



# Louisville-Southern Indiana Ohio River Bridges Project

## RECORD OF DECISION

*Prepared by the*  
Federal Highway Administration

*In Consultation With:*

Indiana Department of Transportation  
Kentucky Transportation Cabinet

**September 2003**

**Louisville – Southern Indiana  
Ohio River Bridges Project  
RECORD OF DECISION**

**Federal Highway Administration**

**In Consultation with:**

**Indiana Department of Transportation  
Kentucky Transportation Cabinet**

**September 2003**

## TABLE OF CONTENTS

<b>1. DECISION .....</b>	<b>1</b>
<b>2. ALTERNATIVES CONSIDERED .....</b>	<b>3</b>
2.1 Purpose and Need.....	3
2.2 EIS Alternatives.....	3
2.2.1 No-Action Alternative.....	4
2.2.2 Transportation Management Alternative.....	4
2.2.3 Existing System Improvements/Kennedy Interchange Reconstruction.....	5
2.2.4 One Bridge/Highway and Two Bridges/Highway Alternatives.....	6
2.3 Identification of Selected Alternative.....	9
2.3.1 Selection of Two Bridges/Highway Alternative.....	9
2.3.2 Selection of Individual Elements of a Two-Bridges/Highway Alternative.....	14
2.3.3 Environmentally Preferable Alternative.....	18
2.4 Costs.....	18
<b>3. SECTION 4(F) .....</b>	<b>20</b>
3.1 Swartz Farm Rural Historic District – Indiana.....	21
3.2 Old Jeffersonville Historic District – Indiana.....	22
3.3 George Rogers Clark Memorial Bridge – Indiana/Kentucky.....	23
3.4 Greenway Corridor [Includes Riverfront Park and Ashland Park] – Indiana.....	24
3.5 Waterfront Park [Phase I and Phase II] – Kentucky.....	24
3.6 Phoenix Hill Historic District – Kentucky.....	26
3.7 Butchertown Historic District – Kentucky.....	26
3.8 Extreme Sports Complex – Kentucky.....	27
3.9 Drumanard Estate Historic District.....	28
3.10 Coordination.....	29
3.11 Conclusion.....	30
<b>4. MEASURES TO MINIMIZE HARM .....</b>	<b>31</b>
4.1 Mitigation Commitments.....	31
4.1.1 Context Sensitive Solutions.....	31
4.1.2 Endangered Species.....	31
4.1.3 Erosion Control.....	32
4.1.4 Air Pollution.....	33
4.1.5 Noise.....	34
4.1.6 Construction Blasting.....	35
4.1.7 Woody Revegetation.....	35
4.1.8 Water Pollution.....	36
4.1.9 Wetlands.....	38
4.1.10 Park Resources.....	39
4.1.11 Traffic Control.....	39
4.1.12 Tunnel Design, Construction, and Operation.....	40
4.1.13 Historical and Archaeological Resources.....	40
4.2 Avoidance Commitments.....	42

4.3	Project Enhancements.....	43
4.3.1	Kennedy Interchange: East Louisville Downtown Area Planning .....	43
4.3.2	Downtown/West Louisville Access Planning.....	44
4.3.3	Minority Historic Rehabilitation Craftsman Training Program.....	44
4.3.4	Rehabilitation of Trolley Barn Buildings in West Louisville.....	44
4.3.5	Clark County Planning.....	45
<b>5.</b>	<b>MONITORING OR ENFORCEMENT PROGRAM .....</b>	<b>46</b>
<b>6.</b>	<b>SUMMARY OF COMMENTS ON FINAL ENVIRONMENTAL IMPACT STATEMENT/SECTION 4(F) EVALUATION.....</b>	<b>48</b>
6.1.	Comments on the Final Environmental Impact Statement/Section 4(f) Evaluation.....	48
6.2	Updates to Historic Preservation Issues Resulting from FEIS Comments.....	53
<b>7.</b>	<b>RECORD OF DECISION.....</b>	<b>55</b>

**ATTACHMENTS:**

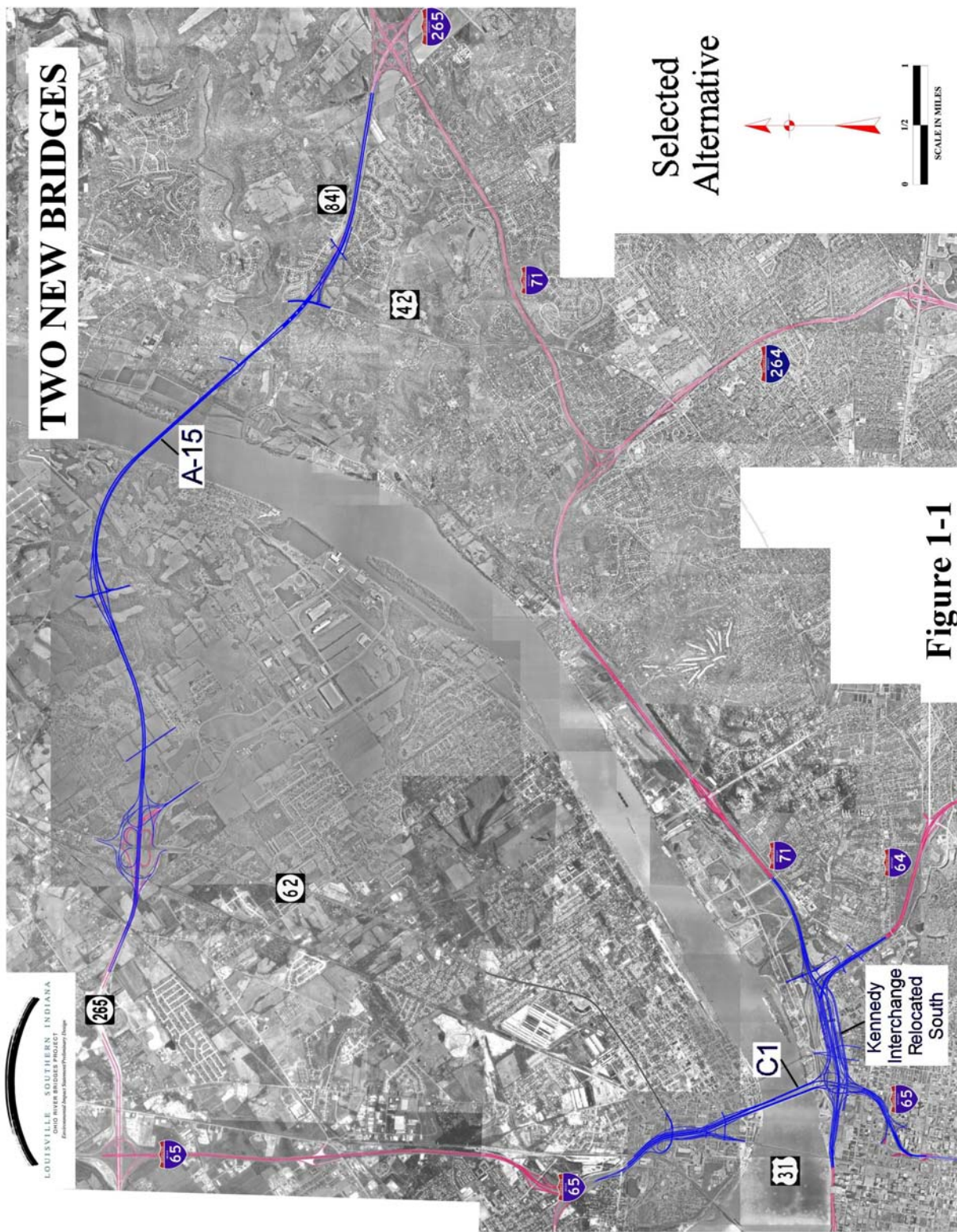
- A. Selected Alternative
- B. EPA Comment Letter on FEIS
- C. SHPO Comments on FHWA 4(f) Evaluation
- D. Section 106 Memorandum of Agreement (MOA)
- E. Response to FEIS/Section 4(f) Evaluation Comments
- F. FHWA-FTA Conformity Finding and STIP Amendment Approval

## **1. Decision**

The Federal Highway Administration (FHWA), through an extensive public process, in cooperation with the Indiana Department of Transportation (INDOT) and Kentucky Transportation Cabinet (KYTC), in consultation with other local, State and Federal agencies, and in accordance with the requirements of the National Environmental Policy Act (NEPA), has evaluated the need for improved cross-river mobility for the Louisville – Southern Indiana region. After thoroughly reviewing the information gathered for this Project, the Selected Alternative is the Two Bridges/Highway Alternative (Figure 1-1) consisting of Alternative C-1 in the Downtown Louisville – Jeffersonville Corridor, Alternative A-15 in the Far East Corridor and the Kennedy Interchange Reconstruction to the South (see Attachment A for more detail). The Selected Alternative also includes a number of other Facility Enhancements, which are described further in Section 2.2.2, below. The elements of the Selected Alternative are described in greater detail in Chapter 3 of the Final Environmental Impact Statement (FEIS) for the Project.

The Two Bridges/Highway Alternative will provide for two new bridges across the Ohio River and connecting roadways using Alternative C-1 and Alternative A-15. Alternative C-1 includes a new Ohio River bridge (I-65) immediately upstream of the existing Kennedy Bridge, as well as improved and expanded approach roadways in Kentucky and Indiana. Alternative A-15 includes a new Ohio River bridge in the eastern portion of the Louisville Metropolitan Area (LMA), connecting I-265/KY 841 (Gene Snyder Freeway) in Kentucky with S.R. 265 (Lee Hamilton Highway) in Indiana. Reconstruction of the Kennedy Interchange to the South will include relocating the interchange immediately to the south of its current location, allowing for more efficient traffic movements and improved safety. The Kentuckiana Regional Planning and Development Agency (KIPDA) (the region’s Metropolitan Planning Organization) has amended the KIPDA 2025 Regional Mobility Plan (RMP) (the region’s fiscally constrained, “conforming,” long-range transportation plan) to include the Selected Alternative.

The Selected Alternative is the environmentally preferable alternative. As summarized below and in greater detail in the FEIS, the Selected Alternative is the only feasible and prudent alternative that will sufficiently address the Purpose and Need for action while balancing important environmental, community and economic values. The Two Bridges/Highway Alternative, combining Alternatives C-1 and A-15 and the Kennedy Interchange Reconstruction to the South, provides the best transportation solution that minimizes harm to the environment to the maximum extent practicable. While some of the single-bridge alternatives and the Transportation Management Alternative may have lesser impacts on certain environmental resources, those alternatives do not provide a sufficient solution to the region’s long-term cross-river mobility needs, and their selection would not be reasonable or prudent. The Selected Alternative also incorporates extensive measures to avoid, minimize, and mitigate potential harm to the region’s rich natural and human environment. The United States Environmental Protection Agency (USEPA) has confirmed that FHWA has selected the prudent and feasible alternative that is also the environmentally preferable alternative (see USEPA comment letter dated June 24, 2003 in Attachment B).



**Figure 1-1**

## **2. Alternatives Considered**

The Selected Alternative was identified through an extensive evaluation process, which examined a broad range of potential solutions to the cross-river mobility needs of the LMA. That process began with an examination of the existing transportation system, existing and projected traffic conditions and overall community and socioeconomic needs in the LMA to identify the Project's Purpose and Need. Based on those identified needs, a wide range of potential solutions were identified. Those potential solutions, which included various travel demand management (TDM), transportation system management (TSM), mass transit, and bridge/highway options, were then refined, and, along with the No Action Alternative, a reasonable range of alternatives was evaluated to determine each alternative's relative ability to meet the Project's Purpose and Need and its likely impact on the human and natural environment. That detailed evaluation was described in the Project's Draft and Final Environmental Impact Statements (DEIS and FEIS, respectively). The evaluation process and factors that led to the FHWA's final decision, as summarized in Section 1 above, are summarized in the following sections and are described in greater detail in Chapters 3 and 5 of the FEIS.

### **2.1 Purpose and Need**

The purpose of this Project is to improve cross-river mobility between Jefferson County, Kentucky and Clark County, Indiana. Several specific factors demonstrate the need for action, including:

- Inefficient mobility for existing and planned growth in population and employment in the Downtown area and in eastern Jefferson and southeastern Clark Counties;
- Traffic congestion on the Kennedy Bridge and within the Kennedy Interchange;
- Traffic safety problems within the Kennedy Interchange and on the Kennedy Bridge and its approach roadways;
- Inadequate cross-river transportation system linkage and freeway rerouting opportunities in the eastern portion of the LMA; and
- Locally approved transportation plans that call for two new bridges across the Ohio River and the reconstruction of the Kennedy Interchange.

Performance measures were developed for each of these factors and were used in evaluating alternatives. The Project's Purpose and Need, and the performance measures, are described in Chapter 2 of the FEIS.

### **2.2 EIS Alternatives**

The alternatives evaluated in the FEIS were identified through a detailed preliminary screening process that included two steps to select those alternatives with the greatest potential to address the Project's Purpose and Need (see FEIS Section 3.1). Step 1 (Screening of Alternatives) was performed at a conceptual level to evaluate each alternative's potential for meeting Purpose and Need and to determine if any alternative had a fatal flaw, such as a lack of engineering feasibility

and/or impacts or costs of an extraordinary magnitude, that would foreclose its consideration (see FEIS Section 3.3). Step 2 (Screening of Alternative Alignments) was performed at a slightly greater level of detail for alignment alternatives within each of three highway/bridge corridors (see FEIS Section 3.4). Information on environmental resources was an integral part of this process and more detail was developed as needed in the screening process to assist in those determinations. Throughout the development and screening of alternatives, opportunities were available for the public to obtain information and to provide comments, through public meetings, stakeholder meetings and public involvement group meetings as well as through the Project's Web site. As a result, the alternatives reflected the desires of a broad base of area residents. Four major alternatives were selected for evaluation in the EIS:

1. No-Action Alternative
2. Transportation Management Alternative, including selected TDM, TSM, and mass transit options
3. One Bridge/Highway Alternatives, with one new Ohio River bridge, reconstruction of the Kennedy Interchange, and the elements of the Transportation Management Alternative
4. Two Bridges/Highway Alternatives, including two new Ohio River bridges, reconstruction of the Kennedy Interchange, and the elements of the Transportation Management Alternative

These EIS alternatives, which are summarized in Section 3.5 of the FEIS, are described in the following sections.

### **2.2.1 No-Action Alternative**

The No-Action Alternative assumed that all of the projects formally included in the current, fiscally constrained conforming KIPDA 2025 RMP would be implemented, except for the reconstruction of the Kennedy Interchange and addition of two new bridges over the Ohio River. In addition to approximately ten major highway and mass transit improvements, the RMP also includes a series of TDM and TSM programs and policies intended to reduce travel demand and increase the efficiency of the transportation system. These are included in the regional travel demand model for future years. The No-Action Alternative is described in detail in Section 3.2.1 of the FEIS.

The No-Action Alternative would not satisfy the identified Purpose and Need for the Project (see FEIS Section 3.3.1), and there was no strong public support expressed for it. It was included in the alternatives evaluated in the EIS as required by NEPA and served as a baseline for the comparison of the effectiveness and potential impacts of the other alternatives.

### **2.2.2 Transportation Management Alternative**

During the preliminary alternatives screening process, several TDM, TSM, and mass transit alternatives were evaluated. TDM alternatives consist of programs or policies focused on either reducing the number of vehicles on the highway or distributing trips to less congested periods of

the day, in order to relieve peak hour traffic congestion (see FEIS Section 3.2.2). TSM alternatives are low-cost ways of reducing traffic congestion and improving traffic flow, consisting of techniques or applications focused on improving the transportation network's ability to handle traffic volumes by increasing its travel efficiency (see FEIS Section 3.2.3). For this Project, three mass transit alternatives—two light rail transit options and enhanced bus service—were considered (see FEIS Section 3.2.4).

After initial evaluation, none of the TDM, TSM, or mass transit alternatives on their own were deemed to provide a sufficient solution to the Project's Purpose and Need (see FEIS Sections 3.3.2, 3.3.3, and 3.3.4). Although individually these alternatives would only minimally affect Purpose and Need, together they have some potential to improve the transportation system. Consequently, an alternative consisting of several of these elements was evaluated to determine if such an alternative might better address Purpose and Need. This alternative, known as the Transportation Management Alternative, included the following improvements:

- **TDM:** non-motorized facility enhancements and employer-based trip reduction programs
- **TSM:** expanded Intelligent Transportation System applications and incident management
- **Mass Transit:** enhanced bus service

In addition to consideration as a stand-alone alternative, the elements of the Transportation Management Alternative also were included in each of the Bridge/Highway Alternatives evaluated in the EIS because of their potential to contribute to a solution to the identified Purpose and Need (see FEIS Section 3.3.6).

### **2.2.3 Existing System Improvements/Kennedy Interchange Reconstruction**

This alternative originally consisted of expanding the programs and improvements in KIPDA's short-term Transportation Improvement Program (TIP), including new roadway lanes, intersection/interchange improvements, pavement rehabilitation, roadway realignment, ride-share, extension of the ITS system and reconstruction of the approach ramps to the existing Kennedy Bridge and Clark Memorial Bridge. Preliminary screening showed that this improvement would not significantly reduce congestion, improve traffic flow, improve safety, support recent and planned growth, or improve system continuity. However, that analysis also demonstrated that reconstruction of the Kennedy Interchange was necessary to improve the safety of travel through the interchange on three major Interstate highway facilities (I-65, I-71 and I-64) and provide better access to the downtown area. Consequently, two options were developed for the proposed reconstruction—reconstruction in-place or reconstruction to the south. Although the reconstruction of the Kennedy Interchange alone was not determined to be a sufficient solution to the Project's Purpose and Need, the two Kennedy Interchange reconstruction options were nevertheless included with each of the Bridge/Highway Alternatives evaluated in the EIS because of their potential to contribute meaningfully to a solution (see FEIS Section 3.3.5).

