

## **Chapter IV**

# **Overview of Environmental Consequences and List of Commitments**

## **A. Overview of Environmental Consequences**

### **1. Land Use and Social and Economic Effects**

Section of Independent Utility 3 is located in a predominantly rural rolling landscape within central Missouri. Accordingly, the environmental setting of the project area is largely characterized by a gently rolling terrain west of the Missouri River that is dissected by valleys of tributaries of the Petite Saline Creek. Land use in the rural areas is predominantly agricultural with scattered residential and agricultural based development. In contrast, residential and commercial development characterizes Route 5 and Route BB in Boonville.

Proposed improvements to I-70 would result in 10 residential displacements and 25 commercial displacements. Agricultural lands would be the greatest affected land use type (474 acres, 192 hectares).

### **2. Parkland and Wildlife Refuges**

Section 4(f) of the U.S. Department of Transportation Act of 1966, as codified and amended, has afforded publicly owned parkland protection from being converted to uses other than park and recreation. The Katy Trail State Park is the only 4(f) land potentially affected by the proposed project. Interstate-70 crosses the Katy Trail along the Missouri River at the base of the Manitou Bluffs and is crossed by the Katy Trail just west of the Route 5 interchange in Boonville.

Proposed improvements to I-70 within SIU 3 would result in 1.1 acres (0.4 hectare) of direct impact to the Katy Trail at the western crossing.

Other public lands within the project area include the Overton Bottoms Conservation Area and the Big Muddy National Fish and Wildlife Refuge (Big Muddy Refuge). Both of these lands are immediately adjacent to I-70 in the Overton Bottoms. Improvements to I-70 would be made within a 300-foot (91.4-meter) reserved corridor within these lands resulting in approximately 15 acres (6.0 hectares) of impact for either the North Missouri River Alternative or South Missouri River Alternative. Consequently, no adverse impacts to either of these lands will occur.

Taylor's Landing is a public access facility located within the Big Muddy Refuge. It is owned and operated by the Missouri Department of Conservation and is located upstream of the existing I-70 bridge. No impact to the landing is expected with either a north or south alignment of future improvements to I-70.

With the reconstruction of existing interchanges, there will be the opportunity to provide increased trails plus bicycle and pedestrian infrastructure. Additionally, these areas could provide the opportunity for community initiated enhancement features.

### **3. Prime Farmland**

The proposed reconstruction and widening of I-70 would result in impacts to prime farmland due to farmland conversion along the new required right of way. It is estimated that approximately 80.0 acres (32.4 hectares) of farmland would be directly impacted along the length of the corridor in SIU 3. Additionally, approximately 20.7 acres (8.4 hectares) of Conservation Reserve Program designated lands would be affected by the improvement. No Wetland Reserve Program lands will be impacted.

### **4. Air Quality**

With the improved mobility and the access management policy implemented as part of the ultimately reconstructed I-70 corridor, this project is not anticipated to cause a violation of the National Ambient Air Quality Standards. Improvement to the mainline facility coupled with reduced congestion at the interchange intersections will provide for better localized air quality as compared to the No-Build Alternative.

### **5. Terrestrial Communities**

It is estimated that approximately 230 acres (93.2 hectares) of forest land would be directly impacted along the length of the corridor. Impacts to wildlife associated with these habitats would also occur in conjunction with loss of habitat and, in some cases, increased fragmentation of riparian corridors.

### **6. Wetlands and Waters of the United States**

There is the potential for the proposed reconstruction and widening of the I-70 Corridor to contribute to impacts to wetlands and other waters of the United States. During the construction phase, activities that impact these sites through sedimentation, changes in the nature of stream hydraulics or clearing of vegetation in riparian habitat are likely to have impacts on wetland functions and values of downstream or downslope waters of the United States, including wetlands. It is estimated that approximately 12.1 acres (4.9 hectares) of jurisdictional wetlands and ponds would be directly impacted within SIU 3. It should be noted, however, that there would be wetland mitigation planned within the corridor to ensure, at a minimum, no net loss of wetlands as a resource.

