor to the process and provide technical expertise on issues that may impact the feasibility of design solutions, including urban design and city planning; federal, state and local transportation; navigation, flood control, and industry of the Mississippi River; accessibility and universal design; historic preservation; planning and aspirations of the East Bank properties; and National Park Service goals, planning, operations, and maintenance of the Park.

## Assessment Methodology

The TAG members briefed the competitors on their respective topic of expertise over a two-day workshop at the beginning of the Stage III design period. Subsequently, the TAG participated in two Mid-Course Reviews where the competitors were each given a half-day session to discuss issues and ask questions of them. The purpose of the reviews was to help ensure the most feasible design solutions possible while not infringing on the creative design process. Upon receipt of the design entries, the TAG met on August 13, 2010, to review the submittals. This report contains a summary technical review of the feasibility for implementation and areas of concern or benefit for each of the design entries.

Additionally, the National Park Service in consultation with the Missouri State Historic Preservation Office, the Missouri Preservation / National Trust for Historic Preservation, Metro East Park and Recreation District, the Bi-State Development Agency / Metro, and the Jefferson National Parks Association, met in St. Louis the week of August 16-20, 2010, to evaluate the competition entries. The assessment focused on the degree to which the designs support the Park Purpose and the Jefferson National Expansion Memorial General Management Plan and Record of Decision (2009), and preserve the integrity of the Gateway Arch National Historic Landmark. This report provides a summary of their findings.



The National Park Service and Consulting Parties began by reviewing background materials that frame the decision making of the National Park Service. From the Jefferson National Expansion Memorial General Management Plan and Record of Decision (2009), the working group pulled Park Purpose, long-term goals (as recorded in the management zones) and the agency's short-term goals for the design competition. The Jefferson National Expansion Memorial Cultural Landscape Report (2010) provided the template for assessing the essential character-defining features of the National Historic Landmark. The group then studied the Stage III Design Concepts (boards) and companion reports submitted by the design teams. The assessment that followed was undertaken topic by topic, with detailed notes recorded for each design submission. The topics addressed by the other agencies and other representatives of the TAG were not evaluated. In the case of historic preservation, the historic and cultural resources outside the boundaries of the Memorial were addressed by the TAG, and included, for the most part, Eads Bridge and the Old Cathedral. The analysis notes were refined and consolidated into a series of summary statements that focused on key issues pertaining to each of the designs.

The following summary report, organized by each of the five entrant submissions, documents both the TAG and NPS analysis. For the TAG, the summary statements are organized by topical area and focus on the level or risk or benefit inherent in the design proposals. The NPS summary statements are organized under four broad headings: resource stewardship and design integrity; programs and visitor services; connectivity/urban interface; and operations of the National Park Service, Jefferson National Parks Association, Bi-State Development Agency and MetroEast Park and Recreation District as they pertain to the Memorial. This report is intended to provide information to the jury for use in their evaluation of each of the competition designs regarding the evaluation criteria stated in the Competition Manual. The analysis is based on the boards and accompanying manuals for each entrant, as delivered to CityArchRiver 2015 Foundation (August 12, 2010), and does not incorporate any subsequent information that may be gleaned from the oral presentations and animated fly-throughs to be presented to the jury on August 26, 2010.



# WEISS MANFREDI TEAM

## FULL CIRCLE

### Technical Advisory Group Comments

#### Transportation and Trails

##### Memorial Drive/I-70

- Low risk, but would need a detailed traffic study to make sure city street grid and Memorial/I-70 work.
- Lid over I-70 would require review by Homeland Security.

##### Pedestrian/Bicycle Connections

- Closing of Memorial Drive between Market and Chestnut Streets provides an unobstructed pedestrian connection between the city and the park grounds.
- Provision of underground parking at Smith Square coupled with one block closure of Memorial Drive should minimize traffic and pedestrian conflicts.
- Acknowledgement of trail planning in the region and the necessary connections in many directions.
- Good discussion of the connections on the south side – from the Arch grounds into Chouteau’s Landing.
- Lack of information on connections to the North.

##### Poplar Street Pedestrian Bridge

- High risk due to engineering and cost.
- Extremely costly to hang (“clip on”) the pedestrian bridge off of Poplar Street bridge.
- It would require engineering evaluation to see if it is physically possible.

##### Under Poplar Street Bridge

- Would need air space agreements that would make highway maintenance and future new interchange modifications possible.
- Would require review by Homeland Security.
- Wetlands would have to be evaluated.

##### Multi-modal considerations include a shuttle bus

#### River and Levees

##### East St. Louis

- Usage of relief well flows is creative and probably doable. Metro East Sanitary District (MESD) would have to approve and maintain the system. It may be an issue during normal to low water periods.
- Ecosystem restoration and flood risk management by taking interior drainage and creating wetlands complements an existing USACE/County project.
- It is unclear whether structures are built into the river on the east side.

##### Water Taxis/Ferries

- Low to moderate risk for navigation and safety reasons, need permit.
- Will require Coast Guard inspection and certification.
- Passenger terminal may require inspection.
- Must be sufficiently structured and outfitted to operate safely on the Mississippi River.

##### West Bank Islands

- Moderate risk, will require permit.
- Concern that structures extend out into an already narrow channel, but should not extend any further into the river than current structures/moorings.
- The attractions appear to be unprotected from river hazards and would be susceptible to barge breakaways.
- Creates a major maintenance issue. When Leonor K. Sullivan Blvd. is flooded, the flow behind the island will enable significant debris build-up. Concept seems to underestimate the effect of ice and drift.
- Lack of detail on how the floating stage is secured and protected.
- Concept takes away mooring capacity along the riverfront in this area.

##### Poplar Street Pedestrian Bridge

- Moderate to high risk due to engineering and cost.
- Engineering report describes it as a “clip-on” bridge

using existing Poplar Street Bridge supports.

- Some concern regarding allisions and barge breakaways.
- Lighting on bridge should not impact navigational traffic.
- Structure needs to be of a height to not impede the navigation on the river.

#### City Urban Design

- Cutting entrance into the berm is a good measure to bring people in from downtown, but it is difficult to discern the height of the new western entrance in the Museum off Memorial Drive.
- Does not seem to be much consideration of impacts or opportunities beyond the competition boundary.
- Lack of information or explanation on connections to Laclede’s Landing. There seems to be little integration of the park grounds and the city at the North end.
- Alternative access to the river via the islands creates a new intimacy with the river; however, the potential canyon-like effect the islands may create on Leonor K. Sullivan Blvd. is of concern.

