

Meeting Summary

IMPROVE I-70 ADVISORY GROUP

12th Meeting

Columbia Activity and Recreation Center
1701 W. Ash Street
Columbia, Missouri

November 18, 2004

This is a summary of the November 2004 meeting of the Improve I-70 Advisory Group.

Members Present: Jeff Barrow, Bob Bechtold, Susan Clark, Dave Griggs, Bud Moulder, Lowell Patterson, Ed Siegmund and Bob Walters.

Dennis Donald and John Huyler of The Osprey Group facilitated the meeting.

Materials Available at the Meeting

In addition to the agenda, materials, available for discussion at the meeting, included:

- Copies of the current “Preliminary Draft EIS” that Advisory Group members reviewed during the meeting
- A “Readers Guide” that describes the Improve I-70 Environmental Documents
- The 10-page draft “Summary” for the Columbia area EIS
- The “Recommended Preferred Alternative Impact Summary Table”
- A brochure entitled “Improve I-70 Corridor Enhancements”

Meeting Goals

1. Hear about recent activities and updated material;
2. Understand the process of moving to a Final EIS and opportunities for public and agency review;
3. Review the Draft EIS structure and content;
4. See a visualization of the Improve I-70 preferred alternative for the Columbia area;
5. Identify next steps in the planning process.

Preliminary Items

Mr. Bob Brendel of MoDOT provided the Group with a brief summary of the various meetings that had been held in the past few months with CATSO as well as with civic, neighborhood and business groups. Numerous changes and improvements have been made to the draft environmental document as a result of these meetings. In October, CATSO approved changes to the area’s major roadway plan that allow implementation of the Improve

I-70 preferred alternative. Mr. Brendel also described the review that has been conducted by other agencies. Once the reviews are complete and MoDOT and the Federal Highway Administration sign the document, it will be made available for public review for 45 days or longer.

Next, referring to a brochure that had been handed out, Mr. Brendel described the basics of the Enhancement Plan.

Finally, Mr. Brendel gave the Group some background about Amendment 3, which the voters approved in the November election. The Transportation Commission has adopted a three-prong plan. The first phase is a \$400 million commitment to resurfacing 2,200 miles of roads in Missouri, which carry 60 percent of the state's traffic. Eighty-two percent of the state's population lives within ten miles of those roads and all of the interstates are involved. The second phase involves the acceleration of some already programmed projects that are in the MoDOT five-year implementation plan. The third phase will be an identification of new projects that can be added to the five-year program. In all, the Amendment 3 projects are about \$1 billion in work that will all be completed by 2007.

Process Leading to a Final EIS

During the next portion of the meeting, Mr. Buddy Desai of CH2M Hill described the process that will lead to a Final EIS. Once the draft is approved by MoDOT and the Federal Highway Administration there will be a public hearing in Columbia. It was indicated that some time after the public hearing and the comment period, there would be one final Advisory Group meeting to review the comments received and how they are being addressed. The Project Team will carefully review all the comments received and is required to respond to all substantive comments in writing. Then production of the final environmental impact statement will begin. It is expected that the final draft will be completed sometime in the Spring of 2005. At that time, there will be another 30-day period for public comment. After any issues raised during that comment period are addressed the consultants will prepare a Record of Decision for the Federal Highway Administration to approve. At that point, if funding is available, MoDOT can begin actual design of improvements to I-70.

Review of the Preliminary Draft EIS

Mr. Desai began the review of the Preliminary Draft by focusing attention on the "Readers Guide." Then members of the Advisory Group were provided a "guided tour" of the highlights of the entire document as they referred to the 3-ring notebook copies that had been provided for the meeting. It was an interactive discussion with several questions being raised and answered.

Visualization Preview

Ms. Michelle Graham of HNTB introduced a computer model of the I-70 corridor between Stadium and Highway 63 to illustrate how the final preferred alternative would look and perform. Five video clips are being produced and Ms. Graham showed the Advisory Group two of them, a "fly-over" from west to east and a "circle tour" over the Stadium interchange.

Closing Comments and Next Steps

In the time remaining on the agenda, the Advisory Group provided closing comments and general observations to the Project Team. Some of the comments included:

“I’ve had such a problem grasping the concept of what’s happening with the 70-63 interchange. This demonstration helped. I understand it now. It helped tremendously, and this thing is absolutely phenomenal. The information that’s in this document, it’s just mind-boggling, and I can’t wait to get a hold of it and go through it.”

“The thing that has impressed me most today is this document. It’s a phenomenal community resource other than for the purpose that you wrote it. There is so much information in here that relates to the demographics of the community, et cetera, that is easily accessible in a thousand places, and here it is in one place. It’s going to be our responsibility to really learn what’s in here so we can help communicate what’s in here to the community, but this is a tremendous resource.”

A comment was made about the design of the interchange at I-70 and Highway 63. An Advisory Group member urged that the design “bite the bullet” and not force people to go through stop lights. In response, Mr. Desai pointed out that the proposed design allows for the building of a fly-over in the future, but the judgment was made that short-term projected traffic volumes do not justify that additional expense at this point.

“I have compliments all around. I mean, like the 11 previous meetings, this one has been done very well and it’s a very powerful tool right there to use, I think, for your public hearing. I think it’s fantastic, and can save a lot of time on your part in trying to explain it over and over and over again.”

“I think some people at the table, myself included, pretty well thought at the beginning that this might have been a foregone-conclusion process, and this was just going to be -- we’re going to lead you down the path to come to the conclusion that you want. And that hasn’t been the process at all, and I compliment you guys and MoDOT and the people involved in the planning of this -- for listening to this group, really taking to heart what has come to you in the public forums, and trying to accommodate those points of view as best you can. And it’s obvious that you have done that, but I don’t know that that’s actually been said, and I think that’s important to be said.”

Adjournment

The meeting adjourned with a repeat of the expectation that the draft environmental document will be made public sometime in January and the public hearing will likely take place in February. All Advisory Group members were encouraged to submit comments in writing if they had concerns or issues about anything that was not adequately addressed in the document.

UPCOMING ADVISORY GROUP MEETING

To be determined (likely April or May 2005)

IMPROVE I-70 ADVISORY GROUP

Meeting 12
4:00-6:30 p.m.
November 18, 2004

Columbia Activity and Recreation Center
1701 W. Ash Street
Columbia, Missouri

Meeting Goals: 1) Hear about recent activities and updated material; 2) Understand the process of moving to a Final EIS and opportunities for public and agency review; 3) Review the Preliminary Draft EIS structure and content; 4) See a visualization of proposed I-70 improvements through central Columbia; 5) Identify next steps in the planning process.