## 2.2.4 One Bridge/Highway and Two Bridges/Highway Alternatives

The EIS included an evaluation of One Bridge/Highway Alternatives and Two Bridges/Highway Alternatives. These alternatives included the construction of one or two new bridges across the Ohio River, along with associated highway approaches, the reconstruction of the Kennedy Interchange, and the elements of the Transportation Management Alternative.

**Identification of Bridge/Highway Corridors.** As described in Section 3.3.5 of the FEIS, Bridge/Highway Alternatives were first evaluated as five potential river crossing corridors, and then as alignment alternatives within the three corridors selected for further evaluation. The five potential river crossing corridors initially identified were: West, Downtown, Near East, Far East, and Oldham County (see FEIS Section 3.2.5 for detailed descriptions). Preliminary daily traffic projections for each of the four non-downtown corridors were developed for the year 2025. This analysis showed that the Far East and Near East Corridors (projected traffic of 72,100 and 81,000 vehicles per day, respectively) would likely attract a greater amount of traffic from the existing Ohio River bridges given their closer proximity to the Downtown area, as compared to the Oldham County and West Corridors (39,600 and 14,200 vehicles per day, respectively). Other potential Ohio River crossing locations were not considered prudent in large part because of the density of existing residential and commercial development in those areas, the presence of sensitive resources, and the lack of connecting highway infrastructure (see FEIS Section 3.2.5).

As discussed in Section 3.3.5 of the FEIS, the Oldham County and West Corridors were determined not to have the potential for substantially meeting the Purpose and Need and the Oldham County Corridor had fatal flaws, including a substantially greater cost and greater impacts on environmental resources. The Oldham County Corridor also had a significant conflict with blast zones around operations on the INAAP property. The Downtown, Near East and Far East Corridors, when combined with the Kennedy Interchange Reconstruction, demonstrated a strong potential to meet the Purpose and Need for the Project and were carried forward for further evaluation.

The Downtown Corridor provides a crossing of the Ohio River in the general Downtown Louisville/Jeffersonville area. The Near East Corridor connects I-71 near its interchange with I-264 in Kentucky, with the S.R. 265/S.R. 62 interchange in Indiana. The Far East Corridor connects I-265/KY 841 in Kentucky to S.R. 265 at its interchange with S.R. 62 in Indiana.

**Identification of Alignment Alternatives.** Alignment alternatives were then developed within each of the three bridge/highway corridors that were retained from the initial evaluation – Far East, Near East and Downtown. Throughout the early alternatives evaluation process, numerous alternatives were developed and analyzed in each of these corridors to determine if they were reasonable. For identification purposes, each alternative was designated with a letter and a number (e.g., A-1). The letter refers to the corridor in which the alternative is located (A – Far East, B – Near East, C – Downtown). Within each corridor, alternatives were numbered sequentially, starting with 1, as they were developed.

Public input and environmental screening were important factors in evaluating alignment alternatives. Detailed maps of preliminary alternatives were presented at public meetings and

information was provided through extensive media coverage, brochures, materials distributed to libraries, Web site displays, newsletters and notifications to a mailing database to solicit and obtain input on the Project. Potential environmental impacts were classified for eight different resource categories: water resources (wetlands, streams and floodplains); biological resources (vegetation, woodlands and important or critical wildlife habitat); historic/cultural resources (historic structures, districts and archaeological sites); federally protected recreational resources (parklands, recreational areas, nature preserves and wildlife refuges); land use (residential and business displacements); social/community resources (neighborhood impacts, community cohesion, changes in access and environmental justice issues); economic resources (impacts to commercial development and access to recent and planned growth) and hazardous/contaminated materials sites (leaking underground storage tanks). As a result, each of the alignment alternatives selected for evaluation in the EIS generally reflects a pattern of evolution as environmental resources were identified and avoided to the extent possible. Section 3.4 of the FEIS provides a detailed description of the development and refinement of alternative alignments within each of the three river crossing corridors.

- 1. Far East Alignments** – As described in Section 3.4.1 of the FEIS, the bridge/highway alignments evaluated within the Far East Corridor included: Alternatives A-2, A-9, A-13, A-15, and A-16 – each of which would connect I-265/KY 841 in Kentucky with S.R. 265 in Indiana. These alignment alternatives were selected from sixteen alignments originally developed in detail, and were generally selected because they reflected the best range of alternatives for avoiding and minimizing impacts to the important natural, residential, community, and cultural resources within the Far East Corridor (see FEIS Section 3.4.1 for detailed information on the development and screening of Far East alignments).

In addition to the sixteen alternatives evaluated in the Far East Corridor, an alternative was developed early in the alternatives evaluation process utilizing the shortest, most direct route to link KY 841/I-265 in Kentucky with S.R. 265 in Indiana. This alternative would impact the largest number of residential and commercial properties of any of the Far East Corridor alternatives, and would cause both direct and indirect impacts to historic and archaeological sites in both Indiana and Kentucky. Because other alternatives in this corridor were developed to reduce residential and cultural resources impacts, this alternative was eliminated from further consideration (see FEIS Section 3.4.1).

The construction of a tunnel under the Ohio River, with associated highway approaches, was also evaluated within the Far East Corridor, in part as a result of suggestions by the public as a potential alternative to a new bridge in the Far East Corridor. Possible route locations and a preliminary cost estimate for constructing a tunnel were developed. Preliminary estimates indicated that a tunnel alone would cost at least \$1.2 billion to construct. (This cost for the tunnel alone would be about \$1.4 billion in 2003 dollars and in excess of \$1.75 billion with the addition of contingencies, as explained in Section 2.4 below.) The cost estimate did not include any money for operational costs, which would be substantially more than for the bridge/highway alternatives. The tunnel was estimated to be approximately 3.8 miles in length, which would require dedicated staffing with

specialized training and equipment. Additional costs would be incurred to construct the necessary highway approaches on both sides of the river and for the additional operating and maintenance expenses associated with a tunnel. The construction cost for a cross-river tunnel would be up to three times greater than the estimated cost of other Bridge/Highway Alternatives in the Near East and Far East Corridors. In terms of meeting the Purpose and Need for the Project, this alternative is similar to the Bridge/Highway Alternatives in the East End. The cost of this alternative was considered to be a fatal flaw. Therefore, this alternative was not carried forward for evaluation in the EIS (see FEIS Section 3.3.5).

2. **Near East Corridor** – As described in Section 3.4.2 of the FEIS, two preliminary alignment alternatives (Alternatives B-1 and B-2) were developed in this corridor. Preliminary analyses indicated that Alternative B-1 would impact wetlands, floodplains and historic properties and would cause significant residential displacements and community impacts. However, these impacts needed to be quantified to determine their severity relative to alternatives in the Far East and Downtown Corridors. Alternative B-1 was carried forward for evaluation in the EIS. Alternative B-2 would have impacted more historic and residential properties and was eliminated from further consideration.
3. **Downtown Corridor** – There are a number of physical and environmental constraints in the Downtown Corridor that limit potential locations for a new bridge. The most obvious locations for a new bridge are adjacent to the Kennedy Bridge. Three alternatives (Alternatives C-1, C-2, and C-3) were eventually developed in this corridor. Alternatives C-1 and C-3 would parallel the Kennedy Bridge on either side and connect with either of the proposed Kennedy Interchange reconstruction options considered. Alternative C-2 would connect with the I-64/Ninth Street interchange in Kentucky. Preliminary screening in this corridor was not sufficient to eliminate any of the alternatives from consideration. Thus, all three alternatives – Alternatives C-1, C-2, and C-3 – were carried forward for evaluation in the EIS (see FEIS Section 3.4.3).

**One Bridge/Highway and Two Bridges/Highway Alternatives.** Once a reasonable range of Bridge/Highway corridor and alignment alternatives had been identified, those alternatives were combined into various One Bridge/Highway Alternatives and Two Bridges/Highway Alternatives for evaluation in the EIS. The evaluation of One Bridge/Highway Alternatives included a separate evaluation of each of the nine (9) individual alignment alternatives selected for detailed evaluation in the EIS: Alternatives A-2, A-9, A-13, A-15, A-16, B-1, C-1, C-2, and C-3 (see FEIS Section 3.5.3). The Two Bridges/Highway Alternatives evaluated one downtown alignment alternative (“C” alignments) and one east end alignment alternative (“A” or “B” alignments) in various combinations (see FEIS Section 3.5.4). In addition, the two options for Kennedy Interchange Reconstruction (In-Place and Relocated to the South) were included in the evaluation of each of the Bridge/Highway Alternatives (all single- and two-bridge options). All Bridge/Highway Alternatives also included the TDM, TSM and Mass Transit components of the TM Alternative.

## **2.3 Identification of Selected Alternative**

The Selected Alternative identified in Section 1 above was identified through a two-step decision process. First, the evaluation of each EIS alternative in relation to the Project's Purpose and Need and the various performance measures identified in Chapter 2 demonstrated that the Two Bridges/Highway Alternative is the only feasible and prudent alternative that sufficiently addresses the identified transportation needs. None of the other alternatives—No-Action, Transportation Management, and One Bridge/Highway—would provide a sufficient solution to the region's cross-river transportation needs to constitute a reasonable transportation investment. Each of those alternatives would leave significant transportation deficiencies, at the time of facility opening, as well as at the Project's horizon year (2025). Second, a careful balancing of numerous environmental, community, and transportation factors led to the identification of the major elements of the Selected Alternative: Alternative C-1 (Downtown), Alternative A-15 (Far East), and the Kennedy Interchange Reconstruction to the South. These elements reflect the best options to avoid and minimize adverse environmental and community impacts to the extent practicable. This careful process led to the identification of a feasible and prudent alternative that is also the environmentally preferable alternative.

### **2.3.1 Selection of Two Bridges/Highway Alternative**

The Two Bridges/Highway Alternative provides the greatest improvement to cross-river mobility and best satisfies the needs identified in the Purpose and Need for the Project. None of the other alternatives (One Bridge/Highway, Transportation Management, or No-Action) sufficiently meets all of the needs identified for the Project so as to constitute a feasible and prudent long-term solution to the region's cross-river mobility needs. As described in detail in Section 3.7 of the FEIS, the Two Bridges/Highway Alternative provides the greatest improvements in the efficiency of the transportation system, as measured by total vehicle hours of travel (VHT), miles of travel (VMT), and hours of delay (VHD). The Two Bridges/Highway Alternative is the only option that provides sufficient cross-river capacity to meet the region's long-term needs. With any of the One Bridge/Highway Alternatives, the total cross-river demand-to-capacity ratio—based on LOS D service level volumes—would once again be near or above 100 percent by 2025, meaning that the capacity of the Ohio River bridges to efficiently handle cross-river travel demand would have been reached and additional improvements would once again be necessary (approximately five years after the new bridge opens to traffic). In contrast, the Two Bridges/Highway Alternatives reduce that ratio to between 78 percent and 81 percent, providing additional capacity and a longer-term solution to the area's cross-river mobility needs. The Two Bridges/Highway Alternative also provides the greatest improvements to the Kennedy Bridge and the Kennedy Interchange. The performance of the Kennedy Bridge (I-65 crossing), as measured by demand-to-capacity ratios and Level of Service (LOS), would be improved the most by the Two Bridges/Highway Alternatives. For example, none of the single bridge alternatives would reduce the 2025 demand-to-capacity ratio on the Kennedy Bridge significantly below 100 percent, meaning that recent levels of congestion would be expected to return in that time. Similarly, average peak hour speeds and hours of delay in the Kennedy Interchange would be improved the most under the two-bridge options.

**System Efficiency.** The Two Bridges/Highway Alternative provides the greatest improvements in the efficiency of the transportation system (see FEIS Sections 3.6.1 and 3.7.1, and FEIS Table 3.6-1). The two bridges solution, with bridges in the Downtown and Far East corridors, provides the greatest decrease in both daily VMT and daily VHT in the LMA, as compared to the No-Action Alternative. For the Selected Alternative’s combination of the C-1 and A-15 alignments, total VMT within the LMA would be reduced by approximately 189,000 miles per day, or approximately one percent of total VMT—as compared to a slight increase in VMT for a single bridge in either the Downtown or the Far East corridor. Similarly, VHT would decrease by about 51,000 hours per weekday, or approximately six percent of total VHT in the LMA, for the Selected Alternative, compared to an approximately two percent decrease for a single downtown bridge or a three percent decrease for a single eastern bridge.

Notably, while all of the “build” options would reduce the total hours of congestion in the LMA—measured as vehicle hours of delay (VHD)—a two-bridge combination with bridges in the Downtown and Far East Corridors would result in the greatest reduction in delays: 45,000 VHD, or approximately 22 percent of total delay. In contrast, a single bridge downtown would be expected to reduce delay by only about eight or nine percent, and an eastern bridge would only reduce delay by about 13 or 14 percent. The Transportation Management Alternative would produce even fewer reductions in VHT and VHD, and a comparable increase in VMT, as compared to the One Bridge/Highway Alternatives.

**Total Cross-River Capacity.** Only a Two Bridges/Highway Alternative would reduce the total cross-river demand-to-capacity ratio in 2025 substantially below 100 percent (using minimally accepted LOS D service rates, rather than the desired design rates associated with LOS C) (see FEIS Sections 3.6.2 and 3.7.1, and FEIS Table 3.6-2). The various One Bridge/Highway Alternatives would result in a 2025 total cross-river demand-to-capacity ratio between 98 percent (for a Far East or Near East bridge) and 106 percent (for a Downtown bridge). Under the one-bridge scenario, the capacity of the Ohio River bridges in the LMA would be nearly met or exceeded by 2025—only about five years after completion of construction—likely requiring additional improvements to avoid worsening congestion and delays. In contrast, the Selected Alternative would reduce total cross-river demand as a percent of capacity to 78 percent, leaving a sufficient margin for the cross-river transportation system to function effectively through the Project horizon and avoiding the need for additional improvements in just over 20 years.

**Kennedy Bridge Capacity.** The Two Bridges/Highway Alternative is the only alternative that provides the desired level of service on the Kennedy Bridge in 2025 (see FEIS Sections 3.6.2 and 3.7.1, and FEIS Table 3.6-2). Under the No-Action Alternative, the Kennedy Bridge is expected to be at 142 percent of capacity by 2025, operating at an LOS E—meaning increasingly worse congestion and delays. With construction of the Selected Alternative, the Kennedy Bridge would operate at 74 percent of capacity in 2025, or an LOS C. In contrast, the best One Bridge/Highway Alternative, Downtown Alternative C-1/C-3, would result in the Kennedy Bridge operating at 95 percent of capacity (LOS D) in 2025, and all of the other single-bridge options would result in the Kennedy Bridge remaining over capacity (107 to 124 percent, or LOS D or E). Any of the single-bridge alternatives would effectively return the Kennedy Bridge in 2025 to the congested travel conditions experienced in recent years. In contrast, the Selected Alternative would free up an additional 21 percent of the Kennedy Bridge (I-65 crossing)

capacity, as compared to the most effective single bridge option (Alternative C-1/C-3), providing sufficient bridge capacity for the foreseeable future. The Selected Alternative also provides the best levels of service on the Clark Bridge (LOS B), compared to LOS C for the One Bridge/Highway Alternatives and LOS E for the No-Action and Transportation Management Alternatives.

**Kennedy Interchange Operations.** The Two Bridges/Highway Alternative shows the greatest improvements in weekday traffic operations in the Kennedy Interchange (see FEIS Sections 3.6.2 and 3.7.1, and FEIS Table 3.6-4). With no new bridges, average morning and evening peak hour speeds are forecast to be less than 20 mph in 2025. Under the Selected Alternative, 2025 peak hour speeds are forecast to range from 48-49 mph in the Kennedy Interchange area. These speeds are slightly better than the forecast speeds for the single-bridge Downtown (C-1/C-3) option and the afternoon forecast speeds for the single-bridge Downtown (C-2) and Eastern (A or B) options. However, the latter options would experience considerably slower morning peak hour speeds (31-33 mph). The Two Bridges/Highway Alternative also results in the greatest improvements in vehicle hours of delay in the Kennedy Interchange (see FEIS Table 3.6-4).

**Traffic Safety.** All of the Bridge/Highway Alternatives evaluated in the EIS would provide for reconstruction of the Kennedy Interchange to current roadway design standards. Improvements to the Kennedy Bridge would occur with the construction of either Alternative C-1 or Alternative C-3 downtown. These measures should result in improvements in safety in this area. The removal of left hand entrances and exits in the Kennedy Interchange can be expected to reduce existing crash rates by one-third to one-half (see FEIS Section 3.6.3). Thus, the Selected Alternative, along with any other One Bridge/Highway or Two Bridges/Highway alternative that includes the Downtown (C-1/C-3) alignment, would address the traffic safety issues identified in the Purpose and Need.

