



## Section 4(f) Evaluation

Route 92 Centennial Bridge Replacement

Project 092-052 KA-60160

*Leavenworth County, KS | Platte County, MO*

**May 21, 2024**



## Contents

1.0	Introduction and Project Description .....	2
1.1	Introduction.....	2
1.2	Section 4(f) Regulatory Context .....	2
1.3	Applicability of Section 4(f) to the Proposed Project.....	4
1.4	Description of the Proposed Action .....	4
1.5	Project Background .....	5
2.0	Purpose and Need.....	5
2.1	Need for Proposed Project .....	5
2.2	Purpose of the Proposed Project.....	9
3.0	Section 4(f) Properties Identified in the Project Study Area.....	9
3.1	Riverfront Park.....	9
3.2	Abernathy Furniture Company (Plant K) – Complex.....	9
3.3	Route 92 Centennial Bridge.....	9
4.0	Proposed Action and Use of Section 4(f) Properties.....	10
5.0	Alternatives Analysis.....	10
5.1	Alternatives Considered - Total Avoidance.....	11
5.2	Other Alternatives Considered .....	13
5.3	All Possible Planning to Minimize Harm.....	15
5.4	Summary of Consultation and Coordination with Officials and Jurisdiction.....	16
6.0	Conclusion.....	18

## 1.0 Introduction and Project Description

### 1.1 Introduction

The Kansas Department of Transportation (KDOT), partnering with the Missouri Department of Transportation (MoDOT) and Federal Highway Administration (FHWA), proposes to replace the Route 92 Centennial Bridge across the Missouri River connecting Leavenworth County, Kansas and Platte County, Missouri. The project would use federal funds from the FHWA, and therefore, Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 applies to this project. Under the National Environmental Policy Act (NEPA), an Environmental assessment (EA) is being prepared separately.

This Section 4(f) evaluation includes the project purpose and need, a description of the Section 4(f) resources that would be used and measures taken to minimize harm, a summary of the avoidance alternatives considered, and a discussion of the coordination undertaken with the Officials with Jurisdiction over the Section 4(f) properties.

### 1.2 Section 4(f) Regulatory Context

Section 4(f) applies to publicly owned park and recreation lands, wildlife and waterfowl refuges, and historic sites (publicly or privately owned) that are listed or determined eligible for listing on the National Register of Historic Places (NRHP). This Draft Section 4(f) Evaluation has been prepared in compliance with Section 4(f) of the USDOT Act of 1966 - codified at 49 USC 303, FHWA's Section 4(f) implementing regulations - 23 CFR 774, and FHWA's Section 4(f) Policy Paper (2012).

Section 4(f) established as policy that "special effort should be made to preserve the natural beauty of the countryside and Public Park and recreation lands, wildlife and waterfowl refuges, and historic sites" (49 USC 303(a)).

Section 4(f) and FHWA's implementing regulations (23 CFR 774.3) direct that the U.S. Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge, or land from an historic site of national, state, or local significance (as determined by the Federal, state, or local officials having jurisdiction over the park, recreation area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land; and
  - The program or project includes all possible planning to minimize harm to the public park recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.
- OR
- The use, including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) will have a de minimis (negligible) impact on the property.

A "use" of a Section 4(f) property occurs when:

- Land is permanently incorporated into a transportation facility (e.g., fee simple or permanent easement);

- There is a temporary occupancy of land that is adverse in terms of the Section 4(f) statute preservation purposes (i.e., all the criteria in 23 CFR 774.13(d) are not met); or
- There is a constructive use (no incorporation of property, but the project's proximity impacts substantially impair the features, activities or attributes that qualify the property for protection - 23 CFR 774.15).

The Secretary of Transportation may make a finding of de minimis impact for a public park, recreation area or wildlife or waterfowl refuge (49 USC 303(d)(3) and 23CFR 774.5(b)) only if:

- The Secretary determines, after public notice and opportunity for public review and comment, that the transportation program or project will not adversely affect the activities, features, and attributes of the park, recreation area, or wildlife or waterfowl refuge eligible for protection under this section; and,
- The finding of the Secretary has received written concurrence from the officials with jurisdiction over the park, recreation area, or wildlife or waterfowl refuge.

The statutory and regulatory language is similar for Section 4(f) historic properties; a de minimis impact Determination may be made for a historic property (49 USC 303(d)(2); 23 CFR 774.5(b)) only if:

- There is a formal finding under Section 106 of the National Historic Preservation Act (NHPA) that the transportation project will have "no adverse effect" or there will be "no historic properties affected," and
- The State Historic Preservation Officer (SHPO) has concurred in the Section 106 finding in writing.

When use of a Section 4(f) property is greater than de minimis, avoidance alternatives must be examined to demonstrate that there is no feasible and prudent alternative to the use of the Section 4(f) property(ies). Section 4(f) avoidance alternatives avoid use of all Section 4(f) properties.

- An avoidance alternative is not feasible if it cannot be built as a matter of sound engineering judgment.
- An avoidance alternative is not prudent if:
  - It does not address the project 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 listed above that, while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.



Where use of a Section 4(f) property cannot be avoided (avoidance is not feasible and prudent), reasonable measures to minimize harm must be incorporated into the project.

If all alternatives use Section 4(f) properties, an evaluation is conducted to determine the alternative that results in the least overall harm, and this alternative must then be selected. Least overall harm is determined by balancing the following factors:

- Ability to mitigate adverse impacts to each Section 4(f) property
- Relative severity of the use after mitigation
- Relative significance of each Section 4(f) property
- Views of the officials with jurisdiction
- Degree to which each alternative addresses the project purpose and need
- After reasonable mitigation, the magnitude of adverse impacts to non-Section 4(f) resources
- Substantial differences in costs between the alternatives

The concurrence of the officials with jurisdiction (OWJ) over the Section 4(f) property is required at many points in the Section 4(f) process. For historic properties the official with jurisdiction is the SHPO. For parks, recreation areas, and wildlife and waterfowl refuges the official(s) with jurisdiction are the agency or agencies that own or administer the property in question and who are empowered to represent the agency on matters related to the property.

### **1.3 Applicability of Section 4(f) to the Proposed Project**

There are existing historic sites and public parkland located in the project area that are subject to protection under Section 4(f). There are no wildlife or waterfowl refuges within the project area.

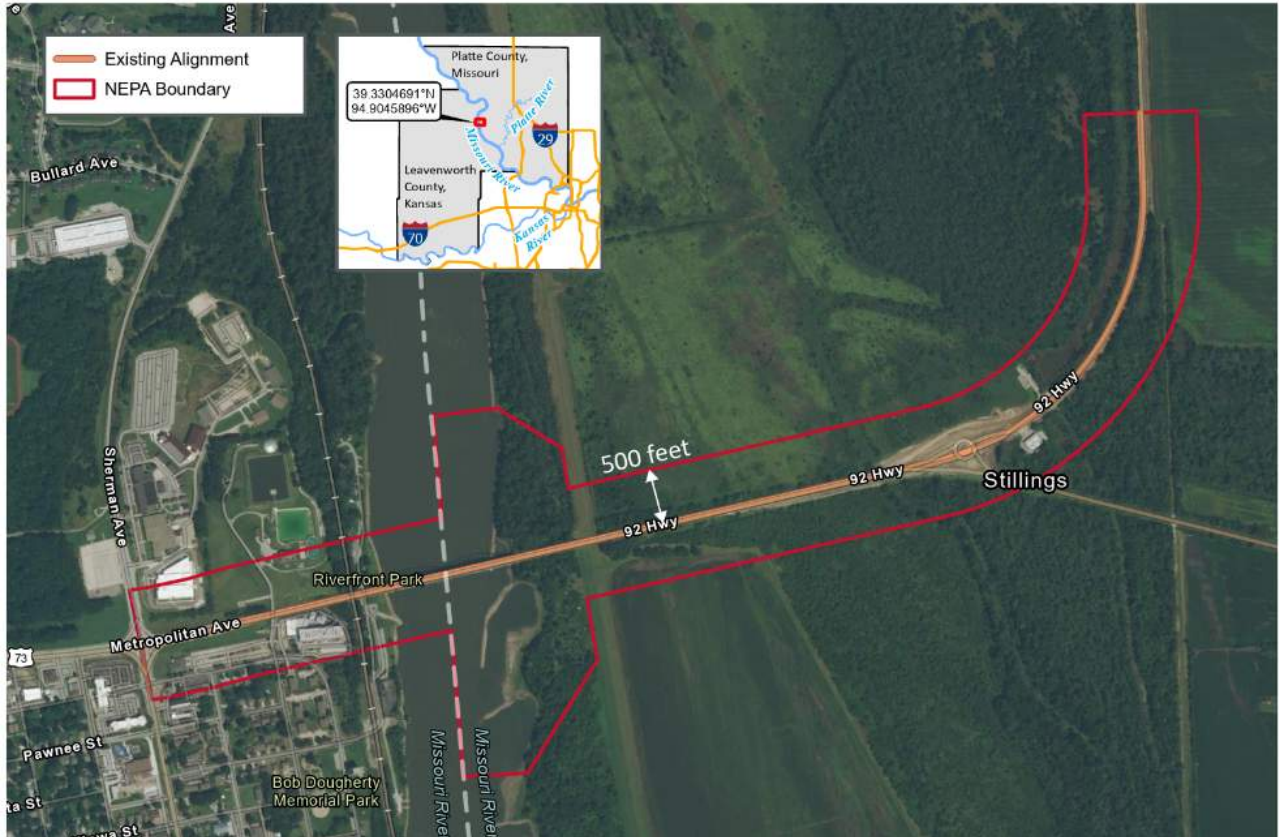
### **1.4 Description of the Proposed Action**

KDOT, in cooperation with MoDOT and FHWA, is advancing planning and engineering services for the Centennial Bridge (Route 92) Replacement project. The Route 92 Centennial Bridge over the Missouri River is a two-lane bridge through an arch structure with limited shoulder width. Traffic on the east side of the bridge in Missouri goes to and from Route 92 and Route 45. Traffic on the west side of the bridge in Kansas goes to and from Route 92 and the dual designated roadway Route 73/K-7. The bridge currently only carries vehicular traffic as there is not sufficient room for bicycle or pedestrian activity.

The Route 92 corridor is located within an urbanized area of the City of Leavenworth on the west side (Kansas side) of the Missouri River and a rural area of Platte County on the east side (Missouri side) of the Missouri River. The project limits are defined as the portion of Route 92 from just west of the Sherman Avenue/Route 92 intersection within the City of Leavenworth on the Kansas side of the Missouri River to just east of the Route 92/Spur Route 45 intersection on the Missouri side. The total length of the project limits is approximately 1.4 miles. The project limits were selected in collaboration with KDOT, MoDOT, and the City of Leavenworth. Field observation, real-time traffic conditions, and other data collected were the primary factors in determining the project limits, also known as the logical termini. An approximate 500-foot buffer was established along the project limits to define the study area. Note that the boundaries on the east side of the

river and riverbank have been extended to allow adequate space for achieving no-rise flooding conditions if needed.

### Project Location Map



## 1.5 Project Background

The Centennial Bridge is a vital crossing of the Missouri River. The nearest crossing to the north is over 24 river-miles upstream. The nearest crossing to the south is 14 river-miles downstream. The bridge was originally a toll bridge and was opened to the public in April 1955. It remained a toll bridge until 1977. A major rehabilitation of the bridge was performed in 2011 to extend the life of the bridge. The rehabilitation included repairs made to bridge piers, bearings, drainage, and other structural components. In 2016, KDOT, MoDOT, and the City of Leavenworth commissioned a study, “The Route 92 Centennial Bridge Study”, to provide a feasible solution that addresses the deficiencies of the existing bridge. That study recommended replacing the bridge in its current location with a new four-lane structure.

## 2.0 Purpose and Need

### 2.1 Need for Proposed Project

The existing Centennial Bridge needs to be replaced for two major reasons. First, it is a nonredundant steel tension member bridge, where a failure of any of the steel tension members could cause catastrophic damage or collapse of the bridge. This type of bridge requires more frequent and costly inspection compared to redundant bridges. Second, the current bridge is narrow when compared to current safety design measures with only two lanes and limited space for oversized vehicles and emergency stops. Thus, it creates potential

safety issues and limits the functionality of the bridge. The 2015 sufficiency rating of the existing Centennial Bridge was 56.6%. The 2021 rating was 46.3%, with the major contributing factor to the sufficiency rating being the bridge's narrow roadway. The main span has a 26-foot-wide curb-to-curb roadway width. It would be challenging and costly to improve the existing bridge's width because the through truss configuration limits the ability to widen the deck. The bridge is also nearing the end of its useful life and is beginning to need attention well beyond routine maintenance. Routine maintenance efforts have been made to improve the bridge on schedule and to address needed repairs promptly throughout its life thus far. In the first 56 years of the bridge's life, there were four recorded major maintenance operations (in addition to ongoing routine maintenance). In the last 10 years, the bridge has required rehabilitation and three repair actions.

The existing bridge's narrow roadway contributes to the following secondary needs.

### *Improved vehicular travel.*

The bridge currently carries one lane in each direction (two lanes total) in a 26-foot roadbed with no shoulders. Traffic volume on the Centennial Bridge is approximately 14,000 vehicles per day. Peak traffic movements on the bridge vary from a westbound peak in the morning to an eastbound peak in the evening. The peak conditions along the bridge greatly influence the level of service experienced by the public. The major generator of traffic in the area is Fort Leavenworth. The City of Leavenworth's and Fort Leavenworth's two major highway connections to the larger Kansas City metropolitan area are Route 92 (to the east) and US-73 (to the south). When the Centennial Bridge is temporarily closed for repairs, or if it were to experience the types of structural issues that are expected if it is not replaced soon and requires a long-term closure, travel times for motorists accessing the area would be severely affected. Furthermore, since the bridge has a very narrow cross-section, it is also vulnerable to being shut down by traffic incidents (breakdowns, crashes, etc.).