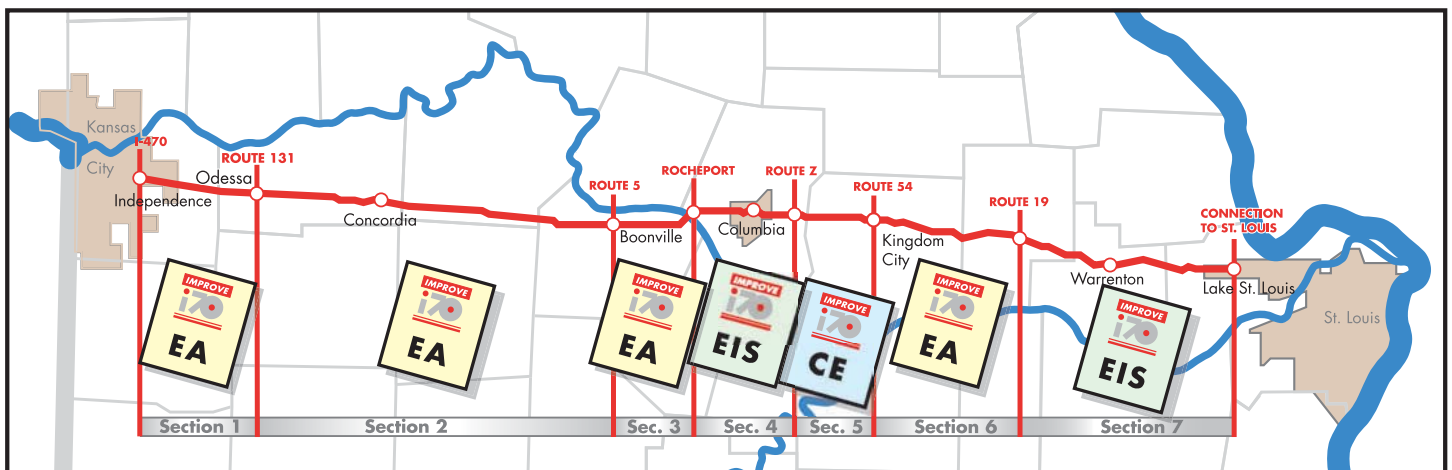
- 4:00 Convene Meeting**
The Osprey Group
- 4:05 Updates**
Bob Brendel, MoDOT
- 4:25 Process Leading to a Final EIS**
Buddy Desai, CH2MHill
- 4:40 Review Preliminary Draft EIS**
Buddy Desai, CH2MHill
- 5:40 Visualization Preview**
Michelle Graham, HNTB
- 6:00 Advisory Group Questions or Comments**
The Osprey Group
- 6:25 Closing and Next Steps**
The Osprey Group
- 6:30 Adjourn**



Reader's Guide

This informational guide is provided by the Missouri Department of Transportation to assist you in interpreting and evaluating documents produced for the Improve I-70 Studies. This guide answers some general questions about the documents and provides a brief overview of their contents.

Environmental Documents



What is an environmental document?

An environmental document is a public document that helps transportation-related agencies and the public make sound decisions about transportation investments. It provides in-depth analysis of the costs, benefits and impacts of a transportation improvement.

Seven environmental documents will be produced for I-70 to detail how improvements to the interstate could impact the natural and man-made environments. Each document will provide an evaluation of all the reasonable alternatives for widening and rebuilding I-70 and recommend a preferred alternative for that particular section of the route. Three types of environmental documents are being produced for the seven sections of I-70 being studied.

- *Environmental Impact Statement (EIS)* - An EIS is being produced for two areas where I-70 improvements are likely to have a significant environmental impact, requiring in-depth analysis and efforts to minimize those impacts.
- *Environmental Assessment (EA)* - An EA is being produced for four areas where the degree of environmental impact caused by I-70 improvements is uncertain and yet is expected to not be significant.
- *Documented Categorical Exclusion (CE)* - A CE is being produced for only one area of I-70 where no significant environmental impacts are expected.



What information is included in environmental documents?

Environmental documents include all of the important technical data collected and analyses conducted by the seven respective Improve I-70 study teams. While the documents might be organized slightly differently from section to section, they all will include the following basic information.

Summary

This part of the document provides an overall summary of the study and the document's contents. If you only read one section of the draft, read this one. The summary provides a concise overview of why the study was conducted, what was studied and how study teams arrived at their proposed conclusions.

Chapter 1 - Purpose and Need

This chapter provides a brief history of I-70, describes the specific study area and identifies the transportation problems that would be addressed by proposed improvements.

Chapter 2 - Alternatives

This chapter describes the alternatives, or options, considered for widening and rebuilding I-70, and how effective they are in addressing the problems defined in Chapter 1. The chapter also explains how those options were narrowed to a set of reasonable alternatives.

Chapter 3 - Affected Environment

This chapter describes the existing natural and man-made environments within the study area. The chapter includes population statistics, demographics and information about prime farmland, wetlands, lakes, rivers, parklands, geological features such as caves and mines, historical or culturally sensitive areas and threatened and endangered species.

Chapter 4 - Environmental Consequences

This part of the document, which is sometimes combined within Chapter 3, presents both the adverse and beneficial impacts to the affected environment. This allows the reader to compare the environmental and socio-economic impacts of the reasonable alternatives. It also explains how the reasonable alternatives were narrowed to the recommended preferred alternative.

Chapter 5 - Comments and Coordination

This chapter summarizes the public involvement and agency coordination activities carried out over the course of the study. It also provides a summary of public input gathered through meetings and other events, the telephone hot line, project Web site and email and postal addresses.

Section 4(f)

Some documents could include a chapter titled "Section 4(f)." This name refers to a portion of federal law mandating that special efforts be made to preserve public parks and recreation lands, wildlife and waterfowl refuges and significant historic sites. If any of those assets are impacted by the selected I-70 improvements, it must be shown that: (1) there is no prudent and feasible alternative to avoid the asset; and (2) all possible efforts will be made to minimize harm.

List of Preparers

The document will provide a list of personnel who were primarily responsible for preparing the draft version.

Circulation List

This list identifies those who will receive a copy of the draft document for review and comment. It also identifies locations where the draft will be available for public viewing.

Appendix A - First Tier Summary

Each document will contain the same information within Appendix A: a summary of the First Tier Study of I-70. That study, completed in December 2001, determined that widening and reconstructing I-70 along its existing route was the best course of action for the future.

Other Appendices

These will vary from document to document, but Appendices B, C, D and so on will include a variety of information such as maps, tables, numerical data and meeting summaries. See the document's table of contents for a listing of appendix titles.

Why are environmental documents produced?

Environmental documents are required by the federal government for transportation improvement projects that will use federal funds and/or federal permits for construction. But far beyond that requirement, I-70 documents also help state and federal agencies and local communities make well-informed decisions about the future of the interstate. The documents will describe how a community or area might change as a result of I-70 improvements, and in that way, will help you form opinions about which improvement alternative you prefer.

Additionally, environmental documents give you the same information used by the Missouri Department of Transportation and Federal Highway Administration in selecting a preferred alternative for I-70. This full disclosure helps you see the basis on which decisions are made. Each document will answer the following basic questions:

- **What is the purpose and need for the improvement?** Why is the study being conducted? This is the problem definition.
- **How might the improvement impact the natural environment?** For example, how would building improvements to I-70 impact wetlands or threatened and endangered species? Would the project impact air quality or the quality of rivers and streams?
- **How might the improvement impact the cultural and social environments?** How would I-70 improvements impact historical and archaeological sites, public recreation lands like state parks, access to jobs, schools, shopping and other services, the local economy, land use and community cohesion? Are economically disadvantaged groups disproportionately affected?
- **How would the proposed improvement function?** How much traffic would it carry? How much would it cost to construct and maintain? Would it address the identified problems adequately?

What's the process for document review and approval?

Federal and state guidelines and policies direct the process of developing, reviewing and approving environmental documents. The process for an Environmental Impact Statement (EIS) and an Environmental Assessment (EA) includes the following steps.



Draft Document Distribution and Comment Period

First, a draft version of the environmental impact statement (DEIS) or environmental assessment (DEA) is approved for circulation by the Federal Highway Administration (FHWA). Afterwards the document is circulated to a variety of state and federal agencies and public officials for their review, and at the same time, is made available for public review at a variety of locations such as libraries and government buildings and on the project Web site. Anyone can review and comment on the draft during a specified period that lasts at least 45 days for an EIS and at least 30 days for an EA. The official comment period will be well publicized for each document.

Where can I review documents

The Missouri Department of Transportation and the Federal Highway Administration want to ensure that the widest possible audience has the opportunity to review and comment on draft environmental documents. To ensure this, several opportunities for review and comment will be provided.

On the Web

All draft documents will be provided on the Web site, www.ImproveI70.org. Visitors to the site will be able to view the document, download its contents and submit comments online.



