
Record of Decision

U.S. Route 40/61 Bridge over the Missouri River
St. Charles and St. Louis Counties, Missouri

Job No. J6P1436

(FHWA-MO-EIS-03-01-F)

11-5-04
Date of Approval


For FHWA

Division Administrator
Title

**Project I.D. J6P1436
U.S. Route 40/61 Bridge over the Missouri River
St. Charles and St. Louis Counties, Missouri**

RECORD OF DECISION

November 2004

DECISION

Following availability of the Final Environmental Impact Statement (Final EIS) for public and agency review and evaluation of public input, the Missouri Department of Transportation (MoDOT) selected Alternative A2' (the Preferred Alternative in the Final EIS) as the alternative to be carried forward into the design phase of the project (see attached aerial exhibit). The Selected Alternative is 2.1 miles (3.4 kilometers) in length and involves a new crossing of the Missouri River and rehabilitation of the existing bridges across the river. The Selected Alternative also includes connections to the proposed one-way collector-distributor road system along Route 40/61 in Chesterfield Valley. Truck traffic on mainline Route 40/61 does not utilize the existing westbound bridge under the Selected Alternative.

The basis for making Alternative A2' the selected alternative is its ability to meet the project's purpose and need while minimizing environmental and socioeconomic impacts. Alternative A2' addresses the following objectives better than the other alternatives considered.

- Increases operational efficiency (e.g. no lane splits, major diversions, or weaving less than 7,500 feet);
- Avoids impacts to a Section 4(f) resource [the existing westbound bridge is eligible for the National Register of Historic Places (NRHP)];
- Has public support; and
- Minimizes cost.

Alternative A2' (Selected Alternative) consists of a new four-lane bridge to be constructed approximately 85 feet (26 meters) upstream of the existing eastbound bridge to accommodate eastbound traffic; the conversion of the existing eastbound bridge to three lanes of westbound traffic; and lowering the number of westbound lanes on the existing westbound bridge from two to one. This lane serves as a collector-distributor lane between Chesterfield Valley and St. Charles County. The new bridge is approximately 3,370 feet (1,027 meters) long. The proposed new Missouri River Bridge and roadway typical sections consist of four 12-foot (3.6-meter) lanes with 10-foot (3-meter) shoulders (see attached aerial exhibit).

Alternative A2' (Selected Alternative) crosses the Katy Trail perpendicularly at the north end of the bridge. Chesterfield has a proposed hiking/bicycle trail south of the bridge in Chesterfield Valley. At this time, no dedicated bike lane is proposed on the existing westbound bridge. However, Alternative A2' (Selected Alternative) provides an opportunity for a connection between the Katy Trail and the proposed Chesterfield hike/bike trail via the existing westbound bridge. These provisions are consistent with 23 United States Code (USC) Section 217(e) which states that safe accommodation of bicycles shall be provided on a replacement bridge where bicycles are permitted to operate at each end of the bridge provided these accommodations can be provided at a reasonable cost. The facility will also comply with the Americans with Disabilities Act of 1990 as appropriate.

ALTERNATIVES CONSIDERED

Transportation Strategies Considered

Several transportation strategies were considered in order to meet the future transportation needs of the Route 40/61 bridges across the Missouri River. Specifically, the following transportation strategies were considered:

- No Action;
- Transportation System Management (TSM);
- Mass transit;
- Upgrading the current bridge structures and approaches; and
- New bridge construction and new approach roadways.

Under the No Action strategy, there would be no new major construction. Improvements would be limited to normal pavement maintenance. The No Action strategy fails to address the project Purpose and Need in that the No Action strategy would not:

- Improve geometric deficiencies by providing a river crossing with standard lane widths of 12 feet (3.6 meters) and adequate shoulders of 10 feet (3.0 meters);
- Address structural deficiencies of the existing, aging westbound bridge;
- Improve traffic flow by providing enough lanes across the river to accommodate the projected travel demands of the region over the next 30 years;
- Improve safety for motorists using the Route 40/61 bridges; and
- Provide system (interstate standard) continuity across the river.

Consequently, the No Action strategy was eliminated but was used as a baseline for comparing the other alternatives.

