



RESEARCH NEED STATEMENT

Call for Projects 2015

Project Research Title: Assessment of Mobility and Transit Access to Captive Riders in Suburban and Rural Areas

TDOT Sponsor Director: Tanisha Hall

List TDOT Research Team Lead: Carlos McCloud

List TDOT Research Team Members: Kwabena Aboagye, Matthew Long and Jack Qualls

1. Define the problem or research requested. What is the goal/objective of the research?

Major public and private facilities that provide for personal and professional services are located in within urban boundaries. Employment centers, educational institutions, medical facilities, as well as retail and entertainment venues are some examples. Rural residents have fewer health care providers per capita and increased transportation barriers. For example, only 9% of the nation's physicians practice in rural areas, even though 20% of the population lives there.

According to the American Public Transit Association, on a national level the primary destination for public transit riders in small urban and rural areas is work, which accounts for 34 percent of all trips. Shopping and dining are the destinations for 17 percent of trips, with all levels of school representing 12 percent, personal business 10 percent, and medical services 9 percent. All other purposes, including social and recreational ones, represent 18 percent of trips. What are the destinations for Tennessee?

Also, public schools relocating to outlying areas, has made it difficult for students, employees and parents to work or participate in school activities unless they own and operate a car. TDOT requires rural systems to maintain a five-year transit plan, which is envisioned to be updated every two years. The document would be useful for identifying changing service issues, understanding the changing demographics of a region and assessing the transportation needs of the communities. Many local transit systems indicated that funding assistance to develop a short-range transit development plan, with an extensive needs analysis, would be useful.

There is a need to coordinate rural and urban transit services along regional commuter corridors. There exists a need to identification potential parking-ride areas as well as transfer and commuter connections for environmental justices communities. Many residents of rural counties are located along the fringes of urban boundaries and access employment, personal and professional services within urban boundaries. However a need exists to identify what destinations are within those urban boundaries that are essential for rural residents, as well as what is the frequency rural residents access these services and the role a regional coordinate transit services plan would play in identifying land use patterns and alternative transportation needs. The development of a GIS based tool, matrix or dashboard to evaluate rural transit needs would assistance TDOT is monitoring urban and rural land use patterns, in an effort to identify where transit connections and investments should be made.

2. Is this research a continuation of a past or present project?

No Yes

If yes, provide current research project title, RES # and reason for the project continuation.

3. Describe anticipated benefits/expected deliverables.

Anticipated deliverables include locations where transit service is most desired, and a needs assessment matrix that TDOT can utilize for planning to provide accessibility to captive riders. National and international best practices should be part of the report. The team should explain the data needs and computational models as a part of the deliverable.

4. What is your timeline for completion of the research?

12 months

5. List the anticipated tasks for this research.

Task 1: Literature review on providing transit service to sub-urban and rural areas

Task 2: Formulate a methodology to address the proposed problem

Task 3: Prepare data needs to identify areas in need of service

Task 4: Provide summary of data and statistics

Task 5: Propose a plan or develop models to show coordination among rural and urban transit services along regional commuter corridors

Task 6: Prepare final report with recommendations

6. Describe how the project results will be implemented?

The results will serve as an initial step to prepare a TN statewide mobility report. With identification of areas in need of service, TDOT will be able to plan for providing services to captive riders in sub-urban and rural areas.

7. Will this study produce software, web page or other technology that will involve the Information Technology Division?

No Yes, please describe:

8. Will training be provided to employees as a result of this research?

No Yes, please describe:

9. Will this research involve equipment or materials purchase?

No Yes, please describe:

10. Research must support the Long Range Transportation Plan Policy Recommendations **and/or** TDOT Operational Goals and/or Strategic Initiative. *(See attachments for additional information)*
Please indicate which categories the research will support:

Transportation Long Range Plan Policy Recommendations

- (A) Accessibility
- (B) Safety, Security, and Transportation Resilience
- (C) Coordination, Cooperation, and Consultation
- (D) Demographic and Employment Changes and Trends
- (E) Freight Logistics and Planning
- (F) Financial
- (G) Mobility
- (H) Travel Trends and System Performance

TDOT Operational Goals and/or Strategic Initiative

- (A) Deliver transportation projects on schedule and within budget
- (B) Maintain the state transportation system to protect the long term investment in our infrastructure assets

- (C) Operate and manage Tennessee's transportation system to provide a high level of safety and service to our customers and workers
- (D) Expanding mobility choices to maximize access
- (E) Dramatically change the paradigm for delivery of transportation products and service to improve the efficiency and effectiveness of Tennessee's transportation network

11. Please explain how the research supports the Long Range Transportation Plan Policy Recommendations **and/or** TDOT Operational Goals and/or Strategic Initiative selected above:

The research will address one of the key areas of transportation planning by preparing an assessment and developing tools to provide accessibility and mobility to captive transit riders to medium and large public facilities located in suburban and rural areas. Accessibility and mobility are key components of TDOT's long range plan. This strategic initiative will help TDOT to expand its services to the most deserved travelers to primary access areas by enhancing mobility and accessibility throughout the state.

For additional information, please contact:

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