

# ABSTRACT

## Analyzing Impacts of Highway Construction Activities in Oklahoma

by

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Using Geographic Information Systems (GIS) to manage spatial and socioeconomic databases, this research provides several avenues of analysis in determining the impacts of highway bypasses. Socioeconomic shifts at the block group level and projections of changes in businesses along current routes are focus areas as they directly bear on the overall health of a town and should reveal the consequences of bypasses. Past research by the Principal Investigators demonstrated three areas of importance in conducting this project:

1. **Socioeconomic data availability.** Due to the state's rural nature, spatially disaggregated social and economic data were not published for Oklahoma until the 1990 Census, preventing any sort of analysis of changing characteristics over time.
2. **Business data availability.** Also due to Oklahoma's rural nature, the U.S. Census Bureau does not disclose business data for many small towns in Oklahoma.
3. **Scale of the project.** Due to the limited scope of an earlier project, only the U.S. 70 corridor between Ardmore and Idabel has been modeled in the past.

Each of these major areas has been addressed by this two-phase research project, both of which are now complete. Phase I was completed in October 2002 and concerned socioeconomic data. Phase II focuses on business data and analysis of 1987, 1992, and 1997 Economic Census data across the state. With the completion of the two phases, several goals have been achieved. First, the scale of the project has been expanded to the entire state to permit analysis of any proposed highway construction, within limits. Extremely large cities approaching 100,000 persons as well as Oklahoma City proper and Tulsa have been excluded due to the focus on small towns. Second, the socioeconomic and business data and analyses increase the quality and quantity of data available, and permit new areas of investigation with respect to socioeconomic, business, and other geographic data. Third, broadening the scope and available data compared to earlier projects allows a more general picture of highway improvement impacts to be developed. Finally, the presentation of this research as an interactive, Internet-based map service makes the analysis, data capture, and route-tracing functions available to anyone who is interested in transportation issues in Oklahoma, especially those pertaining to bypasses.