TSM actions were determined not to be a viable option because of the through-traffic (free-flow) nature of the existing road and bridge configurations. There are no intersections, signalization or other typical TSM elements in the study area. As a result, this strategy was not considered in detail as a reasonable solution and was subsequently eliminated.

The only component of Mass Transit in the study area is bus transit. An MTIA for the Daniel Boone Study Area, completed in July 2000 by Parsons Brinckerhoff Quade & Douglas, Inc., indicates that there are no plans for the extension of mass transit facilities along the Route 40/61 (I-64) corridor through the study area. Light rail transit is planned to stop at

Westport (I-270 and Page Avenue) and is not planned to run west of I-270. Due to the lack of long range plans to introducing mass transit into the study area, this strategy was eliminated from further consideration.

Upgrade of the Existing Facility was also evaluated. Both existing bridges were initially designed to carry two lanes of traffic. The westbound bridge was re-striped in December 2001 to provide three lanes of westbound traffic. Also in December 2001, the eastbound bridge was re-striped to provide four lanes of eastbound traffic. These new striping configurations have maximized the lane capacity of each bridge. This current, maximized condition fails to meet the objectives and identified needs (i.e., accidents and safety, congestion, and system continuity) presented in the project purpose and need. Therefore, improved bridge capacity can only result from a build alternative in order to add additional traffic lanes to the system. While rehabilitation of the existing bridges is part of the final strategy, upgrading the current structures was not given further consideration as a stand-alone solution, since additional traffic lanes cannot be added to the existing structures.

For this project, New Bridge Construction was considered viable for further study with the strategy of developing alternatives that meet the stated Purpose and Need with consideration of long-term cost effectiveness and potential environmental impacts and displacements.

New Bridge Construction Alternatives Considered

Alternative A1

Alternative A1 includes the construction of a new six-lane bridge on the upstream side of the existing eastbound bridge and the demolition of the existing westbound bridge (Figure 2-1 in the Final EIS). The new six-lane bridge carries four lanes of eastbound traffic and two lanes of westbound traffic separated by a concrete median barrier. The existing eastbound bridge converts to two westbound lanes.

Advantages include:

- Provides the maximum bridge system life expectancy
- Provides adequate shoulders for both directions of travel
- No impact on any architectural structures
- No negative impact on water resources
- No negative impact on existing wetlands
- No hazardous waste site impacts
- No negative impact on existing agricultural lands
- No negative impact on socioeconomic elements

Disadvantages include:

- Presence of lane splits/major diversions
- One weaving section of 4,500 to 7,500 ft (1,372 to 2,286 m)
- Need for advance signage of exits [greater than 7,500 ft (2,286 m)]
- Introduction of Route 94 traffic in weave areas
- Higher initial cost
- Potential impact on existing archaeological sites
- Potential section 4(f) impact with removal of westbound bridge
- Negative impact on forested land

Alternative A2

Alternative A2 includes the construction of a new four-lane bridge on the upstream side of the existing eastbound bridge and the continued use of both existing bridges as two-lane bridges (see Figure 2-2 in the Final EIS). The new four-lane bridge carries eastbound traffic only, while the existing two bridges each carry two lanes of westbound traffic.

Advantages include:

- Provides adequate shoulders for both directions of travel
- Lower initial cost through use of existing westbound bridge
- Does not negatively impact any architectural structures
- No Section 4(f) impacts
- No negative impact on water resources
- No negative impact on existing wetlands
- No hazardous waste site impacts
- No negative impact on existing agricultural lands
- No negative impact on socioeconomic elements

Disadvantages include:

- Presence of lane splits/major diversions
- One weaving section of 4,500 to 7,500 ft (1,372 to 2,286 m)
- Need for advance signage of exits [greater than 7,500 ft (1,372 m)]
- Introduction of Route 94 traffic in weave areas
- Utilizes the existing westbound bridge for mainline Route 40/61 traffic
- Shorter bridge system life expectancy
- Potential impact on existing archaeological sites
- Negative impact on forested land

Alternative A2' (Selected Alternative)

Alternative A2' is a variation of Alternative A2 in that this alternative increases the number of westbound lanes on the existing eastbound bridge from two to three and decreases the number of westbound lanes on the existing westbound bridge from two to one (see attached aerial exhibit). With this alternative, the existing westbound bridge only carries westbound traffic from the future westbound collector-distributor road proposed through Chesterfield Valley to St. Charles County.