### *Reliable Crossing*

The bridge provides a vital crossing of the Missouri River. The nearest crossing to the north is over 24 river miles upstream. The nearest crossing to the south is 14 river-miles downstream. If the bridge is not replaced, increasing numbers of repair incidents can be expected, potentially resulting in bridge closures. The 14,300-plus vehicles per day that use the bridge would be detoured significant distances. Using KDOT's structure log estimate of a 50-mile detour, a reasonable estimate of the additional vehicle miles traveled caused by these detours is 715,000 miles per day that the bridge is out of service. The key employment center in the City of Leavenworth is Fort Leavenworth, with over 9,500 employees. The only major highway access to Fort Leavenworth is via Route 92/US-73. If the Centennial Bridge is not replaced and its useful life ends and/or the bridge fails and needs to be closed in the interim, Fort Leavenworth will lose its key regional and local access point, and transportation for many employees and suppliers would increase due to the required excess travel distance. Further, given the bridge's proximity to Fort Leavenworth and the headquarters of the 35th Infantry Division of the National Guard (including the new Readiness Center representing a \$26 million investment completed in March 2022), the reliability of the bridge supports national security.

The second oldest prison in the Bureau of Prisons System, USP-Leavenworth, is also regionally served most directly by the Centennial Bridge. Construction will soon begin on a new Federal Correctional Institution and Federal Prison Camp, located just east of the USP, an investment of well over \$300 million. The Centennial Bridge is a vital connection to this sizeable federal investment and asset. The Kansas City International Airport

(KCI) handles over 11 million passengers per year. The bridge serves a large airport catchment area northwest of the Kansas City region, covering parts of Leavenworth, Atchison, and Jefferson Counties. Fort Leavenworth has stated the importance of a reliable connection to the airport, and the City of Leavenworth indicates that Fort Leavenworth is a top-two user of the airport. In recent years, flooding on the Upper Missouri River has been increasing in frequency and unpredictability. Flooding can negatively impact major river bridges in several ways: scour (removal of sediment around bridge piers), drift accumulation (tree branches, etc. accumulating against bridge piers), and potential for breakaway barges and tows. Thus, the Centennial Bridge represents at-risk infrastructure. The design of the replacement bridge could increase resilience against flood events by converting the foundations using multi-column piers and multiple large-diameter shafts and employing a redundant multi-girder superstructure as envisioned in the 2016 study.

### *Goods and Freight Movement*

With access to an inland port and intermodal terminals, railroad lines, airports, and interstate highways, the 5-County region, which includes Leavenworth and Platte Counties, is a vital national freight hub. Kansas City, located less than an hour from the Centennial Bridge, is considered the second-largest rail center in the nation and one of the nation's top five trucking centers. The Centennial Bridge carries Route 92, which becomes Missouri Highway 92 (MO-92) on the Missouri side of the river. On the Kansas side, Route 92 is almost immediately joined by US-73, which connects to the Kansas City Metropolitan Area further south and runs nearly 100 miles north into southeastern Nebraska. On the Missouri side, MO-92 ultimately connects to I-29 and provides access to KCI; and the Centennial Bridge is the closest Missouri River crossing to the airport. The Missouri River crossing at the Centennial Bridge is the only Missouri River crossing in a 38-mile stretch and does not optimally serve the movement of goods. It complicates Missouri River navigation and presents reliability concerns for general truck freight movements as well as access to KCI, which handles 200 million pounds of cargo per year.

According to the Missouri Freight Plan, Highway 92 is part of the Missouri Major Highway System. Although not designated as a national freight route, Highway 92 provides the only truck freight connection across the Missouri River in a 38-mile span. Several industrial businesses in the City of Leavenworth are freight generators and rely on quality transportation connections. Some of these generators include Great Western Manufacturing Co., Henke Manufacturing Corporation, Zephyr Products, Inc, Drexel Chemical, and Geiger Ready-Mix. The movement of waterborne goods is also an important need for the proposed project. The portion of the Missouri River from Sioux City, Iowa to Kansas City, which includes the location crossed by the Centennial Bridge, is designated by the Maritime Administration as a Marine Highway (M-29). The M-29 system is intended to serve as an extension of the surface transportation system, with freight as a major driver. The Centennial Bridge project could create a single navigational opening and improve the existing year-round horizontal navigational clearance to levels desired by river navigators and the U.S. Coast Guard. The existing clearance is currently reduced during low-water seasons by a river training device and other underwater obstacles; thus, the bridge project would improve the reliability of the Missouri River as a freight carrier.

### *Bicycle and Pedestrian Connections*

There are currently several non-vehicular trail facilities around the Centennial Bridge, but there is no dedicated non-motorized crossing of the Missouri River. The nearest non-motorized crossing to the south is

approximately 24 river miles away on the Fairfax Bridge; the nearest non-motorized crossing to the north is in Omaha, Nebraska, approximately 215 river miles away. The nearest trail to the Centennial Bridge is within the City of Leavenworth along Esplanade Street and Riverfront Park. A portion of the Riverfront Park Trail passes underneath Centennial Bridge. There are no existing trails or pedestrian/bicycle facilities along Route 92 or Route 45. The closest trail on the Missouri side is the Weston Bluffs Trail approximately 3 miles north and east of the Centennial Bridge. KDOT has included this proposed bridge replacement project as part of the Eisenhower Legacy Transportation Program (IKE), to be designed in coordination with the KDOT Active Transportation Plan. Additionally, the Mid-America Regional Council adopted a Regional Trail and Bikeway Facility Plan in 2015 that identifies future locations of non-motorized facilities. This plan designates the Centennial Bridge as part of the Lewis Clark National Route A component of the plan. The Platte County, Missouri County Parks Department prepared a Park System Master Plan in 2009 that identifies a 2.5-mile extension of the Weston Bluffs Trail from the south trailhead to the Centennial Bridge and includes a new facility along the levee and under the Centennial Bridge.

Additionally, Missouri-side non-motorized infrastructure could connect to a future 4-mile levee trail that will link to the 3.25-mile Weston Bluffs Trail, to Weston Bend State Park, and the town of Weston, almost the whole of which is on the National Register of Historic Places. Completing this bi-state gap in the non-motorized transportation system would allow safe access to recreational destinations previously only reachable by car and would add the second dedicated non-motorized crossing of the Missouri River along the entire Kansas-Missouri border.

### *Sustainability*

FHWA considers three principles in sustainability: social (equity or people), environmental (ecology or planet), and economic (money or profit). To that end, the goal of sustainability is the satisfaction of basic social and economic needs and the responsible use of natural resources. Relative to transportation infrastructure, FHWA views it as an integral part of sustainable development, and the sustainability characteristics of a roadway or bridge project should be assessed and considered from conception through construction, operations, and maintenance. In addition to environmental needs, the development of sustainable infrastructure should focus on access, moving people and goods, and providing people with transportation choices, including walking and cycling. The proposed project could support sustainable design by integrating environmental, multimodal, and visual design applications into the proposed roadway and bridge improvements where practical, to enhance the quality of life and aesthetics. Specifically, avoiding and limiting environmental impacts, designing for weather events (e.g., flooding), and providing safe connections for people are ways that this project has been considered from a holistic view to further sustainability goals. For example, relative to environmental sustainability, the proposed replacement bridge has been sited to avoid impacts to important ecological areas including protected species habitat, waterbodies, and wetlands; and mitigation measures have been implemented to further avoid impact. Additionally, in recent years, flooding on the Upper Missouri River has been increasing in frequency and unpredictability. Flooding can negatively impact major river bridges in several ways including scour, drift accumulation, and potential for breakaway barges and tows. Thus, the design of the replacement bridge would increase resilience against flood events by changing the layout and design of the piers. Key to achieving sustainability goals has been communication and collaboration with resource agencies, stakeholders, and the public throughout planning and design. These discussions have resulted in the addition of a needed multi-modal path on the replacement bridge – integral to long-term



connectivity in the region, that supports the growing population and economy; as well as the incorporation of design features from the existing bridge into the replacement bridge. By elevating each of the three principles in sustainability, the project has been advanced from a holistic view. These aspects are further described in the Environmental Assessment document.

## 2.2 Purpose of the Proposed Project

Based on the described needs, the purpose of the proposed project is to provide an improved crossing of the Missouri River that improves the safety of vehicular travel across the Missouri River, maintains a reliable, structurally sound crossing of the Missouri River, supports the efficient local and regional movement of goods and freight, provides a safer opportunity for non-vehicular travel (pedestrians and bicycles) from state to state, and that supports sustainable design.

## 3.0 Section 4(f) Properties Identified in the Project Study Area

### 3.1 Riverfront Park

Riverfront Park is a public park located on the west side of the Missouri River in Leavenworth County, Kansas. It is located beneath the bridge and extends north and south along the bank of the Missouri river. The park provides amenities such as a boat ramp, indoor restrooms, a picnic shelter, playground equipment, and a campground. Both the campground and the shelter are available to rent, and the park is used by the city for a variety of community events.

### 3.2 Abernathy Furniture Company (Plant K) – Complex

Abernathy Furniture Company Factory was founded in 1856 in Leavenworth, Kansas. Abernathy is one of the longest-operating industries in Leavenworth and was one of the largest furniture manufacturers in the region. In 1878, the factory moved to Kansas City, Missouri. The Abernathy Furniture Company (Plant K) – Complex located to the south of the Route 92 Centennial Bridge is listed in the National Register of Historic Places. It has been redeveloped into residential and retail uses.

### 3.3 Route 92 Centennial Bridge

The Centennial Bridge was originally a toll bridge and was opened to the public in April 1955. It remained a toll bridge until 1977. A major rehabilitation of the bridge was performed in 2011 to extend the life of the bridge. The Centennial Bridge was evaluated under National Register criteria, and it was determined that the bridge is eligible for listing under Criterion C (Engineering or Architecture).



#### 4.0 Proposed Action and Use of Section 4(f) Properties

**Riverfront Park:** Riverfront Park would be impacted by the proposed project. The Preferred Alternative would impact Riverfront Park by requiring relocation of signage, removal of trees, and relocation of parking spaces. Temporary closure of the park would also occur during construction which could span up to two years. Coordination with Leavenworth Parks and Rec has taken place and the Preferred Alternative would include replacement of signage, trees, and parking spaces. Trees have been inventoried and those removed would be replaced with species that are suitable to the habitat and with an equivalent number of individuals as to match the size class of the removed trees. Further coordination with the Leavenworth City Commission will take place to identify a suitable action plan for closing the park during construction. Boat ramp access could likely remain open for most of construction, but some closures are anticipated. Upon completion of bridge construction, the park and its amenities would be available then just as it is today. KDOT and the City of Leavenworth would revise the easements agreements currently in place once the existing bridge is removed and the new bridge built. Relative to Section 4(f), the impacts to this facility would fall under a *de minimis* impact, meaning there would be no permanent, negative impacts to park or use of the park. Discussions with the City of Leavenworth (the Officials with Jurisdiction), reflect a *de minimis* finding.

**Abernathy Furniture Company (Plant K):** The Abernathy Furniture Company (Plant K) – Complex of Four Buildings is located within the Area of Potential Effect, directly south of the existing Route 92 and Centennial bridge. Relative to direct impacts, the Abernathy would not be impacted by the proposed project. A south alignment alternative (described further below) was eliminated specifically due to impacts to the building.

**Centennial Bridge:** The proposed project build alternative includes replacement of the Centennial Bridge. The project alternative also requires limited realignment of Route 92. To accommodate this bridge replacement, it will be necessary to remove the existing bridge. Because the existing bridge is eligible for the NRHP, removal of it was determined to be an Adverse Effect under Section 106. The SHPO concurred with the effects determination in a letter dated May 3, 2023 (Appendix A). The remainder of this document pertains to impacts to the existing Centennial Bridge.

**Table 1: Summary of Impacts to Section 4(f) Properties**

Section 4(f) Property	Protection	Project Impact and Section 106 Effect / Section 4(f) Use
Riverfront Park	Section 4f, Public Recreational Resource	<i>De minimis</i> effect to Section 4(f) use.
Abernathy Furniture Company (Plant K) – Complex	Section 106, National Register of Historic Places	No impact. No Effect. No Section 4(f) Use.
Centennial Bridge	Section 106, National Register of Historic Places (eligible)	Removal of bridge. Adverse Effect. Section 4(f) Use.

#### 5.0 Alternatives Analysis

Section 4(f) requires demonstration that there are no feasible and prudent alternatives to the use of Section 4(f) property. As a result, alternatives which would avoid the use of all Section 4(f) property in the project area were identified and evaluated to determine if they would be feasible and prudent.

- **Feasibility:** An avoidance alternative is not feasible if it cannot be built as a matter of sound engineering judgment.
- **Prudency:** An avoidance alternative is not prudent if:
  - It does not address the project 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 listed above that, while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

Before approving an action requiring use of any Section 4(f) property, agencies are required to “include all possible planning to minimize harm” in that action. Per 23 CFR 774.17, “all possible planning means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project.”