#### Non-Park Historic Preservation

- The height and shape of the new entrance to the museum and the retaining walls on either will have substantial impact on the view from the West.
- Structures for pedestrian and bicycle amenity built on the top deck of the Eads Bridge may impact the visual and structural integrity of the bridge.
- Changes to riverfront topography, addition of islands with pedestrian connection to park and window cut in the grand staircase would have significant impacts on the original design of the riverfront and visual impacts on the park from the east side.
- The Poplar Street Pedestrian Bridge would impact the view from the east.
- The new structures on the north node disrupt the symmetry of the North and South Overlooks when viewed from the east and impact the view to Eads Bridge and to the Arch from Eads Bridge.

- In consultation with IL SHPO, plan and implement procedures for protection, mitigation, and interpretation of extant archeological resources.

#### Accessibility

- Team seems to have paid considerable attention to accessibility.
- Creates a new accessible museum entrance.
- Good access to the river but not to Leonor K. Sullivan Blvd.
- Access into the Old Courthouse is addressed; but access to the top of the Arch and wayfinding not addressed.
- Because so much new construction is proposed on the east bank, one assumes accessibility there.
- Use of shuttle buses as suggested, depending on whether they are inside the park grounds, may solve significant accessibility issues; otherwise there are accessible pedestrian paths to the east bank, but entail traversing long distances.

#### East Bank

- Would need to make sure water moves so as not to exacerbate the mosquito problem.
- Amount of parking provided may not suffice for the proposed program.
- Not much connection to or programming for East St. Louis.
- It appears that the view to St. Louis may be blocked by the structure.



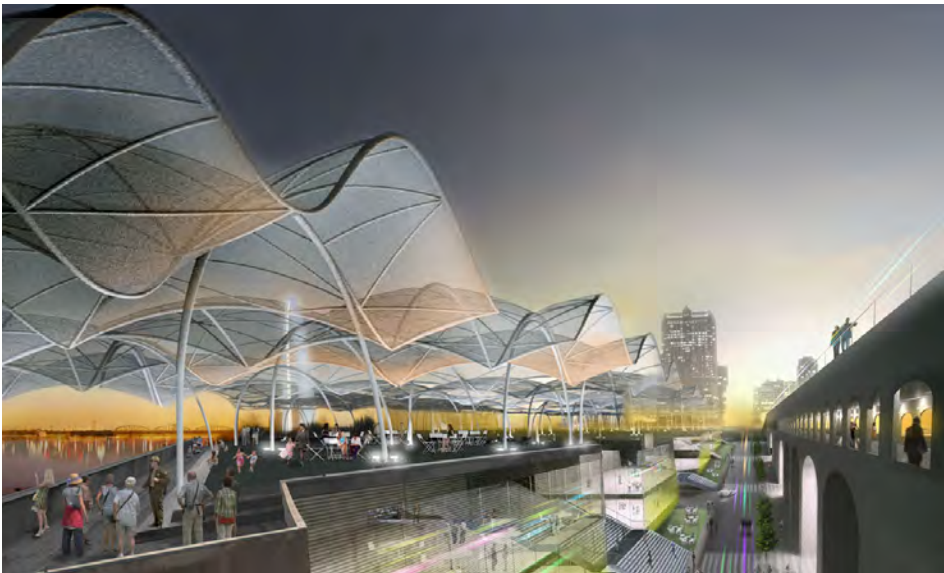


# WEISS MANFREDI TEAM

## FULL CIRCLE

### National Park Service and Consulting Partners Comments

Overall, this alternative supports Park Purpose in the center of the Memorial; however, the activities at the north and south ends of the Memorial generally detract from Park Purpose.



RESOURCE STEWARDSHIP AND DESIGN INTEGRITY	
Protection of historic and cultural resources of the Memorial and the National Historic Landmark	<p>This design would not meet the goal of protecting historic and cultural resources. The design would alter the original landscape most visibly in the central lawn because of the tall retaining walls along a sunken west entrance under the Arch, as well as along the riverfront with the addition of islands and the opening in the center of the Grand Staircase. These alterations would substantially alter character-defining views along the east-west axis between the Old Courthouse, the Arch, the riverfront, and East St. Louis. As such, the design would have a moderate to major negative impact on the integrity of the cultural landscape.</p> <p>There could be a major negative impact to archeological resources due to substantial excavation for underground parking in Luther Ely Smith Square; excavation for the expanded museum and new entrance; and major excavation for a system of landforms on the East St. Louis side.</p> <p>Collections facilities would be located in the expanded Museum. Primary concerns stem from light levels due to skylights. The proposed climate control is in conflict with National Park Service standards.</p>
Protection of natural resources of the Memorial	<p>This design could result in a minor reduction in traffic noise at the Memorial. There would be both positive and negative impacts to natural resources, and potentially, minor to moderate negative impacts to threatened and endangered species habitat.</p>
PROGRAMS + VISITOR SERVICES	
Increased opportunities, through programs and facilities, for the public to be more engaged with the primary themes and stories of the Memorial	<p>This design would result in a slight increase in opportunities for visitors to feel more engaged in the themes and stories of the Memorial, due to increased viewing opportunities of the Arch from different locations, a small increase in educational space, and addition of orientation at Kiener Plaza. Opportunities for visitor engagement would be increased at the expanded museum under the Arch, at the north end through the “cultural canopies” and modified parking garage, and at the south end through the addition of the “Park Steward Center.”</p>
Increased opportunities for the public to feel more welcomed to the Memorial with the provision of amenities and services that support a safe and enjoyable experience	<p>This design would increase connections, promoting a sense of welcome. Orientation would be moved to Kiener Plaza, outside the park boundary.</p>
CONNECTIVITY + URBAN INTERFACE	
Increased connectivity between the Old Courthouse and the Gateway Arch (including any combination of a single elevated deck, multiple bridges, and improved at-grade pedestrian crossings across Memorial Drive)	<p>This design would soften the division between city and park through addition of new plazas and connections across Memorial Drive.</p>
Increased and improved connectivity between the Memorial, downtown St. Louis, the riverfront, the adjacent commercial districts of Laclede’s and Chouteau’s Landings and the expanded Memorial in East St. Louis	<p>This design would provide good connectivity overall. New connections would be made at the north end, including pedestrian access to Eads Bridge and a large staircase access from Washington Avenue. Pedestrian access to East St. Louis is provided via Eads Bridge and a pedestrian bridge addition to the Poplar Street Bridge.</p>
OPERATIONS	
Operational efficiency and effectiveness for the Memorial’s operations in a sustainable manner	<p>This design would have a moderate to major negative impact on Memorial operations, due to maintenance, safety, and security issues, including the glass window in the Grand Staircase and museum skylights; visitor safety concerns at the mixed-use maintenance facility; lack of maintenance materials storage; and lack of vehicular access (service, emergency) to the created islands adjacent to the St. Louis levee. It is difficult to draw further conclusions due to incomplete information about the maintenance and operations functions in the southern area of the Memorial. This design notes that it would retain maintenance function at the south end, but it is unclear in the proposed design how this is accomplished.</p>



## MVVA TEAM FRAMING A MODERN MASTERPIECE

### Technical Advisory Group Comments

#### Transportation and Trails

##### Memorial Drive/I-70

- Low risk, but would need a detailed traffic study to make sure city street grid and Memorial/I-70 work.
- Lid over I-70 would require review by Homeland Security.
- Unclear how vehicle access to the Old Cathedral is handled.