Advantages include:

- No lane splits/major diversions
- No excessive advance exit signage required
- No weaving less than 7,500 ft (2,286 m)
- Provides adequate shoulders for both directions of travel
- Does not use the westbound bridge for mainline Route 40/61 traffic
- Lower initial cost
- No negative impact on any architectural structures
- No Section 4(f) impacts

- No negative impact on water resources
- No hazardous waste site impacts
- No negative impact on existing agricultural lands
- No negative impact on socioeconomic elements

Disadvantages include:

- Introduction of Route 94 traffic into weave area
- Shorter bridge system life expectancy by using the existing westbound bridge
- Potential impact on existing archaeological sites.
- Negative impact on forested land

Alternative B3

Alternative B3 includes the construction of a new six-lane bridge on the downstream side of the existing westbound bridge and demolition of the existing westbound bridge (Figure 2-3 in the Final EIS). The new six-lane bridge carries four lanes of westbound traffic and two lanes of eastbound traffic separated by a concrete median barrier. The existing eastbound bridge is then striped to only two eastbound lanes.

Advantages include:

- Provides adequate shoulders for both directions of travel
- Provides the maximum bridge system life expectancy
- No impact on any architectural structures
- No negative impact on water resources
- No hazardous waste site impacts
- No negative impact on existing agricultural lands
- No negative impact on socioeconomic elements

Disadvantages include:

- Presence of lane splits/major diversions
- Potential for major lane channelization in Chesterfield Valley
- Higher initial cost
- Increased demolition costs for removal of the existing westbound bridge
- Potential negative impact on existing archaeological sites
- Potential Section 4(f) impact with removal of the existing westbound bridge

Alternative B5

Alternative B5 includes the construction of a new four-lane bridge on the downstream side of the existing westbound bridge and the continued use of both existing bridges as two-lane bridges (Figure 2-5 in the Final EIS). The new four-lane bridge carries westbound traffic only, while the existing two bridges each carry two lanes of eastbound traffic.

Advantages include:

- Provides adequate shoulders for both directions of travel
- Lower initial cost
- No impact on any architectural structures

- No Section 4(f) impact
- No negative impact on water resources
- No hazardous waste site impacts
- No negative impact on existing agricultural lands

Disadvantages include:

- Presence of lane splits/major diversions
- Utilizes the existing westbound bridge for mainline Route 40/61 traffic
- Potential for major lane channelization in Chesterfield Valley
- Potential negative impact on existing archaeological sites

Impacts

The five reasonable build alternatives (Alternatives A1, A2, A2', B3, and B5) are not substantially different in terms of natural resources impacts (wetlands, floodplains, river crossing, and threatened or endangered species). The primary environmental impacts of Alternative A2' (Selected Alternative) include 7.2 acres (2.9 hectares) of floodplain impacts; two previously recorded archaeological sites that are not considered to be Section 4(f) resources, 1.5 acre (0.6 hectare) of the Weldon Spring Conservation Area managed by the Missouri Department of Conservation (MDC), and the potential temporary closure of the Katy Trail State Park for short periods of time during construction of the bridge. No wetlands or architectural resources are impacted. No residents or businesses are displaced. Listed threatened and endangered species within the vicinity of the project include the pallid sturgeon, bald eagle and Indiana bat, and are not anticipated to be adversely affected by the project. A detailed comparison of impacts between Alternatives A1, A2, A2', B3, and B5 can be found in the Final EIS and in Table 1 (below).