### 5.1 Alternatives Considered - Total Avoidance

**No-Build Alternative:** Under the provisions of NEPA and Section 4(f), the effects of not implementing a proposed action must be considered. This alternative is commonly referred to as the No-Build alternative and provides a baseline for comparing the potential impacts of the other reasonable alternatives. With the No-Build alternative, the existing Centennial Bridge would remain in place with only routine maintenance and repair. There would be no widening of the bridge or the approach roadways, no improvement of the roadway or bridge profiles, and no replacement of the bridge. Due to the deteriorating condition and narrow width, the existing Centennial Bridge would continue to degrade into a significant state of disrepair with the potential closing of the bridge. In addition, due to its narrow width, any improvement to traffic safety would be questionable. Although the No-Build strategy does not satisfy the Purpose and Need for this project, the No-Build alternative is carried forward for comparison of the benefits and environmental impacts of the other reasonable alternatives.

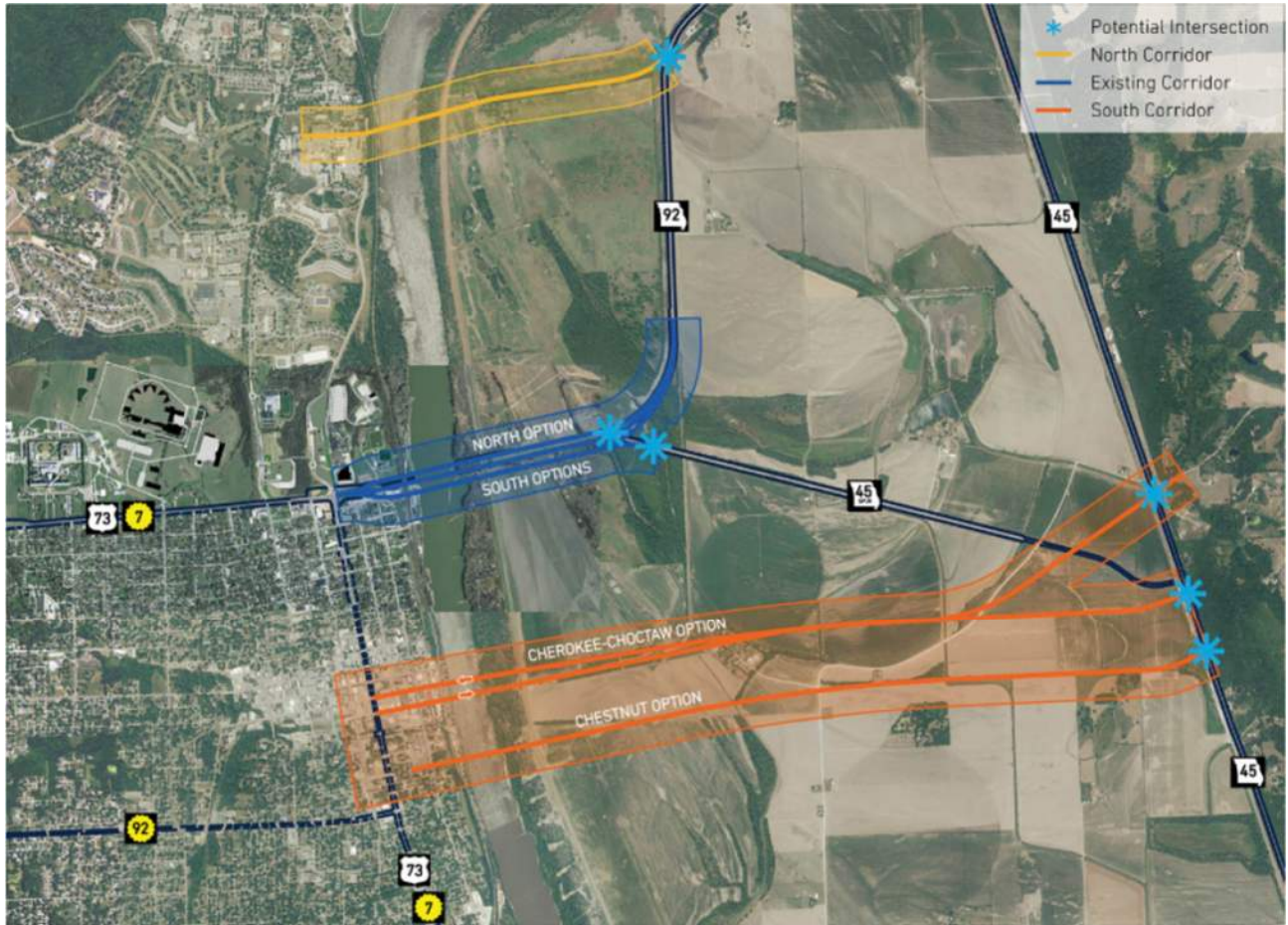
**North Corridor Build Alternative:** The North Corridor alternative is the location of a former roadway bridge that was built in 1872 and connected directly to Fort Leavenworth on the west side of the Missouri River. As it did historically, this alignment would provide a direct entry into Fort Leavenworth thus requiring a secured gate system to limit public access. With limited physical space on the Kansas side of the Missouri River, the gate would need to be located either on the bridge or in Missouri. Both locations would require additional area to accommodate a gate system and therefore bring additional costs and would not be a desirable condition for the traveling public. The cost for the North Corridor Build Alternative was also evaluated and is estimated to be approximately \$158,284,730. The APE Study assessment indicated that this corridor would result in worse intersection capacity and significantly worse operations and maintenance conditions.

**South Corridor Build Alternative:** The South Corridor alternative is the approximate location of a former railroad swing bridge that was built in 1872 and connected to downtown Leavenworth. This alternative was



divided into two alignments – the Cherokee-Choctaw Option and the Chestnut Option – to accommodate development constraints. Both alignments provided a very difficult situation of tying into a fully developed area with the City of Leavenworth. In addition, both alignments would require extensive new roadway connections to the east in Missouri. The costs for the South Corridor Build Alternative was also evaluated and is estimated to be approximately \$215,975,490 for the Cherokee-Choctaw Option and approximately \$211,663,738 for the Chestnut Option. Both alignments were shown to produce worse impacts on financial costs, traffic service, and environmental impacts.

	No-Build Alternative	North Corridor Build Alternative	South Corridor Build Alternative
<b>Can the Alternative be constructed in accordance with sound engineering practices?</b>	No	Yes	Yes
<b>Would the Alternative Satisfy Purpose &amp; Need?</b>	No	No	Yes
<b>Would the alternative result in impacts of extraordinary magnitude or unique problems, etc.?</b>	Yes; Safety issues and ultimate closure of bridge	Yes; Direct connection to Fort Leavenworth would pose significant and undesirable security conditions for the traveling public. Would also result in worse intersection capacity and significantly worse operations and maintenance conditions.	Yes; Would produce significant impacts on financial costs, traffic service, and environmental impacts.
<b>Is the alternative feasible and prudent?</b>	Not prudent, does not meet Purpose and Need/results in unacceptable impacts	Not feasible, safety issues; Not prudent, does not meet Purpose and Need	Not prudent, results in unacceptable impacts



## 5.2 Other Alternatives Considered

**Rehabilitation of the Existing Bridge:** Rehabilitation of the existing Centennial Bridge considered improvements and maintenance to the bridge that would extend its life. As the existing Centennial Bridge ages, there is generally an increase in long-term maintenance and repairs, particularly due to steel deterioration. A major rehabilitation was performed on the existing bridge in 2011. The rehabilitation project included pier rehabilitation, replacement of bearings, replacement of the expansion joints, drainage improvements, and electrical repairs for navigational lightning. Since that time, additional repairs were made to the bridge in 2019, 2020, and 2021. KDOT anticipates typical repairs to the deck and strips seal expansion joints to continue, and there are no foreseeable needs for major rehabilitation of the Centennial Bridge within the next 10 years. Designed and constructed in the 1950s, the existing through truss bridge is characterized as narrow when compared to current safety design measures as it has two narrow lanes, no shoulders, and limited space for oversized vehicles and emergency stop. Thus, there are potential safety issues and limited functionality of the bridge to serve current traffic. It is possible to widen to the outside of a through truss with structural brackets. However, there is a corresponding increase in weight on the brackets and widening would reduce the load carrying capacity of the bridge. Conversion of the existing bridge to either westbound or eastbound movement for two lanes of traffic does not address the additional safety issues associated with narrow lanes and no shoulders.

The existing Centennial Bridge has been identified as fracture critical. A fracture critical bridge has a steel member in tension, or with a tension element, whose failure would likely cause a portion of or the entire bridge to collapse. Fracture-critical bridges lack redundancy, which means that in the event of a failure there is no path for the transfer of the load being supported by that steel member to hold up the bridge. Therefore, failure occurs rapidly. Due to the sensitive nature of fracture-critical bridges such as the Centennial Bridge, unexpected and costly repairs outside of routine maintenance and projected rehabilitation are more likely to occur as the structure ages. It is possible that unforeseen emergency repairs could close the structure to traffic for days or even weeks while a structural solution is investigated and performed. Rehabilitation of the existing bridge is not considered a reasonable alternative as it fails to meet the objectives and needs identified in the project Purpose and Need, including improving the safety of vehicular travel across the river, maintaining a reliable and structurally sound crossing of the river, and supporting the efficient local and regional movement of goods and freight. This alternative was therefore eliminated from further consideration.

***Improvements to the Existing Route 92 Corridor (Replacement of the Existing Bridge at the Existing Location):*** The Existing Route 92 corridor is within the same location as the existing roadway and bridge alignment and would involve replacing the existing bridge at essentially the same location, resulting in an improved condition to the existing Route 92 corridor and the river crossing. The existing Route 92 corridor was subdivided into two basic alignments. One alignment was depicted immediately north of the existing Centennial Bridge while the other alignment was shown immediately south of the existing bridge. The Abernathy Furniture building, a historic resource that has been redeveloped into residential and retail uses, is located immediately south of the existing Centennial Bridge and would be impacted by a south alignment. As such, it was determined that the alignment immediately north of the existing bridge would be most feasible and should be advanced further as the Preferred Alternative.

To further refine this alternative, design and engineering parameters were established that consider widening of the bridge and the approach roadways; improvements to the bridge and roadway profile; and improvements to traffic safety. Various layouts were developed and evaluated based on engineering feasibility including hydraulic design criteria, the Missouri River Levee system, and river navigation; constructability, ease of tie-in to existing roadway sections; traffic impacts (during construction and following construction); utility impacts (such as to the Leavenworth Water Works facility and Southern Star gas pipeline); environmental impacts (such as to Riverfront Park and wetlands), and right-of-way (R/W) impacts (particularly to the federal properties on the east side of the bridge). This effort resulted in four potential roadway layouts on the east side of the bridge, four potential roadway layouts on the west side of the bridge, and two potential bridge types. Design criteria elements were applied to each layout and potential impacts and engineering constraints were assessed. The cost for the alternative was also evaluated and is estimated to be approximately \$156,990,000. An Environmental Assessment was subsequently conducted which evaluates and discloses the potential environmental impacts resulting from these refinements and the Preferred Alternative (replacing the existing bridge at the existing location). This document was approved by KDOT and FHWA in August 2023 and a public meeting was held on August 29, 2023 to review environmental impacts and seek comments from the public. A total of 25 people signed in at the meeting. The FHWA will make a final determination on the EA after successful completion of the Section 4(f) process. A copy of the EA can be viewed on the project website at [http://newcentennialbridge.ksdot.gov/docs/CentennialBridge\\_EA\\_Aug2023.pdf](http://newcentennialbridge.ksdot.gov/docs/CentennialBridge_EA_Aug2023.pdf)

	Rehabilitation of the Existing Bridge	Improvements to the Existing Route 92 Corridor (Replacement of the Existing Bridge at the Existing Location)
Can the Alternative be constructed in accordance with sound engineering practices?	No	Yes
Would the Alternative Satisfy Purpose & Need?	No	Yes
Would the alternative result in impacts of extraordinary magnitude or unique problems, etc.?	Yes; existing bridge does not meet current safety measures; widening the bridge or converting it to either westbound or eastbound movement does not address safety issues; failure of any steel member would cause bridge collapse	No
Is the alternative feasible and prudent?	Not prudent, does not meet Purpose and Need/results in unacceptable safety risks	Yes

### 5.3 All Possible Planning to Minimize Harm

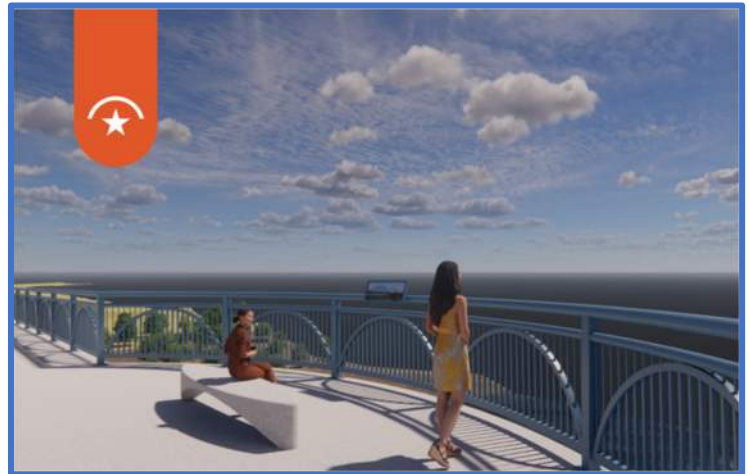
Before approving an action requiring use of any Section 4(f) property, agencies are required to “include all possible planning to minimize harm” in that action. Per 23 CFR 774.17, “all possible planning means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be included in the project.”

As described, several alternatives were evaluated and considered carefully to avoid impacts to the existing bridge. However, because of the condition of the existing bridge, it cannot be modified enough to avoid impacts to the resource without compromising the purpose and need for the project and/or resulting in other significant impacts within the corridor or elsewhere. Therefore, the Preferred Alternative, consists of replacing the existing bridge at the existing location.

