

## **FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

### **REPLACEMENT OF US 60 BRIDGE IN PADUCAH OVER TENNESSEE RIVER MILE 5.7 MCCRACKEN AND LIVINGSTON COUNTIES, KENTUCKY**

#### **Purpose and Need**

The Federal Highway Administration (FHWA) and Kentucky Transportation Cabinet (KTC) propose to improve access and safety on the bridge and around US 60, US 62, US 68, and KY 131 junctions in Paducah, Livingston and McCracken Counties, Kentucky. The bridge and its approaches have numerous access points, a high accident rate, and increasing traffic volume. The project would promote improved inter-county linkage, increase safety and level of service, reduce congestion, correct design deficiencies, improve access and emergency response time, and add capacity for projected future demand. The project also involves removal of the historic George Rogers Clark Memorial (US 60) Bridge, which has become substandard and construction of a new 4-lane through-truss concrete bridge over the Tennessee River at mile (TRM) 5.7. This new bridge would be located about 2,000 feet upstream and east of the old bridge. It would require one (pier #7) of the 16 concrete piers to be located in the river. This pier would be located 380 feet from the left bank and outside the boundaries of the maintained navigation channel.

As a requirement for the project, the U.S. Army Corps of Engineers (USACE), Nashville District would have to issue a permit under Section 404 of the Clean Water Act for the permanent placement a bridge support pier in the Tennessee River and fill in adjacent wetland areas. Since this pier and bridge over the Tennessee River would involve construction of an obstruction and placement of fill in the river floodplain, approval would also be required from the Tennessee Valley Authority (TVA) under Section 26a of the TVA Act. The U.S. Coast Guard is considering a bridge permit for the project.

FHWA and KTC prepared an environmental assessment (EA) and Finding of No Significant Impact (FONSI) to consider the impacts of this bridge and highway improvement proposal. The FHWA/KTC EA and FONSI were completed on August 15, 2003. To consider effects of issuance of its permit approval following application for permits, USACE prepared the attached supplemental environmental assessment (SEA). USACE completed its SEA and FONSI on April 15, 2005. The USACE SEA considered the final KTC wetland mitigation plan and took into account the likely requirements of the U.S. Fish and Wildlife Service (USFWS) incidental take statement (ITS). TVA has independently reviewed the FHWA/KTC EA and USACE SEA, concurs with the scope of analysis and conclusions of anticipated effects in these earlier assessments, and included additional relevant analysis.

#### **Alternatives**

In its final EA, FHWA and KTC considered six alternatives including five "Build" (Alternatives A, B, C, I, and J) and a "No-build" alternative. Under the No-build Alternative, regular maintenance and spot improvements would continue, but because it

would not fulfill the purpose and need for the project, the No-build Alternative was rejected.

Alternatives A, B, C, and J would all contain various configurations for rerouting and improving portions of US 60, US 62/US 68 and KY 131 to meet the project safety and capacity objectives. These alternatives would have varying degrees of indirect impacts from noise generation and direct impacts on wetlands, the Tennessee River floodplain, historic properties (e.g., Ashcraft House under Alternatives B and C), and businesses and residences. These alternatives would require mitigation to minimize impacts to federally listed mussels and the historic old bridge. Project costs were estimated to vary from \$65.2 million under Alternative A to \$57.2 million under Alternative J. Public sentiments varied across these alternatives. Under Alternative I, the Selected Alternative, KTC would construct a new 4-lane bridge over the Tennessee River at TRM 5.7, about 2,000 feet upstream of the existing George Rogers Clark Memorial (US 60) Bridge. This planned project would improve safety, reduce costs (i.e., least expensive at \$56.7 million), and relieve congestion. It would also minimize the number of business and residential relocations and complement the proposed Ledbetter Bypass project. The old bridge would be removed.

