

CHAPTER 5 – SECTION 4(f) AND SECTION 6(f) RESOURCES

Substantive changes to Chapter 5 since the publication of the DEIS

- Added Central Alternative 1B Modified (Selected) and evaluated for Section 4(f) and 6(f) impacts throughout the chapter
- Sections 5.2, 5.2.7, 5.2.8, and 5.5.3 – Added the Green River National Wildlife Refuge and evaluated for Section 4(f) impacts for all build alternatives
- Section 5.4 – Added the results of the archaeological surveys conducted along the Central Alternative 1 corridor and evaluated for Section 4(f) impacts
- Section 5.5.2 – Added additional coordination information regarding the Southbound US 41 Bridge

5.1 INTRODUCTION

This chapter addresses the requirements of Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966, which governs the use of land from publicly owned parks, recreation areas, wildlife and waterfowl refuges, and public and private historic sites for federal highway projects. In addition, this chapter discusses the potential involvement of lands that have been acquired with, or improved by, grants from the Land and Water Conservation Fund (LWCF), which was created by the LWCF Act of 1965. Section 6(f) of the LWCF Act restricts conversion of lands that have been acquired with, or improved by, LWCF grants. The I-69 Ohio River Crossing (ORX) project is described in detail in **Chapter 1** and the project's purpose and need and alternatives are described in **Chapters 2 and 3**, respectively.

5.1.1 SECTION 4(f)

USE OF SECTION 4(f) PROPERTIES

Section 4(f) of the USDOT Act of 1966 (49 U.S.C. § 303; 23 U.S.C. § 138; 23 C.F.R. § 774) establishes that a federally funded or approved transportation project may not “use” land from a publicly owned park, recreation area, wildlife or waterfowl refuge; a public or private historic site either listed on, or eligible for listing on, the National Register of Historic Places (NRHP); or archaeological sites that are either listed on, or eligible for listing on, the NRHP and warrant preservation in place, unless there is no feasible or prudent alternative to the use. Any such use can only be approved if the agency determines that the proposed action includes all possible planning to minimize harm to protected properties.

According to Federal Highway Administration (FHWA) regulations, a Section 4(f) “use” can be either 1) permanent, 2) temporary occupancy, or 3) constructive, [see 23 C.F.R. § Section 774.17] as defined below.

- **Permanent Use** – A permanent use occurs when land from a Section 4(f) resource is permanently incorporated into a transportation project.
- **Temporary Occupancy** – A temporary occupancy occurs when a Section 4(f) property, in whole or in part, is required for project construction-related activities. The property is not permanently incorporated into a transportation use, but the activity is considered to be adverse in terms of the preservation purpose of Section 4(f).
- **Constructive Use** – In accordance with 23 C.F.R. 774.15, a constructive use involves no actual physical use of the Section 4(f) property via permanent incorporation of land or a temporary occupancy of land into a transportation use. However, a constructive use occurs when the project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished. As mentioned in 23 C.F.R. 774.15, proximity impacts may be due to noise, aesthetics, access restrictions, vibration, and ecological intrusions. Each of these impacts is discussed below.
 - **Noise** – FHWA has determined that a constructive use occurs when the projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility of a property protected by Section 4(f) such as: hearing performances at an outdoor amphitheater, sleeping in the sleeping area of a campground, enjoying a historic site where a quiet setting is a generally recognized feature or attribute of the site’s significance, enjoyment of an urban park where serenity and quiet are significant attributes, or viewing wildlife in an area of a wildlife and waterfowl refuge intended for such viewing.

As detailed in 23 CFR 774.15, FHWA has determined that a constructive use does not occur when:

- The impact of projected traffic noise levels of the proposed highway project on a noise-sensitive activity do not exceed the FHWA Noise Abatement Criteria (NAC) (23 C.F.R. 772). The NAC criteria for Section 4(f) sites is 67 A-weighted decibels (dBA).
- The projected noise levels exceed the NAC because of high existing noise levels, but the increase in the projected noise levels if the proposed project is constructed, when compared with the projected noise levels if the project is not built, is barely perceptible (3 dBA or less).
- **Aesthetics** – The proximity of the proposed project substantially impairs aesthetic features or attributes of a property protected by Section 4(f), where such features or attributes are considered important contributing elements to the value of the property, such as a historic property which derives value in substantial part due to its setting.

- **Access Restrictions** – The project results in a restriction of access which substantially diminishes the utility of a significant publicly owned park, recreation area, or a historic site.
- **Vibration** – The vibration impact from construction or operation of a project substantially impairs the use of a Section 4(f) property, such as vibration levels that are great enough to physically damage a historic building. Although there are no regulatory guidelines in 23 C.F.R. 774.15 for determining vibration impacts, a screening distance of 500 feet from the project alternatives was used to identify vibration-sensitive Section 4(f) resources (i.e., historic structures). Although neither state has established a threshold for identifying vibration-sensitive resources, this threshold is commonly used by state Departments of Transportation since vibration effects from roadway construction and operation are not typically an issue beyond that distance (Wilson, Ihrig & Associates, Inc., et. al, 2012).
- **Ecological Intrusion** – The ecological intrusion of the project substantially diminishes the value of a wildlife habitat in a wildlife and waterfowl refuge adjacent to the project, substantially interferes with the access to a wildlife and waterfowl refuge when such access is necessary for established wildlife life cycle processes, or substantially reduces the wildlife use of a wildlife and waterfowl refuge.

APPROVAL OPTIONS

If there is a use of Section 4(f) property, FHWA will determine what level of documentation is applicable to make a Section 4(f) approval. There are three options available which vary based on the type of Section 4(f) use: *de minimis* impact determinations; programmatic Section 4(f) evaluations; and individual Section 4(f) evaluations. These approval options are briefly discussed as follows.

De Minimis: A *de minimis* impact determination may be made for a permanent incorporation or temporary occupancy of Section 4(f) property. A *de minimis* impact is one that, after taking into account any measures to minimize harm (such as avoidance, minimization, mitigation, or enhancement measures), results in either:

- A Section 106 finding of no adverse effect or no historic properties affected on a historic property; or
- A determination that the project would not adversely affect the activities, features, or attributes qualifying a park, recreation area, or refuge for protection under Section 4(f).

Under Section 4(f), FHWA cannot approve the use of land from Section 4(f) properties as part of a transportation project unless:

- There is no feasible and prudent avoidance alternative to the use of land and the action includes all possible planning to minimize harm to the Section 4(f) property resulting from such use; or
- FHWA determines that the use of the property will have a *de minimis* impact. *De minimis* impacts related to historic sites are defined as the determination of either “no adverse

effect” or “no historic properties affected” in compliance with Section 106 of the National Historic Preservation Act (NHPA). *De minimis* impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not “adversely affect the activities, features, and attributes” of the Section 4(f) property. The Official with Jurisdiction (OWJ) must concur with the *de minimis* determination. For historic sites, the State Historic Preservation Officer (SHPO) is the OWJ; for parks, recreation areas, and wildlife and waterfowl refuges, the OWJ is the official of the agency that owns and/or administers the property. If a transportation use of Section 4(f) property results in *de minimis* impact, analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete.

Programmatic Section 4(f) Evaluations: The FHWA has issued five nationwide programmatic Section 4(f) evaluations which can be implemented if the project meets specific conditions. These evaluations are a time-saving procedural option for preparing individual Section 4(f) evaluations, which are discussed in the following section. One of the five nationwide programmatic evaluations includes the Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges. This programmatic Section 4(f) evaluation may be applied by the FHWA to projects which meet the following criteria:

1. The bridge is to be replaced or rehabilitated with federal funds.
2. The project will require the use of a historic bridge structure which is on or is eligible for listing on the NRHP.
3. The bridge is not a National Historic Landmark.
4. The FHWA Division Administrator determines that the facts of the project match those sections of the programmatic Section 4(f) evaluation guidelines regarding alternatives, findings, and mitigation.
5. Agreement among the FHWA, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) has been reached through procedures pursuant to Section 106 of the NHPA (FHWA 2018).

As described in **Section 5.5.2** in this chapter, this programmatic Section 4(f) was applied to the existing Southbound US 41 bridge.

Individual Section 4(f) Evaluations: An individual Section 4(f) evaluation must be completed when approving a project that requires the use of Section 4(f) property if the use results in a greater than *de minimis* impact and a programmatic Section 4(f) evaluation cannot be applied. It must document the proposed use of Section 4(f) properties by all project alternatives and make the following determinations:

1. That there is no feasible and prudent alternative that completely avoids the use of the Section 4(f) property; and
2. The project includes all possible planning to minimize harm to the Section 4(f) property resulting from the transportation use. (23 C.F.R. 774.3).

This chapter identifies and describes the Section 4(f) properties in the I-69 ORX project area, analyzes the potential of each of the alternatives to use those resources, and identifies and describes possible avoidance alternatives.

5.1.2 SECTION 6(f)

Section 6(f) of the LWCF Act provides funding and matching grants to protect important natural areas, acquire land for outdoor recreation, and develop or renovate public outdoor recreation facilities such as campgrounds, picnic areas, sports and playfields, swimming, boating and fishing facilities, trails, natural areas, and passive parks. This program is administered by the National Park Service (NPS) at the national level, and by the Indiana Department of Natural Resources (IDNR) Division of Outdoor Recreation, and Kentucky Department for Local Government (KDLG) at the state level. Section 6(f) of the act prohibits the conversion of LWCF lands to other purposes unless the NPS approves a replacement property of reasonably equivalent usefulness and location and of at least equal fair market value.

A Section 6(f) use occurs when property is directly impacted by property acquisition or permanent easement. In addition, a Section 6(f) conversion may occur if all, or a portion of, a 6(f) property is closed to public use for longer than 6 months as a result of construction activities (i.e., construction staging, utility work, etc.).

To ensure that the I-69 ORX project complies with Section 6(f), parks and recreation facilities that have used LWCF funds within the I-69 ORX project area were identified, and each project alternative's impact on these properties determined.

5.2 SECTION 4(f) USE OF PUBLIC PARKS, RECREATION AREAS, WILDLIFE/WATERFOWL REFUGES

Section 4(f) applies to parks and recreation areas of national, state, or local significance that are both publicly owned and open to the public. Section 4(f) also applies to publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public to the extent that public access does not interfere with the primary purpose of the refuge. These resources were identified and documented in *Technical Memorandum: I-69 ORX Section 4(f) Property Recommendations Relative to Parks, Recreation Areas, and Refuges* (Indiana Department of Transportation [INDOT] and Kentucky Transportation Cabinet [KYTC] 2017c) and *Addendum 1* (INDOT and KYTC 2018n). The memo and addendum are included as **Appendix N-1 and N-2**. Note that two Green River National Wildlife Refuge (NWR) parcels were established within the project area after the DEIS and are therefore not included in the memo and addendum, but are presented in this FEIS. Public parks, recreation areas, and wildlife or waterfowl refuges identified within the project area are identified in **Table 5.2-1**. The locations of Section 4(f) resources are shown on the Environmental Features maps included in **Appendix A**. Each resource and the corresponding map where it is located are identified in **Table 5.2-1**. The following sections provide detailed descriptions of each Section 4(f) park, recreation area, and wildlife or waterfowl refuge within the project area and identify if there would be a Section 4(f) use of each resource. Each type of Section 4(f) use will be evaluated (i.e., permanent, temporary occupancy, constructive use, or *de minimis*).

Table 5.2-1. Section 4(f) Public Parks, Recreation Areas, and Wildlife or Waterfowl Refuges with Potential Impacts in the Project Area

| SECTION 4(f) PROPERTY | ALTERNATIVE | | |
|---|--------------------------------------|--------------------------------------|---|
| | WEST ALT. 1 (APPENDIX, SHEET NO.) | WEST ALT. 2 (APPENDIX, SHEET NO.) | CENTRAL ALT. 1A, 1B, AND 1B MODIFIED (APPENDIX, SHEET NO.) |
| John James Audubon State Park | A-1, Sheets 7 – 9 | A-2, Sheets 7 – 9 | N/A |
| Atkinson Park | A-1, Sheets 10 and 11 | A-2, Sheets 10 and 11 | N/A |
| Henderson Schools athletic facilities – tennis courts | A-1, Sheet 15 | A-2, Sheet 15 | A-3 and A-4, Sheet 17 |
| Henderson Schools athletic facilities – baseball fields | A-1, Sheet 14 | A-2, Sheet 14 | A-3 and A-4, Sheet 16 |
| Freedom Park/Fairgrounds (walking trail, basketball court, playground, and barbeque pits of fairgrounds only) | A-1, Sheets 15 and 16 | A-2, Sheets 15 and 16 | A-3 and A-4, Sheets 18 and 19 |
| Green River State Forest (GRSF) (trails only) | N/A | N/A | A-3 and A-4, Sheets 6 and 7 |
| Green River NWR | A-1, Sheets 6 – 8 | A-2, Sheets 6 – 8 | A-3 and A-4, Sheets 6, 7, 21, and 22 |

5.2.1 ANTHONY C. OATES MEMORIAL PARK

Anthony C. Oates Memorial Park is a 6.2-acre public neighborhood park located at 2439 Sunburst Avenue in Evansville, IN (Vanderburgh County), which is owned and managed by the City of Evansville Department of Parks and Recreation. The entire park, which includes basketball courts, a playground, and picnic shelter, is open to the public for recreational use and would therefore be protected by Section 4(f). This park is located outside the limits of the maps in **Appendix A**; its location is shown on Figure 1 in *Technical Memorandum: I-69 ORX Section 4(f) Property Recommendations Relative to Parks, Recreation Areas, and Refuges (Appendix N-1)*.

