



INTERSTATE 70 CORRIDOR

KANSAS CITY TO ST. LOUIS, MISSOURI

Second Tier Draft Environmental Assessment

Section of Independent Utility #1
Independence to Odessa

MoDOT Job Number: J411341D





Interstate 70 Corridor

Kansas City to St. Louis, Missouri



Jackson and Lafayette Counties in Missouri
Section of Independent Utility #1
Independence to Odessa

MoDOT Project Number: J4I1341D

Draft Second Tier Environmental Assessment

Submitted Pursuant to:
42 USC 4332 (2) (c)
by the

**U.S. Department of Transportation
Federal Highway Administration
and
Missouri Department of Transportation**

September 2005

Cooperating Agencies:
United States Environmental Protection Agency
United States Army Corps of Engineers

For MoDOT

10/4/05

Date of Approval

For FHWA

10/04/05

Date of Approval

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Section of Independent Utility 1 is a proposed 24-mile (39-kilometer) transportation improvement to I-70 extending from Independence to Odessa. The proposed improvement would provide eight travel lanes from I-470 in Independence to Adams Dairy Parkway in Blue Springs, six travel lanes from Adams Dairy Parkway to Route H/F in Oak Grove and a concrete barrier median. From Route H/F in Oak Grove to mile marker 39 east of Odessa the proposed improvement would provide six travel lanes and a grass median generally between 120 to 130 feet (36.6 to 39.6 meters) wide. In addition to the mainline improvements in SIU 1, seven interchanges would be reconstructed in accordance with the current MoDOT access management guidelines.

Summary

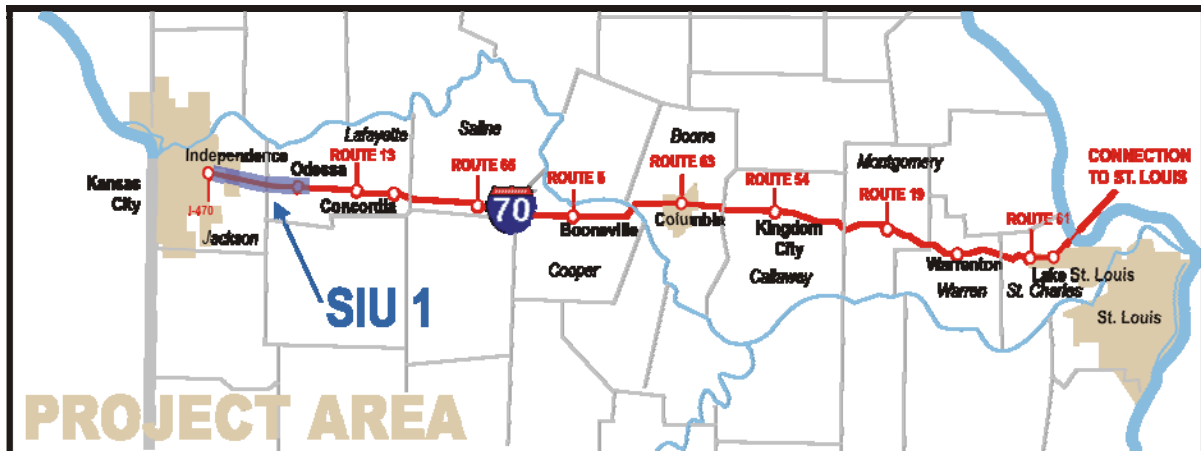
A. Overview

1. Proposed Action

The Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA) propose improving the I-70 corridor to meet current and future transportation needs in Missouri. The location of the proposed improvements is generally between the metropolitan areas of Kansas City and St. Louis. In 2001, MoDOT completed a “First Tier” Final Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) as the first step toward improving I-70. As a result of the First Tier EIS, a preferred strategy consisting of widening and reconstructing I-70 in its existing location was selected.

This Environmental Assessment (EA) is part of the “Second Tier” of NEPA environmental review under which a total of seven “Sections of Independent Utility (SIU)” along I-70 are being evaluated. This EA addresses the area designated SIU 1 which encompasses 24 miles (39 kilometers) of I-70 in Missouri generally between Independence and Odessa (Figure S-1). This EA addresses the interchange configurations considered for SIU 1, the widening strategy for urban areas, where the urban to rural transition should occur, decisions on whether I-70 should be widened to the north or south in rural areas and the impacts it may have. The NEPA/Clean Water Act merged process will not be used for the SIU 1 EA. The Missouri Department of Transportation will continue to coordinate with the United States Army Corps of Engineers (USACE) regarding Section 404 issues and will submit an application for a Section 404 permit during the design phase.

Figure S-1: SIU 1 Project Area



2. Purpose and Need

The purpose and need for the proposed improvements within SIU 1 comprises: addressing improvements needed to conform to current highway design standards; improving safety for the traveling public; improving efficiency of the transportation system (capacity and travel time); addressing economic development and related transportation requirements (trucks/goods movement and seasonal recreation traffic); and meeting national needs for a strategic highway corridor network. The primary proposed improvements within SIU 1 would include improving the mainline (through lanes), bridges, frontage roads and interchanges associated with I-70.

a. Capacity

Traffic on I-70 has been generally increasing with time. Between 1995 and 2000, traffic has remained relatively stable between I-470 and Woods Chapel Road. The remainder of SIU 1 has seen increases between 12 and 80 percent. Based on the Missouri Statewide and the I-70 Major Investment Study (MIS) travel demand models, traffic volumes are projected to increase at a rate of one to three percent per year between 2000 and 2030. The increased traffic volumes will create more traffic congestion, undesirable levels of service and delays on I-70 unless additional capacity is provided.

b. Safety

Adding capacity to I-70 in the SIU 1 Project Area would improve operational conditions, relieve congestion and reduce the density of traveling vehicles, thereby reducing the localized or systematic safety issues that cause congestion and crashes in the SIU 1 Project Area. Interstate improvements could include adding capacity, installing median barriers and making pavement and geometric improvements.

c. Design Features

Existing Facilities

The existing I-70 roadway between Independence and Odessa consists of a six-lane or four-lane divided freeway with variable width medians. The Missouri Department of Transportation is presently completing a pavement replacement project that includes the reconstruction of six through-lanes of pavement from the I-470 interchange to Route 7 while also bringing this section of I-70 up to current interstate design standards. Any subsequent plans to further upgrade I-70 in this area (including the Build Alternatives described in this EA) would generally include utilizing the current improvements.

