



# Chapter 1 - Purpose and Need

## What is in Chapter 1?

Chapter 1 explains the project’s purpose and the reasons why Whitton Expressway needs improvement. It establishes where the project is located. It identifies who the key decision-makers are and how this decision-making process has been coordinated with other planning efforts.

## Where is the project located?

The Whitton Expressway is located in central Jefferson City near the downtown business district, the Missouri State Penitentiary (MSP) Redevelopment site, the Old Munichberg and Central East Side neighborhoods, and the campus of Lincoln University.

The primary study corridor for this project focuses on Whitton Expressway and the assessment of alternatives for reaching the prison redevelopment site, Lincoln University and Jefferson City High School from the expressway. The study corridor boundaries represent logical limits for transportation improvements and environmental review due to its transitions in roadway types from freeway to urban arterial and back to freeway. These transitions lead to traffic operation deficiencies involving unsatisfactory handling of high traffic volumes and the associated traffic congestion, especially during peak periods.

The Whitton Expressway portion of the study corridor (Figure 1-1) is approximately three miles long. The corridor boundaries are Bolivar Street, just east of the Tri-level interchange, eastward to the Eastland Drive interchange and from 300 feet south of the expressway north to McCarty Street. The portion of the study corridor looking at access to the MSP site (Figure 1-2) includes portions of downtown and the Central East Side between McCarty Street and the prison.

### Why focus on the downtown?

Although the study corridor extends along Whitton from Bolivar Street to Eastland Drive, the study will give special focus to Whitton from Bolivar to Clark and north to the prison redevelopment site. This is the area where Whitton Expressway transitions between roadway types, leading to operation deficiencies and congestion. Focusing on improvements in this area will help with these issues as well as look at the access to major activity centers including the prison site, Lincoln University and Jefferson City High School.

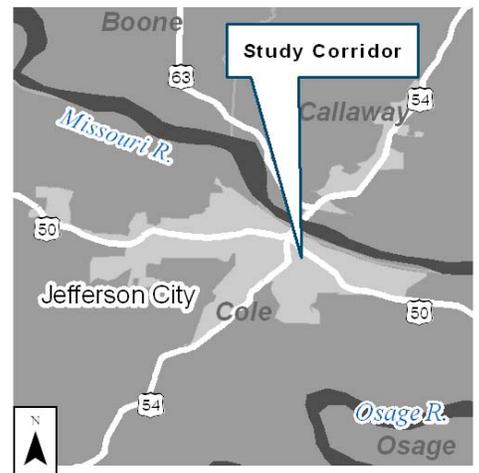


Figure 1-1: Whitton EIS Study Corridor

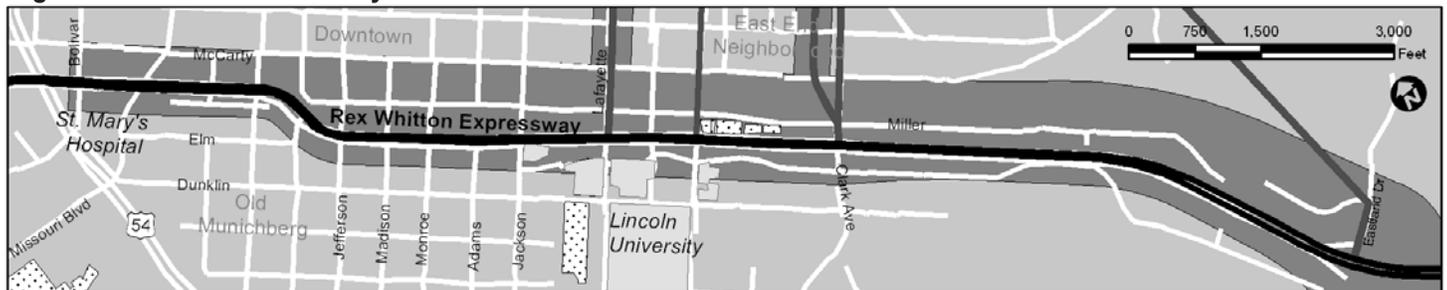
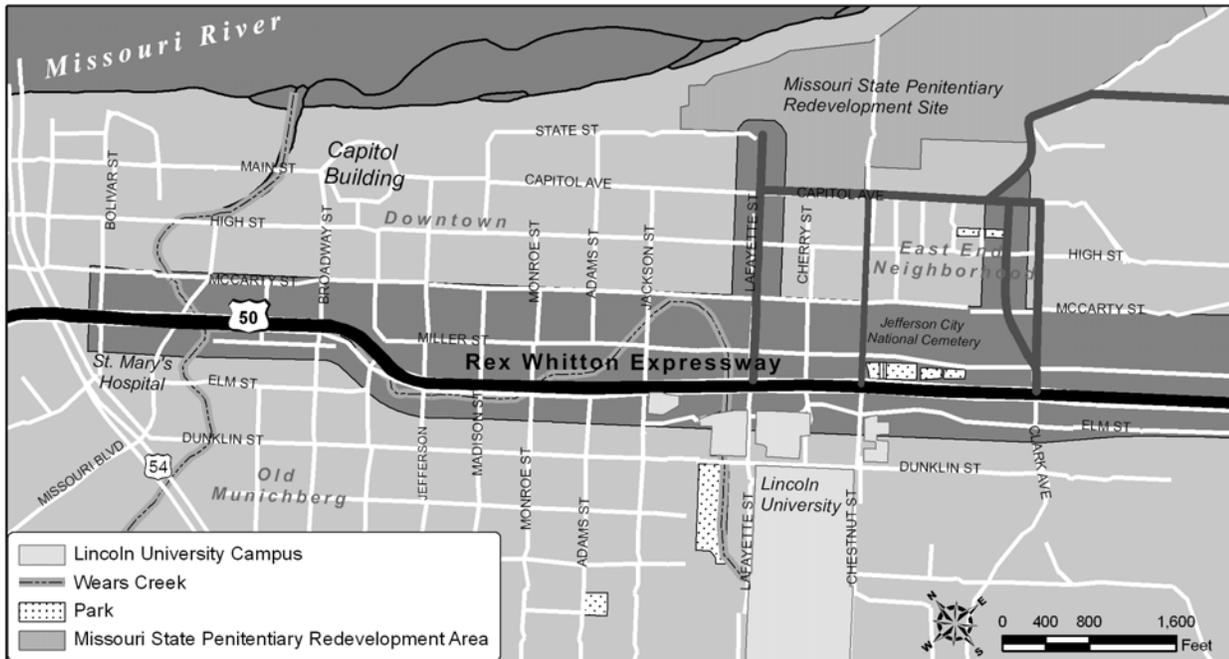