At Public Viewing Locations

All draft documents will be available at a variety of public locations within each section of I-70. Generally, these will include libraries, government buildings and other locations with easy

public access. A listing of public review locations can be found within the draft document, on the project Web site at www.ImproveI70.org, or you may call 1-800-590-0066 to determine a specific location.

and how can I submit comments?

At Public Hearings

Public hearings will provide the opportunity to review the document, discuss its contents with a member of the study team and provide your comments for the official study record. Hearings will be well publicized and details about the date, time and location will be posted on the project Web site.

Through the Mail or Online

You may mail your comments to Improve I-70, P.O. Box 410482, Kansas City, MO, 64141-0482 or send them electronically to: comments@ImproveI70.org.



Remember, each document will have an official review period during which time your comments must be submitted.



Official Public Hearing

About three weeks after the draft document has been available for review, an official public hearing will be held to gather citizen's comments. Hearings will likely be in an open-house format, allowing you to come and go at any time. Copies of the document, along with display boards, maps and other information will be available, and study team members will be on-hand to answer your questions and address your concerns. Comment forms will be available and court reporters will be provided to transcribe your verbal comments. All written and transcribed comments made at the hearing, and any other written comments received during the official comment period will become a part of the official study record.



Final Document Development

After the official review period ends, the study team will review all comments submitted by the public and government review agencies and begin work on the final version of their document – Final Environmental Impact Statement (FEIS) or Final Environmental Assessment (FEA). Substantive comments (see the questions and answers above) are responded to in writing and in the final document. The final document is basically an update of the draft and includes those substantive comments and the results of any additional evaluations or analyses performed in response to the comments gathered.

How are these documents different from the *First Tier Environmental Impact Statement*?

The First Tier EIS considered the needs of the entire I-70 corridor between Independence and Lake St. Louis and evaluated several corridor-wide improvement strategies. While environmental documents for the Improve I-70 studies will be similar in structure and basic content, they will provide much greater detail on how changes caused by the reasonable alternatives for I-70 could impact specific areas. Documents will also suggest how best to avoid, minimize or mitigate those impacts.

Can I get my own copy?

You can get a copy of the draft documents several ways. You may download documents from the project Web site at www.ImproveI70.org, or you can copy portions of the documents at public viewing locations where copy facilities are available. For the convenience of others, it is requested that the documents not be taken or borrowed from their viewing locations. You may also request a paper copy of the document or a copy on CD-ROM by calling the project hot line at 1-800-590-0066.

Why is the Section 5 document different?

In Section 5, proposed I-70 improvements will be explained in a Documented Categorical Exclusion (CE). This type of document is used when improvements are not expected to cause significant impacts to the surrounding environment. Section 5 includes mainly rural, un-developed land with few natural environmental features or habitats, and widening is proposed directly adjacent to the existing highway. Although the study process includes the same rigorous data collection, analysis and public involvement efforts as in other sections, this type of documentation is appropriate given the environmental and social character of Section 5. The CE will be made available to the public in the same way as other sections, and study team personnel will be present to address public questions and concerns at hearings in Sections 4 and 6.

What is a ***SUBSTANTIVE*** comment?

"I don't want this highway there" is a comment. "I don't want this highway there because there is an old family cemetery there" is a substantive comment. Substantive comments place a fact on the table that must be addressed. Should you only submit substantive comments? Absolutely not. Your opinion matters and you should express it. Only substantive comments receive a formal response, but ALL comments are documented and reviewed by the study team.



Final Document Distribution

Copies of the final document are provided to the same state and federal agencies, public officials and public locations that received the draft. The final document will confirm the preferred alternative and will serve as the basis for future actions related to I-70 improvements.



Document Approval

The Federal Highway Administration has responsibility for approving all environmental documents for I-70. After final versions are circulated, the agency will publish a Record of Decision (ROD) for Environmental Impact Statements, and a Finding of No Significant Impact (FONSI) for Environmental Assessments. These approvals announce the selected alternative for I-70 improvements which can proceed to the next phases of development – design, right of way acquisition and construction. These next phases are dependent on funding. Please be advised that no funding has yet been authorized for design, right-of-way acquisition or construction of major I-70 improvements.

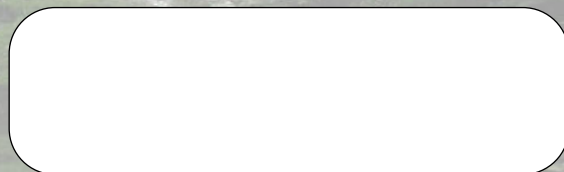
How will I be informed about documents and hearings?

Postcard notices with details about document availability and public hearings will be sent to all those on the Improve I-70 mailing list (if you received this guide by mail, you're on the list). This information will also be detailed in upcoming issues of *Momentum* (the Improve I-70 newsletter), through news releases sent to local media and through legal notices published in area newspapers. All these activities will take place several weeks before official hearings are held to provide ample time for the public to review draft environmental documents.

Where can I get more information about Improve I-70?

The Improve I-70 Web site includes a wealth of information about MoDOT's efforts to plan for the future of this vital interstate. There you'll find background information on why the current studies are being conducted and a history of the decisions that preceded them. You'll also find answers to frequently asked questions and facts about important issues like trucks, noise and funding. Videos and other graphics on the site illustrate how I-70 might look in the future, and maps in the "local focus" section show the I-70 improvements that have been considered. You are encouraged to visit the site at www.ImproveI70.org to learn more. If you have questions about information you find on the site, contact us at 1-800-590-0066.

IMPROVE I-70
P.O. Box 410482
Kansas City, MO 64141



Summary

A. Location and Termini

The Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA) are investigating improvements to Interstate Route 70 (I-70) across Missouri, from Kansas City to St. Louis. This effort is known as Improve I-70. In accordance with the National Environmental Policy Act (NEPA), a tiered approach was taken in the Improve I-70 investigation. A First Tier Environmental Impact Statement (EIS) was initiated to examine the entire 200-mile (321.9-kilometer [km]) section of I-70. The First Tier EIS focused on identifying the most appropriate types of improvements for I-70 on a conceptual level. It also identified seven Sections of Independent Utility (SIU) within the 200-mile (321.9-km) First Tier study area. A series of Second Tier studies was undertaken to identify specific improvements most appropriate to each SIU. This document addresses SIU 4.