Table 1. Potential Environmental, Cultural, Social, and Economic Impacts (shaded column represents the Selected Alternative)

Criterion/Resource	Alternative				
	A1	A2	A2'	B3	B5
Costs (in millions; 2007 dollars)					
Construction	\$141.3	\$122.9	\$122.7	\$139.2	\$120.7
Right of Way	\$1.2	\$1.2	\$1.2	\$0.9	\$0.9
Miscellaneous	\$50.9	\$44.3	\$44.2	\$50.1	\$43.4
Total	\$193.4	\$168.4	\$168.2	\$190.3	\$165.1
Farmland, acres (hectares)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Displacements					
Residential	0	0	0	0	0
Commercial	0	0	0	1	1
Other	0	0	0	0	0
Right of Way, acres (hectares)	19.3 (7.8)	19.3 (7.8)	19.3 (7.8)	13.7 (5.5)	13.7 (5.5)
Environmental Justice	No Impact	No Impact	No Impact	No Impact	No Impact
Air Quality	Minor, short term	Minor, short term	Minor, short term	Minor, short term	Minor, short term
Noise	Short term, construction	Short term, construction	Short term, construction	Short term, construction	Short term, construction
Wetlands, #/acre (hectare)	0/0.0 (0.0)	0/0.0 (0.0)	0/0.0 (0.0)	1/0.28 (0.11)	1/0.28 (0.11)
Water Quality	No Impact	No Impact	No Impact	No Impact	No Impact
Missouri River Floodplain, ft crossed (m crossed)	4,100 (1,250)	4,100 (1,250)	4,100 (1,250)	4,100 (1,250)	4,100 (1,250)

Table 1. Potential Environmental, Cultural, Social, and Economic Impacts (shaded column represents the Selected Alternative)

Criterion/Resource	Alternative				
	A1	A2	A2'	B3	B5
Missouri River Floodplain, acres (hectares)	7.2 (2.9)	7.2 (2.9)	7.2 (2.9)	9.0 (3.6)	9.0 (3.6)
Wild/Scenic Rivers	No Impact	No Impact	No Impact	No Impact	No Impact
Permits Required?					
Section 401	Yes	Yes	Yes	Yes	Yes
Section 404	Yes	Yes	Yes	Yes	Yes
Section 9	Yes	Yes	Yes	Yes	Yes
Section 10	Yes	Yes	Yes	Yes	Yes
Floodplain	Yes	Yes	Yes	Yes	Yes
Threatened and Endangered Species	See below*	See below*	See below*	See below*	See below*
Geologic Features					
Caves	None	None	None	None	None
Sinkholes	None	None	None	None	None
Mines	None	None	None	None	None
Public Lands†	2 (non recreational)	2 (non recreational)	2 (non recreational)	None	None
Weldon Spring Conservation Area, acres (hectares)	1.5 (0.6)	1.5 (0.6)	1.5 (0.6)	0 (0)	0 (0)
Cultural Resources					
Architecture	None	None	None	None	None
Archaeology	2	2	2	1	1
Westbound Bridge (NRHP eligible)	Demolished	Retain	Retain‡	Demolished	Retain**
Hazardous Waste	1	1	1	1	1
Construction Impacts	Minor, short term	Minor, short term	Minor, short term	Minor, short term	Minor, short term

* All alternatives could involve the habitats of the Indiana bat, pallid sturgeon, and bald eagle.

† All alternatives span the Katy Trail in addition to the public land impacts listed above.

** Alternatives A2 and B5 require the use of the westbound bridge (historic) for mainline (future interstate) traffic, which could necessitate an earlier removal of the bridge due to wear and fatigue.

‡ Alternative A2' would use the existing bridge as a collector-distributor road only. The reduced traffic would extend the life of the bridge.

Source: MACTEC, 2003.

Selected Alternative A2' is considered to be the "environmentally preferable alternative" in accordance with Council on Environmental Quality Regulations [40 Code of Federal Regulations 1505.2(b)]. Natural resource impacts associated with Alternative A2' are relatively minor, and can be readily mitigated. In addition, Alternative A2' has relatively lower construction costs and retains the existing westbound bridge, which is eligible for the NRHP. Alternative A2' also removes mainline traffic from the existing westbound bridge, which helps to extend the life of this bridge. Alternative A2' received the most support at the public hearing, and was not opposed by state and federal review agencies based on their comments on the Draft EIS.

There will be no increases in base flood elevations attributable to the implementation of the proposed roadway improvements.