Figure 1-2: Whitton EIS Focus Areas



## Who is leading this project?

### What is an EIS?

NEPA requires Federal agencies to prepare an EIS for major federal actions that may significantly affect the quality of the natural and human environment.

An EIS is a full disclosure document that details the process for developing a project including consideration of reasonable alternatives, analyzing the impacts of those alternatives and demonstrating compliance with other environmental laws and federal orders.

The purpose and need section is in many ways the most important chapter of an EIS. It establishes why the study team is proposing the project and explains to the public that the expenditure of funds is necessary and worthwhile.

SAFETEA-LU, the Federal transportation bill passed in 2005, provided additional requirements for streamlining the environmental decision-making process, including a formalized coordination plan with the local, state and federal governmental agencies.

Four agencies are working together to study this project: the Federal Highway Administration (FHWA), the Missouri Department of Transportation (MoDOT), Cole County, and the City of Jefferson. FHWA and MoDOT are co-lead agencies on this project because MoDOT, the City and County would like to use federal-aid highway funds for the project. FHWA also is responsible for the content and accuracy of National Environmental Policy Act (NEPA) documents, and that the process follows federal regulations and standards. MoDOT owns and maintains Whitton Expressway. The City and County are involved because the expressway influences local and regional travel and commerce. Together, they and the project consultants form the Whitton Expressway study team.

## Why is the Whitton Expressway project necessary?

The community needs this project to safely and reliably improve personal and freight mobility, reduce traffic congestion, and enhance access along the Whitton Expressway corridor. The proposed action will address several needs including:

- Roadway capacity and traffic operations – the ability to handle high traffic volumes and congestion, especially during peak periods;
- Traffic safety – reduce the number and severity of crashes on Whitton Expressway;
- Address structural and roadway needs – using engineering to reduce the opportunities for head-on crashes and add room for recovery or avoidance of obstacles;

- Improve access to the Missouri State Penitentiary and encourage development;
- Improve access to Lincoln University and Jefferson City High School.

That is why the study team is working together to plan for improvements that meet future needs for access, mobility, safety and capacity – all while respecting the character of Jefferson City.

**Whitton Expressway is a chokepoint for downtown traffic**

If you are a frequent Jefferson City traveler, you may notice how congested Whitton Expressway becomes during afternoon and morning commutes. Traveling around downtown and the Central East Side, you may also notice that there is no easy, direct route between the expressway and the former MSP site, Lincoln University and Jefferson City High School.