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

Both West Alternatives 1 and 2 are approximately 2,100 feet from Anthony C. Oates Memorial Park, and Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) are approximately 1,500 feet from the park. Based on the evaluation below, there would be no Section 4(f) use of the park:

- Permanent Incorporation: None – The project would not require the permanent incorporation of land from the Anthony C. Oates Memorial Park, either as right-of-way or permanent easement, under any of the build alternatives.
- Temporary Occupancy: None – The Anthony C. Oates Memorial Park property would not be required for construction-related activities under any of the build alternatives.
- Constructive Use:

- Noise: None – There are no noise-sensitive uses at the park.
- Aesthetics: None – The build alternatives are not visible from the park.
- Access: None – The build alternatives would not alter access to the park.
- Vibration: None – There are no historic buildings in the park.
- Ecological Intrusion: None – The park does not include a wildlife or waterfowl refuge.

NO BUILD ALTERNATIVE

There would be no use of this property as a result of the No Build Alternative.

5.2.2 JOHN JAMES AUDUBON STATE PARK

John James Audubon State Park, owned by the Commonwealth of Kentucky and managed by the Kentucky Department of Parks, is located on the west side of US 41, just south of the Ohio River in Henderson County. John James Audubon State Park consists of approximately 1,349 acres, including the 338-acre Audubon State Nature Preserve (SNP) and a 649-acre wetlands tract between Wolf Hills Road and the Ohio River. The wetlands tract was acquired with funds from the Imperiled Bat Conservation Fund (IBCF) and the Kentucky Heritage Land Conservation Fund; approximately two-thirds of this tract is also enrolled in the Wetland Reserve Program (WRP). IBCF and WRP are discussed further in **Chapter 4, Section 4.2.5**. An approximately 575-acre portion of the park is included on the NRHP for its national significance in the areas of architecture, landscape architecture conservation, public recreation, and public works. The historic area includes John James Audubon Museum and SNP. Recreational facilities available in the park include camping, hiking, golf, playgrounds, tennis courts, and picnic shelters. Section 4(f) applies to the entire park.

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

West Alternative 1 is located approximately 430 feet to the west of John James Audubon State Park (**Appendix A-1, Sheets 7 – 9**). Under West Alternative 2, US 41 adjacent to the park would be reconstructed as a frontage road and the new interstate would be located on the opposite side of US 41, approximately 80 feet from the park boundary. Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) are located approximately 0.5 mile to the east of the park. Based on the evaluation below, there would be no Section 4(f) use of the park:

- Permanent Incorporation: None – The project would not require the permanent incorporation of land from John James Audubon State Park, either as right-of-way or permanent easement, under any of the build alternatives.
- Temporary Occupancy: None – John James Audubon State Park property would not be required for construction-related activities under any of the build alternatives.
- Constructive Use:
 - Noise: None – While there are noise-sensitive uses in the park (campground), there would be no noise impacts. Noise modeling results indicated that predicted noise

levels within the park under West Alternative 1 would be 60.4 dBA or less. Under West Alternative 2, noise levels would be 64.4 dBA or less. These levels would not exceed FHWA's noise abatement threshold of 67 dBA for Section 4(f) sites (FHWA 2011).

Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) are located more than 1 mile from the campground. A noise analysis was not conducted for Central Alternatives 1A or 1B (Preferred) and 1B Modified (Selected) because the FHWA Traffic Noise Model (TNM) has not been demonstrated to be accurate beyond 800 feet. However, based on the noise analysis conducted for the project and described in **Chapter 4, Section 4.2.10**, predicted noise levels at 700 feet from the road were 53.8 dBA. (Note: these levels would vary slightly based on changes in terrain and the shielding of objects, such as buildings.) The noise level at John James Audubon State Park under Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would be less than 56.2 dBA, which would be below FHWA's noise abatement threshold of 67 dBA.

- Aesthetics: None – Under West Alternative 1, there would be minimal visual effects since the property is buffered by commercial development and existing US 41. Under West Alternative 2, existing US 41, which borders the property, would not be substantially different from the proposed interstate design. In addition, Audubon Park is heavily forested, and therefore, much of the park would have no clear view of West Alternative 2. The *Visual Impact Assessment* (VIA) included evaluation of two views at Audubon Park based on West Alternative 2. As described in the VIA, the view from the park (View 9) toward I-69 would not materially change in quality (**Appendix F-1**). The view of the park from the roadway (View 10) would deteriorate from moderately high quality to moderate/average quality. While adverse, this impact would not be substantial enough to result in a constructive use. The VIA did not include a direct evaluation of the impact of West Alternative 1 on Audubon State Park, but given the alternative's location farther to the west, its impacts would be the same or lower than those for West Alternative 2. Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would be visible from the northern-most portions of the park, along the Ohio River, but would be located more than 0.5 mile from the nearest point and would not substantially detract from the setting of this area.
- Access: None – The build alternatives would not alter access to the park.
- Vibration: None – The closest historic structure to the build alternatives is over 500 feet from them and construction-related vibration would not be an issue.
- Ecological Intrusion: None – John James Audubon State Park Nature Preserve, located within John James Audubon State Park, is a dedicated nature preserve that is set aside for rare, threatened, or endangered species and communities. West Alternative 1 would lie approximately 430 feet to the west of the preserve and West Alternative 2, which would follow the alignment of existing US 41, would

immediately border the property. Neither alternative would substantially diminish the value of the wildlife habitat or substantially interfere or reduce the wildlife use of the property as their proposed interstate design would not be substantially different from existing US 41. Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would be located more than 0.5 mile from the park and would have no effect on its ecological resources.

NO BUILD ALTERNATIVE

There would be no use of John James Audubon State Park under the No Build Alternative.

5.2.3 ATKINSON PARK

Atkinson Park is a 126-acre public park, located at 1813 North Elm Street, Henderson, that is owned and managed by the City of Henderson Parks and Recreation Department. This park provides grills, an open shelter, a skate park, and a pool. In addition, the park includes the Henderson Municipal Golf Course. Section 4(f) applies to the entire park, including the golf course.

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

West Alternatives 1 and 2 would both be located less than 100 feet from Atkinson Park. Both would require the installation of a storm pipe in an undeveloped portion of the park, requiring a drainage easement or other type of easement. Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would be located approximately 0.75 mile to the southeast of the park. Based on the evaluation below, there would be a *de minimis* impact to Atkinson Park under West Alternatives 1 and 2, and no Section 4(f) use under Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected):

- Permanent Incorporation: Yes – The easement required for West Alternatives 1 and 2 would grant permanent, future right-of-access to the portion of the property within the easement for the purpose of maintenance. This would be a permanent incorporation of Section 4(f) property and, therefore, a use under Section 4(f). It is anticipated that this use would result in a *de minimis* impact finding. **Section 5.5.1** provides additional details.
- Temporary Occupancy: Yes – Installation of the storm pipe for West Alternatives 1 and 2 would require temporary occupancy of a portion of the park. It is anticipated that this temporary occupancy would result in a *de minimis* impact finding; see **Section 5.5.1** for further details.
- Constructive Use:
 - Noise: None – There are no noise-sensitive uses (e.g., campgrounds or amphitheaters) at the park.
 - Aesthetics: None – Both West Alternative 1 and West Alternative 2 would be visible from the park, but they would not substantially detract from the setting. The VIA included an evaluation of two views at Atkinson Park based on West Alternative 1

(Appendix F-1). As described in the VIA, the view of the park from the adjacent roadways (View 7) would not substantively change visual quality, rated as moderate/average quality for both the existing conditions and West Alternative 1. The view from Atkinson Park looking east toward West Alternative 1 would deteriorate from low to very low. While adverse, this impact would not be substantial enough to result in a constructive use. The VIA did not include an evaluation of the impact of West Alternative 2 on Atkinson Park, but given the alternative's location farther to the east, its impacts would be the same or lower than those for West Alternative 1. Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would not be visible from the park.

- Access: None – The build alternatives would not alter access to the park.
- Vibration: None – There are no vibration-sensitive structures, i.e., historic buildings, in the park.
- Ecological Intrusion: None – The park does not include a wildlife or waterfowl refuge.

NO BUILD ALTERNATIVE

There would be no use of Atkinson Park under the No Build Alternative.

5.2.4 HENDERSON SCHOOLS' ATHLETIC FACILITIES

Several athletic facilities owned by the Henderson County Board of Education are Section 4(f) facilities because they are open to the public for walk-on recreational use. These include baseball fields on North Lincoln Avenue and tennis courts near Henderson County High School on Zion Road in Henderson (Henderson County Schools 2017). The baseball fields total 9.3 acres and the high school tennis courts encompass 1.7 acres of a complex of recreational facilities totaling 61.3 acres.

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

The build alternatives would follow the same alignment in the vicinity of the Henderson Schools' athletic facilities on North Lincoln Avenue and near Henderson County High School on Zion Road except for Central Alternative 1B Modified (Selected) at the KY 351 interchange where the alignment would be shifted approximately 30 feet to the west as part of the reconstruction of the interchange, which would include roundabouts at each of the ramp intersections and another roundabout at the KY 351/KY 2084 intersection (**Appendices A-1 and A-2, Sheets 14 and 15 / Appendices A-3 and A-4, Sheets 16 and 17**).

Based on the evaluation below, there would be no Section 4(f) use of the park:

- Permanent Incorporation: None – The project would not require the permanent incorporation of land from the Henderson Schools' athletic facilities, either as right-of-way or permanent easement, under any of the build alternatives.

- Temporary Occupancy: None – Property included in the Henderson Schools’ baseball fields and tennis courts identified as Section 4(f) properties would not be required for construction-related activities under any of the build alternatives.
- Constructive Use:
 - Noise: None – The tennis courts and baseball facilities are not noise-sensitive uses.
 - Aesthetics: None – The build alternatives are not visible from the tennis courts off Zion Road. Except for Central Alternative 1B Modified (Selected), the build alternatives are also not visible from the baseball fields off North Lincoln Avenue. Central Alternative 1B Modified (Selected) would be visible from the baseballs fields, but it would not substantially detract from the setting.
 - Access: None – The build alternatives would not alter access to either the tennis courts or the baseball fields.
 - Vibration: None – Neither the tennis courts nor the baseball fields are vibration sensitive.
 - Ecological Intrusion: None – The tennis courts and baseball fields do not include a wildlife or waterfowl refuge.

NO BUILD ALTERNATIVE

There would be no Section 4(f) use of the Henderson Schools’ athletic facilities as a result of the No Build Alternative.

5.2.5 FREEDOM PARK AND DONALD “HUGH” MCCORMICK HENDERSON COUNTY FAIRGROUNDS

Freedom Park and Donald “Hugh” McCormick Henderson County Fairgrounds, owned by Henderson County Fiscal Court, are a combined area encompassing 19 acres on Sam Ball Way off Airline Road in Henderson. While all of Freedom Park is a Section 4(f) property, the portions of the Henderson County Fairgrounds that meet Section 4(f) criteria are limited to those areas that have been identified by the Henderson County Director of Parks and Programs, the OWJ for the park, as significant recreational resources open to the public for walk-on recreation (Henderson County Parks and Programs 2017). These areas include the walking trail around the fairgrounds perimeter, the basketball court in the fairgrounds area, and a playground in the fairgrounds near the arena. In addition, barbeque pits are currently being constructed for public use.

The total acreage of Freedom Park and the portions of Henderson County Fairgrounds that meet Section 4(f) criteria is approximately 2.79 acres.

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

The build alternatives would include the same improvements to existing US 41 in the area near Freedom Park and the Henderson County Fairgrounds to upgrade the existing roadway to interstate standards (**Appendices A-1 and A-2, Sheets 15 and 16 / Appendices A-3 and A-4, Sheets 17 and 18**). The western boundaries of the park and fairgrounds are along the current

alignment of US 41, and no construction work is planned within the boundaries. Based on the evaluation below, there would be no Section 4(f) use of the park:

- Permanent Incorporation: None – The project would not require the permanent incorporation of land from Freedom Park or the Henderson County Fairgrounds, either as right-of-way or permanent easement, under any of the build alternatives.
- Temporary Occupancy: None – The Freedom Park and Henderson County Fairgrounds' property would not be required for construction-related activities under any of the build alternatives.
- Constructive Use:
 - Noise: None – There are no noise-sensitive uses at Freedom Park or the Henderson County Fairgrounds.
 - Aesthetics: None – Each of the alternatives would be visible from Freedom Park and the Henderson County Fairgrounds, but they would not substantially detract from the setting.
 - Access: None – The build alternatives would not alter access to Freedom Park and the Henderson County Fairgrounds.
 - Vibration: None – There are no vibration-sensitive structures in Freedom Park and the Henderson County Fairgrounds.
 - Ecological Intrusion: None – Freedom Park and the Henderson County Fairgrounds do not include a wildlife or waterfowl refuge.

NO BUILD ALTERNATIVE

There would be no use of Freedom Park and the Henderson County Fairgrounds as a result of the No Build Alternative.

5.2.6 GREEN RIVER STATE FOREST

Green River State Forest (GRSF), owned by the Commonwealth of Kentucky and managed by the Kentucky Division of Forestry, consists of 1,107 acres and is located about 5 miles northeast of the City of Henderson in Henderson County. Two noncontiguous tracts of land comprise GRSF. The western 271-acre tract is located west of the intersection of Green River Road 2 and Tilman-Bethel Road; and the eastern 836-acre tract is adjacent to the intersection of Tschanner Road and Green River Road, approximately 2 miles to the east.

