



Research Project Statement 24-050 FY 2024 Annual Program

Title:	Exploring and Developing Innovative Methods for Estimating VMT on Local Roads in Texas
The Problem:	<p>State agencies must report vehicle miles traveled (VMT) estimates on local roads for the Highway Performance Monitoring System (HPMS). VMT data is used to allocate resources, make policy decisions, plan infrastructure investments, estimate vehicle emissions, compute energy consumption, assess traffic impacts, assist travel demand forecasts, and identify pavement maintenance needs. In Texas, local roads account for more than two-thirds of the total roadway mileage. The local road network in Texas is the largest among all states, followed by California, which has only half of the local road network in Texas.</p> <p>TxDOT cannot count traffic on every local street in all metropolitan areas, counties, and districts to estimate VMT. Analysts developed a statistical methodology over a decade ago to select traffic count locations using a random selection process. The selection process was such that it reduced bias, giving as many local streets as possible a chance to be selected for conducting counts, using the tools and applications which were available at the time. Over the years opportunities for refining further and improving the process have been identified, and new data sources, applications, and processes have become available.</p>
Technical Objectives:	<p>The research team shall address the following:</p> <ul style="list-style-type: none"> • Conduct a review of existing other DOTs’ processes, such as the Virginia Department of Transportation Local Road VMT methodology and other existing process that could be applied to local road VMT analysis. • Develop an inventory of relevant data sources which are available to TxDOT such as Probe Data, Satellite or Aerial imagery data, Census Data, County Vehicle Registration Data, etc. and evaluate the merits of each data source • Develop a methodology recommendation for TxDOT • Develop an implementation framework for TxDOT <p>The expected technology readiness level (TRL) for this project is 8.</p>
Anticipated Deliverables:	<ol style="list-style-type: none"> 1. Technical memorandum for each activity completed. 2. Monthly progress reports. 3. Value of Research (VoR) that includes both qualitative and economic benefits, to be included in the final research report. This is not a stand-alone deliverable. 4. Product P1: Manual that describes the tool. 5. Research report documenting the findings of the research, including a tool that incorporates recommended methods. 6. Project Summary Report.
Proposal Requirements:	<ol style="list-style-type: none"> 1. Proposal Deadline: 12:00 p.m. Central Time, Monday, March 6, 2023. 2. RFP#1 Q&A Deadline: 12:00 p.m. Central Time, Wednesday, February 1, 2023. 3. Use the current “ProjAgre” and “PA Forms” templates located at the RTI Forms webpage. 4. Proposals will be considered non-responsive and will not be accepted for technical evaluation if they are not received by the deadline or do not meet the requirements stated in RTI's University Handbook. 5. Proposals should be submitted in PDF format; (1) PDF file per proposal. File name should include project name and university abbreviation. 6. This project will be tracked during the life of the project using the Technology Readiness Level (TRL) scale. 7. The 2021 Texas Legislative Session requires that universities be in compliance with Senate Bill 475 by submitting a completed and signed TxDOT Security Questionnaire (TSQ) to RTIMAIN@txdot.gov in advance of a proposal submission. Universities found to not submit a completed and signed TSQ in advance of proposal submitting will be held in non-compliance and unable to participate in the Program.