



South Carolina
Department of Transportation



UNIVERSITY OF
SOUTH CAROLINA



U.S. Department of
Transportation
Federal Highway
Administration

SUMMARY REPORT

Report Number FHWA SC-07-05
September 2007

South Carolina
Department of Transportation
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ITS and Construction Management Modules: SCDOT Resident Engineer Academy

Final Summary of Research Project No. 646 September 2007
For the South Carolina Department of Transportation

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The Resident Construction Engineer (RCE) and the Resident Maintenance Engineer (RME) play important roles in the South Carolina Department of Transportation (SCDOT). The engineers in these positions are responsible for SCDOT projects from pre-construction activities through final plans and maintenance activities. To keep these engineers up-to-date in the varied activities related to their positions, a technology transfer program was planned and executed for the following two modules:

- I. Intelligent Transportation Systems (ITS)
- II. Construction Management

Both modules were developed and piloted twice at the University of South Carolina (USC). The results of the final pilot of these two modules are:

I: Intelligent Transportation Systems: The final recommended pilot module consists of one day of presentations followed by a short examination. The agenda items are:

- Introduction to ITS
- ITS Elements – I
- ITS Elements –II and Resident Engineers & ITS
- Incident Management/Freeway Operations
- State Emergency Management Division (EMD)
- Traffic Engineering Road Data Services

The manual consists of presentation material for all items and additional supportive handouts on various ITS elements including traffic signal coordination, traffic management centers, communications, electronic toll collection, regional ITS, and managing ITS construction projects.

II: Construction Management: The final recommended pilot module consists of 1.5 days of presentations followed by a short test. The agenda items are:

- Project Development Process (Day 1)
- Project Initiation (Day 1)
- Scheduling (Day 1)
- Construction Management-General (Day 1)
- Construction Management-Road (Day 1)
- Construction Management-Bridge (Day 2)
- Project Closeout (Day 2)

The manual includes sections with handouts for all items listed above. The appendix also contains the following items:

- Construction Schedule Requirements (Project Values < \$5 Million)
- Critical Path Method Project Schedules (Project Values ≥ \$5 Million)
- Construction Time Worksheet Example
- Working Day Chart for Grading, Drainage, Base and Surfacing Projects
- Working Day Chart for Resurfacing Projects
- Design Field Review Checklist
- External Equal Opportunity (External EO) & On-the-Job Training (OJT) Procedures
- Submittal/Certification/Testing Checklists

Conclusions

In general, the participants in both series of pilot modules found the sessions and manuals to be helpful and informative. The second set of pilot courses proved useful in further refining the information and the timeframes appropriate for each subsection of the programs. Overall, final comments and suggestions were positive. It is recommended that the Resident Engineer Academy (REA) continue in the same format as the second set of pilots using the presentations and manuals as developed. In future sessions of the Resident Engineer Academy, course material and other information will be updated as needed to address any changes in procedures and technology.