Less than half of the western tract is within the I-69 ORX project area. While most of the western tract is undeveloped, there are hiking trails in a 0.85-acre portion of the property that are open to the public for recreational use. Based on coordination with the Kentucky Division of Forestry (**Appendix H-9**), the OWJ for this property, this small portion of GRSF was determined to be a Section 4(f) resource, while the remainder of this site was determined not to be a Section 4(f) resource, based on only occasional and dispersed recreation activities.

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

The West Alternatives would be located more than 2 miles to the west of the property. Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would be located within 0.5 mile of the Section 4(f) resource area within the state forest. Based on the evaluation below, there would be no Section 4(f) use of the park:

- Permanent Incorporation: None – The project would not require the permanent incorporation of land from GRSF, either as right-of-way or permanent easement, under any of the build alternatives.
- Temporary Occupancy: None – The GRSF property would not be required for construction-related activities under any of the build alternatives.
- Constructive Use:
 - Noise: None – The hiking trails are not noise sensitive.
 - Aesthetics: None – Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would be visible from the hiking trails, but they would not substantially detract from the setting. West Alternative 1 and West Alternative 2 would both be located more than 2 miles from GRSF and would not detract from its setting.
 - Access: None – The build alternatives would not alter access to the hiking trails at GRSF.
 - Vibration: None – The hiking trails are not vibration sensitive.
 - Ecological Intrusion: None – The area of the hiking trails in the GRSF does not include a wildlife or waterfowl refuge.

NO BUILD ALTERNATIVE

There would be no Section 4(f) use of the hiking trails as a result of the No Build Alternative.

5.2.7 GREEN RIVER NATIONAL WILDLIFE REFUGE

The Green River National Wildlife Refuge (NWR) consists of approximately 24,000 acres, to be acquired willingly from landowners in the Green River Bottoms area near the confluence of the Green River and Ohio River in Henderson County. The refuge would restore and protect bottomland hardwood forested wetland habitats; provide hunting, fishing and other recreational opportunities; and support environmental education. In March 2018, Congress directed USFWS to approve establishment of the refuge but that final boundaries should not be established until a corridor is selected for the I-69 ORX project. Following the I-69 ORX DEIS, the USFWS published the final *Land Protection Plan and Environmental Assessment (LPP/EA) for the Green River National Wildlife Refuge and Conservation Partnership Area (CPA)* (USFWS 2019) and issued a Finding of No Significant Impact (FONSI) in September 2019 which stated the following: “The Service is working in cooperation with INDOT, KYTC, and FHWA to ensure that the Service's planning efforts for the proposed Green River NWR CPA do not interfere with the I-69 ORX project. As part of this coordination, the Service agreed to exclude two 2000-foot wide ROW corridors from the proposed Green River NWR CPA. This will allow adequate room for the final I-69 ORX ROW...” (see [Figure 5.2-1](#)).

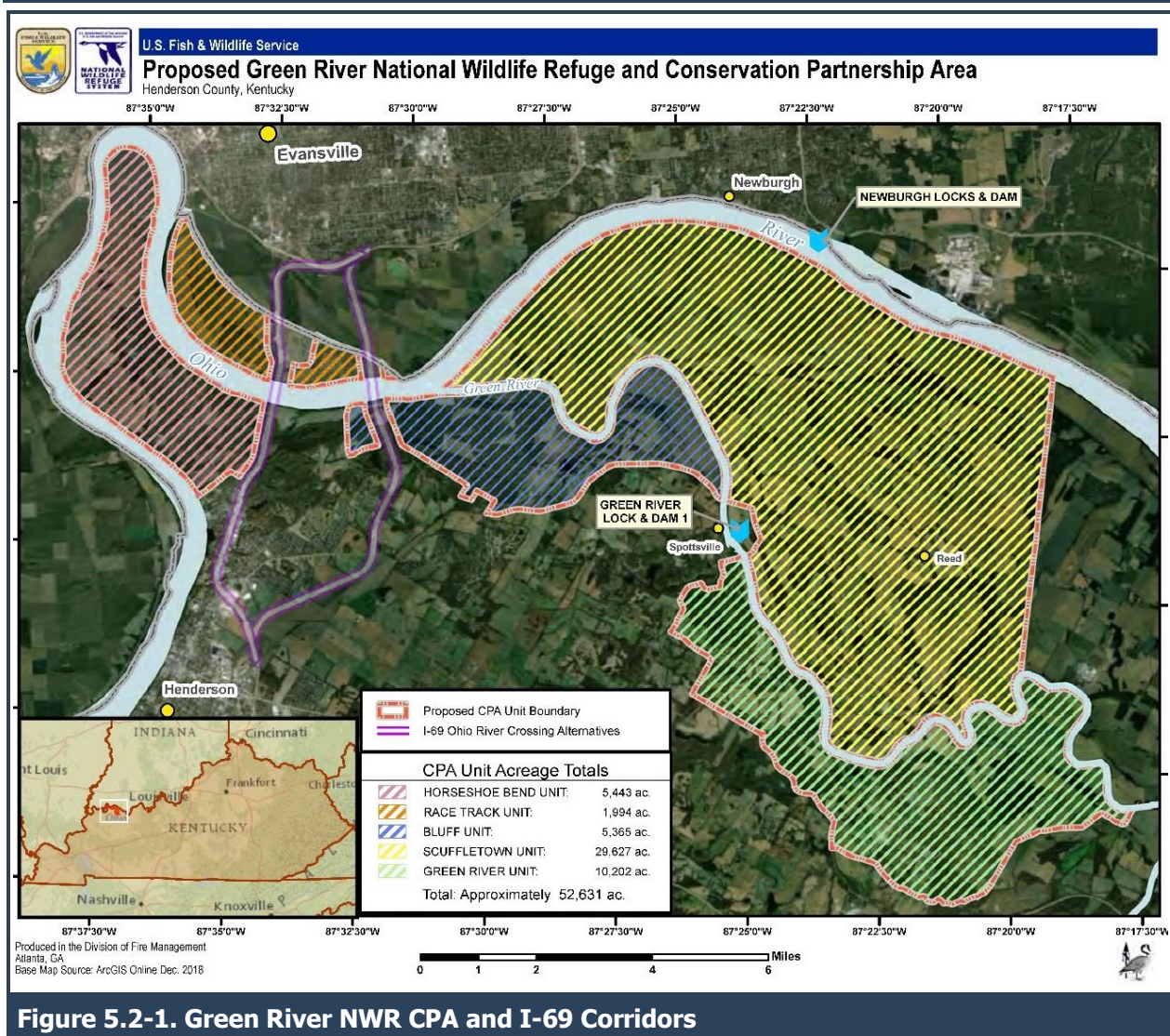


Figure 5.2-1. Green River NWR CPA and I-69 Corridors

The document continues with the following statement: "...to facilitate the FWS's compliance with the requirements of Section 4(f)..., the Service will avoid purchasing lands within the final construction alignment. Once the final I-69 ORX alternative is selected and construction of the I-69 ORX is completed, the Service will then consider administratively incorporating unused portions of the reserved corridors into the Green River NWR CPA."

There are currently two parcels within the CPA and the I-69 ORX project area that are owned by USFWS and are part of the Green River NWR. One of the parcels is located south of the Ohio River between Green River Road 2 and Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) (**Appendices A-3 and A-4, Sheets 6 and 7**). The other parcel is located south of the Ohio River adjacent to and west of US 41 (**Appendices A-1 and A-2, Sheets 6 - 8**).

SECTION 4(f) USE DETERMINATION**BUILD ALTERNATIVES**

West Alternatives 1 and 2 would involve the construction of a new I-69 bridge and highway west of US 41 that would be located within the Green River NWR property. Based on the evaluation below, there would be a Section 4(f) use of the Green River NWR:

- Permanent Incorporation: Yes – West Alternatives 1 and 2 would require the permanent incorporation of 35.7 acres and 32.1 acres, respectively, from the Green River NWR as right-of-way.
- Temporary Occupancy: None – Green River NWR property would not be required for construction-related activities associated with West Alternatives 1 and 2.
- Constructive Use:
 - Noise: None – According to 23 CFR 774.15(e)(1)(v), constructive use occurs when “(1) The projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility...such as:...(v) Viewing wildlife in an area of a wildlife and waterfowl refuge intended for such viewing.” The Green River NWR does not include a designated wildlife viewing area or any other noise sensitive facility.
 - Aesthetics: None – Because the Green River NWR property is currently adjacent to US 41, West Alternatives 1 and 2 would not detract from its setting.
 - Access: None – West Alternatives 1 and 2 would not alter access to the Green River NWR.
 - Vibration: None – The Green River NWR is not vibration sensitive.
 - Ecological Intrusion: None – Beyond what would be directly and permanently impacted by the construction of the new bridge, ecological intrusion would not result in constructive use because the refuge is already adjacent to the existing US 41 highway and bridges and the proximity of the alternatives would not substantially diminish the value of wildlife habitat, interfere with wildlife access to the refuge when such access is necessary for established wildlife migration, or critical life cycle processes, or reduce the wildlife use of the refuge.

Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would involve the construction of a new I-69 bridge and highway east of the Green River NWR parcel that is located east of Green River Road 2. The distance between the new I-69 bridge and highway and the Green River NWR would range from approximately 340 to 1,140 feet. In addition, these alternatives would also involve the demolition of the US 41 southbound bridge, which is approximately 100 feet from the other Green River NWR parcel, that is located west of and adjacent to US 41.

Based on the evaluation below, there would be no Section 4(f) use of the Green River NWR:

- Permanent Incorporation: None – Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would not require the permanent incorporation of land from the Green River NWR, either as right-of-way or permanent easement.
- Temporary Occupancy: None – Green River NWR property would not be required for construction-related activities associated with Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected).
- Constructive Use:
 - Noise: None – According to 23 CFR 774.15(e)(1)(v), constructive use occurs when “(1) The projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility...such as:...(v) Viewing wildlife in an area of a wildlife and waterfowl refuge intended for such viewing.” The Green River NWR does not include a designated wildlife viewing area or any other noise sensitive facility.
 - Aesthetics: None – For the Green River NWR parcel located east of Green River Road 2, the new I-69 bridge and highway would be visible from a small northern portion of the refuge and would detract from the refuge setting. However, it would not result in the constructive use of the refuge. For the remaining portion of this refuge parcel, the view of the new I-69 bridge and highway would be blocked by forested habitat that is not part of the refuge and, therefore, would not detract from the refuge setting. Regarding the Green River NWR parcel located west of US 41, because the refuge is currently adjacent to US 41, the removal of the southbound US 41 bridge would not detract from its setting.
 - Access: None – Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would not alter access to the Green River NWR.
 - Vibration: None – The Green River NWR is not vibration sensitive.
 - Ecological Intrusion: None – Because the new I-69 bridge and highway would be located approximately 340 to 1,140 feet from the refuge, there would be no ecological intrusion that would result in constructive use of the refuge. In addition to the distance, there would be a forested buffer between the refuge and the alternative that would minimize potential visual impact and noise disturbance and the alternative would include a bridge parallel to the refuge that would allow wildlife movement. As a result, the alternative would not substantially diminish the value of wildlife habitat, interfere with wildlife access to the refuge when such access is necessary for established wildlife migration, or critical life cycle processes, or reduce the wildlife use of the refuge. For the refuge parcel located west of US 41, the removal of the US 41 southbound bridge would also not result in an ecological intrusion and constructive use.

NO BUILD ALTERNATIVE

There would be no Section 4(f) use of the Green River NWR as a result of the No Build Alternative.

5.2.8 SUMMARY OF SECTION 4(f) USE OF PUBLIC PARKS, RECREATION AREAS, AND WILDLIFE OR WATERFOWL REFUGES

Table 5.2-2 provides a summary of the Section 4(f) use for each public park, recreation area, and wildlife or waterfowl refuge by alternative.

Table 5.2-2. Section 4(f) Permanent, Temporary, or Constructive Use of Public Parks, Recreation Areas, and Wildlife or Waterfowl Refuges

| PROPERTY | SECTION 4(f) USE | | |
|--|--------------------------|--------------------------|---|
| | WEST ALTERNATIVE 1 | WEST ALTERNATIVE 2 | CENTRAL ALTERNATIVES 1A, 1B, AND 1B MODIFIED |
| Anthony C. Oates Memorial Park | No Use | No Use | No Use |
| John James Audubon State Park | No Use | No Use | No Use |
| Atkinson Park | <i>de minimis impact</i> | <i>de minimis impact</i> | No Use |
| Henderson Schools' Athletic Facilities – tennis courts | No Use | No Use | No Use |
| Henderson Schools' Athletic Facilities - baseball fields | No Use | No Use | No Use |
| Freedom Park/Fairgrounds | No Use | No Use | No Use |
| Green River State Forest | No Use | No Use | No Use |
| Green River NWR | Permanent Use | Permanent Use | No Use |

5.3 HISTORIC RESOURCES

Section 4(f) applies to all aboveground historic resources that are listed in, or eligible for listing in, the NRHP regardless of whether they are publicly owned or open to the public. These resources were identified and documented in the following technical studies conducted for the I-69 ORX project: *History/Architecture Survey for Henderson, Henderson County, Kentucky: I-69 Ohio River Crossing Project, Evansville, IN and Henderson, KY* (Gray & Pape 2018b) and *History/Architecture Survey for Evansville, Vanderburgh County, Indiana: I-69 Ohio River Crossing Project, Evansville, IN and Henderson, KY* (Gray & Pape 2017).

Table 5.3-1 identifies the historic resources within the I-69 ORX project area and their locations on the Environmental Features maps provided in **Appendix A**. The I-69 ORX project alternatives' use of these properties is described in the following section.

Archaeological resources are discussed in **Section 5.4**.