There are currently nine interchanges located within the SIU 1 Project Area. The I-470 interchange is not considered to be part of the SIU 1 Project Area except as the western terminus. The I-470 interchange will be addressed in a First Tier EIS that is currently being initiated for I-70 from the Missouri State line east to the I-470 interchange. With the exception of Adams Dairy Parkway and Little Blue Parkway, the existing interchanges in SIU 1 will not provide an acceptable level of service (LOS) for the future and do not meet existing MoDOT access management guidelines for spacing between ramp termini and minimum spacing between ramp termini and frontage roads.

The Little Blue Parkway and Adams Dairy Parkway interchanges meet current design standards and access management guidelines. Both interchanges have employed a form of access management that is deemed acceptable.

Improvements Needed to Conform with Current Design Criteria

Compared to today's design standards for a state-of-the-art freeway, the existing I-70 facility has several design parameters that do not meet current standards. Design parameters that do not meet current standards would be addressed as part of any improvement to the I-70 facility. Current roadway standards for freeways would provide many improvements over the standards used when I-70 was originally constructed in the 1950s and 1960s.

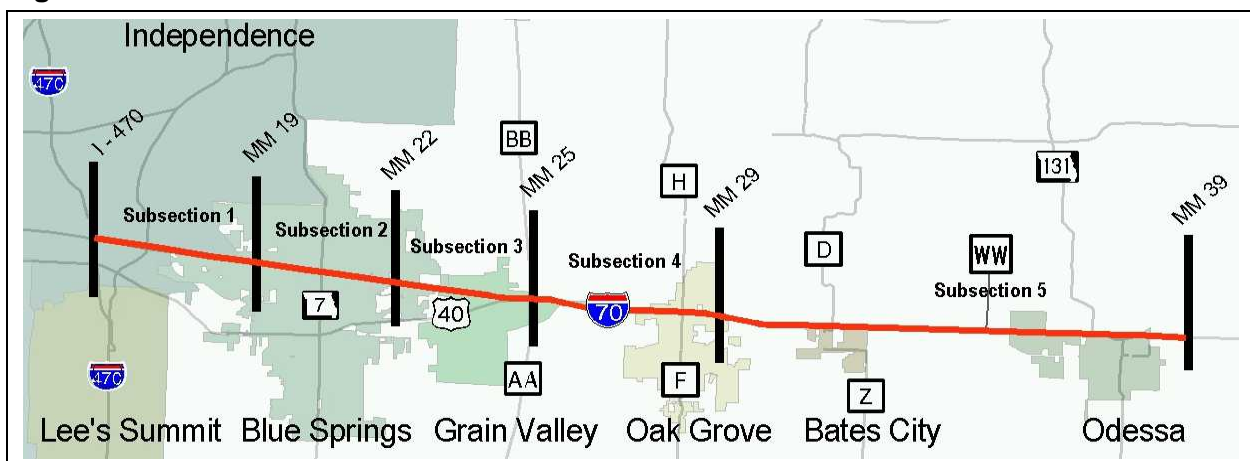
3. Alternatives

The Recommended Preferred Alternative (RPA) and the Build Alternatives addressed in this EA were developed through a comprehensive coordination process and alternative screening effort. The alternative screening process involved two primary components: mainline improvements and interchange improvements. The proposed improvements would be staged over time as needs require and funding allows, even though this document discusses the ultimate facility.

Several interchange alternatives within SIU 1 were considered during preliminary reviews to determine reasonable alternatives to be analyzed in the EA. The final results of the screening process resulted in a number of Build Alternatives and the No-Build Alternative.

After the preliminary analysis, the remaining reasonable mainline and interchange alternatives were combined and SIU 1 was divided into five subsections in order to facilitate comparisons. The five subsections are shown on Figure S-2.

Figure S-2: SIU 1 Subsections



Implementation of the No-Build Alternative would leave I-70 in its current configuration with the addition of Intelligent Transportation System (ITS), routine maintenance and in-kind

reconstruction being the only improvements. Improvements associated with the Build Alternatives would include the following:

- Replacing the existing pavement and bridges that do not conform to current design standards with pavement and bridges utilizing an improved geometric design. This would involve the reconstruction of existing lanes and the addition of one lane in each direction (mainline improvements). These improvements would increase safety and capacity on I-70.
- Interchange reconstruction. This would be done in compliance with current design criteria and with MoDOT's current access management guidelines, to the extent practical. Interchange reconstruction would also allow increased capacity and compliance with all current safety criteria.
- Implementing the Rest Area Master Plan of consolidating the rest areas along I-70 into three improved and expanded rest areas.
- Deployment of ITS components, such as electronic signs and surveillance cameras, to improve traffic operations.
- Completion of the long-term goal of a continuous frontage road system. Although this is a long-term goal, it is not a high priority for MoDOT. The Missouri Department of Transportation is not committed to constructing/upgrading frontage roads in the near term unless a frontage road currently exists at that location or unless it is required for the purposes of maintaining existing local service connections and maintaining access to adjacent properties.

a. Urban to Rural Transition

The SIU 1 mainline is divided into an urban area (I-470 to mile marker 25), a transition area (between mile marker 25 and 29) and a rural area (mile marker 29 to mile marker 39). The transition point recommended in the First Tier EIS was near mile marker 25. During the Second Tier Study an urban mainline alternative extending to mile marker 29 was proposed and retained for further evaluation in this EA.

b. Mainline Widening

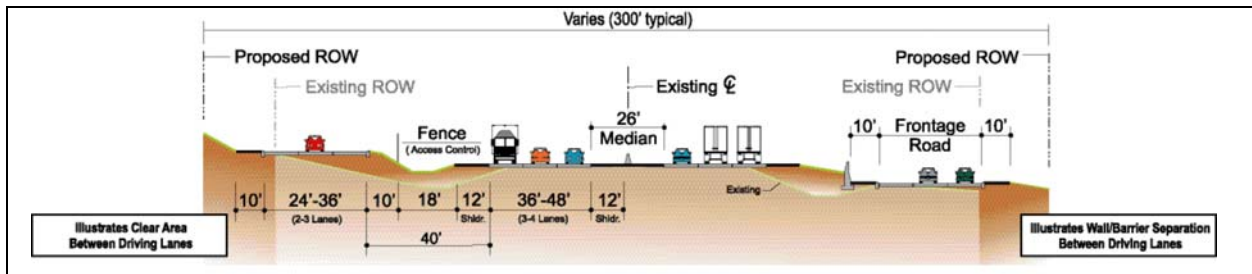
The Recommended Preferred Alternative mainline 2030 improvements in SIU 1 would consist of widening I-70 to: an eight-lane urban roadway with two additional auxiliary lanes from I-470 to Woods Chapel Road, an eight-lane urban roadway from Woods Chapel Road to Adams Dairy Parkway, a six-lane urban roadway from Adams Dairy Parkway to mile marker 29 (east of Oak Grove) and a six-lane rural roadway from mile marker 29 to mile marker 39 (east of Odessa). Both the urban and rural portions would utilize 12-foot (3.7-meter) travel lanes and four 12-foot (3.7-meter) shoulders.