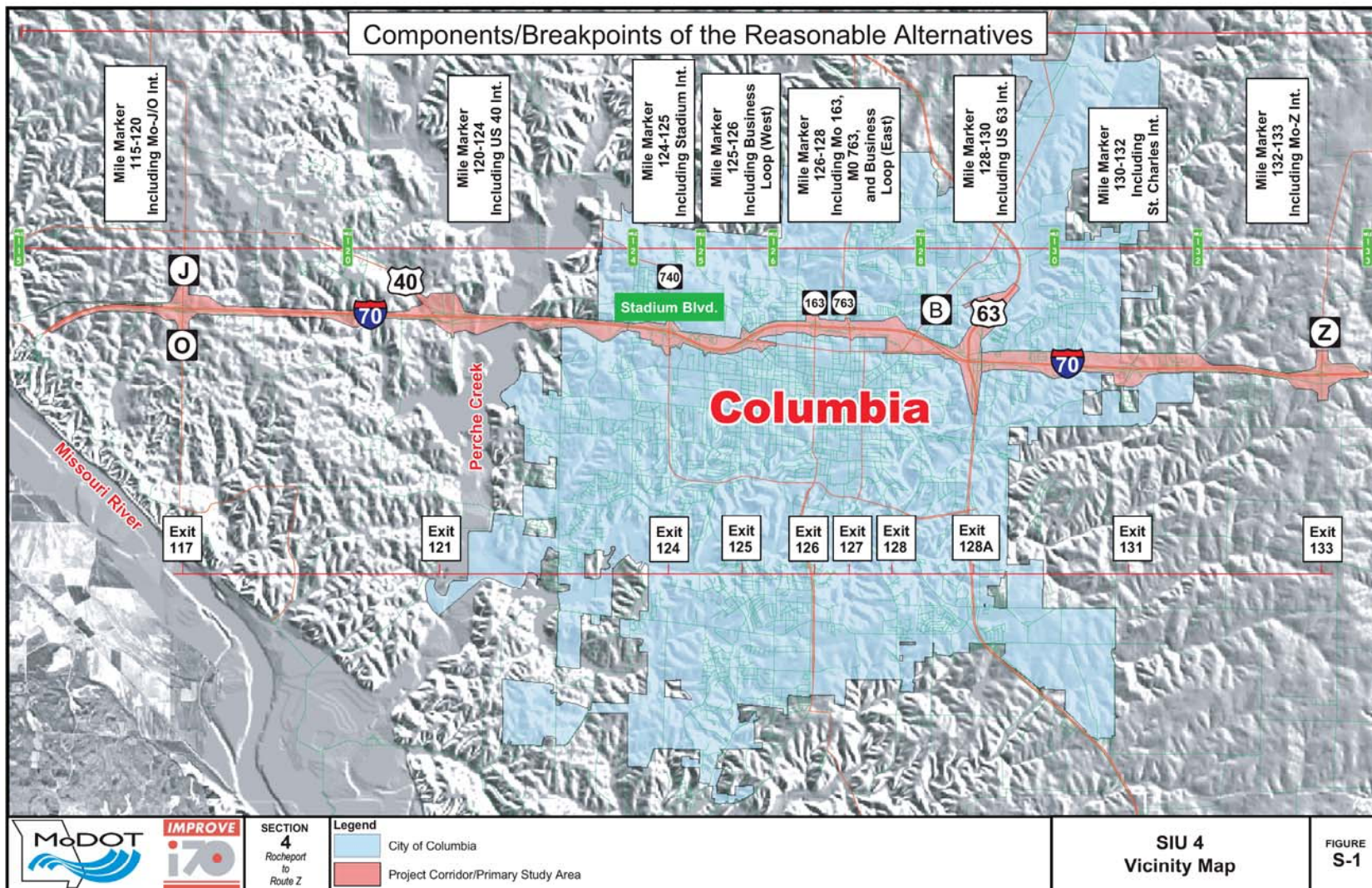
Section of Independent Utility 4 includes the city of Columbia and the portions of I-70, from just east of, but not including, the Missouri Route BB interchange (MO-BB, exit 115) to just east of the MO-Z interchange (exit 133). The MO-J/O interchange (exit 117) is the western-most interchange within SIU 4. This 18-mile (29.0-km) section of four-lane divided highway has limited access and contains 10 interchanges. Section of Independent Utility 4 spans virtually the entire width of Boone County. The logical termini for SIU 4 were initially established in the First Tier EIS and confirmed during the Second Tier EIS (**see Figure S-1**).

B. Proposed Action

The proposed action is the implementation of the recommended preferred alternative for the SIU 4 portion of the Improve I-70 project. As stated in the First Tier EIS, the overall goal of the Improve I-70 project is “to provide a safe, efficient, environmentally sound and cost-effective transportation facility that responds to corridor needs as well as expectations of a national interstate.”

Within SIU 4, the recommended preferred alternative specifies the improvement of I-70 along its existing alignment. Improvements include increasing the number of through lanes on I-70 from three to six, west of the U.S. 40 interchange and east of the MO-Z interchange, and from four to eight from U.S. 40 interchange to the MO-Z interchange. In addition, the recommended preferred alternative would include the reconstruction/reconfiguration of the existing interchanges.

Figure S-1: SIU 4 Vicinity Map



C. Purpose of and Need for Proposed Action

Purpose and need are the transportation-related problems that the project is intended to address. The generation and evaluation of alternatives are conducted to develop the most appropriate solution to the identified problems. A preferred alternative would be selected, in part, on the basis of how well it satisfies the project's purpose and need.

The purpose and need elements associated with the Second Tier of the I-70 (SIU 4) EIS are to:

- **Accommodate existing and future traffic volumes on I-70**—Within SIU 4, the overall volume of traffic on I-70 is projected to at least double between 2000 and 2030. With the No-Build Alternative, these increases would result in future operational difficulties for travelers on I-70. Consequently, one element of the purpose of and need for improvements to I-70 is to develop alternatives that accommodate existing and projected traffic volumes.
- **Improve existing I-70 design**—Interstate 70 has been in place for many decades and several design features do not meet the standards required of modern roadway facilities. In order to satisfy future transportation demand, there is a need to correct outdated design elements. Consequently, one element of the purpose and need is to improve the existing facility by developing it in accordance with current design standards.
- **Accommodate all users of I-70**—Section of Independent Utility 4 is roughly equidistant between the major population centers of Missouri (St. Louis and Kansas City). Interstate 70 plays an important role in freight movement and general inter/intra-state travel. Because SIU 4 also traverses the city of Columbia, it plays an important role in the local roadway network. This creates a situation where the existing traffic streams are in conflict. Trucks present an additional operational challenge because of their size and operating characteristics. It is the intent of this project to accommodate the various traffic streams to the extent practical. Consequently, one element of the purpose and need for SIU 4 is to develop alternatives that accommodate all users of I-70. All other things being equal, the alternative that best accommodates all users of I-70 would be superior.
- **Improve user safety**¹—Both the frequency and severity of crashes on I-70 have been increasing over time. Because traffic volumes on SIU 4 are expected to at least double by the design year of 2030, the number of crashes can also be expected to increase. Consequently, one purpose and need element for SIU 4 is to develop alternatives that improve user safety on I-70.

D. Alternatives

A tiered screening process was used to develop and evaluate alternatives. At the end of each tier, a selection process was undertaken whereby the most appropriate alternatives were advanced for further consideration. At each tier, the amount of data collected (to assist with

¹ Crash statistics and safety data summarized or presented in this paragraph are protected under federal law. See Appendix I-B.

decision-making) was increased. The overall decision-making process of the project started with the **corridors** that emerged from the First Tier EIS. The three corridors evaluated included improving the existing I-70 corridor, a Near North Corridor and a Far North Corridor. Ultimately, improving the existing I-70 corridor was the only corridor advanced for further evaluation.

Within the existing I-70 corridor, concept development focused on the mainline widening alternatives and the interchange configurations. The First Tier evaluation and subsequent technical studies recommended that the mainline in the subsections west of U.S. 40 be widened to the south of the existing eastbound lanes, establishing a 124-foot (37.8-meter [m]) median width. The westbound lanes would remain in their current location. This approach minimized the impacts in this section of the corridor. East of U.S. 40 to the eastern project limits, the roadway would be widened symmetrically around the existing centerline with a raised median barrier. Slight asymmetrical widening to the north between MO-740 and Business Loop West, and to the south between Business Loop West and MO-163 minimized impacts in these locations. See **Appendix II-B** for typical and special sections.

General design criteria for the mainline include a design speed of 75 miles per hour (mph) in the rural sections and 70 mph in the urban sections. Horizontal curves have a maximum degree of curvature of 1°30'. Vertical clearance for side roads over I-70 is 19'-0" (5.8 m). Ramp design speeds are 50 mph at the gore and 30 mph for loops. Full design criteria information for all roadways is presented in **Appendix II-A**.

