

Research Needs Statement

Please complete all sections in blue

Title:	Understanding freight impacts on Tennessee communities
Key Words:	Freight movement, rural, community planning
Research Problem Statement:	Freight-related industry has experienced steady growth, and efficient movement of freight, via all modes of transportation, is critical to Tennessee’s economic development. As Tennessee experiences an uptick in freight traffic, including to, from, and through the State, it is important to understand and plan for the impacts of freight on communities. Research is needed to build an understanding of how freight activities impact communities, particularly in rural and suburban areas of the State. Economic, social, environmental, accessibility, and livability impacts should be considered. Similarly, research is needed to inform strategies on improving freight movement, while both limiting adverse impacts and maximizing positive impacts, in such areas.
Research Objective:	This research will investigate community impacts with regard to ‘benefits’ and ‘costs’ of freight movement, such as economic benefits and travel delay or air pollution costs. Based on research findings, the project will produce a community freight planning ‘guidebook’ with planning, mitigation, and other strategies to address freight at the local level.
Related Research/Continuation of Past or Current Project:	<p>TDOT has previously funded other related freight research projects. The results of which should be considered in this study.</p> <ul style="list-style-type: none"> • RES2016-29 - Multi-Modal Freight Transportation System Capacity and Diversion Assessment • RES2016-30: The Use of Freight Advisory Committees in Responding to Supply Chain Disruption • RES2016-31: Alternative Vehicles in Last-Mile Freight • RES2016-34: Freight Flows and Incident Management • RES2016-35: Evaluating Freight Intermodal Connectors in Tennessee • RES2016-37: Identifying Cost-Effective, High-Return, and Quickly Implementable Improvements to Address Freight Congestion and Mobility Constraints in Tennessee <p>In 2015 CalTrans produced a literature review titled Mitigating Freight Impacts on Nearby Communities, which could aid this effort.</p>

Expected Deliverables:	<p>This research should produce:</p> <ul style="list-style-type: none"> • A guidebook of best practices and planning-level guidelines for planning for freight in urban and rural communities. • Presentations and project briefings at 30% and 60% completion. • A final report and presentation to TDOT, outlining all research efforts and findings.
Estimate of Problem Funding & Research Period:	<p>\$150,000 12 – 18 months</p>
Urgency and Potential Benefits:	<p>Through the FAST Act, investment in freight transportation has become a focal point, not just for Tennessee. This research can have immediate impact by helping inform planning and decision making related to freight investments.</p>
Implementation Planning:	<p>Guidelines and recommendations from this research have potential for immediate implementation into the planning process.</p>
Person(s) Developing the Problem Statement:	<p>Casey Langford</p>
Submission Date:	<p>3/4/2019</p>
Problem Number	<p>To be assigned by Research Office</p>