Urban Area

The urban portion of SIU 1 would utilize a 26-foot median with a concrete median barrier to separate the westbound and eastbound traffic. Figure S-3 illustrates the typical urban roadway. The options for widening in the urban area were evaluated in order to minimize impacts and costs and to maximize the use of existing right of ways, roadways and structures. The preferred

widening strategy to accomplish these goals would be to widen along the existing I-70 centerline. A large portion of the urban area of I-70 (I-470 to Route 7) within SIU 1 is currently undergoing a pavement replacement project (MoDOT Job Numbers J4I1352 and J4I306). The project includes the reconstruction of six through-lanes of pavement and shoulders from the I-470 interchange to Route 7 while also bringing this section of I-70 up to current interstate design standards. Therefore, widening in this area would only require converting the existing roadway shoulder into a travel lane (the shoulder was designed with considerations for this purpose) and constructing a new shoulder to the outside of the roadway.

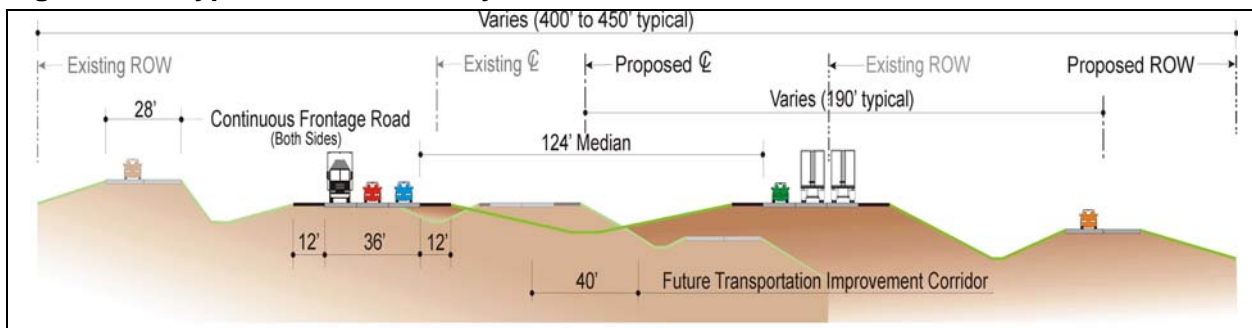
Figure S-3: Typical Urban Roadway



Rural Area

For the mainline improvements in rural areas, alternatives for widening I-70 to the north or south were evaluated in the First Tier EIS. During the Second Tier Study, north versus south mainline alternatives were re-evaluated for the rural area of SIU 1. Based on this evaluation, it was determined that the mainline in the rural area of SIU 1 would be widened to the north from mile marker 29 to the end of SIU 1 at mile marker 39. The median in the rural portion would be a grass area generally between 120 to 130 feet (37 to 40 meters) wide, assumed as 124 feet (38 meters) wide for this EA. Figure S-4 illustrates the typical rural roadway. These improvements would address safety issues, allow for continuous mainline service during construction, allow for the addition of future lanes and allow for the possibility of some type of future transportation improvement.

Figure S-4: Typical Rural Roadway



c. Interchanges

The Recommended Preferred Alternative in SIU 1 would include relocation and/or reconstruction of interchanges at Woods Chapel Road, Route 7, Route AA/BB and Route H/F,

0.25 miles (0.4 kilometers) east of Route D/Z, Hughes Road and 0.3 miles (0.5 kilometers) east of County Road 96/Johnson Road. The reconstruction of bridges at Old Highway 40 and Route WW as well as minor improvements to the interchanges at I-470, Little Blue Parkway, Adams Dairy Parkway and the construction of a grade separation by the City of Blue Springs near 15th Street in Blue Springs would also be included as part of the RPA.

d. Frontage Roads

In addition to the mainline expansion in SIU 1, improvements would also be made to the frontage road system. The First Tier EIS stated the long-term goal of providing continuous frontage roads for the purposes of incident management. Continuous frontage roads could provide an alternative route and system redundancy should an incident occur on I-70. Though continuous frontage roads are a long-term goal and are included as part of the proposed action for environmental planning purposes, continuous frontage roads are not a high priority. The Missouri Department of Transportation is not committed to building continuous frontage roads in the near term, but would construct frontage roads for the purposes of maintaining existing local service connections and maintaining existing access to adjacent properties. During the detailed design phase, each frontage road would be assessed on an individual basis to determine whether or not any existing discontinuities would be addressed as part of construction. Improvement of existing discontinuities would depend on the availability of construction funding and relative priorities.

e. Enhancement

As part of the Second Tier Studies for I-70, an Enhancement Subcommittee was established to prepare a Corridor Enhancement Plan that would be implemented for I-70. Overall, these enhancements predominantly involve visual quality and aesthetic improvements, but also include improved interaction between pedestrians, cyclists and motorists, as well as mitigation for wetland impacts and related riparian habitat enhancements.

4. Consultation and Coordination

Consultation and coordination related to planned improvements to I-70 began with the First Tier Study during the year 2000 and has continued through the Second Tier Studies. During the I-70 Improvement Study, MoDOT provided numerous opportunities for public, local, state and federal agency input. These efforts are documented in the First Tier EIS.

The Second Tier public involvement program provided further and more specific opportunities for public and agency input. These efforts have involved and continue to involve interested agencies, local units of government and the general public through various means. The program has resulted in a wide range of comments and input into the development and evaluation of the various improvements defined in this EA. A public hearing will be scheduled once the Draft Environmental Assessment is approved for circulation.

The SIU 1 public involvement process started with initial strategy meetings to determine the goals and objectives of the public involvement plan. Once the goals and objectives were established, a public involvement plan was prepared.

Implementation of the public involvement plan included a project Web site and email address, public meetings, contact points including a post office box and telephone hot line, a mailing list, media relations, newsletters and other written materials and stakeholder briefings.

