1.0 INTRODUCTION

In 1995, the Kentucky Transportation Cabinet (KYTC) Division of Transportation Planning completed a study examining the US 51 corridor from Fulton to Wickliffe. The purpose of the study was to evaluate the need for future improvements in the corridor. In the study, KYTC concluded that corridor-wide improvements, including widening to four lanes, were not warranted. Instead, the No-Build option was recommended. However, KYTC did recommend that bypasses be considered for Bardwell (Carlisle County) and Clinton (Hickman County), based on projected poor traffic flow conditions in 2020.

In 2002, the KYTC initiated a more extensive planning study to re-evaluate and specifically define the need for improvements to US 51 in the vicinity of Bardwell. The KYTC Division of Planning intended for the study to examine a wide range of possible alternatives from doing nothing, to in–town improvements, to bypass options. The KYTC Division of Planning made it clear to both the project team and the community that there was not a predetermined solution or outcome for the study.

Members of the project team included: KYTC Central Office Division of Planning, KYTC Central Office Division of Design, KYTC District 1 – Planning, KYTC District 1 – Design, Federal Highway Administration, and the Purchase Area Development District. KYTC selected the consulting firm of Parsons Brinckerhoff (PB) to lead the study effort. Three specialty subconsultant firms were also employed: Jordan, Jones and Goulding for traffic forecasting and analysis; Third Rock Consultants for the environmental overview; and Cultural Resource Analysts for the historic and archeological overview.

1.1 Study Objectives

Based on the initial direction provided by the KYTC Division of Planning, the project team developed six primary study objectives as summarized below.

1. Examine the current and future transportation conditions on US 51;
2. Determine where (or if) there are problems or deficiencies;
3. Define the key project issues and project goals;
4. Develop a range of possible alternatives to address the identified problems;
5. Evaluate and compare the alternatives (including the No-Build), considering transportation, community, environmental, and economic benefits and impacts; and
6. Recommend a preferred alternative or set of alternatives for implementation.

While KYTC has the ultimate responsibility for constructing and maintaining safe and efficient highways, KYTC desires to incorporate public and agency input into the evaluation and decision making process. Therefore, all six of these study objectives were addressed in coordination with a comprehensive public and agency involvement program.

1.2 Project Location and Study Area

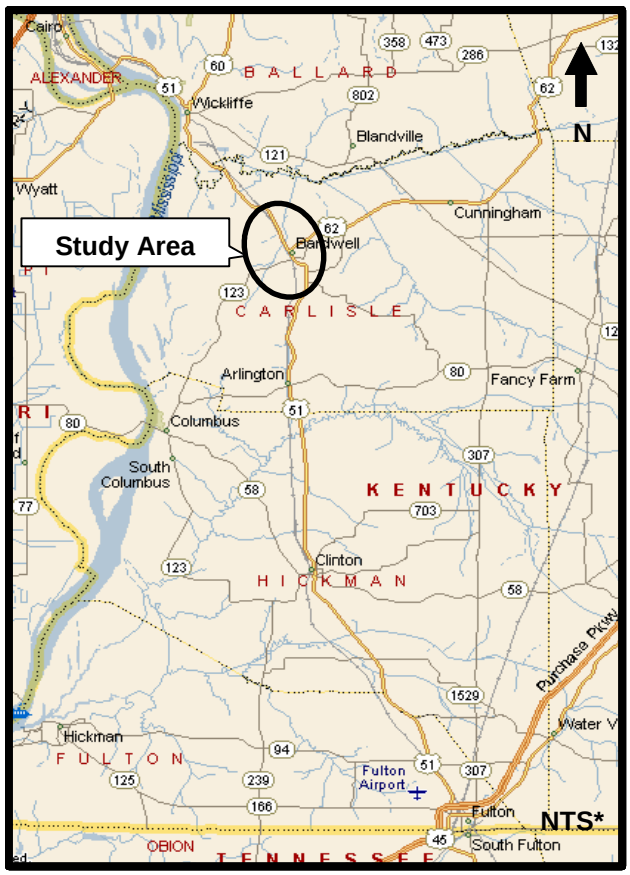
The town of Bardwell is located in Carlisle County in Western Kentucky as shown in Figure 1.

Figure 1: Location of Study Area in Kentucky

Figure 2 shows the general location of the study area within Carlisle County.

The project team set a study area boundary to determine the extent of US 51 to be studied and to establish an approximate limit for investigating new bypass corridors. The study area runs from the vicinity of Tom Loney Road in the south to KY 1203 in the north. This is a distance of approximately 6 miles (from milepost 4.9 to milepost 10.9). To the east and west, the study area extends approximately one to two miles from US 51. Figure 3 (Appendix B) shows the specific study area boundary. Large tables and figures are in Appendices A and B for reference.

Figure 2: Study Location



*NTS = Not to Scale

1.3 Study Process

The study process used to examine US 51 in Bardwell consisted of four major elements: 1) Define project issues and goals, 2) Develop alternative corridors, 3) Evaluate the alternatives, and 4) Recommend an alternative(s).

The subsequent chapters in this report follow these steps, beginning with the development of the key project issues and goals. The following six chapters contain the technical analysis and documentation used to confirm the issues and goals and then develop the alternatives. These chapters include an analysis of existing and future no-build highway conditions, a review of related studies, an overview of past and future transportation projects, a summary of the human environment, a summary of the natural environment, and a geotechnical overview. In addition to the technical analysis, public input and feedback was gathered throughout the study process. The framework for including the public in the study process, and agency coordination efforts are presented in the section following the technical analysis. Next, the discussion of the alternatives development procedure and a description of the initial alternatives are presented. Once defined, the initial alternatives were subjected to a three-level evaluation procedure. The goal of the three-level evaluation process was to successively refine the list of alternatives from all possible alternatives (Level 1), to a short list of promising alternatives (Level 2), and then finally to the recommended alternative(s) (Level 3). Each of these evaluation levels is presented in the report. The final stage in the study process was to recommend an alternative(s), which is also the final section in this report.