Table 5.3-1. Section 4(f) Historic Resources Within the I-69 ORX Project Area

| PROPERTY | ALTERNATIVE | | |
|--|--------------------------------------|--------------------------------------|---|
| | WEST ALT. 1 (APPENDIX, SHEET NO.) | WEST ALT. 2 (APPENDIX, SHEET NO.) | CENTRAL ALT. 1A, 1B, AND 1B MODIFIED (APPENDIX, SHEET NO.) |
| John James Audubon State Park, NRHP-listed | A-1, Sheets 7 – 9 | A-2, Sheets 7 – 9 | N/A |
| Audubon Memorial Bridge/ Northbound US 41 Bridge, NRHP-eligible | A-1, Sheets 5 – 7 | A-2, Sheets 5 – 7 | N/A |
| Southbound US 41 Bridge, NRHP-eligible | A-1, Sheets 5 – 7 | A-2, Sheets 5 – 7 | N/A |
| Henry Barret Farm, NRHP-eligible | A-1, Sheet 11 | A-2, Sheet 11 | N/A |
| Jackson McClain Property, NRHP-eligible | N/A | N/A | A-3, Sheets 9 and 10 |
| Ellis-Neville/Lee Baskett House, NRHP-eligible | N/A | N/A | A-3, Sheet 10 |
| William Soaper Farm, NRHP-listed | A-1, Sheets 13 and 14 | A-2, Sheets 13 and 14 | A-3, Sheets 15 and 16 |
| Ben Kimsey Farm, NRHP-eligible ¹ | N/A | N/A | N/A |

¹ This resource is located outside the area shown on the Environmental Features maps in **Appendix A**. Its location is shown on Figure 4.5-1 in Chapter 4.

5.3.1 JOHN JAMES AUDUBON STATE PARK

John James Audubon State Park (**Appendices A-1 and A-2, Sheets 7 – 9**) was discussed under **Section 5.2.2**. The park is listed in the NRHP for its significance in the areas of architecture, landscape architecture conservation, public recreation, and public works. The property includes six contributing buildings, three contributing sites, 10 contributing structures, and one non-contributing building within the boundary. As detailed in **Section 5.2.2**, none of the project alternatives would require permanent incorporation or temporary occupancy of property from the park, nor would any of the alternatives cause a constructive use.

5.3.2 AUDUBON MEMORIAL BRIDGE/NORTHBOUND US 41 BRIDGE

The Audubon Memorial Bridge/Northbound US 41 Bridge, which was built in 1932, carries northbound vehicular traffic on US 41 over the Ohio River; the bridge is solely within Kentucky's borders. The bridge was previously determined to be eligible for inclusion in the NRHP under Criterion A for its association with the Commonwealth of Kentucky Bridge Revenue Bond program. Additionally, the bridge is recommended eligible under Criterion C with its west neighboring bridge (southbound US 41) as an example of a set of paired cantilevered bridges that retain historic integrity (Gray & Pape 2018).

SECTION 4(f) USE DETERMINATION**WEST ALTERNATIVE 1**

Under West Alternative 1 (**Appendix A-1, Sheets 5 – 7**), the new I-69 bridge would be constructed to the west of the historic property and the NRHP-eligible Southbound US 41 Bridge would be removed. The removal of one of the bridges is necessary because INDOT and KYTC have determined that maintaining one of these bridges for non-vehicular use is not financially feasible. The Audubon Memorial Bridge/Northbound US 41 Bridge would be converted to carry one lane of northbound traffic and one lane of southbound traffic. There would be no Section 4(f) use of the Audubon Memorial Bridge/Northbound US 41 Bridge based on the following evaluation:

- Permanent Incorporation: None
- Temporary Occupancy: None
- Constructive Use:
 - Noise: None – The Audubon Memorial Bridge/Northbound US 41 Bridge is not considered to be noise-sensitive as its function is transportation.
 - Aesthetics: None – The Audubon Memorial Bridge/Northbound US 41 Bridge is eligible for the NRHP under Criterion A for its association with the Commonwealth of Kentucky Bridge Revenue Bond program. In addition, the bridge is eligible for the NRHP under Criterion C with its neighboring bridge (Southbound US 41 Bridge) as an example of a set of paired cantilevered bridges that retain historic integrity. With the removal of the Southbound US 41 Bridge, the Audubon Memorial Bridge/Northbound US 41 Bridge would no longer be eligible for the NRHP under Criterion C. In addition, the construction of the new six-lane I-69 bridge in close proximity to the Audubon Memorial Bridge/Northbound US 41 Bridge would visually introduce a modern design bridge that would constitute a Section 106 adverse effect by altering the historic setting and feeling of the property. However, the project would not impair the attributes of the bridge that originally made it eligible for the NRHP under Criterion A in 1988, which is its association with the Commonwealth of Kentucky Bridge Revenue Program. The Audubon Memorial Bridge/Northbound US 41 Bridge would still retain its integrity under Criterion A and remain eligible for the NRHP. Therefore, there would not be a Section 4(f) use of the bridge as a result of aesthetics.
 - Access: None – The build alternatives would not alter access to the bridge.
 - Vibration: None – The bridge is a transportation facility and is, therefore, not sensitive to vibration.
 - Ecological Intrusion: None – The bridge does not include a wildlife or waterfowl refuge.

WEST ALTERNATIVE 2

Under West Alternative 2 (**Appendix A-2, Sheets 5 – 7**), a new I-69 bridge would be constructed approximately 70 feet west of the existing southbound US 41 bridge. Both the NRHP-eligible

Audubon Memorial Bridge/Northbound US 41 Bridge and the Southbound US 41 Bridge would be removed, resulting in a Section 106 adverse effect to these historic properties and a Section 4(f) use of both bridges.

- Permanent Incorporation: Section 4(f) Use – The Audubon Memorial Bridge/Northbound US 41 Bridge would be removed.
- Temporary Occupancy: Not applicable; the Audubon Memorial Bridge/Northbound US 41 Bridge would be removed.
- Constructive Use: Not applicable; the Audubon Memorial Bridge/Northbound US 41 Bridge would be removed.

CENTRAL ALTERNATIVES 1A AND 1B (PREFERRED) AND 1B MODIFIED (SELECTED)

Under these alternatives, the new I-69 bridge would be constructed approximately 1.5 miles east of the historic property and the NRHP-eligible Southbound US 41 Bridge would be removed (**Appendices A-3 and A-4, Sheets 20, 21, and 22**). The Audubon Memorial Bridge/Northbound US 41 Bridge would be converted to carry one lane of northbound traffic and one lane of southbound traffic. There would be no Section 4(f) use of the Audubon Memorial Bridge/Northbound US 41 Bridge based on the following evaluation:

- Permanent Incorporation: None
- Temporary Occupancy: None
- Constructive Use:
 - Noise: None – The bridge is not noise-sensitive as noise is a consequence of its transportation function.
 - Aesthetics: None – The Audubon Memorial Bridge/Northbound US 41 Bridge is eligible for the NRHP under Criterion A for its association with the Commonwealth of Kentucky Bridge Revenue Bond program. In addition, the bridge is eligible for the NRHP under Criterion C with its neighboring bridge (Southbound US 41 Bridge) as an example of a set of paired cantilevered bridges that retain historic integrity. With removal of the Southbound US 41 Bridge, the Audubon Memorial Bridge/Northbound US 41 Bridge would no longer be eligible for the NRHP under Criterion C. In addition, the construction of the new I-69 bridge approximately 1.5 miles to the east (upstream) of the Audubon Memorial Bridge/Northbound US 41 Bridge would visually introduce a modern design bridge that would constitute an adverse effect under Section 106 by altering the historic setting and feeling of the bridge. However, the project would not impair the attributes of the bridge that originally made it eligible for the NRHP under Criterion A in 1988, which is its association with the Commonwealth of Kentucky Bridge Revenue Program. The Audubon Memorial Bridge/Northbound US 41 Bridge would still retain its integrity under Criterion A and remain eligible for the NRHP. Therefore, there would not be a Section 4(f) use of the bridge as a result of aesthetics.

- Access: None – The build alternatives would not alter access to the bridge.
- Vibration: None – The bridge is a transportation facility and is, therefore, not sensitive to vibration.
- Ecological Intrusion: None – The bridge does not include a wildlife or waterfowl refuge.

NO BUILD ALTERNATIVE

There would be no Section 4(f) use of the Audubon Memorial Bridge/Northbound US 41 Bridge as a result of the No Build Alternative.

5.3.3 SOUTHBOUND US 41 BRIDGE

The Southbound US 41 Bridge, which was constructed in 1965, carries southbound vehicular traffic on US 41 across the Ohio River; the bridge is entirely in Kentucky. The bridge is immediately to the west of the Audubon Memorial Bridge/Northbound US 41 Bridge. The southbound bridge was designed to complement the older northbound bridge, using similar materials and the same structure type. The bridge is recommended as eligible for inclusion in the NRHP under Criterion C with the Audubon Memorial Bridge/Northbound US 41 Bridge as an example of a set of paired cantilevered bridges that retain historic integrity.

SECTION 4(f) USE DETERMINATION

WEST ALTERNATIVE 1

Under this alternative, a new bridge would be constructed to the west of the historic property and the NRHP-eligible Southbound US 41 Bridge would be removed (**Appendix A-1, Sheets 5 - 7**). The removal of one of the bridges is necessary because INDOT and KYTC have determined that maintaining one of these bridges for non-vehicular use is not financially feasible. The removal of the Southbound US 41 Bridge would result in an Adverse Effect to the historic property under Section 106 and a permanent Section 4(f) use. There would be no temporary occupancy or constructive use of the Southbound US 41 Bridge if the bridge is removed.

WEST ALTERNATIVE 2

Under this alternative (**Appendix A-2, Sheets 5 – 7**), both the NRHP-eligible Southbound US 41 Bridge and the Audubon Memorial Bridge/Northbound US 41 Bridge would be removed. The removal of the bridges is necessary because INDOT and KYTC have determined that maintaining the bridges for non-vehicular use is not financially feasible. The removal of both bridges would result in an Adverse Effect under Section 106 and a permanent Section 4(f) use of the Southbound US 41 Bridge. There would be no temporary occupancy or constructive use of the Southbound US 41 Bridge if the bridge is removed.

CENTRAL ALTERNATIVES 1A AND 1B (PREFERRED) AND 1B MODIFIED (SELECTED)

Under these alternatives, the new I-69 bridge would be constructed approximately 1.5 miles east of the historic property and the NRHP-eligible Southbound US 41 Bridge would be removed (**Appendices A-3 and A-4, Sheets 20, 21, and 22**). The removal of the bridge is necessary because INDOT and KYTC have determined that maintaining the bridge for non-vehicular use is not

financially feasible. The removal of the Southbound US 41 Bridge would result in a Section 106 adverse effect to the historic property and a permanent Section 4(f) use. There would be no temporary occupancy and constructive use of the Southbound US 41 Bridge if it is removed.

NO BUILD ALTERNATIVE

There would be no Section 4(f) use of the Southbound US 41 Bridge as a result of the No Build Alternative.

5.3.4 HENRY BARRET FARM

This property, located on the east side of the interchange of US 60 and US 41, has experienced several physical changes that have affected some of the buildings originally identified on the property. However, the main house, constructed in 1904, has retained its historic integrity and is eligible for listing in the NRHP under Criterion C as an excellent, large-scale example of the Tudor Revival architectural style.

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

West Alternatives 1 and 2 would lie immediately adjacent to the northern and northwestern NRHP boundary of the Henry Barret Farm along US 60 and at the interchange of US 60 and US 41 (**Appendices A-1 and A-2, Sheet 11**). The construction of West Alternatives 1 and 2 would involve the reconstruction of the existing US 60 interchange and upgrade of the existing roadway to interstate standards. Central Alternatives 1A and 1B (Preferred) are more than 2,600 feet and Central Alternative 1B Modified (Selected) is more than 1,600 feet from the southern NRHP boundary of the property where the alternatives connect with US 41. Based on the following evaluation there would not be a Section 4(f) use of the Henry Barret Farm.

- Permanent Incorporation: None – The alternatives would not require permanent land from the Henry Barret Farm.
- Temporary Occupancy: None – The alternatives would not require the temporary occupancy of the Henry Barret Farm during construction activities.
- Constructive Use:
 - Noise: None – The alternatives would not result in noise impacts to the Henry Barret Farm. Under West Alternatives 1 and 2, noise modeling results indicated that forecasted noise levels near the house would be 58.5 dBA or less under both West Alternatives 1 and 2. These levels would not exceed FHWA's noise abatement threshold of 67 dBA for Section 4(f) sites (FHWA 2011).

Central Alternatives 1A and 1B (Preferred) would be more than 2,600 feet and Central Alternative 1B Modified (Selected) would be more than 1,600 feet from the southern NRHP boundary of the property where the alternatives would connect to US 41. Since the Henry Barret Farm is more than 800 feet from Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected), a noise analysis was not conducted because the FHWA TNM has not been demonstrated to be accurate beyond 800 feet.

However, based on the noise analysis conducted for the I-69 ORX project and described in **Chapter 4, Section 4.2.10**, predicted noise levels 700 feet from the road were 53.8 dBA. (Note: these levels would vary slightly based on changes in terrain and the shielding of objects, such as buildings.) At over 800 feet from Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected), the Henry Barret Farm would have noise levels that are less than 56.2 dBA, below FHWA's noise abatement threshold of 67 dBA.