Three project newsletters were mailed to individuals within SIU 1. Postcard notices were mailed to the SIU 1 mailing list to inform and remind individuals of the public meetings. Two public meetings were held for SIU 1 in Independence and Oak Grove on November 18 and 19, 2003, respectively. Approximately 160 people attended the meetings and 42 comment forms were received.

Twelve special briefings have been conducted for 10 stakeholder groups to date. Stakeholder groups included: the City of Bates City, the City of Blue Springs, the City of Grain Valley, the City of Independence, the City of Oak Grove, the City of Odessa, the Mid-America Regional Council's (MARC) Total Transportation Policy Committee (TTPC), the Oak Grove Chamber of Commerce, a group of Oak Grove citizens and a group of Odessa citizens. Additional briefings may take place between the publication of the Draft and Final EA.

B. Summary of Impacts and Findings

All of the documentation of this EA and the findings presented herein are preliminary and will undergo agency and public review. Refinements to the analyses in this EA are not expected to occur until the Final EA is completed and the decision document is approved. Chapter IV presents the complete discussion of impacts for the No-Build and all of the Build Alternatives analyzed in this EA.

1. Comparison of the Impacts of the Build Alternatives

The following is a physical description and summary analysis of the SIU 1 Build Alternatives by subsection. A complete summary of impacts by alternative is presented in Table II-8. The alternatives included as part of the RPA are depicted in italics.

a. Subsection 1 - I-470 to Mile Marker 19 (Exhibit II-1)

Both alternatives in this subsection would also include the minor improvements needed to connect the I-470 and Little Blue Parkway access ramps to the I-70 mainline improvements.

Alternative 1-1 (RPA) – *This alternative would include an urban mainline with eight through lanes and two auxiliary lanes located between I-470, Little Blue Parkway and Woods Chapel Road. It would also include a Single Point Urban Interchange (SPUI) at Woods Chapel Road with traffic signals or roundabouts at Duncan Road and relocated South and Northwest Outer Roads for frontage roads. This alternative would also include widening Woods Chapel Road to five lanes from I-70 to Kingsridge Road. While the environmental impacts for both Alternatives 1-1 and 1-2 would essentially be the same, this alternative would only require three business displacements, versus five for Alternative 1-2 and the total cost would be \$8.2 million less than Alternative 1-2. Alternative 1-1 is estimated to cost \$59.8 million.*

Alternative 1-2 – This alternative would include an urban mainline with eight through lanes and two auxiliary lanes located between I-470, Little Blue Parkway and Woods Chapel Road. It would also include a standard diamond interchange at Woods Chapel Road utilizing the existing Duncan Road and relocated South and Northwest Outer Roads for frontage roads. This alternative would also include widening Woods Chapel Road to five lanes from I-70 to Kingsridge Road. This alternative would require five business displacements and is estimated to cost \$68.0 million.

b. Subsection 2 – Mile Marker 19 to Mile Marker 22 (Exhibit II-2)

Both alternatives in this subsection would include the construction of a new grade separation near 15th Street and the elimination of the traffic signal located at Route 7 and Mock Avenue in Blue Springs. The construction of the grade separation would be made by the City of Blue Springs as the need arose or as funds became available. Both alternatives would also include the widening of the existing I-70 bridges over Adams Dairy Parkway and minor improvements needed to connect the access ramps to the I-70 mainline improvements.

Alternative 2-1 – This alternative would include an eight-lane urban mainline from mile marker 19 to Adams Dairy Parkway. A tight diamond interchange would be used at Route 7 utilizing the existing NW Jefferson Street as a north frontage road. The existing South Outer Road and Mock Avenue would have “right-in, right-out” access to Route 7. This alternative would require the displacement of eight businesses. The total cost would be \$9.2 million less than Alternative 2-2. Alternative 2-1 is estimated to cost \$75.6 million.

Alternative 2-2 (RPA) – *This alternative would include an eight-lane urban mainline from mile marker 19 to Adams Dairy Parkway. A tight diamond interchange configuration would be used on the south side of I-70 at Route 7 and a modified standard diamond interchange configuration would be used on the north side with a loop in the northeast quadrant. A dedicated lane would be provided on Route 7 for northbound Route 7 traffic to westbound I-70. This configuration would utilize the existing NW Jefferson Street as a north frontage road and the existing South Outer Road and Mock Avenue would have “right-in right-out” access to Route 7. This alternative would require the displacement of 10 businesses. The environmental impacts associated with both Alternatives 2-1 and 2-2 would essentially be the same. While Alternative 2-2 would cost more to construct and have more business displacements, it would provide a better future LOS at the heavily congested Route 7 interchange. Alternative 2-2 is estimated to cost \$84.8 million.*

c. Subsection 3 – Mile Marker 22 to Mile Marker 25 (Exhibit II-3)

Alternative 3-1 (RPA) – *This alternative would include a six-lane urban mainline and a SPUI at Route AA/BB with a new frontage road spaced 1,100 feet (335 meters) north of I-70 and a south frontage road to be improved by the city of Grain Valley along existing Yenni and Rollo Streets. The existing Old Route 40 would be relocated and tied in to Route AA to the south of the current location as part of a separate project in Grain Valley. While the environmental and residential displacement impacts (one residential) for both Alternatives 3-1 and 3-2 would essentially be the same, Alternative 3-1 would have one less business displacement and the total cost would be \$5.7 million less than Alternative 3-2. Alternative 3-1 is estimated to cost \$73.6 million.*

Alternative 3-2 – This alternative would include a six-lane urban mainline and a folded diamond interchange at Route AA/BB with a new north frontage road spaced 750 feet (229 meters) north of the ramp terminus and a south frontage road along existing Yenni and Rollo Streets. The existing Old Route 40 would be relocated and tied in to Route AA to the south of the current location as part of a separate project in Grain Valley. Alternative 3-2 is estimated to cost \$79.3 million.

d. Subsection 4 – Mile Marker 25 to Mile Marker 29 (Exhibit II-4.1 and Exhibit II-4.2)

Alternative 4-1 – This alternative would include a six-lane rural mainline and a standard diamond interchange at Route H/F with a new north frontage road spaced 1,320 feet (402 meters) from the ramp terminus and a south frontage road at existing 5th Street. This alternative would widen Route H/F to six lanes and provide a channelized dual right-turn lane from the eastbound I-70 off-ramp. This alternative would require 49 residential and 3 business displacements. The estimated total cost would be \$8.8 million more than Alternative 4-2 and \$11.4 million more than Alternative 4-3. Alternative 4-1 is estimated to cost \$97.7 million.

