

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.
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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	This report details the results of research on market comparison, operational cost efficiencies, and prototype tests conducted on a novel design for an Advanced Low Floor Vehicle (ALFV), flex-route transit bus. Section I describes how the need for such a bus arises from a combination of diminishing transit funding from the federal government and demographic and transportation factors. Section II describes the unique features of this bus design that render it suitable for rural and urban operation, including improved transit passenger and wheelchair accessibility, reduced maintenance, structural design features, safety provisions, and the technical specifications of this design. Section III details the potential differences in capital and operational costs of procuring and operating this bus in a fleet. Potential cost reductions due to the long-life vehicle concept, maneuverability, operational savings (from APTA Bus Rodeo tests), and reserve fleet savings are explored. Section IV refers to the Federal Transit Administration (FTA) new model bus tests (“Altoona Testing”). However, at the this time, the Altoona Bus Test Report for these tests is not yet released by the bus manufacturer, Ride Solution, Inc., as is its right under the Bus Testing Regulation. The report must be released to the public before this bus can be purchased by a transit agency using FTA

funds. In addition to the standard Altoona Bus Test, additional research was conducted to determine the turning ability, suspension travel, ramp travel index, field of view for the driver, compliance to Americans with Disabilities Act (ADA) requirements, and timed assessment of wheelchair securement. Section IV also presents the results of these tests. Section V presents results from a market comparison that included the buses in this mid-size category that were tested at Altoona and are expected to be available for FTA grantees to purchase. The specifications and performance of the ALFV bus are compared with these buses. Section VI presents a flex-route utilization plan, and Section VII provides the results from a survey of transit professionals about their interest in the features of this bus design. Section VIII gives Ride Solution's experience in developing the concept for ALFV. Conclusions of this report are presented in Section IX, followed by the references and appendices.

Describe Implementation of Research Outcomes (or why not implemented)

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