- Aesthetics: None – The construction of West Alternatives 1 and 2 would involve the reconstruction of the existing US 60 interchange and upgrade of the existing roadway to interstate standards. The property is heavily wooded with mature trees, and a privacy fence encircles the property boundary. Mixed-use commercial, institutional, and residential development surrounds the property. The construction of West Alternatives 1 and 2 would be visible from the property but would not diminish the current setting or feeling of the property due to the extent of the existing mixed-use commercial and residential development that surrounds the property. West Alternatives 1 and 2 would have no adverse effect on the Henry Barret Farm under Section 106.

Under Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected), there would be no visual impacts to the Henry Barret Farm since the project is over 2,600 feet and 1,600 feet, respectively, from the southern NRHP boundary of the property where the alternatives would connect to US 41. The property is heavily wooded with mature trees, and a privacy fence surrounds the property boundary. Therefore, Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would not be visible from the property and would have no effect to the Henry Barret Farm under Section 106.

- Access: None – The build alternatives would not restrict access to the Henry Barret Farm.
- Vibration: None – The main house of the Henry Barret Farm is more than 500 feet from the construction limits of each of the build alternatives. Therefore, there would be no vibration impacts from the roadway construction or operation.
- Ecological Intrusion: None – The resource does not include a wildlife or waterfowl refuge or other ecologically sensitive feature.

NO BUILD ALTERNATIVE

There would be no Section 4(f) use of the Henry Barret Farm as a result of the No Build Alternative.

5.3.5 JACKSON MCCLAIN PROPERTY

This resource, which includes the McClain House, associated buildings, and the surrounding farmland, is eligible for inclusion in the NRHP under Criterion A for its association with Henderson County's agricultural history, under Criterion B for its association with locally significant property owner Col. Jackson McClain, and under Criterion C, as the house and carriage house are excellent examples of the Greek Revival architectural style.

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

Both West Alternative 1 and 2 would lie approximately 1.75 miles to the west of the Jackson McClain property. Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) (**Appendices A-3 and A-4, Sheets 9 and 10**) would be adjacent to the southeast corner of the Jackson McClain property boundary, and a new interchange at US 60 would be adjacent to the southern edge of the NRHP boundary along existing US 60. Based on the following evaluation, these alternatives would result in no Section 4(f) use of the Jackson McClain property:

- Permanent Incorporation: None – The alternatives would not require permanent land from the Jackson McClain property.
- Temporary Occupancy: None – The project would not require the temporary occupancy of the Jackson McClain property during construction activities under any of the alternatives.
- Constructive Use:
 - Noise: None – Both West Alternatives 1 and 2 lie approximately 1.75 miles to the west of the Jackson McClain NRHP boundary. Because the FHWA TNM has not been demonstrated to be accurate beyond 800 feet, noise analysis was not conducted for these alternatives. However, based on the noise analysis conducted for the I-69 ORX project and described in **Chapter 4, Section 4.2.10**, predicted noise levels at 700 feet from the road were 56.2 dBA. (Note: these levels would vary slightly based on changes in terrain and the shielding of objects, such as buildings.) The noise level at the Jackson McClain property, which is 1.75 miles from West Alternatives 1 and 2, would be less than 56.2 dBA, which would be below FHWA’s noise abatement threshold of 67 dBA.

Noise modeling results for Central Alternatives 1A and 1B (Preferred) indicated that forecasted levels at the Jackson McClain property would be 58.9 dBA and lower, depending on which tolling scenario is implemented, and would not exceed FHWA’s noise abatement threshold of 67 dBA for Section 4(f) sites (FHWA 2011).

The updated noise modeling that was conducted for Central Alternative 1B Modified (Selected) indicated that forecasted levels at the Jackson McClain property would be 61.2 dBA and would not exceed FHWA’s noise abatement threshold of 67 dBA for Section 4(f) sites.

- Aesthetics: None – West Alternatives 1 and 2 would lie approximately 1.75 miles to the west of the Jackson McClain NRHP boundary and would have no effect on the property under Section 106. There would be no Section 4(f) constructive use since the project would not substantially diminish the attributes of the project that make it historic including its association with Henderson County’s agricultural history, its association with Col. Jackson McClain, and the architectural style of the house.

Under Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected), the mainline would be approximately 80 feet to the east of the NRHP boundary and a new interchange at US 60 would lie to the south of the property. Construction limits for the new interchange would be approximately 160 feet from the southeast corner of the Jackson McClain NRHP boundary. Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would be adjacent to the southwest corner of the NRHP boundary. The interchange would involve a realignment of the existing roadway and expansion of US 60 to four lanes. Residential development has encroached on the western edge of the property, but the construction of Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) and the introduction of a new interstate interchange would visually alter and diminish the historic integrity of the setting and feeling of this agricultural property, resulting in an adverse effect under Section 106. However, the proposed project would not substantially impair the attributes of the Jackson McClain property that contribute to the NRHP-eligibility of the site under Criterion B for its association with Col. Jackson McClain, and under Criterion C for the architectural style of the house and carriage house, which would not be impacted. Therefore, there would not be a constructive Section 4(f) use.

- Access: None – The build alternatives would not restrict access to the John McClain property.
- Vibration: None – The construction limits of West Alternatives 1 and 2, Central Alternatives 1A and 1B, and Central Alternative 1B Modified are more than 1.75 miles, 500 feet, and 380 feet, respectively, from the main house of the Jackson McClain property. Therefore, there would be no vibration impacts.
- Ecological Intrusion: None – The resource does not include a wildlife or waterfowl refuge or other ecologically sensitive feature.

NO BUILD ALTERNATIVE

There would be no Section 4(f) use of the Jackson McClain property under the No Build Alternative.

5.3.6 ELLIS-NEVILLE/LEE BASKETT HOUSE

This resource includes the Ellis-Neville/Lee Baskett house and its garage. These resources are NRHP-eligible under Criterion B for their association with locally significant Lee Baskett and under Criterion C as an example of a significant architectural form. The surrounding property has lost its historic integrity and is no longer considered eligible for inclusion in the NRHP.

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

West Alternatives 1 and 2 would be approximately 2.6 miles to the west of the Ellis-Neville/Lee Baskett House NRHP boundary. Central Alternatives 1A and 1B (Preferred) (**Appendix A-3, Sheet 10**) and 1B Modified (Selected) (**Appendix A-4, Sheet 10**) would be constructed approximately 100 feet and 260 feet, respectively, to the west of the Ellis Neville/Lee Baskett

NRHP boundary. Under Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected), the mainline would be constructed west of the property and a new interchange would be constructed at US 60 to the southwest of the property. The interchange would involve a realignment of the existing roadway and would expand US 60 to four lanes. For Central Alternative 1B Modified (Selected), the design of the east side of this interchange was modified to improve the connection between Tilman-Bethel Road and the relocated US 60 and to remove the existing section of US 60 and the associated bridge over the CSX railroad. This modification involved relocating Tilman-Bethel Road and the property's access to the relocated portion of that road. The relocated access road would be constructed approximately 120 feet east of the property's driveway entrance. The modification also included the relocation of a powerline between the interchange and the property. Based on the following evaluation, there would be no Section 4(f) use of the Ellis-Neville/Lee Basket House.

- Permanent Incorporation: None – There would be no permanent land required from the Ellis-Neville/Lee Baskett House property under any of the build alternatives.
- Temporary Occupancy: None – The build alternatives would not require temporary occupancy of the Ellis-Neville/Lee Baskett House property.
- Constructive Use:
 - Noise: None – Both West Alternatives 1 and 2 would be approximately 2.6 miles to the west of the Ellis-Neville/Lee Baskett House. Because the FHWA TNM has not been demonstrated to be accurate beyond 800 feet, noise analysis was not conducted for these alternatives. However, based on the noise analysis conducted for the I-69 ORX project and described in **Section 4.2.10**, predicted noise levels at 700 feet from the road were 53.8 dBA. (Note: these levels would vary slightly based on changes in terrain and the shielding of objects, such as buildings.) The noise level at the Ellis-Neville/Lee Baskett House, which is 2.6 miles from West Alternatives 1 and 2, would be less than 56.2 dBA, which would be below FHWA's noise abatement threshold of 67 dBA.

Noise modeling results indicated that noise levels near the house would be no greater than 58.0 dBA under Central Alternatives 1A and 1B (Preferred), below FHWA's noise abatement threshold of 67 dBA for Section 4(f) sites (FHWA 2011).

The updated noise modeling that was conducted for Central Alternative 1B Modified (Selected) indicated that forecasted levels at the Ellis-Neville/Lee Baskett House would be 59.3 dBA and would not exceed FHWA's noise abatement threshold of 67 dBA for Section 4(f) sites.

- Aesthetics: None – Both West Alternatives 1 and 2 would be approximately 2.6 miles to the west of the Ellis-Neville/Lee Baskett House. Neither alternative would be visible from the property. Both alternatives would have no effect under Section 106 and no Section 4(f) constructive use since there would be no substantial impairment of the historic attributes of the property.

Central Alternatives 1A and 1B (Preferred) would be constructed approximately 100 feet to the west of the Ellis-Neville Lee Baskett House property. The visual impacts of the proposed interstate interchange on the property would result in an adverse effect under Section 106. However, the visual impacts of the project would not reach the threshold of substantial impairment of the historic attributes of the Ellis-Neville/Lee Baskett House that make it eligible for the NRHP under Criteria B for its association with Lee Baskett and under Criteria C for its architectural form. The surrounding property has already lost its historic integrity and is no longer considered eligible for the NRHP.

- Access: None – There would be no restriction of access under any of the build alternatives.
- Vibration – None – Both West Alternatives 1 and 2 are more than 500 feet from the Ellis-Neville/Lee Baskett House and its garage and would, therefore, not result in vibration effects and Section 4(f) constructive use.

The Ellis-Neville/Lee Baskett House and garage is approximately 380 feet from existing US 60, and the closest pavement of Central Alternatives 1A and 1B (Preferred) would be approximately 500 feet from the historic structures associated with this resource. Vibration impacts resulting in a constructive use are not anticipated. A vibration assessment will be included as a commitment in the Section 106 MOA if construction will occur within 500 feet of the historic structures.

- Ecological Intrusion – None – The property does not include a wildlife or waterfowl refuge.

NO BUILD ALTERNATIVE

There would be no Section 4(f) use of the NRHP-eligible Ellis-Neville/Lee Baskett House under the No Build Alternative.

5.3.7 WILLIAM SOAPER FARM

The William Soaper Farm, located in the northeast quadrant of the interchange of US 41 and Zion Road, was listed in the NRHP in 2000 under Criterion A for its association with the agricultural history of Henderson County. The 149-acre property includes 13 contributing resources, one contributing site, one contributing structure, two non-contributing buildings, and two non-contributing sites. (Note: a building is created principally to shelter any form of human activity while the term “structure” is used to distinguish from buildings those functional constructions made for purposes other than creating human shelter. Structures could include fences, silos, corncribs, etc.).

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

Under each of the build alternatives, there would be No Adverse Effect under Section 106 on the NRHP-eligible William Soaper Farm (**Appendices A-1 and A-2, Sheets 13 and 14; Appendices A-3 and A-4, Sheets 15 and 16**). West Alternatives 1 and 2 and Central Alternatives 1A and 1B

(Preferred) would connect with existing US 41 approximately 1,190 feet to the north of the NRHP boundary for the William Soaper Farm. Improvements to US 41 in the area adjacent to the William Soaper Farm would consist of an upgrade of the existing roadway to interstate standards. Central Alternative 1B Modified (Selected) would connect with existing US 41 approximately 1,600 feet north of the NRHP boundary and the KY 351 interchange, which is adjacent to the western and southern NRHP boundary, would be reconstructed to include roundabouts at each of the ramp intersections and another roundabout at the KY 351/KY 2084 intersection. The reconstruction of the interchange would also include shifting the proposed I-69 mainline (i.e., existing US 41) to the west approximately 30 feet. The western NRHP boundary is along the current alignment of US 41 and the southern NRHP boundary is along the current alignment of KY 351.. There would be no Section 4(f) use of the William Soaper Farm based on the following evaluation:

- Permanent Incorporation: None – There would be no permanent land required from the William Soaper Farm property under any of the build alternatives.
- Temporary Occupancy: None – The build alternatives would not require temporary occupancy of the William Soaper Farm property. For Central Alternative 1B Modified (Selected), construction of the KY 351 interchange would result in a small area of temporary encroachment on the William Soaper Farm. However, this encroachment is located completely within an existing easement held by KYTC; therefore, it is not considered Section 4(f) use of the property.
- Constructive Use:
 - Noise: None – Each of the alternatives would be more than 800 feet from the William Soaper Farm NRHP boundary. Because the FHWA TNM has not been demonstrated to be accurate beyond 800 feet, noise analysis was not conducted for these alternatives. However, based on the noise analysis conducted for the I-69 ORX project and described in **Section 4.2.10**, predicted noise levels at 700 feet from the road were 53.8 dBA. (Note: these levels would vary slightly based on changes in terrain and the shielding of objects, such as buildings.) Therefore, the noise level at the William Soaper Farm under all of the build alternatives would be less than 56.2 dBA, below FHWA’s noise abatement threshold of 67 dBA.
 - Aesthetics: None – Each of the build alternatives would result in a visual effect on the William Soaper Farm. The buildings on the property are surrounded by dense woods. The upgrades of US 41, which borders the western NRHP boundary, and the reconstruction of the KY 351 interchange would be visible from portions of the property. The visual impacts of the project on the property would constitute a no adverse effect under Section 106. There would be no Section 4(f) constructive use because the project would not substantially impair the attributes of the William Soaper Farm that make it eligible for the NRHP under Criterion A for its association with the agricultural history of Henderson County.
 - Access: None – There would be no restriction of access under any of the build alternatives.

