NEPA Re-evaluation of the

I-70 Second Tier

Section of Independent Utility 4

Environmental Impact Statement

for

Boone County, From Just East of Route BB to Route Z

December 7, 2023

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List of Abbreviations and Acronyms

ADT	Average Daily Traffic
ACS	American Community Survey
AASHTO	American Association of State Highway and Transportation Officials
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practices
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CLOMR	Conditional Letter of Map Revision
CWA	Clean Water Act
DND	Do Not Disturb
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
INFRA	Infrastructure for Rebuilding America
IPaC	Information for Planning and Consultation
I-70	Interstate 70
LAA	Likely to Adversely Affect
LOMR	Letter of Map Revision
LOS	Level of Service
LUST	Leaking Underground Storage Tank
LWCF	Land and Water Conservation Fund
MDNR	Missouri Department of Natural Resources
MoDOT	Missouri Department of Transportation
NHD	National Heritage Database
NEPA	National Environmental Policy Act
NHPP	National Highway Performance Program
NLAA	Not Likely to Adversely Affect
NPL	National Priorities List
NRHP	National Register of Historic Places
NRCS	National Resource Conservation Service
RCRIS	Resource Conservation and Recovery Information System
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SHPO	State Historic Preservation Officer
SIU	Section of Independent Utility

SEMA	State Emergency Management Agency
SEIS	Supplemental Environmental Impact Statement
SHWS	State Hazardous Waste Site
STIP	Statewide Transportation Improvement Program
TSD	Treatment, Storage and Disposal
USACE	U.S. Army Corps of Engineers
USCB	U.S. Census Bureau
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USDOT	U.S. Department of Transportation
VAU	Visual Assessment Unit
WOUS	Waters of the U.S.
WRP	Wetlands Reserve Program

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Introduction

The study area for this re-evaluation is defined as the entirety of Section of Independent Utility (SIU) 4 of the I-70 corridor, from just east of, but not including the Missouri Route BB interchange (Exit 115) to just east of the Missouri Route Z interchange (Exit 133), Boone County (**Figure 1**). SIU 4 includes portions of three MoDOT Job Numbers – ST0017, ST0021, and 5S3411.

Previous environmental studies related to proposed improvements along I-70 include the 2001 Interstate 70 Corridor First Tier Environmental Impact Statement (EIS) and Record of Decision (ROD) signed December 18, 2001; the Final 2005 Second Tier EIS and ROD for the I-70 Section of Independent Utility (SIU) 4 signed April 27, 2006; and the 2009 Supplemental EIS and ROD for Truck-Only Lanes signed August 14, 2009, which supplemented the previous first and second tier studies. The 2009 Truck-Only Lanes ROD was amended on December 5, 2023, can be found in **Appendix J**.

The Federal Highway Administration (FHWA) and MoDOT's Engineering Policy Guide require a re-evaluation when there has been more than three years since the ROD was signed or when changes related to the original study have occurred. A re-evaluation also requires validating the original purpose and need. Due to the extent of time between the current project and the previous environmental studies, a re-evaluation of the 2006 SIU 4 Second Tier EIS is required in accordance with the National Environmental Policy Act (NEPA) (23 Code of Federal Regulations [CFR] 771.129) and associated laws. Other than the NEPA documents mentioned above, no other Re-evaluations have been performed within SIU 4.

Figure 1: SIU 4 Project Location

MoDOT Job Numbers ST0017, ST0021, and 5S3411 are currently funded to provide three lanes along I-70 in each direction with the following tentative completion dates:

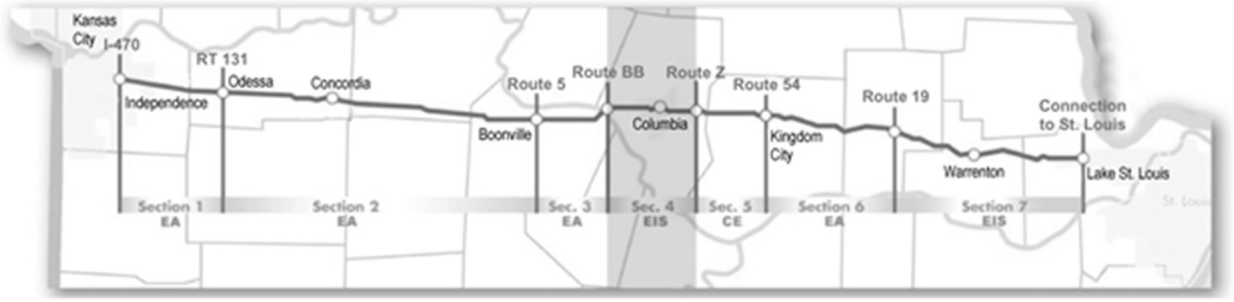
- Modify interchange configuration, bridge rehabilitation and pavement resurfacing at I-70. Includes pavement resurfacing on I-70, N and S Outer Road 70 East, Rte. PP, Rte. 63, Rte. 163, Rte. 763, and Loop 70. Design-Build. Project potentially involves various bridges. (5S3411) – Anticipated Award Date January 2024
- Safety and capacity improvements from Boonville to Rte. 740 (Stadium Boulevard) in Columbia. Potential Design-Build. (ST0017) – Anticipated Award Date 2026

- Safety and capacity improvements from Rte. 740 (Stadium Boulevard) in Columbia to Rte. Z. Potential Design-Build. (ST0021) – Anticipated Award Date January 2024

Background

In the fall of 1999, MoDOT initiated a tiered environmental decision-making process, referred to as Improve I-70 First Tier Study, to evaluate strategies for improving the I-70 corridor in Missouri between the metropolitan areas of Kansas City and St. Louis. The tiering process allowed for a focus on corridor-wide issues and reduced repetition in environmental documentation. First tier decisions frame and narrow the scope of second tier studies and related decisions. The Second Tier Studies, known collectively as Improve I-70, looked more specifically at the recommended strategies and their local impacts. To ensure an appropriate level of detail, the Improve I-70 Second Tier program divided the interstate into seven different geographic sections, each with its own environmental study and recommendations (**Figure 2**).

Figure 2: Improve I-70 First Tier Study Area and Second Tier SIUs



The Interstate 70 Corridor First Tier EIS was prepared to aid in determining the most appropriate type of improvement concept for I-70. The ROD, approved by FHWA in 2001, selected the "Widen Existing I-70 Strategy" as the Selected Alternative. This strategy would improve existing I-70 by adding one lane in each direction, resulting in three in each direction, in rural areas and a minimum of eight lanes, four in each direction, through Columbia and in the metropolitan areas of Kansas City and St. Louis. The Selected Alternative also included improved access management, reconstruction of the existing roadway to enhance safety and performance, and provisions for future transportation improvements within the median.

In 2005, the Second Tier EIS was completed with a ROD in 2006, assessing impacts specific to SIU 4, from just east of Route BB to just east of Route Z, Boone County. In general, the selected alternative included an additional lane in each direction, the replacement of all existing interchanges and overpasses, access management where appropriate, and the provision for continuous frontage roads on both sides of I-70 as deemed necessary.

Building on the work of the first and second tier studies, MoDOT initiated a Supplemental Environmental Impact Statement (SEIS) to evaluate the impacts of a new strategy for I-70 consisting of dedicated truck-only lanes. Approved in a 2009 ROD, the Truck-Only Lanes Strategy would construct two truck-only lanes and two or more general purpose lanes in each direction along existing I-70. Depending on the location along the corridor, concrete barriers, buffer separations or grassed areas would separate the truck-only lanes and general-purpose lanes from each other. This strategy was determined to be consistent with

the decisions made in the 2001 ROD, as it would fit within the limits of the previously evaluated footprint, to the extent possible, utilizing the preserved future transportation corridor identified in the Widen Existing I-70 Strategy. Interchange features of the Widen Existing I-70 Strategy at the majority of the interchanges along the corridor would also be retained.

On December 5, 2023, an Amended ROD to the 2009 SEIS, was signed by FHWA. In accordance with 23 CFR 771.127(b), the Amended ROD selects the 2001 FEIS and ROD's Preferred Alternative, widening of the I-70 corridor to six general-purpose travel lanes, which was fully evaluated in the study. The Amended ROD can be found in **Appendix J**.

2023 Re-evaluation

MoDOT proposes to re-evaluate the study area as defined as the entirety of SIU 4 of the I-70 corridor, from just east of, but not including the Missouri Route BB interchange (Exit 115) to just east of the Missouri Route Z interchange (Exit 133), Boone County (**Figure 1**).

Portions of the proposed improvements to SIU 4 are currently possible due to funding provided by the NHPP and are included in MoDOT's STIP for construction in the fiscal years 2024-2028. Portions of ST0017 (Booneville to Stadium) and the entirety of ST0021 (Stadium to Route Z) and 5S3411 (Connector interchange, bridge rehabilitation, and resurfacing of I-70) are included in MoDOT's 2024-2028 STIP.

The I-70 build out evaluated in the tiered EIS and subsequent SEIS remains an important objective for the future of the I-70 corridor.

Purpose and Need

As noted in the 2001 First Tier EIS, the goal of I-70 improvements along the entire Missouri corridor is to provide a safe, efficient, environmentally sound and cost-effective transportation facility that responds to the needs of the study corridor and to the expectations of a nationally important interstate. Additionally, the 2005 Second Tier EIS documented the development of the purpose and need for the SIU 4 improvements. The specific purpose and need addressed by the proposed action in SIU 4 is summarized as follows:

- **Accommodate existing and future traffic volumes on I-70;**
- **Improve outdated I-70 design elements;**
- **Accommodate all users of I-70; and**
- **Improve user safety.**

The 2009 SEIS did not alter the project's purpose and need. Therefore, the 2005 Second Tier EIS purpose and need was reviewed to ensure validity as part of this current re-evaluation. Each purpose and need element are discussed below.

Accommodate Existing and Future Traffic Volumes on I-70

After a re-evaluation of SIU 4, the overall volume of traffic on I-70 is estimated to grow at least by 25 percent between 2021 and 2045[1]. With the No-Build Alternative, these increases would result in poor operational conditions for travelers on I-70. One element of the purpose and need is to develop alternatives that accommodate both existing and projected traffic volumes.

Table 1 summarizes traffic volume projections for existing, opening (when construction is complete), and design year conditions by roadway section under the No-Build Alternative. The projections are given in Average Daily Traffic (ADT). In 2021, existing I-70 traffic volumes ranged from 34,010 to 65,500 vehicles per day. In 2025, I-70 traffic volumes are expected to range from 35,990 to 69,030 and eventually reach a range of 41,270 to 83,040 by year 2045. Nearly every portion of the system would experience a significant increase in volume. The largest increase — an estimated thirty-three percent (32.8 percent) increase in traffic — occurs between the Connector and St. Charles Road. Both the overall magnitude of the volumes and the projected increases vary by location within the corridor. **Table 1** shows that the total volume of traffic within the Columbia parts of I-70 is higher than at the eastern or western ends. Within Columbia, 2045 ADT volumes routinely exceed 70,000. Conversely, the traffic increases (on a percentage basis) are higher in the non-Columbia areas.

Table 1: Existing & No-Build I-70 Traffic Volumes

SIU 4 Subsection	2021 Average Daily Traffic	2025 Average Daily Traffic	2045 Average Daily Traffic
1. MO-BB to MO-J/O	34,010	36,480	44,980
2. MO-J/O to US 40	34,400	36,880	45,420
3. US 40 to MO-740	45,190	47,360	55,920
4. MO-740 to Business Loop West	58,790	61,840	73,470
5. Business Loop West to MO-163	65,500	69,030	83,040
6. MO-163 to MO-763	64,260	67,660	81,140
7. MO-763 to Business Loop East	56,400	59,640	72,290
8. Business Loop East to US 63	57,790	61,170	74,610
9. US 63 to St. Charles Road	45,360	48,760	60,280
10. St. Charles Road to MO-Z	34,760	35,990	41,270
Note: The Average Daily Traffic volumes were projected from the Access Justification Report (2023) future projections by use of a 10 percent K-Factor applied to the highest projected peak hour volume in both directions of travel on I-70. Both the eastbound and westbound direction of I-70 experience the heaviest volumes in the evening peak hour.			

As part of the SIU 4 EIS re-evaluation, the I-70 corridor subsections (**Figure 1**) are considered to fall under the urban category (for design purposes), except for the westernmost sections near the project limits, from just east of Route BB and US 40 (Midway). The distinction between urban and rural pertains primarily to existing conditions and anticipated future development. In the urban area, the 2021 traffic

[1] The project's ultimate traffic condition.

volumes range from 34,760 to 65,500. In 2045, the urban volumes increase to between 55,920 and 83,040, an estimated twenty-six percent (26 percent) growth in traffic. The rural segments, west of the US 40 interchange with I-70, are projected to increase from a maximum observed ADT of 34,400 to a projected maximum of 45,420. This results in an average thirty-two (32 percent) percent addition of traffic to the I-70 corridor.

The significant increase in projected ADT over the next 20 years will only further contribute to the existing and observed traffic congestion along the I-70 corridor. The project is aimed at alleviating both this existing and projected congestion within the Columbia area as well as equipping the I-70 facility with the proper capacity and interchange configurations for the expected growth on the outskirts of the urban area.

Improve Outdated I-70 Design Elements

For the original Improve I-70 study, MoDOT adopted stringent minimum design criteria. For the purposes of this re-evaluation, the design criteria for I-70 will follow MoDOT's EPG and provisions of the American Association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design of Highway and Streets, 2001, Fourth Edition, and a Policy on Design Standards - Interstate System, 2016, where possible.

Accommodate All Users of I-70

Interstate 70 is the primary east-west link across the state of Missouri and Columbia is approximately equidistant between the major population centers of Kansas City and St. Louis. This corridor plays an important role in moving freight and general inter/intra-state travel. Because this portion of I-70 runs through the City of Columbia, it is also an important piece of that local network. There are a number of interchanges within Columbia that allow local users to enter and exit I-70 throughout the city. This creates conflicts between existing traffic streams with different purposes. Trucks present an additional challenge because of their size and limited maneuverability.

There are several distinct traffic streams on I-70 in SIU 4. There is a substantial truck component, traditional long-distance (through) traffic and the local traffic stream associated with Columbia.

As noted, I-70 bisects the city of Columbia. This can cause I-70 to be seen as a barrier to vehicular and pedestrian traffic within Columbia. The ability to cross I-70 is important for local connectivity. The implementation of a Selected Alternative that effectively incorporates local connectivity is key to accommodating all users of I-70.

