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Research Project Title

Understanding freight impacts on Tennessee communities

Purpose of the Project

The proposed research will develope guidance for transportation planners, engineers, and practitioners at TDOT and local/regional agencies to identify and evaluate alternatives for freight investment to improve freight movements and quality of life of the communities they serve.

Scope and Significance

The scope of the research project includes:

- Identifying and taxonomizing mitigation strategies, projects, and processes that foster the adoption and implementation of effective freight practices and technologies and support long-lasting relationships and more importantly trust between the public/private sector and communities;
- Identifying freight externalities (e.g., economic, social, and environmental, livability) by mode and locality;
- Identifying barriers to the implementation;
- Developing a weight matrix that balances quality of life for the affected communities and freight efficiency (which in turn affects economic growth), and
- Identifying methods for quantitative and qualitative return on investment (both for the public/private sector and the communities);
- Incorporate the findings of the research in a user-friendly guidebook with an accompanying tool;
- Developing a set of case studies to demonstrate the use of the guidebook.

Expected Outcomes

A guidebook and a GIS-based tool that streamlines the tasks of identifying, taxonomizing, and ranking strategies (based on cost, benefits, and barriers to implementation) to improve freight transportation and minimize/mitigate the externalities they cause. The deliverables will support planning freight improvements at the state and local level that simultaneously optimize freight movements and minimize their externalities (e.g., environmental, congestion, health) to the communities they serve.

Time Period

The time period for the project is 18 months.

Contact Information

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