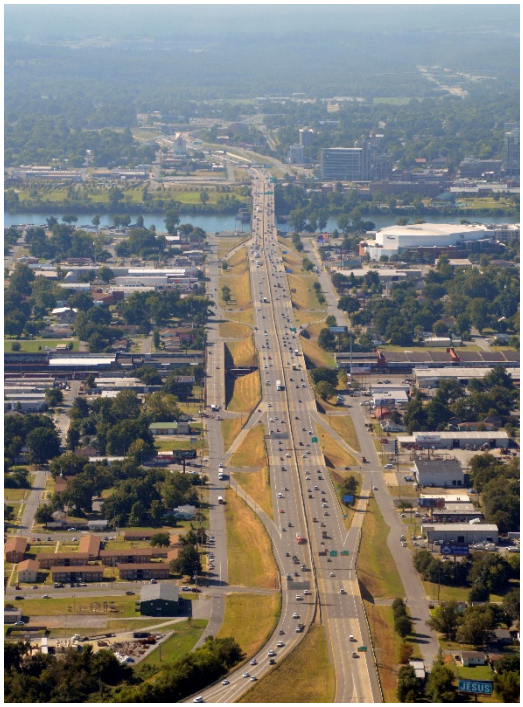
Little Rock and North Little Rock, Arkansas: 30 Crossing PEL Study

I. Introduction

In April 2014, the Arkansas State Highway and Transportation Department (AHTD) began planning a highway construction project on Interstate 30 (I-30) in Little Rock and North Little Rock, Arkansas. Also referred to as the 30 Crossing Project, it is one of the largest projects AHTD has ever embarked upon. The agency's staff knew they would need to employ innovative project delivery methods to complete the planning, environmental review, and permitting steps in a tight timeframe.

AHTD chose to implement its first Planning and Environment Linkages (PEL) study to integrate the planning and environmental review processes in order to streamline the project development process and begin construction sooner. The PEL study helped AHTD identify the purpose and need for improvements within the 30 Crossing PEL study area, conduct robust public outreach to understand the needs of the surrounding communities as well as the region as a whole, determine possible viable alternatives for a long-term solution, and recommend alternatives that could be carried seamlessly into National Environmental Policy Act (NEPA) studies. The PEL study provided an opportunity for AHTD to better integrate the planning and environmental review processes and carry out the work it would need to complete for a NEPA study much earlier in the planning process.



The I-30 Corridor runs approximately 6.7 miles through Little Rock and North Little Rock, Arkansas. The 30 Corridor Project is the largest project to be implemented under the Connecting Arkansas Program (CAP). Source: AHTD

II. Context

The 30 Crossing Project is part of a larger initiative called the Connecting Arkansas Program (CAP). CAP is a ten-year, highway construction program that was funded by a half-cent sales tax increase passed in 2012. The 30 Crossing Project is the largest project to be implemented under CAP.

The I-30 Corridor runs approximately 6.7 miles through portions of Little Rock and North Little Rock, Arkansas. Prior to its decision to implement a PEL study, AHTD identified five specific issues to be addressed by the 30 Crossing Project: (1) traffic congestion, (2) roadway safety, (3) structural and functional roadway deficiencies, (4) navigational safety, and (5) structural and functional bridge deficiencies. The PEL study was a critical tool for tackling these five issues by creating a link between past, current,

and future transportation decisions and shortening the amount of time needed to enter the design and construction phase.

During the initial stage of the 30 Crossing PEL study, a number of additional goals for the area were identified that provided guidance for the future alternatives development process. These included improving connectivity, enhancing mobility, improving system reliability, optimizing opportunities for economic development, improving safety, and many others.

For the first time, AHTD decided to utilize a Design-Build method to deliver the 30 Crossing Project. Design-Build is a method of project delivery in which the design and construction phases of a project are combined into one contract, which allows for reduction of overall project cost and duration. The PEL study was a valuable tool in ensuring that issues were raised and addressed early in the planning process so that the contractor would not face unforeseen obstacles throughout the design and construction phase.

III. Overview

AHTD hired a consulting firm to assist in carrying out the 30 Crossing PEL study. The firm had prior experience with PEL studies and was able to walk AHTD and the FHWA Arkansas Division Office through the process. AHTD and the consulting firm developed a Framework and Methodology at the beginning of the PEL study to formalize the scope, schedule, and expectations for the study as well as help foster proactive working relationships between the agencies involved.

AHTD created a Technical Oversight Committee (TOC) that was mainly composed of division chiefs at AHTD and staff from the FHWA Arkansas Division Office. AHTD staff believe that the TOC was an effective vehicle for streamlining the decision making process, as the committee was able to make high-level decisions and then clearly convey those decisions to the consulting firm. In addition, a Technical Work Group of over 35 local, State, and Federal agencies regularly met before public meetings to provide technical input and expertise to the TOC. The Technical Work Group members were diverse, consisting of State environmental protection and resource agencies, Metroplan (the metropolitan planning organization for the Little Rock area), local school districts, railroads, and others with an interest in the corridor. AHTD also included the U.S. Coast Guard and Army Corps of Engineers in the Technical Work Group because of their regulatory oversight of the Arkansas River and River Bridge. The group typically met before public meetings to proactively inform each other of project developments and address pending issues in order to keep the public well informed and receive their comments in a timely, organized manner.

The 30 Crossing PEL study allowed AHTD to incorporate substantially more input from the public than the agency otherwise would do for a typical highway construction project. AHTD organized a twelve-person Stakeholder Advisory Group as one method for gathering public input. The Stakeholder Advisory Group was composed of four civilian representatives each from Pulaski County, Little Rock, and North Little Rock. This group met monthly to provide feedback on the alternatives that AHTD was considering. For a large transportation project that is not part of a PEL study, AHTD typically holds two or three public meetings and one public hearing throughout the course of the planning, environmental review, and design phases. The PEL study helped AHTD conduct increased public engagement for the 30 Crossing Project; six public meetings were held as of January 2016.