The Missouri River floodplain is the primary floodplain resource. Other smaller floodplains occur in association with tributaries of the Petite Saline Creek. In total, approximately 71.8 acres (29.0 hectares) of floodplain would be impacted by the project.

The Missouri River is the primary jurisdictional riverine resource within the SIU 3 project area. Smaller tributaries of the Petite Saline Creek (west of the Missouri River) and of Moniteau Creek east of the Missouri River) would also be crossed by the project. In total, 18,779 feet (5,724 meters) of jurisdictional stream would be impacted by the improvement.

## 7. Executive Order Findings

### a. Only Practicable Alternative Wetland Finding

Implementation of the proposed action will result in the loss of approximately 12.14 acres (4.91 hectares) of jurisdictional wetlands. The evaluation of these losses is contained in Chapter III of the DEA. In accordance with Executive Order 11990, avoidance and minimization of wetland impacts have been considered during project development and design adjustments made where feasible. Because of geometric design considerations associated with widening of the existing highway, there are no practicable alternatives to the wetland impacts shown. A permit required by Section 404 of the Clean Water Act will be obtained from the U.S. Army Corps of Engineers prior to construction and wetland replacement will be provided for through this permit process. Based on these considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and the proposed action includes all measures to minimize harm to wetlands which may result from such use.

### b. Only Practicable Alternative Floodplain Finding

Impacts to floodplains have been predicted. Because of geometric design considerations associated with widening of the existing highway, there are no practicable alternatives to the floodplain impacts shown. In accordance with Executive Order 11988 and 23 CFR 650, Subpart A, avoidance and minimization of floodplain impacts have been considered during project development and design adjustments made where feasible. The proposed action will conform to all applicable State and local floodplain protection standards. A hydraulic design study that addresses various structure size alternatives will be completed during the preliminary design phase.

## 8. Threatened and Endangered Species

According to agency information, federally listed threatened and endangered species potentially occurring within the corridor include the pallid sturgeon (threatened), gray bat (endangered), and Indiana bat (endangered). These species are either directly found within the Missouri River (pallid sturgeon) or the surrounding bluffs. Other state-listed species noted by Missouri Department of Conservation as occurring within the Missouri River include the sicklefin chub, sturgeon chub, ghost shiner and plains killifish. While these species occur in the project vicinity, the improvements to I-70 will not have an impact on them.

The information of record identified buffalo grass (*Buchloe dactyloides*, state listed as S1, critically imperiled) as being potentially present within the general area of the rest area along eastbound I-70 between Route B and Route 87, and would be impacted by the southern alternative. Field studies conducted indicate that the population at the eastbound rest area is likely to have been extirpated as no population of buffalo grass was observed.

## 9. Noise

Localized noise impacts to residential receptors would occur with the proposed project. A total of 11 noise sensitive receptors were determined to have projected noise levels at or above the Noise Abatement Criteria in the design year.

## 10. Cultural Resources

The data in the information of record does not identify National Register of Historic Places (NRHP) listed archaeological sites within the study area. Any archaeological impacts resulting from a northern or southern alternative are likely to be similar in overall magnitude although locations may vary. A detailed archaeological investigation has been conducted for the recommended preferred alternative and has identified four sites that have the potential for intact subsurface deposits.

An architectural investigation of all standing structures and bridges within the area of potential effect resulted in the identification of one structure (a barn) near the interchange of Route 5 which was determined to be eligible for NRHP listing. Additionally, the existing I-70 bridge over the Missouri River was also considered to be potentially eligible for NRHP listing. (Note: As an element of the interstate system, the bridge will be subject to an eligibility review by the FHWA by June 30, 2006 due to the new Section 106 interstate exemption of the Advisory Council on Historic Preservation.) The barn at the Route 5 interchange will not be impacted by the project. By comparison, the I-70 bridge will be part of the future roadway system, but will not be altered by the project. Consequently, there will be no adverse effect on these structures.