For historic resources such as the Centennial Bridge, mitigation measures have been identified through the Section 106 consultation process. While measures to avoid, minimize, or reduce impacts to the existing bridge could not reasonably be incorporated into the project and meet the Purpose and Need, compensatory mitigation measures for demolishing the bridge have been included in a Memorandum of Agreement (MOA) between KDOT, the Kansas SHPO, the Missouri SHPO, and the Leavenworth Historical Society. This MOA was prepared in accordance with the Section 106 consultation process (Appendix B).



Mitigation measures focus on recordation through historical documentation to Level I standards of the Historic American Building Survey (HABS) and the Historic American Engineering Record (HAER); archival photography, consistent with the NRHP and SHPO standards; securing original construction plans (if available); and providing all documentation to the SHPO and a local repository (library and/or historical society) in paper and digital formats. In addition, design cues from the existing bridge (e.g., the blue railings) would be incorporated into the proposed project. Initial stakeholder and public engagement have shown support for concept aesthetics.



*Rendering of the Preferred Alternative scenic outlook incorporating design features from the existing bridge.*

The Leavenworth Historical Society inquired as to whether an in-kind replacement of the bridge were possible; i.e., another truss bridge or iconic structure. This option was evaluated for all alternatives and determined to be cost prohibitive. Therefore, aesthetic features of the existing bridge are being proposed, as described above. A summary of costs is as follows and references the colors show on the exhibit on page 13:

Alternatives	Color	FY27	With Arch
		Constuction Cost	Alternative
		(\$)	(\$)
<b>On-Alignment</b>	<b>Blue</b>	\$ 156,990,000	\$ 165,990,000
<b>North</b>	<b>Yellow</b>	\$ 158,284,730	\$ 167,284,730
<b>South 1</b>	<b>Orange</b>	\$ 215,975,490	\$ 224,975,490
<b>South 2</b>	<b>Orange</b>	\$ 211,663,738	\$ 220,663,738

## 5.4 Summary of Consultation and Coordination with Officials and Jurisdiction

### *Federal Highway Administration*

FHWA is responsible for making the final decisions regarding Section 4(f) applicability, Section 4(f) use and compliance with the statute and regulations. FHWA has been consulted and included in all Consulting Party consultations (Appendix B).

### *Coordination with Official with Jurisdiction and Consulting Parties*

Consultation and coordination with the official(s) of the agency or agencies with jurisdiction over the Section 4(f) properties defines whether the properties are significant for purposes of Section 4(f) and assists in developing measures to avoid or minimize harm. The “official with jurisdiction” in the case of historic properties is defined in 23 CFR 774 as the SHPO for the state wherein the property is located or, if the property

is located on tribal land, the THPO. When the ACHP is involved in a consultation concerning a property under Section 106 of the NHPA, the ACHP is also an official with jurisdiction over that resource.

Before the Section 4(f) finding can be made, the Section 4(f) evaluation must be provided for coordination and comment to the official(s) with jurisdiction over the resource(s) and to the Department of the Interior. The significance of the potential Section 4(f) property is determined by the official with jurisdiction over that property. The official(s) with jurisdiction have 45 days to provide comment; and if no comments are received within 15 days after the deadline, a lack of objection can be assumed, and the action can proceed.

FHWA and the project applicant, have consulted with the State Historic Preservation Officer and appropriate local officials to identify properties on or eligible for the National Register of Historic Places. A Cultural Resources Memorandum was provided to the SHPO, and the SHPO concurred with the eligibility determinations in a letter dated May 3, 2023 (Appendix A).

The ACHP was invited to participate, starting with an invitation to participate in February 2023, November 2023, and most recently in April 2024. The ACHP has declined the invitation to participate and are therefore is not a consulting party to the Section 4(f) evaluation or Memorandum of Agreement (described further below).

Measures to avoid, minimize, or reduce impacts to the historic property could not reasonably be incorporated into the project and meet the Purpose and Need. FHWA and the project applicant have worked with the Kansas SHPO and consulting parties, including the Missouri SHPO, the Leavenworth Historical Society, and the City of Leavenworth to develop compensatory mitigation measures for demolishing the bridge, which have been included in a Memorandum of Agreement (MOA) between KDOT, the Kansas SHPO, the Missouri SHPO, and the Leavenworth Historical Society. Mitigation measures include the following:

1. Archival Documentation: KDOT will collect and prepare historical documentation of the existing bridge, including archival photographs and original construction plans. The Kansas SHPO confirmed that archival documentation is sound mitigation, and none of the consulting parties disagreed.
2. Aesthetic features: KDOT will include aesthetic concepts in the new bridge that incorporate features of the current bridge (arches and color). Examples have been provided to all consulting parties and the public, and include railing, fencing, and lighting features; scenic overlooks; and a monument. The scenic overlooks will include one interpretive panel with content relative to the current Centennial Bridge. This mitigation measure is acceptable to all consulting parties.
3. Salvage: KDOT will remove the existing commemorative plaques from the Centennial Bridge prior to bridge demolition and will donate one plaque to the Leavenworth County Historical Society. The second plaque will be retained by KDOT. The Leavenworth County Historical Society has confirmed their desire for the plaque, and this mitigation measure is acceptable to all consulting parties.

The MOA, prepared in accordance with the Section 106 consultation process, contains additional detail on the aforementioned mitigation measures and is included in Appendix B.

Other consulting parties to the Section 106 process include tribal entities, notified of the project by KDOT on January 31, 2023; as well as the City of Leavenworth (a Certified Local Government), notified of the project through various meetings, including a presentation to the City's Historic Preservation Commission on February 7, 2024.

The officials with jurisdiction (the SHPO) were provided with the opportunity to review this Section 4(f) document and MOA; comments were provided and have been addressed (Appendix C).

### *Public Coordination*

A public meeting was held on February 27, 2023, at the Riverfront Community Center, 123 S. Esplanade Street, Leavenworth, KS and information about the project, historic properties and the project effects on historic properties was made available to the public. Another public meeting was held on August 29, 2023 which provided information about the project, the anticipated impacts of the project, including the de minimis impact on the Riverfront Park, Adverse Effect on the existing Centennial Bridge, and the proposed mitigation measures including renderings of proposed aesthetics. Public and stakeholder involvement has shown support for the Preferred Alternative's proposed aesthetics.

## **6.0 Conclusion**

The Preferred Alternative (replacement of the existing bridge at the existing location) would adversely affect the Centennial Bridge by demolition. There are no alternatives that completely avoid the Section 4(f) resource that are both prudent and feasible. The Preferred Alternative, which also includes a de minimis impact on the Riverfront Park and successfully avoids impacts to the Abernathy Furniture plant, has been identified as the alternative that causes the least overall harm.

FHWA consulted with the SHPO and other potential consulting parties to develop an agreement under Section 106 of the National Historic Preservation Act (Section 106). The agreement – an MOA - outlines the mitigation measures needed to off-set the effect on the existing Centennial Bridge. Completing the proposed mitigation would be a requirement of the Preferred Alternative and would address the Section 4(f) requirement that the project include all possible planning to minimize harm when there is a use of a Section 4(f) resource. This Section 4(f) Evaluation including the MOA was circulated to the appropriate agencies and all issues have been appropriately evaluated and addressed.

**Appendix A**  
**State Historic Preservation Office**  
**Correspondence**



KSR&C# 23-04-028

May 3, 2023

Cliff A. Ehrlich  
Chief of Environmental Services  
KDOT  
Via Email

Re: 92-52 KA-6016-01  
ACNHP-A601(601)  
Route 92 Centennial Bridge  
Leavenworth County, KS | Platte County, MO

We have reviewed the materials regarding project 92-52 KA-6016-01 in accordance with 36 CFR Part 800. This project will consist of demolition and replacement on K-92 of the Centennial Bridge over the Missouri River. Following an architectural review of structures in the project area, the SHPO has found that the Centennial Bridge (KHRI# [103-708](#)) was determined eligible for listing in the National Register in 2015. The SHPO has reviewed the proposed project following the Secretary of the Interior's *Standards for the Treatment of Historic Properties, Standards for Rehabilitation #2*: "The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided." Demolition of the historic bridge does not meet the *Standards*, therefore our office has determined that this project will adversely affect the historic property.

The next step in the process is to look for ways to avoid or minimize the adverse effects. This particular project spans the Missouri River and therefore the Centennial Bridge is a shared historic property between Kansas and Missouri. Your office has indicated that the Kansas SHPO should be the lead SHPO. While there is no precedent for this, if the Missouri SHPO is agreeable, we are willing. We recommend that FHWA coordinate with the Advisory Council on Historic Preservation to ensure that this approach is allowable and in the spirit of 36 CFR Part 800. Thank you for giving us the opportunity to comment on this proposal. Please submit any comments or questions regarding this review to Lauren Jones at [lauren.jones@ks.gov](mailto:lauren.jones@ks.gov).

Sincerely,

Patrick Zollner  
State Historic Preservation Officer



Katrina L. Ringler  
Acting Director, Cultural Resources Division  
Deputy State Historic Preservation Officer

# Appendix B

## Memorandum of Agreement

**MEMORANDUM OF AGREEMENT AMONG  
THE FEDERAL HIGHWAY ADMINISTRATION,  
THE KANSAS STATE HISTORIC PRESERVATION OFFICE  
THE MISSOURI STATE HISTORIC PRESERVATION OFFICE  
KANSAS DEPARTMENT OF TRANSPORTATION  
MISSOURI DEPARTMENT OF TRANSPORTATION  
AND THE  
LEAVENWORTH COUNTY HISTORICAL SOCIETY**

**TO HISTORIC PROPERTY:** Centennial Bridge on K-92 over the Missouri River, connecting Leavenworth County, KS and Platte County, MO

**UNDERTAKING:** Replacement of the Centennial Bridge on K-92, KDOT Project Number 092-052-KA-60160

**STATE:** Kansas and Missouri

**AGENCY:** Federal Highway Administration

**WHEREAS,** the Federal Highway Administration (FHWA) Kansas Division is the federal agency responsible for ensuring the undertaking complies with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. 306108) codified in its implementing regulations 36 CFR Part 800, *Protection of Historic Properties*; and

**WHEREAS,** the duties of the State Historic Preservation Office (SHPO) under Section 106 of the NHPA and 36 CFR Part 800 include responsibilities to advise, assist, review, and consult with Federal agencies as they carry out their historic preservation responsibilities and to respond to Federal agencies' requests within a specified period; and

**WHEREAS,** the Kansas SHPO (KSSHPO) has assumed responsibility as the lead SHPO for the project, and responsibility for resources in Kansas and the Centennial Bridge, and the Missouri Historic Preservation Office (MoSHPO) has responsibility for participating in Section 106 decision-making for resources in **Missouri**; and

**WHEREAS,** the Missouri State Historic Preservation Office currently resides within the Missouri Department of Natural Resources; and

**WHEREAS,** the Kansas Department of Transportation (KDOT) and the Missouri Department of Transportation (MoDOT) plan to replace the Centennial Bridge in Leavenworth County, Kansas, and Platte County, Missouri, using funding from FHWA; and

**WHEREAS,** KDOT, acting on behalf of the FHWA, has determined that the project's area of potential effects (APE), as defined at 35 CFR 15 800.16(d), for the undertaking has been defined as the footprint of the project, including the new right of way, including permanent and temporary easements for archaeological resources. For architectural and bridge resources the APE has been defined as the new right of way and permanent easements, demolition easements, and a buffer of one hundred (100) feet for the consideration of direct and indirect effects, as described in the attached Information to Accompany; and

**WHEREAS**, the FHWA has determined that the Centennial bridge (**criteria C**) is eligible for listing on the National Register of Historic Places (National Register) and has consulted with the KSSHPO and/or the MoSHPO pursuant to 36 CFR Part 800; and

**WHEREAS**, the FHWA has determined that the proposed improvements to K-92/MO-92 will have an adverse effect on the Centennial Bridge, a property eligible for inclusion on the National Register (see attached Information to Accompany); and has consulted with the KSSHPO and MoSHPO pursuant to 36 CFR Part 800, *Protection of Historic Properties*, regulations implementing Section 106 of the NHPA (54 U.S.C. § 306108), as amended; and

**WHEREAS**, the FHWA has notified the Advisory Council on Historic Preservation (Council) of its adverse effect determination on November 2023; and invited the Council to participate in consultation and the Council declined via a lack of response to the invitation to participate in consultation with the MOU; and

**WHEREAS**, the Leavenworth Historical Society has been notified of the project and has been invited to participate in consultation and be a signatory to this MOA; and

**WHEREAS**, the FHWA recognizes that the Iowa Tribe of Kansas and Nebraska, Iowa Tribe of Oklahoma, Kaw Indian Nation of Oklahoma, Omaha Tribe of Nebraska and Iowa, Osage Nation, Otoe-Missouria Tribe of Indians, Pawnee Nation of Oklahoma, Ponca Tribe of Nebraska, Ponca Tribe of Oklahoma, Sac and Fox Nation of the Missouri in Kansas and Nebraska, Sac and Fox Tribe of the Mississippi in Iowa, and Sac and Fox Nation of Oklahoma have an interest in the project area, and has consulted with them on a government-to-government basis on February 3, 2023; and,

**WHEREAS**, the Sac and Fox Nation of Missouri in Kansas and Nebraska had no concerns and the Pawnee Nation of Oklahoma requested notification of inadvertent discovery; and

**WHEREAS**, public involvement for this project has been handled under KDOT policy; and

**WHEREAS**, a public meeting was held on February 21, 2023 and August 29, 2023, and information about the project, historic properties, and the project's effects on historic properties was made available to the public; and

**WHEREAS**, no comments were received from the public addressing historic properties or mitigation measures; and

**WHEREAS**, to the best of the FHWA's knowledge and belief, no human remains, associated with or unassociated funerary objects or sacred objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001), are expected to be encountered; and

**NOW, THEREFORE**, the FHWA and the KSSHPO, and the MoSHPO agree that the undertaking shall be implemented under the following stipulations to take into account the effect of the undertaking on historic properties.