Relative to through lane needs, it was determined that three lanes of travel in each direction would need to be provided between the project's western terminus and the U.S. 40 interchange, and east of the MO-Z interchange to the eastern terminus to accommodate 2030 traffic volumes. Between the U.S. 40 interchange and the MO-Z interchange, four lanes of travel in each direction would be required to accommodate 2030 traffic volumes. In addition, room has been allocated throughout SIU 4 for construction beyond 2030 of an additional lane in each direction, or for an alternative mode of transportation. Unless otherwise noted, references to the number of through lanes are for the year 2030, and do not include these potential extra lanes.

In order to properly accommodate the access needs within SIU 4, numerous concepts were considered. Initially, preliminary concepts were developed and evaluated. This was followed by a detailed concept phase. At this stage, a one-way frontage road concept, a two-way frontage road concept and a collector/distributor concept were developed. The detailed concepts included complete engineering depictions, iterative traffic evaluations and quantitative impact assessments. Ultimately, it was determined that none of these individual concepts alone were optimal. Instead, a hybrid or combination of concepts would be needed. The hybrids emerging from the concept-stage are also referred to as the reasonable alternatives. The reasonable alternatives have benefits that the individual concepts cannot attain. The reasonable alternatives were organized by location. Each of the individual components could be combined in every possible way. A detailed evaluation of the costs, benefits and impacts associated with the reasonable alternatives resulted in the identification of the recommended preferred alternative. The recommended preferred alternative satisfies the project's purpose and need, minimizes negative environmental impacts (eliminates avoidable significant negative impacts) and, overall, best balances the costs and benefits of project development. An extensive public involvement process also accompanied the development and evaluation of alternatives. By the time the recommended preferred alternative was announced, at least 19 public involvement events were held.

The recommended preferred alternative consists of the following reasonable alternative elements:

Western Part of Project Area: Western Terminus to Stadium Interchange

This portion of I-70 extends between mile 116.2 to 124.6, including the MO-J/O interchange and the U.S. 40 interchange. The mainline widening would occur to the south and the widened rural median would be maintained. The widening to the south minimizes impacts and allows for a seamless transition to the Missouri River crossing that occurs in SIU 3 (approximately 1.3 miles [2.1 km] west of the SIU 4 termini). It also reduces construction delays and cost by allowing for the maximum reuse of the existing lanes.

The MO-J/O interchange would be constructed as a diamond interchange (**Exhibit II-12**)² and the U.S. 40 interchange would be reconstructed as an enhanced diamond interchange (**Exhibit II-13**).

Central Part of Project Area: Columbia between Stadium and U.S. 63

This portion of the study area extends from mile markers 124.6 to 130.0, including the Stadium Boulevard, Business Loop West, MO-763, MO-163, Business Loop East, U.S. 63 and Business 63 interchanges. Overall, the mainline widening occurs symmetrically on each side for the existing highway³. Room for a maximum of eight lanes would be available. An urban median would be used for impact reductions. The existing frontage roads would be maintained and, in some cases, improved.

The Stadium interchange would be reconstructed as a tight diamond⁴ (**Exhibit II-16**), and the Business Loop West interchange would be reconstructed as a two-point interchange (**Exhibit II-19**). The 163/763/Business Loop East interchanges would be part of a one-way frontage road system (**Exhibit II-20**) and the U.S. 63 interchange would be a four-movement system interchange combined with Business 63 as a tight diamond (**Exhibit II-22**).

Eastern Part of Project Area: U.S. 63 to MO-Z

This portion of the study area extends from mile marker 130.0 to the eastern terminus (mile marker 134.0), including the St. Charles Road and MO-Z interchanges. The mainline widening would occur symmetrically on each side for the existing highway and the urban median would be used. The existing frontage roads would be maintained and, in some cases, improved. West of the MO-Z interchange, there would be eight through lanes and east of the interchange there would be six through lanes.

The St. Charles interchange would be reconstructed as a tight diamond interchange (**Exhibit II-23**), and the MO-Z would be a standard diamond interchange (**Exhibit II-26**).

² Exhibit II-27 depicts the entire recommended preferred alternative at a smaller scale.

³ One important exception occurs in the vicinity of the Business Loop West interchange. An existing substandard curve would be corrected in this area, resulting in widening to the north for the portion of I-70 west of the Business Loop and widening to the south for the portion of I-70 east of the Business Loop.

⁴ With additional ramps to and from the east at Fairview Road.

E. Impacts

The process that led to the identification of the recommended preferred alternative included evaluations of impacts. The impact analysis included right of way impacts, environmental impacts, community impacts, displacement impacts, engineering impacts and issues along with an examination of the compatibility with local transportation priorities. An extensive public involvement plan was also used in the decision-making process.

Impacts associated with the reasonable alternatives include the conversion of farm land, the acquisition of land and structures, stream and floodplain crossings, wetland impacts, woodland impacts and potential impacts to protected species. **Table S-1** is an impact summary for the recommended preferred alternative. **Table S-2** is a more detailed impact matrix for all reasonable alternatives within the western portion of SIU 4 (western terminus to Stadium interchange). **Table S-3** is a more detailed impact matrix for all reasonable alternatives within the central portion of SIU 4 (Columbia between Stadium and U.S. 63). **Table S-4** is a more detailed impact matrix for all reasonable alternatives within the eastern portion of SIU 4 (U.S. 63 to MO-Z/eastern terminus).

F. Lead Agency/Cooperating Agencies

The lead agency of the EIS is FHWA in consultation with MoDOT. Missouri Department of Transportation and its consultants are responsible for conducting the environmental and engineering evaluations, carrying out the public involvement activities, coordinating with state and federal review agencies and preparing the EIS in consultation with FHWA. The federal cooperating agencies include the United States Environmental Protection Agency (USEPA) and the United States Army Corps of Engineers (USACE).

The SIU 4 Study Team, which included staff and representatives from MoDOT Headquarters and MoDOT District Five, met regularly with staff from Columbia Area Transportation Study Organization (CATSO), the City of Columbia and Boone County to determine and study the alternatives developed for the Columbia area. The group met regularly to review land use and traffic data, widening concepts and emerging alternatives. This collaborative effort provided guidance and insight throughout the process. The study team also made at least quarterly presentations to the CATSO board to update them on study progress and seek direction on Columbia-specific issues.

Resource agency coordination was also a priority throughout the Improve I-70 Second Tier studies. A Study Management Group (SMG) was convened to ensure proactive coordination. Group activities included regularly scheduled SMG meetings, phone calls, e-mails, correspondence and face-to-face meetings on SIU-specific issues. Included in the SMG are representatives from the MoDOT headquarters and division offices, FHWA, USACE, USEPA, Missouri Department of Natural Resources (MDNR), Missouri Department of Conservation (MDC), Natural Resources Conservation Service (NRCS), United States Coast Guard (USCG) and United States Fish and Wildlife Service (USFWS). Four SMG meetings involving SIU 4 have been held to date.

G. Regulatory Compliance/Pending Action

The planning, agency coordination, public involvement and impact evaluation for the project were coordinated in accordance with the NEPA, the Clean Water Act (CWA), the Clean Air Act (CAA), the Farmland Provision Policy Act, Executive Order 11988 on Wetland and Floodplain Protection, the Fish and Wildlife Coordination Act, the Endangered Species Act (ESA), the National Historic Preservation Act (NHPA) and other state and federal laws, policies and procedures for environmental impact analyses and preparation of environmental documents.

This document complies with United States Department of Transportation (USDOT) and FHWA policies to determine whether a proposed project would have disproportionate impact on minority or low-income populations. It meets the requirements of the Presidential Executive Order on Environmental Justice 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*. Neither minority nor low-income populations would receive disproportionately adverse impacts under the reasonable range of alternatives.