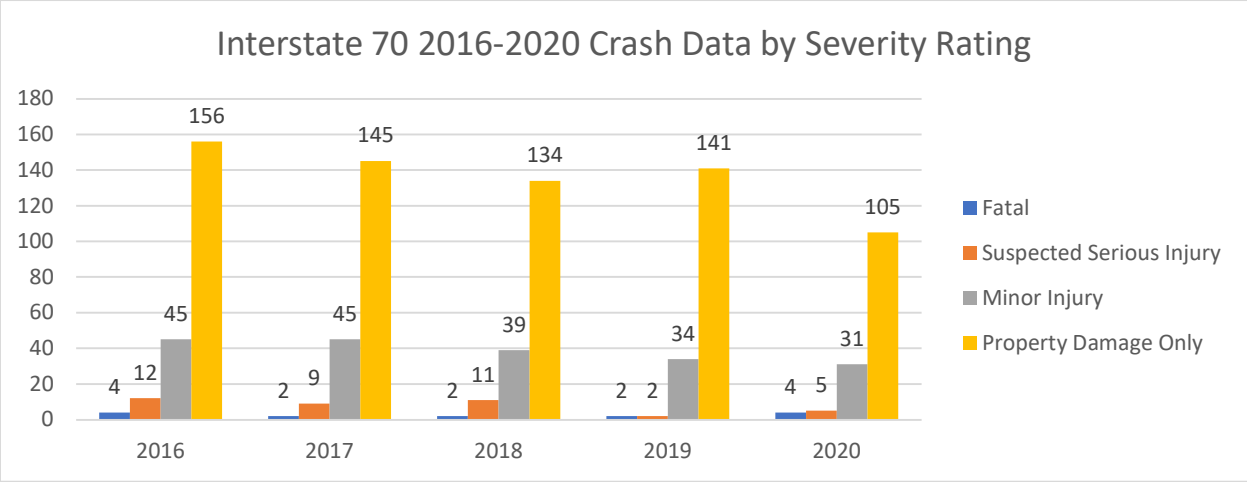
Improve User Safety

Missouri's Blueprint for Safer Roads (State Strategic Highway Safety Plan) calls for the vision of zero traffic fatalities on Missouri roadways. As part of Missouri's plan, this project utilizes data-driven safety analysis to identify crash types and trends, prioritize safety, and quantify safety impacts of roadway improvements. As traffic volumes are expected to increase on the corridor in future years, the number

of crashes will proportionally increase. As part of Missouri's vision of zero deaths, one purpose and need element is to ensure a safe roadway for all users.

The Re-evaluation analyzed crash records for the five-year period between 2016 and 2020. A total of 928 crashes occurred along I-70, in SIU 4, during the study period. Of those crashes, 488 occurred on I-70 E and 440 of those crashes occurred on I-70 W. A breakdown of the total crashes and crash severities is shown in **Figure 3** and **Table 2** below.

Figure 3: I-70 Crashes by Severity Rating



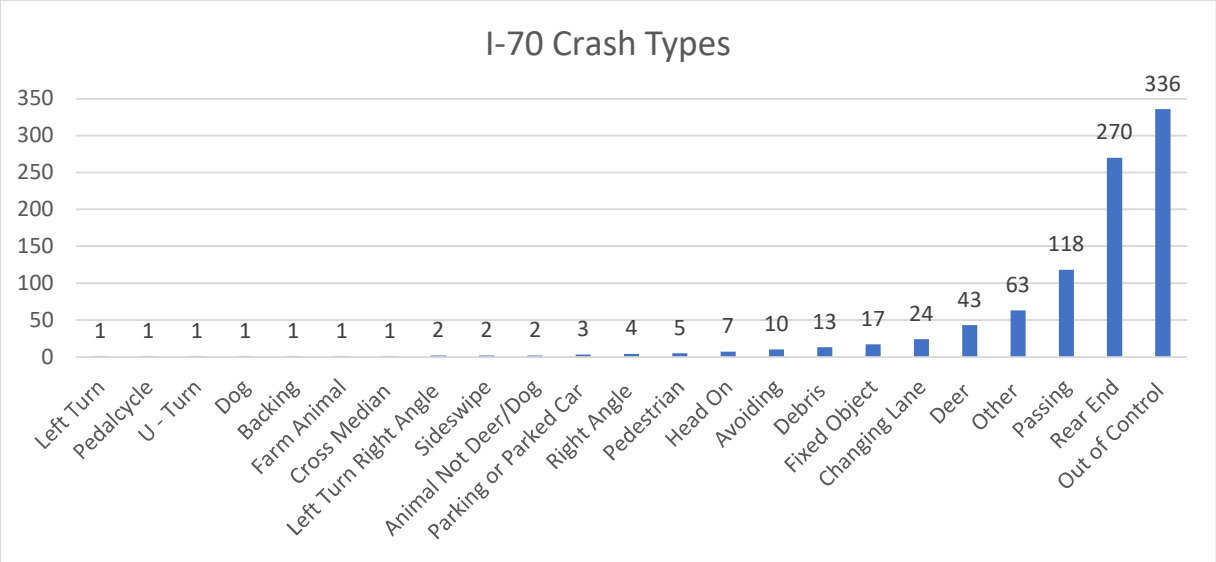
Overall, a total of 14 fatal crashes (2 percent), 39 suspected serious/disabling injury crashes (4 percent), and 194 minor injury crashes (21 percent) occurred within the last 5 years along SIU 4. A total of 681 crashes resulted in property damage only (73 percent). The vast majority of these crashes occurred in dry conditions (70 percent) and more than one-third of the crashes occurred in daylight conditions (68 percent). The crashes broken out by segments from interchange to interchange are shown in the table below.

Table 2: Crashes by Segment

SIU 4	Property Damage Only	Injury	Fatal	Total
MO-BB to MO-J/O	70	17	1	88
MO-J/O to US 40	107	23	2	132
US 40 to MO-740	159	48	4	211
MO-740 to Bus Loop West	54	18	1	73
Bus Loop West to MO-163	38	12	1	51
MO-163 to MO-763	31	16	1	48
MO-763 to Bus Loop East	54	32	0	86
Bus Loop East to US 63	21	10	0	31
US 63 to St. Charles Road	39	33	3	75
St. Charles Road to MO-Z	108	24	1	133
Total	**681**	**233**	**14**	**928**

Analyzing the crash types a corridor is experiencing can point to what safety issues the corridor is experiencing and help in identifying potential opportunities for mitigation or countermeasures. The breakdown of crashes by type along I-70 is shown in **Figure 4** below.

Figure 4: I-70 Crash Types



As shown in the figure above, the top three crash types along the corridor are out of control, rear end, and passing. These types of crashes can be associated with congestion, sudden unexpected speed differential, or vehicles attempting to pass.

The proposed improvements to I-70 would have a safety benefit. A predictive safety analysis was conducted using methodology consistent with AASHTO's Highway Safety Manual to assess the existing safety performance of the interstate, ramp terminals, and interchanges along the I-70 corridor. The

Interchange Safety Analysis Tool (ISATe) analysis provides a general indication of safety performance in terms of number of crashes based on roadway configuration and crash history and the proposed safety benefits of the improvements. To determine the potential change in safety each alternative presents, the No-Build 2045 condition was compared to the 2045 Build Alternatives. Table 3 below shows the anticipated change in crashes along the I-70 corridor.

Table 3: 2045 Predicted Crash Severity for No-Build and Build Alternative

Facility	Crash Severity						
	Fatal	A-Injury	B-Injury	C-Injury	Injury & Fatal	PDO	Total
No Build 2045 Predicted							
Freeway Segments	0.9	2.4	13.1	24.8	41.2	185.4	226.7
Ramp Segments	0.1	0.4	1.9	2.8	5.2	7.3	12.5
Crossroad ramp terminals	0.0	0.7	4.9	22.4	28.0	59.4	87.4
Total I-70 Corridor Crashes	1.1	3.5	19.8	50.1	74.5	252.1	326.7
Alt 1 (Selected Alternative) 2045 Predicted							
Freeway Segments	0.8	2.2	11.6	18.4	33.1	144.2	177.2
Ramp Segments	0.2	0.7	3.5	6.1	10.5	15.0	25.6
Crossroad ramp terminals	0.0	0.6	4.1	20.3	25.1	51.2	76.3
Total I-70 Corridor Crashes	1.1	3.5	19.3	44.8	68.7	210.4	279.0

As shown in the table above, proposed improvements to I-70 would yield added safety benefits. The results of the ISATe analysis show that crashes are anticipated to decrease with the added third lane along the freeway segment, particularly with a decrease in Injury and Fatal and Property Damage Only crashes. The ramp segments are slightly higher than the predicted No-Build analysis. This can be attributed to the existing inconsistent lane and shoulder widths along the corridor. It is also important to note that these models do not consider traffic congestion that is alleviated by the proposed improvements. Overall, the safety analysis indicates that elements in the Selected Alternative reduce crashes compared to the No-Build scenario.

Alternatives Development

Reasonable Alternatives

In the 2005 EIS, the alternatives analyzed included the desirability of bypassing the Columbia portion of SIU 4 along I-70, the possibility of implementing alternatives that would not require the complete reconstruction of the existing corridor (such as a No-Build Alternative or transportation demand/management) as well as various complete reconstruction alternatives.

The addition of the third lane along mainline I-70 was examined based on current conditions and determined to be the strategy to be carried forward for more detailed analysis. This is consistent with the 2005 EIS.

Reasonable alternatives must fulfill the purpose and need of the project and must be practical and feasible from engineering, environmental and economic standpoints. **Table 4** includes the reasonable alternatives considered and the alternative at each location identified as the Selected Alternative based on more detailed screening. More detail on the screening of alternatives can be found in the Selected Alternative Identification Technical Memorandum (**Appendix A**).

Table 4: Proposed Reasonable Alternatives

Location	Proposed Reasonable Alternatives		
	Alternative 1	**Alternative 2**	**Alternative 3**
West Termini to Routes J/O Interchange	I-70 Widening*		
Routes J/O Interchange	Routes J/O North and South Outer Road*	Routes J/O South Outer Road	
Outer Road from Routes J/O Interchange to US 40 Interchange, Widening I-70	South Outer Road Connections*		
US 40/Midway Interchange	Interchange Realignment*	West Sugar Creek Connection	
Outer Road US 40 to Stadium, Widening I-70	South Outer Road Connection*	North Outer Road Connection	
Stadium Boulevard Interchange	North Outer Road with South Outer Road Improvements Between Silvey and Stadium via Bernadette*	Improve Existing South Outer Road	
Business Loop 70 West Interchange	Minimum Build*		
Providence/Rangeline Interchanges	Minor Collector-Distributor*	Major Collector-Distributor	
I-70/US 63 Connector Interchange	Directional Flyover ramps, Single Point Urban Interchange*	Directional/Loop ramps, Diverging Diamond Interchange	No directional ramps, Diamond Interchange
US 63 to St. Charles Interchange	I-70 Widening*		
St. Charles/Lake of the Woods Interchange	Diamond with Realigned South Outer Road	Tight Diamond*	
St. Charles to Route Z Interchange	I-70 Widening*		
Route Z Interchange	Diamond Interchange*		

*Indicates the Selected Alternative

Selected Alternative

In consideration of the Purpose and Need as well as screening of the potential impacts, a Selected Alternative has been identified for the Re-evaluation of SIU 4. The Selected Alternative is:

- Consistent with the SIU 4 EIS recommendation.
- Improves Level of Service to acceptable performance.
- Reduces Fatal and Injury crashes on mainline I-70 by 24 percent.
- Reduces Property Damage Only crashes on mainline I-70 by 26 percent.
- Provides flexibility in developing implementation solutions.
- Received the most stakeholder support.

A comparison between the Selected Alternative configuration from the 2005 SIU 4 ROD and the Selected Alternative configuration from this SIU 4 EIS Re-evaluation are shown in **Table 5**. Modifications from the 2006 SIU 4 ROD's Selected Alternative are highlighted in bold, italics, and underlined. Comments related to the SIU 4 EIS Re-valuation's Selected Alternative and the ROD's Selected Alternative are provided in the far-right column.

As noted in **Table 5**, the modifications to this Re-evaluation's Selected Alternative from the ROD's Selected Alternative are minor in nature and remain consistent with the overall goals, operations, performance, and related impacts within the SIU 4 corridor. The Stadium, Business Loop I-70 West interchange, Rangeline, and Route Z interchanges were improved by MoDOT since the 2006 ROD and these modifications were retained in the SIU 4 EIS Re-evaluation's Selected Alternative.

The needs addressed by the ROD's Selected Alternative were to accommodate existing and future volumes on I-70, improve outdated I-70 design elements, accommodate all users of I-70, and improve user safety. The refined SIU 4 EIS Re-evaluation's Selected Alternative addresses these needs through minor refinements and implementing interchange configurations not available when the ROD's Selected Alternative was identified. As noted in the table, the minor modifications at the locations noted are consistent with the ROD's Selected Alternative and do not require a Supplemental EIS and new ROD.

One element included in the ROD's Selected Alternative allows for "future" widening of mainline I-70 from the proposed three lanes in each direction to four lanes in each direction from US 40 to Route Z. Based on traffic projections for the SIU 4 EIS Re-evaluation, four lanes will not be required by the design year of 2045. This is also consistent with the funding for portions of SIU 4 included in MoDOT's 2024 – 2028 STIP. Should four lanes be required beyond the design year, MoDOT may elect to construct any new bridges to accommodate a fourth lane in the future. Should MoDOT elect to construct four lanes to I-70 in the future, a new Re-evaluation document would be prepared.

Revisions to the configuration of the Selected Alternative identified in this Re-evaluation document may occur during project delivery. Any modifications to the Selected Alternative, and their related impacts, would need to be assessed for consistency with the findings of this Re-evaluation document. Assuming that any modifications are consistent with the findings of this Re-evaluation document, this Re-evaluation document will remain valid.

The cost estimate for the Selected Alternative is $477,000,000 (in 2022 dollars).

Table 5: Selected Alternative Comparison Between 2005 SIU 4 EIS and SIU 4 EIS Re-evaluation

Location	Component	Selected Alternative Configuration		
		2006 SIU 4 ROD	**SIU 4 EIS Re-evaluation**	**Re-evaluation Selected Alternative Comments**
Western Part of Project Area: Western Terminus to Stadium Interchange	Mainline I-70 between east of Route BB to Stadium	3-lanes in each direction, widening to the south, widened rural median	3-lanes in each direction, ***symmetrical widening, maintain existing median width***	Consistent with ROD's Selected Alternative as there will be three lanes in each direction on I-70 will maintain the existing rural median.
	Outer Roads between Route BB and Route J/O	Continuous south and north outer roads	***Continuous north outer road only***	Consistent with ROD's Selected Alternative as at least one continuous outer road is provided.
	Route J/O Interchange	Improved diamond interchange and extension of ramps, improve north and south outer roads connections for access management	Improved diamond interchange and extension of ramps, improve north and south outer roads connections for access management	Consistent with ROD's Selected Alternative.
	Outer Roads between Route J/O and US 40	Continuous south outer road	Continuous south outer road	Consistent with ROD's Selected Alternative.
	US 40 Interchange	Enhanced diamond interchange, extensions of ramps, improve north and south outer roads connections for access management	Enhanced diamond interchange, extensions of ramps, ***improve skew angle of interchange***, improve north and south outer roads connections for access management	Consistent with ROD's Selected Alternative with the added benefit of addressing the existing interchange skew angle.
	Outer Roads between US 40 and Stadium	Continuous north and south outer roads	***Continuous north outer road only***	Consistent with ROD's Selected Alternative as at least one continuous outer road is provided.
Central Part of the Project Area: Columbia between Stadium and US 63	Stadium interchange	Tight diamond interchange, extension of ramps, new WB I-70 off ramp and EB I-70 on ramp at Fairview	***Existing Diverging diamond interchange (DDI) to remain***, extension of ramps, ***add additional left turn lane for WB I-70 off ramp, south outer relocated to connect to Stadium along Bernadette, no new WB I-70 off ramp or EB I-70 on ramp at Fairview***	Consistent with ROD's Selected Alternative as the new interchange provides similar operational improvements as the ROD's Selected Alternative. The ramps to/from Fairview were intended to alleviate capacity issues on Stadium Blvd. without having to replace the existing bridge. The new DDI and the additional left turn lane on the WB I-70 ramp accomplishes this.
	Mainline I-70 between Stadium and US 63	3-lanes n each direction with room for 4-lanes in each direction, symmetrical widening, urban median	3-lanes n each direction ***~~with room for 4-lanes in each direction~~***, symmetrical widening, urban median	Consistent with ROD's Selected Alternative as there will be three lanes in each direction on I-70 and an urban median.
	Outer roads between Stadium and US 63	Existing outer roads maintained	Existing outer roads maintained	Consistent with ROD's Selected Alternative.
	Business Loop I-70 West interchange	Two-point interchange, extension of ramps	***Existing "dog-bone" interchange retained, extension of ramps, dedicated Business Loop bypass lane from WB Business Loop to EB I-70***	Consistent with ROD's Selected Alternative as the new interchange provides similar operational improvements as the ROD's Selected Alternative. The additional dedicated Business Loop bypass lane provides further operational improvements at the interchange.