##### City Streets

- Lack of engineering shown – difficult to assess impacts.
- Taking away Washington is okay, but accessing the north garage through Laclede's Landing is problematic.
- Widening Pine Street is a moderate risk. A study needs to be done to see if it is possible.

##### Pedestrian/Bicycle Connectivity

- Pedestrians must still cross heavy traffic on Memorial Drive.
- Garage placement under Luther Ely Smith Square draws more cars into the area without creating better pedestrian connections to the park grounds.
- The pedestrian connection from Washington into downtown is not addressed.
- No pedestrian or bike connection to the Eads Bridge or to the North Riverfront Trail is shown.
- There are serious concerns with the elimination of Washington Street and the probable routing of traffic through Laclede's Landing.

##### Pedestrian/Bike Path on Poplar Street Bridge

- Would be very costly.
- It would require engineering evaluation to see if it is physically possible.

##### Under Poplar Street Bridge

- Would need air space agreements that would make

highway maintenance and future new interchange modifications possible.

- Would require review by Homeland Security.
- Good connections under the overpass and into Chouteau's Landing and the connection to greenways.

#### River and Levees

##### Light Towers/River Gauges

- Low risk, will require 404 permit; unclear of the purpose.
- Will likely collect debris and ice.
- Lighting should not be bright enough to affect nighttime navigation for river traffic.
- Need to be engineered to withstand the rigors of the river (current, drift, ice).

##### Water Taxis/Ferries

- Low to moderate risk for navigation and safety reasons, need permit.
- Will require Coast Guard inspection and certification.
- Passenger terminal may require inspection.
- Must be sufficiently structured and outfitted to operate safely on the Mississippi River

##### Floating Pool and Café

- Low to moderate risk, will require permit for mooring.
- As with any publicly accessible structure extending into the river, it is susceptible to strikes from a loose barge or barge breakaway – will require/need evacuation and safety plan, etc.
- Need to address drift/debris and ice.
- Water turbines on the floating pavilions will require FERC licensing, which can be a lengthy permit process.

##### Pedestrian/Bike Path on Poplar Street Bridge

- Low to moderate risk.
- Cannot change vertical or horizontal bridge clearances for river traffic.
- Support structures will be susceptible to allisions,

particularly on the northbound side from southbound traffic - piers would need to be in line with the existing bridge.

##### West Riverfront

- Raised the grade of Leonor K. Sullivan Blvd.
- Constant maintenance issue from high water and resultant debris – similar to the existing condition.

#### City Urban Design

##### Connectivity into the City

- Cutting entrance into the berm is a good measure to bring people in from downtown.
- Kiener Plaza seems isolated in plan.
- Bringing the trees into the city provides pedestrian continuity.
- North end parking garage is gone, but it still doesn't seem porous to Laclede's Landing/North.
- Low-risk treatment of connection between the city and the Arch grounds.
- North gateway does not address Washington Street connection between city and Arch grounds.
- Pockets of activity do not seem to be connected.
- Closing access through Eads Bridge after park hours would limit connection to Laclede's Landing.

##### Riverfront

- River gauges help explain to people the seasonal dynamics of the Mississippi River.
- Entertainment construct at water seem too timid to meet needs/conditions.

##### Old Cathedral

- New plaza and structure that separates it from the parking will enhance the cathedral space – creates a nice visual separation from the parking and adds life and value to the space.
- Unclear how traffic is handled – if Memorial is one way, not sure how people will get to the space.

#### Non-Park Historic Preservation

- Fastening of the proposed gates at Laclede's Landing would impact the appearance and masonry structure of Eads Bridge.
- The glazed pavilions on the North & South Overlook would have some degree of visual impact on the park when viewed from Eads Bridge, the East side, or the Arch itself. The combination of the new western entrance to the Museum, the addition of the 2-story restaurant building at the Old Cathedral & the increased height of the maintenance structures on either side

would have a substantial impact on the view from the west.

- The introduction of the River Gauges is a potential adverse effect due to the introduction of a new design element highly visible from the East Bank.
- In consultation with IL SHPO, plan and implement procedures for protection, mitigation, and interpretation of extant archeological resources.

#### Accessibility

- Access is provided from the grounds to the river through elevators at the overlooks; however, it is a long distance to go from the museum to the overlooks and from the overlooks back to the center of activity at the bottom of the grand stairs, thus compromising accessibility.
- Access into and in the Old Courthouse, to the top of the Arch, to the East Bank, and wayfinding are not addressed.
- The new entrance can be accessible, but using the current points of public egress from underground as exits means the exits are not accessible.
- Pedestrians are not accommodated well from downtown.
- Pathways from the Arch to each overlook are depicted as partially inaccessible.
- Because so much new construction is proposed on the East Bank, one assumes accessibility there.

#### East Bank

- There is not enough parking shown for the proposed activities. Parking would also be needed for the pool and boat area.
- Scheme is dependent on the new Route 3. How you get there otherwise is unclear.
- An active rail line runs through the proposed program area. The assumption that the rail line would be vacated or relocated is high risk.





# MVVA TEAM FRAMING A MODERN MASTERPIECE

## National Park Service and Consulting Partners Comments

Overall, this alternative supports Park Purpose in the center of the Memorial. However, the activities at the northern and southern ends of the Memorial and the focus on aviary and wetlands in East St. Louis generally detract from Park Purpose.



