

# South Carolina Road Safety Audit Program: Saving Lives/Saving Dollars

RSA National Peer Exchange  
Charleston, South Carolina

Presented by:  
Terecia Wilson  
SCDOT Director of Safety



May 21, 2007

# What is a Road Safety Audit?

- A formal examination of an existing or future road or traffic project
- A team of independent, qualified examiners
- Assesses crash potential & identifies safety concerns
- Written report with prioritized recommendations

# SCDOT Mission

To provide a safe and efficient transportation system for the State of South Carolina by building and maintaining roads and bridges, as well as providing mass transit services to the citizens of the State.

# From the Mountains...



# To the Midlands...





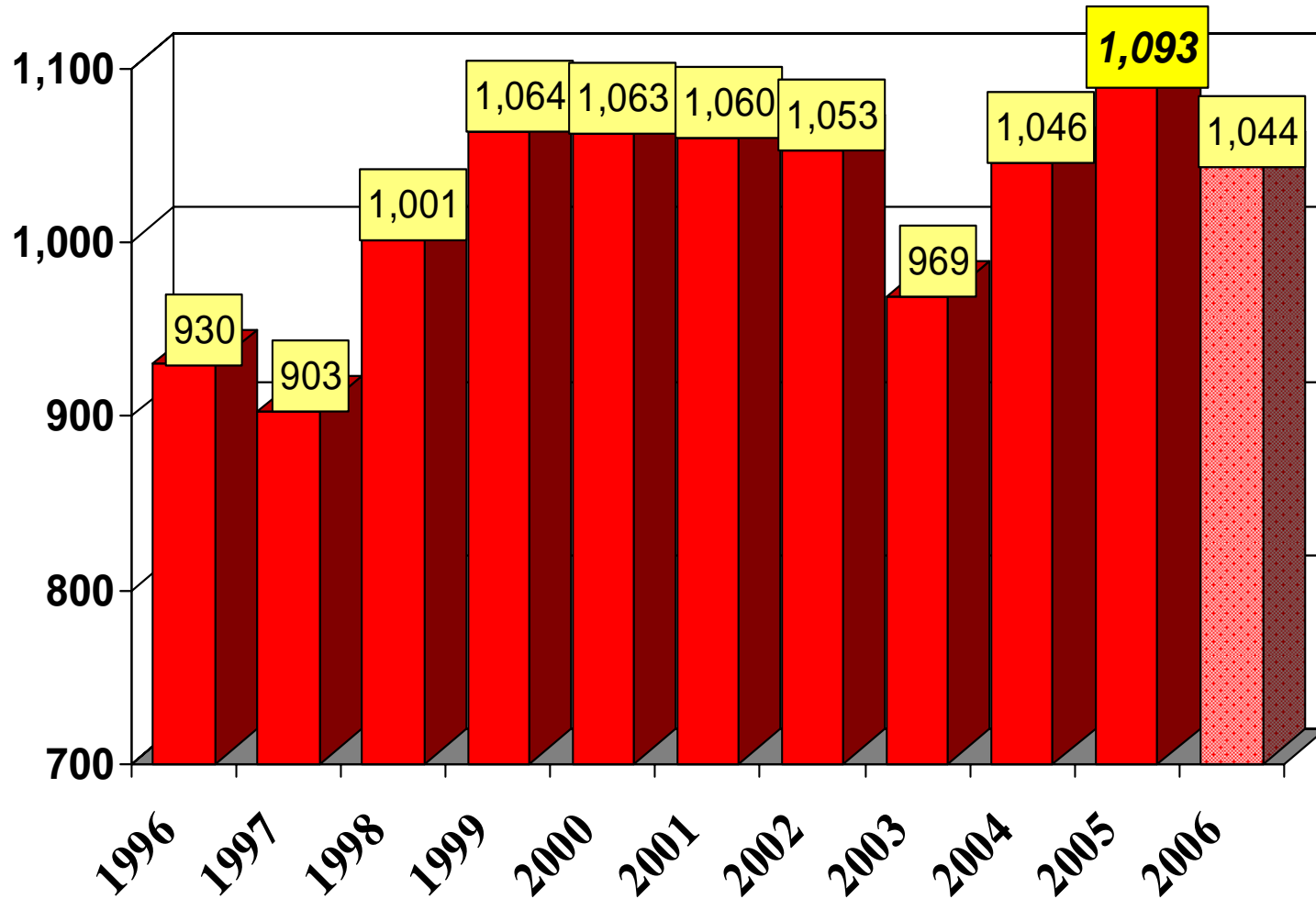
# To the Sea...