The Moses U. Payne house is the only NRHP listed property in the vicinity of SIU 3. The site, however, is located outside the area of potential effect south of the Rocheport interchange and will, therefore, not be affected.

No cemeteries will be impacted by the proposed improvements to I-70 in SIU 3.

## B. List of Commitments

During the course of the Second Tier Studies, the Missouri Department of Transportation (MoDOT) has agreed to the following commitments and future actions during the design and construction phases of future improvements in the Section of Independent Utility 3 corridor. The agreed upon commitments and future actions include:

- For the Missouri River bridge, future design and location of bridge piers will be coordinated with the U.S. Fish and Wildlife Service, Missouri Department of Conservation, U.S. Coast Guard, and U.S. Army Corps of Engineers during the design phase to consider seasonal patterns of pallid sturgeon habitat use, avoid potential habitat and enhance existing habitat.
- The Federal Highway Administration and MoDOT will temporarily detour the Katy Trail during construction. The trail currently crosses I-70 approximately at mile marker 100. The detour will consist of re-routing the trail just north of I-70 west of Old Highway 40. It will run approximately 3,400 feet (1,036 meters) along Old Highway 40 to Dunkles Drive. There it will turn left and cross I-70 via Dunkles Drive and continue to the south

approximately 1,900 feet (579 meters) to Prairie Lick Road. From there it will run southwesterly approximately 1,500 feet (457 meters) along Prairie Lick Road at which point it will intersect with the trail again.

- Although approximately 1.08 acres (0.44 hectare) of the Katy Trail State Park will be required near mile marker 100, the Federal Highway Administration and MoDOT will compensate for the loss by replacing the existing crossing with a bridge that extends over a wider median and the proposed additional lanes. Compensation for impacts to this area of the park will be determined through coordination with the Missouri Department of Natural Resources (MDNR) and may include an acre for acre acquisition of lands to be dedicated to the Katy Trail State Park.
- The Federal Highway Administration (FHWA) and MoDOT will consult with MDNR regarding the design of the new crossing at mile marker 100. Coordination will ensure that vertical and horizontal clearances for the crossing will be established and maintained according to the National Trails System Act, MDNR and MoDOT guidelines. Consideration will be given to the use of the existing bridge or its architectural design elements as a part of the crossing during the design phase.
- Regarding the crossing at mile marker 100, the FHWA and MoDOT will provide advance notification of extended trail detour dates and times to the public as well as appropriate information signing on the trail and at nearby trailheads. Additional signage will also be provided to warn motorists of the presence of bicyclists and pedestrians on the detour route.
- Consideration will be given to identification of a bike lane on the detour route.
- The Federal Highway Administration and MoDOT will provide advance notice and signing on the trail and at nearby trailheads for the crossing at mile marker 114, should this crossing require a temporary closure. (Any closure at this location is anticipated to be of short duration, several hours or less.) Either a roofed structure over the trail or a safety net could be installed to protect the trail users and minimize temporary closures.
- If practicable, FHWA and MoDOT will time trail closures and detour (mile marker 100) to occur during periods of off-peak use.
- Further coordination between the FHWA, MoDOT and MDNR will result in an intergovernmental agency agreement that addresses project coordination about the Katy Trail and will detail mitigation measures to be followed to minimize any disruptions in use of the trail.
- Compensation for impacts to Overton Bottoms Conservation Area may include the acquisition of adjacent lands and their subsequent title transfer to the Missouri Department of Conservation. Additionally, compensation for impacts may include the dedication of funds for habitat enhancements (i.e., wetland establishment and tree planting) and ecosystem restoration.
- The Missouri Department of Transportation will comply with the appropriate currently adopted design criteria and design standards.
- The Missouri Department of Transportation will incorporate suitable and reasonable Intelligent Transportation Systems elements into the Improve I-70 program.
- The Missouri Department of Transportation will consult with emergency responder agencies involved in traffic incident management on I-70 in future design and maintenance of traffic plan development as the Improve I-70 program progresses.

