

Arkansas Department of Transportation**Transportation Research Committee****RESEARCH PROBLEM STATEMENT****DATE:** 09/15/2017**PROJECT AREA:** Planning**TITLE:** Evidenced-Based Decision Making Guidance for Bypass and Widening Projects**PROBLEM STATEMENT:**

Over the last 30 years, many small towns have had to decide what is best for their community related to state highways that pass through their downtowns. Often, the community's goal of economic progress is at odds with their desire for less noise pollution and traffic congestion and with the goals of the ARDOT's mission to "Provide safe and efficient transportation solutions to support Arkansas' economy and enhance quality of life for generations to come". Alternatives presented to communities to alleviate congestion along the main thoroughfare include construction of a bypass or widening on the existing. Residents and business owners in prospective bypass areas remain concerned that construction of a bypass would divert potential revenue to other locations. Concerns also arise about environmental and social (e.g. community development and safety) impacts. A research project to document the economic, social, and environmental conditions pre- and post -construction of a bypass, improvements on existing, or with no improvements, is proposed to support the decision making process of communities in Arkansas. This research will measure the impacts of past projects in communities that have decided to: (a) construct a bypass (Huntsville, Hardy, etc.), (b) widen on existing (Tontitown, Gould, etc.), and (c) decline improvements (i.e. Green Forest, Dover, etc.). An evidence-based approach to decision-making that includes qualitative and quantitative case studies would benefit other small towns who face similar decisions. This includes communities that made decisions regarding bypass or widening alternatives in the past that are now faced with additional decisions, including: (a) construction of a bypass following widening on existing (Greenbriar) and (b) making additional improvements following construction of a bypass (Harrison).

OBJECTIVES:

The purpose of this research is to provide evidence-based guidance to improve understanding of the economic, social, and environmental impacts of bypass and widening projects. This will be accomplished by: 1) Detailed review of other state practices and selection of appropriate modeling approach for assessing impacts; 2) Compile characteristics (e.g. project planning documents, traffic volumes, etc.) of study sites; 3) Evaluation of impacts: 3.1) economic impacts using historical business establishment, sales tax, employment, and population statistics from public and private data sources subject to availability; 3.2) social impacts like assessment of community development impacts through interviews with community leaders and safety impacts using accident statistics from the AR State Police database; and 3.3) environmental impacts including air pollution, noise, and livability through quantitative measures and interviews; and 4) Preparation of evidence-based decision guidance documents.

FORM OF RESEARCH IMPLEMENTATION:

In addition to the required final report and implementation reports, the research team will prepare one-page evidence-based guidance briefs for each of the past projects (bypass, widening, and no improvement) which document the economic, social, and environmental impacts. The briefs will be provided in two forms: as pamphlets and presentation material (e.g. poster or slide show formats suitable for sharing at public meetings).

Estimated Project Duration: 18 months**PREPARED BY:** Sarah Hernandez and Mervin Jabaraj**AGENCY:** University of Arkansas, Fayetteville- Civil Engineering and Walton College of Business**PHONE:** (479) 575-4182**REVIEWER:** Tymli FriersonStanding Subcommittee
Ranking1 / 5Advisory Council
Ranking3 / 44Statement Combined with
Statement Number(s)