


UTC Project Information	
Project Title	Advanced Low-Floor Vehicle (ALFV) Specification Research
University	The Pennsylvania State University Mineta National Transit Research Consortium
Principal Investigator	Suresh Iyer, Ph.D.
PI Contact Information	Pennsylvania Transportation Institute 201 Transportation Research Building University Park, PA 16802-4710 ssi105@psu.edu 814-865-2327
Funding Source(s) and Amounts Provided (by each agency or organization)	Research and Innovative Technology Administration University Transportation Centers Program (\$116,205) Florida Department of Transportation (\$75,000) Industry Partner: Ride Solution, Inc. (\$40,000) Larson Institute/Penn State (\$18,786)
Total Project Cost	\$249,991
Agency ID or Contract Number	DTRT12-G-UTC21
Start and End Dates	December 2012 – December 2015
Brief Description of Research Project	<p>There is a need in the transit industry for a new type of versatile, high-capacity, long-life bus to satisfy the needs of smaller agencies and to enable the emerging adaptable service formats, such as flex route, that are being driven by budget constraints and transit ITS development. The research objective of this project is to identify and quantify the technical characteristics of a new breed of transit bus that is accessible, versatile, reliable, durable, and efficient in all operating environments.</p> <p>The goals of this research project are to:</p> <ol style="list-style-type: none"> 1) Provide a market analysis for the prototype design that will characterize and document the transit service and operating environment requirements of transit agencies in need of a small, long life bus. The results will be used for the preparation of specifications by transit industry standards organizations in a “white book” and/or for RFP specifications published by transit agencies. The market analysis will be performed by Ride Solution, Inc., and will be compiled relevant to the data obtained for the prototype bus. 2) Measure the performance and reliability characteristics of the prototype bus in a standard testing environment. The

	<p>prototype test vehicle, provided by Ride Solution, Inc., will undergo the standard Federal Transit Administration (FTA) Altoona Bus Testing Program for the 10-year bus, 350,000-mile service life category as conducted by the Larson Institute at Penn State. Additional research tests will be conducted by Larson Institute personnel to further investigate the operational cost efficiencies of the design that bear on life cycle costing. Ride Solution, Inc., will conduct additional research on the bus prototype based on the APTA 2012 International Bus Rodeo Operator's competitive events, which are standardized obstacle courses.</p> <p>3) Develop the knowledge base and skills of the bus manufacturing and servicing workforce regarding such nimble, long-life buses.</p> <p>This project furthers U.S. Department of Transportation/FTA strategic goals in several areas. The project will address the state of good repair issues associated with operating cutaway chassis buses on rough roadways. Safety and livability will be advanced through the provision of greater bus accessibility and superior ride quality characteristics. Through the formulation of a new bus product, interested U.S. bus manufacturers will have an opportunity to expand their product line here and abroad, enhancing U.S. economic competitiveness and providing opportunities for workforce development and training.</p>
Describe Implementation of Research Outcomes (or why not implemented)	A revised technical was peer reviewed, revised by author and submitted to MNTRC for edit. The revised report was accepted. The report was featured in a TRB newsletter. Please see the link below.
Place Any Photos Here	

Impacts/Benefits of Implementation (actual, not anticipated)	An advanced low floor bus design prototype was tested and the results can be compared with those of other options available in the market. This design is capable of urban and rural operation and can accommodate up to 25 passengers, or five wheel chairs, or six gurneys and is capable of flex route service. The procurement and projected operating costs are also compared in the report.
Web Links <ul style="list-style-type: none">• Reports• Project Website	Final report (MNTRC Website): http://transweb.sjsu.edu/project/1151.html Final report (TRB Website): http://www.trb.org/main/blurbs/173140.aspx