Table 5: Selected Alternative Comparison Between 2005 SIU 4 EIS and SIU 4 EIS Re-evaluation (continued)

Location	Component	Selected Alternative Configuration		
		2006 SIU 4 ROD	SIU 4 EIS Re-evaluation	Re-evaluation Selected Alternative Comments
Central Part of the Project Area: Columbia between Stadium and US 63	Providence/Rangeline interchanges/Business Loop East interchange	All three interchanges are a part of a one-way frontage road system	***Collector-distributor roads between Providence and Rangeline, WB I-70 off ramps to Providence and Rangeline are combined, as are the eastbound on ramps. As a result, Rangeline traffic to/from the west must go through the signals at Providence***	Consistent with the ROD's Selected Alternative as the improvements between Providence and Rangeline involve a minor collector-distributor system to address capacity, operations, and addresses the short weave between the two roads. The EB I70 left hand off ramp to Business Loop East is removed, however the improvements to the Rangeline interchange address this movement through the fairly new "dog-bone" interchange constructed at this location.
	I-70/US 63 interchange (Connector)	Four-movement system interchange with a tight diamond interchange at Business 63	Four-movement system interchange with a ***single point urban interchange (SPUI) at Business 63***	Consistent with the ROD's Selected Alternative as the SIU 4 EIS Selected Alternative provides a similar configuration, replaces the tight diamond interchange with a more efficient single point urban interchange. These operational improvements eliminates the need for the SB US 63 Connector fly-over ramp to WB I-70.
Eastern Part of the Project Area: US 63 to Route Z	I-70 mainline	3-lanes n each direction with room for 4-lanes in each direction, symmetrical widening, urban median	3-lanes n each direction ~~***with room for 4-lanes in each direction***~~, symmetrical widening, urban median	Consistent with ROD's Selected Alternative as there will be three lanes in each direction on I-70 and an urban median.
	Outer roads between US 63 and Route Z	Existing outer roads maintained	Existing outer roads maintained	Consistent with ROD's Selected Alternative.
	St. Charles Interchange	Tight diamond interchange, south outer realigned for access management	***Standard Diamond interchange***, south outer realigned for access management	Consistent with ROD's Selected Alternative as the standard diamond interchange achieves the operational improvements of the tight diamond interchange in the ROD's Selected Alternative.
	Route Z interchange	Standard diamond interchange, extension of ramps, realign north and south outer roads for access management	***Existing interchange retained***, extension of ramps	Consistent with the ROD's Selected Alternative as the new/existing interchange at this location is a standard diamond interchange constructed after the 2006 ROD was signed with realigned outer roads to achieve access management criteria.

Public and Agency Coordination

On November 15, 2021, during the planning stages of the project, MoDOT issued a public notice of the proposed I-70 projects and the re-evaluation of the SIU 4 Second Tier EIS completed in 2005. A variety of public coordination tools were utilized to solicit feedback on proposed improvements.

During February and March of 2022, one-on-one discussions were held with key stakeholders. These meetings were held with the City of Columbia, the Loop CID, the Kroenke Group, Boone County Commissioners, and Columbia Chamber of Commerce. All groups were supportive of the project and appreciative to be included and provided with updates on the project.

In early 2022, MoDOT sought individuals and organizations that could provide insight and input on proposed improvements to make up the Community Advisory Group (CAG). The CAG includes various municipal, civic, and business groups. The CAG met in May, July and October 2022.

Two public meetings were held to share information and receive feedback. The first meeting took place on July 21, 2022. This meeting was attended by 76 community members and 25 comments were received. The second meeting took place on November 2, 2022. This meeting provided information on the Reasonable Alternatives throughout the corridor and the Selected Alternative at each location. This meeting was attended by 47 community members and 12 comments were received at the meeting with an additional 21 received during the comment period (October 31 through December 8). A public involvement summary is included in **Appendix B**.

Public comments were received and fit within the following topics:

- Preference for one alternative over another;
- Three lanes in each direction;
- Flyover ramps in 63/70;
- Extend ramps;
- Multimodal considerations;
- Continuous outer roads;
- Bypass I-70.

The substantive comments and responses are included in **Table 6**.

Table 6: SIU 4 Substantive Comments

Comment	Response
Columbia, MO is too large of a city on I-70 to not have a beltway or loop to take traffic off of the main route. I encourage you to take another look at this route and consider a northern route, looping around Columbia. The southern route has too many hills and streams to contend with to create an effective route. Have it start at Route Z and meet at Route J/O. If you can't do a northerly route, expand I-70 to six lanes going through Columbia with better traffic flow onto exits.	A northern bypass was considered in the original EIS but was ultimately dismissed as though traffic would use a northern bypass, the traffic using it was not coming off I-70 and therefore the improvements to I-70 would still be required.

Every driver on I-70 would benefit from a complete bypass of Columbia. The only way to help the current structures is to divert traffic away from the congestion and accident prone areas.	A northern bypass was considered in the original EIS but was ultimately dismissed as though traffic would use a northern bypass, the traffic using it was not coming off I-70 and therefore the improvements to I-70 would still be required.
Just a comment, would a Cloverleaf work, because the flow of traffic would keep moving and that would help to keep the congestion down if the traffic is continually moving and without so many stop lights there may be less accidents in that area. Thank you for letting me make a comment	Thank you for your comment. For reference, your comment is in red below. We did consider a cloverleaf or a fully directional interchange, however the impacts to the local business would be too great to be able to utilize. The local access to Clark Lane and Conley would be highly impacted or eliminated and many businesses displaced to be able to add a cloverleaf, so that option was quickly discontinued. The preferred alternative that we will be sharing Wednesday evening during our public meeting does include two direct fly over ramps connecting northbound US 63 to westbound I70 and eastbound I70 to southbound US 63. Removing these two movements from the Connector removes approximately 17 percent of the volume of traffic from the Connector. This paired with additional lanes, less stop lights, and better flow of traffic within the Connector should reduce congestion and improve safety like you suggest. Thank you again for your suggestion!
Future: Raised I70 above existing I70. Current level would flow one direction and raised flow the opposite direction. (See Huntsville AL). Start at Lake of the Woods intersection ending at Sorels overpass.	A stacked I-70 alternative was considered in the original EIS but was ultimately dismissed due to costs. Much of the Preferred Alternative can be constructed within existing R/W.
1.) In your presentation materials, mark/label the streets/highway 2.) instead of planning 5-10 years ahead, plan 20-50 years ahead. 3.) Be prepared to create an outer loop to I-70 because even adding 1 additional lane each way will not decrease the congestion through town. You figured it out in St. Louis (I-370, etc.) and KC (I-435 & I-470) to allow bypass of in-town traffic.	A northern bypass was considered in the original EIS but was ultimately dismissed as though traffic would use a northern bypass, the traffic using it was not coming off I-70 and therefore the improvements to I-70 would still be required.

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On December 21, 2021, notices were sent to local, state, and federal agencies describing the proposed actions and seeking comments relative to the interests of each agency. Comments were requested by February 1, 2022. U.S. Fish and Wildlife Service (USFWS) responded on January 14, 2022, and noted that their only concerns are related to the listed bat species and the potential need for a bat survey. The Missouri State Historic Preservation Office (SHPO) responded on February 4, 2022, acknowledging receipt of the agency coordination letter. The U.S. Army Corps of Engineers (USACE) reached out on January 21, 2022, acknowledging receipt of the agency coordination letter and to continue to coordinate as permits are required in later stages of the project.

Agency Coordination materials are included in **Appendix H**. The Section 106 Programmatic Agreement was fully executed on August 29, 2023, and is included in **Appendix I**.

Resource Impact Evaluation

The following matrix presents an analysis of resources evaluated in the 2005 Second Tier EIS and describes changes to resources and findings regarding the potential impact on each resource. The matrix identifies resource impacts within SIU 4 and includes a determination of whether the impact has changed or remained the same from the 2005 EIS. A summary table of the impact evaluation findings is provided in **Table 5** following this matrix and a map index identifying environmental resources along the SIU 4 corridor is included in **Appendix C**.

Environmental Re-evaluation Matrix for Interstate 70, SIU 4 Corridor, Second Tier Environmental Impact Statement

Community Impacts	
SIU 4 Corridor - 2005 EIS	
Is there an impact to this resource?	Yes ☐ No ☒
Community resources in the study area included 12 neighborhood associations, four fire stations, six public schools (four within the study area, two near the boundary of the study area), one private school, eight childcare centers, two large hospitals, seven senior citizen facilities, and 18 churches. There were no ambulance service or police stations within the study area. The Boone County Fire Protection District headquarters (not a station, although it fulfills some storage and training functions) would have been directly impacted by any of the Stadium interchange alternatives, including the Selected Alternative. A potential for temporary construction impacts to emergency services routes was identified. One child care center was impacted by the reasonable alternatives. No schools were directly impacted, however, transportation routes might have been affected during construction. Two health care facility properties (Rusk Rehabilitation Property and New Horizons Community Support Services) were partially impacted by the Selected Alternative. Two Senior Citizen centers were partially impacted by the Selected Alternative. Four churches were partially impacted by the Selected Alternative: Columbia United Church of Christ, the First Church of God, the Praise Assembly of God, and the Prairie Grove Baptist Church. Neighborhoods and community cohesion were not anticipated to be impacted by barriers or the nature of them affected by the Selected Alternative. Commercial and industrial enterprises along the corridor include retail, hotels and motels, auto sales, restaurants and taverns, auto repair and other miscellaneous repair shops.	
SIU 4 Corridor Re-Evaluation	
Is there an impact to this resource?	Yes ☐ No ☒
Change since 2005 EIS	More Impacts ☐ No Change ☐ Fewer Impacts ☒
The Re-Evaluation is not expected to permanently impact has identified only one impact to the community resources listed in the EIS. There would continue to be a partial take of right of way from the Prairie Grove Baptist Church, which would not affect the structure or onsite parking. No additional community resources are expected to be impacted by the Selected Alternative. There are still potential temporary construction impacts to emergency services and school bus routes.	

Land Use

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☐ No ☒

The I-70 improvements along the current alignment were consistent with Columbia's Metro 2020 plan. Though there were individual parcels that would have been affected by the Selected Alternative, the overall use of the lands adjacent to the corridor were not expected to change. The project would not have created a barrier to future development.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EIS More Impacts ☐ No Change ☒ Fewer Impacts ☐

Similar to the 2005 EIS, there are impacts to individual parcels, but these are not expected to change the land use along the I-70 corridor.

Right of Way and Displacements

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

The 2005 EIS identified 397 acres of right of way impacts along the entire SIU 4 corridor. The breakdown of these impacts are as follows:

- Residential impacts included 54 acres.
- Commercial impacts included 63 acres.
- Industrial impacts included 9 acres.
- Agricultural (wooded/vacant) impacts included 249 acres.
- Publicly owned parcels included 11 acres.
- Other (e.g., utilities, institutional, fraternal organizations) impacts included 11 acres.

There were 299 residential displacements consisting of 24 single-family residences, 260 multi-family dwelling units and 15 mobile homes. Two senior citizen facilities (located between exits 124/Stadium and 125/BL 70 West) accounted for the majority of the multi-family dwelling units being impacted. There were 66 business operation impacts for the Selected Alternative.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☐ No Change ☐ Fewer Impacts ☒

The Re-Evaluation has identified 299 acres of right of way impacts along the entire SIU 4 corridor. The breakdown of these impacts are as follows:

- Residential impacts include 52 acres.
- Commercial impacts include 57 acres.
- Industrial impacts include less than 1 acre.
- Agricultural (wooded/vacant) impacts include 150 acres.
- Public (Parks and other publicly owned parcels) include 20 acres.
- Other (e.g., utilities, institutional, fraternal organizations) impacts include 7 acres.

There are 18 residential displacements, and 14 business operation impacts for the Selected Alternative.

Applicable Commitment(s):

During right of way acquisition and relocations, MoDOT will assure that this will be accomplished in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. MoDOT is committed to examining ways to further minimize property impacts throughout the corridor, without compromising the safety of the proposed facility, during subsequent design phases.

During the final design process, MoDOT will consider options to minimize new right of way acquisition.

Socioeconomics and Environmental Justice

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☐ No ☒

Executive Order (EO) 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, mandates some federal-executive agencies to consider environmental justice as part of the NEPA analysis by identifying and addressing disproportionately high and adverse human health or environmental effects on minority and low-income populations.

Overall, the I-70 study area had a larger proportion of minority residents compared to the residents of Columbia and Boone County. Minority persons accounted for 22.6 percent of the primary study area blocks, compared to 20.5 percent for the larger study area blocks groups, 18.5 percent of all Columbia residents and 14.6 percent of all Boone County residents. Blacks or African Americans accounted for the largest share of the minority population of the primary study area and larger study region.

The census block groups in the primary study area found 15.4 percent of persons nearest the project corridor reported incomes below the poverty level in 1999. This percentage of low-income individuals were lower than Columbia (19.2 percent) but slightly higher than Boone County (14.5 percent).

A large proportion of the block groups within the urban portions of the project corridor (between exits 124 and 128A) were found to have larger concentrations of minority residents and persons living below poverty.

Residential displacements identified for the Selected Alternative did not fall more heavily on minority or low-income populations. Any other combination of alternatives would have had a potentially greater impact on these populations. Business displacements did not identify a greater burden on minority ownership as compared to non-minority owned businesses.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EIS More Impacts ☐ No Change ☒ Fewer Impacts ☐

The composition of the minority population in the study area has not changed greatly in the past 20 years. Minority populations in the study area block groups account for around 26 percent of the total, 24 percent of the total Columbia residents and 20 percent of Boone County residents. Each of these categories has increased by a similar magnitude.

Approximately 15 percent of individuals are below poverty level in the census block groups in the study area. The percentage of low-income individuals is lower than Columbia (20 percent) and Boone County (17 percent).

Residential displacements identified within the NEPA footprint did not fall more heavily on minority or low-income populations. Business displacements did not identify a greater burden on minority ownership as compared to non-minority owned businesses.