River and wetland impacts associated with the range of reasonable alternatives are subject to permitting and associated water quality certification under Sections 404 and 401 of the CWA. This project is being processed in accordance with the policy of merging the NEPA review and compliance with the CWA. Key to merging the review is the coordination between the MoDOT and FHWA with the USACE and MDNR at several concurrence points. In this way, the full rationale of the decisions by the MoDOT and FHWA can be shared with the regulators as the decisions are made, reducing the potential for having to revisit critical planning decisions at a later time.

Relocation Assistance Plans for all potential acquisitions and displacements would require approval before being implemented. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, provides for payment of just compensation for property acquired for a federal aid project. The relocation program provides assistance to displaced persons in finding comparable housing that is decent, safe and sanitary. This applies to businesses, farms, nonprofit organizations and residential properties.

Upon selection of a preferred alternative, further investigation would be done to verify that the improvements would not affect important archaeological resources. If the proposed improvements affect archaeological or historical resources eligible to the National Register of Historic Places (NRHP), the requirements under Section 106 of the NHPA would be completed. Additionally, the project team is coordinating with FHWA to satisfy Section 4(f) requirements associated with historic site impacts (see Chapter IV).

Informal coordination with the MDC would be continued to determine whether the proposed improvements would affect state-protected species discussed in Chapter III. Coordination would also be continued with the USFWS to determine whether the project would adversely affect federally protected species.

H. Environmental Commitments

During the design and implementation of the selected alternatives, MoDOT is committed to obtaining necessary permits and performing other actions that would minimize and mitigate the impacts of the project on the environment. Those commitments are summarized below:

- Relocation assistance would be provided for all businesses, nonprofit organizations and residents that must be relocated. Assistance would be provided by MoDOT in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act. Relocation assistance under the program would be made available without discrimination to all who would be relocated.
- The I-70 Study Team would continue to coordinate with local planning agencies, including CATSO and the Columbia Planning and Building Department.
- This project will comply with the American Disabilities Act of 1990.
- A MoDOT approved maintenance of traffic plan would be developed and implemented for the construction phases of the project. Through traffic would be maintained along I-70 and at access points to the interstate from cross roads. It is likely that some interchange ramps and cross roads would be closed and temporary detours required. Construction schedules, road closures and detours would be coordinated with police forces and emergency services to reduce impact to response times of these agencies.
- Provisions would be made for bike, pedestrian and wheelchair access across I-70 wherever possible and reasonable.
- The design of roadway crossings over I-70 and bridges over streams in the Columbia area would 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.
- Detailed design of the project would 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 would 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.
- During the final design process, the MoDOT would consider options to minimize new right of way acquisition.
- The MoDOT would coordinate with the USACE to ensure compliance with Sections 401 and 404 of the CWA. This would address impacts to streams, wetlands and other waters of the United States during the design process. Clean Water Act permits would require a detailed delineation and evaluation of waters and wetlands affected by the project and minimization of impacts. In accordance with established procedure, the wetland delineation results will be presented in the Final Environmental Impact Statement. During the design phase specific impacts to wetland and other waters of the United States would be assessed to determine if those impacts can be avoided or further minimized. Unavoidable impacts to wetland and streams would require mitigation. Development of mitigation strategies would be determined through the permitting process with the USACE and the MDNR.
- Best management practices would be implemented to prevent and reduce soil erosion and sedimentation in local waterways and sinkholes. Missouri Department of

Transportation would employ methods for stormwater management during and after construction in accordance with its *Standard Specifications Book for Highway Construction* and National Pollutant Discharge Elimination System (NPDES) stormwater permit, as well as methods included in the joint Columbia/Boone County NPDES Phase II stormwater permit. Disturbed areas would be restored with suitable vegetation to stabilize the area over the long term.

- Floodplain permits would be obtained from the State Emergency Management Agency (SEMA).
- Landscaping would be in accordance with the statewide *I-70 Corridor Enhancement Plan*. In accordance with MoDOT standards, new seed mixes, mulch and plant materials would be free of invasive weedy species to the extent possible to reduce the spread of invasive species along the highway to natural areas and adjacent properties.
- To avoid potential negative impacts on the Indiana bat, coordination with the USFWS would be conducted. The USFWS advocates reviewing projects on a case-by-case basis focusing on the following criteria: the project's proximity to known hibernacula; maternity, male roosts and/or important foraging areas; the composition of the woodland; the land use of the area after the project is complete; location in Knox, Macon and Shelby counties and consideration of the magnitude, scope, frequency and duration of the proposed action with regard to the importance of the area to the Indiana bat. To address USFWS and MDC concerns, MoDOT would review the Natural Heritage Data Base periodically during the project development process to identify any new locations of Indiana bat activity. Missouri Department of Transportation would continue consultation with the USFWS to avoid or minimize potential impacts to this species.
- Surveys for populations or potential habitat of the Running Buffalo clover would be performed prior to construction activities.
- Missouri Department of Transportation is 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.
- Additional study and proper remediation of hazardous waste sites that would be encountered by construction would 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.
- Dust control during construction would be performed in accordance with MoDOT's standard methods, which require application of water or approved dust control measures on haul roads and during grading. Pavement material batch plants would be situated in accordance with the *Standard Specifications* or any special provisions developed during coordination with MDNR regarding air quality standards and emissions. Portable material plants would be operated in accordance with MDNR air quality requirements/guidelines. A permit must be obtained from the MDNR to open burn or open burn with restrictions.

- Noise barriers would be further investigated at five locations, as identified in the study of sensitive receptors, where their installation is feasible and the cost of the barriers does not exceed the state guidelines. This process would comply with MoDOT standard procedures and include more detailed evaluations of cost and effectiveness, public involvement and outreach and, potentially, barrier design and implementation.
- Missouri Department of Transportation would coordinate with the State Historic Preservation Office (SHPO) to ensure compliance with Section 106 of the NHPA.
- The design of new structures such as bridges and noise barrier walls would incorporate the elements contained in the I-70 Corridor Enhancement Plan to the maximum extent possible.
- Missouri Department of Transportation would consult with emergency responder agencies involved in traffic incident management on I-70 in the future design and maintenance of traffic plan development as the Improve I-70 program progresses.



Table S-1
Recommended Preferred Alternative Impact Summary
 Improve I-70: Columbia Area (SIU 4)

IMPACT CATEGORY	MEASURE	TOTAL IMPACTS FOR RECOMMENDED PREFERRED ALTERNATIVE
RIGHT OF WAY IMPACTS (Existing Land Use within Required Right of Way)		
Residential	acres	54
Commercial	acres	63
Industrial	acres	9
Agricultural (Wooded/Vacant)	acres	249
Public (Parks and other publicly owned parcels)	acres	11
Other (e.g. utilities, institutional, fraternal organizations)	acres	11
Total Right of Way Required	acres	397
ENVIRONMENTAL IMPACTS		
Wetland Impacts	acres	8.3
Non-Wetland Pond Impacts	acres	2.2
100-Year Floodplain Impacts	acres	72
Stream Crossings	#	73
Natural Community Impacts	acres	143
Potential Threatened/Endangered Species Impacts	Yes/No	Yes
Number of Sites Requiring Additional Hazardous Material Assessment	#	15
Secondary and Cumulative Impacts	rating	0
Visual Impacts - Existing vs. Proposed	rating	+
COMMUNITY IMPACTS		
National Register of Historic Places Impacted	#	1 - Bowling Napier Estate
Important Community Resources - Displacement of Structures	#	5
Important Community Resources - Property Acquisition	acres	15.7
Potential Impacts to Low Income or Minority Populations (EJ)	rating	0
Potential for Noise Walls	Yes/No	Yes
DISPLACEMENT IMPACTS		
Residential Impacts (Displacement of Dwelling Units)	#	299
Total Number of Structures Acquired	#	142
Business Operation Impacts (Displacement of at Least One Structure)	#	66
Total Number of Tax Map Parcels Affected	#	612
ENGINEERING ISSUES		
Comply with MoDOT Access Management Criteria	rating	0
Construction Staging	rating	0
Traffic Operations	rating	0
Maintenance of Traffic	rating	0
Phased Implementation of Full Build	rating	N/A
Project Costs		
New Construction Cost	2005 Dollars	\$469,630,000
Right of Way Cost, including displacements	2005 Dollars	\$134,886,000
Maintain Existing Travel Patterns	rating	0
Ability to Accommodate Future Expansion	rating	-
COMPATIBILITY WITH CATSO PRIORITIES		
Conformance with Adopted Local Plans	rating	0
Impact on Local Street System	rating	0
Impact on Land Use Patterns	rating	+
Impact on Neighborhood Stability	rating	0

