



M-PRT SYSTEM ENERGY ASSESSMENT AND ADVANCED SMALL TRANSIT VEHICLE STUDY

FINAL REPORT

Background

This report summarizes an energy assessment of the Morgantown (West Virginia) Rapid Transit System, performed upgrades to improve the system's energy efficiency, and assessed the current state of the small transit vehicle industry. It also provides recommendations to improve the features, durability, and procurement processes of transit vehicles used to provide transit services in rural communities.

Objectives

Objectives of this project were to conduct an energy assessment of the Morgantown Rapid Transit System and perform upgrades to improve the system's energy efficiency and to assess the current state of the small transit vehicle industry and provide recommendations to improve the features, durability, and procurement processes of transit vehicles used to provide transit services in rural communities.

Findings and Conclusions

There is a need to improve the reliability and durability of small transit vehicle bodies and HVAC systems and to improve training and support to assist rural transit maintenance personnel affect body and HVAC repairs.

Durability, ease of maintenance, and adequate maintenance support are extremely important to rural transit providers. A common complaint about small transit vehicles is durability; most reliability issues are associated with bus bodies and HVAC systems for which there are often no local service facilities. The most common maintenance issues include galvanic corrosion between aluminum bus bodies and steel chassis components, water infiltration in hidden areas, damage to wiring due to chaffing where wire harnesses pass through bulkheads and body panels, HVAC system reliability issues, damage to bodies due to twisting imposed by the terrain in rural areas, and inadequate strength of wheelchair tiedowns. Many rural transit providers rely on local OEM dealerships for powertrain and chassis maintenance.

Standard procurement guidance and specifications such as those available from APTA are not available for small rural transit vehicles. As a result, small- to medium-size size cutaway bus specifications vary markedly from state to state. To encourage the development of standardized vehicle technical specifications and procurement guidance, a set of vehicle technical specifications was developed for cutaway buses that includes alternative descriptions for vehicle systems, components, and features and can serve as a starting point for future development of a procurement guidance document for small transit vehicles.

Benefits

This research developed a draft vehicle technical specification template based on review of multiple state specification documents to serve as a starting point for formal vehicle procurement guidelines for small transit vehicles. It is recommended that a transit industry trade group develop standard bus procurement guidelines for small transit vehicles that are similar to the APTA's Standard Bus Procurement Guidelines for heavy-duty transit buses based on the template.

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