As indicated in Section 4.7 of the Final EIS, Alternative A2' (Selected Alternative) meets national and state air pollution attainment criteria. Based on the conformity analysis conducted

as part of the long-range plan development, the projects and programs included in the East-West Gateway Council of Government's long-range transportation plan (2002) (which includes the Route 40/61 bridge project over the Missouri River) are found to be in conformity with the requirements of the Clean Air Act Amendments of 1990 (CAAA), the relevant sections of the Final Conformity Rule 40 Code of Federal Regulation (CFR) Part 93, and the Missouri State Conformity Regulations 10 Code of State Regulations (CSR) 10-5.480. The finding is documented in a companion report, Air Quality Conformity Determination and Documentation. Therefore, the conformity procedures of 23 CFR 770 do not apply to this project.

A preliminary noise analysis was not performed because there are no noise receptors located adjacent to the existing roadway alignment.

MEASURES TO MINIMIZE HARM

All practical measures to minimize harm have been incorporated into the identification of the selected alternative. All such minimization measures that were considered in identification of the selected alternative will be incorporated into all appropriate construction specifications and contracts. There are no controversial or unresolved issues regarding mitigation aspects.

1. Traffic

A traffic management plan will be developed and implemented during the project's engineering phase to ensure reasonable traffic flow across the river during construction. To minimize delays to emergency vehicles, MoDOT will coordinate construction activities, sequencing, and traffic management plans with the local fire, police, and emergency rescue services.

2. Water Quality, Hydrology, and Hydraulics

MoDOT will comply with the provisions of the Missouri Department of Natural Resources (MDNR) storm water regulations found at 10 CSR 20-6.010 to protect water quality during highway construction. In accordance with the National Pollutant Discharge Elimination System (NPDES) requirements of the Clean Water Act, MoDOT also operates under the provisions of NPDES Permit No. MO-R 100007, a 5-year, general permit issued for road construction projects statewide. This permit limits the amount of pollutants that can leave a job site and requires the implementation of erosion controls (Appendix F of the Final EIS).

All construction activities will comply with the existing rules and regulations of governmental agencies having jurisdiction over streams and water supplies in the area. To prevent or minimize adverse impacts to streams, water courses, lakes, ponds, or other water impoundments within and adjacent to the project area, MoDOT's Pollution Prevention Plan will be implemented. This plan was approved by the MDNR on July 3, 1997, and is a component of MoDOT's stormwater permit issued by MDNR under the provisions of the NPDES. The plan was designed to reduce suspended solids, turbidity, and downstream sedimentation that may degrade water quality and adversely impact aquatic life. The plan provides for temporary erosion and sediment control measures that will be included within construction contract specifications.

3. Floodplain/Floodway

Current plans for the replacement bridge incorporate pier placement and span lengths that match the existing bridge; therefore, there should be no rise in either the regulatory floodway or the 100-year floodplain. During the design process, a detailed hydraulic analysis for the flows and water surface elevations will be made in accordance with the requirements of the Federal Emergency Management Agency and the U.S. Army Corps of Engineers to ensure the absence of any encroachments upon regulatory floodway as well as to avoid any adverse impacts.

4. Fish and Wildlife

Since project construction is not scheduled to begin for at least 10 years and designs for the project have not been completed, it cannot be determined now how the project may impact the bald eagle, Indiana bat, and the pallid sturgeon. Therefore, after completing the design phase of this project and prior to construction, MoDOT will reinitiate informal consultation with the U.S. Fish and Wildlife Service to discuss potential construction impacts to any threatened or endangered species and the best ways to minimize those impacts. Ideally, this consultation will occur 2 to 3 years prior to construction, allowing ample time to complete the consultation and implement any modifications needed to avoid or minimize impacts. If impacts to federally listed species cannot be avoided, FHWA and MoDOT will initiate formal consultation with the U.S. Fish and Wildlife Service.