## **STIPULATIONS**

FHWA, with the assistance of KDOT and MoDOT, shall ensure that the following measures are carried out:

### **1. MITIGATION MEASURES**

- A. KDOT shall develop archival documentation to the following specifications for the Centennial Bridge. Work shall be done by KDOT staff or by consultants who meet the Secretary of the Interior's Professional Qualification Standards for History or Architectural History (36 CFR Part 61):
  - 1) Prepare historical documentation to Level I standards of the *Levels of Bridge Documentation (State Level) For Section 106 Mitigation of Adverse Effect* (Bridge Documentation Standards).
  - 2) Before the project letting, take archival photographs of the bridge.
    - a) Take archival photographs, consistent with the National Register standards, with sufficient coverage to provide overall views of the bridge and significant details of the bridge.
    - b) Before the project letting, consult with the KSSHPO regarding the adequacy of coverage for the bridge and the selection of images.
    - c) Print photographs in the size required by the Bridge Documentation Standards and label photographs in a manner consistent with National Register standards.
    - d) Provide original photographs and digital images (in .tiff and color .jpeg formats) on archival discs to the KSSHPO and MoSHPO; KDOT and MoDOT will maintain original photographs and digital images.
  - 3) Original construction plans shall be provided as part of the documentation in paper and digital format (.pdf), if available.
  - 4) A report, consisting of the historical documentation, plates of the archival photographs, and the construction plans shall be provided to the KSSHPO, the MoSHPO, and the Leavenworth Public Library, in paper and digital (.pdf) formats. The report will be made available on KDOT's website.
- B. KDOT will include aesthetic concepts in the new bridge that incorporate features of the current bridge (arches and color). Examples are attached, including railing, fencing, and lighting features; scenic overlooks; and a monument. All Consulting Parties will be afforded the opportunity to review and comment on the aesthetic features as design progresses. Review opportunities will be provided at key milestones including at 30%, 60%, 90% and 100% design. All Consulting Parties will provide review and comments within 30 calendar days of receipt of design materials.
- C. Each of the scenic overlooks will include one interpretive panel similar to that shown in the attached concept. The panel content will be relative to the current Centennial Bridge. The Consulting Parties will provide review of the sign content and will provide comments within 30 calendar days of receipt.
- D. KDOT will provide drone footage of the Centennial Bridge. Raw drone footage will be provided on DVD to the various repositories named in Stipulation 1.A.4.

- E. KDOT will develop two short videos about the Centennial Bridge: one focused on general facts about the bridge and one focused on the engineering of the bridge. Neither video will exceed five (5) minutes in length. The video may incorporate drone video footage of the bridges, historic photographs, and historical facts about the bridges.
- 1) Consulting parties will be allowed to comment on the video before it is finalized. Videos will be distributed to consulting parties by the FTP site for review. If they cannot access the FTP site, a disc with the video will be mailed.
  - 2) Consulting parties will have 30 days to review the videos and provide comments.
  - 3) Consultation to address substantive comments, and to resolve any conflicts, shall occur before the final editing of the video. Consultation may be conducted by an in-person meeting, conference call, or e-mail, as needed to resolve any conflicts.
  - 4) KDOT will make the videos available for use at the Leavenworth Historical Society. In addition, the video will be linked to the KDOT Centennial Bridge website.
  - 5) KDOT will provide the videos on DVD to the various repositories named in Stipulation 1.A.4.
- F. KDOT will remove the commemorative plaques from the Centennial Bridge prior to bridge demolition and will donate one plaque to the Leavenworth County Historical Society. The second plaque will be retained by KDOT.
2. **DURATION**
- This agreement shall commence upon having been signed by the FHWA, KDOT, KSSHPO, and the MoSHPO and shall be null and void if its terms are not carried out within five (5) years from the date of its execution, unless the FHWA, the KSSHPO, and the MoSHPO agree in writing to an extension for carrying out its terms.
3. **MONITORING AND REPORTING**
- Within one year after carrying out the terms of the MOA, KDOT, acting on behalf of the FHWA shall provide to all signatories a written report regarding the actions taken to fulfill the terms of the agreement.
4. **DISPUTE RESOLUTION**
- Should any signatory to this MOA object at any time to any actions proposed or how the terms of the MOA are implemented, the FHWA shall consult with a such party to resolve the objection. If FHWA determines that such an objection cannot be resolved, FHWA will:
- A. Forward all documentation relevant to the dispute, including the FHWA's proposed resolution to the Council. The Council shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Before reaching a final decision on the dispute, FHWA shall prepare a written response. FHWA will then proceed with its final decision.
  - B. If the Council does not provide its advice regarding the dispute within the thirty (30) daytime period, FHWA may make a final decision on the dispute and proceed accordingly. Before reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories to the MOA and provide them and the Council with a copy of the written response.

- C. FHWA's responsibilities to carry out all other actions subject to the terms of the MOA that are not the subject of the dispute remain unchanged.

5. **AMENDMENTS**

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the Council.

6. **TERMINATION**

If any signatory to this MOA determines its terms will not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation 6 above. If within thirty (30) days an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and before work continues on the undertaking, FHWA must either (a) execute an MOA under 36 CFR 800.6 or (b) request, take into account, and respond to the comment of the Council under 36 CFR 800.7. FHWA shall notify the signatories as to the course of action it will pursue.

7. Six (6) copies of this signed MOA will be provided, one to each signatory. FHWA will transmit an electronic copy to the Council for inclusion in their files.

Execution of this MOA by the FHWA, KDOT, MoDOT, KSSHPO, MoSHPO, and the Leavenworth County Historical Society and the implementation of its terms are evidence that FHWA has taken into account the effects of this undertaking on historic properties and allowed the Council to comment.

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**MEMORANDUM OF AGREEMENT AMONG  
THE FEDERAL HIGHWAY ADMINISTRATION,  
THE KANSAS STATE HISTORIC PRESERVATION OFFICE  
THE MISSOURI STATE HISTORIC PRESERVATION OFFICE  
KANSAS DEPARTMENT OF TRANSPORTATION  
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
AND THE  
LEAVENWORTH COUNTY HISTORICAL SOCIETY**

**TO HISTORIC PROPERTY:** Centennial Bridge on K-92 over the Missouri River, connecting Leavenworth County, KS and Platte County, MO

**UNDERTAKING:** Replacement of the Centennial Bridge on K-92, KDOT Project Number 092-052-KA-60160

**STATE:** Kansas and Missouri

**AGENCY:** Federal Highway Administration

**WHEREAS**, the Federal Highway Administration (FHWA) Kansas Division is the federal agency responsible for ensuring the undertaking complies with Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. 306108) codified in its implementing regulations 36 CFR Part 800, *Protection of Historic Properties*; and

**WHEREAS**, the duties of the State Historic Preservation Office (SHPO) under Section 106 of the NHPA and 36 CFR Part 800 include responsibilities to advise, assist, review, and consult with Federal agencies as they carry out their historic preservation responsibilities and to respond to Federal agencies' requests within a specified period; and

**WHEREAS**, the Kansas SHPO (KSSHPO) has assumed responsibility as the lead SHPO for the project, and responsibility for resources in Kansas and the Centennial Bridge, and the Missouri Historic Preservation Office (MoSHPO) has responsibility for participating in Section 106 decision-making for resources in **Missouri**; and

**WHEREAS**, the Missouri State Historic Preservation Office currently resides within the Missouri Department of Natural Resources; and

**WHEREAS**, the Kansas Department of Transportation (KDOT) and the Missouri Highways and Transportation Committee (MHTC) plan to replace the Centennial Bridge in Leavenworth County, Kansas, and Platte County, Missouri, using funding from FHWA; and

**WHEREAS**, KDOT, acting on behalf of the FHWA, has determined that the project's area of potential effects (APE), as defined at 36 CFR 800.16(d), for the undertaking has been defined as the footprint of the project, including the new right of way, including permanent and temporary easements for archaeological resources. For architectural and bridge resources the APE has been defined as the new right of way and permanent easements, demolition easements, and a buffer of one hundred (100) feet for the consideration of direct and indirect effects, as described in the attached Information to Accompany; and



**WHEREAS**, the FHWA has determined that the Centennial bridge (**criteria C**) is eligible for listing on the National Register of Historic Places (National Register) and has consulted with the KSSHPO and/or the MoSHPO pursuant to 36 CFR Part 800; and

**WHEREAS**, the FHWA has determined that the proposed improvements to K-92/MO-92 will have an adverse effect on the Centennial Bridge, a property eligible for inclusion on the National Register (see attached Information to Accompany); and has consulted with the KSSHPO and MoSHPO pursuant to 36 CFR Part 800, *Protection of Historic Properties*, regulations implementing Section 106 of the NHPA (54 U.S.C. § 306108), as amended; and

**WHEREAS**, the FHWA has notified the Advisory Council on Historic Preservation (Council) of its adverse effect determination on November 2023; and invited the Council to participate in consultation and the Council declined via a lack of response to the invitation to participate in consultation with the MOU; and

**WHEREAS**, the Leavenworth Historical Society has been notified of the project and has been invited to participate in consultation and be a signatory to this MOA; and

**WHEREAS**, the FHWA recognizes that the Iowa Tribe of Kansas and Nebraska, Iowa Tribe of Oklahoma, Kaw Indian Nation of Oklahoma, Omaha Tribe of Nebraska and Iowa, Osage Nation, Otoe-Missouria Tribe of Indians, Pawnee Nation of Oklahoma, Ponca Tribe of Nebraska, Ponca Tribe of Oklahoma, Sac and Fox Nation of the Missouri in Kansas and Nebraska, Sac and Fox Tribe of the Mississippi in Iowa, and Sac and Fox Nation of Oklahoma have an interest in the project area, and has consulted with them on a government-to-government basis on February 3, 2023; and,

**WHEREAS**, the Sac and Fox Nation of Missouri in Kansas and Nebraska had no concerns and the Pawnee Nation of Oklahoma requested notification of inadvertent discovery; and

**WHEREAS**, public involvement for this project has been handled under KDOT policy; and

**WHEREAS**, a public meeting was held on February 21, 2023 and August 29, 2023, and information about the project, historic properties, and the project's effects on historic properties was made available to the public; and

**WHEREAS**, no comments were received from the public addressing historic properties or mitigation measures; and

**WHEREAS**, to the best of the FHWA's knowledge and belief, no human remains, associated with or unassociated funerary objects or sacred objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001), are expected to be encountered; and

**NOW, THEREFORE**, the FHWA and the KSSHPO, and the MoSHPO agree that the undertaking shall be implemented under the following stipulations to take into account the effect of the undertaking on historic properties.

## **STIPULATIONS**

FHWA, with the assistance of KDOT and MHTC, shall ensure that the following measures are carried out:

### **1. MITIGATION MEASURES**

- A. KDOT shall develop archival documentation to the following specifications for the Centennial Bridge. Work shall be done by KDOT staff or by consultants who meet the Secretary of the Interior's Professional Qualification Standards for History or Architectural History (36 CFR Part 61):
  - 1) Prepare historical documentation to Level I standards of the *Levels of Bridge Documentation (State Level) For Section 106 Mitigation of Adverse Effect* (Bridge Documentation Standards).
  - 2) Before the project letting, take archival photographs of the bridge.
    - a) Take archival photographs, consistent with the National Register standards, with sufficient coverage to provide overall views of the bridge and significant details of the bridge.
    - b) Before the project letting, consult with the KSSHPO regarding the adequacy of coverage for the bridge and the selection of images.
    - c) Print photographs in the size required by the Bridge Documentation Standards and label photographs in a manner consistent with National Register standards.
    - d) Provide original photographs and digital images (in .tiff and color .jpeg formats) on archival discs to the KSSHPO and MoSHPO; KDOT and MHTC will maintain original photographs and digital images.
  - 3) Original construction plans shall be provided as part of the documentation in paper and digital format (.pdf), if available.
  - 4) A report, consisting of the historical documentation, plates of the archival photographs, and the construction plans shall be provided to the KSSHPO, the MoSHPO, and the Leavenworth Public Library, in paper and digital (.pdf) formats. The report will be made available on KDOT's website.
- B. KDOT will include aesthetic concepts in the new bridge that incorporate features of the current bridge (arches and color). Examples are attached, including railing, fencing, and lighting features; scenic overlooks; and a monument. All Consulting Parties will be afforded the opportunity to review and comment on the aesthetic features as design progresses. Review opportunities will be provided at key milestones including at 30%, 60%, 90% and 100% design. All Consulting Parties will provide review and comments within 30 calendar days of receipt of design materials.
- C. Each of the scenic overlooks will include one interpretive panel similar to that shown in the attached concept. The panel content will be relative to the current Centennial Bridge. The Consulting Parties will provide review of the sign content and will provide comments within 30 calendar days of receipt.
- D. KDOT will provide drone footage of the Centennial Bridge. Raw drone footage will be provided on DVD to the various repositories named in Stipulation 1.A.4.