**Inadequate Cross-River System Linkage.** The Selected Alternative provides additional cross-river system linkage in the eastern portion of the LMA, closing the existing three- to five-mile gap in the eastern circumferential freeway (I-265/KY 841/SR 265). The One Bridge/Highway Alternatives consisting of a bridge in the Near East or Far East corridors also would provide this missing linkage. However, the Downtown single-bridge alternative would not provide this needed linkage. By constructing a new bridge in the Far East Corridor, the Selected Alternative will complete the region's substantial investment in the eastern portion of the circumferential freeway system. This element of the Selected Alternative also would help to alleviate the concentration of the region's Ohio River crossings in the downtown area, which makes the cross-river transportation system susceptible to incidents and construction activities, and the resulting congestion and delays, in the downtown area. The Selected Alternative also will improve the capacity and safety of the downtown crossings, through construction of the Downtown (C-1) bridge, while providing an alternative cross-river rerouting opportunity away from the urban core. This will allow the cross-river transportation system to operate more efficiently, will provide travelers with more options to reach their cross-river destinations, and will allow local governmental agencies more flexibility in responding to incidents and scheduling major maintenance and construction activities on the existing system. The eastern bridge also will serve the highest population growth areas in the LMA, providing them with a more convenient and effective river crossing option, and the downtown bridge will provide improved cross-river

mobility for the area of largest employment in the LMA. Together, as part of the Selected Alternative, the two new bridges will provide a more efficient, better balanced cross-river transportation system for the LMA.

**Local Transportation Plans.** The Selected Alternative is consistent with the locally-adopted long-range transportation plan, which has called for the construction of two new bridges (Downtown and Far East), and a reconstruction of the Kennedy Interchange, since the completion of the ORMIS process in 1997. This plan comprises the long-term vision of local governments and transportation planners of the best solution for the LMA's transportation system. None of the One Bridge/Highway Alternatives, nor the No-Action or Transportation Management Alternative, is entirely consistent with the plans of the local community, as established through KIPDA's federally prescribed transportation planning process, which call for two new bridges. Only the Two Bridges/Highway Alternative, with bridges in the Downtown and Far East corridors, is entirely consistent with the locally-adopted transportation plan.

**Overall Environmental Impacts.** The Two Bridges/Highway Alternative combination of Alternatives C-1 and A-15 and Reconstruction of the Kennedy Interchange to the South will have minimal impact on wetlands, with only approximately 4.11 acres impacted. This is only slightly more than the combination of Alternatives C-1 and B-1 with Reconstruction of the Kennedy Interchange In-Place, which would have the least impact on wetlands—with approximately 2.74 acres—among the Two Bridges/Highway Alternatives. However, Alternative B-1 would result in significantly more residential and commercial relocations, and thus is not a practicable alternative. The wetlands along each of the individual bridge/highway alignments are all essentially small, remnant wetland areas.

The Two Bridges/Highway Alternative combination of Alternatives C-1 and A-15 and the Reconstruction of the Kennedy Interchange to the South has one of the lowest overall impacts to National Register – eligible historic properties and parks, with acquisition of land from only 8 such resources, out of approximately 137 within the Project Study Area. Approximately 19 of the resources are historic districts, many consisting of large areas with hundreds of contributing properties. Approximately 41 of the resources are parks, recreation areas and nature preserves, many covering wide areas along the Ohio River. The only combination with impacts to a smaller number of historic and park/recreation resources would result by substituting Alternative C-3 for Alternative C-1 in the Downtown Corridor; however, Alternative C-3 would have a more substantial impact on the Waterfront Park in Kentucky, thereby outweighing any difference in the total number of resources affected.

The Two Bridges/Highway Alternative combination of Alternatives C-1 and A-15 and Reconstruction of the Kennedy Interchange to the South would have among the lowest overall impacts to neighborhoods and communities. The Selected Alternative would result in one of the smallest number of residential displacements of any of the Two Bridges/Highway Alternatives, with only approximately 5 more displacements than the combination with the least displacements (the combination of Alternatives C-2 and A-16 and Reconstruction of the Kennedy Interchange In-Place). The environmental impacts are summarized in Table 2-1.

Table 2-1  
Summary of Impacts

Quantitative Impacts To	Alternatives										Preferred Alternative		
	Far East					Near East						Downtown	
	A-2	A-9	A-13	A-15	A-16	B-1	In-Place	Kennedy Interchange Relocated	C-1	C-2		C-3	Total
Agricultural Resources	137	160	112	136	139	148	N/A	N/A	N/A	N/A	N/A	136	
Acres of prime farmland converted	3	3	1	1	1	4	4	4	3	5	2	8	
Section 4(f) Properties used													
Cultural Resources	3	5	6	6	4	4	2**	2**	5	7	5	11	
Number of historic districts impacted	6	12	12	12	10	15	0	0	2	7	2	14	
Number of historic sites impacted	2	8	9	5	7	3	0	0	0	0	0	5	
Number of archaeological sites impacted													
Air Quality	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	
Number of sites exceeding NAAQS (1 hr/8 hr)													
Noise - Number of impacted receptor sites <sup>3</sup>	19	26	33/32 <sup>(1)</sup>	33/29 <sup>(1)</sup>	23	16	8/8 <sup>(2)</sup>	7/8 <sup>(2)</sup>	6	9	5	46	
Noise - Number of impacted Historic Properties	6	6	8.8 <sup>(1)</sup>	7.7 <sup>(1)</sup>	5	11	8.9/10 <sup>(2)</sup>	6.9/10 <sup>(2)</sup>	9	17	6	22	
Natural Resources	279	204	205	210	299	224	0	0	0	0	0	210	
Acres of soil impacted	178	151	124	153	194	154	0	1	0	0	0	154	
Acres of terrestrial wildlife habitat impacted*													
Wetlands	5.51	4.66	4.79	3.86	6.14	2.74	0	0.25	0	0	0	4.11	
Acres of wetlands impacted													
Water Resources	9	12	9	12	13	6	0	1	1	1	1	14	
Number of stream impacts (including Ohio River)													
Floodplains	4	3	3	2	2	2	0	1	1	1	1	4	
Number of floodplains crossed	16	26	21	19	39	37	23	53	13	12	9	85	
Total acres of encroachment													
Number of Residential Displacements	64	67	73	63	62	252	2	4	23	21	180	90	
Number of Commercial Displacements	0	2	0	0	0	24	30	50	30	40	75	80	
Number of Agricultural Properties Impacted	18	10	20	18	18	1	0	0	0	0	0	18	
Number of Community Resources Displaced	0	0	0	0	0	5	0	0	0	0	0	0	

\*Riparian Forest, Upland Fields, Upland Forest and Wetland/Streams  
 \*\*There are two historic districts (Phoenix Hill and Butchertown) that are also impacted by Alternatives C-1, C-2 and C-3.

(1) Designates a/b Alternatives half diamond at US 42 and full diamond at Wolf Pen Brand Road, respectively.

(2) Designates Noise impact for the Kennedy Interchange options associated with Alignments C1/(Single Bridge A or B)/(C2)/C3

(3) Number of impacted receptor sites, excluding impacted Historic Properties

### **2.3.2 Selection of Individual Elements of a Two-Bridges/Highway Alternative**

As described in Section 2.3.1 above, a Two Bridges/Highway Alternative, with bridges in the Far East and Downtown corridors, was identified as the only prudent and feasible alternative that would sufficiently address the Project's Purpose and Need. The individual Downtown and Far Eastern bridge/highway alignments and the selected Kennedy Interchange Reconstruction option were then identified based on a comparison of a variety of environmental, community, and transportation factors. That process is summarized below.

**Downtown Corridor.** **Alternative C-1** was selected as the downtown bridge component of the Selected Alternative based primarily on the considerations of traffic impacts, residential displacements, costs, environmental justice concerns and minimization of impacts to public parklands and historic properties.

Alternative C-1 is preferable to Alternative C-2 (the "Ninth Street alternative"), among other things, because it would provide greater improvement in Kennedy Bridge traffic by 2025. For example, the Alternative C-2—Far East combination would result in LOS D on the Kennedy Bridge in 2025, while the Alternative C-1/C-3—Far East combination would result in LOS C. Thus, Alternative C-1 or C-3 is clearly preferable for providing a long-term solution to capacity and congestion problems on the Kennedy Bridge.

Alternative C-1 would also result in fewer adverse environmental impacts, on balance, than Alternative C-2. Alternative C-2 would result in greater impacts to historic properties, floodplains, and parklands than Alternative C-1. Alternative C-2 also would have posed significant environmental justice concerns with regard to lower-income and minority communities in the Russell and Portland neighborhoods adjacent to Ninth Street in downtown Louisville. Those concerns include potential community and environmental impacts, including disruption to community cohesion and further isolation of the affected area from the Louisville Central Business District.

Alternative C-1 is preferable to Alternative C-3 because of the number of residential and commercial property displacements. Both perform comparably with respect to traffic operations, and generally have comparable, and relatively limited impacts with respect to the natural environment. Alternative C-1 would require taking fewer residences and fewer commercial properties.

Alternative C-1 would have a greater impact on historic properties than Alternative C-3, including the acquisition of approximately 3.0 acres from the Old Jeffersonville Historic District. On the other hand, Alternative C-3 would have had a greater impact on public parklands than Alternative C-1, requiring the taking of 2.8 acres from Waterfront Park in Kentucky. This alternative, with a bridge immediately downstream of the existing Kennedy Bridge, would affect actively used portions of the existing park, displacing the lowland picnic area and portions of the "linear park" element already in place. It also would move the freeway ramps and structures significantly closer to the children's play area, restrooms, and parking facilities at Waterfront Park. While Alternative C-1 also would require the taking of 1.2 acres from Waterfront Park, the

area affected by this alternative was leased for use as an asphalt distribution facility and has just recently (December 2002) been acquired by the Waterfront Development Corporation (WDC). Prior to any park development on this new property, the site must undergo environmental investigation and remediation. The WDC, the public agency that oversees the Waterfront Park, has indicated that it prefers Alignment C-1 for any new bridge and has planned to construct any new park facilities immediately upstream of the existing Kennedy Bridge to accommodate the construction of a new Ohio River bridge along this alignment.

Alternative C-1 overall provides the best balance in avoiding and minimizing harm to community, natural and historic resources among the downtown options, especially in consideration of traffic, environmental justice concerns, historic property and parkland impacts, costs, and residential and commercial displacements. As such, Alternative C-1 is the environmentally preferable downtown bridge alternative.

**Far East Corridor.** **Alternative A-15** was selected as the eastern bridge component of the Selected Alternative because it would have the least overall harm to important natural and community resources in Indiana and Kentucky. This alternative follows the existing right-of-way of KY 841 from I-71 to U.S. 42 in Kentucky, helping to minimize impacts to existing land uses. As a result, it ranked low in the number of residential displacements for the eastern options, with no commercial displacements. Construction of a tunnel approximately 2,000 feet in length under the Drumanard property would help to minimize or avoid negative impacts on the community of Prospect and on important historic properties in the area, including the historic Drumanard estate, which is listed on the NRHP. The inclusion of a tunnel will also reduce visual and noise impacts for residents and visitors to the area. Because the freeway will enter the tunnel before KY 841 reaches U.S. 42, the freeway will pass under U.S. 42, the primary surface route through the area, thereby eliminating the visual effects that would be associated with an aboveground freeway structure at that location. An emergency access route to the mainline roadway will be constructed between the tunnel and the Ohio River, west of River Road at the west end of the bridge over Harrods Creek. This emergency access route will connect the mainline to Transylvania Avenue for emergency (vehicular) access to the tunnel, which will be approximately 2,500 feet to the east.

Alternative A-15, which is largely the same as Alternative A-13 in Kentucky, was developed in response to a suggestion from the Utica area work group, who was concerned about the proximity of Alternative A-13 to the town of Utica in Indiana. As the alignment crosses the Ohio River out of Kentucky, this alternative swings farther upstream than A-13, minimizing impacts to the town of Utica and an area of ongoing growth to the northeast. In Kentucky, Alternative A-15 is preferable to Alternatives A-16 and A-2, which are located farther upstream, because those alternatives both pass closer to the center of the City of Prospect, resulting in greater community disruption. Alternative A-15 avoids the more serious impacts associated with Alternatives A-9 and A-16, which prompted the USEPA to rate those alternatives as having Environmental Objections. Alternative A-15, along with the other Far Eastern Alternatives, was rated as having Environmental Concerns. All of the eastern alternative options would have impacts to historic properties; however these impacts would be minimized by Alternative A-15 through the construction of the Drumanard tunnel. Section 4(f) use of the Drumanard Historic

District would be avoided by tunnel construction using the tunnel boring method, rather than the “cut and cover” construction method. Alternative A-15 would require right of way acquisition (fee simple) from only one historic property – the Swartz Farm Rural Historic District in Indiana. This property lies immediately adjacent to the S.R. 265/S.R. 62 interchange and consequently directly in the path of all of the eastern alternatives.

Alternative A-15 also is preferable to Alternative B-1, which posed serious operational and environmental concerns. The Near East option would create a complex interchange at the intersection of I-264, I-71, and the new bridge. This option, Alternative B-1, also would result in substantial impacts to wetlands, floodplains, and historic properties, and would cause significantly greater residential displacements than any of the Far East Alternatives, including Alternative A-15. Because of the severity of these impacts, Alternative B-1 was not included in the Selected Alternative.

Alternative A-15 overall provides the best balance in avoiding and minimizing harm to community, natural and historic resources among the eastern bridge options. This conclusion is largely supported by extensive public input received prior to publication of the DEIS and in the formal public comment period on the DEIS, which concluded on February 25, 2002. Many of the local residents in the immediate vicinity of the eastern alternatives who expressed opposition to any eastern bridge, did express opinions concerning the most desirable eastern alternative in the event that an eastern bridge is to be constructed, and a large majority expressed support for the so-called “Drumanard tunnel alternatives,” Alternatives A-13 and A-15. For example, in Kentucky, representatives of the City of Prospect expressed strong opposition to Alternatives A-2 and A-16, which would have more severe impacts on that community. Many commenters expressed support for the “out of sight, out of mind” nature of the tunnel on Alternatives A-13 and A-15, even though that option still will have substantial effects on neighborhoods such as the Shadow Wood subdivision in Kentucky and Boulder Creek subdivision in Indiana. Little support was stated for Alternative A-9, which would have had adverse effects on historic properties and also would have similar impacts on streams, wetlands, and wildlife habitat. Between the two “tunnel” alternatives, most residents in Indiana clearly prefer Alternative A-15, which minimizes harm to Utica and avoids the area northeast of Utica that is seeing considerable residential and commercial development. This public input corroborates and supports the determination that Alternative A-15 is the environmentally preferable option for an eastern bridge route.

**Kennedy Interchange Reconstruction.** The **Kennedy Interchange Reconstruction to the South** was included as part of the Selected Alternative primarily based on the provision for better traffic operations than the In-Place reconstruction option. Reconstruction of the Kennedy Interchange to the South will allow for elimination of the numerous left-hand entrances and exits, difficult weaves, and conflict points that are part of the current Kennedy Interchange, and which have led the interchange to be known commonly as “Spaghetti Junction.” Currently, I-64 through-traffic—which is not destined for downtown Louisville—must merge and weave with downtown oriented I-65 and I-71 traffic. The Kennedy Interchange Reconstruction to the South will allow I-64 through-traffic to pass through the interchange without encountering the numerous difficult merge and conflict points in the current interchange. All merging and

diverging activities would take place on collector-distributor roads, away from mainline traffic, where they would not interfere with the smooth flow of traffic through the interchange. These improvements will help to reduce congestion and improve safety in the Kennedy Interchange, by reducing the number of “conflict points” where crashes are more likely to occur. A reduction of crash rates of one-third to one-half could reasonably be expected because of the reduction of left-hand entrances and exits in the interchange. The Kennedy Interchange Reconstruction to the South option will provide for the direct routing of I-64 through-traffic, have better geometric design features, and have a longer functional service life than the In-Place Option because of better design geometric features.

Kennedy Interchange Reconstruction to the South compared to the In-Place Option would make a complete reconstruction of the Kennedy Interchange more feasible and require much less disruption to traffic during construction. The In-Place Options would have adversely affected route continuity for I-64 through-traffic and contribute to additional congestion and safety problems throughout the construction period. As a result, by 2025, average peak hour speeds in the Kennedy Interchange would be less than under the Kennedy Interchange Relocation option. This significant decrease in the efficiency of the Kennedy Interchange would result in significantly greater congestion and delays, which would likely spill over onto adjacent roadways, including the Kennedy Bridge. Thus, while providing some short-term benefit, the In-Place reconstruction of the Kennedy Interchange would not have provided a long-term solution such as that with the Relocated Interchange to the South Option.

Reconstruction of the Kennedy Interchange to the South would move the interchange closer to the Butchertown neighborhood, which is an historic district listed on the NRHP. Plans for this option developed for the DEIS indicated this option would take approximately 1.3 acres from the Butchertown Historic District, including six contributing structures in the northeast corner of the District. Additional refinements initiated in response to public comments on the DEIS and through consultation under Section 106 of the National Historic Preservation Act (NHPA) (Section 106) eliminated the taking of these six structures. The impacts of the two Kennedy Interchange reconstruction options on the Butchertown Historic District would be very similar, with only an additional 0.06 acre of impact for the Kennedy Interchange Reconstruction to the South Option. Moreover, that additional impact acreage would occur in a junkyard area with no contributing resources to the historic district. The Kennedy Interchange Relocated to the South Option also would require 20 more commercial displacements than the In-Place Option; however, none of those businesses contribute to the historic district. The existing Kennedy Interchange already impacts the Butchertown neighborhood with visual, noise and lighting effects, and the effects from the Kennedy Interchange Reconstruction to the South would not be significantly different. The design of the new interchange, through the use of fills for outer roadways in the interchange, will serve to buffer some of the impacts. Moreover, the Kennedy Interchange Reconstruction to the South will free 40 to 45 acres of land along the riverfront, which will be conveyed by the Commonwealth of Kentucky, through the Louisville-Jefferson County Metro Government, to the WDC.

