

UTC Project Information	
Project Title	Performance Measures to Assess Efficiency and Resilience of Transit Systems
University	Rutgers University Mineta National Transit Research Consortium
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Funding Source(s) and Amounts Provided (by each agency or organization)	Research and Innovative Technology Administration University Transportation Centers Program (\$173,700)
Total Project Cost	\$173,700
Agency ID or Contract Number	DTRT12-G-UTC21
Start and End Dates	December 2013 – December 2016
Brief Description of Research Project	Transit agencies, like other transportation agencies, are interested in assessing their short, mid and long-term performances with the objective of making better decisions that will enhance efficiency and resilience. This project proposes a holistic approach to this problem by developing different sets of performance measures for infrastructure, transit and agency operations. The research team will use various data-driven models to quantify a series of performance measures. Different performance measures will be developed for different objectives ranging from day-to-day operations to long-term planning, monitoring and maintenance of transit infrastructure.

<p>Describe Implementation of Research Outcomes (or why not implemented)</p>	<p>Research in progress.</p> <p>Several data sources are identified for measuring various transit resilience measures. NJ state-wide planning model and Google transit data provide the basic infrastructure data. ETC, INRIX and NJDOT traffic count data provide the traffic and travel time data. TRANSCOM's data during hurricanes Irene and Sandy provide various event data.</p> <p>Various resilience measures are identified as a result of extensive literature search. The team has classified and is in the process of estimating these measures on a link-level, route-level and network-level measures. Estimating resilience measures at these different levels will help agencies identify vulnerable individual links, links within routes and vulnerable routes in the public transit network.</p> <p>The team has classified and is in the process of estimating these measures on a link-level, route-level and network-level. Estimating measure of these different levels is expected to help agencies identify potentially vulnerable individual links, links within routes and vulnerable routes in the public transit overall network. We will use GIS maps to visually depict these links in a spatial manner. Moreover, we will publish and present these results in conferences and scientific journals.</p> <p>Deka, D., and Gonzales, E. J. (2014). The Generators of Paratransit Trips by Persons with Disabilities. <i>Transportation Research Part A</i>, Vol. 70, pp. 181-193.</p> <p>Deka, D. (2014). An Exploration of the Environmental and Rider Characteristics Associated with Disability Paratransit Trip Delay. <i>Journal of Transport Geography</i>, Vol. 38, pp. 75-87.</p> <p>Deka, D. "Factors Associated with Travel Time Reliability of Disability Paratransit Trips." Paper accepted for presentation at the 94th Annual Meeting of the Transportation Research Board, January 2015.</p> <p>Deka, D., and Gonzales, E. J. "The Generators of Paratransit Trips by Persons with Disability." Paper presented at the 93rd Annual Meeting of the Transportation Research Board, January 2014.</p> <p>Devajyoti, D. (2015). "Factors Associated with Disability Paratransit's Travel Time Reliability." <i>Journal of Transport Geography</i>, 48, 96-104.</p>
<p>Place Any Photos Here</p>	

<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	
<p>Web Links</p> <ul style="list-style-type: none">• Reports• Project Website	<p>Final report (MNTRC Website):</p> <p>Final report (TRB Website):</p>