- E. KDOT will develop two short videos about the Centennial Bridge: one focused on general facts about the bridge and one focused on the engineering of the bridge. Neither video will exceed five (5) minutes in length. The video may incorporate drone video footage of the bridges, historic photographs, and historical facts about the bridges.
- 1) Consulting parties will be allowed to comment on the video before it is finalized. Videos will be distributed to consulting parties by the FTP site for review. If they cannot access the FTP site, a disc with the video will be mailed.
  - 2) Consulting parties will have 30 days to review the videos and provide comments.
  - 3) Consultation to address substantive comments, and to resolve any conflicts, shall occur before the final editing of the video. Consultation may be conducted by an in-person meeting, conference call, or e-mail, as needed to resolve any conflicts.
  - 4) KDOT will make the videos available for use at the Leavenworth Historical Society. In addition, the video will be linked to the KDOT Centennial Bridge website.
  - 5) KDOT will provide the videos on DVD to the various repositories named in Stipulation 1.A.4.
- F. KDOT will remove the commemorative plaques from the Centennial Bridge prior to bridge demolition and will donate one plaque to the Leavenworth County Historical Society. The second plaque will be retained by KDOT.

**2. DURATION**

This agreement shall commence upon having been signed by the FHWA, KDOT, KSSHPO, and the MoSHPO and shall be null and void if its terms are not carried out within five (5) years from the date of its execution, unless the FHWA, the KSSHPO, and the MoSHPO agree in writing to an extension for carrying out its terms.

**3. MONITORING AND REPORTING**

Within one year after carrying out the terms of the MOA, KDOT, acting on behalf of the FHWA shall provide to all signatories a written report regarding the actions taken to fulfill the terms of the agreement.

**4. DISPUTE RESOLUTION**

Should any signatory to this MOA object at any time to any actions proposed or how the terms of the MOA are implemented, the FHWA shall consult with a such party to resolve the objection. If FHWA determines that such an objection cannot be resolved, FHWA will:

- A. Forward all documentation relevant to the dispute, including the FHWA's proposed resolution to the Council. The Council shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Before reaching a final decision on the dispute, FHWA shall prepare a written response. FHWA will then proceed with its final decision.
- B. If the Council does not provide its advice regarding the dispute within the thirty (30) daytime period, FHWA may make a final decision on the dispute and proceed accordingly. Before reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories to the MOA and provide them and the Council with a copy of the written response.

- C. FHWA's responsibilities to carry out all other actions subject to the terms of the MOA that are not the subject of the dispute remain unchanged.

5. **AMENDMENTS**

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the Council.

6. **TERMINATION**

If any signatory to this MOA determines its terms will not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation 6 above. If within thirty (30) days an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and before work continues on the undertaking, FHWA must either (a) execute an MOA under 36 CFR 800.6 or (b) request, take into account, and respond to the comment of the Council under 36 CFR 800.7. FHWA shall notify the signatories as to the course of action it will pursue.

7. Six (6) copies of this signed MOA will be provided, one to each signatory. FHWA will transmit an electronic copy to the Council for inclusion in their files.

Execution of this MOA by the FHWA, KDOT, MHTC, KSSHPO, MoSHPO, and the Leavenworth County Historical Society and the implementation of its terms are evidence that FHWA has taken into account the effects of this undertaking on historic properties and allowed the Council to comment.

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FHWA  
Kansas and Missouri, Leavenworth County, Platte County  
Centennial Bridge, KDOT Project No. 092-052-KA-60160

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**MEMORANDUM OF AGREEMENT AMONG  
THE FEDERAL HIGHWAY ADMINISTRATION,  
THE KANSAS STATE HISTORIC PRESERVATION OFFICE  
THE MISSOURI STATE HISTORIC PRESERVATION OFFICE  
KANSAS DEPARTMENT OF TRANSPORTATION  
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION  
AND THE  
LEAVENWORTH COUNTY HISTORICAL SOCIETY**

**TO HISTORIC PROPERTY:** Centennial Bridge on K-92 over the Missouri River connecting Leavenworth County, KS and Platte County, MO

**UNDERTAKING:** Replacing the Centennial Bridge on K-92 and MO-92, **KDOT Project Number 092-052-KA-60160**

**STATE:** Kansas and Missouri

**AGENCY:** Federal Highway Administration

**Signed:**

**FEDERAL HIGHWAY ADMINISTRATION:**

By: Richard E. Bechler Date: 8/13/2024  
Title: DIVISION ADMINISTRATOR



FHWA  
Kansas and Missouri, Leavenworth County, Platte County  
Centennial Bridge, KDOT Project No. 092-052-KA-60160

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**UNDERTAKING:** Replacing the Centennial Bridge on K-92 and MO-92, **KDOT Project Number 092-052-KA-60160**

**STATE:** Kansas and Missouri

**AGENCY:** Federal Highway Administration

**KANSAS STATE HISTORIC PRESERVATION OFFICER:**

By:  \_\_\_\_\_ Date: 6/26/2024

Title: Deputy State Historic Preservation Officer (DSHPO) on behalf of Patrick Zollner, SHPO

FHWA  
Kansas and Missouri, Leavenworth County, Platte County  
Centennial Bridge, KDOT Project No. 092-052-KA-60160

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**STATE:** Kansas and Missouri

**AGENCY:** Federal Highway Administration

**DIRECTOR DIVISION OF STATE PARKS AND DEPUTY MISSOURI STATE HISTORIC PRESERVATION OFFICER:**

**By:**  **Date:** 7/29/24  
**Title:** Division Director

FHWA  
Kansas and Missouri, Leavenworth County, Platte County  
Centennial Bridge, KDOT Project No. 092-052-KA-60160

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**STATE:** Kansas and Missouri

**AGENCY:** Federal Highway Administration

**KANSAS DEPARTMENT OF TRANSPORTATION:**

By: *Cari Reed* Date: *8/1/2024*  
Title: *Secretary of Transportation*





FHWA  
Kansas and Missouri, Leavenworth County, Platte County  
Centennial Bridge, KDOT Project No. 092-052-KA-60160

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**MEMORANDUM OF AGREEMENT AMONG  
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AND THE  
LEAVENWORTH COUNTY HISTORICAL SOCIETY**


**TO HISTORIC PROPERTY:** Centennial Bridge on K-92 over the Missouri River connecting Leavenworth County, KS with Platte County, MO

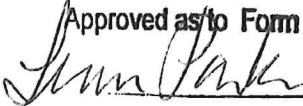
**UNDERTAKING:** Replacing the Centennial Bridge on K-92 and MO-92, **KDOT Project Number 092-052-KA-60160**

**STATE:** Kansas and Missouri

**AGENCY:** Federal Highway Administration

**MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION:**

By:  Date: 7/18/24  
Title: Assistant Chief Engineer

Approved as to Form  
 Date 7/17/24  
Assistant Chief Com sel

ATTEST:   
SECRETARY TO THE COMMISSION

FHWA  
Kansas and Missouri, Leavenworth County, Platte County  
Centennial Bridge, KDOT Project No. 092-052-KA-60160

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**MEMORANDUM OF AGREEMENT AMONG  
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THE MISSOURI STATE HISTORIC PRESERVATION OFFICE  
KANSAS DEPARTMENT OF TRANSPORTATION  
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**UNDERTAKING:** Replacing the Centennial Bridge on K-92 and MO-92, **KDOT Project Number 092-052-KA-60160**

**STATE:** Kansas and Missouri

**AGENCY:** Federal Highway Administration

**LEAVENWORTH COUNTY HISTORICAL SOCIETY:**

By: Carol Ayres Date: \_\_\_\_\_  
Title: President

**INFORMATION TO ACCOMPANY  
MEMORANDUM OF AGREEMENT  
FOR RECOVERY OF SIGNIFICANT INFORMATION**

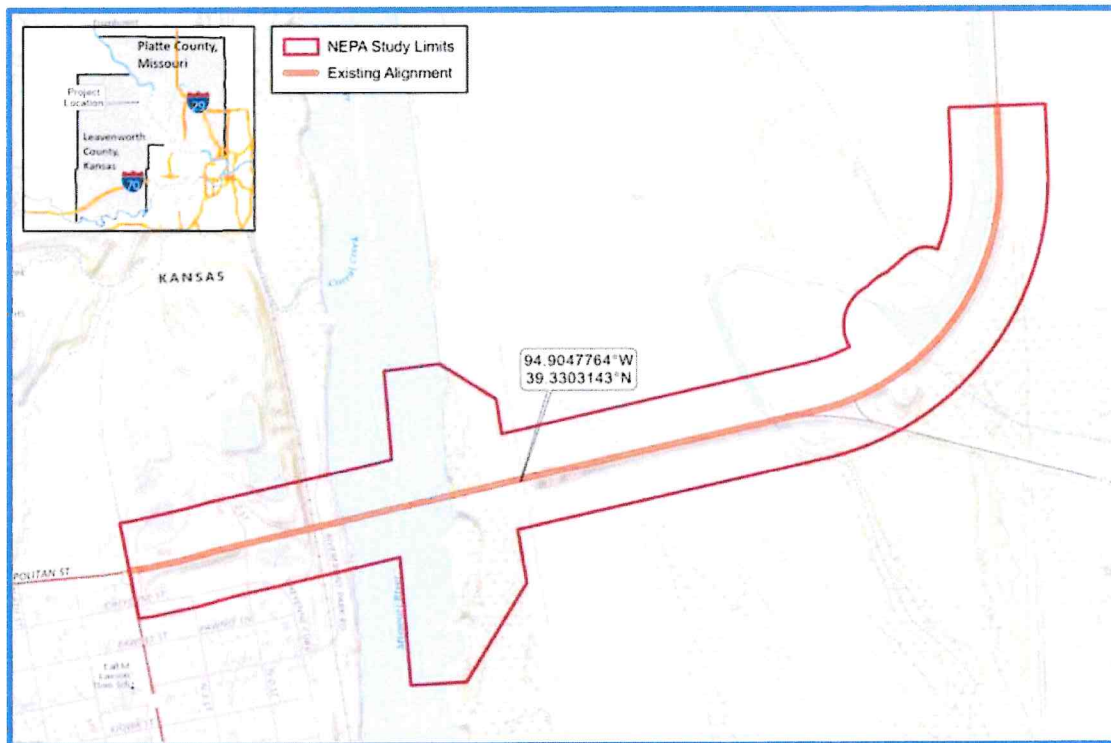
**TO HISTORIC PROPERTY:** Centennial Bridge on K-92 over the Missouri River connecting Leavenworth County, KS with Platte County, MO

**UNDERTAKING:** Replacing the Centennial Bridge on K-92 and MO-92, **KDOT Project Number 092-052-KA-60160**

**STATE:** Kansas and Missouri

**AGENCY:** Federal Highway Administration

The Centennial Bridge is eligible for listing on the NRHP. Remarks from the Kansas Historic Resource Inventory (KHRI # 103-708) identify that Centennial Bridge appears to be in good condition and retains its architectural integrity. The bridge retains the original character-defining features of its structural components—its curved top girder, hangers and ties. The relative rarity of steel tied arch bridges further contributes to the historic significance of this structure. The bridge is a striking, significant structure that is eligible for nomination to the National Register of Historic Places under Criterion C in the area of either Engineering or Architecture.



**Project Location And Study Area.** (Central project location coordinates provided for referencing the project in mapping program)s



**Existing Centennial Bridge**





# AESTHETIC CONCEPTS

## STRUCTURE CONSIDERATIONS

- Design incorporates characteristics of the current bridge, including arches and Centennial blue railings and light poles.
- Variable height arched railing over railroad.
- Designed using stakeholder input.

Please note that design and aesthetic features may change due to permitting or construction needs.



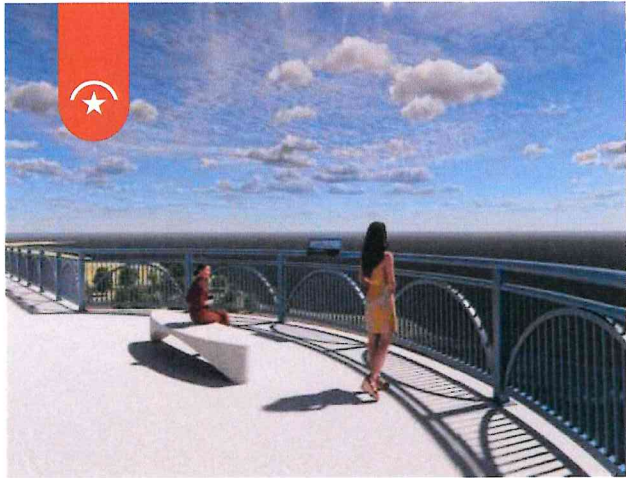
# AESTHETIC CONCEPTS

## RAILING, FENCING & LIGHTING FEATURES:

- Designed in collaboration with stakeholders.
- Meet Kansas, Missouri, Federal Highway Administration and railroad safety standards.
- Incorporate aspects of the current Centennial Bridge.

Please note that design and aesthetic features may change due to permitting or construction needs.

