



Executive Summary: Mississippi River Bridge Crossing Feasibility and Location Study

The Tennessee Department of Transportation (TDOT) has contracted with Wilbur Smith Associates (WSA) to conduct this **Mississippi River Crossing Location Study**.

PURPOSE OF THE STUDY

The purposes of this study are to (1) determine the feasibility of providing a new Mississippi River Bridge Crossing in the Memphis metropolitan area and (2) identify and evaluate possible transportation solutions to help TDOT reach a decision on a preferred corridor alternative for proposed improvements for cross-river mobility over the Mississippi River in the vicinity of Memphis.

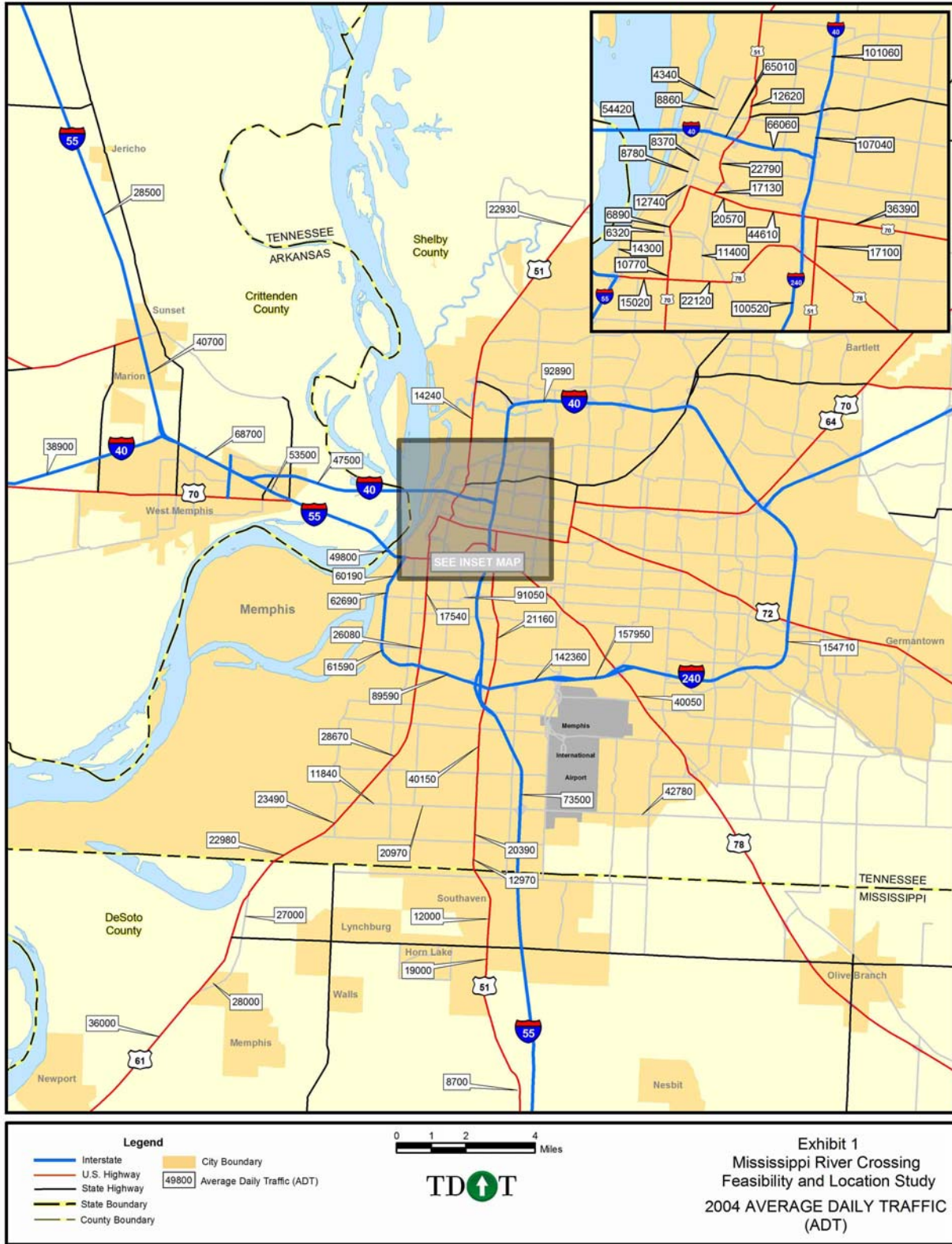
STUDY AREA

The study area encompasses Shelby County, Tennessee; Crittenden County, Arkansas; and DeSoto County, Mississippi. Likely Mississippi River bridge crossing locations generally fall within Shelby County, Tennessee from Tipton County, Tennessee in the north to Mississippi Route 304 in the south. East and west boundaries are based on where connectivity is important to establish logical termini. **Exhibit 1** shows the study area and traffic volumes on major highways.

PROJECT PURPOSE AND NEED

The primary purpose of the proposed Mississippi River Crossing project is to improve cross-river mobility for people and freight in and around the Memphis, Tennessee area. Addressing the need for improved cross-river mobility can help to address additional issues, including the following:

- Provide adequate cross-river system linkage and rerouting opportunities for the Memphis and the tri-state area (Tennessee, Arkansas, and Mississippi);
- Provide efficient mobility for existing and planned growth and employment, including protecting the economic vitality of Memphis and the tri-state area;
- Provide capacity relief for existing crossings (I-40 and I-55);
- Enhance local and regional freight movement, including traffic generated by the airport, rail yards, and riverports;
- Meet current and future transportation demand; and
- Provide a more efficient and effective transportation system for Memphis and the tri-state region.



STUDY PROCESS

The study involved the following steps:

- Data collection and analysis of existing conditions for:
 - Transportation facilities and system;
 - Socioeconomic characteristics; and
 - Environmental and community resources.
- Public involvement, including:
 - Project team meetings;
 - Project advisory committee meetings;
 - Public meetings; and
 - News stories in local print and electronic media.
- Development of highway and rail corridor alternatives, using a GIS-based Corridor Analysis Tool (CAT) that selected optimum routes with the least impact on environmental and community resources.
- Application of travel demand model to produce 2030 traffic forecasts for existing and proposed alternatives.
- Analysis of travel efficiency and economic impacts;
- Overview of potential environmental and community impacts;
- Evaluation of corridor alternatives, using a 3-step process:
 - Level 1 Screening, using preliminary data and subjective review;
 - Level 2 Screening, based on
 - Purpose and need (measured by traffic feasibility, travel efficiency feasibility, and economic feasibility);
 - Environmental feasibility; and
 - Cost and engineering feasibility.
 - Final Screening using Level 2 results and input from the Project Advisory Committee and public meetings held in February 2006.

SIGNIFICANT FINDINGS

Some key findings from the analysis of existing conditions are as follows:

- Existing bridges may be susceptible to earthquake damage. While the I-40 bridge has been seismically retrofitted, it appears that the I-55, Frisco Railroad Bridge, and Harahan Railroad Bridge were not adequately designed for earthquake resistance.
- Average daily traffic in 2004 was 54,420 vehicles per day on the I-40 Bridge and 49,800 on the I-55 Bridge, an almost 50% increase in the last ten years, or an annual 4% growth rate.
- Portions of I-40, I-55, and US 61 near the bridges were identified as part of the MPO's 2004 "Existing Congested Network," and all sections had at least one year with crash rates greater than the statewide average crash rate for Interstates.