### **Affected Environment and Impacts**

The project is designed to construct a new bridge and approaches on US 60 over the Tennessee River (at mile 5.7) from the US 60/US 62 intersection in McCracken County to the existing US 60 East in Livingston County. US 60 is a 2-lane roadway with 10-foot lanes, shoulders that vary from 1 to 8 feet, and 4-foot wide ditches. It generally provides access to Paducah, at the mouth of the Tennessee River at its confluence with the Ohio River, and to the Lewisport, KY area, along the Ohio River in Hancock County. This area, in the vicinity of Paducah and Reidland, KY, also contains low-lying relatively flat Tennessee River floodplain land characterized by forested wetland and large, previously wet agricultural fields and smaller scattered bottomland and upland hardwood stands and woodlots. Larger blocks of bottomland hardwood occur in the vicinity of the Ledbetter community. Commercial, business, and scattered rural residential developments occur along US 60 and many of its connecting arteries. Many terrestrial wildlife species common to the area and generally abundant in the region occur in the vicinity of the highway improvement project. The project would result in the loss of 3.23 acres of wetlands at 4 sites. Removal of the George Rogers Clark Memorial (US 60) Bridge would result in an adverse affect to the bridge under definitions in the implementing regulations for Section 106 of the National Historic Preservation Act (NHPA). The new US 60 bridge would cross the near riverine Tennessee River tailwater below TVA's Kentucky Dam, a portion of which is designated as a mussel sanctuary (below the dam at TRM 22.4 downstream to TRM 17.8) by the Kentucky Department of Fish and Wildlife Resources. Surveys have found numerous species of common mussels and six species of federally listed mussels are believed to occur in the river from Kentucky Dam to the mouth of the Ohio River.

FHWA and KTC preliminary review and evaluation of the proposed project determined that impacts on common environmental resources or natural features would be minor and insignificant. The project would result in an increased capacity and traffic volumes and, other than temporarily during construction, noise levels would not significantly increase within this urbanizing environment. No air or land emissions of pollutants,

hazardous waste or waste requiring special handling and disposal, or significant negative social or socioeconomic impacts are anticipated. Business and residential relocations would be minimized. A low steel vertical clearance of 85 feet above the normal river pool elevation (302-foot mean sea level (msl)) would be a primary design feature. The single pier (#7) in the river would be located outside the boundaries of the maintained navigation channel. Maintained river bottom is at elevation 270 msl. The 20-foot diameter oval, shaft concrete river pier would be constructed atop a 112-foot by 97-foot concrete footing located at an existing clay layer of the river bottom at elevation 231 msl or 43 feet below the bottom of the river. Final US 60 bridge designs would ensure that backwater elevation would not be encroached upon beyond the current 100-year floodplain limit. Accordingly, the project would be consistent with Executive Order 11988 (Floodplain Management). There would be minor and temporary river and water quality impacts from increased sediment loads from construction. Under the Selected Alternative (Alternative I), including removal of the existing bridge consistent with the terms and conditions of a FHWA/KTC and Kentucky State Historic Preservation Officer (KY SHPO) Memorandum of Agreement, anticipated impacts on historic properties would be mitigated and local flooding and floodplain values would not be significantly affected.

Roadway approaches and construction access to the new bridge involves construction of culverts across small tributary streams and the filling of a total of 3.23 acres of wetlands at 4 sites. These wetlands are characterized as wooded sloughs (see attached USACE SEA). KTC would compensate for the loss of this wetland acreage through the restoration to forested wetland of approximately 42 acres of prior converted wetland (crop land) in McCracken County adjacent to the USFWS's Clarks River National Wildlife Refuge. The Nature Conservancy (NC), acting on behalf of KTC, would purchase this compensatory wetland mitigation property (Nesler Tract), KTC would fund restoration of it, and then the NC would transfer the property to the USFWS. To memorialize this wetland mitigation strategy, FHWA, KTC, and USFWS executed Memorandum of Agreement #M-05009805, detailing the final plans. For this road improvement project, KTC would be allowed to debit 6.46 acres of mitigation credits against the site at a 2:1 ratio and the remaining credits would be debited as needed and approved by appropriate regulatory agencies for future KTC construction within this region.

A Phase II archaeological investigation conducted in 2003 revealed no sites eligible for the National Register of Historic Places (NRHP) in the area proposed to be affected by the new bridge and road improvement activities. However, FHWA and KTC, in consultation with the SHPO and Advisory Council on Historic Preservation, determined that replacement of the existing George Rogers Clark Memorial (US 60) Bridge would have an adverse effect on the bridge itself, a property eligible for inclusion in the NRHP. Because the project would adversely impact historic properties, the KY SHPO, KTC, and FHWA finalized a Memorandum of Agreement (MOA) under Section 106 of the NHPA on August 12, 2003. The MOA specifies measures to mitigate these adverse impacts including the conduct of additional archaeological investigation at the historic bridge site during removal activities. By letter from TVA to FHWA, dated September 19, 2005, TVA requested that FHWA act as lead federal agency for purposes of compliance with Section 106 of the NHPA. TVA concurs with stipulations in the MOA and its measures outlined to offset the public value of the loss of this structure (see the MOA in the

attached FHWA/KTC EA). In its response, also dated September 19, 2005, FHWA accepted lead agency designation for fulfillment of the collective federal responsibilities under Section 106 of the NHPA (see the TVA letter and FHWA response attached to this FONSI). This also fulfills TVA's obligations under the act.