EO 14096 – "Revitalizing Our Nation's Commitment to Environmental Justice for All" was enacted on April 21, 2023. EO 14096 on environmental justice does not rescind EO 12898 - "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," which has been in effect since February 11, 1994, and is currently implemented through DOT Order 5610.2C. This implementation will continue until further guidance is provided regarding the implementation of the new EO 14096 on environmental justice.

No minority or low-income populations have been identified that would be adversely or disproportionately affected by the proposed project. Therefore, in accordance with EO 12898 and FHWA Order 6640.23, no further environmental justice analysis is required.

Soils and Geology

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

All reasonable alternatives would have required excavation of earth. A majority of the soil in the project area is Urban Land. To the extent possible, earth excavated in one area would be relocated as fill material to another part of the project. This effort would minimize the cost of hauling and disposal of excess material or borrowing fill material from another site. There may have been some permanent removal of soil resources from the project corridor. If additional materials were needed, these materials would have been obtained from local quarries or from new or existing borrow sites nearby.

During and following construction, proper sediment and erosion control measures would have been implemented to control the loss of soil to erosion, in accordance with MoDOT *Standard Specification Book for Highway Construction*.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☐ No Change ☒ Fewer Impacts ☐

As the majority of changes in soil composition occur gradually over long periods of time, and there have been no major natural disasters or change in the type of development in the study area, geologic and soil conditions are not expected to have experienced notable changes since the 2005 EIS. The EIS would remain applicable for this resource.

Applicable Commitment(s):

During construction, MoDOT's standard specifications, MDNR Solid Waste Management Program, and MoDOT's Sediment and Erosion Control Program will all be followed.

Through MoDOT's approved Pollution Prevention Plan for the National Pollutant Discharge Elimination System, the control of water pollution will be accomplished. The plan specifies berms, slope drains, ditch checks, sediment basins, silt fences, rapid seeding and mulching and other erosion control devices or methods as needed. In addition, all construction and project activities will comply with all conditions of appropriate USACE and MDNR permits and certifications.

All construction and project activities will comply with all conditions of appropriate USACE and MDNR permits and certifications.

Surface Water Resources

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

The SIU 4 project corridor drains to four watersheds within the Lower Missouri-Moreau Basin. The project corridor is crossed by several north and south flowing streams. The largest stream in the corridor is Perche Creek, which is classified as a P stream, so it maintains permanent flows during droughts. The next largest stream is Hinkson Creek, which is classified as a C stream, meaning that it ceases flow during droughts but maintains permanent pools. There are a number of second order tributaries and small ephemeral tributaries.

All reasonable alternatives would have required an expanded right of way, stream fills and additional crossings of streams. The total length of streams affected by the Recommended Selected Alternative would have been about 24,200 linear feet. The Recommended Selected Alternative would have affected about 17,500 linear feet of smaller intermittent and ephemeral streams.

The Recommended Selected Alternative would have meant that bridges over Perche Creek would be widened and relocated. Two new bridges would have crossed Perche Creek, each of which would be parallel to and within 100 feet of the I-70 bridges, making the entire length of Perche Creek within the construction area less than 500 feet.

Hinkson Creek was crossed by five bridges in the US 63 interchange area: two along mainline I-70, one along Clark Lane and two along US 63. The project would have widened and relocated the existing Clark Lane and I-70 bridges and added three new bridges: two for new interchange ramps and one to extend Business Loop 70 as a continuous frontage road. Assuming the US 63 bridges would remain intact, only about 750 feet of the stream would have been within the new bridge construction limits, most of which was within existing right of way.

Bridges at Hominy Brand and North Fork Grindstone Creek would have been widened or replaced, affecting about 500 feet of each stream.

Bridges across these major streams would have had relatively little direct impact. Except for possible temporary impacts during construction, these stream habitats would have remained relatively intact.

Culvert extensions, relocated culverts, and additional culvert crossings would have been required along Sinking Creek, Sugar Branch, Harmony Creek and all unnamed intermittent and ephemeral streams with any alternative. Some streams that run parallel to the highway (other than roadside drainage ditches) or frontage roads may have required relocation.

The extension and installation of culverts would have reduced the aquatic habitats somewhat, but the impacts of the stream habitats would have generally been minor and short-lived. Impacts to aquatic species include temporary reduction of some populations, particularly of less mobile and more sensitive species, such as some invertebrate populations. The impacts would not have resulted in a permanent change in diversity of the stream system.

The total impact of the Recommended Selected Alternative would have been to 73 stream crossings.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☐ No Change ☐ Fewer Impacts ☒

All reasonable alternatives would require an expanded right of way, stream fills and additional crossings of streams. The potential impact in the composite alternative footprint would affect about 12,430 linear feet of smaller intermittent and ephemeral streams.

The length of Perche Creek within the construction area continues to be less than 500 feet, as it was in the EIS. The proposed alternative would only have an outer road on the north side of I-70, whereas the EIS proposed outer roads on both the north and south sides of I-70. The impacts should be fewer at Perche Creek.

There are seven bridges crossing Hinkson Creek in the US 63 interchange area, including the five discussed in the EIS, there is a separate on-ramp to westbound I-70, and the Business Loop 70 Bridge. Bridges across these major streams would have relatively little direct impact. Except for possible temporary impacts during construction, these stream habitats would remain relatively intact.

Culvert extensions, relocated culverts, and additional culvert crossings would be required along Sinking Creek, Sugar Branch, Harmony Creek, and all unnamed intermittent and ephemeral streams with any alternative. Some streams that run parallel to the highway (other than roadside drainage ditches) or frontage roads may require relocation.

The extension and installation of culverts would reduce the aquatic habitats somewhat, but the impacts of the stream habitats would generally be minor and short-lived. Impacts to aquatic species include temporary reduction of some populations, particularly of less mobile and more sensitive species, such as some invertebrate populations. The impacts would not result in a permanent change in diversity of the stream system.

The total potential impact within the NEPA footprint would be to 70 stream crossings.

Groundwater

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☐ No ☒

Groundwater is important as a drinking water supply throughout Boone County. It is also important to maintain flow in perennial streams, by way of springs. The most important water supply aquifer in the project area was the Ozark Aquifer.

There were no surface water drinking sources near the SIU 4 project area, and the project area was not within the drainage basin of any public drinking water surface impoundment or river intake.

Groundwater was the primary drinking water source in the project area. The City of Columbia originally used groundwater from deep bedrock wells located throughout the metropolitan area to supply customers with potable water. Declining water levels and limited expansion sites led the City to install a shallow alluvial wellfield in the McBaine Bottom in 1972. The alluvial wellfield and McBaine water treatment plant were located about six miles south of the I-70 project corridor at the McBaine Bottom along the Missouri River.

There were 11 other public water supply wells located within one mile of the I-70 corridor. Five of these wells were former supply wells for the City of Columbia. None are currently in service but are reserved for emergency

use. Two wells were maintained by Boone County Public Water Supply and were located west of the MO-Z interchange. There are four other wells that were privately owned.

The nearest sinkholes identified in the project area are located south of I-70 approximately 0.5 mile west of the western project terminus, west of the MO-BB interchange. There were no known sinkholes within the footprint of the reasonable alternatives.

None of the reasonable alternatives were expected to encroach directly upon the wells in the project area. Water supply in the Columbia area is primarily from groundwater wells within the main wellfield some six miles south of the project corridor along the Missouri River. None of the reasonable alternatives would have encroached directly upon the wells in the project area. The city's emergency wells and older public wells access a deep regional aquifer that is not dependent on a localized recharge area. The addition of impervious surface for the expansion of the highway would not have affected the recharge of the wells.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EIS More Impacts ☐ No Change ☒ Fewer Impacts ☐

Similar to the 2005 EIS, the Reasonable Alternatives are not expected to encroach directly on the wells in the project area. The addition of impervious surface for the expansion of the highway would not affect the recharge of wells. There are no anticipated impacts to groundwater in the project area.

Floodplains

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

Floodplains store water, help to remove sediments and provide erosion control as well as serving important ecosystem functions (nutrient export, wildlife habitat and movement corridors). The base floodplain identified by Federal Highway Administration and FEMA guidelines is the area of 100-year flood hazard within a county or community. The regulatory floodplain is a channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year flood discharge can be conveyed without increasing the base flood elevation more than a specified amount.

Within the study area there were FEMA floodplains along Sinking Creek, Sugar Branch, Henderson Branch, Perche Creek, Harmony Creek, Hinkson Creek, Hominy Branch and North Fork Grindstone Creek. Perche Creek has the widest floodplain at roughly 0.5 mile. Floodplains along Hinkson Creek and Hominy Branch were 700 to 800 feet wide at their widest points near the I-70 crossing. Floodplains are typically narrower along the other streams in the project corridor. Floodways were also mapped by FEMA for Sugar Branch, Henderson Branch, Perche Creek, Harmony Creek, Hinkson Creek and Hominy Branch within the study area.

Much of the floodplain along Perche Creek, Sugar Creek and Henderson Branch was used for agriculture. Golf courses were also located within the Perche Creek and Hinkson Creek floodplains. Future greenways were planned for the floodplains associated with Hominy Branch, Hinkson Creek and Harmony Creek.

Project-related activities within floodplains would have been nearly the same for all reasonable alternatives, affecting 69 to 72 acres. Work within the floodplains would have included replacing or improving existing bridges, lengthening existing culverts, constructing bridge approaches, widening of road embankments and other miscellaneous fill material placement within the floodplain. New or expanded crossings of floodplains along Perche Creek, Hinkson Creek, Hominy Branch and North Fork Grindstone Creek would have been perpendicular crossings

where I-70 crosses, reducing the area of impact at each site. While some parts of the floodplain unavoidably would have been filled for roadway approaches, bridges would be installed at each location to avoid fill placement in the floodway. New perpendicular culvert crossings and culvert extensions would be required at Sinking Creek near the MO-J/O interchange. Frontage road improvements at locations along Sugar Branch and Harmony Creek would have encroached parallel to the stream on the floodplain and floodway.

The primary difference in floodplain impacts among the reasonable alternatives was related to the US 40 (Midway) interchange design. The footprint of the Enhanced Diamond Alternative, which was part of the Recommended Selected Alternative, includes two acres more of the Henderson Branch floodplain than the Diamond with SW Loop Ramp Alternative. The Enhanced Diamond Alternative would have had three perpendicular crossings of Henderson Branch, providing an opportunity to limit the area of fill to the minimum necessary for each crossing versus the other alternative which would have required continuous fill of the stream and adjacent floodplain.

The total impact to the 100-year floodplain of the Recommended Selected Alternative was 72 acres.

Based on the alternative identified and the measures to minimize harm the proposed improvements were not expected to have significant impacts on natural and beneficial floodplain values.

Applicable Commitment(s):

Where feasible, MoDOT's design process will minimize impacts to floodplains.

If the Contractor is unable to prove a No-Rise condition(s), or if floodway(s) are expanded, MoDOT or the Design-Build Contractor will prepare a CLOMR for approval by SEMA prior to construction in affected areas. MoDOT or the Design-Build Contractor will obtain an approved LOMR from SEMA after construction is complete. MoDOT anticipates that the Missouri Highway and Transportation Commission will award a design-build contract for the I-70 section between the I-70/US 63 Connector Interchange and the I-70/US 54 interchange on February 7, 2024.

MoDOT commits to obtaining floodplain development permits from SEMA prior to construction.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☒ No Change ☐ Fewer Impacts ☐

The potential project related impacts to the 100-year floodplain are 97.1 acres. It is possible that these impacts will be reduced during more detailed design. The areas of greatest difference between the reasonable alternatives are at the US 40/Midway interchange (where the NEPA footprint was expanded to include all reasonable alternatives), from US 40 to Stadium, and the I-70/US 63 Connector interchange.

Crossings would be designed to be consistent with SEMA floodplain management goals and objectives. Additional fill and structures would be designed so as not to increase flood elevations and to avoid interruption to public transportation due to flood damage to the roadway or structures. A no rise certification will need to be received indicating that the proposed work would not increase the water evaluations in the regulatory floodway. All floodplain permits (and a no practicable alternative finding) need to be obtained in accordance with applicable floodplain regulations.

Based on the alternative identified and the measures to minimize harm the proposed improvements are not expected to have significant, long-term impacts on natural and beneficial floodplain values.

Wetlands and Ponds

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

The USACE is the primary regulatory agency for wetlands, in accordance with the Clean Water Act (CWA), the determination of wetlands in active agricultural lands is deferred to the NRCS in accordance with the Food Security (Swampbuster) Act. Areas that retain wetland conditions most years, but which may not normally support wetland vegetation because they are farmed are designated farmed wetlands and are regulated under the CWA. Coordination with NRCS indicates there were no farmed wetlands nor Wetlands Reserve Program (WRP) lands in the project area.

The National Wetlands Inventory (NWI) mapping and field reconnaissance were used to identify wetlands in the project corridor. Wetlands were not abundant within the project corridor. Most of the wetland features consisted of palustrine forested (PFO) wetlands that occur in association with streams and creeks. Palustrine emergent (PEM) and palustrine scrub-shrub (PSS) wetlands were rare in the project corridor.

A number of ponds also occurred in the project area. Most of these ponds in the study area were excavated or impounded agricultural stock ponds, sewage treatment ponds and recreational ponds that were designated palustrine unconsolidated bottom wetlands (PUB) in the USFWS classification system. The ponds were mostly one acre in size or less and occasionally support a band of shoreline vegetation. The ponds were often not regulated as wetlands or other special aquatic sites.

Many wetland features occurred within or adjacent to the I-70 right of way. As a result, there were no prudent and feasible alternatives that would completely avoid all wetland impacts. Few wetlands occurred near interchanges with multiple alternatives. This means wetland impacts generally would have been the same regardless of the interchange alternatives selected. The total area of wetlands affected by the Recommended Selected Alternative was estimated to be 8.3 acres.

Wooded riparian wetlands along Perche Creek, Hinkson Creek and Hominy Branch would have been partially affected, mostly by removal of woodland vegetation. The permanent placement of fill in the wetlands could have been minimized because these stream corridors would have been bridged. Wetlands along other drainages would have been filled for roadway embankments at culvert extensions and relocations.

The project would also have affected four wetlands not along riparian corridors. The reconstruction of the MO-Z interchange and realignments of service roads would have affected three emergent wetlands and one small, forested wetland under all reasonable alternatives.

Non-wetland pond impacts would have ranged from 1.75 to 2.9 acres. The Recommended Selected Alternative would have affected four ponds with a total of 2.2 acres. Four farm and recreational ponds near I-70 would have been affected under all reasonable alternatives.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☐ No Change ☐ Fewer Impacts ☒

Wetland and stream delineation field work occurred in November 2021, January 2022 and June 2022. The potential impacts that could occur within the NEPA composite footprint is estimated to be 5.4 acres. The wetland impacts generally would be the same regardless of the reasonable alternative chosen.

There is the potential to impact 4.7 acres of relatively permanent waters tributaries and 2.2 acres of non-relatively permanent water tributaries.

Many wetland features occur within or adjacent to the I-70 right of way. As a result, there are no prudent and feasible alternatives that would completely avoid all wetland impacts.

The Waters of the U.S. Delineation (WOUS) report can be found in **Appendix D.**

Applicable Commitment(s):

MoDOT has developed a Conceptual Wetland Mitigation Plan to compensate for wetland impacts, and appropriate mitigation will be adhered to in accordance with the plan.