Alternative 4-2 – This alternative would include a six-lane urban mainline and a standard diamond interchange at Route H/F with a new north frontage road spaced 1,320 feet (402 meters) from the ramp terminus and a south frontage road at existing 5th Street. This alternative would include widening Route H/F to six lanes and providing a channelized dual right-turn lane from the eastbound I-70 off ramp. This alternative would require 28 residential and 2 business displacements. The estimated total cost would be \$8.8 million less than Alternative 4-1 and \$2.6 million more than Alternative 4-3. Alternative 4-2 is estimated to cost \$88.9 million.

Alternative 4-3 (RPA) – *This alternative would include a six-lane urban mainline and a SPUI at Route H/F with a new north frontage road spaced 1,750 feet (533 meters) from I-70 and a south frontage road at existing 4th Street. This alternate would include widening Route H/F to six lanes and providing a channelized dual right-turn lane from the eastbound I-70 off ramp. While the environmental impacts for Alternatives 4-1, 4-2 and 4-3 would essentially be the same, alternative 4-3 would require less residential and business displacements and would cost less than either alternative 4-1 or 4-2. This alternative would require 20 residential and 2 business displacements. The estimated total cost would be \$11.4 million less than Alternative 4-1 and \$2.6 million less than Alternative 4-2. Alternative 4-3 is estimated to cost \$86.3 million.*

e. Subsection 5 – Mile Marker 29 to Mile Marker 39 (Exhibit II-5.1 through Exhibit II-5.4)

Alternative 5-1 – This alternative would include a six-lane rural mainline with a standard diamond interchange 0.25 miles (0.40 kilometers) east of Route D/Z with frontage roads spaced 1,100 feet (335 meters) north and south of the ramp termini, a standard diamond interchange at Burton Road with frontage roads spaced 1,320 feet (402 meters) north and 1,000 feet (305 meters) south of the ramp termini, a grade separation at Route 131, and a standard diamond interchange approximately 0.2 miles (0.3 kilometers) east of County Road 96/Johnson Road with frontage roads spaced 1,000 feet (305 meters) north and 1,250 feet (381 meters) south of the ramp termini. The Burton Road interchange associated with this alternative would be constrained to the south by the GM&O Railroad and would not meet MoDOT's access

management guidelines for this project. The interchange 0.2 miles (0.3 kilometers) east of County Road 96/Johnson Road associated with this alternative would also be constrained to the north by the GM&O Railroad and would not meet MoDOT's access management guidelines for this project.

This alternative would require seven single-family displacements, nine mobile home displacements, and three business displacements. The estimated total cost would be \$0.6 million less than Alternative 5-2, \$1.6 million less than Alternative 5-3 and \$2.2 million less than Alternative 5-4. Alternative 5-1 is estimated to cost \$227.0 million.

Alternative 5-2 – Alternative 5-2 is the same as Alternative 5-1 with the exception of a slight difference in the location of the interchange near County Road 96/Johnson Road. For Alternative 5-1 the interchange is located 0.2 miles (0.3 kilometers) east of County Road 96/Johnson Road. For Alternative 5-2 the interchange is located 0.3 miles (0.5 kilometers) east of County Road 96/Johnson Road and would fully comply with MoDOT access management guidelines.

This alternative would require seven single-family displacements, nine mobile home displacements, and three business displacements. The estimated total cost would be \$0.6 million more than Alternative 5-1, \$1.0 million less than Alternative 5-3 and \$1.6 million less than Alternative 5-4. Alternative 5-2 is estimated to cost \$227.6 million.

Alternative 5-3 – This alternative would include a six-lane rural mainline with a standard diamond interchange 0.25 miles (0.40 kilometers) east of Route D/Z with frontage roads spaced 1,100 feet (335 meters) north and south of the ramp termini, a standard diamond interchange at Hughes Road with frontage roads spaced 1,320 feet (402 meters) north and south of the ramp termini and a standard diamond interchange approximately 0.2 miles (0.3 kilometers) east of County Road 96/Johnson Road with frontage roads spaced 1,000 feet (305 meters) north and 1,250 feet (381 meters) south of the ramp termini. Alternative 5-3 would allow for construction of an interchange at Hughes Road that would fully comply with MoDOT access management guidelines. The replacement interchange 0.2 miles (0.3 kilometers) east of County Road 96/Johnson Road associated with this alternative would be constrained to the north by the GM&O Railroad and would not meet MoDOT's access management guidelines for this project.

This alternative would require six single-family displacements, nine mobile home displacements, and four business displacements. The estimated total cost would be \$1.6 million more than Alternative 5-1, \$1.0 million more than Alternative 5-2 and \$0.6 million less than Alternative 5-4. Alternative 5-3 is estimated to cost \$228.6 million.

Alternative 5-4 (RPA) – *Alternative 5-4 is the same as Alternative 5-3 with the exception of a slight difference in the location of the interchange near County Road 96/Johnson Road. For Alternative 5-3 the interchange is located 0.2 miles (0.3 kilometers) east of County Road 96/Johnson Road. For Alternative 5-4 the interchange is located 0.3 miles (0.5 kilometers) east of County Road 96/Johnson Road and would fully comply with MoDOT access management guidelines.*

This alternative would require six single-family displacements, nine mobile home displacements, and four business displacements. The estimated total cost would be \$2.2 million more than

Alternative 5-1, \$1.6 million more than Alternative 5-2 and \$0.6 million more than Alternative 5-3. Alternative 5-4 is estimated to cost \$229.2 million.

While the cost, displacement and environmental impacts associated with Alternatives 5-1, 5-2, 5-3 and 5-4 would essentially be the same, Alternative 5-4 would avoid conflicts with the GM&O Railroad and allow for the full implementation of MoDOT's access management guidelines at all of the interchange locations within Subsection 5.

2. Impacts of the Recommended Preferred Alternative

A summary of the engineering, social, economic and environmental impacts anticipated for the No-Build and RPA, are summarized in Table S-1. A comprehensive comparison of Impacts for all alternatives is presented in Table II-8 and detailed in Chapter IV.