This reach of the Tennessee River is inhabited by numerous species of common and abundant, native mussels. Although past surveys have not detected their presence, six species of federally listed mussels, fat pocketbook (*Potamilus capax*), orangefoot pimpleback (*Plethobasus copperianus*), pink mucket (*Lampsilis abrupta*), ring pink (*Obovaria retusa*), clubshell (*Pleurobema clava*), and fanshell (*Cyprogenia stegaria*), could occur in the impact area of this roadway and bridge replacement project. Also, Indiana bat (*Myotis sodalis*) and bald eagle (*Haliaeetus leucocephalus*) are known from the vicinity of the project site. FHWA submitted a revised Biological Assessment (BA) for the project to the USFWS, dated January 21, 2005. In its Biological Opinion (BO), dated June 30, 2005, the USFWS concurred that the project would have "no effect" on bald eagle and "would not likely adversely affect" Indiana bat. However, because of their life history characteristics, it is likely that the six species of listed mussels would be affected by construction of Pier #7 and #8, other river bottom disturbance, mooring of the construction barge, and construction of an access road in a variety of ways.

Because of modifications to the proposed action that would involve construction of two additional on-shore piers (piers 6 and 9), USFWS issued a supplement to its BO on August 15, 2005. These modifications would also involve construction of additional access road to pier 6 on the McCracken County side of the river, blasting during construction of pier 7, and possible use of nearby fleeting areas rather than construction barge mooring. If so, use of existing authorized fleeting facilities, where effects on listed mussels has been evaluated, could be more efficient and reduce the amount of river bank and bottom disturbance. Construction of piers 6 and 9 is not expected to affect the six listed mussel species. Through terms and conditions incorporated in the BO, Supplemental BO, and the ITS, USFWS will require that FHWA comply with a number of reasonable and prudent measures designed to minimize the impact of the incidental take that might otherwise result from the proposed action. These measures include minimizing and avoiding effects of bridge and pier construction such as erosion and sediment control, coordination and conduct of regular meetings and other forms of communications, daily monitoring; dredging, transport, and disposal of spoil material, and regular site inspections. All mussels found, including common native species, will also be located and removed (salvaged) from the 3.3-acre footprint of the proposed in-river pier (#7) and construction barge mooring area and relocated to a designated reintroduction site. Some species will require hand-placement into their new environs with their posterior end protruding slightly from the bottom substrate. The FHWA BA and USFWS's June 30, 2005 BO are attached to the FHWA/KTC EA. An August 31, 2005 TVA consultation letter, the USFWS response, and the USFWS August 15, 2005 supplement to its BO are attached to this FONSI.

Since TVA would issue a federal permit and was not formally identified as a party to the BO and ITS, upon request, USFWS provided a separate letter dated September 12, 2005, recognizing TVA's involvement and fulfillment of its compliance responsibility under the Endangered Species Act. If implemented in accordance with measures

included in this BO, TVA believes that impacts of the project on aquatic endangered species and biodiversity would be inconsequential and insignificant.

### **Public Review**

KTC held a public hearing on the project on August 28, 2001, at the Reidland High School; 263 people attended, including KTC staff, and 17 written comments were submitted regarding a variety of concerns. These concerns included affects of the project on businesses, private property, changes in traffic volume and patterns, impacts on navigation, and existing infrastructure. Three people were opposed to the project. KTC analysis of comments received from the public and government and non-government organization revealed sufficient justification to warrant moving forward with the Selected Alternative (Alternative I) based on overall public benefits to be derived (see attached FHWA/KTC EA).