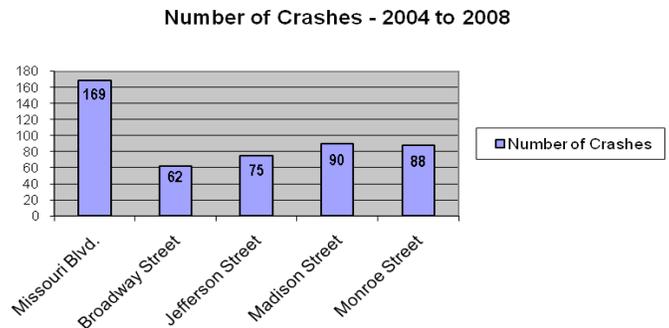
Part of the problem is that three U.S. highways (50, 54, and 63) converge at the Tri-level interchange, with U.S. 50/63 forming Whitton Expressway through downtown. Local and regional travelers, as well as downtown commuters, must travel together on a section of Whitton Expressway that functions as an arterial street. The high traffic volumes, combined with capacity constraints create traffic delays. The worst delays take place on the expressway between Bolivar and Jackson and the intersection with Missouri Boulevard.

**Crashes are an issue**

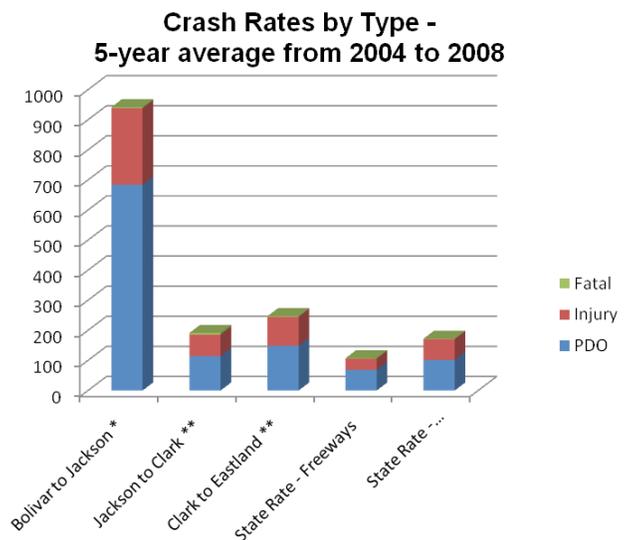
Additionally, the expressway as a whole has crash rates slightly higher than is typical for this type of roadway under normal traffic conditions. The crash data does not point to specific locations, patterns or deficiencies that would cause the higher-than-normal rate. However, the expressway and intersections between Bolivar and Jackson streets have the highest crash rates. **Figure 1-3** shows the number of crashes occurring at several key intersections and along segments of the expressway between 2004 and 2008. In 2001, MoDOT completed a pavement-grooving project on the Expressway. A post-project analysis identified a 15 percent reduction in crashes on the freeway sections of Whitton Expressway. Despite the recent improvements, however, the crash rate on the segment of Whitton Ex-

**Figure 1-3: Whitton Crashes**

**At Key Intersections**



**Along Whitton Expressway**



Note: Local streets can be seen on Exhibit 1-2

\* Statewide crash rate for Expressways is 121.08, based on 2004-2008 5-year average

\*\* Statewide crash rate for Freeway Segments is 176.36, based on 2004-2008 5-year average

\*\*\* Crash statistics and safety data summarized or presented in these tables are protected under federal law. See Appendix D.

Note: PDO = Property Damage Only

Source: MoDOT, November 2009

pressway between Bolivar and Jackson remains considerably higher than the statewide average. This segment of Whitton Expressway has a rate of 899 crashes per million vehicle miles traveled, compared to the state average of 121. The project will look at the expressway for locations to build or replace infrastructure that improve traffic operations and make the expressway safer.

### **There is no easy way to get to the prison redevelopment site, Lincoln University or Jefferson City High School**

The problem with accessing the MSP site, Lincoln University and Jefferson City High School is that there is no convenient direct connection to these activity centers from the Whitton Expressway. As the City redevelops the MSP site as a new complex for government, office and commercial use, access becomes more problematic. Access is already thought to be an issue for Lincoln University and Jefferson City High School. This EIS will look at the downtown and the Central East Side neighborhood for the possibility of additional access from the expressway to these major local destinations.

### **What happens if the project is not built?**

The current average daily traffic volume on the downtown portion of Whitton Expressway is approximately 33,750 vehicles per day. The expressway between Bolivar and Missouri Boulevard is already a chokepoint for traffic and typically operates at a poor level of service. By 2035, study team traffic models predict this will grow to 75,000 vehicles per day. This anticipated increase is higher than what might be attributed to Jefferson City on the whole but is concentrated on the downtown section of Whitton Expressway due to a variety of reasons. These reasons include that this is where both US 50 and US 63 are routed, that the MSP project is expected to generate up to 7,000 additional trips and that the existing street network has limited opportunity to absorb the projected increases. If the project is not built, the additional 40,000 vehicles per day would cause the expressway to worsen, especially between Bolivar and Jackson. Likewise the expressway would operate at a poor level of service at several key intersections, including Missouri Boulevard, Jefferson, Madison and Monroe streets. This is why the project has been developed in such a way that it can be phased as growth occurs.