5. Wetlands

MoDOT, in coordination with the USACE and other resource agencies, will compensate for any unanticipated permanent wetland losses by restoring, creating, and enhancing wetlands in a manner that will ensure no net loss of function or acreage as a result of this project. The compensatory mitigation site will be held in public ownership, or in an ownership arrangement suitable to both the USACE and MDNR (if Memorandum of Understanding between MoDOT and MDNR, Management of Wetland Mitigation Lands Agreement, or a similar agreement is in force at time of the Section 404 permit authorization), and in a manner consistent with Section 4 of Executive Order 11990.

6. Historical and Archaeological Resources

A project-specific Programmatic Agreement (PA) between the FHWA and the Missouri State Historic Preservation Officer has been developed to comply with Section 106 of the National Historic Preservation Act (Appendix F of the Final EIS). The PA provides for an archaeological survey of Alternative A2' (Selected Alternative), evaluation of any sites that may be present, and provides a framework for mitigation of impacts to any National Register Historic Places eligible resources that cannot be avoided.

7. Katy Trail State Park

Any temporary impacts to the Katy Trail are anticipated to only include activities related to constructing a bridge over the trail, such as access and egress across the trail and along the trail to facilitate ease of construction. Mitigating measures will include detouring trail users by providing a temporary alternate route in close proximity to the existing trail around the construction area (if practicable), timing trail closures to occur during periods of off-peak use, and using public outreach to provide advance notification of extended trail closure dates and times (if those become necessary), as well as appropriate informational signing on the trail itself and at nearby trailheads.

Further coordination with MDNR will result in an intergovernmental agency agreement between MoDOT and MDNR that addresses project construction over the Katy Trail and details mitigation measures to be followed to minimize any disruptions in use of the trail.

8. Hazardous Waste Sites

Any unknown sites that are found during project construction will be handled in accordance with federal and state laws and regulations.

MONITORING OR ENFORCEMENT PROGRAM

Permits and related approvals required in subsequent project phases are identified in Final EIS Section 4—Environmental Consequences. The proposed improvement will require a U.S. Coast Guard Section 9 Bridge Permit, a USACE Section 10 permit, a floodplain development permit from the State of Missouri Emergency Management Agency, and a Department of the Army Section 404 permit, issued contingent on water quality certification under Section 401 of the Clean Water Act. During the design phase, MoDOT will apply for the permits needed to construct Alternative A2' (Selected Alternative).

The project team coordinated with the MDNR during the alternatives development and refinement phase. The Alternative A2' (Selected Alternative) would affect archaeological site 23SC89 and may affect site 23SC219. A project-specific PA between the FHWA and the Missouri State Historic Preservation Office has been developed to comply with Section 106 of the National Historic Preservation Act (Appendix F of the Final EIS). The PA provides for an archaeological survey of Alternative A2' (Selected Alternative), evaluation of any sites that may be present, and provides a framework for mitigation of impacts to any NRHP eligible resources that cannot be avoided.

MoDOT and MDNR developed a construction water pollution control program to protect the environment from sedimentation and construction material pollutants discharged from construction activities. These procedures and specifications would be used for highway construction, and MoDOT is committed to ensuring that the highway contractor follows best management practices. This agreement satisfies the requirements for a NPDES permit, Section 402 of the federal Clean Water Act and the Missouri Clean Water Act.

COMMENTS ON FINAL EIS

Comments on the Final EIS were received from the MDC and Office of the County Executive for St. Charles County. The comments on the Final EIS are summarized below.

MDC

Resolution of comments received by MDC (letter dated October 4, 2004).

During the design and construction phases, MDC requests that the following issues be considered through the USACE Section 10 and 404 permitting process:

