



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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Long Range Program Cost Estimating Methodology for SCDOT

Summary

The South Carolina Department of Transportation has in the past used a conceptual or “rule of thumb” approach for estimating the cost of highway improvement projects. Recently completed research executed by Clemson University produced a cost estimating model that is based on historical bid line item data for 58 construction projects that were let to contract between January 1996 and April 2001.

Widening, interstate, and interchange projects from all seven state districts were included in the study. The model is based on historical line item bid data were entered into a 336 page spreadsheet database that consisted of approximately 17,000 data entries. The data were analyzed and eventually transformed into parametric equations, cost averages and ranges, and estimating guidelines. The model provides estimating guidance for nineteen cost categories: clearing and grubbing, remove and dispose asphalt, remove and dispose concrete, remove and dispose bridges, excavation, mucking, asphalt pavement, concrete pavement, painting, control of intersections, bridge construction, storm drainage, curb and gutter, sidewalks, guardrail, underdrain, erosion control, move items, and mobilization and traffic control.

The model has been formulated as an Excel spreadsheet. Basic model input includes project lane miles. For most of the nineteen cost categories the user is given a selection of 4 values (none, low, medium, high) from which to choose a data entry, with a description of what constitutes low, medium, and high. These suggested values were determined from a regression analysis of the bid line item data.

This research was conducted by Dr. Lansford Bell at Clemson University. For additional information, contact Terry Swygert at SCDOT: 803-737-6652: swygerttl@scdot.org.