

Research Needs Statement

Please complete all sections in blue

Title:	Connecting Demand Response Transit with Fixed Service Transit
Key Words:	Demand, response, transit, service
Research Problem Statement:	There is not adequate connection between demand response transit (DRT) and fixed transit services.
Research Objective:	Drawing from urban and rural transit supply and demand data, the research will explore the different transportation systems and their affect on their networks in order to determine how DRT and other fixed services can reach the most needy populations as possible.
Related Research/Continuation of Past or Current Project:	Transit agencies maintain their own fixed route data, GPS services already collect location data, and larger companies house other real-time, "big data." This proposal combines these data realms in a demand-reponse manner for the most number of people served wherer they are needed.
Expected Deliverables:	<ol style="list-style-type: none"> 1. Map of comprehensive statewide transit plans for rural and urban communities 2. A transportation equity toolbox, detailing social equity factors that map median income level, job type, proximity of residents to jobs, transit availability and frequency in residential and workforce areas. 3. Report profiling case studies of other successful programs in communities of similar population densities and transit infrastructure. 4. Implementation plan with phases for
Estimate of Problem Funding & Research Period:	\$120,000 – \$150,000 over 1 calendar year.
Urgency and Potential Benefits:	Continued economic growth in the state will continue to raise property values, force residents farther out of their neighborhoods, and drive land development outside urban boundaries. This sprawl will put financial pressure on transit service providers as they continue to reach the expanding infrastructure system. These challenges will increase the relevance of investment in slutions that will allow buses and trains to serve the reseidents who rely on them most.

Implementation Planning:	20% - Maps 20% - Social Equity Toolbox 20% - Case Study Analysis 40% - Report on findings, recommendations (lit review and case studies), and plan to phase in recommendations over 8-10 years.
Person(s) Developing the Problem Statement:	Ian Preston, Planning Specialist ian.preston@tn.gov
Submission Date:	2/22/2019
Problem Number	To be assigned by Research Office