### **2.3.3 Environmentally Preferable Alternative**

For the foregoing reasons, FHWA has determined that the Selected Alternative is the environmentally preferable alternative. As summarized above and in greater detail in Section 3.5.4 of the FEIS, the Two Bridges/Highway Alternative is the only feasible and prudent alternative that sufficiently addresses the Purpose and Need for action while balancing important environmental, community and economic values. Among the Two Bridges/Highway Alternatives, the combination of Alternatives C-1 and A-15 and the Kennedy Interchange Reconstruction to the South provides the best transportation solution that minimizes harm to the environment to the maximum extent practicable. While some of the One Bridge/Highway Alternatives and the Transportation Management Alternative may have lesser impacts on certain environmental resources, those alternatives do not provide a sufficient solution to the region's long-term cross-river mobility needs, and their selection would not be reasonable or prudent. Thus, FHWA has selected the prudent and feasible alternative that is also the environmentally preferable alternative.

### **2.4 Costs**

Cost was an important factor in the evaluation of alternatives, both in the screening of alternatives and in the evaluation of alternatives in the DEIS and FEIS. For the evaluation of alternatives in the DEIS, cost estimates were prepared using a common methodology in order to distinguish between alternatives. The cost estimates were presented in 2000 dollars. These same cost comparisons were also used in the FEIS. A "Cost Estimate Review" was completed on March 18-19, 2003 to refine the final cost estimate for the Preferred Alternative identified in the FEIS (now the Selected Alternative), and to build in costs for contingencies, mitigation, and risks/unknowns based on experience from other, similar major projects from around the country. This review and methodology were presented in the "Financing Options" document prepared for the Project. The refined baseline cost estimate for the Selected Alternative is \$1.936 billion in 2003 dollars (\$1,312,239,342 from KY, \$623,433,806 from IN). This would equate to a \$2,494,000,000 total project cost in year of expenditure dollars over a 2004-2020 design and construction period, assuming a 4% inflation rate. The latter, year of expenditure dollar estimate provided the likely cost of the Project used to estimate the period of time required to complete the Project. This projection was based on one possible phasing plan developed for the Project (see Financing Options Plan for additional details). A Finance Plan in accordance with the FHWA Finance Plan Guidance (May 23, 2000) will be developed by the INDOT and KYTC for approval by FHWA prior to construction, currently projected for 2007. This Finance Plan will identify specific committed revenue sources that will be used to fund the Selected Alternative.

FHWA has also refined the cost estimates for the other alternatives evaluated previously in the DEIS and FEIS, using the same methodology used for the Selected Alternative. This work was done to determine if refinement of costs was a factor in the identification of the Selected Alternative (i.e., to ensure that all alternatives were evaluated using the same criteria). These refined costs are provided in Table 2-2. Based on this additional review, FHWA determined that the refinement of costs did not affect its identification of the Selected Alternative. This updating and refinement of costs also was determined not to affect the prior decisions to include enhanced

bus service, instead of a light rail transit option, as part of the Transportation Management Alternative (based on the excessive cost and very limited relative cross-river transportation benefits of light rail), and to eliminate a cross-river tunnel in the Far East Corridor.

**TABLE 2-2  
CAPITAL COST ESTIMATE OF BRIDGE/HIGHWAY ALTERNATIVES  
(\$M IN 2003 DOLLARS)**

Alternative	Indiana Cost	Kentucky Cost		Total
		East End	Downtown	
A-2				
<i>In-Place</i>	256.8	287.1	423.3	967.2
<i>Relocated</i>	256.8	287.1	780.7	1,324.6
A-9				
<i>In-Place</i>	400.3	350.9	423.3	1,174.5
<i>Relocated</i>	400.3	350.9	780.7	1,531.9
A-13				
<i>In-Place</i>	283.1	392.8	423.3	1,099.2
<i>Relocated</i>	283.1	392.8	780.7	1,456.6
A-15				
<i>In-Place</i>	291.9	410.8	423.3	1,126.0
<i>Relocated</i>	<b>291.9</b>	<b>410.8</b>	780.7	1,483.4
A-16				
<i>In-Place</i>	263.0	394.6	423.3	1,080.9
<i>Relocated</i>	263.0	394.6	780.7	1,438.3
B-1				
<i>In-Place</i>	366.9	536.4	423.3	1,326.6
<i>Relocated</i>	366.9	536.4	780.7	1,684.0
C-1				
<i>In-Place</i>	328.2	N/A	506.4	834.6
<i>Relocated</i>	<b>328.2</b>	<b>N/A</b>	<b>901.7</b>	1,229.9
C-2				
<i>In-Place</i>	450.8	N/A	794.3	1,245.1
<i>Relocated</i>	450.8	N/A	1,151.7	1,602.5
C-3				
<i>In-Place</i>	337.1	N/A	506.4	843.5
<i>Relocated</i>	337.1	N/A	901.7	1,238.8
<b>Selected Alternative*</b>	<b>620.1</b>	<b>410.8</b>	<b>901.7</b>	<b>1,932.6</b>

Note: The two rows for each alternative are for the Kennedy Interchange Rebuild In Place and the Relocation to the South options, respectively. Highlighted information is for Selected Alternative (Two Bridges A-15 and C-1 with Relocated Kennedy Interchange.)

### 3. Section 4(f)

A number of Section 4(f) resources were identified in the Project area as being potentially used by one or more of the proposed alternatives. Avoidance alternatives were identified and evaluated for each potential Section 4(f) impact. In some cases, the avoidance alternative was one of the other build alternatives. In other cases, the avoidance alternative consisted of modifications or shifts of portions of a build alternative to eliminate the encroachment. In accordance with 23 CFR 771.135, FHWA has determined through its Section 4(f) Evaluation that there is no feasible and prudent alternative that would avoid the use of Section 4(f) property entirely. In general, measures to minimize harm include design features, enhancements, or other measures that would alleviate adverse effects on the Section 4(f) property, or that would help assimilate the Project into its setting. Information on Section 4(f) resources used by the Selected Alternative is provided in Table 3-1.

The Section 4(f) Evaluation addresses all "uses" that would occur (1) when land from a Section 4(f) property is permanently incorporated into one or more of the alternatives, or (2) when there is a temporary occupancy of Section 4(f) property that is adverse in terms of the statute's preservationist purposes. A use can also occur when the proximity impacts of the transportation project on the Section 4(f) site are so severe that the protected activities, features or attributes that qualify the resource for protection under Section 4(f) are substantially impaired (which is generally referred to as a "constructive use"). The possibility of a constructive use was considered for all Section 4(f) properties in close proximity to one or more alternatives, and was analyzed in a technical report entitled "Technical Report on Proximity Impacts to Section 4(f) Properties." In this report, FHWA concluded that there are no Section 4(f) properties that would be constructively used by any alternative under consideration. The Kentucky State Historic Preservation Officer (SHPO) noted in a comment on the evaluation of proximity impacts that "due to the extensive identification and consultation work completed throughout the Section 106 Review process, it is our opinion that the preferred alternatives for both the downtown and eastern bridge will not cause any of the adversely affected historic structures and districts to lose those qualities which qualify them for listing in the NRHP" (See Attachment C). The Indiana SHPO elected not to comment on the original proximity impact report.

Archaeological surveys were conducted along all of the proposed alternatives, and archaeological testing was performed at identified sites. Based on the results of the archaeological surveys and testing, recommendations were made for each site relative to its potential eligibility for the NRHP. In Indiana, one archaeological site identified within the right-of-way limits of the Selected Alternative was recommended as potentially eligible for the NRHP. In Kentucky, four archaeological sites were identified within the right-of-way limits of the Selected Alternative: three that were recommended as potentially eligible for the NRHP, and one that was determined eligible under Criterion D (information contained) rather than preservation in place. The archaeological testing conducted for the Project indicated that all of the potentially eligible archaeological sites that would be impacted by the Selected Alternative are potentially eligible under Criterion D for the information they may contain, rather than for preservation in place. Therefore, pursuant to 23 C.F.R. § 771.135(g)(2), none of the identified archaeological sites that would be impacted by the Selected Alternative would constitute a use under Section

4(f). The SHPOs of Indiana and Kentucky have concurred with these findings, and copies of their correspondence are attached to this ROD as Attachment C. If any of these archaeological sites cannot be avoided through bridge pier location or other means, additional archaeological testing and evaluation will be done once the right-of-way has been acquired. Additional archaeological survey, testing and evaluation will also be conducted, once right-of-way is acquired, in areas not previously tested due to lack of access or safety concerns. Any late archaeological discoveries will be analyzed in accordance with the Section 106 MOA and 23 CFR § 771.135(g)(1). If any late NRHP-eligible archaeological discoveries are determined to warrant preservation in place, Section 4(f) evaluations will be conducted for those sites.

**TABLE 3-1  
SUMMARY OF SECTION 4(f) IMPACTS**

ALTERNATIVE	RESOURCE NAME	RESOURCE SIZE (ACRES)	AMOUNT OF USE (ACRES)	IMPACTS
A-15	Swartz Farm Rural Historic District	203	55.4	Farmland, Splits Farm, Central Passage House (Contributing Structure)
C-1	Old Jeffersonville Historic District	192.2	3.0	Five Contributing Structures
	George Rogers Clark Memorial Bridge	N/A	0.1	Requires Moving Pylons
	Greenway Corridor/Riverfront Park	170.3	0.031	Land only, No Facilities
	Waterfront Park	55.1	0.050	Undeveloped, Planned Park
Kennedy Interchange	Phoenix Hill Historic District	150	2.2	Two Contributing Structures
	Butchertown Historic District	223	1.29	One Contributing Structure
	Waterfront Park	55.1	0.171	Impacted area not currently used as park.
	Extreme Sports Complex	2.0	0.098	Spans Over the Complex on Bridge, Six Piers within Complex using 0.098 acre

The following discussion presents an overview of the conceptual mitigation plan developed for the Section 4(f) impacts. These plans are conceptual and more specific mitigation measures will be developed in consultation with appropriate jurisdictions during the design phase.

### 3.1 Swartz Farm Rural Historic District – Indiana

The Swartz Farm Rural Historic District is an eligible historic district located near the existing S.R. 62 – S.R. 265 interchange. This approximately 203-acre district will be bisected by the Project. The Project would use 55.4 acres of the Swartz Farm Rural Historic District; would split the District; and would displace the Central Passage House. The Project would also require relocation of a portion of the farm lane, but would not impact the seasonal ford or the farm pond on the Swartz Farm.

All Far East Alternatives pass through the Swartz Farm. Alternatives A-15, A-13 and A-16 would use the least amount of land. Reconfiguration of the S.R. 265/S.R. 62 interchange is an integral part of each of the eastern (A and B) alternatives. The Swartz Farm is immediately adjacent to the existing interchange and any shift to avoid the property would prevent any viable connection to the existing interchange. Any shift also would impact other historic properties. The Swartz Farm Rural Historic District is presently surrounded by residential developments and some existing and planned industrial properties along Port Road to the south. A refinement to the alignment to avoid displacing the Central Passage House would introduce additional impacts

to one of the newer residential developments. Refinements to the typical section would be possible; however any change would not appreciably change the impacts.

The conceptual mitigation plan developed for the impacts on this property includes the acquisition of that portion of the Swartz Farm lying on the west side of the Project, which includes the house, barn, associated outbuildings, and several acres of agricultural land. Additional measures to protect this part of the historic district such as a landscaping plan and placement of a preservation easement on the property are also included. The conceptual mitigation plan includes work to have the property listed on the NRHP, ownership of the property to protect it as a historic property, and development of a Historic Preservation Plan (HPP) for the property that can help guide present and future steps for its continued preservation. The HPP will also include a thematic context study for agriculture in Clark County, Indiana to further promote preservation of historic rural properties. Another property, identified as the James Smith Farm, was included in the conceptual mitigation plan for this property due to its association with the history of agricultural activities in the region and in recognition of extensive planned and future development that threaten farm properties.

The James Smith Farm is a NRHP-eligible historic property, consisting of approximately 8.3 acres of land with a farmhouse, an early cemetery, the farm lane and several outbuildings. It is located along the Utica-Sellersburg Road. None of the property is used nor impacted by the Project. Measures were included to protect a portion of the property from potential development as part of the minimization and mitigation measures that will be implemented for the Swartz Farm Rural Historic District. These measures are contingent on the current owner donating that portion of the James Smith Farm that was determined eligible for the NRHP as a rural historic farmstead. Measures included in the conceptual mitigation plan for this property include preparation of a HPP, stabilizing the property, placement of a preservation easement, and ownership that would preserve this as a historic property.

### **3.2 Old Jeffersonville Historic District – Indiana**

The Old Jeffersonville Historic District is an approximately 192-acre, NRHP-listed historic district comprising a large portion of downtown Jeffersonville and the adjacent residential areas. Its western boundary is I-65. The Project would use approximately 3.0 acres of the District and displace seven structures within the district, five of which are contributing structures to the historic district.

Further avoidance of impacts to the Old Jeffersonville Historic District would entail additional impacts to other historic properties. Alternatives C-2 and C-3 would both avoid any use of property from the Old Jeffersonville Historic District; however, Alternative C-2 would result in impacts to many more historic properties, and Alternative C-3 would result in more impacts to a combination of historic properties and park areas. The alignment for Alternative C-1 is located as close to the existing Interstate as possible and any shift to the east would introduce additional impacts to the Old Jeffersonville Historic District.

The conceptual mitigation plan for this property includes an extensive number of measures, including the development of a HPP to provide a context to inform the implementation of specific mitigation provided for in the Section 106 Memorandum of Agreement (MOA). The HPP may also include recommendations for additional measures that could be implemented and funded outside the Section 106 MOA. Additional measures identified for this historic property include streetscape improvements for that portion of the historic district between the Project and Spring Street, design and construction of pedestrian friendly facilities through the bridges, and reasonable effort to relocate the five contributing structures to vacant lots within the historic district. Several other measures are also included to minimize the impact of the new bridge and roadway, including attention to the placement of the new bridge relative to the existing bridge, development and implementation of a signage plan for safety and with sensitivity to the setting, design and construction of roadway lighting to minimize dispersion of light beyond the right of way, implementation of appropriate noise abatement measures, and timing of construction activities to avoid additional impacts to the historic district.

### **3.3 George Rogers Clark Memorial Bridge – Indiana/Kentucky**

The George Rogers Clark Memorial Bridge, also known as the Louisville Municipal Bridge, is eligible for the NRHP for its association with transportation, engineering and for the quality of its architectural elements. The bridge was constructed in 1928-1929 as a toll bridge across the Ohio River and was owned by the City of Louisville. The bridge is 3,740 feet long, carries a four-lane roadway (40 feet wide) with 5 foot-wide pedestrian walks, and was designed to address a river crossing that had been dependent mostly on ferries. The Art Deco limestone pylons flanking the approaches on each side of the bridge, in Indiana, would be displaced by all of the downtown alternatives due to proposed improvements to the connections and approaches to the existing bridge. Approximately 0.1 acre of the property would be used for the Project.

Improvements to the Indiana approach are necessary for safe and adequate functioning of the connection to a new downtown bridge. The design cannot be reduced to avoid the pylons. Traffic congestion is a contributor to the high crash rates within the Kennedy Interchange, and the Clark Memorial Bridge and connecting roadways are an important element of the downtown transportation system. The narrow width of the existing bridge and volume of traffic currently using this crossing are also important factors supporting the need for improvements.

Even though it appears the pylons on the Indiana approach cannot be avoided, the conceptual mitigation developed for this property includes provision for a reasonable effort to evaluate ways to avoid displacing the bridge pylons during the development of construction plans. As indicated in Stipulation III, item D in the Section 106 MOA, in the event displacement of the bridge pylons cannot be avoided, a Treatment Plan will be developed and implemented to minimize damage to the contributing elements to the structure, including the retaining walls and administration building. The Treatment Plan will include documentation on the original bridge pylons, retaining walls and other features within the Project limits at a level to be agreed upon by the SHPO and recommendations for historically appropriate lighting where it is necessary to replace the existing fixtures.

### **3.4 Greenway Corridor [Includes Riverfront Park and Ashland Park] – Indiana**

Jeffersonville Redevelopment Department is currently proceeding with plans to improve the Riverfront Park in accordance with the recommendation of the recently adopted Conceptual Master Plan-Falls of the Ohio River Greenway Corridor, developed in cooperation with the United States Army Corps of Engineers (USACE), Louisville District. This plan proposes a wide riverfront promenade reserved for non-vehicular use between Jeffersonville, Clarksville and New Albany. The approximate 170-acre Greenway Corridor incorporates the existing Riverfront Park and Ashland Park within its limits.

Riverfront Park presently encompasses approximately 9.4 acres along the Ohio River from the Kennedy Bridge upstream to Watt Street, including the city docks. It is owned by the City of Jeffersonville and is jointly maintained by the Jeffersonville Parks and Recreation Department and the Jeffersonville Redevelopment Department. Ashland Park presently encompasses approximately 13.3 acres along the Ohio River on Riverside Drive in Clarksville. The park is a gateway to the Falls of the Ohio Interpretive Center and has an overlook of the Ohio River and the Louisville skyline and family-oriented facilities.

