



Florida Department of Transportation Research

A Guidebook for Using Automatic Passenger Counter Data for National Transit Database (NTD) Reporting
BDK85 977-04

Planning for and funding public transportation is based on ridership. This information can be collected manually, but increasingly, it is collected by Automated Passenger Counters (APC). These electronic devices can be based on different technologies to detect and record passengers entering and leaving vehicles.

Rider information is also submitted to the National Transit Database (NTD), a record maintained by the federal government. This data must meet Federal Transit Administration (FTA) specifications and can in turn qualify local governments for federal support for public transportation expenditures through the Urbanized Area Formula Program.

In this project, University of South Florida researchers produced a guidebook to assist local authorities in using APCs, meeting NTD specifications for data submission, and qualifying for Urbanized Area Formula Program funds. The guidebook begins with a description of key issues and detailed NTD data specifications.

In section 3, the researchers provide guidance on whether agencies may use APC data for NTD reporting and on how APC data may be used for NTD reporting. Conditions are presented under which agencies may not use APC data for NTD reporting. In addition, factors are discussed that agencies should consider in deciding if they want to use APC data for NTD reporting when allowed. Finally, options are presented that agencies may select once they have decided to use APC data for NTD reporting.

Section 4 presents guidance to help transit agencies meet the traditional data requirements using APC data. The guidance covers procedures for obtaining 100% counts from APC data. It also covers procedures for obtaining estimates through random sampling using APCs. More important, it covers procedures for obtaining estimates from all



This image shows one type of Automated Passenger Counter integrated unobtrusively into the top of a bus doorway.

usable APC data. In addition, the guidance covers procedures for obtaining adjustment factors for missed data. It also covers procedures to account for both missed data and data errors in developing plans for data collection.

Section 4 assumes that an agency has been approved by FTA to use APC data, which requires that certain criteria be met, and Section 5 presents guidance to help transit agencies meet these criteria. The guidance covers procedures for testing the statistical equivalence in the average passenger trip length between sample data from APCs and sample data from manual ride checks for the benchmarking plan and the benchmarking study. In addition, the guidance covers procedures for determining the minimum sample size for the annual maintenance study. The guidance also covers procedures for obtaining adjustment factors for errors in APC data for both the benchmarking year and annual maintenance year.