If Waters of the US are impacted, MoDOT will mitigate stream and/or wetland impacts in accordance with the USACE 2008 Mitigation Rule.

Public Parks

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☐ No ☒

The largest recreation area in the project study area was the Columbia Cosmopolitan Recreation Area (also known as Cosmo Park or CCRA), located immediately northeast of the I-70 interchange with Stadium Boulevard. CCRA was home to the six field Antimi Sports complex, six-field Rainbow Softball Center, 2.4-mile Rhett's Run Mountain Bike Trail, the 1.25-mile asphalt Cosmo Fitness Trail, Skate Park, L.A. Nickell Golf Course and soccer and football fields. At the time of the EIS, the City's Parks, Recreation & Open Space Master Plan recommended $3.3 million in improvements. Cosmo Park was the recipient of Section 6(f) Land and Water Conservation Funds.

The Lake of the Woods Recreation Area is a 145-acre community park, located at 6700 St. Charles Road, north of I-70. It includes a clubhouse, fishing lake, 18-hole golf course, picnic sites, swimming pool and restrooms. Improvements were recommended in the City's Master Plan. The Lake of the Woods Recreation Area has been the recipient of Section 6(f) Land and Water Conservation Funds.

None of the Section 6(f) boundaries occur in the vicinity of the I-70 project.

None of the reasonable alternatives require publicly owned park land, including those subject to Section 4(f). No Section 4(f) properties would be used

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EIS More Impacts ☐ No Change ☒ Fewer Impacts ☐

Based on the project footprint there are no impacts to publicly owned park land.

Prime Farmland

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

NRCS had classified about 41 percent of the land in Boone County as prime farmland. About one-third of the I-70 project corridor was considered prime farmland. Prime farmland is defined as land best suited to producing food, feed, forage and fiber and oilseed crop and is available for these uses. Another third was considered farmland of

statewide importance which includes lands not considered prime due to slope, drainage and flooding, but that produce high yields of crops when treated and managed according to modern farming methods.

Suitable soils and landform made active agriculture the main land use in Boone County, occupied 53 percent of the total area of the county. According to the Boone County tax assessor, there were 80 farms along the project corridor, ranging in size from less than one acre to 224 acres.

About 40 percent of the cropland and 50 percent of the pastureland in the county were under some form of soil conservation management such as the Conservation Reserve Program (CRP).

As the project consists primarily of widening of the existing right of way, the impact would have mostly been along the edges of the farms that border I-70.

The impact to prime farmland or farmland of statewide importance was considered minimal and no additional alternatives were evaluated. The reasonable alternatives would not have caused substantial impacts to farmland.

The Selected Alternative would have affected 140 acres of prime farmland and 113 acres of statewide important farmland.

One of three CRP properties in the project corridor would have been affected by the reasonable alternatives. The taking of this 0.2 acre would have affected a small rental amount paid to the farmer for its preservation.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☒ No Change ☐ Fewer Impacts ☐

Based on the footprint, it is possible the project could impact 83 acres of prime farmland and 386 acres of farmland of statewide importance. The increase in the acreage for farmland of statewide importance appears to be due to a change in soil classifications since the 2005 EIS and not due to additional property impacts.

In addition to the opportunity to minimize impacts during the next phase of the project, portions of the potentially impacted acreage are surrounding existing interchanges or are within the urban area. The impact to prime farmland or farmland of statewide importance is expected to be minimal.
NRCS has confirmed that there are no CRP or WRP lands within SIU 4.

Applicable Commitment(s):

MoDOT, or the contractor, will coordinate with the USDA Natural Resources Conservation Service to complete the Farmland Conversion Impact Rating process in compliance with the Farmland Protection Policy Act. MoDOT will obtain all related documentation from the contractor, should the contractor perform the coordination with USDA NRCS.

Visual Quality

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

The greatest visual characteristic of the SIU 4 project corridor is the visual contrast between the urban and rural environments. The urban portion of the project corridor was defined as the area between Stadium/Exit 124 and US 63/exit 128A. The rural parts are east and west of Columbia.

The urban views generally consist of various types of real estate development, the most distinctive being commercial developments, particularly hotels and restaurants. Overall, the urban area can be considered fully developed.

The rural visual environment is largely shaped by the relatively flat terrain throughout this portion of I-70. There are few substantial distant views of natural elements. Views of the Perche Creek floodplain, between US 40 and Sorrells' Overpass ranked among the most important views of natural areas in the project corridor. However, the views were not considered outstanding or unique.

At some locations, the proposed I-70 alignments could have caused some negative visual impacts by altering the existing near or distant views of visually sensitive resources, such as historic sites and special naturally occurring or manmade features.

Except for the proposed improvements at the Stadium interchange and addition of three new bridges between mile markers 126 (MO-163) and 128 (Connector), none of the alternatives would have had appreciable negative impacts to the visual environment. The displacements of buildings proposed at the Stadium and the Connector interchanges would provide opportunities to enhance the area.

At Stadium there are potential for impacts to the views of and from the Candlelight Lodge Retirement Center, which could have been impacted because the visual buffer created by other existing structures would be removed as part of the proposed realignment of I-70. Removal of the existing structures would expose the back of the historic lodge to the highway, creating negative views of I-70 from the historic lodge from I-70 to the lodge.

At MO-163/MO-763/Business Loop East, the addition of three new bridges would create substantial impacts to the surrounding environment. Incorporation of aesthetically pleasing design elements, views of the new bridge and wall structures could be a positive visual addition to the area.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☐ No Change ☒ Fewer Impacts ☐

There are three areas where new developments have occurred since the EIS was completed in 2005.

- At E Business Loop I-70, southwest of the Connector interchange the outer road was constructed to connect Conley Road to where Business Loop I-70 had previously dead ended to the west.
- The construction of the Links at Columbia apartments north of I-70, to the west of the St. Charles interchange.
- The Holiday Inn southeast of the St. Charles interchange.

The apartments and hotel developments may have changed the view from I-70 but are in keeping with existing development. The extension of the outer road at E Business Loop I-70 may have created a change in the visual quality but this was done prior to, and separate from, this project.

The proposed improvements have not changed visual impacts from what was expected in the 2005 EIS.

Air Quality

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☐ No ☒

SIU 4 fell within the Northern Missouri Air Quality Control Region (AQCR #137). This AQCR has a designation of better than national standards for PM_{10} and SO_2, unclassifiable/attainment for CO, attainment for ozone, cannot be classified or better than national standards for NO_2, and no designation for Pb. The Missouri SIP does not contain any transportation measures for this AQCR.

Boone County was designated attainment area for the NAAQS. Only $PM_{2.5}$, fine particulates, are monitored in Boone County.

A federal agency may not approve or fund a transportation project unless it conforms to the SIP for air quality. The I-70 project was included in the STIP (for preliminary engineering) and had been included as part of the SIP. The I-70 project should not have caused non-attainment for any NAAQS.

There was a potential for temporary localized air quality impacts caused by emissions from construction equipment, fugitive dust from the construction sites and haul roads, aggregate crushing and washing operations or concrete batch plants. Burning of woody debris may have also affect air quality.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☐ No ☒

Change since 2005 EIS More Impacts ☐ No Change ☒ Fewer Impacts ☐

The *USEPA's Missouri Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants,* dated October 31, 2022, does not list Boone County.

In addition, the Columbia Area Transportation Study Organization (CATSO) in the *CATSO Transportation Improvement Program (TIP) for FY 2022-2025* and approved on August 26, 2021, states that *"At the present time the United States Environmental Protection Agency has designated Columbia as being in attainment for Ozone, Carbon Monoxide (CO), Nitrogen Dioxide (NO2), Small Particulate Matter (PM-2.5), Lead, and Sulfur Dioxide."*

As a result, all transportation conformity requirements are satisfied.

Noise

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

Evaluation of the traffic noise impacts expected from construction of a highway involves the following:

- Identification of existing activities and developed lands that may be affected by traffic noise from the highway,
- Prediction of traffic noise levels,
- Determination of existing noise levels,
- Determination of traffic noise impacts, and
- Examination and evaluation of alternative noise abatement measures for reducing and eliminating noise impacts.

A traffic noise impact occurs when noise levels predicted to occur are a result of the proposed project approach or exceed the NAC or when predicted traffic noise levels substantially exceed (by 15 decibels [dBA] or more) the existing noise level, even though the predicted levels may not exceed the Noise Abatement Criteria (NAC).

Specific land uses have been identified by FHWA as noise-sensitive receptors. These include residences, churches, schools, libraries, hospitals, nursing homes and apartment buildings and condominiums. The SIU 4 proposed improvements followed the existing alignment closely. The noise-sensitive receptors that would likely have been affected by traffic noise were near existing I-70. Most of the sensitive receptors in the project corridor were residences, many of which occur in neighborhood clusters. Other sensitive receptors included Columbia Korean Baptist Church, Columbia United Church of Christ, First Church of God, Praise Assembly Church, Prairie Grove Baptist Church, Candlelight Lodge Retirement Center and Cosmo Park.

The Traffic Noise Model (TNM®) was used to determine existing and projected noise levels in the SIU 4 corridor under the No-Build and Build scenarios for 2030. Representative noise modeling receptors were chosen along the corridor at 10 locations. The analysis indicated existing noise levels were consistent throughout the corridor and exceeded 67 dBA NAC at all but one receptor. Under the Recommended Selected Alternative, future noise levels would increase between three and eight dBA over existing noise levels, except for one receptor where redesigned ramps to I-70 would act as a noise barrier to the receptor which caused a slight decrease in noise level. However, the noise level would still have exceeded the 67 dBA NAC.

When potential noise impacts are identified, noise abatement is considered and implemented if found to be reasonable and feasible as specified by various factors. Noise abatement measures were investigated for five different locations. In these locations, residences were clustered and immediately adjacent to the interstate where a noise wall could provide noise mitigation. In addition, sufficient area was available for a wall so that normal access to each property would be maintained, and no traffic safety hazards would be incurred.

Results of the noise model analysis indicated that mitigation of noise impacts at all five locations would provide a noise reduction of at least five dBA for all identified receptors and would not exceed $30,000 per benefited receptor (**Table 5**).

Table 7: Noise Wall Modeled Areas

Area Modeled	Noise Wall Length (ft)	Average Height (ft)	Cost at $18/ ft^2	Number of Benefited Receptors	Cost per Benefited Receptor
Noise Wall Area 1: North of I-70 between Loop 70 West and MO-163	3,682	12	$795,352	38	$20,930
Noise Wall Area 2: North of I-70 between US 63 and St. Charles Road	1,030	12	$222,480	22	$10,113
Noise Wall Area 3: North of I-70 between St. Charles Road and MO-Z	2,676	13	$626,184	48	$13,045
Noise Wall Area 4: North of I-70 between MO-E/MO-740 and Loop 70 West	513	14.5	$133,893	6	$22,315
Noise Wall Area 5: South of I-70 between MO-163 and MO-763	838	14	$211,176	10	$21,118

General construction noise impacts would have been expected from activities like demolition, earth moving and paving operations. Noise generated by construction equipment would vary greatly depending on the equipment type, mode and duration of operation and specific type of work in progress. Considering the short-term nature of construction noise, impacts were not expected to be substantial.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☐ No Change ☐ Fewer Impacts ☒

MoDOT was coordinated with to determine groupings or communities of receivers where noise abatement measures should be considered. All other impacted receivers not evaluated in a noise barrier analysis did not meet the feasibility or reasonability requirement because the receivers were separated by long distances and not grouped in a community setting. In these cases, noise abatement measures would exceed the 1,300 ft^2 per benefitted receptor, meaning that they would not be considered reasonable. A total of 16 barriers were analyzed. Four of those barriers were deemed reasonable and feasible. Table 6 summarizes the results of the barrier analysis. More details are available in the Noise Study in **Appendix E**.

Conditions can change during the project design process. These changes may affect the preliminary noise abatement determinations in the environmental document. Such changes could include modifications to the proposed cross-sections, shifting the alignment, and changing roadway or ramp grades.

Final decisions regarding the construction of noise barriers are made during the final design process. If design changes have occurred and a new noise policy has been approved since the original noise analysis, with FHWA approval the new policy is to be used for the new analysis and final decision.

Preliminary noise barrier designs will be developed once right-of-way plans have been completed. The preliminary barrier designs will be incorporated into the preliminary roadway design plans. The final noise barrier design will be revisited when the preliminary roadway design plans are completed.

First-row benefitted owners and residents will be notified of potential noise abatement measures and their viewpoints will be sought via ballot.

Table 8: Noise Barrier Analysis Summary

Barrier Name	NSA Location	Feasible	Reasonable Criteria 1 and 2*	Benefitted Receivers
NSA1-1	1	yes	No, not of all first-row receivers received a 7 dBA reduction	NA
NSA1-2	1	yes	No, > 1,300 ft^2 per benefitted receiver	6
NSA2-1	2	yes	No, not of all first-row receivers received a 7 dBA reduction	NA
NSA2-2	2	yes	No, not of all first-row receivers received a 7 dBA reduction	NA
NSA3-1	3	yes	No, > 1,300 ft^2 per benefitted receiver	3
NSA4-Option 1	4	yes	No, > 1,300 ft^2 per benefitted receiver	52
NSA4 Option 2	4	Yes	No, > 1,300 ft^2 per benefitted receiver	50
NSA4 Option 3	4	yes	No, > 1,300 ft^2 per benefitted receiver	43

NSA4 Option 4	4	yes	No, > 1,300 ft² per benefitted receiver	51
NSA5-1	5	yes	No, > 1,300 ft² per benefitted receiver	5
NSA6-1	6	yes	No, > 1,300 ft² per benefitted receiver	4
NSA6-2 Option 1	6	yes	No, not of all first-row receivers received a 7 dBA reduction	NA
NSA6-2 Option 2	6	yes	No, not of all first-row receivers received a 7 dBA reduction	NA
NSA7-1	**7**	**yes**	**yes**	**31**
NSA7-2	**7**	**yes**	**yes**	**96**
NSA7-3	**7**	**yes**	**yes**	**48**
NSA8-1	**8**	**yes**	**yes****	**46**
NSA8-2	8	yes	No, not of all first-row receivers received a 7 dBA reduction	NA
NSA9-1	8	yes	No, > 1,300 ft² per benefitted receiver	3

** See Section 7 of Noise Study (Appendix E)*

***While two receivers did not receive a 7 dBA reduction it is recommended that that this barrier is deemed reasonable, due to possible DEM elevation errors and the low-income nature of the community.*

Note: Shaded rows indicate noise wall locations that were determined to be Feasible and Reasonable

The noise analysis was performed during this Re-evaluation followed MoDOT's current, FHWA approved, noise policy. Final noise barrier decisions will be made during final design. If at that time, a new MoDOT noise policy approved by FHWA is in place, the new noise policy will be used for a new noise analysis and final noise barrier decisions.

Applicable Commitment(s):

MoDOT has special provisions for construction, which require that all contractors comply with all applicable local, state, and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. Construction equipment is required to have mufflers installed in accordance with the equipment manufacturers' specifications.

The MoDOT Noise Policy will be used to address noise impacts. For locations where noise walls are feasible and reasonable, MoDOT will discuss noise wall locations and provide benefited residents an opportunity to vote on whether they would like a noise wall.