RESOURCE STEWARDSHIP AND DESIGN INTEGRITY	
Protection of historic and cultural resources of the Memorial and the National Historic Landmark	<p>This design partially meets the goal of preserving historic and cultural resources. It would have a moderate negative impact on the integrity of the cultural landscape. While many aspects of this design appear to be compatible with the character of the historic landscape, the proposed buildings at the service areas and near the Old Cathedral could diminish the integrity of the National Historic Landmark. Proposed plantings throughout the grounds are not in keeping with the original intention of the Kiley landscape design due to their highly naturalized appearance and the expanded list of plant species. Views of the Gateway Arch from Memorial Drive are impeded by the proposed museum entrance and a large new building beside the Old Cathedral.</p> <p>There could be a major negative impact to archeological resources due to substantial excavation to construct underground parking in Luther Ely Smith Square and a new building near the Old Cathedral; excavation for the expanded museum and new entrance; and possible re-grading in East St. Louis to create a “reconstructed wetland” area.</p> <p>Collections facilities would be located in the existing museum space. Primary concerns stem from flooding concerns, poor circulation, light levels due to skylights, and pest control issues.</p>
Protection of natural resources of the Memorial	<p>This design could result in a moderate lessening of traffic noise on the Memorial. There would be both positive and negative impacts to natural resources and, potentially, minor negative impacts to threatened and endangered species habitat.</p>
PROGRAMS + VISITOR SERVICES	
Increased opportunities, through programs and facilities, for the public to be more engaged with the primary themes and stories of the Memorial	<p>There is a moderate increase in opportunities for visitors to feel more engaged in the themes and stories of the Memorial due to the provision of an area for flexible programming, two special exhibit spaces, many waysides extending Park themes to new locations throughout the grounds, increased opportunities for access to the ponds, and increased viewing opportunities of the Arch from different perspectives. However, the multiple recreational activities in this design do not relate to the park’s purpose, themes and stories. The playground and recreational activities, though focused at the north and south ends, are incompatible with park purpose and National Park Service policy.</p> <p>The design would meet heritage education and amenities goals for the Old Courthouse and expanded museum under the Arch. It would minimally meet the goals for East St. Louis: it would provide a green riverfront with a trail and water taxi, but most facilities are inland; there is no increased parking, and the Gateway Reserve provides a passive experience, primarily bird watching activities. This design would not meet long-term goals for visitor services. The wetland areas would not be compatible with park purpose.</p>
Increased opportunities for the public to feel more welcomed to the Memorial with the provision of amenities and services that support a safe and enjoyable experience	<p>This design provides many opportunities that could meet this goal but some are incompatible with the park purpose and National Park Service policy. Luther Ely Smith Square orientation and parking facility under the square would provide orientation. Proposed wayfinding at the north end is complex. The roundabout replacing Poplar Street would complicate wayfinding on the south side of the Memorial.</p>
CONNECTIVITY + URBAN INTERFACE	
Increased connectivity between the Old Courthouse and the Gateway Arch (including any combination of a single elevated deck, multiple bridges, and improved at-grade pedestrian crossings across Memorial Drive)	<p>This design would meet this goal in some respects, with plantings to soften the street edge and a partial deck placed over I-70, though Memorial Drive would remain open to traffic (3 lanes each way).</p>
Increased and improved connectivity between the Memorial, downtown St. Louis, the riverfront, the adjacent commercial districts of Laclede’s and Chouteau’s Landings and the expanded Memorial in East St. Louis	<p>This design would improve connectivity for pedestrians and bikes at the north and south ends, but reduce vehicular connectivity overall with the closure of Washington Avenue and Poplar Street. Gates would be added to the arches under Eads Bridge, removing vehicular access to Leonor K. Sullivan Boulevard from the north. In addition, moving the garage entrance closer to the river would result in diminished access due to frequent flooding.</p>
OPERATIONS	
Operational efficiency and effectiveness for the Memorial’s operations in a sustainable manner	<p>This design would have a moderate negative impact on Memorial operations due to increased dense vegetation and resulting visitor-wildlife interactions; the location of a the maintenance facility outside the floodwall; the security risk created by the elevator entrance in the train tunnel at the North Overlook; the addition of skylights that could cause maintenance, safety and security problems; rerouted access to ship-ping and receiving through Cathedral Square; and challenges to remote ticketing. In this design, the maintenance facility would be relocated off-site at Choteau's Landing.</p>



## BEHNISCH TEAM RIVER CIRCLE!

### Technical Advisory Group Comments

#### Transportation and Trails

##### Memorial Drive/I-70

- High risk, dramatic changes to I-70 and Memorial Drive will require Access Justification from FHWA.
- Access Justification will be difficult because there is not enough detail regarding closing the ramps and to where the traffic is diverted.
- Pilot program is a good idea but problematic with the FHWA Access Justification process.
- Lid looks pretty long – may be a tunnel. 3 block lid would likely be tunnel, which would be high cost for construction and ongoing maintenance and operations

##### City Streets

- How the city street grid accesses I-70 needs work. A detailed traffic study would be needed.
- Proposal doesn't show where changes east of Broadway connect.
- Lack of detail about transportation road scheme makes it difficult to analyze in terms of risk

##### Pedestrian/Bicycle Connectivity

- Strong emphasis on pedestrian access between the park grounds and the city.
- Proposed pedestrian bridges provide good access to existing downtown parking facilities.
- Proposal uses all on-street routes, of which there are none on the east side, and are not adding new off-street trails except along Leonor K. Sullivan Blvd.
- Access over the MacArthur Bridge is high risk because it is owned by the railroad.
- Eads Bridge connection is fine for pedestrians but not for cycling, based on event space focus and wood deck.

##### Under Poplar Street Bridge

- Would need air space agreements that would make highway maintenance and future new interchange modifications possible.
- Would require review by Homeland Security.

- Access under the highway ramps is not depicted and is an important element for the greenway system.

##### Illinois Route 3 is mentioned to be completed in the 3rd quarter of 2014, but is not shown in the drawings

##### River and Levees

##### Appears that all the floating structures aren't anticipated until after 2015 and will be "further evaluated at the next phase"

##### Water Taxis/Ferries

- Low to moderate risk for navigation and safety reasons, need permit.
- Will require Coast Guard inspection and certification.
- Passenger terminal may require inspection.
- Must be sufficiently structured and outfitted to operate safely on the Mississippi River.

##### Gondola

- Moderate risk, safety concerns.
- Although support structures are outside the channel, they are susceptible to ice, debris and allisions from loose or breakaway barges/vessels. Must remain above minimum height of bridges.
- Support structure would need to be engineered to withstand significant strike by vessel, ice, or debris. Structural protection cells may mitigate risk.
- Would want protection around the gondola structure. As currently depicted, it would be a single point failure if struck by a breakaway and there are things moored right below it.

##### Floating Stage

- Moderate risk, safety concerns.
- It is located just below Cargill, which "will remain operational". Occasional barge breakaways at Cargill could impact the stage.
- Structural protection cells may mitigate risk.

##### Levees and Fill

- East side riverfront seems to need a lot of fill material in the water, which will be a mid to high risk for permitting.
- Vegetation on the levee will be an O&M risk for the MESD and will be required to meet USACE requirements
- Next phase cuts and curves of the river will require 404 permits and will have to be evaluated for impacts to levee integrity. There would be concern for debris catch areas within those curves of the river edge.