Alternative C-1 would span over approximately 0.4 acre of Riverfront Park, which is included within the Greenway Corridor. Preliminary layouts indicate that bridge support piers and footings would use approximately 0.031 acres of park property. No park facilities or functions would be directly impacted. Visual impacts would be minor and traffic noise levels for the Project are projected to be approximately 8 dBA over existing noise levels. The other downtown alternatives would use more park property and would have greater impacts to the park property than Alternative C-1. Due to the length of the Greenway Corridor, an alignment shift far enough east or west to avoid it entirely would not be feasible. Design alternatives such as a reduced facility, retaining walls, etc., also would not avoid the parks. The only avoidance alternatives would be the No-Action Alternative, the Transportation Management Alternative, and the One Bridge/Highway Alternative (East End). None of these alternatives would sufficiently meet the Purpose and Need for this Project. The No-Action Alternative and the Transportation Management Alternative (by itself) would not meet any of the needs. The One Bridge/Highway Alternative would not sufficiently meet all of the needs so as to constitute a feasible and prudent long-term solution to the region's cross-river mobility needs.

Alternative C-1 has been located as close as feasible to the existing I-65 crossing to minimize impacts to the park property. The park property will be spanned by bridge to minimize impacts and to allow access underneath the bridge. Any excess right-of-way (or existing right-of-way) adjacent to the park will be available for use by the park. The bridge will be designed to aesthetically compliment the existing landscape. Vegetative screening will be incorporated, as appropriate, into the design to decrease the amount of visual impacts upon the parks.

### **3.5 Waterfront Park [Phase I and Phase II] – Kentucky**

The Louisville WDC is currently developing a 55.1 acre park along the Ohio River in Louisville. When completed the park will extend along the shoreline from the Clark Memorial Bridge to Towhead Island, and will include the upland area between the Ohio River and Bingham Way,

Witherspoon Street, Preston Street, and River Road. Three major activity areas are being developed – Waterfront Plaza and Water Feature (5.3 acres), Great Lawn and Harbor Inlet (17.5 acres), and a Linear Park.

The completed portion of the park is owned by the City of Louisville and, once completed, the entire Waterfront Park will be owned by the city (now the Louisville-Jefferson County Metro Government). Access to the park is available by vehicles, boats and pedestrians. Attendance at the park during the year 2000 was estimated at approximately 1,275,250, including approximately 700,000 for the event, “Thunder over Louisville”.

Alternative C-1 would span over approximately 1.2 acres of the planned park (Phase II). The City of Louisville and the WDC have been coordinated with to ensure that Alternative C-1 is compatible with the development of Phase II of Waterfront Park. The asphalt transfer facility on this property will be removed and the site remediated before work begins on the park. Preliminary layouts indicate that bridge support piers and footings would use approximately 0.050 acres of future park property. Visual impacts would be minor and traffic noise levels for the Project are projected to be approximately 14 dBA over existing noise levels and an increase of approximately 2 dBA over No Build noise levels. The Kennedy Interchange Relocated to the South option would require the use of approximately 4.1 acres of the park for reconstruction of connecting ramps and the widening of I-64. Likewise, the Kennedy Interchange Reconstruction In-Place option would have required the use of 4.2 acres (0.1 acre more than the relocated to the south option) of the park and would have required the relocation of River Road to accommodate the reconstruction of the I-64 to Third Street off-ramp. Therefore, FHWA determined that Alternative C-1 with the Kennedy Interchange Relocated to the South, the Downtown portion of the Selected Alternative, minimized impacts to the park. The Selected Alternative has been located as close as practicable to the existing I-65 crossing to minimize impacts to the planned park property. The planned park would be spanned by bridge to allow access underneath the bridge between the existing park and the planned park. The WDC, which is responsible for the development and maintenance of this park, has gone on record as strongly supporting Alternative C-1, indicating that Alternative C-3 “...would cause major landscape changes in a portion of Waterfront Park that is already constructed...”

Approximately 40-45 acres within the existing interchange located adjacent to Waterfront Park will be available for re-use once the Relocated Kennedy Interchange is completed. These 40-45 acres will be provided for public use to the WDC through the Louisville-Jefferson County Metro Government in accordance with 23 CFR 710.403. This requires that KYTC evaluate the environmental effects of disposal and leasing actions requiring FHWA approval as provided in 23 CFR Part 771. In accordance with 23 CFR 710.409(d), the deed of conveyance shall provide for a reversion of the property, should it not continue in public ownership and use.

Fifteen (15) of these 40-45 acres will be donated for inclusion into Waterfront Park as mitigation for all park properties impacted by Alternative C-1 and the Relocated Kennedy Interchange. The remaining approximate 30 acres will also be made available to the WDC through the Louisville-Jefferson County Metro Government. The activities for public use of these 40-45 acres will be determined in accordance with a comprehensive study of the Waterfront Park and its relationship to east downtown Louisville conducted by the Louisville-Jefferson County Metro Government.

This study will be coordinated with the historic preservation plans being developed in accordance with the MOA executed under Section 106 of the NHPA. After the relocated Kennedy Interchange is completed, the pavement and structures within these 40-45 acres will be removed prior to transferring the property unless otherwise requested by the Louisville-Jefferson County Metro Government and the Waterfront Development Corporation. The bridge will be designed to aesthetically compliment the existing landscape. Vegetative screening will be incorporated, as appropriate, into the design to decrease the amount of visual impacts upon the park.

### **3.6 Phoenix Hill Historic District – Kentucky**

Present day Phoenix Hill, known as Uptown, was part of the original town of Louisville. Most of this approximate 150-acre historic district is located east of I-65, with a narrow, one-block wide section extending two blocks to the west of I-65. The Kennedy Interchange Reconstruction to the South requires the use of approximately 2.2 acres of land from the District and would displace two contributing structures, including one industrial building and one commercial building. Traffic noise levels are projected to be approximately 80 dBA by the year 2025 with or without the Project. Interchange ramps will be placed as close as feasible to existing I-65 to minimize impacts to the District. During final design of the interchange, efforts will be made to blend the reconstructed interchange with the existing landscape as much as practicable. Reduced shoulder widths and/or steeper fill slopes will be utilized to the extent practical without compromising safety.

In addition to these design measures, the conceptual mitigation plan for this property includes an extensive numbers of measures, including the development of a HPP to provide a context to inform the implementation of specific mitigation provided for in the Section 106 MOA. The HPP may also include recommendations for additional measures that could be implemented and funded outside the Section 106 MOA. Additional measures identified for this historic property include streetscape improvements along Main and Market Streets between Floyd and Clay Streets, design and construction of roadway lighting to minimize dispersion of light beyond the right of way, and interior noise studies for St. John’s Church and Refuge in Kentucky Church. The conceptual mitigation plan also includes a provision for the development of blasting/vibration plans to avoid damage to resources within the historic district during construction. Additional measures are included for the Baer Fabrics Company property and Vermont American Building to undertake planning for reuse of these properties.

### **3.7 Butchertown Historic District – Kentucky**

Butchertown is an approximately 223-acre NRHP-listed historic district located along Beargrass Creek and Frankfort Avenue. It evolved as a major livestock/processing area in the 1800s. Reconstruction of the Kennedy Interchange to the South would use approximately 1.29 acres from this District and displace one contributing structure. Immediately adjacent to the interchange, noise levels are projected to increase in the worst case by 6 dBA over the existing noise levels by the year 2025. The Relocated option connector ramps along I-64 have been shifted as close as feasible to existing I-64 so that they would miss all five of the contributing

structures in this area that were shown in the DEIS as being displaced. The ramps along I-65 were also designed as close as feasible to the existing facility; however, one contributing structure (Grocers Ice and Cold Storage Company) in that location could not be avoided. Either interchange option would displace the Grocers Ice structure. Strategies for preservation and reuse of the Grocers Ice facade will be evaluated prior to its removal, as part of the mitigation strategies for this historic property. Final design of the interchange will aesthetically compliment the existing landscape as much as practicable. Reduced shoulder widths and/or steeper fill slopes will be utilized to the extent practical without compromising safety. Some non-contributing properties within the Butchertown Historic District currently detract from the Historic District's appearance. Some of these non-contributing properties may be considered for temporary use as staging areas during construction, where such temporary use is acceptable to the Kentucky Historic Preservation Advisory Team. Following construction, any non-contributing properties temporarily used as staging areas would be restored to a condition as good or better than it was prior to the Project. Any temporary use of land from within the Butchertown Historic District will be in accordance with 23 CFR 771.135(p)(7).

In addition to the measures noted above, the conceptual mitigation plan for this property includes an extensive numbers of measures, including the development of a HPP to provide a context to inform the implementation of specific mitigation provided for in the Section 106 MOA. The HPP may also include recommendations for additional measures that could be implemented and funded outside the Section 106 MOA. Other measures identified for this historic property include streetscape improvements within the entire historic district, implementation of appropriate noise abatement measures, design and construction of roadway lighting to minimize dispersion of light beyond the right of way, and interior noise studies for St. Joseph's Church, Franklin Street Baptist Church, Marcus Lindsay Methodist Church, and Grace Immanuel Church. In addition, funding will be provided for exterior rehabilitation of the Edison House and Wesley House. The conceptual mitigation plan also includes a provision for the development of blasting/vibration plans to avoid damage to resources within the historic district during construction and the design and construction of traffic calming measures on existing streets within the historic district. Additional measures are included for the Grocers Ice and Cold Storage Company property to undertake planning for reuse of this property, for the development of the Witherspoon Extension, and design and construction of the roadway section along the northern boundary of the historic district using embankment or other designs that support aesthetically pleasing noise abatement measures, lighting, and landscaping. A special study is also included for Mellwood and Story Avenues on the possible conversion of these two streets back to two-way traffic.

### **3.8 Extreme Sports Complex – Kentucky**

The Extreme Sports Complex is approximately 2.0 acres in size, and is located at the Clay Street and Witherspoon Street intersection. The first phase has now been completed. When fully implemented, the park will provide skateboarding, roller-blading, and stunt biking opportunities for people of all ages. Its central location makes the park accessible from all parts of the community by vehicular and pedestrian means. The Project includes a multi-purpose path and convenience station to connect and serve the Riverwalk (a 6 mile bike/pedestrian path that

extends from downtown to west Louisville), the Beargrass Creek Trail (a 3.7 mile bike/pedestrian path that extends from downtown to east Louisville), and the Butchertown bike way (and neighborhood), as well as the new Extreme Sports Complex. The Extreme Sports Complex is owned by the Louisville-Jefferson County Metro Government. The facilities that will be provided by this complex are unique from those provided by other parks and recreational areas in the vicinity, and will add to the variety of recreational opportunities available in the Downtown area.

Reconstruction of the Kennedy Interchange to the South would span over the complex; however, bridge support piers would encroach into the site. Extensive coordination was conducted with the City of Louisville to ensure compatibility of the interchange design with the proposed facilities, and the facilities were designed so that the bridge support piers would not interfere with the operation of the complex. The Project would span 1.8 acres of the 2.0-acre Extreme Sports Complex site. Direct impacts to the park would be limited to the placement of bridge support piers (6 piers in total) , which would use approximately 0.098 acre of the 2.0-acre site. Visual impacts would be minor and traffic noise levels are projected to be approximately 9 dBA over existing noise levels and an increase of approximately 2 dBA over No-Build noise levels.

### **3.9 Drumanard Estate Historic District**

The Drumanard Estate Historic District is a NRHP-listed historic district that is also part of the Country Estates of River Road Historic District or (Country Estates Historic District). The Country Estates Historic District consists of all or portions of a string of contiguous estates, many with designed landscapes, covering approximately 729.4 acres northeast of Louisville.

The Drumanard Estate is a representation of the Country Estate property type in the Suburban Development context. The property features a historic landscape designed by the nationally known firm of Olmsted Associates and a formal garden designed by Arthur Cowell of Pennsylvania. It includes a Tudor Revival style architectural cluster, one of several such examples by the locally prominent firm of Nevin and Morgan. The dwelling at Drumanard was initially listed on the NRHP in 1983. The boundary was later expanded to include the entire estate of 42 acres.

The impact of the Project on this historic district was addressed in both the Final Section 4(f) Evaluation (which was included in the FEIS) and the Technical Report on Proximity Impacts to Section 4(f) Properties. In the Final Section 4(f) Evaluation, FHWA determined that the Selected Alternative would not require the use of the surface of this historic property, thereby avoiding a “direct” use under Section 4(f). Moreover, in the technical report, FHWA determined that the Selected Alternative would not result in a constructive use of this historic property. In both instances, the use of a tunnel under the property as part of Alternative A-15 would avoid any Section 4(f) use of the historic property. In no event will any of the historic characteristics that supported listing of the Drumanard Estate Historic District in the NRHP be substantially impaired by the construction and operation of Alternative A-15 as part of the Selected Alternative.

The FHWA has concluded that the construction of a tunnel under the Drumanard Estate does not constitute a Section 4(f) use of this historic property, but even if it did, Alternative A-15 with a tunnel is the prudent and feasible eastern bridge/highway alternative that minimizes harm to Section 4(f) resources. The use of the tunnel, the preservation easement, and other commitments identified in the Section 106 MOA demonstrate all possible planning to minimize harm. All other eastern bridge alternatives – with the exception of Alternative A-16 – would have used more Section 4(f) property, and resulted in greater harm to such properties, than Alternative A-15. There are no eastern bridge alternatives that would avoid Section 4(f) property entirely (as there are no Downtown or Near East bridge alternatives that would avoid Section 4(f) property entirely).

Although Alternative A-16 would have used less Section 4(f) property than Alternative A-15, Alternative A-16 would have had substantially greater impacts to environmental resources and was therefore deemed not to be a prudent and feasible alternative to the use of Alternative A-15. As noted in the USEPA’s review of the DEIS, Alternative A-16 was rated as EO (environmental objections). The EO rating indicated that USEPA had “identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternatives.” (None of the alternatives had been identified as a Preferred Alternative at the time of USEPA’s comments on the DEIS.)

The USACE, Louisville District also stated in a letter dated March 25, 2003 that Alternative A-16 would have the greatest impact to wetlands. The USACE, Louisville District further noted that impacts to special aquatic sites which include wetlands must be authorized under a permit issued in compliance with the Section 404 (b) (1) guidelines and that it appeared that it may be difficult to prove compliance with these guidelines if Alternative A-16 were chosen. Thus, although Alternative A-16 would have had a lesser impact on Section 4(f) resources, its substantially greater impacts on environmental resources make it not a feasible and prudent alternative for the eastern portion of the Selected Alternative. Consequently, even if Alternative A-15 were deemed to require a Section 4(f) use of the Drumanard Estate Historic District, it would still be the feasible and prudent “minimization” alternative for the eastern bridge.

### **3.10 Coordination**

This Project has been coordinated with the agencies and officials having jurisdiction over the Section 4(f) resources that would be impacted. Agency coordination included a Federal Stakeholders Executive Briefing on October 6, 1998 and Early Coordination initiated in December 1998 resulting in correspondence from the U.S. National Park Service dated February 11, 1999, USACE, Louisville District dated February 2, 1999; and numerous pieces of correspondence from the Indiana and Kentucky SHPOs between January 1999 and August 2001. The Kentucky State Nature Preserve Commission was represented at the September 8, 1999 Agency Scoping Meeting and provided information related to Section 4(f) resources by correspondence dated September 3, 1999. A number of agencies and officials with jurisdiction over Section 4(f) properties also reviewed and commented on the Draft Section 4(f) Evaluation, including the Advisory Council on Historic Preservation, U.S. Department of the Interior,

Kentucky Natural Resources and Environmental Protection Cabinet, Kentucky SHPO, Indiana Department of Environmental Management, Indiana Department of Natural Resources, Indiana SHPO, USACE, Louisville District, City of Louisville (Kentucky), City of Jeffersonville (Indiana), Louisville Waterfront Development Corporation, and Ohio River Greenway Commission. Comments and information have been incorporated, as appropriate, into the Final Section 4(f) Evaluation.

Archaeological and historical reports were coordinated with the Indiana and Kentucky SHPOs for determination of eligibility and assessment of impacts. Parks, refuges and recreation areas were coordinated with the agencies and officials having jurisdiction over each resource. In addition to formal coordination meetings, there were numerous informal meetings, discussions and telephone conversations with local officials and park representatives to solicit information and concerns about individual resources. Their information and input was used to develop alternatives that would minimize impacts to the parks and greenway.

Coordination on the Greenway Corridor included the Ohio River Greenway Commission, the Jeffersonville Redevelopment Department, the USACE, Louisville District, and the cities of Jeffersonville and Clarksville. Coordination on the Waterfront Park included the Louisville-Jefferson County Metro Government and the WDC to insure joint planning and compatibility of the Project with the current and planned facilities. Coordination on the Extreme Sports Park included extensive coordination with the City of Louisville, resulting in compatibility of the interchange with the complex. Planning for the Extreme Sports Complex began while planning for the Project was in the preliminary design stage and the two plans were coordinated for maximum compatibility.

FHWA entered into additional coordination with the SHPOs on the Allison-Barrickman property, Belleview property and Utica Lime Kilns after release of the FEIS to evaluate comments received on these properties and determined there would be no 4(f) use of these properties (see Attachment C).