- Vibration –None – Construction limits for the build alternatives would be more than 500 feet from the structures on the William Soaper Farm. Therefore, there would be no vibration impacts.
- Ecological Intrusion – None – The property does not include a wildlife or waterfowl refuge.

NO BUILD ALTERNATIVE

There would be no Section 4(f) use of the William Soaper Farm under the No Build Alternative.

5.3.8 BEN KIMSEY FARM

The Ben Kimsey Farm and its associated buildings are located along LaRue Road at the end of Kimsey Lane. The property includes the 1890s original house and numerous other buildings and structures. As previously noted, buildings are considered to be built for human shelter, whereas structures are not. The property is eligible for inclusion in the NRHP under Criterion A for its association with the history of Henderson County.

SECTION 4(f) USE DETERMINATION

BUILD ALTERNATIVES

The closest points of West Alternatives 1 and 2 to the Ben Kimsey Farm are approximately 4,163 feet to the northwest of the NRHP property boundary. At this location, existing US 41 would be upgraded to interstate standards. Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would be approximately 3,500 feet and 2,000 feet, respectively, to the north of the Ben Kimsey Farm. Based on the following evaluation, there would be no Section 4(f) use of the Ben Kimsey Farm under any of the project alternatives.

- Permanent Incorporation: None – There would be no permanent land required from the Ben Kimsey Farm property under any of the build alternatives.
- Temporary Occupancy: None – The build alternatives would not require temporary occupancy of the Ben Kimsey Farm property.
- Constructive Use:
 - Noise: None – Each of the alternatives is more than 800 feet from the Ben Kimsey Farm property. Because the FHWA TNM has not been demonstrated to be accurate beyond 800 feet, noise analysis was not conducted for these alternatives. However, based on the noise analysis conducted for the I-69 ORX project and described in **Section 4.2.10**, predicted noise levels at 700 feet from the road were 53.8 dBA. (Note: these levels would vary slightly based on changes in terrain and the shielding of objects, such as buildings.) The noise level at the Ben Kimsey Farm would be less than 56.2 dBA for each of the build alternatives, which would be below FHWA's noise abatement threshold of 67 dBA.
 - Aesthetics: None – Each of the build alternatives would result in a visual effect on the Ben Kimsey Farm. The construction of the build alternatives would be visible from a

long distance from the property and would not diminish the current setting or feeling of the property. The visual impacts of the project on the property would constitute a no adverse effect under Section 106. There would be no Section 4(f) constructive use because the project would not substantially impair the attributes of the Ben Kimsey Farm that make it eligible for the NRHP under Criterion A for its association with the agricultural history of Henderson County.

- Access: None – There would be no restriction of access under any of the build alternatives.
- Vibration: None – Construction limits for the build alternatives would be greater than 500 feet from the structures on the Ben Kimsey Farm. Therefore, there would be no vibration impacts of the project that would result in a constructive use.
- Ecological Intrusion: None – The property does not include a wildlife or waterfowl refuge.

NO BUILD ALTERNATIVE

There would be no Section 4(f) use of the Ben Kimsey Farm as a result of the No Build Alternative.

5.3.9 SUMMARY OF SECTION 4(f) USE OF HISTORIC RESOURCES

Table 5.3-2 provides a summary of the Section 4(f) use for each historic resource by alternative.

Table 5.3-2. Section 4(f) Use of Historic Resources by Alternative

| PROPERTY | SECTION 4(f) USE | | | |
|--|--|--|--|--|
| | WEST ALTERNATIVE 1 | WEST ALTERNATIVE 2 | CENTRAL ALTERNATIVES 1A AND 1B | CENTRAL ALTERNATIVE 1B MODIFIED |
| John James Audubon State Park | No Use | No Use | No Use | No Use |
| Audubon Memorial Bridge/Northbound US 41 Bridge | No Use | Use The bridge would be removed ¹ | No Use | No Use |
| Southbound US 41 Bridge | Use The bridge would be removed ¹ | Use The bridge would be removed ¹ | Use The bridge would be removed ¹ | Use The bridge would be removed ¹ |
| Henry Barret Farm | No Use | No Use | No Use | No Use |
| Robertson-Warren Property | No Use | No Use | No Use | No Use |
| Jackson McClain Property | No Use | No Use | No Use | No Use |
| Ellis-Neville/Lee Baskett House | No Use | No Use | No Use | No Use |
| William Soaper Farm | No Use | No Use | No Use | No Use |
| Ben Kimsey Farm | No Use | No Use | No Use | No Use |

¹ The INDOT and KYTC will carry out marketing efforts to identify a reuse opportunity for the Southbound US 41 bridge and it will also be marketed prior to its demolition in accordance with the executed Section 106 Memorandum of Agreement for the project. If, after unsuccessful marketing, and completion of documentation of the Southbound US 41 Bridge, the bridge may be removed.

5.4 ARCHAEOLOGICAL RESOURCES

As discussed in **Chapter 4, Section 4.5.3**, archaeological surveys were conducted along the Central Alternative 1 corridor (i.e., Central Alternatives 1A and 1B [Preferred]) and no archaeological sites were identified for inclusion in the NRHP. Additional archaeological surveys are underway for the design modifications associated with Central Alternative 1B Modified (Selected). Based on the result of the archaeological surveys conducted to date, there would be no Section 4(f) use of any archaeological sites by Central Alternative 1B Modified (Selected).

With regard to any future archaeological surveys that may be needed after the FEIS/ROD, FHWA Section 4(f) regulations exempt archaeological sites from Section 4(f) protection if the archaeological resource is important “chiefly because of what can be learned by data recovery and has minimal value for preservation in place.” This exemption from Section 4(f) is applicable only if the OWJ over the archaeological resource has been consulted and does not object to the use of the exemption. Most archaeological resources qualify for this exemption; therefore, it is anticipated that this project will be exempted from Section 4(f).

5.5 SECTION 4(f) EVALUATION

As described in the preceding sections, four Section 4(f) properties would be used by one or more of the project alternatives. These properties are Atkinson Park, Audubon Memorial Bridge/Northbound US 41 Bridge, Southbound US 41 Bridge, and Green River NWR. These properties are discussed below.

5.5.1 ATKINSON PARK

Both West Alternatives 1 and 2 would require the installation of an approximately 1,000-foot storm pipe in an undeveloped portion of Atkinson Park, which may require a drainage easement, public utility easement, or other type of easement. There is an existing drainage pipe in the location where the proposed storm pipe would be installed. It is anticipated that the existing pipe would be lined and that a similar sized pipe would be installed parallel to the existing pipe. The area of construction would be regraded and reseeded to restore the area to its original condition. Construction activities within the park would require approximately 2 months to complete.

It is anticipated that this use of Atkinson Park would result in a *de minimis* impact determination since the project would not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection. A *de minimis* impact determination is a finding and is not an evaluation of alternatives; therefore, no avoidance or feasible and prudent avoidance alternative analysis is required.

AGENCY COORDINATION

The *de minimis* impact determination requires agency coordination as specified in 23 C.F.R. 774.5(b). Henderson County Department of Parks and Programs, the OWJ for Atkinson Park, must be informed of the intent to make a *de minimis* impact determination and concur in writing that the project would not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection.

DE MINIMIS IMPACT DETERMINATION

Because West Alternatives 1 or 2 were not identified as the Selected Alternative, FHWA will not pursue obtaining written concurrence from the OWJ that the project would not adversely affect the activities, features, or attributes that make Atkinson Park eligible for Section 4(f) protection, which is needed in order to make a *de minimis* determination.

5.5.2 AUDUBON MEMORIAL BRIDGE/NORTHBOUND US 41 BRIDGE AND SOUTHBOUND US 41 BRIDGE – PROGRAMMATIC EVALUATION FOR HISTORIC BRIDGES

West Alternative 1 and Central Alternatives 1A and 1B (Preferred) and 1B Modified (Selected) would result in a Section 4(f) use of the Southbound US 41 Bridge. West Alternative 2 would result in a Section 4(f) use of both the Audubon Memorial Bridge/Northbound US 41 Bridge and the Southbound US 41 Bridge.

As discussed in **Section 5.1.1**, FHWA has developed a Programmatic Section 4(f) Evaluation for FHWA projects that necessitate the use of historic bridges. The Programmatic Section 4(f) Evaluation only applies if there are no feasible and prudent alternatives to the use of certain historic bridge structures to be replaced or rehabilitated with federal funds and the project includes all possible planning to minimize harm resulting from such use. According to 23 C.F.R. 774.17, an alternative is not feasible if it cannot be built as a matter of sound engineering judgment and an alternative is not prudent if:

- it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
- it results in unacceptable safety or operational problems;
- after reasonable mitigation, it still causes:
 - severe social, economic, or environmental impacts;
 - severe disruption to established communities;
 - severe disproportionate impacts to minority or low-income populations; or
 - severe impacts to environmental resources protected under other federal statutes;
- it results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- it causes other unique problems or unusual factors; or
- it involves multiple factors of the above, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

The following section identifies alternatives that were considered to avoid the US 41 bridges and a discussion on whether these alternatives are feasible and prudent.

ALTERNATIVES TO AVOID THE USE OF THE SECTION 4(f) PROPERTY

FHWA's Programmatic Section 4(f) Evaluation identifies three alternatives that must be evaluated to demonstrate that the project has fully evaluated possible alternatives to avoid any use of the historic bridge: 1) implement the No Build Alternative (Do Nothing Alternative);

2) build a new structure at a different location without affecting the historic integrity of the old bridge, as determined by procedures implementing the NHPA; and 3) rehabilitate the historic bridge without affecting the historic integrity of the structure, as determined by procedures implementing the NHPA. As part of the alternatives development process, numerous alternatives have been developed and evaluated based on their ability to satisfy the project's purpose and need, minimize environmental impacts, and avoid Section 4(f) properties. These alternatives, which are discussed in detail in **Chapter 3**, are summarized in the following sections. As part of the alternatives screening process, the initial alternatives were referred to as corridors and different bridge scenarios were developed and evaluated for each corridor. These bridge scenarios are shown in **Chapter 3, Figure 3.2-1**. The development and screening of project corridors/alternatives is also documented in the project's *Screening Report* (**Appendix B-1**) and *Screening Report Supplement* (**Appendix B-2**).

NO BUILD ALTERNATIVE

The No Build Alternative would maintain the existing historic US 41 bridges and would make no improvements beyond normal bridge maintenance. While feasible, the No Build Alternative is not prudent because it does not address the project's purpose and need as discussed below:

Providing Cross-river System Linkage and Connectivity between I-69 in Indiana and I-69 in Kentucky that is Compatible with the National I-69 Corridor

Under the No Build Alternative, the current US 41 bridges would continue to serve as the only cross-river access between Evansville and Henderson and the only connection between I-69 in Indiana and I-69 in Kentucky. The existing two-lane bridges have been designated as functionally obsolete due to narrow lanes and shoulders and are not designed to interstate standards of the I-69 corridor. Therefore, US 41 does not provide sufficient system linkage and connectivity between I-69 in Indiana and I-69 in Kentucky, which is identified as one of the primary needs of the I-69 ORX project.

Providing a Cost-Effective and Affordable Plan for Long-Term Cross-River Mobility

The US 41 bridges over the Ohio River are on KY Class "AAA" trucking weight classification routes, which are governed by Kentucky Administrative Regulation 603 KAR 5:0666. This regulation states that Class "AAA" routes shall have a maximum allowable gross weight of 80,000 pounds (40 tons). In addition to 603 KAR 5:066, Kentucky Revised Statute (KRS) 189.222 further defines legal truck weights on Kentucky structures. This statute states that vehicle types hauling agricultural cargo and forest products with gross weights of up to 80,000 pounds (40 tons) may travel on any state highways without a permit if the gross weight does not exceed limits mandated by federal law or regulation, any posted bridge weight limit, or the weight limits for size and type vehicle established by KRS 189.222. In addition, this KRS allows vehicles that are engaged exclusively in the transportation of agricultural cargo and forest products on highways to exceed the gross weight provisions of 80,000 pounds (40 tons) by 10 percent, equating to a total gross weight of 88,000 pounds (44 tons), unless restricted by a load posting of the bridge. As of 2018, the northbound and southbound US 41 bridges are open to Kentucky legal loads (40 tons), but are close to their limiting capacities under those loads. These bridges are not considered "substandard," but are posted to inform the larger legal-load vehicles that the bridges do not

meet the 44-ton capacity. As such, both bridges are “Posted, Not Substandard,” with posting signs addressing the exclusion of the 10 percent exceedance loads. As of 2018, the Audubon Memorial Bridge/Northbound US 41 Bridge is 86 years old and the Southbound US 41 Bridge is 53 years old. Without extensive investment, the bridges will continue to deteriorate and will be subjected to more restrictive weight posting. This will make the bridges less reliable in the future in meeting future traffic demands.

Since 2007, the states have spent a combined \$54 million on the bridges, including \$25 million for the “Fix for 41” project that started in spring 2017. These efforts have included painting, minor steel repairs, expansion joint replacement, improvements to navigational lighting, and a new bridge deck overlay for the southbound bridge. However, the Fix for 41 project addresses only the immediate needs on the bridges. As these bridges continue to age, they will begin to require maintenance and repairs that become increasingly less cost-effective so that replacement becomes the better option for the use of resources. To date, these investments have allowed the states to keep the bridges operational and in acceptable condition. The states are committed to maintaining cross-river mobility for the area. While extending the life of the existing northbound and/or southbound US 41 bridge to 2062¹ is feasible, there would be substantial operating and maintenance costs to keep the bridges in vehicular service. Total operating and maintenance costs for the period between 2018 and 2062 is estimated to be \$145 million for the Southbound US 41 Bridge and \$148 million for the northbound bridge depending on the traffic scenario (INDOT and KYTC 2017b). Therefore, the No Build Alternative would not provide a cost-effective plan to maintain future cross-river mobility.