##### Design on both sides of the river is indicated to deflect debris, but it appears it will be a catch basin

##### Activity appears to extend further into the river than the line of the currently moored barges

##### Need definition of "floating interventions"

##### City Urban Design

##### Connectivity into the City

- Transforming Chestnut into a pedestrian way provides a clear entry into the city and the Gateway Mall.
- Proposed Washington Street Plaza draws the city and Memorial Drive together on the northern end.
- Much attention was paid to the city frontage along Memorial Drive depicting a 24/7 concept.
- The pedestrian bridges over Memorial Drive create good connections into the city at numerous locations.
- Active programming in Kiener Plaza is good.
- Intense programming on the park grounds. Some may be more appropriate in city parks.

##### Riverfront

- Gondola is a strong visual statement on the skyline.
- Not enough detail provided on the River Balcony – multiple levels would provide interest along the river's edge.

##### Old Cathedral

- May slightly overwhelm the Old Cathedral.
- Access is maintained but parking is eliminated thus diminishing the Old Cathedral as an active Catholic parish.

##### Non-Park Historic Preservation

- Although little detail has been provided, the connection between Eads Bridge and the North Overlook appears to be high risk (and appears to involve non-ADA compliant stairs).
- Opening arches in Eads Bridge is VERY high risk as these have historically been blind arches and would require significant engineering.

- The view of the park from the west would be substantially impacted by the new entrance to the Museum at the very edge of lid over 70/Memorial Drive and the Reading Room and other kiosks scattered across the Park landscape.
- The view from East St. Louis would be negatively impacted by the amphitheater roof structure.
- As currently proposed, the gondola would have a major impact and is a visual intrusion from the Arch, Overlooks, and East St. Louis.
- Not enough detail is provided to assess the River Balcony, but it would impact the view from the East of the grand staircase, connection of park to the river, or other design elements.
- The proposed changes to the levee raise concerns about the impact of construction of the extant features on the historic levee.
- In consultation with IL SHPO, plan and implement procedures for protection, mitigation, and interpretation of extant archeological resources.

##### Accessibility

- Proposed pedestrian bridges require sufficient rise to cross traffic suggesting the possibility that slopes will be inaccessible.
- Assuming the gondola cars are accessible, the gondola is a good 12-month solution for access to the East Bank.
- Access appears to be provided from the grounds to the river through elevators at the overlooks; however, it is a long distance to go from the museum to the overlooks and from the overlooks back to the center of activity at the bottom of the grand stairs, thus compromising accessibility.
- New accessible museum entrance off Memorial Drive.
- Access into the Old Courthouse is addressed, but access in the Old Courthouse and to the top of the Arch is not addressed.
- There is a good discussion of accessibility on the East Bank.
- There is no information on wayfinding provided.
- Because so much new construction is proposed on the East Bank, one assumes accessibility there.

##### East Bank

- Increased parking in a positive way, but may not have enough parking for the amphitheater venue.
- Increased connectivity and access by creating a new connection through the casino parking lot and bringing people in behind Cargill.
- Positive connection from the Metro Link station to the park, but is high risk as shown because the land is owned by Terminal Railroad.





# BEHNISCH TEAM RIVER CIRCLE!

## National Park Service and Consulting Partners Comments

Overall, this alternative impedes and distracts from Park Purpose by redefining the masterpiece, and significantly deviates from the long-term goals for visitor experience. The design runs counter to Park Purpose, due to an over-emphasis on commercialization and programmed recreation.



RESOURCE STEWARDSHIP AND DESIGN INTEGRITY	
Protection of historic and cultural resources of the Memorial and the National Historic Landmark	<p>This design fails to meet this goal; National Historic Landmark landscape features are substantially modified and there would be a major negative impact on the integrity of the cultural landscape. The character of the Memorial landscape would be completely changed due to the overlay of an incompatible new layer composed of a complex, rectilinear patchwork of structures, paving and plantings and an intrusive network of additional programmatic facilities throughout the grounds. These cumulative changes are in contrast to Saarinen and Kiley’s design vocabulary and would cause the contemplative memorial character of the landscape to be lost. Underground areas and skylights would intrude into the original landscape under the Arch and along the central axis. A connection to the Eads bridge from the North Overlook would have a negative impact on the National Historic Landmark.</p> <p>There could be a major negative impact to archeological resources due to excavation for the construction of the new museum entrance and addition; excavation of a large canal and addition of new buildings on the East St. Louis side; and installation of numerous water features along Memorial Drive.</p> <p>Collections facilities would be located in the expanded Museum. Primary concerns stem from light levels due to skylights.</p>
Protection of natural resources of the Memorial	<p>This design could result in a minor reduction in traffic noise at the Memorial. There would be both positive and negative impacts to natural resources, and potentially, minor to moderate negative impacts to threatened and endangered species habitat.</p>
PROGRAMS + VISITOR SERVICES	
Increased opportunities, through programs and facilities, for the public to be more engaged with the primary themes and stories of the Memorial	<p>There would be a moderate increase in opportunities for visitors to feel more engaged in the themes and stories of the Memorial, due to increased opportunities for visitors to become oriented and view the Arch from different places, and increased opportunities for education through exterior and interior exhibits and programming in new venues. However, much of the planned programming for the music center, recreation center, and Great Rivers Resource Center in East St. Louis does not relate to park purpose.</p>
Increased opportunities for the public to feel more welcomed to the Memorial with the provision of amenities and services that support a safe and enjoyable experience	<p>This design would provide orientation at Luther Ely Smith Square with City Pavilion. It would also add substantial recreation and commercial activities on the Memorial grounds that are incompatible with park purpose.</p>
CONNECTIVITY + URBAN INTERFACE	
Increased connectivity between the Old Courthouse and the Gateway Arch (including any combination of a single elevated deck, multiple bridges, and improved at-grade pedestrian crossings across Memorial Drive)	<p>This design would meet this goal by ultimately removing Memorial Drive and introducing commercial activities adjacent to the Park, though bridges connecting the streetscape to the park would compromise the integrity of the historic landscape.</p>
Increased and improved connectivity between the Memorial, downtown St. Louis, the riverfront, the adjacent commercial districts of Laclede’s and Chouteau’s Landings and the expanded Memorial in East St. Louis	<p>Pedestrian overpasses would add good connectivity to downtown. Riverfront would have added beneficial connections. Washington Avenue would be removed, reducing connectivity. A bridge connection would be added from Eads Bridge to the North Overlook, improving connectivity, but resulting in a negative impact on the National Historic Landmark. There are added beneficial connections to Laclede’s Landing and some connection to Chouteau’s Landing. This design would close Eads Bridge to vehicular traffic in summer. In East St. Louis, trails along the riverfront would meet goals, though the stage canopy would not, as it would interrupt the view of the Memorial’s east-west axis.</p>
OPERATIONS	
Operational efficiency and effectiveness for the Memorial’s operations in a sustainable manner	<p>This design would have a major negative impact on Memorial operations, due to increased maintenance, safety and security issues from the cantilevered entrance and skylights, increased visitor-wildlife interactions due to increased dense vegetation, safety issues caused by varying surface materials, gondola maintenance, maintenance for the trails, islands, canals and floating amphitheater in East St. Louis, the lack of parking road access. Service and maintenance functions for the Memorial are retained, but are shared with the gondola facility, conflicting with visitor uses.</p>



## SOM TEAM RELAUNCH

### Technical Advisory Group Comments

#### Transportation and Trails

##### Memorial Drive/I-70

- Low risk, but would need a detailed traffic study to make sure city street grid and Memorial/I-70 work.
- Lid over I-70 would require review by Homeland Security.
- Buildings over I-70 would require safety and Homeland Security reviews.

