The actual cost of food systems on roadway infrastructure

What is the true cost of moving food products on the highway system, including transportation, environmental, safety, and pavement maintenance and deterioration costs? The research used existing tools and data to answer the question. The Highway Economic Requirements System (HERS-ST) was used to calculate some of the above costs.

What was done and why?
This project was designed to provide added insight into the infrastructure challenges of agricultural enterprises in Iowa and also to facilitate the understanding needed to implement broader energy-related policy and planning for food systems.

Specifically, this research effort focused on these objectives:
• Capitalize on current research efforts to develop a systematic methodology for estimating the actual cost of moving food produce from farm to market including: environment (carbon emissions and air quality); infrastructure; energy (fuel); congestion; safety; and user (taxpayer) costs. Use data on the highway system (roads and bridges) from the Iowa Department of Transportation (DOT) to test the methodology.
• Estimate the impact of local, regional and conventional food systems (using truck and vehicle size as a measure) on roadway infrastructure. Correlate impacts to road costs; then develop comparisons using distance as a variable.

The impact of the local food system will be estimated by using case studies in Story, Adams and Taylor counties. The regional and conventional food systems are estimated based on statewide food freight data. The impacts will be correlated to external cost of the distribution of the food system, such as emissions, congestion, safety, and pavement deterioration costs.

What did we learn?
The research team was able to estimate the external costs associated with local, regional and conventional food systems on the roadway infrastructure. Based on the data available, using distance as a variable was not feasible, but the project shows the lack of sustainability for conventional and regional food systems and provides adequate information and background to begin a serious policy discussion on road-use costs in the state. This information can be used by the farmers and farmers’ networks, consumers, media, policymakers, and the food industry, including producer associations, processors, and food services companies, as well as academia, to provide constructive feedback as the policy discussion unfolds.