# Why is SC conducting RSA's?

## FATALITIES 1996-2006

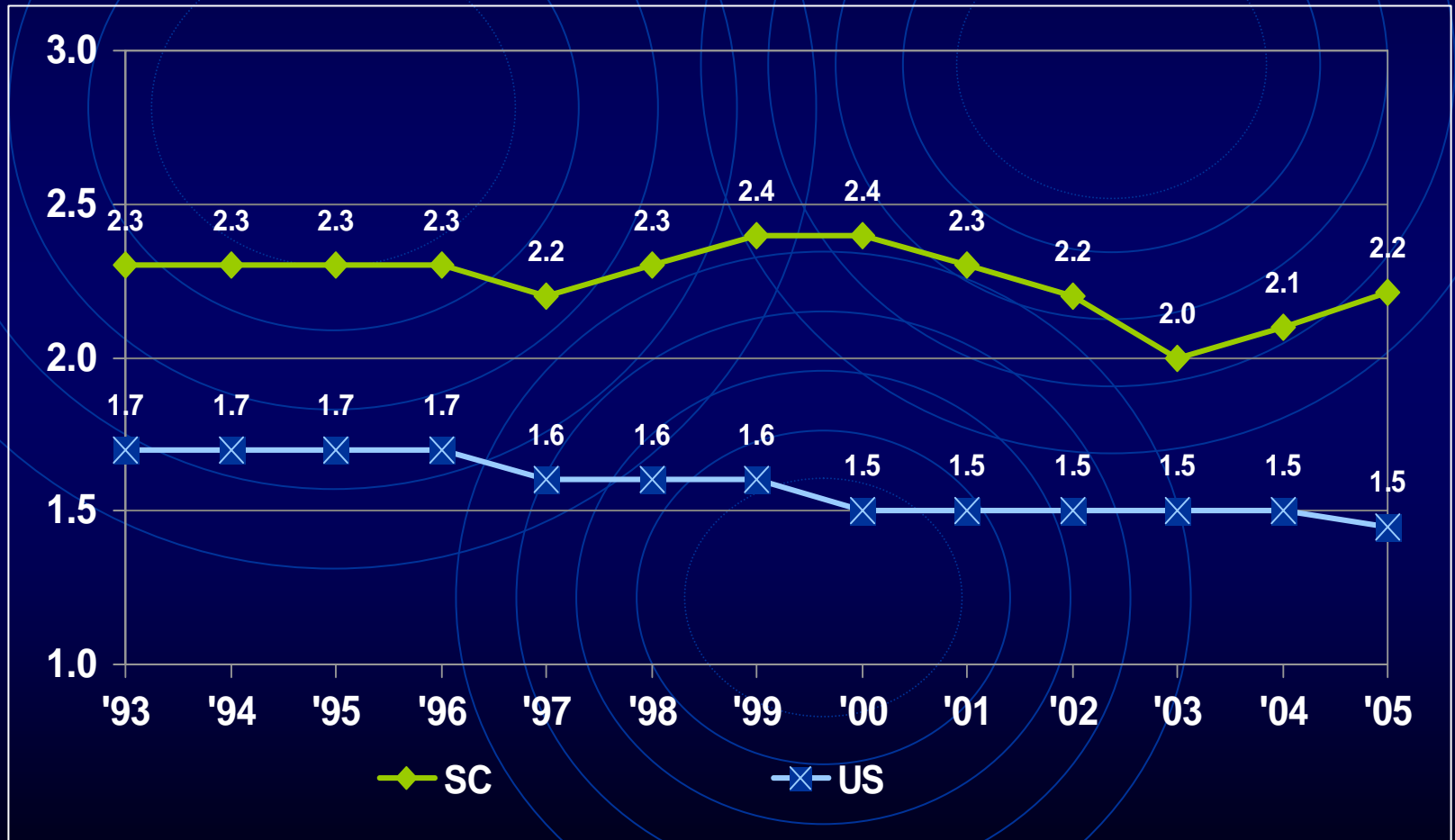




# SC Traffic Trends

## Mileage Death Rate per 100 Million VMT

**In 2005, SC 43% higher than US!**



# Why is SC Conducting RSA's?

- Mileage Death Rate - 2005 3
- DUI Death Rate 3
- Motorcycle Death Rate 2
- Pedalcycle Death Rate 8
- Pedestrian Death Rate 8
- Speed-Related Death Rate 1

# Why is SC Conducting RSA's?

- SCDOT responsible for 4<sup>th</sup> largest state-maintained highway system in US
- Receives lowest per-mile state funding
- An average of 3 people killed daily on SC highways
- Over 50,000 injuries annually; crash reported every 4.5 minutes
- Over \$2 billion annually in economic loss

# Why is SC Conducting RSA's?

- Proactive approach to highway safety
- Widely used in other countries, highly effective
- Possible even with limited resources
- Supports SCDOT Strategic Plan goal of improving safety



# SC Implementation Process

- Conducting research on RSA Program
- Held individual meetings with Directors of Planning, Pre-construction, Traffic Engineering, Construction, Maintenance, and Legal
- Secured executive management approval from State Highway Engineer/Deputy Director/FHWA
- Established funding to support program

# SC Implementation Process

- Established staff position of RSA Coordinator
- Sent staff to training in Kentucky and Kansas
- Developed policies and procedures for program implementation
- Secured adoption of policies and procedures by Directors and Executive Management

# SC Implementation Process

- Established RSA Advisory Committee
- Established RSA Teams
- Conducted 2 RSA courses and trained 60 Auditors
- Selected projects for audit – existing roads, new projects, projects under construction

# Who Participates?

- Advisory Committee
- Program Coordinator
- RSA Team
- District Engineering Administrators
- Pre-construction Program Manager





# Advisory Committee Members

- Deputy State Highway Engineer