The noise analysis was performed during this Re-evaluation followed MoDOT's current, FHWA approved, noise policy. Final noise barrier decisions will be made during final design. If at that time, a new MoDOT noise policy approved by FHWA is in place, the new noise policy will be used for a new noise analysis and final noise barrier decisions.

Habitats and Wildlife

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

The existing I-70 right of way vegetation consisted primarily of resilient nonnative plants, such as tall fescue. Most of the right of way was mowed regularly. The parts of the right of way that were not mowed supported a mixture of native and nonnative deciduous shrubs and small trees, scattered evergreens, such as red cedar, grasses and forbs.

Upland habitats adjacent to or outside the right of way were influenced largely by current and historical land uses. The study area has had a long history of disturbance, and only plants and animals that have adapted to change

likely have remained. Roughly half of the corridor was within the City of Columbia. Habitats in the urban/suburban environment vary from commercial areas with lawns and scattered landscape trees to a few wooded park lands and stream valleys. The other half of the corridor, east and west of Columbia, was considered rural. Rural areas are largely a mosaic of active agricultural fields (row crops and pasture), old fields, hedgerows and woodland. There were no remnant native prairies within or adjacent to the corridor. Active croplands included common agricultural weedy plant species in addition to the planted crops.

Woodlands comprised the most natural habitats in the project area. Only about 10 to 15 percent of the project corridor, both rural and urban, was woodland, including forests with closed canopy and scrub-shrub lands (intermediate between forest and open fields). Much of the woodland was dense.

Wildlife was distributed according to predominant habitat. Urban habitats were typically made up primarily of birds and small mammals. The rural habitat and mature woodland corridors supported a greater diversity of wildlife. There were migratory and resident songbirds, game birds and raptors found in rural areas. There were also a variety of small and large mammals, as well as reptiles.

As an expansion of an existing roadway, the impact to upland habitats would largely have been encroachment on the edges rather than fragmentation of large, contiguous habitats. Under the Recommended Selected Alternative, total impact to woodlands in areas within the existing right of way would be 143 acres.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☐ No Change ☒ Fewer Impacts ☐

Field investigations were conducted during several dates in November 2021, January 2022, and June 2022. The land uses in the area consist of the same categories as were present in 2005. Woodlands continue to comprise the most natural habitats in the project area.

As an expansion of an existing roadway, the impact to upland habitats would largely be encroachment on the edges rather than fragmentation of large, contiguous habitats. Total impact to woodlands, including areas within the existing right of way, under the NEPA footprint would be 145 acres.

Threatened and Endangered Species

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

Rare plant and animal species are protected under federal and state laws. Active programs of recording and monitoring known populations of rare species are managed by the Missouri Department of Conservation through the National Heritage Program and the USFWS.

Eight species listed by the USFWS as endangered, threatened or candidate species were recorded in Boone County. Of these, only two were recorded within three miles of the study corridor: the endangered gray bat (*Myotis grisescens*) and the endangered Indiana bat (*Myotis sodalis*).

The gray bat has a limited geographic range and uses caves or mine shafts, year-round, for its habitat. The species' habitat requirements are very specific so only a fraction of the caves would have met the habitat parameters. The gray bat is particularly vulnerable to habitat disturbance during their winter hibernation periods in caves. Other caves were used in summer months for the rearing of their young. These summer caves were located near rivers or lakes, almost always within 0.5 miles.

The gray bats were known to inhabit Rocheport Cave (also known as Boone Cave) and Lewis & Clark Cave. These caves are located between one and three miles south of I-70 in the Overton Bottoms area of the Missouri River. Rocheport Cave was known generally as one of the most important gray bat caves in Missouri. These caves were used by the gray bat as maternity caves but were not used by them during the winter. Generally gray bats begin arriving at the caves in June and stay until August. A census around the time of the 2005 EIS placed the number of gray bats present in the range of 24-26,000 individuals.

The Indiana bats may have been found throughout the state. The wintering range was generally south of the Missouri River and the summer range generally north. According to the MDC, there were fewer than 30 caves or mines that were known to have sizable Indiana bat colonies.

The Indiana bats were known to inhabit Rocheport (Boone) Cave during the winter months. The Indiana bats come into the cave shortly after the gray bats have left, generally in October, and stay until March. A census around the time of the 2005 EIS showed there were approximately 200 Indiana bats present over the winter months. Some of the Indiana bats will stay near the cave and continue to forage nearby during the summer months.

There are likely additional areas within the I-70 corridor that provide seasonal (summer) habitat to the Indiana bat. Females and their young spend the summer months in maternity colonies in both riparian and upland woodlands where suitable roost trees are present.

Running Buffalo clover (*Trifolium stoloniferum*) is a native clover of Missouri and was thought to be gone from the state until 1989, when it was rediscovered. It is a perennial that grows from four to 20 inches tall, blooming from mid-May through June. There were no known populations of Running Buffalo clover in the SIU 4 project corridor, although new populations had been recently discovered near existing I-70 in other SIUs.

A Natural Heritage Database search identified one known population of bristled Cyperus (*Cyperus setigerus*) in the study corridor along the I-70 right of way. This wetland species is listed as State Rank 1 by the MDC and is considered a Missouri species of conservation concern. The population in the study corridor was the only known population in the state, and it was at risk from any improvements of I-70 as well as normal maintenance of the existing highway right of way.

There were some concerns on the part of the USFWS about construction impacts on Rocheport Cave and disturbance of the gray and Indiana bats from the I-70 project. There was likely limited vulnerability to the cave habitat due to the effects of the construction activity. Construction would be limited in scope and duration and occur over one mile away. According to MDC cave and endangered species representatives, the limestone structure does dampen sound and vibration effectively. Therefore, there was no anticipated impact on the gray and Indiana bat resulting from the Improve I-70 project.

The Indiana bat uses woodlands with a variety of species and age classes during the summer months for foraging and roosting habitat. The project would have required the removal of woodland vegetation along the edge of the right way. It is possible the I-70 project could have encroached on potential Indiana bat habitat.

Within the project corridor there were no known populations of any species listed as endangered in accordance with the Wildlife Code of Missouri. However, the bristled Cyperus, a Missouri species of conservation concern, was known to occur in the study corridor along the existing I-70 right of way. The population was at risk under the No-Build Alternative from normal maintenance of the existing right of way and was also at risk under any of the reasonable alternatives. It is unlikely that the reasonable alternatives could have been designed to avoid this population.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☐ No Change ☒ Fewer Impacts ☐

Field investigations were conducted during several dates in November 2021, January 2022, and June 2022. The federal threatened and endangered species in the study area continue to include the gray bat, Indiana bat, and the northern long-eared bat which were looked at in detail during the 2005 EIS. Additional species investigated include the tricolored bat (*Perimyotis Subflavus*) which is considered proposed endangered. The monarch butterfly (*Dannaus plexippus*) was also investigated as a candidate for federal status.

The Threatened and Endangered Species Review (**Appendix F**) identified 127.0 acres of forested area within the NEPA footprint. This acreage includes riparian habitat that would be considered suitable for foraging and travel for the gray bat. With removal of this suitable habitat, it is expected that a determination of "may affect, but not likely to adversely affect" will be appropriate for the gray bat. USFWS completed an acoustic survey in spring 2023, with MoDOT's participation. If the acoustic survey is negative for the gray bat, it is expected that the determination may be changed to "no effect."

The Hinkson Creek area is where Indiana and northern long-eared bats are most likely to be present. There are multiple bridges that cross over the perennial creek that could be used for roosting. Some of the tree removal may occur greater than 300 feet from existing roadway. With removal of this suitable habitat, it is expected that a determination of "likely to adversely affect" will be appropriate for the Indiana and northern long-eared bat. MoDOT, FHWA, and USFWS agreed that an acoustic survey should be conducted in the area around Hinkson Creek. USFWS completed an acoustic survey in spring 2023, with MoDOT's participation. During the acoustic survey, it is anticipated that it will be negative for Indiana and northern long-eared bats. If the acoustic survey is negative for the species, the determinations for these species will be changed to "no effect."

Tricolored bats were proposed for listing as endangered in September 2022. They mainly roost in foliage of live and dead trees in spring, summer, and fall, and hibernate in caves and other subterranean habitats during the winter. These bats can occasionally be found roosting on bridges and in culverts. Although there is not currently guidance available for tricolored bats, it seems that all areas identified with trees could provide suitable habitat for tricolored bats.

Tricolored bats often show up on acoustic survey results, so it is likely that they will show up on the acoustic survey planned for spring 2023. Even if tricolored bats do show up during an acoustic survey, impacts resulting from the project are not expected to jeopardize the continued existence of the tricolored bat. MoDOT plans to confer with USFWS on the tricolored bat.

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) of 1940 (BGEPA), prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. BGEPA provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof."

No bald or golden eagles, or other raptor nests were located during the site visit. Review of the MDC Natural Heritage Database (updated June 2022) shows the nearest record for an eagle nest is near Perche Creek about one mile south of the project limits. No disturbance to bald or golden eagle nests are expected with the project. However, if conditions in the project area change (i.e., a new nest is located near the project area), MoDOT will attempt to eliminate or reduce disturbance to nesting eagles, or otherwise obtain a permit.

The Migratory Bird Treaty Act (16 U.S.C. 701 et seq.) of 1918 (MBTA) implements various treaties and conventions between the U.S., Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Under MBTA, unless permitted by regulations, it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg or product, manufactured or not.

Evidence of two migratory bird species, the barn swallow (*Hirundo rustica*) and the cliff swallow (*Petrochelidon pyrrhonota*), was present at several of the bridges and culverts in the study area. These species are often found together. It is possible that any of the bridges over streams (Perche and Hinkson Creek in particular) could have cliff or barn swallow nests during any nesting season.

Based on guidance provided from USFWS on January 5, 2021, conferencing for monarch butterflies is not required unless MoDOT is receiving funding from the USFWS. Since that is not the case with this project, MoDOT will not make an effects determination for this species.

MoDOT utilized the USFWS under the reimbursable agreement to conduct acoustic monitoring for federally protected bat species within SIU 4. Acoustic monitoring for SIU 4 was completed as of August 15, 2023 per USFWS Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines. Per correspondence received in August and September 2023, MoDOT received results in October 2023. Based on preliminary assessment of acoustic data showing large numbers of gray bats (*Myotis grisescens*) associated with the bridge crossing at Perche Creek.

MoDOT plans to utilize the FHWA programmatic (NLAA or LAA) for consultation for Tricolored, northern long-eared, and Indiana bats. MoDOT plans to use a standard Biological Assessment or the gray bat blanket clearance letter (in cases where there was a NLAA determination). The results showed that no Indiana bats or northern long-eared bats occurred within the project footprint during the summer months of 2023. However, previous data show there are records for Indiana bats and northern long-eared bats in SIU4. Consultation is anticipated to be completed by January 2024 to allow for winter clearing of trees in the eastern portion of SIU 4.

Applicable Commitment(s):

MoDOT will review the Natural Heritage Database and coordinate with the USFWS periodically during the project development process to identify any new locations of threatened and endangered bat activity.

MoDOT will cooperate with MDC and their partners to relocate impacted populations of bristled Cyperus within the study limits.

MoDOT will coordinate with USFWS on acoustic survey locations for the Indiana Bat, Northern Long Eared Bat, Gray Bat, and the Tricolor Bat.

Hazardous Materials and Waste Management

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

A search of federal and state regulatory databases of known contamination sites or hazardous waste storage or waste generators was conducted in July 2003. A total of 151 recorded sites were identified within 0.25 miles of I-70. None were NPL sites, CERCLIS sites, RCRIS TSD facilities, SHWSs or State Landfill sites. After review of the records and limited onsite investigation, 34 of the sites were determined to warrant further site assessment if they were within the potential area of effect of the project.

In accordance with several federal laws, including RCRA, CERCLA and SARA, any hazardous waste encountered during construction would require special handling and disposal to minimize risk to the workers and public at large. Sites with substantial contamination of the soil or groundwater would be avoided when possible.

The potential interaction of the project with hazardous waste sites appears roughly equivalent regardless of the selected alternatives. Fifteen sites were identified in proximity to the reasonable alternatives and would require further site assessment.

Table 9: Sites Potentially Required for Further Assessment

Site Name	Address	Potential for Contamination	Regulatory Status
Interstate 66	U.S. 63/I-70 – Interstate Dr.	Medium	LUST/UST
Gas Pump	Ashley Street	Medium	Not Listed
I-70 Amoco	1704 North Providence	High	LUST/UST
Northside Conoco	210 E. Texas Avenue	Medium	UST
US & Gentges, Inc.	1512 Illinois Street	Low	LUST/UST
Sinclair Retail #24003	1106 I-70 Drive Southwest	Low	LUST/UST
Stadium Convenience Center	1004 North Stadium Boulevard	Medium	LUST/UST
Xtreme Towing	1910 I-70 Business Loop West	Low	Not Listed
Midway Auto Truck Plaza	6401 West Highway 40	High	LUST
Mr. G's Tire and Auto, Inc.	803 Business 70 West	Medium	UST/SPILLS
Analytical Bio-Chemistry Laboratory	7200 East ABC Lane	High	RCRIS- LQG/MLTS
Sorrells Auto Salvage	4313 I-70 Drive Southwest	High	RCRIS- SQG/FINDS
In Line Auto Body	4795 I-70 Drive Southwest	Low	RCRIS- SQG/FINDS
Columbia Power Plant	East Business Loop 70	Medium	Not Listed
Telephone Pole Storage Yard	Ashley Street	Low	Not Listed

The following four sites appear to have posed the greatest potential impact to the project, because the cost to clean up the sites could be high.

I-70 Amoco

Both soil and groundwater contamination were reported from a LUST. Improvements to MO-163 (Providence Road) as part of any reasonable alternative could have affected this property.

Midway Auto Truck Plaza

A LUST release occurred in December 1998 that affected both soil and groundwater. Improvements to US 40 (under any reasonable alternative) could have affected this property.

Analytical Bio-Chemistry Laboratory

The facility was identified as a RCRIS LQG that has been cited with 28 RCRA violations dating back to 1985. The extension of I-70 Drive NE under all reasonable alternatives would have traversed this property.

Sorrells Auto Salvage

The auto parts salvage yard encompasses two tracts on both sides of Sorrels Overpass Drive. Salvage yards can be a potential source of soil and groundwater contamination. The widening of I-70 and the improvement of Sorrels Overpass Drive and I-70 Drive SW could have affected this property.

SIU 4 Corridor Re-Evaluation

Is there an impact to this resource? Yes ☒ No ☐

Change since 2005 EIS More Impacts ☐ No Change ☒ Fewer Impacts ☐

An updated search of federal and state regulatory databases was conducted in February 2022. Over 600 different sites were identified within the Study Area and used as one of the screening criteria for the initial alternatives and later the Reasonable Alternatives. There are a total of 248 sites identified as being potentially impacted by the Reasonable Alternatives.

Minor variation in alignments during final design could avoid some of these sites, however, many of them could require further investigation to evaluate potential contamination of soils or groundwater. There is a possibility that additional sites with contamination may be encountered during actual construction. In the event contamination is encountered, MoDOT would develop an appropriate course of action and coordination with MDNR.