RATING SYSTEM	
Positive Impact/Performs Better than other Alternatives	+
Neutral Impact/No Differentiator	0
Negative Impact/Performs Poorer than other Alternatives	-





Table S-2: Reasonable Alternative Impact Summary
Western Portion of Project Area: MO-BB to Stadium Interchange
Improve I-70: Columbia Area (SIU 4)

IMPACT CATEGORY	MEASUREMENT	MO-J/O Interchange (Mile Markers 116.2 to 120.0)	U.S. 40 Interchange (Mile Markers 120.0 to 124.6)	
		Reasonable Alt. #1: Diamond Interchange	Reasonable Alt. #1: Enhanced Diamond Interchange	Reasonable Alt. #2: Diamond Interchange w/ SW Loop
RIGHT OF WAY IMPACTS (Existing Land Use within Required Right of Way)				
Residential	acres	14	8	7
Commercial	acres	2	8	9
Industrial	acres	0	1	2
Agricultural (Wooded/Vacant)	acres	64	44	62
Public (Parks and other publicly owned parcels)	acres	3	0	1
Other (e.g. utilities, institutional, fraternal organizations)	acres	0	1	1
Total Right of Way Required	acres	83	62	82
ENVIRONMENTAL IMPACTS				
Wetland Impacts	acres	0	4.3	4.3
Non-Wetland Pond Impacts	acres	0.5	0	0.3
100-Year Floodplain Impacts	acres	6	43	41
Stream Crossings	#	18	17	17
Natural Community Impacts	acres	51	36	48
Potential Threatened/Endangered Species Impacts	Yes/No	No	No	No
Number of Sites Requiring Additional Hazardous Material Assessment	#	0	3	3
Secondary and Cumulative Impacts	rating	O	+	-
Visual Impacts - Existing vs. Proposed	rating	-	+	+
COMMUNITY IMPACTS				
National Register of Historic Places Impacted	#	0	0	0
Important Community Resources - Displacement of Structures	#	0	0	0
Important Community Resources - Property Acquisition	acres	0	0.2 acres (CPS Services Building)	0.3 acres (CPS Services Building)
Potential Impacts to Low Income or Minority Populations (EJ)	rating	O	O	O
Potential for Noise Walls	Yes/No	No	No	No
DISPLACEMENT IMPACTS				
Residential Impacts (Displacement of Dwelling Units)	#	5	4	5
Total Number of Structures Acquired	#	11	17	21
Business Operation Impacts (Displacement of at Least One Structure)	#	1	5	7
Total Number of Tax Map Parcels Affected	#	64	88	94
ENGINEERING ISSUES				
Comply with MoDOT Access Management Criteria	rating	N/A	O	O
Construction Staging	rating	N/A	+	+
Traffic Operations	rating	N/A	O	+
Maintenance of Traffic	rating	N/A	+	+
Phased Implementation of Full Build	rating	N/A	N/A	N/A
Project Costs				
New Construction Cost	2005 Dollars	\$47,857,000	\$73,348,000	\$82,788,000
Right of Way Cost, including displacements	2005 Dollars	\$2,415,000	\$3,522,000	\$4,306,000
Maintain Existing Travel Patterns	rating	N/A	+	+
Ability to Accommodate Future Expansion	rating	N/A	+	-
COMPATIBILITY WITH CATSO PRIORITIES				
Conformance with Adopted Local Plans	rating	+	+	-
Impact on Local Street System	rating	O	+	-
Impact on Land Use Patterns	rating	O	+	-
Impact on Neighborhood Stability	rating	O	+	-
		Recommended Preferred Alternative	Recommended Preferred Alternative	

RATING SYSTEM	
Positive Impact/Performs Better than other Alternatives	+
Neutral Impact/No Differentiator	O
Negative Impact/Performs Poorer than other Alternatives	-




**Table S-3: Reasonable Alternative Impact Summary Central Portion of Project Area: Columbia between Stadium Interchange and US-63
Improve I-70: Columbia Area (SIU 4)**

