



South Carolina  
Department of Transportation



U.S. Department of  
Transportation  
Federal Highway  
Administration

## SUMMARY REPORT

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South Carolina  
Department of Transportation  
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## Investigation and Evaluation of Roadway Rideability Equipment and Specifications

### STATEMENT OF THE PROBLEM AND SCOPE OF REPORT

This report summarizes a study undertaken as a first step toward updating and improving the South Carolina Department of Transportation's (SCDOT) roadway rideability program. The study included a review of current SCDOT rideability equipment, specifications, and practices, a literature review and survey of state highway agency practice, and a review of profiling equipment currently available from major manufactures.

The South Carolina Department of Transportation currently uses Rainhart Mays Ride Meters to measure the rideability of new AC construction, new AC overlays, and ground and textured PCC pavements. Rainhart Profilographs are used to measure the rideability of new bridge decks and some new PCC pavements. Over the past several years, new technology has emerged and developed for measuring roadway rideability. High-speed and lightweight non-contacting inertial profilers represent state-of-the-art technology for measuring longitudinal pavement profile. Profiles obtained using these devices can be mathematically processed to produce roughness summary statistics (such as, International Roughness Index (IRI) and Ride Number (RN)) providing quantitative estimates of subjective ride quality.

Thirty-four state agencies responded to the rideability survey. The responses indicate that the most commonly used device for rideability testing is the California Profilograph and the most commonly used roughness summary statistic is profilograph Profile Index (PI) using a 0.2-inch blanking band. The Mays Ride Meter, once a very popular device, is used by only three responding states.