##### City Streets

- Changing quite a few streets to 2-way, which can be done but needs to be studied.

##### Pedestrian/Bicycle Connectivity

- Creating structures at the ends of the I-70 cap creates a better pedestrian environment but pedestrians must still cross four lanes of traffic.
- Well defined additions to on-street bike routes and clearly defined loop connections for bicycling. Acknowledged the Arch grounds as a core connection to the Great Rivers Greenway system.
- Identifies the connections between Chouteau Greenway and the southern Arch grounds.
- Access over the MacArthur Bridge is high risk because it is owned by the railroad.
- Access on the north and south are mostly vehicular without much shown on pedestrian connections.

##### Under Poplar Street Bridge

- Would need air space agreements that would make highway maintenance and future new interchange modifications possible.
- Would require review by Homeland Security.

#### River and Levees

##### Water Taxis/Ferries

- Low to moderate risk for navigation and safety reasons, need permit.

- Will require Coast Guard inspection and certification.
- Passenger terminal may require inspection.
- Must be sufficiently structured and outfitted to operate safely on the Mississippi River.

##### Floating swimming pool

- Moderate risk, requires permit.
- Susceptible to loose barges and barge breakaways.
- As currently depicted, it lacks safety measures and considerations.

#### City Urban Design

##### Connectivity into the City

- Cutting entrance into the berm is a good measure to bring people in from downtown.
- Shows a conscientiousness of the Gateway Mall.
- Didn't heavily program the north end and provide good access north.
- Architecture features at each end of the I-70 lid defines the ends well, defines the space, and creates a place.
- Narrowed streets and widened sidewalks provide a better pedestrian environment in downtown.
- Propose to provide better access to memorial grounds from the city and Chouteau's Landing by primarily making roadway improvements, as opposed to enhancing the pedestrian environment.

##### Riverfront Promenade along the river provides for some options in and near the water

##### Non-Park Historic Preservation

- The structure at the South end of the flying carpet across 70 may have visual impacts on the Old Cathedral.
- Ferry terminals do not appear to block the view. Offset of the ferry terminals means boats will be viewed traversing the river in front of the Arch.
- All walkable green roofs will require railings not currently shown for code compliance which will interfere with viewsheds and create visual clutter.

- The creatively conceived Connector between north node of park and Eads Bridge will have a visual impact on the view of the bridge from within the park, from the bridge itself, from the levee & from the west & will require very creative engineering to avoid touching the bridge as specified in plan.
- The proposed lighting of the bridges also has potential visual impacts.
- The proposal introduces some significantly modern design elements such as the Whispering Leaves and the Magic Carpet. These elements are clearly the product of their own time and, while bold and modern, they do not significantly detract from the character of the historic features. While the concept of the Mound Park is an interesting one, there are concerns about such a feature creating a false sense of history.
- In consultation with IL SHPO, plan and implement procedures for protection, mitigation, and interpretation of extant archeological resources.

##### Accessibility

- Team seems to have paid considerable attention to accessibility.
- Provides accessible paths from the Arch grounds to the riverfront with substantial amounts of flat areas for rest along the path.
- Access into and within the Old Courthouse, to the River, to the East Bank, and about wayfinding were all addressed; access to the top of the Arch was not addressed.
- There is a new accessible museum entrance off Memorial Drive.
- Because so much new construction is proposed on the East Bank, one assumes accessibility there.

##### East Bank

- Very little parking given the program: parking provided for 300 but amphitheater seats 11,000.
- Weaved multiple types of people in the plan creating a regional attraction, economic development for East St.

Louis, and a tourist attraction.

- Relocating Trendley Avenue and recessing the parking preserves views to the Arch.
- Intent of sculpted mounds not clear.





# SOM TEAM RELAUNCH

## National Park Service and Consulting Partners Comments

Overall, this alternative supports Park Purpose. It is unclear how the Mound Park and its sculptures relate to Park Purpose.



RESOURCE STEWARDSHIP AND DESIGN INTEGRITY	
Protection of historic and cultural resources of the Memorial and the National Historic Landmark	<p>In this design, it appears that historic and cultural resources would generally be protected. This design would have minor to moderate negative impacts on the integrity of the cultural landscape. Most aspects of this design appear to be compatible with the character of the historic landscape, with the exception of new terraces and seating areas along new ramps and paths on the east side slopes and at the ponds. The details of the recommended treatment for access at the Old Courthouse may compromise its integrity. A connection to the Eads bridge from the North end of the Memorial would have a negative impact on the National Historic Landmark.</p> <p>There could be a moderate negative impact to potential archeological sites due to excavation for expanded museum and new entrance; limited excavation as part of re-grading in East St. Louis, expansion of underground facilities at north and south ends.</p> <p>Collections facilities would be located in new buildings at the south end. Primary concerns are light levels due to the amount of glass, the potential for flooding, and the need to move collections between storage areas at one end of the Memorial to exhibit spaces under the Arch and at the Old Courthouse.</p>
Protection of natural resources of the Memorial	<p>This design could result in a moderate lessening of traffic noise on the Memorial. There would be both positive and negative impacts to natural resources and, potentially, minor to moderate negative impacts to threatened and endangered species habitat.</p>
PROGRAMS + VISITOR SERVICES	
Increased opportunities, through programs and facilities, for the public to be more engaged with the primary themes and stories of the Memorial	<p>There would be a large increase in opportunities for visitors to feel more engaged in the themes and stories of the Memorial. This would be due to three new locations for orientation, increased viewing opportunities of the Arch from different perspectives, many new classroom and programming spaces, increased opportunities for access to the ponds, and a large increase in exhibit space at the Old Courthouse, under the Arch, and at the south end. The proposed farmer's market does not meet the park purpose or goals for visitor amenities.</p>
Increased opportunities for the public to feel more welcomed to the Memorial with the provision of amenities and services that support a safe and enjoyable experience	<p>This design would fully meet this goal by providing welcoming entrances on all sides of the Memorial grounds. The "magic carpet" provides visitor orientation on the Memorial Drive streetscape, and the "whispering leaves" in Luther Ely Smith Square provide intuitive wayfinding.</p>
CONNECTIVITY + URBAN INTERFACE	
Increased connectivity between the Old Courthouse and the Gateway Arch (including any combination of a single elevated deck, multiple bridges, and improved at-grade pedestrian crossings across Memorial Drive)	<p>This design would meet the goal by providing a lid over I-70, providing traffic calming, reducing speed, and removing a lane from Memorial Drive by 2015. Additional long-term road improvements beyond 2015 have been identified.</p>
Increased and improved connectivity between the Memorial, downtown St. Louis, the riverfront, the adjacent commercial districts of Laclede's and Chouteau's Landings and the expanded Memorial in East St. Louis	<p>This design would meet the goal by improving connectivity for bicycles and pedestrians to and from East St. Louis, Laclede's and Chouteau's Landings.</p>
OPERATIONS	
Operational efficiency and effectiveness for the Memorial's operations in a sustainable manner	<p>This design would have a slight negative impact on Memorial operations, due to a mixing of service and visitor use areas at the south end, access to multiple green roofs, and additional maintenance to the paths and vegetation around the ponds.</p>