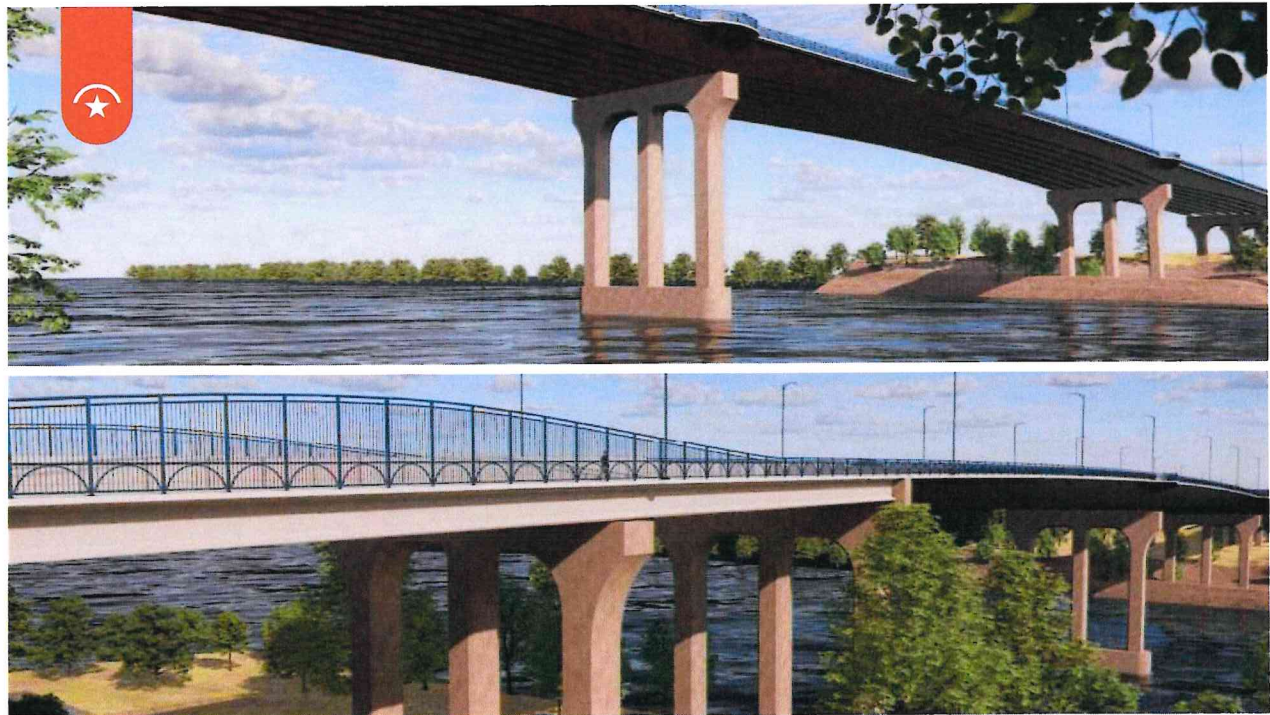




## AESTHETIC CONCEPTS OVERLOOK

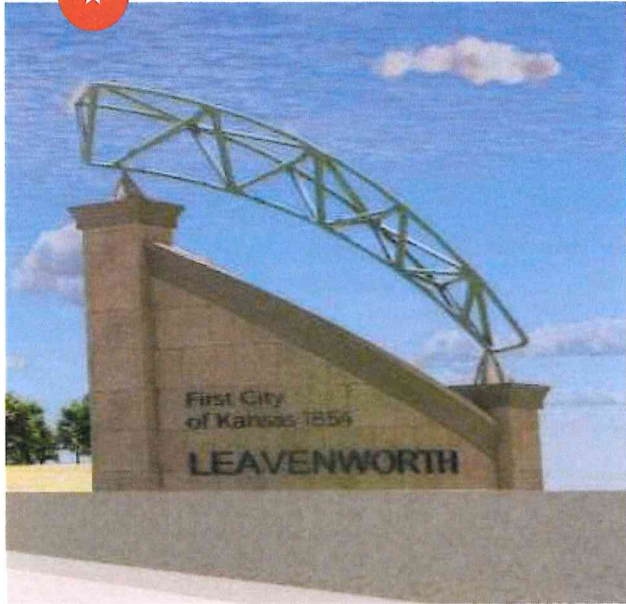
- Two overlooks with seating areas.
- Scenic views face south toward the City of Leavenworth.

Please note that design and aesthetic features may change due to permitting or construction needs.



## AESTHETIC CONCEPTS BRIDGE PIER

Please note that design and aesthetic features may change due to permitting or construction needs.



# MONUMENT

## HIGHLIGHTING THE CITY OF LEAVENWORTH

Please note that design and aesthetic features may change due to permitting or construction needs.

## Appendix C

### Consulting Party Coordination





<b>Date:</b>	8/30/2022
<b>Project:</b>	KDOT - Centennial Bridge Replacement
<b>Project Number:</b>	92-052 KA-6016-01
<b>Client PM:</b>	Thomas Husa
<b>HDR PM:</b>	Cory Imhoff

Consultant Invitees	Company	Role	Owner/Agency Invitees	Agency	Role/Title
Cory Imhoff	<input checked="" type="checkbox"/> HDR	PM	Thomas Husa	<input checked="" type="checkbox"/> KDOT	Rd Design Ldr
Chad Hall	<input type="checkbox"/> HDR	Bridge Lead	Shawn Schwensen	<input checked="" type="checkbox"/> KDOT	Br Sr Squad Ldr
Thad Kosmicki	<input type="checkbox"/> HDR	Bridge Des	Ryan Barrett	<input type="checkbox"/> KDOT	Metro Engr
Simon Sun	<input type="checkbox"/> HDR	Dep. PM	Ann Melton	<input type="checkbox"/> KDOT	Comm Rel Mgr
Doug Parke	<input type="checkbox"/> Transystems	Roadway	Mark Fisher	<input type="checkbox"/> MoDOT	Area Engr
Frank Weatherford	<input type="checkbox"/> Transystems	Principal	Christopher Shanks	<input type="checkbox"/> MoDOT	Br Liaison
Jennifer Schwaller	<input checked="" type="checkbox"/> HDR	NEPA	Jeff Ruby	<input type="checkbox"/> KDOT	Br Squad Ldr
John Denlinger	<input type="checkbox"/> HDR	H&H	Delaney Tholen	<input type="checkbox"/> KDOT	Public Affairs
Stephanie Rittershaus	<input type="checkbox"/> HDR	PI Lead	Amy Pope	<input type="checkbox"/> KDOT	Field Engr
Chris Deffenbaugh	<input type="checkbox"/> HDR	PI Supp	Kelly Kultala	<input type="checkbox"/> KDOT	Public Affairs
Christopher Kinzel	<input type="checkbox"/> HDR	Traffic	Mark Hurt	<input type="checkbox"/> KDOT	St Br Engr
Brett Letkowski	<input type="checkbox"/> Transystems	Principal	Kyle Halverson	<input type="checkbox"/> KDOT	Ch Geologist
Joe Drimmel	<input type="checkbox"/> HDR	Principal	Luke Matheny	<input type="checkbox"/> KDOT	Ch Soils Engr
Justin Adams	<input type="checkbox"/> Transystems	Roadway	Mike Orth	<input type="checkbox"/> KDOT	Ch Hydr Engr
Ian Waters	<input type="checkbox"/> HDR	Environmental	Harry Welsh	<input type="checkbox"/> KDOT	Assoc Engr
			Lucas Smith	<input type="checkbox"/> KDOT	Engr Assoc III
			Jerry Thomas	<input type="checkbox"/> KDOT	Bonner Office
			Arley Hoskin	<input type="checkbox"/> MoDOT	Public Inv
			Jill Bruss	<input type="checkbox"/> MoDOT	KC Traffic
			Cliff Ehrlich	<input checked="" type="checkbox"/> KDOT	Environmental
			Mark Wendt	<input checked="" type="checkbox"/> KDOT	Environmental
			Regina Shipley	<input type="checkbox"/> MoDOT	KC Design
Javier Ahumada	<input checked="" type="checkbox"/> FHWA (KS)	Federal Lead	Kate Craft	<input type="checkbox"/> KDOT	Public Affairs
Patrick Zoller	<input checked="" type="checkbox"/> SHPO (KS)	Cultural Resources	Chris Eichman	<input checked="" type="checkbox"/> KDOT	Environmental
Lauren Jones	<input checked="" type="checkbox"/> SHPO (KS)	Cultural Resources	Chris Shulse	<input type="checkbox"/> MoDOT	Environmental
Austin Main	<input checked="" type="checkbox"/> SHPO (KS)	Cultural Resources	Bree McMurray	<input type="checkbox"/> MoDOT	Environmental

Agenda Item Description	Notes	Action Item   Resp   Due Date
1) Attendees & Introductions		
2) SHPO Lead	<p>Javier suggested KS SHPO assume Section 106 responsibility for the Centennial Bridge since this is a KDOT sponsored project. Patrick agreed.</p> <p>KDOT team will work with Kansas SHPO as the primary for both archaeology and architecture, but everything will be shared with both SHPOs.</p>	

<p>3) Archaeology</p>	<p>Reviewed archaeology efforts that are on-going on the MO side of the river. Working with MoDOT archaeology staff to submit materials to MO SHPO.</p> <p>Austin said that he does not see any archaeological issues/concerns on the Kansas side of the river.</p> <p>Javier noted the Lewis &amp; Clark interpretive site at the bridge (in the Riverfront Park on the Kansas side). Patrick said that it is not a Section 106 issue since it's an interpretive site and not a historic site.</p>	<p>HDR to continue working w/ MoDOT relative to MO SHPO submittals/reviews for archaeology.</p>
<p>4) Architecture - Bridge</p>	<p>The bridge is eligible for the NRHP. Removal of the bridge will be an Adverse Effect. Send a letter to the SHPO to start the MOA process.</p> <p>Patrick noted that ACHP will be invited to consult due to the Adverse Effect.</p> <p>First step in the process will be to show no feasible, prudent alternative to demolishing the bridge. From there, can discuss mitigation. If there's no way to save it, mitigation can take a lot of forms and the local folks are often the drivers. Could include improvements to the park, a lookout, etc. Cory noted that team is already talking with local stakeholders and that form/function of the new structure may embrace the historic nature of the area, aesthetics, etc. Patrick said that could be part of the mitigation, yes, but no pre-conceived notions.</p>	<p>HDR to provide a consultation request letter to KDOT for review; then provide to SHPO.</p> <p>HDR will begin development of the documentation relative to measures to avoid impact to the bridge.</p>

<p>5) Architecture - Abernathy Building</p>	<p>Abernathy Building, located south of the existing bridge on the KS side is historic.</p> <p>A reason for selecting an alignment to the north of the existing bridge is to avoid impacts to the building.</p> <p>Patrick noted that the building is located in the NEPA footprint. Cliff explained that the NEPA footprint is for the EA study area, but that the SHPO submittal would be honed to correlate with the field check plans. Cory shared that team is currently working on preliminary plans, which will be complete in December. Detail from the plans and Discovery Phase report can be pulled out to inform the evaluation on impacts to Abernathy. HDR can provide construction limits to illustrate no impact.</p> <p>Patrick noted that if the building is avoided but have R/W or other minor impacts, then a de minimis route is likely.</p>	<p>HDR to provide additional detail on impact area (and avoidance of Abernathy) when preliminary plans are complete.</p>
<p>6) Public Engagement</p>	<p>Discussed requirements for public engagement associated with Section 106.</p> <p>If it becomes 4(f) process, then there are public engagement requirements. Javier confirmed, noting a 45 day notice for 4(f) which can be combined with the EA public notice.</p>	



# Meeting Minutes

Project: KDOT Route 92 Centennial Bridge

Subject: Section 106 / 4(f), Memorandum of Agreement

Date: Tuesday, May 09, 2023

Location: MS Teams Teleconference

Attendees:	Javier Ahumada (FHWA) Patrick Zollner (KS SHPO) Lauren Jones (KS SHPO) Cliff Ehrlich (KDOT) Mark Wendt (KDOT)	Thomas Hussa (KDOT) Shawn Schwenson (KDOT) Jennifer Schwaller (HDR) Ian Waters (HDR) Simon Sun (HDR)
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## Agenda:

- Project Status Update
- Avoidance / Minimization Discussion
- Mitigation Discussion
- Memorandum of Agreement

- 1) Jennifer provided a project status update.
- 2) Discussed Total Avoidance options – No Build, North Corridor, South Corridor. None prudent
- 3) Discussed Minimization options – Rehabilitate, Widen Existing. Neither prudent.
- 4) Prudent alternative is Replacement.
- 5) Discussed mitigation, including archival documentation and proposed aesthetic features.
- 6) Attached presentation was utilized to facilitate the above discussion items.
- 7) General discussion / comments:
  - a. Javier confirmed that Missouri SHPO to be involved but Kansas SHPO is taking the lead, KSHS agreed with this.
  - b. Javier noted that the section 4(f) document public notice is 45 days. This can be combined with the EA comment period but it has to be noted to the public that they are two distinct documents for comment.
  - c. Patrick noted that the public involvement with 4(f) could be critical path depending on involvement with national and local historical groups. Jennifer commented that so far public response and LVHS have been positive.
  - d. Patrick mentioned that the aesthetic features of the bridge would not be truly considered as mitigation for the historic loss of the bridge. However, exhibits on the bridge itself could be considered mitigation. Historical documentation is considered baseline mitigation for a project of this nature.
  - e. Patrick noted importance of exploring local consultation, such as with the Leavenworth Historical Society, as an additional avenue for exploring mitigation.

