



U.S. Department of
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SUMMARY REPORT

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South Carolina
Department of Transportation
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Evaluating the Use of High Speed Laser Line Sensors for Improved Rideability Measurement

This research project compared rideability readings and repeatability for both point laser and line laser systems on the high-speed profiler. Both systems were Dynatest 5051 Mark III Road Surface Profilers, one equipped with single point lasers and the other with GoCator wide footprint lasers. Each system collected data for pavement surface textures SCDOT requires rideability measurements for contractor pay. Data was collected simultaneously in order to help eliminate factors including start/stop points, different times of day, as well as temperature differences.

The SCDOT predicted that there would be significant differences between the two lasers on textured pavements and not as much, if any, on dense graded surfaces. Based on the findings from this research, the SCDOT will update rideability specifications to reflect the use of line lasers for acceptance on construction projects. Statistical analysis was performed on the gathered data. The SCDOT's findings supported the anticipated outcome and proved that line lasers give a lower IRI measurement for the textured surfaces and similar measurements for dense graded surfaces. The SCDOT's rideability specifications have been updated as a result of this research to reflect the new target values.