- The Missouri Department of Transportation will construct frontage roads for the purposes of maintaining existing local service connections and maintaining existing access to adjacent properties, where warranted. The frontage roads as proposed in the Frontage Road Master Plan may be constructed in the future as needs arise and as funding becomes available. Where reasonably possible, any eight-foot (2.4 meters) paved shoulder along new frontage road construction could serve as a one-way bicycle facility.
- The Missouri Department of Transportation will develop a maintenance of traffic plan for the construction phases. Through traffic will be maintained along I-70 and at access points to the interstate from cross roads. It is likely that some interchange ramps and cross roads will be closed and temporary detours required. Construction schedules, road closures and detours will be coordinated with police forces and emergency services to reduce impact to response times of these agencies.
- The Missouri Department of Transportation will coordinate with project area businesses regarding access issues, via direct communication throughout the construction period.
- The Missouri Department of Transportation will coordinate with local public service and utility service providers during the final design phase of the project and during the construction period to minimize infrastructure relocation, modifications and connectivity requirements.
- During right of way acquisition and relocations, MoDOT will assure that this will be accomplished in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. MoDOT is committed to examining ways to further minimize property impacts throughout the corridor, without compromising the safety of the proposed facility, during subsequent design phases.
- During construction, MoDOT's standard specifications, MDNR Solid Waste Management Program, and MoDOT's Sediment and Erosion Control Program will all be followed.
- Through MoDOT's approved Pollution Prevention Plan for the National Pollutant Discharge Elimination System, the control of water pollution will be accomplished. The plan specifies berms, slope drains, ditch checks, sediment basins, silt fences, rapid seeding and mulching and other erosion control devices or methods as needed. In addition, all construction and project activities will comply with all conditions of appropriate U.S. Army Corps of Engineers and MDNR permits and certifications.
- The Missouri Department of Transportation has special provisions for construction which require that all contractors comply with all applicable local, state, and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. Construction equipment is required to have mufflers installed in accordance with the equipment manufacturers' specifications.
- The Missouri Department of Transportation is committed to minimize lighting impacts. Efficient lighting and equipment will be installed, where appropriate, to optimize the use of light on the road surface while minimizing stray light intruding on adjacent properties.
- To minimize impacts associated with construction, pollution control measures outlined in the MoDOT Standard Specifications for Highway Construction will be used. These measures pertain to air, noise and water pollution as well as traffic control and safety measures.
- The Missouri Department of Transportation will review the Natural Heritage Database and coordinate with the U.S. Fish and Wildlife Service periodically during the project

development process to identify any new locations of threatened and endangered bat activity and for new locations of the running buffalo clover.

- Landscaping in the right of way will include native plant species and other enhancements in accordance with the statewide I-70 Corridor Enhancement Plan to the maximum extent possible. In accordance with MoDOT standards, new seed mixes, mulch and plant materials will be free of invasive weedy species to the extent possible. Where appropriate, MoDOT will partner with the Missouri Department of Conservation Grow Native program and implement the establishment of native vegetation along highway rights of way.
- The Missouri Department of Transportation has developed a Conceptual Wetland Mitigation Plan to compensate for wetland impacts, and appropriate mitigation will be adhered to in accord with the plan. Further coordination with the U.S. Army Corps of Engineers will occur during detailed design to comply with Section 404 of the Clean Water Act.
- The Missouri Department of Transportation will continue to coordinate with the State Historic Preservation Office and comply with the existing executed Programmatic Agreement that complies with the National Historic Preservation Act.
- When trees are removed, MoDOT will implement the tree replacement policy and plant two trees for every tree removed that has a diameter greater than six inches at breast height.
- Where feasible, MoDOT's design process will minimize impacts to floodplains.
- Mitigation efforts to prevent the rise in flood elevation of each of the water bodies affected will be employed in an effort to obtain a No-Rise Certification permit from the State Emergency Management Agency.