No ”Moderate-to-High” risk potentially hazardous waste sites were identified within the Study Area. The number of sites (i.e., “Low-to-Moderate”, and “None-to-Low” probability of contamination) potentially impacted by the Reasonable Alternatives are summarized in **Table 7** below. There are no or minimal differences between the Reasonable Alternatives with regards to hazmat database sites potentially impacted.

Table 10: Summary of Hazmat Database Sites Potentially Impacted by Reasonable Alternatives

	Priority			
Alternatives	**High to Moderate**	**Moderate to Low**	**Low to None**	**Total**
Western Terminus	0	0	0	0
J/O Alt 1	0	3	5	8
J/O Alt 2	0	3	5	8
J/O to 40	0	0	5	5
40 Alt 1	0	1	9	10
40 Alt 2	0	1	8	9
40 to Stadium North	0	2	6	8
40 to Stadium South	0	1	7	8
Stadium Alt 1	0	12	20	32
Stadium Alt 2	0	12	19	31
Business Loop	0	13	21	34
163 to 763 Alt 1	0	6	18	24
163 to 763 Alt 2	0	6	18	24
63 Alt 1	0	12	41	53
63 Alt 2	0	12	41	53
63 Alt 3	0	12	41	53
63 to St. Charles	0	0	2	2

St. Charles Alt 1	0	3	16	19
St. Charles Alt 2	0	3	15	18
St. Charles to Z	0	1	11	12
Z Alt 1	0	0	6	6

Since the 2005 EIS, the four sites that were considered to pose the greatest potential impact to the project have status changes since that time as follows:

- I-70 Amoco received a No Further Action Letter from the MDNR when cleanup at the site was completed in 2005.
- Midway Auto Truck Plaza received a No Further Action letter from MDNR in 2011 with the condition that the property is not developed for residential use.
- Analytical Bio-Chemistry Laboratory was issued a Certificate of Completion and the Voluntary Cleanup Program by MDNR in 2013.
- Sorrells Auto Salvage was issued a Certificate of Completion and the Voluntary Cleanup Program by MDNR in 2001.

Applicable Commitment(s):
Additional study and proper remediation of hazardous waste sites that will be encountered by construction will be performed as needed to minimize exposure of construction workers and the public to hazardous wastes and to ensure proper disposal of contaminated earth and other substances. This includes proper disposal of demolition debris in accordance with state law.

Cultural and Historic Resources

SIU 4 Corridor - 2005 EIS

Is there an impact to this resource? Yes ☒ No ☐

Cultural resources consist of archaeological sites, architectural buildings and structures, bridges, National Register places and districts and cultural landscapes.

An architectural survey was completed for properties in the SIU 4 project area. The Area of Potential Effects (APE) used for the survey was 100 ft outside the limit of the alternatives developed for the project along existing I-70 and interchanges.

There was an inventory form completed for 40 properties in the project area. Of those, four were recommended eligible for the NRHP and one (Candlelight Lodge Retirement Center, 4BO84) was already on the NRHP.

There were two cemeteries in the project corridor. The Memorial Park Cemetery is located northwest of the intersection of Business Loop 70 and Creasy Springs Road. The small Cochran Family Cemetery was identified during one of the project's public involvement events and is located roughly at mile marker 118, south of the I-70 frontage road.

There were 35 bridges within the APE, 25 of these dated to 1961 or earlier. These were photographed and mapped. None were recommended as eligible for the NRHP.

None of the archaeological sites were investigated beyond the record search level for the EIS. The Phase I archaeological survey would be performed for an APE consisting of a 50-meter-wide area adjacent to the existing right of way, or outer road right of way, where lane expansion is to take place. A similar area will be surveyed for construction of any new outer roads. At interchanges, all new right of way will be surveyed. If any significant

archaeological sites would be found that would unavoidably be adversely affected by the project, a recovery plan would be developed in cooperation with the SHPO.

The one recorded NRHP property in the project corridor, the Pierce Pennant Motor Hotel (Candlelight Lodge Retirement Center, 4BO84), would have been avoided by the reasonable alternatives. The recommended National Register boundary for the property includes only the area occupied by the one remaining building of three originally present. Consequently, the reasonable alternatives would not have directly impacted the property. Because the property is in a developed area near the interstate highway, the reasonable alternatives would not have affected the context of the property. There would be no adverse effect.

The Amerman Farm (4BO4) is within the APE but outside of the limit of proposed improvements. There would have been no adverse effect.

The Van Horn Tavern (4BO28) is within the APE but outside of the limit of the proposed improvements, which would be limited to the lane additions on the north end of the parcel and road improvements on the south end. There would have been no adverse effect.

A single property, recommended eligible for the NRHP through the architectural survey, would have been adversely affected by the reasonable alternatives: the Bowling-Napier Estate. The property consists of roughly 30 acres. There are two houses and five outbuildings on the property. I-70 forms the property's northern border. To the west are Bowling Street and the Columbia Municipal Power Plant. The Business Loop of I-70 is the southern border. Industrial/commercial properties adjoined the property's eastern boundary with the COLT rail line/Paris Road (MO-B) nearby. There is a single drive/access road across the site, and roughly the northern half of the property is wooded.

The 1913 mansion was found to be eligible for the NRHP under Criterion C with a period of significance of 1913. The 1908 house was a contributing resource. The NRHP boundary was tentatively determined to be the entire 30-acre parcel.

Under the collector/distributor and one-way frontage road alternatives, the project would have included extending Bowling Street across the northwest corner of the property to a new Business Loop 70 Eastern interchange. The proposed ramps along I-70 would also have resulted in a narrow encroachment along the property's entire northern border. While no buildings would have been displaced, the project would likely have had an adverse effect on the property due to changes in the setting of the principal building, the brick mansion.

The Dunscombe Insurance Lustron House (4BO91) consists of a steel Lustron house and a Lustron garage. This house and the adjacent garage were recommended eligible for the NRHP under Criterion A, Industry, and Criterion C, Architecture. The property was within the APE but outside the limit of the proposed improvements. There would have been no adverse effect.

The redesign of the Business Loop 70 West interchange may have affected a small strip of the Memorial Park Cemetery property adjacent to the Business Loop 70 right of way. No structures or burial plots at the cemetery would have been affected. The Cochran family cemetery would have been avoided by the reasonable alternatives.

SIU 4 Corridor Re-Evaluation	
Is there an impact to this resource?	Yes ☐ No ☒
Change since 2005 EIS	More Impacts ☐ No Change ☐ Fewer Impacts ☒

Architecture

The architectural survey evaluated 164 properties with architectural resources constructed before 1982. Properties H065, H438, H443, and H472 could not be evaluated from public access as not enough of the resources were visible.

Buildings 1 and 2 on Property H009 were previously determined eligible for the NRHP. The current evaluation found no changes and recommends the residence is still eligible for the NRHP. It was also determined that the smokehouse, ice cellar, and coal house were eligible. In addition, a set of stone stairs (Structure 2) was recommended as contributing to the property. Only Structure 2 is within the APE, and there would be no direct or indirect effect on the residence, smokehouse, coal shed, or the ice cellar. Structure 2 is not within the construction corridor, and there will be no direct effect on the stairway and surrounding landscape.

The Van Horn Tavern was previously determined eligible for the NRHP but has since been removed from the property. The remainder of the resources were confirmed to not be eligible for the NRHP.

While the Bowling-Napier property is included in the Cultural Resources report (available upon request), as part of the APE, the property no longer falls within the footprint examined for various alternatives to determine impacts from the project. There would be no adverse effect on the property.

The remainder of the architectural resources in the I-70 APE are recommended not eligible for the NRHP. No potential historic districts were identified during the current survey.

Archaeology

There were 36 previously reported archaeological sites within the proposed project footprint. Of these, 11 could not be revisited because access was denied, or they were not accessible. In addition, the northwestern portion of site 23BO280 could not be accessed because it was within a homeless encampment, and the northern portion of site 23BO347 could not be surveyed because the landowner denied access. The remaining 23 sites and other portions of sites 23BO280 and 23BO347 were revisited.

Although this portion of I-70 has been intensively surveyed since at least the 1930s, the present survey did identify three sites not previously recorded, 23BO2516, 23BO2517, and 23BO2518.

It is recommended that 21 sites are not eligible for the NRHP within the proposed project footprint. These sites include seven that have been destroyed by later development: 23BO285, 23BO286, 23BO923, 23BO1222, 23BO1223, 23BO2318, and 23BO2465. Four sites, 23BO1253, 23BO2316, 23BO2323, and 23BO2517, were determined to have few subsurface remains, so additional investigations would not produce any new information. Another 10 sites were destroyed or would not likely have many subsurface remains within the project footprint. However, these sites extend outside the footprint, and these portions of the sites need to be evaluated by future investigations. For example, site 23BO344/1258 was associated with the Van Horn Tavern. Although the tavern had been removed, the remains of a cellar and other yard features likely still exist at its original location outside the project footprint. Also, site 23BO2320 was associated with the home of physician George Jacobs who held 55 enslaved individuals. Although all of the buildings have been razed, subsurface features could still exist that would provide insights into Jacobs, enslaved people, and later occupants of this site. The project footprint only touches the edges of this site and does not likely have intact remains; other parts of the site could have subsurface remains. The site is threatened by future development, which has begun encroaching upon it. The sites that need investigations outside the proposed project footprint before future construction include:

23BO342/2317	23BO347
23BO343	23BO432
23BO344/1258	23BO2320
23BO346	23BO2326

Access was denied or could not be accessed at six sites: 23BO281, 23BO433, 23BO1050, 23BO1056, 23BO1060, and 23BO2325. These sites will need to be surveyed when they can be accessed. Site 23BO280 was mostly destroyed by road and building construction. However, the northwestern portion of the site at the edge of the terrace was determined to be intact by the Reeder et al. (1984) testing. That portion of the site could not be visited because a homeless encampment was on it. This portion of site 23BO280 needs to be investigated once access is possible.

The remaining six sites within the project footprint may have intact subsurface features that could provide new insights into Precontact or Historical activities and people's lives. These sites should be avoided by the proposed construction improvements, or the sites tested to assess their eligibility for the NRHP better. These sites are:

23BO440	23BO1254/2319
23BO2322	23BO2516
23BO2518	

Due to the number of archaeological sites identified within this region, it is generally recommended that if the proposed project footprint is changed and new areas are added, MoDOT and SHPO will need to be contacted to determine the need for a cultural resource survey of any new areas. In this way, the community's cultural heritage will be protected, and it could prevent the inadvertent disturbance of human remains or sacred places.

A reasonable effort has been made to identify Section 4(f) resources. There is little or no potential for the presence of archeological resources that have value for preservation in place, and any subsequent Section 4(f) compliance requirements would be identified through the processes established in executed Section 106 Programmatic Agreement.

Archival, Architecture, and Archaeology Reports Available Upon Request

Applicable Commitment(s):

MoDOT will comply with the newly executed Programmatic Agreement (dated 08/29/2023). Should design modifications and/or construction activities result in impacts to historic properties, MoDOT will coordinate with SHPO related to the Section 106 process.

Mitigation and Environmental Commitments

Decisions

The following provides a review of decisions made through the course of the First and Second Tier Studies.

12-18-2001 Interstate 70 Corridor, Kansas City to St. Louis, Missouri Final First Tier EIS and ROD – Within the first Tier of the EIS, FHWA approved the selection of the Widen Existing I-70 Strategy for the I-70 Corridor. The strategy would improve existing I-70 by adding lanes and reconstructing the existing roadway to enhance safety and performance, including improved access management. This strategy included provisions for future transportation improvements within the median in rural areas, and the ability to add capacity in the future.

4-27-2006 Interstate 70 SIU 4 Corridor ROD - *The* second tier EIS evaluated impacts to SIU 4, defined as the portion of I-70 from just west of the Missouri Route J/O interchange (MO-J/O, exit 117) to just east of the MO-Z interchange (exit 133). The selected alternative included an additional lane in each direction, the replacement of all existing interchanges and overpasses, access management where appropriate, and the provision for continuous frontage roads on both sides of I-70 as deemed necessary.

8-14-2009 Interstate 70 Corridor, Kansas City to St. Louis, Missouri Supplemental EIS and ROD – Within the First Tier of the I-70 SEIS, the Truck-Only Lanes Strategy was determined to be the selected improvement strategy. The Truck-Only Lanes Strategy would construct two truck-only lanes and two or more general purpose lanes in each direction along existing I-70. Concrete barriers, buffer separations or grassed areas would separate the truck-only lanes and general-purpose lanes from each other, depending on the location along the corridor. The Truck-only Lanes Strategy was determined to be consistent with the decisions made in the 12-18-2001 ROD, as it would fit within the limits of the previously evaluated footprint, to the extent possible, utilizing the future transportation corridor identified in the Widen Existing 1-70 Strategy. Interchange features of the Widen Existing I-70 Strategy at the majority of the interchanges along the corridor would be retained.

List of Commitments

As identified in the 12-18-01 ROD for the Tier 1 EIS and the 4-27-06 Final Second Tier ROD for SIU 4, MoDOT agreed to the commitments and future actions during the design and construction phases of future improvements in the SIU 4 corridor.

The agreed upon commitments and future actions are summarized below. In addition, applicability of the commitments as related to Projects ST0017, ST0021, and 5P3411 are identified. Changes or updates to these commitments are shown below each commitment where applicable. The rationale for any EIS/ROD commitment's removal or revision is also provided.

Existing Commitments from the 2006 ROD Common to all SIUs:

1. *MoDOT will comply with the appropriate currently adopted design criteria and design standards. (**Does not apply to this SIU 4 EIS Re-evaluation**)*

- *MoDOT will comply with the appropriate currently adopted design criteria and design standards, however, design exceptions are anticipated**. (SIU 4 EIS Re-evaluation)***

Rationale – MoDOT acknowledges that design exceptions may be required, and any design exceptions will need FHWA's approval.

2. MoDOT will incorporate suitable and reasonable Intelligent Transportation Systems elements into the Improve I-70 program. ***(Applicable to this SIU 4 EIS Re-evaluation)***

3. MoDOT will consult with emergency responder agencies involved in traffic incident management on I-70 in future design and maintenance of traffic plan development as the Improve I-70 program progresses. ***(Applicable to this SIU EIS 4 Re-evaluation)***

4. MoDOT will construct frontage roads for the purposes of maintaining existing local service connections and maintaining existing access to adjacent properties, where warranted. The frontage roads as proposed in the Frontage Road Master Plan may be constructed in the future as needs arise and as funding becomes available. Where reasonably possible, the eight-foot (2.4 meters) paved shoulder along new frontage road construction could serve as a one-way bicycle facility. ***(Does not apply to this SIU 4 EIS Re-evaluation)***

- *MoDOT will work to maintain existing local service connections and access to adjacent properties. Shoulder width will be determined in accordance with standards while balancing safety and available resources.* **(*SIU 4 EIS Re-evaluation*)**

Rationale – MoDOT acknowledges that some new outer roads will not be constructed with 8-foot paved shoulders. Also, the Frontage Road Master Plan is no longer applies to this project.

5. MoDOT will develop a maintenance of traffic plan for the construction phases. Through traffic will be maintained along I-70 and at access points to the interstate from crossroads. It is likely that some interchange ramps and crossroads will be closed, and temporary detours required. Construction schedules, road closures and detours will be coordinated with police forces and emergency services to reduce impact to response times of these agencies. ***(Does not apply to this SIU 4 EIS Re-evaluation)***

- *MoDOT will develop a maintenance of traffic plan for construction phases. It is likely that some mainline, interchange ramps, and crossroads will be closed, and temporary detours required. Construction schedules, road closures and detours will be coordinated with police forces and emergency services to reduce impact to response times of these agencies.* **(*SIU 4 EIS Re-evaluation*)**

Rationale – MoDOT acknowledges that short-term full closures of I-70 and some interchanges may occur during construction.