Providing a Cross-river Connection for I-69, Operating at a Minimum of LOS D (C is Preferable)

With no other crossing in the region, the US 41 crossing of the Ohio River must serve local, regional, and interstate traffic. With four travel lanes through the corridor, existing US 41 and the bridges strain to efficiently handle the cross-river volume of traffic during peak periods. Traffic conditions in the corridor were evaluated to determine both the existing (2015) and projected (2045) levels of cross-river traffic congestion using Level of Service (LOS). LOS, which is a performance measure used to quantify the efficiency of a roadway, ranges between LOS A (free-flowing) and LOS F (heavy congestion/traffic flow breakdown). The existing 2015 LOS for traffic on the US 41 bridges is an E and is predicted to be LOS F in 2045, indicating severely congested conditions. It is not possible to increase the capacity of the existing bridges due to their limited width.

Improving Safety for Cross-river Traffic

Crash statistics for existing sections of US 41 and I-69 within the project area were analyzed to identify roadway sections that exhibit higher than expected crash rates. The US 41 bridges are within Kentucky. KYTC identifies any location with a calculated Critical Rate Factor (CRF) greater than 1.0 as a high-crash location. US 41 from the Indiana-Kentucky state line to Wolf Hills

¹ 2062 was used because it is 35 years beyond the estimated completion date of West Corridor 1 or West Corridor 2; repair, major maintenance, and reconstruction activities are reasonably foreseeable during that period; and it provides consistency with other cost and financial analyses that will be performed on the project.

Road has a CRF of 1.12, indicating that it is a high-crash location based on crash data provided by the Kentucky State Police from January 1, 2014 to December 31, 2016.

While the No Build Alternative would be feasible, it is not prudent, as it would not meet the project's purpose and need.

BUILD THE I-69 BRIDGE ON A NEW LOCATION AND RETAIN BOTH US 41 BRIDGES WITH TOLLS FOR VEHICULAR USE

Throughout the alternatives development process, several alternatives were developed including construction of a new bridge in a new location and retaining both US 41 bridges with tolls for vehicular use². Because these alternatives would retain the US 41 bridges, there would be no Section 4(f) use. Each of these alternatives is described in detail in **Chapter 3** and summarized as follows:

West Corridor 1 – Bridge Scenario 4 and West Corridor 2 – Bridge Scenario 7

Under these bridge scenarios, both US 41 bridges would be retained for vehicular use and a new four-lane bridge would be constructed. A total of eight lanes would be provided across the river. Since long-term traffic forecasts indicated that only six lanes are needed, these scenarios would provide more bridge lane capacity than required to meet design year traffic demand, resulting in excessive operating and maintenance costs. Based on cost estimates used in the *Screening Report Supplement*, the total costs of Bridge Scenarios 4 and 7 would exceed the cost of Bridge Scenarios 3 and 6, which would remove just one of the US 41 bridges, by \$128 million and \$135 million, respectively, with minimal additional benefits.

While Bridge Scenarios 4 and 7 would be feasible, they would not be prudent because they would provide excess bridge capacity that unnecessarily adds long-term bridge maintenance costs. Because these alternatives would not provide a cost-effective river crossing, they would not meet the project's purpose and need and would not be prudent.

Central Corridor 1 – Bridge Scenario 10

Under this scenario there would be a new four-lane I-69 bridge and both US 41 bridges would remain in vehicular service. This bridge scenario would result in eight total bridge lanes, while long-term traffic forecasts indicated that only six lanes are needed. Based on cost estimates used in the *Screening Report Supplement*, the total costs of this bridge scenario would be \$109 million more than Bridge Scenario 9, which would remove one US 41 bridge, with minimal additional benefits.

While Bridge Scenario 10 would be feasible, it would not be prudent because it would provide excess bridge capacity that unnecessarily adds long-term bridge maintenance costs. Because this alternative would not provide a cost-effective river crossing, it would not meet the project's purpose and need and would, therefore, not be prudent.

² Options of retaining both US 41 bridges without tolls were not considered because they would not support the financial feasibility of the I-69 ORX project. Based on the project's purpose and need, each project alternative must address long-term cost-effective cross-river mobility. If the US 41 bridges remain in service but are not tolled, they would divert traffic away from the new I-69, which would be a tolled facility, thereby reducing the total project revenue and adversely affecting the project's financial feasibility.

Central Corridor 2

Central Corridor 2 is based on the 2004 DEIS Preferred Alternative and was evaluated during the screening of the five conceptual corridors initially considered in the I-69 ORX project (INDOT and KYTC 2004). While this alternative would be feasible, it would not be prudent for several reasons. First, this corridor would result in eight total bridge lanes when only six lanes are needed. Second, Central Corridor 2 included a new I-69 alignment that would run parallel to the US 41 limited access highway and existing I-69 for nearly 5.8 miles, adding lane-miles of pavement, bridges, and new interchanges. At the time of the 2004 DEIS, the Edward T. Breathitt Pennyrile Parkway had not yet been designated as I-69; therefore, this redundancy was not considered. Because of these issues, this corridor has high construction and lifecycle/operation and maintenance costs and would not be cost-effective. Third, this corridor would have the second highest impacts to wetlands, rivers/streams, open water, forested habitat, floodplains, and farmlands of the five conceptual corridors.

East Corridor

This alternative, which was based on Alternative 3 from the 2004 DEIS, was evaluated during the initial screening of the five conceptual alternatives (**Chapter 3, Section 3.2.1**). This alternative, while feasible, is not prudent for several reasons. First, East Corridor was the longest and most expensive of the five conceptual alternatives due, in part, to the additional major bridge structure required over the Green River, which would increase this alternative's lifecycle/operation and maintenance costs. Second, this alternative would result in eight total bridge lanes across the river when design year traffic forecasts indicated that only six lanes are needed. Third, this alternative would result in the highest impacts to farmlands, rivers/streams, and floodplains of the five conceptual alternatives evaluated and the second highest in residential impacts.

BUILD THE I-69 BRIDGE ON A NEW LOCATION & RETAIN BOTH US 41 BRIDGES FOR NON-VEHICULAR USE

Three alternative scenarios were developed including the construction of a new bridge in a new location and retaining both US 41 bridges for non-vehicular use. None of these alternatives would result in a Section 4(f) use since both US 41 bridges would be retained. These alternatives, which are described in detail in **Chapter 3**, include the following:

West Corridor 1 – Bridge Scenario 2 and West Corridor 2 – Bridge Scenario 5

These alternatives would optimize cross-river bridge capacity, providing six traffic lanes across the river, all on the new I-69 bridge. Both US 41 bridges would be retained for non-vehicular use. While feasible, Bridge Scenarios 2 and 5 are not prudent for several reasons. First, these scenarios would not be cost-effective due to the costs associated with maintaining the US 41 bridges for non-vehicular use. Second, from a safety perspective, all cross-river traffic would use I-69 to cross the Ohio River, resulting in cross-river traffic merging and weaving with local traffic and adding turning movements to access and exit I-69. And third, by providing only one river bridge, these alternatives would not provide route redundancy in case of accidents.

While these alternatives are feasible, it would not be prudent to retain the two US 41 bridges for non-vehicular use due to the costs of maintaining these structures. Local government agencies

were contacted to determine if there was any interest by other agencies in owning and maintaining the US 41 bridges for non-vehicular use. However, it was determined that there are no entities willing to assume ownership of the US 41 bridges. (Agency letters are included in **Appendix H-8**).

Central Corridor 1 – Bridge Scenario 8

This alternative would optimize cross-river bridge capacity, providing the six traffic lanes across the river, all on the new I-69 bridge. Both US 41 bridges would be retained for non-vehicular use. While Bridge Scenario 8 is feasible, it is not prudent for the following reasons. First, it would not be cost-effective to retain both US 41 bridges for non-vehicular use. Through outreach to local government agencies, it has been determined that there are no entities willing to assume ownership of the US 41 bridges (agency letters are included in **Appendix H-8**). Second, this alternative would have the greatest potential economic impact on the US 41 commercial strip in terms of reduced traffic visibility and accessibility. Third, this alternative would not provide route redundancy in the case of extreme incident on the bridge since there would be only one river crossing.

BUILD A NEW I-69 BRIDGE ON A NEW LOCATION; RETAIN ONE US 41 BRIDGE FOR LOCAL TRAFFIC; AND RETAIN ONE US 41 BRIDGE FOR NON-VEHICULAR USE

Several alternative scenarios were developed that evaluated the construction of a new bridge in a new location, utilizing one US 41 bridge for local traffic, and retaining one of the US 41 bridges for non-vehicular use. At the time the *Screening Report Supplement* was completed, a decision had not been made regarding whether the Audubon Memorial Bridge/Northbound US 41 Bridge or the Southbound US 41 Bridge would be retained for vehicular use. The *US 41 Existing Bridges Evaluation Report* indicated that, based on engineering analyses only, if a single bridge remained in service for vehicular use (Bridge Scenarios 3, 6, and 9), the newer southbound bridge was preferred due to several factors including a higher absolute load rating, additional cross section width between the trusses, and higher confidence regarding repair and rehabilitation requirements (INDOT and KYTC 2018g). These alternatives, described in detail in **Chapter 3**, are summarized below.

West Corridor 1 – Bridge Scenario 3 and West Corridor 2 – Bridge Scenario 6

These alternatives would optimize cross-river bridge capacity, providing two lanes on existing US 41 for two-way traffic and four lanes on the new I-69 bridge, for the optimum six lanes of cross-river traffic. By providing two bridge crossings, local traffic would use a separate river crossing, avoiding the need to mix with higher speed through traffic on I-69.

While feasible, these alternatives would not be prudent due to the costs associated with operating and maintaining one of the US 41 bridges for non-vehicular use. Through coordination with local government agencies, it has been determined that there are no entities willing to assume ownership of the US 41 bridges (agency letters are included in **Appendix H-8**). In addition, under Bridge Scenario 6, US 41 would function as a frontage road to the interstate, creating safety concerns at cross-road intersections due to the proximity of I-69. In addition, limited sight distance due to the immediately adjacent elevated I-69 would be a safety concern for Scenario 6.

With two bridges, these alternatives would provide route redundancy in the event of an extreme incident. The second US 41 bridge would be retained for non-vehicular use.

Central Corridor 1 – Bridge Scenario 9

Bridge Scenario 9 would optimize cross-river bridge capacity by providing four cross-river lanes on the new I-69 bridge and two lanes on one of the existing US 41 bridges. The second US 41 bridge would be retained for non-vehicular use. This alternative would maintain local cross-river access to the US 41 commercial strip.

While feasible, this alternative would not be prudent if one of the US 41 bridges is retained for non-vehicular use due to the costs associated with operating and maintaining the bridge. Through coordination with local government agencies, it has been determined that there are no entities willing to assume ownership of the US 41 bridges (see coordination letters included in **Appendix H-8**).

By providing two bridge crossings, this alternative would provide route redundancy in the event of a severe incident.

BRIDGE REHABILITATION WITHOUT AFFECTING HISTORIC INTEGRITY

The rehabilitation of the US 41 bridges was evaluated in detail in the report *US 41 Existing Bridges Evaluation Report* (INDOT and KYTC 2018g). If a new I-69 crossing is not built and both bridges are rehabilitated, it was determined that the life of the existing US 41 bridges could be extended to 2062 through a maintenance and rehabilitation program with an estimated cost of \$293 million. This scenario assumes that traffic demand would continue increasing at its modest long-term average of less than one percent growth per year, and that the level of truck traffic remains a constant 8 percent of all vehicles. While the bridges would maintain their historic integrity, this expenditure would not address the narrow lanes and shoulders that exist today and would not meet interstate design standards. To meet interstate standards, the bridges would need to be widened to provide the required lane and shoulder width. As a result of this widening, the deck would need to be widened, possibly requiring changes to the superstructure. These changes would affect the historic integrity of the bridge.

While feasible, the rehabilitation of the US 41 bridges without affecting their historic integrity is not a prudent alternative because it does not meet the project's purpose and need for the following reasons: 1) the rehabilitation of the US 41 bridges would provide only four river-crossing lanes, not the minimum of six lanes of required capacity; therefore, congestion and safety needs would not be met; 2) the rehabilitation of the US 41 bridges would not address the safety issues of the bridges, which are functionally obsolete with narrow lanes and shoulders; 3) the rehabilitation of the US 41 bridges would not be cost-effective since there would be high costs to rehabilitate the bridges without the benefit of adding additional river-crossing lanes; and 4) the US 41 bridges would not meet current interstate standards and would, therefore, not provide the I-69 link across the Ohio River.

SUMMARY OF US 41 BRIDGES AVOIDANCE ALTERNATIVES

Table 5.5-1 provides a summary of the US 41 bridges avoidance alternatives.

