The Sustainable Transportation Systems Research (STSR) group aims to achieve green, safe, efficient, and equitable transportation systems by studying and modeling transportation externalities, using state of the art statistical, econometric, and economic analysis tools.

Research areas of emphasis include—among others:
- Reducing energy use and carbon footprint of transportation systems
- Direct and indirect impact assessment of proposed transportation solutions, as:
  - bio-based and other alternative fuels
  - wind power and other alternative energy technologies
  - transportation electrification
  - transportation investments and policies
  - intelligent transportation systems, connected and automated vehicles.

Ongoing and Future Research

- Evaluating the Effect of Transportation Infrastructure on the Location, Diversification, and Productivity of Businesses in Indiana
  - The urban and economic structure of cities are highly influenced by the provision of transportation systems. Infrastructure investments can generate benefits from agglomeration economies, spatial spillovers, “thickening” of labor market, among others.
  - However, the mechanisms in which these benefits occur are not fully understood yet. More importantly, how they can be accounted for in project appraisals remains a topic for further development.
  - Evaluating the links between businesses’ productivity and transportation infrastructure can help practitioners in making more efficient decisions.

- Travel Behavioral Changes and Impacts of Connected and Automated Vehicles’ Implementation
  - Study travel behavior changes and demand implications associated with Connected and Automated Vehicles (C/A/V’s)
  - Evaluate the economic, energy and social impacts for different market penetrations of C/A/V’s
  - Assist state transportation agencies to prepare for C/A/V’s

- Developing Economic Resilience Indicators for Transportation Project Appraisals in Indiana
  - Economic resilience is determined by the ability of a region to maintain certain economic output after a disturbance occurs and by the speed in which the economy is reverted back to an equilibrium state.
  - Some factors that make communities vulnerable include their location, socioeconomic characteristics, diversified economic structure, lack of robust infrastructure, among others. However, there is no standard indicator of economic resilience.
  - How does transportation infrastructure contribute to regional economic resilience? And can it be incorporated in the project appraisals?