6. MoDOT will coordinate with project area businesses regarding access issues, via direct communication throughout the construction period. ***(Applicable to this SIU 4 EIS Re-evaluation)***

- Communication may include a variety of tools (email updates, website, etc.).

7. MoDOT will coordinate with local public service and utility service providers during the final design phase of the project and during the construction period to minimize infrastructure relocation, modifications, and connectivity requirements. ***(Does not apply to this SIU 4 EIS Re-evaluation)***

- *MoDOT will coordinate with local public service and utility service providers during the design and construction phases of the project.* **(*SIU 4 EIS Re-evaluation*)**

Rationale – MoDOT acknowledges that minimization of infrastructure relocation, modifications, and connectivity requirements to utilities may not be achievable in some locations.

8. During right of way acquisition and relocations, MoDOT will assure that this will be accomplished in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. MoDOT is committed to examining ways to further minimize property impacts throughout the corridor, without compromising the safety of the proposed facility, during subsequent design phases. ***(Applicable to this SIU 4 EIS Re-evaluation)***

9. During construction, MoDOT's standard specifications, MDNR Solid Waste Management Program, and MoDOT's Sediment and Erosion Control Program will all be followed. ***(Applicable to this SIU 4 EIS Re-evaluation)***

10. Through MoDOT's approved Pollution Prevention Plan for the National Pollutant Discharge Elimination System, the control of water pollution will be accomplished. The plan specifies berms, slope drains, ditch checks, sediment basins, silt fences, rapid seeding and mulching and other erosion control devices or methods as needed. In addition,

all construction and project activities will comply with all conditions of appropriate USACE and MDNR permits and certifications. ***(Applicable to this SIU 4 EIS Re-evaluation)***

- *All construction and project activities will comply with all conditions of appropriate USACE and MDNR permits and certifications.* ***(SIU 4 EIS Re-evaluation)***

11. MoDOT has special provisions for construction, which require that all contractors comply with all applicable local, state, and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. Construction equipment is required to have mufflers installed in accordance with the equipment manufacturers' specifications. ***(Applicable to this SIU 4 EIS Re-evaluation)***

12. MoDOT is committed to minimizing lighting impacts. Efficient lighting and equipment will be installed, where appropriate, to optimize the use of light on the road surface while minimizing stray light intruding on adjacent properties. ***(Applicable to this SIU 4 EIS Re-evaluation)***

13. To minimize impacts associated with construction, pollution control measures outlined in the MoDOT Standard Specifications for Highway Construction will be used. These measures pertain to air, noise and water pollution as well as traffic control and safety measures. ***(Applicable to this SIU 4 EIS Re-evaluation)***

14. MoDOT will review the Natural Heritage Database and coordinate with the USFWS periodically during the project development process to identify any new locations of threatened and endangered bat activity. ***(Applicable to this SIU 4 EIS Re-evaluation)***

*15. Landscaping in the right of way will include native plant species and other enhancements in accordance with the statewide I-70 Corridor Enhancement Plan to the maximum extent possible. In accordance with MoDOT standards, new seed mixes, mulch and plant materials will be free of invasive weedy species to the extent possible. Where appropriate, MoDOT will partner with the MDC Grow Native program and implement the establishment of native vegetation along highway rights of way. (****Does not apply to this SIU 4 EIS Re-evaluation****)*

- *MoDOT commits to following the EPG's roadside design guidelines.* ***(SIU 4 EIS Re-evaluation***

Rationale – MoDOT's landscaping policy has been revised since the EIS/ROD. The Statewide I-70 Corridor Enhancement Plan no longer applies to this project. MoDOT's EPG's roadside design guidelines supersedes past polices on planting details.

16. MoDOT has developed a Conceptual Wetland Mitigation Plan to compensate for wetland impacts, and appropriate mitigation will be adhered to in accordance with the plan. ***(Applicable to this SIU 4 EIS Re-evaluation)***

- *If Waters of the US are impacted, MoDOT will mitigate stream and/or wetland impacts in accordance with the USACE 2008 Mitigation Rule.* ***(SIU 4 EIS Re-evaluation)***

17. MoDOT will continue to coordinate with the SHPO and comply with the existing executed Programmatic Agreement that complies with the National Historic Preservation Act. ***(Does not apply to this SIU 4 EIS Re-evaluation)***

- *MoDOT will comply with the newly executed Programmatic Agreement (dated 08/29/2023). Should design modifications and/or construction activities result in impacts to historic properties, MoDOT will coordinate with SHPO related to the Section 106 process.* ***(SIU 4 EIS Re-evaluation)***

Rationale – MoDOT will comply with the newly executed Programmatic Agreement (dated 08/29/2023) as it supersedes the previous Programmatic Agreement.

18. When trees are removed, MoDOT will implement the tree replacement policy and plant two trees for every tree removed that has a diameter greater than six inches at breast height. ***(Does not apply to this SIU 4 Re-evaluation)***

- *MoDOT no longer has a tree replacement policy in place. As a result, MoDOT will not implement replacement of removed trees.* ***(SIU 4 EIS Re-evaluation)***

Rationale – MoDOT no longer has a tree replacement policy.

19. Where feasible, MoDOT's design process will minimize impacts to floodplains. ***(Applicable to this SIU 4 EIS Re-evaluation)***

20. Mitigation efforts to prevent the rise in flood elevation of each of the water bodies affected will be employed in an effort to obtain a No-Rise Certification permit from SEMA. ***(Does not apply to this SIU 4 EIS Re-evaluation)***

- *If the Contractor is unable to obtain No-Rise Certification(s), or if floodway(s) are expanded, MoDOT or the Design-Build Contractor will prepare a CLOMR for approval by SEMA prior to construction in affected areas. MoDOT or the Design-Build Contractor will also obtain an approved LOMR from SEMA after construction is complete. MoDOT anticipates that the Missouri Highway and Transportation Commission will award a design-build contract for the I-70 section between the I-70/US 63 Connector Interchange and the I-70/US 54 interchange on February 7, 2024****. (SIU 4 EIS Re-evaluation)***
- *MoDOT commits to obtaining floodplain development permits from SEMA prior to Construction.* ***(SIU 4 EIS Re-evaluation)***

Rationale – The contractor is tasked with proving a no-rise and completing the no-rise certification so that MoDOT can obtain a floodplain development permit from SEMA.

21. MoDOT will continue to coordinate with the NRCS to determine appropriate mitigation measures for the loss of Conservation Reserve Program and Wetlands Reserve Program lands. ***(Does not apply to this SIU 4 EIS Re-evaluation)***

- *MoDOT has confirmed with NRCS that no WRP or CRP lands exist within SIU 4.* **(*SIU 4 EIS Re-evaluation*)**

Rationale – As no WRP or CRP lands exist in the corridor, coordination with NRCS on this matter is no longer required.

22. Plans for suitable pedestrian, bicycle and wheelchair access across I-70 will be developed during the design of the interchanges. ***(Does not apply to this SIU 4 EIS Re-evaluation)***

- *Pedestrian, bicycle, and Americans with Disabilities Act (ADA) access will be considered across I-70 where there is connectivity to facilities on either side of I-70.* **(*SIU 4 EIS Re-evaluation*)**

Rationale – MoDOT acknowledges that plans would be developed for suitable pedestrian/bicycle/ADA plans across i-70 only at locations where connectivity for these modes is warranted.

23. The MoDOT Noise Policy will be used to address noise impacts. Where appropriate, possible noise abatement types and locations will be presented and discussed with the benefited residents during the preliminary design

phase. Noise abatement measures will be considered that are deemed reasonable and feasible. ***(Does not apply to this SIU 4 EIS Re-evaluation)***

- *The MoDOT Noise Policy will be used to address noise impacts. For locations where noise walls are feasible and reasonable, MoDOT will discuss noise wall locations and provide benefited residents an opportunity to vote on whether they would like a noise wall.* **(*SIU 4 EIS Re-evaluation*)**

Rationale – MoDOT's noise policy has changed since the EIS/ROD. The current MoDOT noise policy is being implemented. New commitment #36 also addresses possible future MoDOT noise policy changes during final design.

24. During the final design process, MoDOT will consider options to minimize new right of way acquisition. ***(Applicable to this SIU 4 EIS Re-evaluation)***

25. MoDOT will continue cooperating with MDNR, MDC and USFWS to relocate the population of bristled Cyperus known to occur within the right of way to other publicly owned lands prior to construction. ***(Does not apply to this SIU 4 EIS Re-evaluation)***

- *MoDOT will cooperate with MDC and their partners to relocate impacted populations of bristled Cyperus within the study limits* **(*SIU 4 EIS Re-evaluation*)**

Rationale – MoDOT is broadening the agencies they will cooperate with in relocating the bristle Cyperus.

26. Additional study and proper remediation of hazardous waste sites that will be encountered by construction will be performed as needed to minimize exposure of construction workers and the public to hazardous wastes and to ensure proper disposal of contaminated earth and other substances. This includes proper disposal of demolition debris in accordance with state law. ***(Applicable to this SIU 4 EIS Re-evaluation)***

Existing Commitments from the 2006 ROD Commitments Specific to SIU 4:

27. I-70 Study Team will continue to coordinate with local planning agencies, including CATSO and Columbia Planning and Building Department. ***(Applicable to this SIU 4 EIS Re-evaluation)***

28. The design of roadway crossings over I-70 and bridges over streams in the Columbia area will be coordinated with the City Planning and Building Department and the Parks and Recreation Department to make the crossings as compatible as possible with plans to extend bicycle and pedestrian trails and pathways along the roadways and stream corridors. ***(Applicable to this SIU 4 EIS Re-evaluation)***

29. Detailed design of the project will include early coordination with City and County public works departments and the Missouri One-call System to identify utilities in the project area. The design process will include periodic consultation of utility owners to ensure compatibility of the roadway design with continued service, proper design of any utilities requiring relocation, construction techniques and timing and technical assistance during construction. ***(Applicable to this SIU 4 EIS Re-evaluation)***

New Commitments Specific to this SIU 4 EIS Re-evaluation:

30. If there are changes in the project scope, project limits, existing conditions, pertinent regulations, or environmental commitments, MoDOT will re-evaluate potential impacts prior to implementation. Environmental commitments are not subject to change without prior written approval from FHWA.

31. MoDOT will include a Job Special Provision (JSP) in project contract(s) to help ensure that bridges are kept free of active nests before and during construction.

32. MoDOT will coordinate with the Federal Aviation Administration to complete necessary permitting.

33. MoDOT will coordinate with USFWS on acoustic survey locations for the Indiana Bat, Northern Long Eared Bat, Gray Bat, and the Tricolor Bat.

34. MoDOT, or the contractor, will coordinate with the USDA Natural Resources Conservation Service to complete the Farmland Conversion Impact Rating process in compliance with the Farmland Protection Policy Act. MoDOT will obtain all related documentation from the contractor, should the contractor perform the coordination with USDA NRCS.

35. For projects that encompass more than one SIU, MoDOT will combine the commitments in the affected SIUs into one document that will be converted into either Job Special Provisions or contract documents.

36. The noise analysis was performed during this Re-evaluation followed MoDOT's current, FHWA approved, noise policy. Final noise barrier decisions will be made during final design. If at that time, a new MoDOT noise policy approved by FHWA is in place, the new noise policy will be used for a new noise analysis and final noise barrier decisions.

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Table 11: SIU 4 EIS Re-evaluation Summary Impact Table

COMPOSITE FOOTPRINT IMPACT SUMMARY TABLE COMPARISON			
IMPACT CATEGORY	**MEASUREMENT**	**Composite Footprint - Re-Evaluation**	**Composite Footprint - Original EIS**
RIGHT OF WAY IMPACTS (Existing Land Use within Environmental Footprint)			
Residential	acres	52.0	54.0
Commercial	acres	56.6	63.0
Industrial	acres	0.8	9.0
Agricultural (Wooded/Vacant)	acres	149.5	249.0
Publicly Owned Parcels	acres	20.4	11.0
Other (e.g. utilities, institutional, fraternal organizations)	acres	7.3	11.0
Total Right of Way Required	acres	286.6	397.0
ENVIRONMENTAL IMPACTS			
Wetland Impacts	acres	5.4	8.3
Open Water Impacts	acres	0.2	2.2
100-Year Floodplain Impacts	acres	97.1	72
Regulatory Floodway	LF	5000	4800
Stream Crossings	#	70	73
Streams	LF	12,430	18,996
Potential Bat Habitat Impacts	acres	145	Not Reported
Number of Hazardous Materials Sites	#	15	15
COMMUNITY IMPACTS			
National Register of Historic Places Impacted	#	0	1
Potentially Eligible Properties for National Register of Historic Places	#	0	0
Section 4f/6f Properties	#	0	1
Potential Disproportionate Impacts to Low Income or Minority Populations (EJ)	Yes/No	No	No
Total Number of Parcels Impacted	#	424	612
DISPLACEMENT IMPACTS			
Residential Impacts (Displacement of Dwelling Units)	#	18	299
Business Operation Impacts (Displacement of at Least One Structure)	#	14	66

Notes:
Publicly owned parcels are higher for the re-evaluation due to the City of Columbia buying property;
100-year Floodplain and Regulatory Floodway are higher for the Re-Evaluation due to larger footprint at Hinkson Creek to allow for greater flexibility for D-B teams;
Regulatory floodway for the Original EIS were quantified based on digitizing previous impact shapes;
Potential bat habitat impacts not quantified in Original EIS;

Re-evaluation Conclusion

Most of the impacts to socioeconomic and environmental resources resulting from the proposed project would remain the same as, or less than, the impacts identified in the 2005 Second Tier EIS. The proposed project would result in impacts that are consistent with impact findings in this section of SIU 4 which were evaluated in the 2005 EIS.

This re-evaluation document demonstrates that the 2005 Final I-70 Second Tier EIS and 2006 ROD for SIU 4 remain valid. The proposed project continues to meet the purpose and need identified in the 2005 EIS. Therefore, a supplemental study of the 2005 EIS is not necessary for the current project.

I-70 SIU 4
Boone County, From Just East of Route BB to Just East of Route Z

Job Numbers 5S3411, ST0017, and ST0021

Submitted Pursuant to 42 U.S.C. 4332(2)(c), 49 U.S.C. 303
By the U.S. Department of Transportation
Federal Highway Administration and the
Missouri Department of Transportation.

12/11/2023	Lauren Paulwell	Acting Programs Team Leader
Date of Approval	**For FHWA**	**Title**

Appendix A: Selected Alternative Identification Technical Memorandum

Appendix B: Public Involvement Summary

Appendix C: Environmental Resources

Appendix D: Waters of the U.S. Delineation

Appendix E: Noise Technical Memorandum

Appendix F: Threatened and Endangered Species Review

Appendix G: Hazardous Materials Technical Memorandum

Appendix H: Agency Coordination

Appendix I: Approved Section 106 Programmatic Agreement

Appendix J: Amended Record of Decision