FTA

FEDERAL TRANSIT ADMINISTRATION

U.S. Department of Transportation
Federal Transit Administration

REPORT SUMMARY

Rail Vehicle Qualification Test Compendium

Background

Qualification and acceptance testing and analysis for new passenger rail vehicles for transit systems has been specified by the transit/commuter agency for which the cars will be supplied to and/or by government agencies. Regulatory testing defined by the Federal Railroad Administration (FRA) is currently only for passenger vehicles operating at 90 mph or greater.

Objectives

Transportation Technology Center, Inc. (TTCI) was contracted by the Federal Transit Administration (FTA) to identify and document all tests for qualification or acceptance testing of passenger rail vehicles and signal and control systems that may be performed prior to their deployment in service in the United States. Sources of the tests identified were found by reviewing American Public Transportation Association (APTA) recommended practices, FRA requirements, Requests for Proposals (RFPs), and other international sources.

Findings and Conclusions

A searchable database of all present and past qualification and acceptance tests was developed and is available at http://fta.aar.com/.

Past and present analyses and qualification and acceptance tests were identified using multiple sources. The specifications identified also include past specifications that no longer may be used because updated versions/names are being used. In particular, specifications from Urban Mass Transit Administration (UMTA) (later reorganized as FTA) have transformed into other specifications but are still listed as stand-alone specifications.

Sources of tests and analyses include APTA specifications, FRA regulations, transit agency procurement specifications, discussion with transit agencies and car builders, TTCI experience in testing passenger vehicles, and other specifications from international sources. The specifications from each source are described in the report.

The final deliverable for this work is a database that documents all past and present qualification and acceptance tests. This searchable database, available at http://fta.aar.com/, includes the following categories, among others:

- Mode of Operation
- Type of Test
- Operating Speed Range
- Test Category
- Facility Requirements
- Test Location

Also included in the report is a detailed description of TTCI's passenger rail testing facility and capabilities, information on other testing facilities in the U.S. and abroad, a comparison of rail vehicle dynamic modeling software, a summary of rail vehicle propulsion systems, and information on the current capabilities at TTCI related to high speed rail testing,

Benefits

The identification and documentation of all tests for qualification or acceptance testing of passenger rail vehicles and signal and control systems that may be performed prior to their deployment in service in the United States and their inclusion in a searchable database will be useful to transit agencies throughout the U.S. It will be updated yearly as new information and details about current requirements, tests, and capabilities become available.

Project Information

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