



South Carolina
Department of Transportation



U.S. Department
of Transportation

**Federal Highway
Administration**

SUMMARY REPORT

**Report No. FHWA-SC-08-03
August 2008**

South Carolina
Department of Transportation
955 Park Street
P. O. Box 191
Columbia, SC 29202

Optimal Maintenance Crew Composition and Enhancement of Crew Productivity

Summary

A research project was conducted by the Clemson University for the South Carolina Department of Transportation (SCDOT) to examine the impact of crew composition and other factors on maintenance crew productivity. The research effort included an examination of data from the SCDOT Highway Maintenance Management System in an attempt to rank maintenance crews using a number of performance criteria. The analysis treated urban, rural, and mixed urban and rural counties separately. Although it could not be established with any degree of statistical significance, the data analysis indicated that 6-8 person crews were generally more productive. However, data analysis did depend on precisely how crew "productivity" was defined. The research effort also included the execution and analysis of a comprehensive questionnaire survey of 382 SCDOT maintenance employees. The survey solicited demographic, experience, and opinion data from the survey respondents. The respondents indicated that in many instances crew size should be increased for optimal productivity. The survey responses also indicated, especially in the more rural areas, that there is the perception that crews with a long history of working together as a cohesive unit are in fact more productive. The crew foremen strongly believed that the work accomplishment goals contained within the SCDOT performance standards were realistic. The survey also indicated that internal policies with respect to equipment utilization were constraining crew productivity.

This research was conducted by Dr. Lansford Bell at Clemson University. For further information, contact Mike Sanders at SCDOT: 803-737-6691; SandersMR@scdot.org.

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