Table S-1: Summary of Impacts for the Recommended Preferred Alternative

Evaluation Factor	Unit	No-Build	Recommended Preferred Alternative
ENGINEERING			
Capital Cost (Order of Magnitude):			
• New Construction	\$ million	\$0	\$436.8
• Right of Way	\$ million	\$0	\$96.9
Total	\$ million	\$0	\$533.7
Annual O&M and Preservation Cost	\$ million	\$4.4	\$0.7
Present Worth O&M & Preservation¹	\$ million	\$57.1	\$9.9
TRAFFIC AND SAFETY			
2030 Average Daily Traffic Volume	ADT	93,481	95,921
Daily Vehicle Miles Traveled	VMT	2,046,920	2,184,668
% Target LOS (C-Rural/D-Urban)	%	0	95
2030 Crashes:			
• PDO Crashes	Number	580	534
• Injury Crashes	Number	237	212
• Fatal Crashes	Number	12	8
Total	Number	829	754
SOCIAL AND ECONOMIC			
Land Use Compatibility with Current Trends	Rating	NA	●
Displacements:			
• Total Area	Acres	0	457
• Residential Units ² /Residents ³	Number	0/0	40/100
• Businesses ⁴ /Employees ⁵	Number	0/0	20/250
• No. of Parcel Acquisitions (Total/Partial)	Number	0/0	70/306
Environmental Justice Issues	Yes/No	NA	No
ENVIRONMENTAL			
Air Quality	Rating	○	○
Noise⁶	Number ⁷	205	119
Parklands:			
• Refuges/Parks	Number	0	0
• Other Public Lands	Number	0	1

Evaluation Factor	Unit	No-Build	Recommended Preferred Alternative
Prime Farmland	Acres	0	186.7
Farmland of Statewide Importance	Acres	0	263.3
Conservation Reserve Program (CRP) Land	Acres	0	3.6
Floodplains	Acres	0	102.1
Stream Crossings	No. / Lin. Ft.	0/0	40 / 17,650
Vegetated Wetlands	Acres	0	14.7
Jurisdictional Ponds	Acres	0	1.1
Wetland Reserve Program (WRP) Lands	Acres	0	0
Threatened & Endangered Species	Number	0	0
Riparian Corridors	Acres	0	31.3
Cultural Resources:			
• Cemeteries	Number	0	0
• National Register Sites	Number	0	0
• Historic Bridges	Number	0	0
• Archeological Sites	Number	0	0
Existing Hazardous Waste Sites	Number	0	5
Visual Quality	Rating	NA	●
Secondary Impacts	Rating	NA	●

- 1 - Present worth calculated using sum of 26 year cost and annual discount rate of 6%
- 2 - Includes single family, multi family and mobile homes
- 3 - Assumes 2.5 residents per unit
- 4 - Includes businesses that would require relocation
- 5 - Assumes 12.5 employees per business
- 6 - Impacts with potential mitigation measures
- 7 - Number meeting or exceeding the FHWA NAC of 66 dBA or causing a 15 dBA increase over existing noise levels.

- Benefits > Adverse Impacts
○ Benefits = Adverse Impacts
● Benefits < Adverse Impacts
NA Not Applicable

C. Commitments and Mitigation Summary

This section provides a summary of the proposed commitments and mitigation obligation associated with the proposed action. The commitments and mitigation obligations can be separated into two main categories: 1) socioeconomic resources and 2) natural and cultural resources. These commitments and obligations are discussed by category.

1. Socioeconomic Resources

a. Displacements

The Recommended Preferred Alternative would result in the displacement of 40 residential units (equating to approximately 100 residents), 20 businesses (equating to approximately 250 employees), 70 total parcel acquisitions and 306 partial parcel acquisitions. Regarding the acquisition of private lands and the displacement of businesses and residences, MoDOT would comply with the Uniform Relocation Assistance and Real Property Acquisition Policies of 1970, as amended. Additionally, MoDOT would work cooperatively with local governments and owners during the final design process. The Missouri Department of Transportation would

provide appropriate compensation on a case-by-case basis for business and residential displacements.

b. Utilities

The Missouri Department of Transportation would coordinate with local public service and utility service providers during final design to minimize infrastructure disruption and relocation.

c. Emergency Response

The Missouri Department of Transportation would also 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.

d. Transit Service

While transit service within the SIU 1 Project Area will likely not be impacted, prior to construction MoDOT will coordinate with transit agencies regarding construction phasing.

2. Natural and Cultural Resources

a. Air Quality

The project conforms to the existing State Implementation Plan and the transportation related requirements of the 1990 Clean Air Act Amendments. In addition, measures would be taken to reduce fugitive dust and other emissions generated during construction. Emissions from construction equipment would be controlled in accordance with emission standards prescribed under state and federal regulations. Materials resulting from clearing and grubbing, demolition or other operations (except materials to be retained) would be removed from the project, burned, or otherwise disposed of by the contractor. Any burning, when permitted, would be conducted in accordance with applicable local laws and state regulations.

Based upon regulatory requirements in 40 CFR part 50 and the eight-hour ozone air quality data for the 2002 through 2004 time period, EPA is proposing to redesignate Johnson, Linn, Miami and Wyandotte Counties in Kansas and Cass, Clay, Jackson and Platte Counties in Missouri to attainment for the eight-hour ozone standard. If this occurs, no transportation conformity measures will be required. If something causes the area to be designated as a non-attainment area, conformity requirements will be determined and incorporated into the State Implementation Plan, and any requirements will need to be considered as the project proceeds.

b. Noise

The Missouri Department of Transportation would comply with FHWA's Noise Abatement Criteria (NAC). Construction noise would be monitored and abated in cases where the criterion is exceeded. Noise mitigation measures for sensitive receptors have been incorporated into the Build Alternatives based on an analysis of reasonableness and feasibility. The Missouri Department of Transportation is not committed to any noise mitigation measures at this time,

but noise mitigation analysis would be re-evaluated after the final design phase to reflect those design details.

c. Parklands, Other Public Lands and 4(f) Resources

There would be no permanent incorporation, temporary occupancy or any constructive use of existing 4(f) resources due to the SIU 1 Build Alternatives.

Dependent upon the availability of funding and local partnerships, the proposed action would consider implementation of a Corridor Enhancement Plan. The plan includes aesthetic components as well as pedestrian and bicycle facilities for reconstructed bridges in urban areas. The proposed frontage road cross section provides 8-foot shoulders that could be used by pedestrians and bicyclists if they choose.

The opportunity exists for joint development of the pedestrian and bicycle facilities in the SIU 1 Project Area. The Missouri Department of Transportation will continue to coordinate efforts with area stakeholders regarding these facilities.