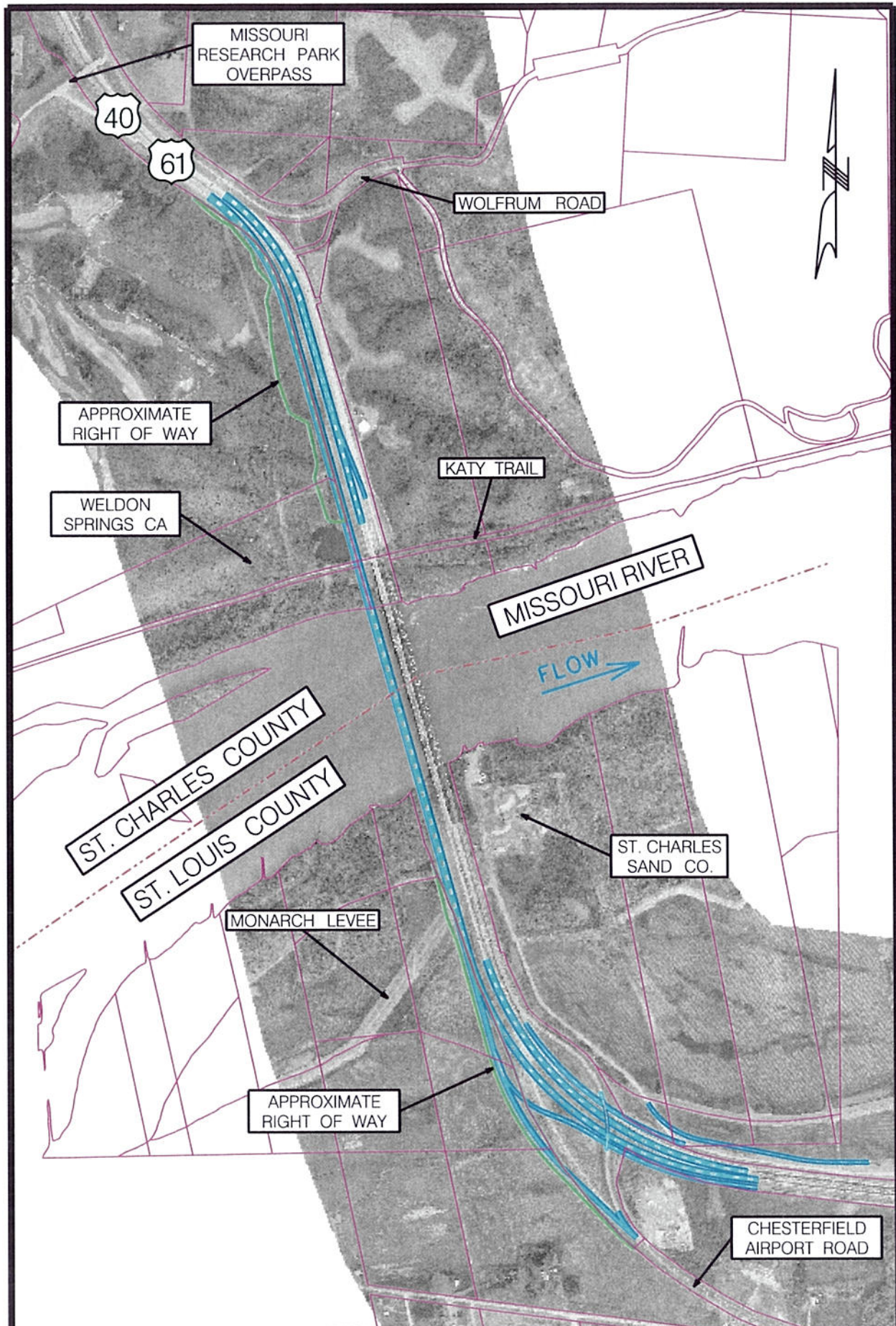
- Species and communities of conservation – threatened and endangered species concerns, cumulative impacts;
- Habitat/sandbar on left bank as depicted in the cover photo of the Final EIS;
- Scouring potential, shallow water habitat potential behind wing dams; and
- Pier placement – best management practices to reduce impacts.

Although the construction of the Alternative A2' (Selected Alternative) should not adversely affect species and communities of conservation, the habitat/sandbar on the left bank or the shallow water habitat potential behind the wing dams, MoDOT will consider these issues throughout the design and construction phases to the practical extent. MoDOT's Best Management Practices will be used throughout the construction of the entire project, which includes the pier placement.

Office of the County Executive for St. Charles County

Office of the County Executive, St. Charles County, (letter dated September 27, 2004)

The Office of the County Executive, St. Charles County, supports the project and Alternative A2' (Selected Alternative).



Job No. J6P1436
SCALE: 1" = 1200'

Alternative A2'