## PWP TEAM REFRAMING THE ARCH

### Technical Advisory Group Comments

#### Transportation and Trails

##### Memorial Drive/I-70

- Moderate risk, proposed changes to I-70 ramps and Memorial Drive will require Access Justification from FHWA.
- Many changes are proposed, which are difficult to assess. A detailed traffic study will need to be done to show how the city street grid and Memorial/ I-70 work.
- Covering over I-70 is low risk as long as it is not a tunnel – would need to meet homeland security requirements
- South connection at the interstate, 4th and Broadway is discussed as a future connection, but must happen in order to close Memorial Drive as proposed.
- Reasoning for reversing the interstate ramps is not clear. It seems to exit traffic right at Washington Avenue and closes the well-used westward on ramp.
- Buildings over I-70 would require safety and Homeland Security reviews.

##### City Streets

- Changes west of Broadway, such as narrowing streets, are low risk and would help connect the city with Downtown.
- Parking under Luther Ely Smith and Kiener Plaza, while easing direct access to the park museum, draws additional traffic into the pedestrian zone.

##### Pedestrian/Bicycle Connectivity

- Good access to Eads Bridge and north riverfront connections are shown.
- No connections on the south side of the arch to Chouteau's Landing or off street connections to trail systems are shown.
- Reduced Memorial Drive to enhance pedestrian connection from the city.
- Focus is on bike routes, which are all on street, with

no depiction of off street trail/path connections; this limits the public's ability to walk or ride without concern of traffic.

**Illinois Route 3 is in diagrams, but not clearly defined on any drawings**

#### River and Levees

##### Water Taxis/Ferries

- Low to moderate risk for navigation and safety reasons, need permit.
- No specifics provided, difficult to comment or evaluate.
- Will require Coast Guard inspection and certification.
- Passenger terminal may require inspection.

**"Draw visitors and riverboat commerce to the waterfront."**

- Unable to assess this statement in their proposal because no details on developing waterfront for riverboats are provided.

#### City Urban Design

##### Connectivity into the City

- Extended their thoughts into the city. Attention was paid to how St. Louis emerged as a gateway city.
- Good discussion of land use.
- Pulled Gateway Mall further into overall scheme, connecting Citygarden and Kiener Plaza through to the Park with complementary design.
- Allee treatment in the downtown provides a sense of continuity of the park environment into the city.
- The new vista and viewshed from the Courthouse to the River is a positive connection of downtown and pedestrian connectivity.

##### Riverfront

- River's edge seems to be status quo. Lack of detail on riverfront solutions.

- Restore the train cuts slope as a blanket area brings people to the river – steepness may be questionable as a family area.

##### Old Cathedral

- Seems to diminish its role on the Memorial grounds.
- Eliminates parking, which diminishes the value of the old Cathedral as an active and vibrant Catholic parish. Important parish activities include daily mass and other short duration services. If you have to walk significant distances people will stop attending those services.

#### Non-Park Historic Preservation

- The lack of information re: proposed connection between Eads Bridge and the North Overlook makes it difficult to assess an element that is by definition very high risk because of its potential negative impact on the bridge's structure as well as its historic appearance.
- The South pavilion on the lid over I-70 tends to obscure view of the Old Cathedral.
- The introduction of a dense "prairie forest" will block much of the view from the West.
- In consultation with IL SHPO, plan and implement procedures for protection, mitigation, and interpretation of extant archeological resources.

#### Accessibility

- Seems to be two long ramps from the base of the Arch, but does not provide grade information. Ramps as long as these may be inaccessible for people with manual wheelchairs and walkers even if the slopes are less than 1:20. Slopes up to 1:12 would be impossible though permitted by the ADA.
- Appears to have a new accessible museum entrance off Memorial Drive.
- Difficult to assess due to lack of information. Access to the East Bank is addressed. Nothing is said about access into or within the Old Courthouse, to the top of the Arch, or about wayfinding.

- Because so much new construction is proposed on the East Bank, one assumes accessibility there.

#### East Bank

- Mound may resonate with historical precedents and creates a strong visual linkage across the river.
- More consideration of the effects of the Geyser is needed on the placement of buildings.
- Route 3 is not defined well and could compromise rear access to the plan and buildings.
- Elimination of current park features is problematic.
- Connectivity is questionable. Bicycle and pedestrian routes are shown, but with not much detail.
- Farming as a program may not work due to the condition of the soil as a prior industrial site.