Adams Dairy Parkway Bicycle Trail

The RPA would entail the widening of the bridge that crosses over Adams Dairy Parkway and the Adams Dairy Parkway Bicycle Trail. The impact to the trail would include a slightly longer portion of the trail being covered by I-70. Construction impacts could include the short-term disruption of trail users and detours around construction activity. However, the portion of the trail that would be affected is located within existing MoDOT right of way and is operated under a temporary easement agreement between MoDOT and the City of Blue Springs. The remainder of the trail located to the north and the south of I-70 would remain open. Multiple access points to the trail are available both to the north and the south of I-70. The final design process, which would occur after construction funding is authorized, would include mitigation measures for the trail including coordination with the City of Blue Springs Parks and Recreation Department, looking at joint development opportunities, and restoration of the trail.

Gregory O. Grounds Park

The Missouri Department of Natural Resources (MDNR) has indicated that they are currently monitoring a dam safety issue because the dam has inadequate spillway capacity and the property owner used a portion of the I-70 outer road embankment in the construction of the dam. The RPA would include the improvement of the I-70 mainline within the existing right of way but would not impact the frontage roads or the dam associated with the recently constructed lake in Gregory O. Grounds Park. The City of Blue Springs is currently working with the MDNR to correct the situation. However, the MDNR has requested that MoDOT continue to coordinate with the MDNR's Dam Safety Unit to determine whether the MDNR will require a construction permit for dam modifications associated with the recently constructed lake.

d. Trees

When trees are removed, MoDOT would implement its tree replacement policy and plant two trees for every tree removed that has a diameter greater than six inches (15 centimeters).

e. Prime Farmland and Conservation Reserve Program

The Recommended Preferred Alternative would impact 186.7 acres of Prime Farmland, 263.3 acres of Farmland of Statewide Importance, and 3.6 acres of CRP lands. The Missouri Department of Transportation would continue to coordinate with the Natural Resource Conservation Service (NRCS) to determine appropriate mitigation measures for the loss of CRP lands (Appendix E, Interagency Cooperative Agreement for Agricultural Lands and letters dated July 13, 2004).

f. Water Resources and Water Quality

Impacts associated with the RPA, or any of the Build Alternatives could include both short term and longer term water quality impacts. These impacts may include sediment loading due to construction activities, pollutant loading from stormwater runoff, as well as continued commercial and residential development along the corridor that could contribute sediment, nutrient, and chemical loading.

In compliance with the Missouri State Operating Permit, MO-R100007, or subsequent operating permit, MoDOT would implement erosion and sedimentation control measures where appropriate to prevent or minimize contamination of wetlands, streams and ponds adjacent to the SIU 1 Project Area (Appendix G). The control of water pollution is to be accomplished by the use of MoDOT's Pollution Prevention Plan, which includes measures such as revegetation and directing stormwater runoff through grass channels, sedimentation basins, constructed wetlands, straw bales, check dams, infiltration basins, silt fences, vegetated areas and other erosion control devices or methods as needed. Further control of water pollution from accidental spills is to be accomplished by the use of local spill prevention and response plans.

g. Floodplains

The Recommended Preferred Alternative would impact 102.1 acres of floodplain. The Recommended Preferred Alternative would also impact and cross 8.22 acres (3.33 hectares) and 1805 feet (550 meters) of regulatory floodway. New development within the approximate and detailed floodplains, including the regulatory floodways, would be regulated by National Flood Insurance Program criteria and would be in compliance with Executive Order 11988, Floodplain Management. The Missouri Executive Orders 97-09 and 98-03, which indicate how the state complies with the requirements of the National Flood Insurance Program, would also be adhered to for all floodplain crossings. These executive orders require a floodplain development permit for any encroachment into the floodplain, and a "no-rise" certification for any encroachment into the regulatory floodway. A broad and unified effort would be made to ensure that developments in floodplains, including regulatory floodways, would be adequately analyzed and coordinated with FEMA and SEMA to lessen the risk of flood losses.

There would be minimal impact on natural and beneficial floodplain values where the Build Alternatives cross the floodplain. Where possible, channels would be preserved in their natural state, and stream relocations would be minimized. Increases in channel velocities would be restricted, and control measures to prevent channel erosion and scour would be implemented.

Erosion and scour protection would likely be required at bridge foundations, typically in the form of rock rip-rap.

h. Wetlands and Waters of the United States

The Recommended Preferred Alternative would impact 40 stream crossings (which equates to 17,650 linear feet), 14.7 acres of vegetated wetlands, 1.2 acres of jurisdictional ponds, and no Wetland Reserve Program lands.

For stream impacts mitigation, MoDOT would continue to explore the Stream Stewardship Trust Fund to determine if there are any priority projects that are in need of funding, to which MoDOT would contribute and receive credits.

The Missouri Department of Transportation would comply with Section 404 of the Clean Water Act. The Missouri Department of Transportation has developed an I-70 Corridor wetlands mitigation plan for Section 404 impact mitigation. Appropriate mitigation sites would be coordinated with the USACE. Jurisdictional ponds lost due to the construction of I-70 improvements would be replaced in-kind based on the standard wetland classes through mitigation activities in the project area or offsite. Potential jurisdictional pond mitigation sites would include suitable construction borrow sites within the vicinity of the project.

i. Threatened and Endangered Species

No threatened or endangered species would be impacted by the RPA. However, MoDOT will continue to review the Natural Heritage Database to see if any new locations are identified. If any threatened or endangered species are discovered in the SIU 1 Project Area, MoDOT will work with the Missouri Department of Conservation (MDC) and the United States Fish and Wildlife Service (USFWS) to avoid or minimize impacts and would comply with the Endangered Species Act.

j. Cultural Resources

No known National Register of Historic Places (NRHP)-eligible cultural resource sites would be impacted by the RPA and therefore no mitigation is required. In the event cultural resource sites are discovered during final design or construction, MoDOT would comply with Section 106 of the National Historic Preservation Act, as amended. The Missouri Department of Transportation would also coordinate with the State Historic Preservation Officer (SHPO) to conduct appropriate mitigation for potential impacts to cultural resources. A Programmatic Agreement (PA) among the FHWA, SHPO and MoDOT stipulating that the project will be administered in accordance with 36 CFR 800 and additional stipulations was signed on May 19, 2005. A copy of the PA is included in Appendix E.

k. Hazardous Waste

Among the Build Alternatives, including the RPA, there are five sites ranked "Moderate-to-High" whose past or present use indicates a potential for hazardous waste contamination of soils and possibly groundwater. Minor variation of alignments during final design could avoid some of these sites, however, many of them could require the removal of underground fuel storage tanks

or further investigation to evaluate potential contamination of soils or groundwater. In addition, the possibility exists that additional sites with contamination may be encountered during actual construction, particularly given the number of service stations near each of the existing interchange locations within the SIU 1 Project Area. In the event contamination is encountered, MoDOT would develop an appropriate course of action and coordinate with MDNR's Hazardous Waste Management Program.