Table 5.5-1. Summary of US 41 Bridges Avoidance Alternatives

| AVOIDANCE ALTERNATIVE | EVALUATION CONSIDERATION | |
|--|--|----------|
| | PRUDENT | FEASIBLE |
| No Build | No – Does not meet Purpose and Need <ul style="list-style-type: none"> No I-69 link Not cost-effective Does not address congestion Does not address safety | Yes |
| BUILD I-69 BRIDGE ON A NEW LOCATION; RETAIN BOTH US 41 BRIDGES WITH TOLLS | | |
| West Corridor 1 Bridge Scenario 4 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective | Yes |
| West Corridor 2 Bridge Scenario 7 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective | Yes |
| Central Corridor 1 Bridge Scenario 10 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective | Yes |
| Central Corridor 2 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective Higher environmental impacts | Yes |
| East Corridor | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective Higher environmental impacts | Yes |
| BUILD I-69 BRIDGE ON A NEW LOCATION; RETAIN BOTH US 41 BRIDGES FOR NON-VEHICULAR USE | | |
| West Corridor 1 Bridge Scenario 2 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective Does not address safety No – Does not provide route redundancy | Yes |
| West Corridor 2 Bridge Scenario 5 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective No – Does not provide route redundancy | Yes |
| Central Corridor 1 Bridge Scenario 8 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective No – Economic Impacts to US 41 commercial strip No – Does not provide route redundancy | Yes |
| BUILD I-69 BRIDGE ON A NEW LOCATION; RETAIN ONE US 41 BRIDGE FOR LOCAL TRAFFIC AND ONE US 41 BRIDGE FOR NON-VEHICULAR USE | | |
| West Corridor 1 Bridge Scenario 3 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective | Yes |
| West Corridor 2 Bridge Scenario 6 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective | Yes |
| Central Corridor 1 Bridge Scenario 9 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-Effective | Yes |
| Bridge Rehabilitation Without Affecting Historic Integrity | No – Does not meet Purpose and Need <ul style="list-style-type: none"> No I-69 link Not cost-effective Does not address congestion Does not address safety | Yes |

SECTION 4(f) MINIMIZATION ALTERNATIVES

This section discusses potential alternatives to minimize Section 4(f) impacts to the US 41 bridges. These alternatives would result in a Section 4(f) use of one of the US 41 bridges but would retain the other US 41 bridge, thereby minimizing the impacts that would result if both US 41 bridges were removed. As previously discussed, if a single bridge remained in service for vehicular use (Bridge Scenarios 3, 6, and 9), retaining the newer southbound bridge was preferred due to several factors including a higher absolute load rating, additional cross section width between the trusses, and higher confidence regarding repair and rehabilitation requirements. However, a final decision on which bridge would be retained would be made based on engineering and environmental factors. In addition, since both structures are historic resources, this decision will require consultation with the SHPO. These alternatives are as follows:

BUILD I-69 BRIDGE ON NEW LOCATION; RETAIN ONE US 41 BRIDGE FOR NON-VEHICULAR USE; REMOVE THE OTHER US 41 BRIDGE

West Corridor 1 – Bridge Scenario 2 and West Corridor 2 – Bridge Scenario 5

Both of these alternatives would provide six traffic lanes across the Ohio River on a new I-69 bridge, providing the optimum capacity. While feasible, these alternatives would not be cost-effective due to the costs associated with operating and maintaining the US 41 bridge for non-vehicular traffic. Through outreach to local government agencies, it has been determined that there are no entities willing to assume ownership of the US 41 bridge (agency letters are included in **Appendix H-8**). These alternatives also have safety concerns since local cross-river traffic would be required to mix with higher-speed I-69 through traffic. And, finally, these alternatives do not provide route redundancy in the event of extreme incidents since only one bridge would be provided.

Central Corridor 1 – Bridge Scenario 8

Bridge Scenario 8 would provide six lanes on a new I-69 bridge. All local traffic would utilize the new bridge to cross the Ohio River, resulting in local traffic mixing with higher speed I-69 through-traffic. While feasible, this alternative would not be cost-effective due to the costs associated with retaining one of the US 41 bridges for non-vehicular use. Through outreach to local government agencies, it has been determined that there are no entities willing to assume ownership of the US 41 bridge. (Agency letters are included in **Appendix H-8**). In addition, this alternative would not be prudent due to the potential economic impacts to the US 41 commercial strip that would result from shifting local traffic between Henderson and downtown Evansville to a new route. Finally, this alternative would not provide route redundancy since only one bridge would be provided.

BUILD I-69 BRIDGE ON NEW LOCATION; RETAIN ONE US 41 BRIDGE FOR LOCAL TRAFFIC; REMOVE THE OTHER US 41 BRIDGE

West Corridor 1 – Bridge Scenario 3

This alternative would optimize cross-river bridge capacity, providing two lanes on one of the existing US 41 bridges and four lanes on the new I-69 bridge. By providing two bridge crossings, this alternative would allow local traffic to utilize a separate river crossing and avoid the need to

mix with higher-speed through traffic on I-69. In addition, by providing two independent bridges across the river, the alternative would provide route redundancy in the event of an extreme incident.

As described in **Chapter 4, Section 4.5**, the Audubon Memorial Bridge/Northbound US 41 Bridge is individually eligible for the NRHP, whereas the eligibility of the Southbound US 41 Bridge is the result of its relationship to the Audubon Memorial Bridge/Northbound US 41 Bridge. As a result, removal of the Audubon Memorial Bridge/Northbound US 41 Bridge would likely result in the use of two Section 4(f) resources – the Audubon Memorial Bridge/Northbound US 41 Bridge due to demolition and the Southbound US 41 Bridge because it would lose its NRHP eligibility because of the demolition of the northbound bridge. Because the costs of maintaining these two structures through 2062 is similar, INDOT and KYTC have determined that the Audubon Memorial Bridge/Northbound US 41 Bridge would be retained, thus limiting the Section 4(f) use to only one of the bridges.

West Corridor 2 – Bridge Scenario 6

This alternative would provide four lanes for cross-river traffic on the new I-69 bridge and two lanes on one of the existing US 41 bridges, for the optimum six lanes of cross-river traffic. Under this alternative, US 41 would function as a frontage road to the interstate. Because there would still be local traffic on US 41, there would be safety concerns at the cross-road intersections due to the proximity of I-69. In addition, the limited sight distance on US 41 due to the immediately adjacent elevated I-69 roadway would result in a safety issue. While feasible, this alternative is not prudent because it would have safety concerns at cross-road intersections on US 41 due to limited sight distance caused by the proximity of US 41 to the elevated I-69 roadway. This alternative would provide route redundancy with two river crossings.

Central Corridor 1 – Bridge Scenario 9

Bridge Scenario 9 would optimize cross-river bridge capacity by providing four cross-river lanes on the new I-69 bridge, and two lanes on one of the existing US 41 bridges. This alternative would maintain local cross-river access to the US 41 commercial strip and would provide route redundancy in the event of a severe incident. The second US 41 bridge would be removed, resulting in a permanent Section 4(f) use.

As described in **Chapter 4, Section 4.5**, the Audubon Memorial Bridge/Northbound US 41 Bridge is individually eligible for the NRHP, whereas the eligibility of the Southbound US 41 Bridge is the result of its relationship to the Audubon Memorial Bridge/Northbound US 41 Bridge. As a result, removal of the Audubon Memorial Bridge/Northbound US 41 Bridge would likely result in the use of two Section 4(f) resources – the Audubon Memorial Bridge/Northbound US 41 Bridge due to demolition and the Southbound US 41 Bridge because it would lose its NRHP eligibility because of the demolition of the northbound bridge. Because the costs of maintaining these two structures through 2062 is similar, INDOT and KYTC determined that the Audubon Memorial Bridge/Northbound US 41 Bridge would be retained, thus limiting the Section 4(f) use to only one of the bridges.

SUMMARY OF US 41 BRIDGES MINIMIZATION ALTERNATIVES

Table 5.5-2 provides a summary of the alternatives that would minimize Section 4(f) impacts.

Table 5.5-2. Summary of US 41 Bridges Minimization Alternatives

| ALTERNATIVE | EVALUATION CONSIDERATION | |
|--|---|----------|
| | PRUDENT | FEASIBLE |
| BUILD I-69 BRIDGE ON NEW LOCATION; RETAIN ONE US 41 BRIDGE FOR NON-VEHICULAR USE; REMOVE THE OTHER US 41 BRIDGE | | |
| West Corridor 1 Bridge Scenario 2 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective Does not address safety No – Does not provide route redundancy | Yes |
| West Corridor 2 Bridge Scenario 5 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective¹ No – Does not provide route redundancy | Yes |
| Central Corridor 1 Bridge Scenario 8 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Not cost-effective No – Economic Impacts to US 41 commercial strip No – Does not provide route redundancy | Yes |
| BUILD I-69 BRIDGE ON NEW LOCATION; RETAIN ONE US 41 BRIDGE FOR LOCAL TRAFFIC; REMOVE THE OTHER US 41 BRIDGE | | |
| West Corridor 1 Bridge Scenario 3 | Yes | Yes |
| West Corridor 2 Bridge Scenario 6 | No – Does not meet Purpose and Need <ul style="list-style-type: none"> Does not address safety | Yes |
| Central Corridor 1 Bridge Scenario 9 | Yes | Yes |

¹ Coordination with local government agencies has been undertaken to determine if any are willing to assume ownership of the US 41 bridges. None of the local government agencies showed interest in assuming ownership of the US 41 bridges.

COORDINATION

Review of this Section 4(f) Evaluation includes FHWA, INDOT, KYTC, and Kentucky SHPO. As described in **Chapter 8**, FHWA, INDOT, and KYTC have initiated an extensive public outreach program. As part of these efforts, a formal consultation process under Section 106 of the NHPA was initiated. This effort is described in detail in **Section 4.5** and in the **Appendix L-3, Finding of Adverse Effect and Addendum 36 CFR 800.11(e)**. Through consultation with consulting parties, FHWA and KYTC have developed measures to resolve adverse effects to the Audubon Memorial Bridge/Northbound US 41 Bridge and the Southbound US 41 Bridge. These measures are documented in the final Section 106 MOA for Central Alternative 1B Modified (Selected) (**Appendix L-3**). One of the initial measures to resolve adverse effects involved marketing the US 41 bridges to local government agencies for alternative uses. INDOT and KYTC contacted the local government agencies to determine if they would be interested in assuming ownership of one or both of the US 41 bridges. None of the agencies showed interest in assuming ownership of the bridge. INDOT and KYTC shall carry out additional marketing efforts to identify a reuse opportunity for the existing southbound US 41 bridge, as documented in the commitments for

the project in **Chapter 7**, as well as in accordance with the previously-mentioned Section 106 MOA for Central Alternative 1B Modified (Selected).

With approval of this FEIS and ROD, FHWA has confirmed that the project meets the five criteria for the application of the Programmatic Section 4(f) Evaluation and Approval for FHWA Projects that Necessitate the Use of Historic Bridges listed in **Section 5.5.2**.

5.5.3 GREEN RIVER NATIONAL WILDLIFE REFUGE

As previously discussed in **Section 5.2.7**, West Alternatives 1 and 2 would involve the construction of a new I-69 bridge and highway west of US 41 that would result in the permanent use of 35.7 acres and 32.1 acres, respectively, of the Green River NWR. For the reasons provided in **Chapter 6**, Central Alternative 1B Modified was identified as the Selected Alternative and, therefore, represents a prudent and feasible alternative for avoiding the impacts to the Green River NWR.

5.6 SECTION 6(f) RESOURCES

Based on NPS, KDLG, and IDNR information, three parks within the project area have received LWCF funds. They are:

- Anthony C. Oates Memorial Park
- John James Audubon State Park
- Atkinson Park

Section 6(f) resources are described in greater detail in the *Technical Memorandum, I-69 ORX Section 6(f) Properties Within the Project Area* (INDOT and KYTC 2017d), included in **Appendix N-3**. Of the identified Section 6(f) properties, Anthony C. Oates Memorial Park is not adjacent to any of the project alternatives and would not be impacted by the project. However, two properties, John James Audubon State Park and Atkinson Park, are adjacent to the preliminary right-of-way and were examined for LWCF involvement. These Section 6(f) resources are described in the following sections.

5.6.1 JOHN JAMES AUDUBON STATE PARK

Approximately 20 acres of John James Audubon State Park were purchased in 1971 with LWCF funds to expand the park. The area of the park that was acquired with LWCF funds is shown on the Environmental Features maps in **Appendices A-1 and A-2, Sheets 7 – 9**. Only the area purchased with LWCF funds is subject to Section 6(f) (36 C.F.R., 59.1).

SECTION 6(f) INVOLVEMENT DETERMINATION

The area of John James Audubon State Park that was purchased with LWCF funds fronts on US 41 and, therefore, would be adjacent to West Alternatives 1 and 2 (**Appendices A-1 and A-2, Sheets 7 – 9**). However, the project would not require the acquisition of property from the park for either of these alternatives. In addition, Central Alternatives 1A and 1B (Preferred) would be more than 1 mile east of John James Audubon State Park. Therefore, there would be no Section 6(f) impacts to this park under any of the build alternatives.

5.6.2 ATKINSON PARK

According to KDLG, LWCF funds were used to convert a former landfill adjacent to Atkinson Park into parkland. The funds were used to develop baseball/softball fields, lighting, parking, an access road, bleachers, and fencing (INDOT and KYTC 2017d). Only the section of the park purchased with LWCF funds is subject to Section 6(f). Based on mapping provided by KDLG, the Section 6(f) boundaries were approximated and are shown on the Environmental Features maps provided in **Appendices A-1 and A-2, Sheets 10 and 11**.

SECTION 6(f) INVOLVEMENT DETERMINATION

West Alternatives 1 and 2 would require the installation of a storm pipe in an undeveloped portion of Atkinson Park, which may require a drainage easement, public utility easement, or other type of easement. The location of the pipe is shown on the Environmental Features maps provided in **Appendices A-1 and A-2, Sheets 10 and 11**. The installation would be completed in less than 6 months; therefore, there would be no permanent conversion of Section 6(f) lands.