- Director of Construction
- Director of Maintenance
- Director of Pre-construction
- Director of Traffic Engineering
- Director of Planning
- Director of Safety
- District Engineering Administrators (2)

# Advisory Committee Role

- Guide, Monitor and Advise RSA Program
- Approve Annual Projects
- Approve Annual RSA Program Report



# RSA Program Coordinator Role

- Create Policies and Procedures
- Research and Guide Program
- Annual Project Assembly
- Project Selection
- RSA Personnel/Team Assignment
- RSA Training
- RSA Coordination
- RSA Monitoring
- RSA Maintenance



# RSA Team Participants

- Selected by DEA and Engineering Directors
- Serve a Two-Year Term
- Selected Based on Expertise



# RSA Team Participants

- Geographic Representation from across the state.
- Representation from various disciplines: Traffic Engineering, Planning, Construction, Pre-construction, Hydrology, Safety, Road Design and more.
- Special Interest Groups: EMS, local law enforcement, AARP, Disabilities & Special Needs, Cyclist organizations, and others.

# RSA Team Role

- Complete Training
- Elect a Team Leader
- Conduct Audit (Identify Project Concerns)
- Prepare Audit Reports
- Provide Audit Documentation



# District Engineering Administrator Role

- Appoint Staff to RSA Team
- Serve as Central Point of Contact
- Provide Information/Background Materials for Audit
- Review RSA Report recommendations
- Determine Action to be Taken
- Respond to RSA Report
- Seek Funding
- Implements Solutions

# Pre-Construction Program Manager Role

- Provide Required Information
- Present Project to Audit Team
- Be available for questions during audit



# Project Selection

- Projects Submitted Annually to RSA PC by:
  - Deputy State Highway Engineer
  - Engineering Directors
  - DEAs
  - Director of Safety



# Project Selection

- Projects Selected for Audit Compiled & Prioritized by RSA Project Coordinator
- Selected Projects Submitted to RSA Advisory Committee for Approval