### **3.11 Conclusion**

Based on the detailed evaluation of alternatives presented in the Environmental Impact Statement and Section 4(f) Evaluation for this Project, FHWA has determined that the Two Bridges/Highway Alternative, combining Alternative A-15, Alternative C-1 and the Relocated Option for reconstructing the Kennedy Interchange, is the feasible and prudent alternative with the least harm to Section 4(f) properties and is, therefore, the Selected Alternative. None of the other alternatives evaluated in the EIS (the Single Bridge/Highway, Transportation Management, and No Action alternatives) would provide a sufficient solution to address the needs identified in the Statement of Purpose and Need, Chapter 2 of the FEIS, and therefore do not constitute feasible and prudent alternatives. Moreover, none of the individual bridge alternatives evaluated in the Downtown, Near East, and Far East corridors would entirely avoid the use of Section 4(f) property. Therefore, FHWA has determined through its Section 4(f) Evaluation that there is no feasible and prudent alternative that would entirely avoid the use of Section 4(f) property. The Selected Alternative also incorporates all possible planning to minimize harm to Section 4(f) resources to the maximum extent practicable, as described in detail in Chapter 6 of the FEIS and in this Section 3 of the ROD.

## **4. Measures to Minimize Harm**

Throughout the alternatives development process, alternatives have been designed to avoid and minimize, to the extent practicable, impacts to environmental resources. An extensive mitigation plan was developed for the Project for unavoidable impacts, including conceptual measures that will be further developed during the development of construction plans. These mitigation measures are detailed in Chapter 8 of the FEIS and summarized in the following material, below, in three basic categories – mitigation commitments, avoidance commitments, and project enhancements:

### **4.1 Mitigation Commitments**

These mitigation measures will be implemented during the design and construction phases of project development.

#### **4.1.1 Context Sensitive Solutions**

- The roadways, bridges, and other Project elements shall be designed and constructed with sensitivity to communities, neighborhoods, adjacent environs, aesthetic values, historic cultural landscapes, and historic contexts; utilizing the services of professionals with experience in areas related to historic preservation. Designs shall include aesthetic treatments to surfaces, structures, portals, appurtenances, and land contours and landscaping that complement the historical contexts of historic properties.
- Develop designs for the Ohio River Bridges through State Context Sensitive development procedures that include an appropriate balance of cost, sensitivity to the landscape, and local/regional desires.
- The proposed bridge for Alternative C-1 will not block approaching mariners' views of the Kennedy Bridge.
- The proposed bridge for Alternative C-1 will provide a 1,100 foot navigation span with piers set 200 feet outside of the Kennedy Bridge piers on either side of the channel.
- The computer model at the Center for Maritime Education (CME) of the Seaman's Institute located in Paducah, Kentucky will be used to determine pier placement.
- Limited access right-of-way will be purchased along U.S. 42 near the ramps controlling induced development.
- During final design, landlocked parcels will be identified. The owners of any landlocked parcels will be offered a buy-out, based on the fair market value of the parcel before it was landlocked.

#### **4.1.2 Endangered Species**

The following measures were identified during the coordination and consultation on project impacts to endangered species listed for the area. More detail about these measures is provided in the Biological Assessment included as Section IV of the FEIS Chapter 8.

- Tree removal in construction zones must be scheduled between October 15 and March 31 to prevent disturbance to trees that may harbor the Indiana bat summer colonies.
- In order to maintain a riparian buffer zone, tree cutting will be minimized within the construction limits and will be limited to that absolutely necessary to complete the Project.
- Disturbed areas will be re-vegetated to the maximum extent possible with tree species that produce sloughing bark and snags. Species to consider include White oak, Northern red oak, White ash, Shagbark hickory, Slippery elm, Black locust, American elm, Shellbark hickory, cottonwood and sycamore.
- Preservation of surface water quality within the Gray bat and Indiana bat forage areas will be controlled by minimizing stream-crossing impacts. Channel work, such as vegetation clearing, channel widening, shaping of spill slopes and placement of riprap, will be limited to the construction limits. Riprap used for bank stabilization will extend below the low water level to aid in the establishment of aquatic life and potential food reservoir.
- In order to protect forage areas for the Indiana and Gray bats and to maintain water quality the following management practices shall be implemented: no equipment will be allowed directly in the streams. Staging, refueling and cleanup areas will not be allowed along-side streams. KYTC and INDOT BMP's for stream protection will be in place during project construction.
- Hollow trees, trees with sloughing bark, and other large trees that fall within the Project limits will be avoided to the maximum practical extent and delineated by special notes in the plans and measures such as special fencing during construction.
- All construction equipment used in the Ohio River and tributaries will be free of Zebra Mussel adults and veligers. Any construction equipment that has been used in waters that could have been infested with Zebra Mussels will be appropriately disinfected and inspected for Zebra Mussel adults and veligers prior to use in the Ohio River and tributaries. A special note shall be included in the final plans providing information on the appearance and characteristics of zebra mussels, importance of steps required to minimize or eliminate potential infestation, and other special steps that may be appropriate for the particular phased approach to the final project.
- The FHWA commits to initiating additional Section 7 coordination and consultation that may be required as a result of the passage of time or the listing of species/modification of critical habitat; the United States Fish and Wildlife Service (USFWS) will be consulted, pursuant to applicable regulations.

#### **4.1.3 Erosion Control**

- Construction limits will be minimized.
- Best Management Practices (BMP) will be utilized to prevent non-source point pollution, to control storm water runoff and to minimize sediment damage to water quality and aquatic habitats.

- Erosion control measures such as berms, dikes, geotextile filter cloths, slope drains, sediment basins, mulched seeding, sodding, and riprap will be installed where appropriate.
- Use of sediment traps will be determined for specific streams as dictated by the construction permit process.
- Temporary and permanent erosion control features will be incorporated into the Project at the earliest practicable time as construction progresses.
- When seeding or sodding must be delayed, temporary erosion protection with mulches, fiber mats, matting, dust palliatives, crust-forming chemicals, or plastic sheets will be provided.
- The contractor will be required to develop a plan detailing the source and method of transportation of borrow/fill.
- When borrow material is obtained from other than commercially operated sources, erosion of the borrow site shall be controlled during and after completion of the work by minimizing the erosion in such a way that it will prevent sediment from entering streams or other bodies of water.
- Waste or disposal areas and construction roads will be located and constructed in a manner that will keep sediment from entering streams. BMPs such as diversion channels, dikes, and sediment traps will be used for this purpose.
- All excavated materials not utilized for roadway embankment or disposed of off-site will be hauled for storage to an upland site and secured in such a manner as to prevent runoff from entering streams.
- Implementing an approved soil erosion and sedimentation control plan will control erosion within the construction limits. All construction activities must comply with federal and state soil erosion and sedimentation regulations. This plan will be developed in conjunction with final construction plans. The INDOT Standard Specifications and Special Provisions will govern construction activities in Indiana to control erosion and subsequent water pollution. The KYTC Standard Specifications for Road and Bridge Construction will guide construction activities in Kentucky.

#### **4.1.4 Air Pollution**

- Construction activities will be performed in a manner that controls emissions from burning (where allowed), drilling, blasting, production of materials, hauling, or any other necessary construction operations of any kind.
- Air pollution associated with dust will be effectively controlled through the use of watering, the application of calcium chloride, or other techniques in accordance with the KYTC and the INDOT specifications. Watering work areas to increase moisture and reduce dust will control air pollutants generated by construction.
- Contract specifications will dictate that all drilling, grinding, and sawing of rock, shale, concrete, and other similar dust-producing materials be performed with equipment provided with water sprays, fabric-filtered collection systems, or other suitable devices to prevent excessive dust from becoming airborne.

- Emissions from construction equipment will be controlled in accordance with emission standards prescribed under state and federal regulations. Equipment must be maintained in proper mechanical condition with original exhaust equipment.
- All construction equipment will be required to comply with Occupational Safety and Health Administration (OSHA) regulations.
- No burning of construction wastes will be permitted without proper variance from the Indiana Department of Environmental Management (IDEM) and/or the Kentucky Natural Resources and Environmental Protection Cabinet (KNREPC) as well as any local air agencies regulating these types of activities. All burning will be conducted in accordance with applicable laws, ordinances, rules and regulations.

#### 4.1.5 Noise

- The City of Louisville has a local noise ordinance with specific provisions that regulate construction noise. Those provisions will be incorporated into the Project specifications.
- Barriers for the neighborhoods below are likely, however, as part of the final design process, more detailed barrier analyses and design will be performed utilizing the more detailed design information that will be available at that time. Potentially reasonable and feasible noise barriers will be coordinated with the affected communities for their input to determine if there is local support for proposed barriers. Those communities whose input will be sought include the following, but not necessarily limited to:
  - Green Spring/Wolf Creek Neighborhood (receptors 21, 22, 23, 24, 25 and 41)
  - Wolfpen Woods Neighborhood (receptors 26 and 27)
  - Bridgepointe Neighborhood (receptors 28, 29 and 30)
  - Harbor at Harrods Creek Condominiums (receptors 36, 37, 39 and 40)
  - Boulder Creek subdivision (receptors 120 and 121)
  - East Side of I-65 between Muhammad Ali and Market Street (receptor 70)
  - Butchertown Neighborhood - West Side of I-64 from Mellwood Avenue to Story Avenue (receptors H27 and H28)
  - Old Jeffersonville Historic District (receptors 108, 109 and 110)

Final decisions regarding exact noise barrier locations, heights and types will be made at the time of final design in accordance with federal and state noise policies. Barrier feasibility will be re-evaluated during the final design phase for two additional locations:

- Butchertown Neighborhood – South side of Kennedy Interchange from Main to I-64 and along south side of Witherspoon Drive (receptor 68)
- Harbours Condominium – West side of I-65 from Kennedy Bridge to Court Avenue (receptor 111)

(See Chapter 5.5, Tables 5.5-2 and 5.5-3 and Figures 5.5-1 through 5.5-5 of the FEIS for more detailed information regarding noise impacts)

- Post-construction noise measurements will be taken to measure the effectiveness of the noise wall installations upon completion of the Project in 2020.
- Additional noise mitigation measures are included in the executed Section 106 MOA.

#### **4.1.6 Construction Blasting**

- The blasting program will be designed and performed by certified contractors.
- Prior to the initiation of any blasting, a minimum of one small test charge will be set for each new drill-and-blast site prior to establishing local ground-borne vibration propagation characteristics. This test charge will be set below the threshold level for that location.
- Seismometers or other devices placed by the blasting contractor around a drill-and-blast site to monitor vibration levels will be used in refining the blasting program and to document compliance with the specification limits.
- Adjustments in the charge per delay will be considered for any change in condition encountered during construction and as a result of monitored vibration levels.
- Blasting programs will be utilized that prevent ground vibration in excess of 2.0 in/sec PPV at any structure; in excess of 0.5 in/sec PPV at any residential structure; in excess of 0.2 in/sec PPV at any fragile buildings; and in excess of 0.12 in/sec PPV at any very fragile historical buildings.
- Condition surveys will be conducted for structures within 500 feet of a drill-and-blast site, prior to initiation of blasting and after completion of work, with landowners permission.

#### **4.1.7 Woody Revegetation**

- DO NOT DISTURB signs will be placed at the construction zone boundaries for those portions of the Project within Indiana. These signs will be placed beyond the construction limits to protect revegetation areas and areas of existing vegetation. Trees that fall within the right-of-way, but outside of the construction limits, will be identified during the design phase and delineated by fencing or other measures to minimize impacts.
- DO NOT MOW OR SPRAY signs will be posted along the right-of-way for selected areas (areas of woody revegetation, wetlands and preservation of existing woody vegetation) in Indiana in accordance with INDOT requirements and in selected areas in Kentucky where mitigation plantings may be required.
- INDOT will purchase at a 1:1 ratio existing woodland for preservation or revegetate upland woodland at a 1:1 ratio to mitigate forested habitat lost as a result of this Project.
- Excess parcels that have been purchased as part of this Project will be utilized for wetland mitigation or reforestation as appropriate.
- Invasive-free mulches, topsoil and seed mixtures, and eradication strategies to eliminate known invasive species will be incorporated into the final project.
- Provisions will be included in the final plans emphasizing the selection of construction and landscaping techniques and equipment that will minimize the spread of invasive plant species, particularly in areas where steep slopes are involved. Attention shall also be given to minimizing soil disturbance during vegetation management activities. Invasive-free mulches, topsoil and seed mixtures, and eradication strategies to eliminate known species will be incorporated into the final project.

- KYTC will provide for replacement of trees removed by construction in those areas where dense vegetation provided a buffer for abutting properties.
- KYTC will include trees or other types of vegetation in the revegetation plan developed for the Project for noise barrier walls included with the Project.
- KYTC will consult with the Bridgepointe Neighborhood Association and consider their recommendations in developing a landscape component for any wall placed along the border of the neighborhood.
- The area between Utica – Sellersburg Road and Salem Road has at least three distinct passageways that wildlife could use. The Selected Alternative would bridge two of the three, thereby providing corridors for wildlife passage through the area.
- A large culvert is located within the drainage channel that flows from the Indiana Army Ammunition Plant (INAAP) property toward Utica and into the Ohio River. This culvert could provide a passageway for wildlife within this area.
- A tributary of Lentzier Creek flows along the side of the Utica – Charlestown Road. The forested area on either side of the Selected Alternative would be connected by a bridge that would span both the road and the stream tributary. The selection of a bridge span or culvert size will be determined in the final design and will include consideration for wildlife passage.

#### **4.1.8 Water Pollution**

- The Project includes two crossings of the Ohio River and crossings of Harrods Creek, Lentzier Creek, two major tributaries of Lentzier Creek, and Beargrass Creek and bridge structures will be designed and constructed for these crossings.
- Work in the low-water channel of existing streams will be minimized to the maximum practicable extent by limiting construction to the placement of required drainage structures or structure components such as piers, pilings, footings, cofferdams, shaping of spill slopes around bridge abutments and placement of riprap.
- Frequent fording of live streams will not be permitted. Temporary bridges or other structures will be used whenever necessary. Mechanical equipment will not be allowed in wetlands beyond the construction limits. Only coarse granular material will be placed in live streams during construction. Any temporary river accesses built in conjunction with this Project will be completely removed upon completion of construction activities.
- Pollutants such as fuels, lubricants, bitumens, raw sewage and other harmful materials will not be discharged into or near rivers, streams and impoundments or into natural or manmade channels leading thereto. Wash water or waste from concrete mixing operations will not be allowed to enter live streams.
- A non-toxic flocculent agent or other acceptable method of preventing siltation will be used in cofferdams during cofferdam dewatering.
- Below low water, channel work outside of cofferdams will be avoided during the fish-spawning season between April 1 and June 30.
- Bridge deck runoff shall be collected within a drainage system designed as an element of Alternative A-15 that includes bridge-deck drains and storm sewers that will transport runoff to the Kentucky end of the bridge. Storm sewers shall be connected and runoff

emptied into a storage area designed to hold the one-hour peak discharge for a 100-year storm event. The storm water will then either be released to a surface drainage system or pumped into trucks and transported to a facility approved to receive such contents.

- The Kentucky Transportation Cabinet will work with the Kentucky Division of Water in developing and implementing Groundwater Protection Plans prior to construction through the Louisville Water Company Wellhead Protection Area in accordance with 401 KAR 5:037.
- In addition to the temporary and permanent erosion control measures included in the KYTC Standards for Road and Bridge Construction and the INDOT Standard Specifications, the following additional measures are to be incorporated into construction through the LWC wellhead protection area:
  - a. Work within the wellhead protection area shall be limited to that included in the plans, unless otherwise approved by the Engineer in writing.
  - b. Plants shall not be placed nor shall equipment and materials be stored within the wellhead protection area.
  - c. Equipment required for construction of the bridge piers may be located within the wellhead protection area, provided a berm is constructed around the equipment and a liner placed within the bermed area to protect against any accidental release.
  - d. Equipment required for construction of the bridge piers shall be moved from the wellhead protection area at the earliest opportunity, berms and liners removed and any materials contained within the bermed area transported to an approved disposal site, outside the wellhead protection area.
- Design and construction of bridge piers within the wellhead protection area are to be developed to include the following measures, to be modified as appropriate after the final structure type is selected and the specific construction requirements of the footers and piers has been developed:
  - a. The contractor shall minimize to the extent possible the area that must be disturbed to construct bridge piers and other elements of the bridge substructure located below the surface.
  - b. Any voids left between the pier and surrounding ground shall be sealed by using bentonite clay or other approved materials, as soon as possible after completion of work on the pier.
- Design and construction of bridge piers within the Ohio River shall include the use of cofferdams that minimize the amount of streambed disturbance or other construction techniques that would further limit resuspension of streambed sediments. In addition to the provisions of Section 212 and 213 of the KYTC, Department of Highways Standard Specifications for Road and Bridge Construction, current edition, and INDOT Standard Specification, current edition, material removed from the cofferdams shall be disposed of at approved sites outside the Ohio River and its floodplain.
- Pier construction methods and drainage system will be coordinated with the LWC and the Groundwater Protection Branch of the Kentucky Division of Water to assure construction methods are employed to prevent contamination of the aquifer.
- The following provisions shall apply to the spillage or release of hazardous materials during construction or operation of the Indiana portion of the Project:

- Construction – Hazardous material releases, oil spills, fish/animal kills and radiological incidents must be reported to Office of Emergency Response, IDEM (888) 233-7745. This should occur as soon as action has been taken to either contain/control the extent of the release, or protect persons, animals or fish from harm or further harm. Appropriate response actions for spills occurring on project sites, in order:
  - Identify the spilled material from a safe distance,
  - Contain the spilled material or block/restrict its flow using absorbent booms/pillows, dirt, sand or by other available means,
  - Cordon off the area of the spill,
  - Deny entry to the cordoned off area to all but response personnel, and
  - Contact OER/IDEM then Operations Support.
 See the Spill Response Section of the Laws and Regulations Section for further information.
- Operations – INDOT Hazardous Material Accidents/Incidents Policy, February 1992 (Revised July 1998 or most recent version.)
- The following provisions shall apply to the spillage or release of hazardous materials during construction or operation of the Kentucky portion of the Project:
  - Construction – Contractor to prepare spill containment plan at the Pre Construction Conference for his proposed operations and receive approval prior to the initiation of work.
  - Operations – Chapter 10 of the KYTC Operations Guidance Manual – Cleanup and Restoration Work (71-10.0500)

#### 4.1.9 Wetlands

- The USACE, Louisville District met with FHWA on March 17, 2003 to discuss the selection of a Preferred Alternative, assure that the Preferred Alternative is the least damaging practicable alternative, and discuss potential mitigation sites. The USACE, Louisville District issued a letter dated March 25, 2003 to summarize their preferences (see FEIS Appendix C.9). The USACE, Louisville District suggested that it would be best to complete final delineations as final design commences, so that efforts can be made to further minimize wetland impacts during final design. These delineations and minimization efforts are needed for the detailed permit application that will be required at that stage, to fulfill the USACE, Louisville District review requirements under the Section 404(b)(1) Guidelines. The USACE, Louisville District noted that Alternative A-15 has the smallest wetland impacts (from practicable alternatives), and as such expressed skepticism that Alternative A-16 (with greater wetland impacts) could demonstrate compliance with the Section 404(b)(1) Guidelines. The USACE, Louisville District noted that prior converted cropland is available in Clark County, Indiana that could be used for wetland mitigation. They noted that such mitigation is their preference and that alternative mitigation such as wetland banks or in-lieu-fee programs should only be used as a last resort.
- A monitoring plan, approved by the permitting agencies, will be included with the wetland mitigation plan.