At the beginning of the 30 Crossing PEL study, 43 alternatives were considered, and options deemed unreasonable were eliminated using a three-level process of qualitative and quantitative analyses. At Level 3, microsimulation models were used to quantitatively evaluate the recommended three alternatives on proposed performance. Through this data-intensive method, the 10-Lane with Downtown C/D alternative was the PEL recommended alternative to be advanced to NEPA for further analysis. AHTD completed its PEL study in July 2015, and the 30 Crossing Project is scheduled to begin construction in 2018 and be completed by 2023.

IV. Benefits

Assisting the Environmental Review Process

Conducting the PEL study allowed AHTD to understand the project area's environmental constraints earlier than it would have without the study. In typical studies of this magnitude, AHTD spends 4 to 5 years completing the project review; the NEPA phase alone can take up to 2 years. Completing the PEL study took AHTD just over a year, and because of the environmental information the study provided, the agency is on track to complete the NEPA process in 1.5 years. All in all, implementing the PEL study shaved approximately 2.5 years off the project development process.

AHTD used components of the PEL study to thoroughly identify the issues that would need to be addressed in the NEPA process, from purpose and need of the project to environmental justice and design concerns. Assessing these concerns early on allowed AHTD to better integrate NEPA considerations and develop a concept that considered and achieved more public input, which led to more informed recommendations for the NEPA process.

Documentation

Implementing the PEL study helped AHTD improve the structure of its documentation processes throughout the planning phase. AHTD staff had previously discussed ways to improve their administrative records in order to better track their decision making, especially regarding NEPA requirements. The PEL study prompted the agency to produce technical reports documenting its processes at every step of the planning phase, which allowed AHTD to keep more thorough records. For example, the PEL study prompted AHTD to track comments received in public meetings. Typically, AHTD would receive comments during public meetings and incorporate them into its planning study, but the agency did not document the comments or ensure that each one received a response. For the 30 Crossing PEL Study, AHTD used an enhanced display to showcase comments at public meetings and employed a sophisticated software system to track administrative records and ensure that each comment was addressed.

Proactive Consideration Allowing a Flexible Evaluation of Alternatives

AHTD staff stated that being able to assess a large number of alternatives and narrow them down to a manageable set of options was the greatest benefit of implementing the PEL study. AHTD began with 43 alternatives for the 30 Crossing Project. The agency developed an extensive, three-level alternative

screening methodology to narrow them down to the best handful of alternatives. At the first public meeting for the 30 Crossing PEL Study, AHTD provided meeting participants with a blank aerial map of the corridor and invited them to both mark specific issues geographically and suggest alternatives to address them. All of these alternatives were included in the PEL study, so Level 1 screening served as the "fatal flaw" evaluation that assessed alternatives for practicality. Level 2 screening further refined the preliminary alternatives by qualitatively assessing them against evaluation criteria established from the study goals and rating them based on engineering, safety, cost, and environmental assumptions identified by the study team subject matter experts. Level 3 screening further revised the reasonable alternatives by quantitatively assessing them against the study goals using microsimulation modeling. GIS databases with information such as traffic data, right-of-way, and natural resources were used to estimate effects on vulnerable populations and to assess the recommended three alternatives based on proposed performance. This method allowed every alternative proposed by members of stakeholder agencies and the participating public to be considered, while ensuring that reasonable alternatives would be advanced to NEPA as the PEL recommendation.

Enhanced Community Involvement

At an early public meeting, meeting participants were provided with an aerial map of the I-30 corridor and invited to mark problematic areas and suggest solutions to resolve them. All of the public's suggestions were considered as project alternatives. Source: AHTD

Because of the extensive public involvement AHTD conducted, the agency was able to address the public's concerns and let extensive public input influence the planning and NEPA processes. For example, at one public meeting in North Little Rock, AHTD presented an engineering-based design concept for the 30 Crossing Project and received criticism from the meeting attendees, as they did not feel the preliminary design would adequately serve the community's needs. AHTD was able to address these concerns immediately at the meeting, instead of facing an unhappy public after decisions had already been made. This allowed AHTD to secure buy-in throughout the entire process from the individuals who would potentially be affected. Without the PEL study, public involvement throughout the project development process would have been much less exhaustive. Additionally, implementing a PEL study allowed AHTD to increase the level of detail incorporated into presentations at public meetings. Upfront and robust public involvement helped ensure the public's needs were taken into account from the beginning of the planning process, which in turn helped AHTD earn the public's trust.

Improved Relationships and Coordination

Implementing the PEL study allowed AHTD to coordinate with the 35 resource agencies represented by the Technical Work Group more thoroughly and consistently than if it had coordinated with each

individually. Proactive and frequent collaboration allowed all of the agencies involved to identify issues earlier, which made such issues easier to address.

V. Funding

AHTD hired a consulting firm to conduct the PEL study for approximately $2 million, which was sourced from CAP funds. The extensive information compiled throughout the PEL study process allowed the agency to have a better idea of total project costs and adjust the budget as the project continued. The 30 Crossing project is approximately five times larger than any other project AHTD has ever embarked upon, and implementing the PEL study allowed the agency to not only tackle such a large project but do so with confidence that construction cost estimates would be reliable.

VI. Next Steps

AHTD does not currently have any other PEL studies planned, but the agency would consider implementing a PEL study for a project of similar size and scope. AHTD recently kicked off another corridor study in the central Arkansas region and used the information it learned through the 30 Crossing PEL study to inform its process.