# Three Project Types

- New Infrastructure Projects
- Projects Under Construction
- Existing Infrastructure

# Reporting Procedures

- **DEA Determines Recommendations to be Implemented**
  - **Recommendations are NOT Mandatory**
  - **DEA Coordinates and Consults with Various Departments on Potential for Implementing Recommendations**
  - **Includes Pre-construction Program Manager, Traffic Engineering, Environmental, Right-of-Way, and other Departments as Appropriate.**
  - **Informs RSA PC of Actions to be Taken**

# Reporting Procedures

- RSA Program Coordinator:
  - Notifies Team of Actions to be Taken Per Audit
  - Maintains all RSA correspondence, reports, and expense documentation
  - Verifies Expenditures and Time



# Follow-Up

- Three years after the final Audit on a project, the RSA PC will conduct a follow-up study to determine the impact on traffic safety.
- Traffic collision data for a three-year period before and after an Audit, as appropriate, will be examined.
- The RSA PC may elect to have an RSA Team assist in the evaluation, as needed.

# First Implemented in 2002-2003

- Nine Audits completed.
- Data for 4 sites examined to determine impact.
- Other sites still incomplete projects.



# I-585 in Spartanburg County

- Eight recommendations made.
- Four implemented.
- In 2004, 12.5 percent decrease in crashes.
- Economic Savings = \$40,000.
- \*2003-2006 28.6% drop in crashes.
- \*2006 Economic Loss down 42.8% over 2005

# SC-296 in Spartanburg County

- In 2004 had 23.4 percent reduction in crashes.
- Average economic impact on savings = \$147,000.
- Twenty-five of thirty-seven improvements adopted.
- \*Crashes are down 28.6% since 2003.

# SC-14 in Greenville County

- Nine of nine improvements adopted.
- Between 2003 and 2006, economic losses down 24.5%.
- In years prior to Audit, there was a significantly increasing crash trend.
- After Audit, trend was reversed and now crashes below 2003 level.



# US-17 in Horry County

- Of thirteen recommendations, only two adopted.
- Crashes increased by 15.8 percent.
- Average economic impact increased by \$213,000 in 2004.
- \*Economic loss increased by 11.8% in 2006 over 2004
- Hydrology problem discovered & fixed before construction.
- Saved potentially thousands in repair costs.

# 2003-2004

- 50+ audits conducted on CRISOS roads
- Multi-disciplinary team of auditors
- Included coroners, EMS, law enforcement
- Prepared & prioritized recommendations for each road



# Transferable Techniques

- CRISOS Program employed RSA methods to review 50 roadways.
- Five approved for long-term improvements.
- Forty-five approved for short-term & intermediate strategies.





# Transferable Techniques

- **Safety review checklist for maintenance operations**
- **Used by Resident Maintenance Engineers and county personnel**
- **Includes 32 items to examine**
- **Consider needs of special road users**



# 2005

- Hired Chris Brown as full-time RSA Coordinator.
- Determine and report on current status.
- Move the Program forward.



# AUDITS

## 2006-2007

- **US-378 in Richland County**  
**(Existing Road) Completed**
- **US-123 in Pickens County**  
**(Existing Road) Completed**
- **US-521 at SC-377 in**  
**Williamsburg County (Design**  
**Phase) Report Pending**



# Audits Planned for 2007

- I-26 at MM 154 in Orangeburg County (Existing Road)
- Chisholm Road/River Road in Charleston County (Design Phase)
- I-385 at Harrison Bridge Road in Greenville County (Under Construction).
- Alligator Road, S-21-107, in Florence County (Existing Road)

# Next Steps

- Train additional auditors (retirements/change of position)
- Report to RSA Advisory Committee
- Re-organization to give RSA full program status

# For More Information Contact

Terecia Wilson, Director of Safety

803-737-1161

[WilsonTW@scdot.org](mailto:WilsonTW@scdot.org)

OR

Chris Brown, Program Coordinator

803-737-0467

[BrownWC@scdot.org](mailto:BrownWC@scdot.org)