- Design modifications including narrowing medians, shoulder widths and spanning wetlands will be considered during the design of the Selected Alternative.
- Continued minimization of wetlands will be repeated during the development of design.
- Conceptually identified available sites along Lentzier Creek, in Indiana, will be given priority. Prior to construction, the appropriate State and Federal permits will be obtained and right-of-way will be acquired for the development of mitigation sites.

#### **4.1.10 Park Resources**

- Any excess right-of-way adjacent to a park affected by the Selected Alternative will be available for use by the parks.
- The bridge will be designed to aesthetically compliment the existing landscape of the parks affected by the Selected Alternative.
- Vegetative screening will be incorporated, as appropriate, into the design to decrease the amount of visual impacts upon the parks.
- Park properties will be spanned by bridge to minimize impacts and to allow access underneath the bridge.
- No construction activities other than those described in the EIS will be conducted in Parks without additional 4(f) analysis and approval.
- Approximately 40-45 acres within the existing interchange located adjacent to the park will be available for re-use. These 40-45 acres will be provided for public use to the Waterfront Development Corporation through the Louisville-Jefferson County Metro Government in accordance with 23 CFR 710.403.
  - Fifteen (15) of these 40-45 acres will be donated for inclusion into Waterfront Park as part of mitigation for Section 4(f) impacts.
  - The remaining acreage will also be made available to the Waterfront Development Corporation through the Louisville-Jefferson County Metro Government.
- The activities for public use of the 40-45 acres will be determined in accordance with a comprehensive study of the Waterfront Park and its relationship to east downtown Louisville conducted by the Louisville-Jefferson County Metro Government. This study will be coordinated with the historic preservation plans being developed in accordance with the MOA executed under Section 106 of the NHPA.
- The pavement and structures within the 40-45 acres will be removed prior to transferring of the property unless otherwise requested by the Louisville-Jefferson County Metro Government and the Waterfront Development Corporation.

#### **4.1.11 Traffic Control**

- Minimize disruption to access for properties during construction, including access to Wolf Pen Branch Road at Bridgepointe's back gate during construction of the permanent bridge over KY 841 and any temporary bridge required to complete that work.
- Provide the public with advance information on traffic control measures through appropriate media prior to implementation of those measures.

- Consult with school and bus administrators prior to implementing construction on project elements.
- Consult with local officials in developing maintenance of traffic plans for construction projects to minimize use of subdivision streets by through traffic.

#### **4.1.12 Tunnel Design, Construction, and Operation**

- Design and construct the rock cuts at either end of the tunnel to provide a durable and aesthetic transition into the tunnel portals, including consideration for tiering and landscaping to complement the tunnel portal design.
- Incorporate state-of-the art materials and concepts into the design of the cut section and tunnel that can provide additional, cost-effective benefit in minimizing noise impacts for this section of roadway.
- KYTC will consult with the City of Prospect, Bridgepointe Neighborhood Association, and representatives of properties along the section of A-15 between the Wolf Pen Road Bridge and US 42 about the placement of a safety wall in lieu of an access control fence to provide a more positive separation between the roadway and adjacent properties. The height, shape and facing of any safety wall placed within this section of the Project will be developed through consultation with adjoining property owners and in a manner that complements other noise mitigation measures incorporated into the Project.
- Design the tunnel portals, Wolf Pen Branch Road Bridge over A-15, and the westbound exit ramp bridge to US 42 to include an aesthetic treatment such as creekstone, stonework used at the entrance to Bridgepointe or other similar treatment that enhances the appearance of these structures.
- Incorporate appropriate crash protection devices at the tunnel portals.
- Develop an Emergency Response Plan as a part of tunnel design that includes emergency response routes for access to both ends of the tunnel during an incident.
- Develop a Training Program for local safety officials on emergency response provisions of the Emergency Response Plan and implement prior to opening of tunnel to traffic.
- Expand ITS system to include equipment for monitoring traffic on the approaches to the tunnel and complement emergency response plan developed for the Project.
- Include sufficient video cameras within the tunnels as part of the ITS system expansion with monitors located within local police and fire protection facilities for 24-hour response.
- Include sufficient electronic warning signs east of I-71 and in Indiana as part of the ITS system expansion for effective re-routing of traffic during incidents.

#### **4.1.13 Historical and Archaeological Resources**

Measures included in the Selected Alternative for the mitigation of impacts to historic properties are detailed in the Section 106 MOA included as Attachment D. The following is a summary of the measures included for the Project.

*Stipulation I* – Project Coordination – Process and procedures provided for establishing Historic Preservation Advisory Teams for the Indiana and Kentucky portions of the Project.

*Stipulation II* – Project Development – Stipulations provided that are applicable to the overall construction of the Project unless otherwise identified, including:

- a. Project Goals,
- b. Public Involvement,
- c. Context Sensitive Solutions,
- d. Roadway Lighting,
- e. Noise Abatement,
- f. Historic Preservation Plans,
- g. Survey Updates,
- h. Historic Preservation Easements,
- i. National Register Documentation and Nomination,
- j. Streetscape Improvements,
- k. Interpretative Signage,
- l. Blasting and Vibration,
- m. Timing of Construction Activities,
- n. No-Work Zones,
- o. Smart Growth Conference, and
- p. Education and Interpretation.

*Stipulation III* – Site Specific Mitigation – In addition to the measures included in Stipulation II, additional site specific mitigation measures are included for:

- a. Train Depot – Indiana
- b. Colgate-Palmolive Historic District – Indiana
- c. Ohio Falls Car and Locomotive Company Historic District – Indiana
- d. George Rogers Clark Memorial Bridge – Indiana/Kentucky
- e. Old Jeffersonville Historic District – Indiana
- f. INAAP Igloo Storage Historic District – Indiana
- g. Lentz Cemetery – Indiana
- h. Lime Kilns within the Utica Lime Industry Multiple Property Listing – Indiana
- i. Swartz Farm Rural Historic District – Indiana
- j. Trolley Barn – Kentucky
- k. Butchertown Historic District – Kentucky
- l. Phoenix Hill Historic District – Kentucky
- m. Country Estates Historic District/River Road Corridor – Kentucky
- n. Drumanard – Kentucky
- o. Allison-Barrickman House – Kentucky
- p. Rosewell – Kentucky
- q. Belleview – Kentucky

*Stipulation IV* – Archaeological Resources – The final identification, evaluation, and determination of Project effect for archaeological resources has been phased and will be completed in accordance with the steps outlined in this stipulation, including:

- a. Implementation Standards
- b. Identification
- c. Evaluation

- d. Assessment of Effects
- e. Treatment
- f. Qualifications and Reporting
- g. Distribution of Final Reports

*Stipulation V – Unanticipated Discoveries – Steps provided for addressing discovery of previously unidentified property or previously identified historic property that is affected in an unanticipated manner.*

*Stipulation VI – Additional Historic Properties Effects – Steps provided for determining if historic properties in addition to those identified in the Section 106 MOA may be affected by sites for staging, wetland mitigation, borrow or waste, dredge disposal or other construction activities associated with the Project.*

*Stipulation VII – Excess Right of Way – Steps provided for disposal of any excess right of way.*

*Stipulation VIII – Performance Standards – Requirements for providing services to be carried out pursuant to the Section 106 MOA identified.*

*Stipulation IX – Progress Reports – Provisions for progress reports identified.*

*Stipulation X – Project Modification – Steps provided for the Section 106 MOA Signatories to consult on significant modifications to the Project that may cause additional effects to historic properties not previously considered or actions taken by a property's owners in the interim unrelated to the Project which change the NRHP status of previously identified historic properties affected by the Project.*

*Stipulation XI – Amendment – Provisions identified for amending the Section 106 MOA.*

*Stipulation XII – Failure to Comply/Termination – Steps provided for addressing situation where the Section 106 MOA terms cannot be or are not being carried out.*

*Stipulation XIII – Dispute Resolution – Steps provided for signatory or concurring party to object in writing for disputes about the implementation of actions provided for in the Section 106 MOA.*

*Stipulation XIV – Duration – Provision for additional consultation if terms of the Section 106 MOA not completed within 20 years following its execution.*

## **4.2 Avoidance Commitments**

These mitigation measures will be advanced through the design and construction phases of project development.

- Alternative C-1 has been located as close as feasible to the existing I-65 crossing to minimize impacts to the Greenway Corridor and Ashland Parks.
- The ramps and structures have been located so they will minimize impacts to the Extreme Sports Complex.
- Alternative A-15 has been shifted to the northeast to avoid any use of the Allison-Barrickman property.
- The Relocated option connector ramps along I-64 have been shifted as close as feasible to existing I-64 so that they will now miss all five of the contributing structures in the Butchertown Historic District that were shown in the DEIS as being displaced. The ramps along I-65 were also designed as close as feasible to the existing facility.

- Alternative C-1 will be built over currently undeveloped (although planned) Waterfront Park property, which until recently has been used for industrial purposes (asphalt transfer facility), and has been located as close as practicable to the existing I-65 crossing to minimize impacts to the planned park property.
- Drainage basin provided for in 4.1.8 within the Louisville Water Company Wellhead Protection Area shall not be located within a Section 4(f) site.

### **4.3 Project Enhancements**

Funding for the following five planning/design enhancements will also be included in the Project to support integration of project elements into the community.

#### **4.3.1 Kennedy Interchange: East Louisville Downtown Area Planning**

KYTC has agreed to transfer ownership of 40-45 acres of excess right-of-way to the Louisville-Jefferson County Metro Government for use by the Waterfront Development Corporation. Fifteen acres (out of 40-45 acres) will serve as mitigation for project impacts to parks. Funding in the amount of \$450,000 will be provided for planning and design analysis of urban design elements for the East Louisville Downtown Area relating to the reconstruction of the Kennedy Interchange. This effort will build upon the 2002 Louisville Downtown Development Plan. The following elements will be included in this analysis:

- Planning for opportunities to integrate the Project into surrounding neighborhoods, downtown, and Waterfront Park.
- Recommendations of appropriate locations for potential construction staging areas, including efforts to remove and/or relocate existing nuisance uses and return them to the community as new infill development sites post-construction.
- Identification of reclamation requirements for reuse of existing Kennedy Interchange right-of-way.
- Development of future land use plan for existing Kennedy Interchange right-of-way consistent with the other provisions in this document and the Memorandum of Agreement for Historic Properties.
- Development of improved surface street access to the Louisville Medical Center, the region's foremost hub of medical services and facilities, including its only secondary and tertiary care treatment centers.

### **4.3.2 Downtown/West Louisville Access Planning**

Funding in the amount of \$150,000 will be provided for the development of a pedestrian and vehicular access plan for the Louisville Central Business District and West Louisville Area. This effort will build upon the 2002 Louisville Downtown Development Plan. The plan will define opportunities to improve pedestrian and vehicle access within the redesigned Kennedy Interchange and its I-64 west approach and will focus on reconnection to the waterfront. The following elements will be included in this analysis:

- Improvement to the arterial road system in proximity to existing and new highway ramps to provide better flow of traffic on the surface street system. Particular attention will be paid to improving connections from west Louisville.
- Improvement of connections to and from the central business district and west Louisville under and through the existing and proposed Interstate facilities, including improved connections to the West Main Street Cultural Arts District, a major entrance point into the central business district.

### **4.3.3 Minority Historic Rehabilitation Craftsman Training Program**

Funding in the amount of \$1,500,000 will be included in the Project for the establishment of a five year Disadvantaged Minority Craftsman Training Program in Historic Preservation. Due to the small number of available persons in the area trained in the crafts necessary for the rehabilitation of historic properties, this Project will establish a program that will train disadvantaged individuals in the necessary techniques and skills required for preservation and rehabilitation of historic structures. The Historic Preservation Plans developed for the historic properties impacted by this Project will identify opportunities for rehabilitation of historic structures where these craftsmen could be employed. This program will be headquartered at the Trolley Barn, site of the proposed Kentucky Center for African-American Heritage in West Louisville. The start-up cost is \$900,000 during the first year with an annual operating cost for the program of \$120,000 for five (5) years. The start-up cost includes site preparation and construction for Building C of the Trolley Barn complex for offices and training facilities. Oversight of this effort will be by FHWA, KYTC, KY SHPO and other groups as invited.

### **4.3.4 Rehabilitation of Trolley Barn Buildings in West Louisville**

Funding in the amount of \$10 million will be included in the Project for the restoration and adaptive reuse of the Trolley Barn. The Kentucky Center for African-American Heritage will be located in the Rehabilitated Trolley Barn Buildings. This complex is located at 17<sup>th</sup> Street and Muhammad Ali Boulevard in West Louisville.

The overall goal of the Kentucky Center for African American Heritage is to create a new focal point that includes a mixture of cultural, social, and educational programs as well as retail stores in a complex that is perceived as culturally significant. New and existing retail businesses that compliment the cultural arts emphasis will be encouraged to locate in the facility. Educational and entertainment exhibits, which tell the story of famous and historically significant African

Americans from Louisville and the surrounding region, will showcase their contributions to the community's history, and also focus on culturally and regionally unique characteristics.

This Project will provide \$800,000 per year for ten (10) years and \$1,000,000 for the final two years beginning in 2005. The Louisville-Jefferson County Metro Government in cooperation with the Kentucky African American Heritage Foundation, the KY-SHPO, KYTC, and FHWA will administer this restoration of Trolley Barn buildings. See Table 4.3-1 for the schedule of proposed funding.

**TABLE 4.3-1  
Funding Outlays for Historic Rehabilitation Craftsman Training Program and Rehabilitation of Trolley Barn Buildings in West Louisville**

<b>Year</b>	<b>Craftsmen</b>	<b>Trolley Barn</b>	<b>Total</b>
2004	\$900,000	N/A	\$900,000
2005	\$120,000	\$800,000	\$920,000
2006	\$120,000	\$800,000	\$920,000
2007	\$120,000	\$800,000	\$920,000
2008	\$120,000	\$800,000	\$920,000
2009	\$120,000	\$800,000	\$920,000
2010		\$800,000	\$800,000
2011		\$800,000	\$800,000
2012		\$800,000	\$800,000
2013		\$800,000	\$800,000
2014		\$800,000	\$800,000
2015		\$1,000,000	\$1,000,000
2016		\$1,000,000	\$1,000,000
<b>Total</b>	<b>\$1,500,000</b>	<b>\$10,000,000</b>	<b>\$11,500,000</b>

#### 4.3.5 Clark County Planning

INDOT will fund a \$300,000 grant for Clark County that will be used to accomplish one or more of the following objectives:

- Hiring professional planning consultants to revise Clark County's comprehensive plan, zoning maps, zoning code, and subdivision control ordinance;
- Developing strategies for funding on-going planning and zoning functions (such as writing an impact fee ordinance or other code requirements that collect money from developments to fund inspections, road widening, needed infrastructure, and the like);
- Creating a public education campaign; and, in general,
- Developing other strategies to encourage wise, aesthetically pleasing, environmentally protective, history-minded, and economy generating "smart" growth in the areas affected by the bridge construction.