During the final design process, MoDOT would perform additional hazardous waste investigations on the sites that are or may be contaminated and may be disrupted during construction. If a contaminated hazardous waste site cannot be avoided, MoDOT would negotiate cleanup responsibility with the current owner. Negotiations with the current owner and any investigative or remedial activities would be coordinated with the MDNR's Hazardous Waste Management Program and would comply with all Environmental Protection Agency (EPA) requirements.

I. Visual Resources and Corridor Enhancement Plan

Based on the impacts of the Preferred Alternative and proposed facility enhancements, no mitigation measures are required or recommended. Dependent upon the availability of funding and willing local partnerships, the proposed action would consider implementation of the Corridor Enhancement Plan. The Corridor Enhancement Plan includes aesthetic components, plus considerations for pedestrians and bicyclists. The proposed frontage road cross section provides 8-foot (2.4-meter) shoulders that could be used by pedestrians and bicyclists if they choose. Appropriate baseline enhancement features contained in the I-70 Corridor Enhancement Plan would be incorporated into the major reconstruction efforts for I-70, dependent upon the availability of adequate funding. This baseline enhancement concept includes bridge enhancement, landscaping using native grasses and flowers, and habitat enhancement at major stream crossings. Additional "beyond-baseline" enhancements would be dependent upon the participation and funding by local communities and resource agencies.

D. Areas of Controversy and Issues to be Resolved

The vast majority of issues presented in this EA are clearly defined, create little or no controversy and would be considered resolved.

Issues to be resolved include:

- Final permitting issues will be resolved through independent regulatory processes and procedures. The results will be incorporated into the final design process and requirements.
- Final design details and corresponding impacts and mitigation measures, especially as they relate to property impacts, local circulation and access will be addressed when funding for right of way acquisition, final design, and facility construction is made available.
- The frontage road location alternatives for the Oak Grove interchange are being addressed by the MoDOT District 4 office in a separate study of Route F. A public meeting was held on October 26, 2004 to present six alternatives for the area and to

receive public input. A public hearing to present the proposed final alternative is expected to be held in fall 2005 with construction scheduled to begin in summer 2008. The conclusions of the Route F study would be incorporated into the final design of I-70 in Oak Grove. The frontage road location is not critical to the decision of the SIU 1 RPA, and could be changed from what is shown based on the outcome of the Route F study.



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Appendix D – Preliminary Interchange Alternative Layout Drawings
Appendix E – Agency Correspondence
Appendix F – Farmland Conversion Impact Rating
Appendix G – Missouri Department of Transportation General NPDES Permit
Appendix H – Public Involvement Correspondence

Documents to be provided upon request:**Corridor-Wide Documents**

Environmental Methodologies
Rest Area Study
Frontage Road Master Plan
Median Area Study, Design Criteria and Cost Estimating Guide
I-70 Corridor Enhancement Plan
Cultural Resources Methodologies
Geomorphological Report
I-70 First Tier EIS

SIU 1 Documents

I-70, SIU 1 Historical and Architectural Survey
I-70, SIU 1 Draft Waters of the U.S. and Wetland Determinations Summary Report
I-70, SIU 1 Alternative Screening Evaluation, Technical Memorandum
I-70, SIU 1 Median Study, Technical Memorandum
I-70, SIU 1 Urban to Rural Transition Study, Technical Memorandum
I-70, SIU 1 Traffic and Accident Analysis, Technical Memorandum

Copies of these documents can be obtained by contacting:

The Missouri Department of Transportation
Kathy Harvey
105 West Capitol Ave.
Jefferson City, MO 65102
573-526-5678

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Guide to Acronyms and Abbreviations

AASHTO	American Association of State and Highway Transportation Officials
ACHP	Advisory Council on Historic Preservation
ADT	average daily traffic
APE	area of potential effects
AQCR	air quality control region
BOD	biological oxygen demand
CAAA	Clean Air Act Amendments
CAR	Center for Archaeological Research
CEQ	Council on Environmental Quality
CO	carbon monoxide
CRP	Conservation Reserve Program
dB	decibel
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
EUAC	equivalent uniform annual cost
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FPPA	Farmland Protection Policy Act
FSA	Flood Security Act
FTA	Federal Transit Administration
GEC	General Engineering Consultant
GIS	geographic information system
H₂S	hydrogen sulfide
H₂SO₄	sulfuric acid
Ha	hectares
HPP	Historic Preservation Program (now the State Historic Preservation Office)
IRI	international roughness index
ITS	intelligent transportation system
KCATA	Kansas City Area Transportation Authority
km/h	kilometers per hour
LOS	level of service
LRTP	Long-Range Transportation Plan
LWCF	Land and Water Conservation Fund
MARC	Mid-America Regional Council
MDC	Missouri Department of Conservation
MDNR	Missouri Department of Natural Resources
MFWIS	Missouri Fish and Wildlife Information System
MIS	Major Investment Study
MNHD	Missouri Natural Heritage Database
MOA	Memorandum of Agreement
MoDOT	Missouri Department of Transportation
MOU	Memorandum of Understanding
mph	miles per hour

MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NAC	noise abatement criteria
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NO₂	nitrogen dioxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
O&M	operations and maintenance
OHWM	ordinary high water mark
OODA	Owner-Operator Independent Drivers Association
Pb	lead
PCB	polychlorinated biphenyl
PDO	property damage only
PSR	pavement serviceability rating
PUB	palustrine unconsolidated bottom
RBCA	risk-based correction action
RCI	ride condition index
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
RPA	recommended preferred alternative
SCS	Soil Conservation Service
SEC	Section Engineering Consultant
SEMA	State Emergency Management Agency
SHPO	State Historic Presentation Office
SIP	State Implementation Plan
SIU	section of independent utility
SMG	Study Management Group
SO₂	sulfur dioxide
SPUI	single point urban interchange
STRAHNET	Strategic Highway Network
TDM	travel demand management
TIP	Transportation Improvement Program
TNM	Traffic Noise Model [®] 2.1
TMDL	total maximum daily load
TSM	transportation system management
TTPC	Total Transportation Policy Committee
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMT	vehicle miles of travel
VPD	vehicles per day
WRP	Wetlands Reserve Program
WSRA	Wild and Scenic Rivers Act