Increased traffic and limited access points could hinder future development and redevelopment opportunities in the downtown, Capitol and MSP areas. Access from Whitton Expressway is a key to the success of the prison redevelopment. Without improvements, travelers to the MSP site would overwhelm the local street network. **Chapter 3** and **Appendix D** contain a more detailed discussion and additional information regarding traffic and safety issues.

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#### **Whitton Problem Definition Study**

The City, County, and MoDOT began looking at traffic operations and infrastructure needs on Whitton Expressway about three years ago with a problem definition study. The study defined problems with expressway traffic operations and infrastructure needs. The study, completed in April 2006, also identified several types of signal and infrastructure improvements for dealing with anticipated future traffic demands and conditions. The assumptions from the problem definition study are the starting point for the analysis in this document.

However, the study did not assess the effect improvements would have on the community and natural environment, nor did the consultant recommend a specific improvement. The study process determined the necessity for conducting the EIS process to develop and assess the alternatives in more detail and determine a preferred alternative for the project.

The full study, including its executive summary, is available in Appendix A. All appendix material is on the CD located on the inside back cover of this document.

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## **Is this project coordinated with other plans and studies in the community?**

Projects such as the Whitton Expressway cannot take place in a vacuum. The study team will consider how this project relates to other land use and transportation plans taking place in the community. There are several plans and studies (listed below) to take into account when developing and assessing alternatives for this project. The Whitton Expressway project is not listed in the Capitol Area Metropolitan Planning Organization – Transportation Improvement Program FY 2007-2010. However, the study for this project is listed in the FY 2007 Unified Planning Work Program which was approved by the Federal Transit Administration and FHWA.

### **Missouri State Penitentiary Redevelopment Plan**

In 2000, the State of Missouri commissioned an authority to plan the prison's redevelopment. The framework plan anticipates that the project will include the MSP Historic Area, Public Service Campus, Public Assembly Campus, Office Campus and Natural Resources Area. The plan identified Lafayette and Chestnut streets as the main access points into the development from the local street network. The plan did discuss creating an additional interchange with Whitton Expressway and one of the area's local streets. As shown in Figure 1-2, the prison redevelopment site is located immediately east of Downtown and north of the expressway.

### **Countywide Thoroughfare Study for Cole County, Missouri & Jefferson City, Missouri – Final Report**

The City and County originally identified the need for addressing infrastructure needs and capacity issues on Whitton Expressway during their Countywide Thoroughfare Study, completed in 2003. The study reviewed community land use plans, future development patterns and the potential infrastructure improvements needed to support the plans. The city and county recommended infrastructure improvements along Whitton Expressway and traffic signal improvements at Missouri Boulevard, Broadway and Monroe streets as well as the Eastland Drive and Clark Avenue interchanges. The full study can be found in Appendix J. All appendix material is located on the CD in the inside back cover of this document.

### **Central East Side Neighborhood Plan**

Jefferson City prepared the Central East Side Neighborhood Plan as part of the city's comprehensive planning process in August of 2005. The plan for neighborhood land use and street improvements identified capacity concerns on Whitton Expressway and access to the Missouri State Penitentiary Redevelopment as key transportation issues affecting the neighborhood. The full

study can be found in Appendix J. All appendix material is located on the CD in the inside back cover of this document.

### **Jefferson City Area Greenway Master Plan**

City planning staff completed the Jefferson City Area Greenway Master Plan in April 2007. The plan identified Whitton Expressway as a major barrier to bicycle and pedestrian travel. The master plan document discussed several planned and proposed trail segments that would cross or travel parallel to Whitton Expressway. The full study can be found in Appendix J. All appendix material is located on the CD in the inside back cover of this document.

### **McCarty Street and Eastland Drive**

Jefferson City is installing a permanent traffic signal at Eastland Drive and East McCarty Street with intersection modifications. East McCarty is old Highway 50 through Jefferson City's east side and connects on the east end to Whitton Expressway at City View Drive, (the street changes names from East McCarty to City View Drive before it reaches the expressway). The City View Drive intersection was constructed with a new interchange and Walmart developed a site on the south side of the interchange.

### **Lafayette Street**

The City of Jefferson is in the process of making improvements along Lafayette Street from McCarty to the MSP entrance. The current project will enable Lafayette Street to carry the additional traffic and provide a gateway into the MSP site, through pavement and utility work, accommodation of on-street parking and curb, sidewalk and stair work. These improvements are being made in anticipation of additional traffic on Lafayette resulting from the construction of the new federal courthouse and other MSP development.