IMPACT CATEGORY	MEASUREMENT	Stadium Interchange (MO-740) (Mile Markers 124.6 to 125.2)				Business Loop West Interchange (Mile Markers 125.2 to 126.0)	MO-163, MO-763 and Business Loop East Interchanges (Mile Markers 126.0 to 128.0)		U.S. 63 Interchange (Mile Markers 128.0 to 130.0)
		Reasonable Alt. #1: NW Loop	Reasonable Alt. #2: Tight Diamond Interchange	Reasonable Alt. #3: Single Point Urban Interchange	Reasonable Alt. #4: Split Diamond Interchange	Reasonable Alt. #1: Two-Point Diamond Interchange	Reasonable Alt. #1: One-Way Frontage Road System	Reasonable Alt. #2: Collector-Distributor System	Reasonable Alt. #1: Tight R/W Interchange Design
RIGHT OF WAY IMPACTS (Existing Land Use within Required Right of Way)									
Residential	acres	11	11	11	11	2	11	11	2
Commercial	acres	11	5	5	6	6	18	18	12
Industrial	acres	0	0	0	0	0	5	5	2
Agricultural (Wooded/Vacant)	acres	27	23	23	29	0	15	15	8
Public (Parks and other publicly owned parcels)	acres	4	1	1	1	2	3	3	2
Other (e.g. utilities, institutional, fraternal organizations)	acres	1	1	1	1	0	7	7	1
Total Right of Way Required	acres	54	41	41	48	10	59	59	27
ENVIRONMENTAL IMPACTS									
Wetland Impacts	acres	0	0	0	0	0	0	0	2.4
Non-Wetland Pond Impacts	acres	0.5	0.5	0.5	0.5	0	0	0	0
100-Year Floodplain Impacts	acres	1	1	1	1	0	0	0	14
Stream Crossings	#	9	7	7	10	1	2	2	7
Natural Community Impacts	acres	23	16	16	19	0	12	11	7
Potential Threatened/Endangered Species Impacts	Yes/No	No	No	No	No	Yes	No	No	No
Number of Sites Requiring Additional Hazardous Material Assessment	#	2	2	2	2	2	6	6	1
Secondary and Cumulative Impacts	rating	-	O	+	-	O	O	O	O
Visual Impacts - Existing vs. Proposed	rating	+	+	+	+	-	+	+	+
COMMUNITY IMPACTS									
National Register of Historic Places Impacted	#	0	0	0	0	0	1 - Bowling Napier Estate	1 - Bowling Napier Estate	0
Important Community Resources - Displacement of Structures	#	2 - Boone Co. Fire Dist. and American Heart Assn	1 - American Heart Assn	1 - American Heart Assn	1 - American Heart Assn	0	3 - VFW Post, Parole Board and Social Services Building, OATS, Inc.	3 - VFW Post, Parole Board and Social Services Building, OATS, Inc.	0
Important Community Resources - Property Acquisition	acres	Boone County Fire District - 4.0a American Heart Assn - 2.4a Columbia United Church of Christ - 0.9a	Boone County Fire District - 0.8 a American Heart Assn - 3.0a Columbia United Church of Christ - 0.9a	Boone County Fire District - 0.8a American Heart Assn - 3.0a Columbia United Church of Christ - 0.9a	Boone County Fire District - 0.7a, American Heart Assn - 2.7a, Columbia United Church of Christ - 0.9a	Memorial Services of Columbia -0.1a US Army Reserve - 1.6a	Rusk Rehabilitation Center - 1.6a Social Services Building - 1.4a Church of God of Columbia - 0.6a OATS, Inc. - 0.9a VFW Post - 1.9a Columbia Utilities & RR - 1.5a	Rusk Rehabilitation Center - 1.2a Social Services Building - 1.0a Church of God of Columbia - 0.9a OATS, Inc. - 0.9a VFW Post - 1.8a Columbia Utilities & RR - 2.3a	Grand Lodge of Masons - 0.2a Praise Assembly of God - 0.1a
Potential Impacts to Low Income or Minority Populations (EJ)	rating	O	O	O	O	O	O	O	O
Potential for Noise Walls	Yes/No	Yes	Yes	Yes	Yes	Yes - Parkade	Yes - Parkade	Yes - Parkade	Yes - White Gate and Pine Grove Village
DISPLACEMENT IMPACTS									
Residential Impacts (Displacement of Dwelling Units)	#	135 (West Village Manor - 120 units)	135 (West Village Manor - 120 units)	135 (West Village Manor - 120 units)	135 (West Village Manor - 120 units)	128 (Terrace Retirement Apartments 128 units)	6	26	17
Total Number of Structures Acquired	#	33	31	31	31	7	33	38	20
Business Operation Impacts (Displacement of at Least One Structure)	#	14	13	13	13	5	26	26	5
Total Number of Tax Map Parcels Affected	#	91	86	86	89	46	85	86	96
ENGINEERING ISSUES									
Comply with MoDOT Access Management Criteria	rating	O	O	O	O	N/A	O	O	N/A
Construction Staging	rating	O	O	-	O	N/A	O	-	N/A
Traffic Operations	rating	O	-	-	+	N/A	O	+	N/A
Maintenance of Traffic	rating	O	O	-	O	N/A	-	-	N/A
Phased Implementation of Full Build	rating	O	O	O	O	N/A	O	O	N/A
Project Costs									
New Construction Cost	2005 Dollars	\$52,588,000	\$53,642,000	\$79,986,000	\$50,941,000	\$23,159,000	\$104,017,000	\$120,950,000	\$81,370,000
Right of Way Cost, including displacements	2005 Dollars	\$55,605,000	\$42,509,000	\$42,509,000	\$45,274,000	\$16,682,000	\$34,543,000	\$37,781,000	\$22,030,000
Maintain Existing Travel Patterns	rating	O	O	O	-	N/A	-	-	N/A
Ability to Accommodate Future Expansion	rating	+	-	-	+	N/A	-	+	N/A
COMPATIBILITY WITH CATSO PRIORITIES									
Conformance with Adopted Local Plans	rating	-	-	-	-	+	-	-	-
Impact on Local Street System	rating	-	-	-	-	O	+	O	+
Impact on Land Use Patterns	rating	-	+/-	+/-	-	O	+	O	+
Impact on Neighborhood Stability	rating	-	-	-	-	O	+/-	+/-	+
			Recommended Preferred Alternative			Recommended Preferred Alternative	Recommended Preferred Alternative		Recommended Preferred Alternative

RATING SYSTEM	
Positive Impact/Performs Better than other Alternatives	+
Neutral Impact/No Differentiator	O
Negative Impact/Performs Poorer than other Alternatives	-



**Table S-4: Reasonable Alternative Impact Summary Eastern Portion of the Project Area: US-63 to MO-Z
Improve I-70: Columbia Area (SIU 4)**

	IMPACT CATEGORY	MEASUREMENT	St. Charles Interchange (Mile Markers 130.0 to 132.0)		MO-Z Interchange (Mile Markers 132.0 to 134.0)	
			Reasonable Alt. #1: Tight Diamond Interchange	Reasonable Alt. #2: Offset Diamond Interchange	Reasonable Alt. #1: Diamond Interchange	Reasonable Alt. #2: Diamond Interchange w/ NW Loop
			RIGHT OF WAY IMPACTS (Existing Land Use within Required Right of Way)			
Residential	acres	2	4	4	5	
Commercial	acres	3	8	9	6	
Industrial	acres	0	0	1	1	
Agricultural (Wooded/Vacant)	acres	21	29	74	62	
Public (Parks and other publicly owned parcels)	acres	0	0	0	0	
Other (e.g. utilities, institutional, fraternal organizations)	acres	0	0	1	1	
Total Right of Way Required	acres	26	41	89	75	
ENVIRONMENTAL IMPACTS						
Wetland Impacts	acres	1	1	0.6	0.6	
Non-Wetland Pond Impacts	acres	0	0.5	1.2	0.7	
100-Year Floodplain Impacts	acres	7	7	1	1	
Stream Crossings	#	13	14	8	8	
Natural Community Impacts	acres	13	15	8	7	
Potential Threatened/Endangered Species Impacts	Yes/No	No	No	No	No	
Number of Sites Requiring Additional Hazardous Material Assessment	#	0	0	1	1	
Secondary and Cumulative Impacts	rating	+	-	O	O	
Visual Impacts - Existing vs. Proposed	rating	O	O	+	+	
COMMUNITY IMPACTS						
National Register of Historic Places Impacted	#	0	0	0	0	
Important Community Resources - Displacement of Structures	#	1 - Regional Sewer Line Structure	2 - Regional Sewer Line Structures	0	0	
Important Community Resources - Property Acquisition	acres	Prairie Assembly of God - 0.5 acres	Prairie Assembly of God - 0.5 acres	Prairie Grove Baptist - 0.4 acres	Prairie Grove Baptist - 0.4 acres	
Potential Impacts to Low Income or Minority Populations (EJ)	rating	-	-	O	O	
Potential for Noise Walls	Yes/No	Yes - Fairway Meadows	Yes - Fairway Meadows	No	No	
DISPLACEMENT IMPACTS						
Residential Impacts (Displacement of Dwelling Units)	#	2	4	2	2	
Total Number of Structures Acquired	#	5	12	18	16	
Business Operation Impacts (Displacement of at Least One Structure)	#	1	4	10	10	
Total Number of Tax Map Parcels Affected	#	91	101	56	58	
ENGINEERING ISSUES						
Comply with MoDOT Access Management Criteria	rating	-	O	O	O	
Construction Staging	rating	O	+	O	O	
Traffic Operations	rating	O	O	O	O	
Maintenance of Traffic	rating	O	+	O	O	
Phased Implementation of Full Build	rating	N/A	N/A	N/A	N/A	
Project Costs						
New Construction Cost	2005 Dollars	\$43,383,000	\$40,048,000	\$42,854,000	\$47,096,000	
Right of Way Cost, including displacements	2005 Dollars	\$3,793,000	\$8,273,000	\$9,392,000	\$3,912,000	
Maintain Existing Travel Patterns	rating	O	O	O	O	
Ability to Accommodate Future Expansion	rating	-	O	O	-	
COMPATIBILITY WITH CATSO PRIORITIES						
Conformance with Adopted Local Plans	rating	O	O	O	O	
Impact on Local Street System	rating	O	O	O	O	
Impact on Land Use Patterns	rating	+	-	+	-	
Impact on Neighborhood Stability	rating	O	O	O	O	
		Recommended Preferred Alternative		Recommended Preferred Alternative		

RATING SYSTEM	
Positive Impact/Performs Better than other Alternatives	+
Neutral Impact/No Differentiator	O
Negative Impact/Performs Poorer than other Alternatives	-

