

<b>Research Project Name:</b> Assessing Public Perception of Transportation System Functionality: Defining Essential Network Functioning across Diverse Urban Densities
<b>Recipient/Grant (Contract) Number:</b> 69A3552348321
<b>Center Name:</b> Rural Safe Efficient Advanced Transportation (R-SEAT) Center
<b>Research Priority:</b> Resilience
<b>Principal Investigator(s):</b> Anil Yazici, Elizabeth Hewitt
<b>Research Project Funding:</b> \$97,550 (Federal request); \$46,268 (Non-Federal cost share)
<b>Project Start and End Date:</b> 12/19/2025 to 12/18/2026
<b>Project Description:</b> The overarching long-term objective of this REAT Center project is to develop novel transportation network performance functions for quantitative resilience analysis, including public perception of minimum sufficient functionality of the transportation network after a disruptive event. By pursuing the tangible question(s) of what constitutes “sufficient” functionality, a subjective and context-driven assessment, this project will seek to merge social science with engineering – both methodologically and analytically – to inform emergency management policy and decision makers about priorities, tolerances and needs of the public, creating a synergistic conversation between stakeholders that will drive innovations in policy and planning. Towards this goal, this one-year project will conduct qualitative interviews with key stakeholders (such as DOTs, Offices of Emergency Management, etc.) to understand the priorities and perspectives of emergency response agencies, and will analyze the interviews through in-depth qualitative and quantitative coding techniques and text analysis to understand key performance indicators. The key findings will be leveraged to develop a wider-reaching agency and public survey which will be deployed and ultimately inform the development of transportation network performance functions beyond the first year.
<b>US DOT Priorities*:</b>
<b>Outputs:</b> The one of the main outputs of this project will be the key indicators that define transportation system functionality, based on stakeholder interviews. These indicators will help decision makers identify potential indicators for transportation performance functions that can be used in quantitative resilience modeling. As the second output, the insights from the stakeholders will be further utilized to develop a survey (including IRB approval) for transportation professionals to extract and analyze the transportation network performance indicators across different localities (with emphasis on urban-rural divide) and disaster types.
<b>Outcomes/Impacts:</b> The primary long-term anticipated outcome of the REAT project is development of transportation infrastructure performance functions that can be used by planners and policymakers to devise recovery operations and actions that better account for human factors and public perception of infrastructure. The infrastructure performance function will assist planners and policy makers in assessing the impacts of both the disaster preparedness and recovery operation strategies. The generated functions will also help emergency response sector professionals to account for the public's perception of infrastructure functionality while analyzing the transportation system’s overall resilience and robustness.
<b>Final Research Report:</b> N/A

\* Section left blank until USDOT’s new priorities and RD&T strategic goals are available in Spring 2026.