## 5. Monitoring or Enforcement Program

As part of the commitment to continue efforts to minimize impacts from the Project, several monitoring and coordination commitments have been made in this Record of Decision (ROD), the FEIS/Section 4(f) Evaluation, and the Section 106 MOA. Monitoring programs will include those conditions of the Section 404 Permit with respect to wetlands and other aquatic resources (ex: wetland mitigation success). To ensure compliance with all appropriate Federal and State regulations, necessary permits will be obtained prior to construction. These include:

<u>Agency</u>	<u>Permit</u>
USACE	Section 404 Permit for Discharge of Dredged or Fill Material into Waters of the United States
USACE	Construction, Dumping and Dredging Permit (Section 10)
U. S. Coast Guard	Bridge Permit (Section 9)
U. S. Federal Aviation Administration	FAA Form 7460-1 Notice or Proposed Construction or Alteration
Kentucky Airport Zoning Commission	Lighting required for top of structures over Ohio River
Indiana Department of Environmental Management	Section 401 Water Quality Certification
Indiana Department of Environmental Management	National Pollution Discharge Elimination System, Rule 5
Indiana Department of Natural Resources	Construction in a Floodway Permit
Kentucky NREPC, Division of Water	Floodplain Construction Permit
Kentucky NREPC, Division of Water	Section 401 Water Quality Certification
Kentucky NREPC, Division of Water	National Pollution Discharge Elimination System, Rule 5

The FHWA will continue to oversee all activities associated with this Project. The INDOT and KYTC will be hiring a General Engineering Consultant (GEC) to oversee all design and construction activities associated with the Project. The GEC will operate a local project office that will house their staff as well as FHWA and agency staff. The FHWA, with assistance from the GEC and agency staff, will closely track environmental commitments and ensure their

implementation. In addition, the GEC will maintain an open line of communication between the FHWA, INDOT, KYTC, design consultants, construction contractors, the public, and Federal, State, and local resource agencies.

Coordination with the USACE, Louisville District resulted in an agreement that provided for preparation of a wetland mitigation plan during the development of detailed plans. Conceptually identified available sites along Lentzier Creek, in Indiana, will be given priority. Prior to construction, the appropriate State and Federal permits will be obtained and right-of-way will be acquired for the development of mitigation sites. In this way, appropriate consideration could be given for further minimizing or avoiding project impacts to the approximate 4.11 acres of wetlands potentially impacted by the Project.

Post-construction noise measurements will be taken to measure the effectiveness of noise wall installations upon completion of the Project in 2020.

In addition to the permits and other agency approvals required for the Project and the Bi-State management of this Project, including FHWA, INDOT, KYTC and a GEC, an Ombudsman is included for both the Indiana and Kentucky portion of the Project that will provide property owners, neighborhood associations, and other groups and individuals with a mechanism for addressing concerns or issues raised during the further development of the Project, including during the construction phase.

## **6. Comments on Final Environmental Impact Statement/Section 4(f) Evaluation and Corrections Resulting from FEIS Comments**

### **6.1. Comments on the Final Environmental Impact Statement/Section 4(f) Evaluation**

The Notice of Availability of the FEIS/Section 4(f) Evaluation was published in the Federal Register on April 25, 2003 with the period of availability ending on June 25, 2003. Comment letters were received from four Federal agencies, one State Agency, five local governments or agencies, 15 organizations, one business, and six citizens. The FHWA has considered these comments along with other pertinent information in making the decision on this Project.

The comment letters are included as part of the Project files. Responses to these letters are provided in Attachment E. A summary of the general issues addressed in these letters follows:

**United States Coast Guard** – The Coast Guard acknowledged the FEIS addressed their concerns and requested notification when the computer model to simulate navigation through the Louisville harbor is developed.

**United States Environmental Protection Agency** – The USEPA acknowledged the selection of “a preferred alternative that, in part, consists of two DEIS bridge alignments with fewer environmental impacts than other action alternatives”. Comments in general categories were enclosed, including air quality, traffic noise, wetland mitigation, surface water quality and stream impacts, groundwater and wellhead protection, forest impacts, floodplain impacts, agricultural resources, and social impacts and environmental justice.

**Department of the Army, Corps of Engineers, Louisville District** – The Louisville District of the U.S. Army Corps of Engineers offered comments about clarifying Section 10 requirements, clarifying that wetlands converted to agricultural land prior to Food Security Act are not regulated under Section 404 if the land is actively farmed, and advising that Louisville District does not use specific mitigation ratios but instead develops mitigation based on functions and values of wetlands being displaced.

**United States Department of the Interior (USDO I)** – The USDO I acknowledged the concurrence of the United States Fish and Wildlife Service’s (USFWS) Cookeville, Tennessee Field Office with the “not likely to adversely affect” determination for the endangered Indiana bat and gray bat and avoidance and minimization provided for those species. Comments were also offered on additional Section 7 consultation that would be required for the 2007 construction date, habitat restoration for Indiana bat and gray bat, migratory birds, and mitigation for fluvial impacts.

**Indiana Department of Environmental Management (IDEM)** – The IDEM acknowledged that the applicable permits from the Offices of Land Quality and Water Quality should address any environmental requirements.

**Kentucky Division of Water** – The Kentucky Division of Water noted “the FEIS generally address the Division of Water concerns” but they also provided further groundwater comments. The four comments addressed potential impacts to the B. E. Payne Water Treatment Plant (bullet points 1 through 3) and need for Groundwater Protection Plans (GPPs) prior to construction (bullet point 4). They also noted responses and appropriate commitments from the Kentucky Transportation Cabinet for each of the four points. The measures to minimize harm identified for the Project in Section 4 have been expanded to include a commitment to work with the Kentucky Division of Water in developing and implementing appropriate Groundwater Protection Plans prior to construction through the Louisville Water Company Wellhead Protection Area.

**City of Louisville Metro Government** – The newly-formed metro government acknowledged that “completion of [the] FEIS will enable us to enthusiastically move forward with an integrated improvement project to resolve our most pressing existing needs and also address future transportation issues” and that it was “imperative that all components of this Project move forward as soon as possible”. They also offered comments acknowledging extensive comments on the DEIS, on need for “implementation and construction-phasing plan that will accelerate construction time”, and on commitment to “begin an innovative program to “recapture” more than 30 acres of land within the existing Kennedy Interchange”.

**City of Jeffersonville** – The City of Jeffersonville requested that the FEIS be modified to include the possible renovation and conversion of the Big Four Bridge into a pedestrian/bicycle walkway across the Ohio River.

**City of Green Spring** – The City of Green Spring offered several comments requesting clarification of mitigation measures for noise impacts, groundwater and wellhead protection and the use of BMP’s in the construction. The city was concerned that the construction of an eastern bridge would prolong impacts to urban neighborhoods, and does not warrant prioritization over other funding needs, especially in light of the generated controversy. The city favors the construction of the downtown bridge as the initial phase, based on funding needs. In addition, the city stated that a half diamond interchange should be constructed at KY 841 and U.S. 42 with an associated commitment from FHWA to remain as such for 50 years.

**Louisville Water Company** – The Louisville Water Company requested that coordination continue with the utility through the design, construction and operation of Selected Alternative A-15.

**Transit Authority of River City (TARC)** – TARC acknowledged that the FEIS did not preclude the future extension of a light rail line across the Ohio River into Indiana utilizing either the Clark Memorial or Kennedy Bridge.

**River Fields, Inc.** – River Fields in their transmittal letter requested the ROD be deferred until: 1) a supplemental FEIS is issued, 2) the federally required Financial Plan is issued, and 3) a valid conformity determination can be made. Comments were also included about project cost and funding relative to the needed Downtown improvement, problems in the study and decision

making process, and unsupported and irrational selection of the Eastern Bridge as the Preferred Alternative. Comments were also included in an attached document divided into five sections – 1) Response to FEIS Purpose and Need Statement, 2) Fundamental Flaws in the Study and Decision Making Process, 3) Failure to Acknowledge that the Downtown Project is FHWA’s Section 4(f) Avoidance Alternative, 4) Failure to Conduct a Hard Look at Significant Impacts of the Project, and 5) Failure to Commit to Adequate Mitigation of Impacts.

A number of comments were included within these five sections for which responses are provided in Attachment E. Generally these comments fell into the following categories: 1) flawed benefit calculations (toll analysis, user benefits), 2) KIPDA flaws (process/representation; conformity – fiscal constraint, air quality analysis), 3) Section 4(f) (Bellevue boundary; downtown = avoidance; constructive uses), 4) Section 106 (Bellevue; process flaws), 5) FHWA oversight (Preferred Alternative timing; CTS – contract, financial disclosure; GEC process), 6) Aquifer and wellhead protection (including provisions of local land use plans); 7) Environmental Justice (Title VI complaint; Brookings report), 8) Inadequate mitigation (historic; noise; ROD stipulations), 9) Financial issues (inadequate cost disclosure; no Financial Plan), 10) Purpose and Need (national security; improper reliance on KIPDA plan; 1969 plan), and 11) Reiteration of DEIS comments (including “two projects, not one”).

**Historic Landmarks Foundation of Indiana** – Historic Landmarks Foundation offered comments regarding the unlinking of the downtown and eastern Projects due to insufficiencies in the Purpose and Need. Comments were also provided supporting more funding for mitigation to protect the quality of life and livability of the region. Other specific comments offered by Historic Landmarks Foundation included FHWA’s failure to meet its Section 4(f) obligations, the inclusion of the entire James A. Smith Farm tract in the NRHP-eligible boundary and concern over the inclusion of a pedestrian/bicycle path along the upstream side of Alternative C-1.

**Colgate Palmolive** – The Colgate Palmolive Company indicated that comments submitted on the DEIS were not addressed in the FEIS. The company is concerned with the possible relocation of the facility’s wastewater treatment plant (WWTP) and emphasized two main points: 1) the facility cannot operate without the WWTP, and 2) serious obstacles in reconstructing a new WWTP.

**Butchertown Neighborhood Association, Inc.** – The Butchertown Neighborhood Association provided comments regarding additional mitigation measures sought for the adverse effects of the Project on the Butchertown Historic District. The association also expressed concern over the potential loss of the historic route of Beargrass Creek and the omission of two archaeological sites.

**Rose Hill Neighborhood Association** – The Rose Hill Neighborhood Association acknowledges the need for an East End bridge. The Association provided comments on the Project’s discriminatory treatment of Jeffersonville’s historic resources under the Section 106 MOA as compared to those of Louisville and eastern Jefferson County. Other comments offered included the continued evaluation of the Court Street underpass to minimize impacts to the NRHP-eligible

pylons and Administration Building and the further encroachment of Alternative C-1 on the Old Jeffersonville Historic District through the inclusion of a pedestrian/bicycle path.

**St. Francis in the Fields Episcopal Church** – St. Francis in the Fields Episcopal Church indicated that certain alternatives would have adverse noise, vibration, blasting, visual and construction impacts upon the church. They requested similar noise and vibration monitoring as afforded to other churches in the vicinity of the project, as well as a definition of access patterns during construction. The church indicated that comments submitted on the DEIS were not addressed in the FEIS.

**Coalition for the Advancement of Regional Transportation (CART)** – CART indicated that comments submitted on the DEIS were not addressed in the FEIS.

**The Knob and Valley Audubon Society of Southern Indiana** – The Knob and Valley Audubon Society of Southern Indiana indicated that their comments on the DEIS were not adequately addressed in the FEIS and requested the deferment of the ROD until an analysis of the cross-river rail alternatives is performed. In addition, comments were provided regarding the segmentation of the Project to favor certain outcomes and the lack of consideration for environmental justice issues.

**Southern Indiana Minority Enterprise Initiative** – The Southern Indiana Minority Enterprise Initiative offered comments regarding the inclusion of funding for rehabilitating the NRHP-eligible Taylor High School (City School) in the Section 106 MOA.

**Ohio River Bridges Coalition** – The Ohio River Bridges Coalition endorses the construction of an East End bridge and a downtown bridge with a reconstruction of Spaghetti Junction and that all elements be advanced as one project.

**Nitta Yuma Association** – The Nitta Yuma Association expressed concern that effects to their neighborhood were omitted from the DEIS and the FEIS.

**Ohio River Foundation** – The Ohio River Foundation (formerly Ohio River Advocacy) indicated that comments submitted on the DEIS were not addressed in the FEIS.

**Sierra Club – Cumberland Chapter** – The Sierra Club – Cumberland Chapter indicated that comments submitted on the DEIS were not addressed in the FEIS.

**Kentucky Waterways Alliance** – The Kentucky Waterways Alliance stated that the proposal was two separate projects. Several comments were directed to the need of the project and the related funding mechanisms. Impacts to the water resources were foreseen, especially to the regional drinking water source. The agency questioned the mitigation measures detailed in the FEIS.

**Louisville Audubon Society** – The Louisville Audubon Society commented on impacts to communities, water resources and wildlife. Further comments were offered on the lack of need for an East End bridge and the project’s cost as it relates to environmental mitigation.

**Bridgepointe Homeowners Association** – The Bridgepointe Homeowners Association stated that Alternative A-15 would adversely affect the quality of life in their community. Detailed traffic and growth studies were requested by the association that supported the need for the eastern bridge. Mitigation measures for probable construction impacts were also requested.

**James Thompson (4 letters)** – Mr. Thompson requested a detailed study on the relocation of downtown, south and west Kentucky businesses to southern Indiana as a result of the East End bridge. He also offered comments regarding the misrepresentation of the Belleview Historic District Boundary, the mitigation for the Belleview Historic District outlined in the Section 106 MOA, the reliability of the noise analysis conducted at his property, the Purpose and Need of the Project as it relates to national defense, the financing of the Project and the placement of a retention basin that would be approximately the size of a football field and 11 feet deep.

**Betty Jarboe** – Ms. Jarboe expressed concern over preference being given to the construction of an East End bridge. The prolonging of the construction of the Kennedy Bridge and Spaghetti Junction would extend disruption to the downtown area and the traffic routes of residents in southwestern Jefferson County.

**Henry Mullen** – Mr. Mullen submitted specific concerns regarding the selection of Alternative A-15 as the eastern portion of the Preferred Alternative. In particular, he expressed concern over the geology in the location of the tunnel, the inclusion of an emergency access road, the inclusion of a bike path on the bridge exiting to River Road, the placement of piers in the Ohio River at an angle and the placement of piers in the wellhead protection area. Mr. Mullen also offered comments regarding the preference given to historic properties and the funding of the Project.

**Brent Nemeč** – Mr. Nemeč offered the comment requesting the total acquisition of his property due to financial, safety and health issues. Detailed traffic and growth studies were requested by Mr. Nemeč that supported the need for the eastern bridge. Mitigation measures for probable construction impacts were also requested.

**Craig Oliver** – Mr. Oliver specifically commented on the inflation of the cost for the East End bridge, the lack of need for an East End bridge, the relocation of jobs to southern Indiana and impacts to the groundwater aquifer.

**Theresa Stanley** – Ms. Stanley expressed concern over the construction, maintenance, funding and regulatory compliance of a retention basin designed to minimize potential impacts to the wellhead protection area. She also commented on the Purpose and Need of the Project, the funding of the Project and the lack of mitigation plans for noise impacts.

## 6.2 Updates to Historic Preservation Issues Resulting from FEIS Comments

The following updates have been addressed as a result of comments received on the FEIS:

**Allison-Barrickman Historic Property – Boundary** – As a result of coordination with the KY SHPO and the property owner of the NRHP-listed Allison-Barrickman House as well as comments received from River Fields Inc., FHWA acknowledges the error in the boundary of the Allison-Barrickman Property as it was shown on Project mapping. The pending revision to the National Register boundary of this property was acknowledged during consultation. The corrected boundary is illustrated in Figure 6.2-1, below. The corrected boundary is the purple boundary plus the green shaded area. The additional area included in the corrected boundary is shown in green.



FHWA consulted with the Kentucky SHPO (see Attachment C) on this technical correction to the mapping and received concurrence that the correction did not change the effects

determinations and that the resolution of effects remained unchanged. The Assessment of Effects document has been updated to include this information.

**Utica Lime Kilns** – Lime kilns included in the Utica Lime Industry Multiple Property Listing were not included in the Technical Report on Proximity Impacts to Section 4(f) Properties. These properties however were addressed in an addendum to that technical report and FHWA determined there was no constructive use of any of these lime kilns. Copies of the addendum were provided to the state SHPOs for their review and comment (See Attachment C).

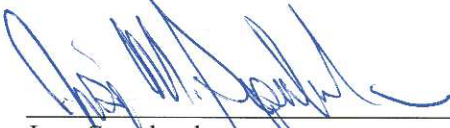
**Belleview** – Comments received from Mr. James Thompspon, owner of Belleview, and River Fields, Inc. addressed the National Register boundary shown for this historic property. The specific reference was to Mr. Thompson’s “north field”. The FHWA conducted additional research and reviewed the Belleview historic property boundary in response to these comments and determined that the historic boundary included in Project mapping was accurate, notified the property owner and further consulted with the Kentucky SHPO. The SHPO concurred in FHWA’s determination that the north field was not part of the national register boundary (See Attachment C).

**7. Record of Decision**

For the foregoing reasons and based upon consideration of all of the social, economic, and environmental evaluations contained in the FEIS with the input received from other agencies, organizations, and the public, the FHWA has determined that the Selected Alternative is the environmentally preferable alternative. Therefore, it is my decision to adopt the selected alternative (the combination of Alternatives C-1 and A-15 and the Kennedy Interchange Reconstruction to the South) as the proposed action for this project.

Record of Decision Approval

Sept 6, 2003  
Date

  
\_\_\_\_\_  
Jose Sepulveda,  
Division Administrator  
Federal Highway Administration  
Kentucky Division