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## Research Project Title

Opioid Crisis and Transportation Investments in Tennessee

## Purpose of the Project

According to the Tennessee Department of Health's *Annual Overdose Report* prepared by the Office of Informatics and Analytics, overdose deaths related to opioid use has shown a steady increase since 2013<sup>1</sup> regardless of age or race. Couple this with the fact that nearly 93% of the state is rural according to the 2010 census<sup>2</sup> and one can see the potential for health disparities across the state, especially when considering the challenges with providing access to treatment for opioid use. One of the key challenges identified in treatment is access to treatment facilities; thus, transportation, but not just the extent of roadway coverage, is a critical component to improving the situation. In this project, we plan to assess the current needs and limitations with regard to treatment accessibility across the state given current transportation mechanisms in place. Then, we will evaluate and prioritize existing and emerging transportation options (transit, mobility on demand, infrastructure, etc.) through case study analysis of a set of diverse communities that will inform recommendations for TDOT and other transportation managers across the state to mitigate the opioid epidemic in Tennessee. The research team sees this project as a first attempt at an approach to model and prioritize options for transportation investment to address the opioid issue which plagues many states and there is great potential for future, additional research in this area.

## Scope and Significance

The objective of this research project is to investigate and evaluate potential transportation investment options that may help mitigate the opioid epidemic across Tennessee. To do this, we propose a multifaceted approach. We will first perform a needs assessment of treatment facilities in relation to the population across both urban and rural landscapes. Then, we will perform a series of case-study evaluations to identify the potential costs and benefits of a range of options for improving access to treatment for opioid use patients.

This work will yield a strong and improved understanding of transportation-related barriers to opioid treatment in Tennessee together with an assessment of alternatives. The results will provide a strong foundation for TDOT as they consider the types of communities and the types of investments that would best help to mitigate the opioid crisis in Tennessee by providing access to treatment. The approaches developed here will also provide a basis for further detailed design work and potential implementation strategies.

## Expected Outcomes

Research deliverables will be presented as a final report summarizing the data and findings of the research. Specific subcomponents of the report that may be considered as interim deliverables associated with the overall project include the following:

- A literature review and summary of existing and emerging transportation

- approaches/investments to improve accessibility to treatment to mitigate the opioid epidemic,
- Results of the state-wide needs analysis and associated GIS shapefiles and/or geodatabases collected as part of the needs analysis to assist TDOT in prioritizing investments across the state,
- Summary of the survey findings,
- Summarized outputs from the case study simulations,
- A list of recommended strategies based upon the needs analysis and case study simulations, and
- A presentation summarizing the research findings.

Additionally, the research team will work to publish study findings at appropriate conferences and in peer-reviewed journals to broaden the impact of the research.

**Time Period**

The period of performance of the project is 18 months (September 2020 – February 2022).

**Contact Information**

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