# Section 4(f) Evaluation

## Contents

1.0	Introduction and Project Description.....	3
1.1	Project Overview.....	3
1.2	Project Limits and Termini .....	3
1.3	Project Background.....	4
2.0	Purpose and Need.....	4
2.1	Need for Proposed Project .....	4
2.2	Purpose of the Proposed Project .....	7
3.0	Section 4(f) Properties Identified in the Project Study Area .....	7
3.1	Riverfront Park.....	7
3.2	Abernathy Furniture Building .....	8
3.3	Route 92 Centennial Bridge:.....	8
4.0	Proposed Action and Use of Section 4(f) Properties .....	8
5.0	Alternatives Analysis .....	9
5.1	Alternatives Considered - Total Avoidance .....	9
5.2	Other Alternatives Considered .....	10
5.3	Alternatives Summary.....	10
5.4	All Possible Planning to Minimize Harm .....	12
5.5	Summary of Consultation and Coordination with Officials and Jurisdiction .....	13
5.6	Conclusion.....	13

## Section 4(f) Evaluation

---

- Total Avoidance – Not Prudent
  - No Build
  - North Corridor
  - South Corridor
- Rehabilitate / Widen Existing – Not Prudent
  - Widen existing bridge
  - Conversion to 2-lane eastbound/westbound movements
  - Conversion to pedestrian bridge
- Replacement

# Mitigation

---

- Archival documentation
  - Photographs
  - Original Construction Plans
  - Historical Documentation
  - Drone footage
- Aesthetic features
  - Incorporate aspects of existing bridge
  - Overlooks
  - Fencing, Railing, Lighting





# Aesthetics Concepts: Overlook

---



# Aesthetics Concepts: Railing, Fencing, Lighting

---





# Aesthetics

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# Meeting Minutes

Project: KDOT Route 92 Centennial Bridge

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Subject: Section 106 / 4(f) – Mitigation for Adverse Effect

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Date: Wednesday, June 28, 2023

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Location: MS Teams Teleconference

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Attendees: Mary Ann Brown (LV Historical Soc)  
Jennifer Schwaller (HDR)  
Chris Deffenbaugh (HDR)  
Sam Cicero (HDR)

---

## 1 Project Overview & Background

- see attached presentation materials
  - An environmental review was completed, a key determination was Adverse Effect on the existing Centennial Bridge, which is eligible for listing on the NRHP. Replacement of bridge was determined to be prudent and feasible.
- 

## 2 MOA & Mitigations

- Provided an overview of proposed mitigations, including archival documentation and incorporation of aesthetic features. Example renderings reviewed.
  - Historical Society very interested in an in-kind replacement; i.e., a bridge with arches like the existing bridge. Jennifer explained that the cost for an iconic bridge is prohibitive to the project. Jennifer to gather cost information for an in-kind replacement.
  - Mary Ann described the rich history of Leavenworth, noting often over-shadowed by the presence of the prisons. History of the area, not just the prison, is important to the tourism of the area. Bridge is a gateway to the town.
  - Discussed pedestrian components of the new bridge.
  - Discussed proposed aesthetic components of the new bridge. Mary Ann supports use of the blue and liked the nod to the current bridge, but concerned that visitors and/or people new to Leavenworth won't know that's the intent. Discussed placement of an exhibit on the bridge that shows the old bridge to help alleviate this.
-

# Section 4(f) Evaluation

## Contents

1.0	Introduction and Project Description.....	3
1.1	Project Overview.....	3
1.2	Project Limits and Termini .....	3
1.3	Project Background.....	4
2.0	Purpose and Need.....	4
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## Section 4(f) Evaluation

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- Total Avoidance – Not Prudent
  - No Build
  - North Corridor
  - South Corridor
- Rehabilitate / Widen Existing – Not Prudent
  - Widen existing bridge
  - Conversion to 2-lane eastbound/westbound movements
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- Replacement

# Mitigation

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  - Photographs
  - Original Construction Plans
  - Historical Documentation
  - Drone footage
- Aesthetic features
  - Incorporate aspects of existing bridge
  - Overlooks
  - Fencing, Railing, Lighting





# Aesthetics Concepts: Overlook

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# Aesthetics Concepts: Railing, Fencing, Lighting

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# Aesthetics

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Dwight D. Eisenhower State Office Building  
700 S.W. Harrison Street  
Topeka, KS 66603-3745

Calvin E. Reed, P.E., Secretary  
Debbie Tanking, P.E., Chief



Phone: 785-296-3901  
Fax: 785-296-6946  
kdot#publicinfo@ks.gov  
<http://www.ksdot.org>  
Laura Kelly, Governor

July 24, 2023

Mr. Steve Grant  
Director  
Leavenworth Parks and Recreation  
100 N 5<sup>th</sup> Street  
Leavenworth, KS 66048

Subject: Route 92 Centennial Bridge Replacement - KDOT Project No 092-052 KA-6016-01  
Environmental Assessment – Riverfront Park Impacts  
Leavenworth County, KS | Platte County, MO

Dear Mr. Grant:

On behalf of the Federal Highway Administration (FHWA) and in cooperation with the Missouri Department of Transportation (MoDOT), we are providing this correspondence to coordinate potential impacts to Riverfront Park by the proposed project which would replace the existing Route 92 Centennial Bridge over the Missouri River, located in Leavenworth County, Kansas and Platte County, Missouri. The project limits are defined as the portion of Route 92 from just west of the Sherman Avenue/Route 92 intersection within the City of Leavenworth on the Kansas side of the Missouri River to just east of the Route 92/Spur Route 45 intersection on the Missouri side. This project is proposed to be constructed with state and federal dollars, and as such, an Environmental Assessment (EA), in accordance with National Environmental Policy Act (NEPA) is being developed. The project impacts are also evaluated pursuant to Section 4(f) of the Department of Transportation Act of 1966 (U.S. DOT Act), which is a provision of a federal transportation law (Title 49, USC 303) that provides protection to public parks, historic sites, and wildlife refuges. Riverfront Park, which is within the project limits is a property protected under Section 4(f).

The project may impact Riverfront Park through temporary construction access, demolition of the original bridge, and placement of a new bridge pier. These impacts may require relocation of existing signage, removal of trees, relocation of parking spaces, and temporary closure of the park for safety reasons, which could span up to two years. Based on previous coordination with Leavenworth Parks and Recreation, impacted signage, trees, and parking spaces would be replaced in-kind. The existing trees likely to be impacted have been inventoried (provided under separate cover) and would be replaced with species that are suitable to the habitat and with an equivalent number of individuals as to match the size class of the removed trees. KDOT will work closely with the Leavenworth Parks and Recreation Department and the Leavenworth City Commission to communicate closings of the park to park users during bridge demolition and construction. Boat ramp access associated with the park could likely remain open for most of construction, but some temporary closures are anticipated. KDOT will work closely with the Leavenworth Parks and Recreation department to communicate closings of the boat ramp to users. When construction is complete, the condition of the park would be equal to or better than existing conditions.



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After careful review of the resources associated with the Riverfront Park and consultation with Leavenworth Parks and Recreation, KDOT, in coordination with FHWA, has determined that the project would result in a *de minimis*, or minimal, impact to the Riverfront Park facilities. The project would temporarily occupy the park for less time than the total duration of the project construction and restore the park to original or better condition. Therefore, the project would not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f). Per guidance relative to Section 4(f) of the U.S. DOT Act, the FHWA and KDOT are required to also inform the public of these impacts and allow 45 days for comment. KDOT is seeking your concurrence with these findings for inclusion in the EA. Following the release and public review of the EA, your concurrence will permit FHWA to conclude its Section 4(f) responsibility, with respect to these resources, with a determination that the project will have *de minimis* impacts on the resources. If in agreement with these findings, please indicate your concurrence by signing and dating this letter in the space below and returning a copy.

Please respond within 15 days if you have any objections or if you need additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Th Hussa".

Thomas Hussa, PE  
Road Design Leader

Enclosures

Cc: Javier Ahumada, FHWA  
Cliff Ehrlich, KDOT

As the official with jurisdiction over the referenced resources,  (do) /  (do not) concur in the above determination.

Signed: \_\_\_\_\_

A handwritten signature in black ink, appearing to read "Steve Ye".

Date: \_\_\_\_\_

7/26/23



# Meeting Minutes

Project: KDOT Route 92 Centennial Bridge

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Subject: Section 106 / 4(f)

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Date: Tuesday, August 01, 2023

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Location: MS Teams Teleconference

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Attendees: Carol Ayres (LV Historical Soc)  
Jennifer Schwaller (HDR)  
Chris Deffenbaugh (HDR)  
Sam Cicero (HDR)

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## 1 Project Overview & Background

- Carol has assumed role of Historical Society president.
  - Reviewed attached presentation materials
- 

## 2 MOA & Mitigations

- Provided an overview of proposed mitigations, including archival documentation, incorporation of aesthetic features, and salvaging of plaque.
  - Carol is supportive of mitigation measures. Wants to ensure safety on the bridge, and would like to see higher fencing, as tall as what is over the UP rail lines all the way across.
  - Carol would be signee of the MOA if the board approves.
-



# Section 4(f) Evaluation

## Contents

1.0	Introduction and Project Description.....	3
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1.2	Project Limits and Termini .....	3
1.3	Project Background.....	4
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2.2	Purpose of the Proposed Project .....	7
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5.6	Conclusion.....	13

## Section 4(f) Evaluation

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- Total Avoidance – Not Prudent
  - No Build
  - North Corridor
  - South Corridor
- Rehabilitate / Widen Existing – Not Prudent
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# Mitigation

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- Archival documentation
  - Photographs
  - Original Construction Plans
  - Historical Documentation
  - Drone footage
- Aesthetic features
  - Incorporate aspects of existing bridge
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  - Fencing, Railing, Lighting



# Aesthetics Concepts: Overlook

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# Aesthetics Concepts: Railing, Fencing, Lighting

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# Aesthetics

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- Mary Ann expressed concerns that public may not understand that a signature bridge with arches similar to existing is not proposed. Images have been shown to the public, including an image looking towards the bridge from the river. Mary Ann said it would be helpful to include a notation that specifically states no arches. Eric Skov made a suggestion to overlay the artist rendering on the existing bridge at future public engagement events.
  - Jeffrey and Charles have no concerns or questions at this time.
  - Katrina confirmed with Mary Ann that the Leavenworth Historical Society does want one of the plaques from the existing bridge.
  - Katrina confirmed that archival documentation is sound mitigation. Also inquired about the monument and whether it would include pieces of the existing bridge. Cory clarified that the metal elements to the monument would not be from the existing bridge. He also noted that the City of Leavenworth is a financial partner to the monument.
  - Next steps include review of the 4(f) and MOA documents by all parties. Javier requested that all parties review as quickly as possible. FHWA will also complete a legal sufficiency review.
-



# Consulting Parties Meeting Centennial Bridge

January 11, 2024



092-052 KA-6016-01

1

## Agenda



- Introductions
- Project Overview & Background
- Section 4(f) Evaluation
- MOA & Mitigations

2

## Project Overview

- Replace Existing Centennial Bridge
- Expansion of Approach Roadway in Kansas and Missouri



3

## A Vital Connection



### THE CURRENT BRIDGE:

- Serves an important transportation role.
- Has outlived its functional lifespan.
- Only has two lanes — one in each direction.
- Does not have a combined use pedestrian and bicycle path.
- Is vulnerable to flood damage from erosion, debris and barge collisions.
- Creates logistical challenges for Fort Leavenworth.

4

## Project Team



5

## Project Background



- **Advance Preliminary Engineering (APE) Study (2016)**
  - Tolling and Revenue Study
  - Concept Design
- **Preliminary Design (2022)**
  - APE Study Refresh
  - Environmental Assessment
  - Stakeholder Engagement



6

## Impact Summary

RESOURCE	MEASURE	NO-BUILD ALTERNATIVE	PREFERRED ALTERNATIVE
Residential Land Use	Acres Impacted	0	0
Parks and Recreation and Section 4(f) / 6(f)	Number of Facilities	0	2; Riverfront Park and Centennial Bridge
Historical Sites and Districts	Number of Sites/Districts	0	1; Centennial Bridge
Wetlands and Waters of the United States	Acres Impacted	0	2.93 acres of wetlands and 2.75 acres of stream
Floodplains and Floodways	Resource Impacted	No	Yes
Threatened and Endangered Species	Number of Species Impacted	0	4; not likely to adversely affect
Noise	Quantity	0	No significant change in dBA to noise receptors
Visual	Overall Impacts	No	No adverse effects

Adverse Effect

7

## Section 4(f) Evaluation

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9

## Section 4(f) Evaluation – Cost Comparison

Alternatives	Color	FY27	With Arch
		Constuction Cost (\$)	Alternative (\$)
On-Alignment	Blue	\$ 156,990,000	\$ 165,990,000
North	Yellow	\$ 158,284,730	\$ 167,284,730
South 1	Orange	\$ 215,975,490	\$ 224,975,490
South 2	Orange	\$ 211,663,738	\$ 220,663,738



10

## Mitigation

- Archival documentation
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- Aesthetic features
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11



## AESTHETIC CONCEPTS

- Designed using stakeholder input.
- Incorporates features of the current bridge (arches and color)
- Variable height arched railing over railroad.

Please note that design and aesthetic features may change due to permitting or construction needs.

12



## Aesthetics Concepts: Railing, Fencing, Lighting

- Designed in collaboration with stakeholders.
- Meets FHWA, Kansas and Missouri DOT, and Railroad safety standards.
- Incorporate aspects of the current Centennial Bridge.



13

## Aesthetics Concepts: Overlook

- Two overlooks with seating areas.
- Scenic views face south toward the City of Leavenworth.



Please note that design and aesthetic features may change due to permitting or construction needs.

14

## Aesthetics Concepts: Monument

- Highlighting the City of Leavenworth



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**LEAVENWORTH PRESERVATION COMMISSION  
COMMISSION CHAMBERS, CITY HALL  
100 N. 5<sup>th</sup> Street  
Leavenworth, KS 66048**

**REGULAR SESSION  
Wednesday, February 7, 2024  
6:00 p.m.**

**AGENDA**

CALL TO ORDER:

- 1. Roll Call/Establish Quorum**

OLD BUSINESS:

**None**

NEW BUSINESS:

- 1. CENTENNIAL BRIDGE PROJECT DISCUSSION**

OTHER BUSINESS/CORRESPONDENCE:

**None**

ADJOURN



# Consulting Parties Meeting Centennial Bridge

January 11, 2024



092-052 KA-6016-01

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