On February 25, 2005, USACE issued Joint Public Notice (PN) No. 05-08 to advertise the proposed work. The PN was also distributed to a wide list of interested parties. In response to the PN, four comments were received. Of the two private individuals commenting, one supported the project and asked that it be initiated as soon as possible. KTC explained to the other concerned citizen that her private property, that she planned to develop, would not be affected. By telephone call on April 14, 2005, the USFWS indicated that its BO had been completed and concurred with the KTC biological assessment. By letter dated March 28, 2005, Kentucky Department of Environmental Protection called USACE's attention to the need for KTC to comply with applicable air and water quality regulations. These resource issues are adequately addressed in the FHWA/KTC EA and USACE SEA. KY SHPO did not respond; however, KTC, FHWA, and KY SHPO had previously become official parties to an MOA to mitigate project impacts on the George Rogers Clark Memorial (US 60) Bridge (see Affected Environment and Impacts above and the attached USACE SEA). The Commonwealth of Kentucky Division of Water (KDW) issued its conditional water quality certification (WQC) for the proposed work on April 8, 2005, indicating that applicable water quality standards would not be violated (see Appendix D of the USACE SEA).

### **Mitigation**

TVA's Section 26a approval is contingent upon successful implementation of Best Management Practices for erosion and sediment control including TVA General Conditions 1, 9, and 10, and Standard Conditions 3c, and 6a, 6c through 6i. Also, in accordance with permit conditions included in the attached USACE SEA, disturbance to riparian vegetation shall be kept to a minimum during construction, and appropriate sediment control shall be utilized to protect water quality and aquatic organisms.

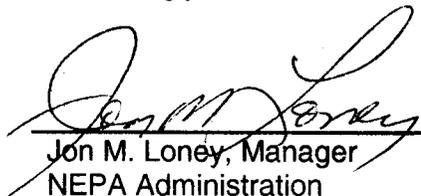
FHWA and KTC will abide by the terms and conditions of the wetland mitigation strategy set forth in Memorandum of Agreement #M-05009805. This includes allowing KTC to debit 6.46 acres of mitigation credits for impacts of this road improvement project. No work shall commence in the 3.23 acres of wetlands to be impacted until USACE approves this wetland mitigation memorandum of agreement (see the attached USACE SEA). FHWA, in consultation with the KTC and KY SHPO, also developed mitigation measures to compensate for demolition impacts to George Rogers Clark Memorial (US 60) Bridge. These measures, incorporated in the MOA, stipulate how impacts to this eligible historic property will be mitigated. Pursuant to 36 CFR Part 800, a final MOA

was executed between FHWA, KTC, and the KY SHPO. The FHWA signed the MOA on August 12, 2003. As a federal action agency, by letter from FHWA to TVA, dated September 19, 2005, FHWA acknowledged its lead federal agency status for this undertaking while acting on TVA's behalf during consultation and development of the project MOA. FHWA will be responsible for enforcement of stipulations included in the MOA.

FHWA and KTC will abide by the implementing terms and conditions of the USFWS BO and ITS, including all reasonable and prudent measures designed to minimize the impact of incidental take that might otherwise result from the proposed road improvements. These measures include minimizing and avoiding effects of bridge and pier construction as well as avoiding or minimizing take of individual listed mussels. USFWS provided a separate letter dated September 12, 2005, recognizing TVA's involvement, concluding that no further consultation is necessary at this time, and that TVA's obligations under Section 7 of the Endangered Species Act have been fulfilled. FHWA and KTC will also strictly adhere to all the conditions of the KDW WQC issued on April 8, 2005, for the proposed work.

### Conclusion and Findings

TVA has independently reviewed the FHWA/KTC EA and found it to be adequate. Furthermore, TVA has reviewed the USACE SEA which provides additional supporting information and analysis not available at the time of completion of the FHWA EA. TVA has decided to adopt these environmental documents. Along with the USFWS BO, they are attached to this FONSI and incorporated by reference. Based on TVA's review of these documents, TVA has concluded that the impacts on the environment have been adequately addressed and necessary mitigation has been incorporated into this decision. With mitigation mentioned above, the project would be consistent with Executive Orders 11990 (Protection of Wetlands). With implementation of measures included in the June 30, 2005, USFWS BO, and August 15, 2005 supplement, impacts on federally listed mussels would be minimized or avoided. Furthermore, based on the FHWA, KTC, and KY SHPO MOA, TVA concurs that impacts of the removal of the historic George Rogers Clark Memorial (US 60) would be adequately mitigated. TVA, therefore, concludes that approval of the proposed US 60 highway improvement project would not be a major federal action significantly affecting the quality of the environment. Accordingly, an environmental impact statement is not required.

  
\_\_\_\_\_  
Jon M. Loney, Manager  
NEPA Administration  
Environmental Policy and Planning  
Tennessee Valley Authority

  
\_\_\_\_\_  
Date Signed