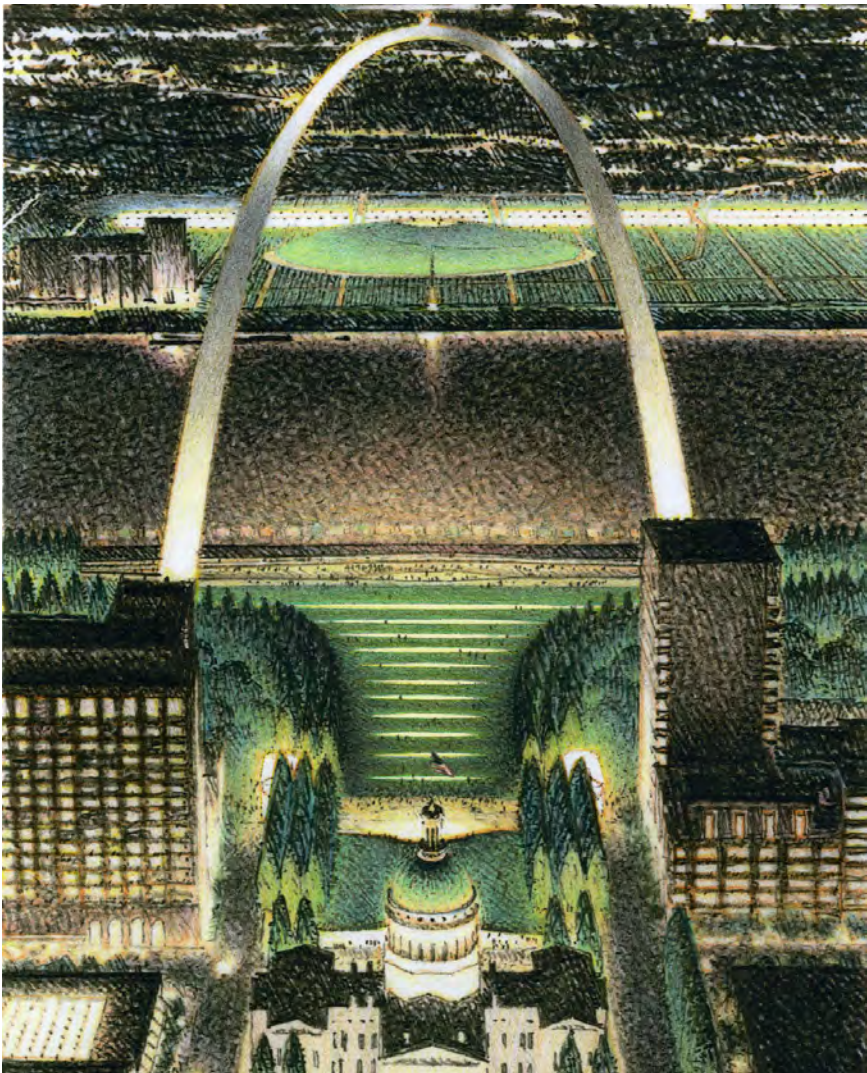


# PWP TEAM

## REFRAMING THE ARCH

### National Park Service and Consulting Partners Comments

Overall, this alternative moderately detracts from Park Purpose. By replacing the National Historic Landmark landscape with earlier—and never implemented—design components, the entry misinterprets the significance of the landscape.



RESOURCE STEWARDSHIP AND DESIGN INTEGRITY	
Protection of historic and cultural resources of the Memorial and the National Historic Landmark	<p>This design does not meet the goal of protecting historic and cultural resources or preserving the National Historic Landmark, and would have a major negative impact on the integrity of the cultural landscape. Although it is labeled as “restoration,” this approach is in direct conflict with National Park Service policies and standards regarding resource management. Proposed changes are widespread and would alter the landscape character substantially. A connection to the Eads bridge from the North Overlook would have a negative impact on the National Historic Landmark.</p> <p>There could be a major negative impact to potential archeological sites due to substantial re-grading at depths well below fill throughout the Memorial grounds to construct the garage under Luther Ely Smith Square and the two pavilions flanking the west entrance, as well as in East St. Louis.</p> <p>Collections facilities would be located in the expanded museum; issues include light levels due to skylights. New museums are proposed for the north and south ends, but the undeveloped designs do not provide detail.</p>
Protection of natural resources of the Memorial	<p>This design could result in a moderate lessening of traffic noise at the Memorial. There would be both positive and negative impacts to natural resources and, potentially, minor to moderate negative impacts to threatened and endangered species habitat.</p>
PROGRAMS + VISITOR SERVICES	
Increased opportunities, through programs and facilities, for the public to be more engaged with the primary themes and stories of the Memorial	<p>There would be a slight increase in opportunities for visitors to feel more engaged in the themes and stories of the Memorial, due to increased viewing opportunities of the Arch from different perspectives and increased opportunities for access to the ponds, and revised exhibits at the Old Courthouse. Many of the opportunities shown on the Memorial grounds duplicate exhibits or programs in the Museum. The design does not provide enough information to determine whether new opportunities would exist at the north and south ends of the Memorial, and the greenhouses and farm in East St. Louis do not relate to the themes and stories of the Memorial.</p>
Increased opportunities for the public to feel more welcomed to the Memorial with the provision of amenities and services that support a safe and enjoyable experience	<p>The design is incomplete and appears to only partially meet the goal. The goal appears to be mostly met on the west at Luther Ely Smith Square and on the north but not on the south side of the Memorial.</p>
CONNECTIVITY + URBAN INTERFACE	
Increased connectivity between the Old Courthouse and the Gateway Arch (including any combination of a single elevated deck, multiple bridges, and improved at-grade pedestrian crossings across Memorial Drive)	<p>This design meets this goal, through narrowed streets and increased planting on Memorial Drive and Chestnut and Market Streets.</p>
Increased and improved connectivity between the Memorial, downtown St. Louis, the riverfront, the adjacent commercial districts of Laclede’s and Chouteau’s Landings and the expanded Memorial in East St. Louis	<p>This design partially meets this goal. There is a connector to Eads Bridge, but limited connections are provided to the south. There is also a water taxi crossing the river East St. Louis, with connections inland to the viewing mound.</p>
OPERATIONS	
Operational efficiency and effectiveness for the Memorial’s operations in a sustainable manner	<p>This design would have a moderate negative impact on Memorial operations. This is due to the removal of delivery areas and roads, increased visitor-wildlife interactions due to increased dense vegetation, visitor safety issues due to irregular paving surface, and skylights that would cause maintenance, safety and security problems and increase cooling loads. It is difficult to understand how operations will be affected in the north and south areas of the Memorial are because they are undefined. It is also unclear where the maintenance facility will be replaced.</p>



## FRAMING A MODERN MASTERPIECE

THE CITY+THE ARCH+THE RIVER | 2015

### Technical Advisory Group

Advisory Council on Historic Preservation  
Bi-State Development Agency / Metro  
City of St. Louis Office of the Disabled  
City of St. Louis Planning and Urban Design Agency  
City of St. Louis Street Department  
East West Gateway Council of Governments  
Federal Highway Administration  
Great Rivers Greenway District  
Illinois Department of Transportation  
Illinois State Historic Preservation Office  
Jefferson National Expansion Memorial  
Metro East Park and Recreation District  
Missouri Department of Transportation  
Missouri State Historic Preservation Office  
National Trust for Historic Preservation  
National Park Service  
Port of St. Louis Harbor Master  
St. Louis Archdiocesan Building and Real Estate  
U.S. Army Corps of Engineers  
U.S. Coast Guard

### NPS + Consulting Partners

Bi-State Development Agency / Metro  
Jefferson National Parks Association  
Metro East Park and Recreation District  
Missouri State Historic Preservation Office  
Missouri Preservation / National Trust for Historic Preservation  
National Park Service