Tom Maze Transportation Seminar

Traffic Safety at the Iowa Department of Transportation

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DOT Organizational Structure

Highway Division

Office of Traffic & Safety

Office of Design

Office of Bridges & Structures

Traffic Engineering

Transportation Safety

What our team does?

- Crash Data Analysis
- Comprehensive Highway Safety Plan
- Traffic Safety Improvement Program for All Road Systems
- Traffic Advisory Assistance Program
- Safety Research Programs
Comprehensive Highway Safety Plan

- Highway safety plans are required by the current federal transportation bill – SAFETEA-LU.
- Our plan identifies two distinct focus areas: Policy and Program.

Policy
- Young Drivers
- Occupant Protection
- Motorcycle Helmets
- Enforcement
- Safety Improvements

Program
- Innovative Intersections
- Lane Departure
- Safety Corridors
- MDST’s (Local Teams)
- Data Availability
- Older Driver Single Contact
- Public Education and Training
- Gravel Roads Awareness

Highway Safety Program

- This program is for safety improvements on the state managed highways in Iowa.
- Part of the annual DOT construction program - ~$15 million per year.
- Projects address the Lane Departure, Safety Corridor and Innovative Intersection Program areas in the CHSP.
- Projects target the Top 5% Safety Candidate Locations or Corridors.
- Types of initiatives in the program:
  - Median Cable Barrier on the Interstate
  - Paved Shoulders with Rumble Strips
  - Centerline Rumble Strips
  - Horizontal Curves
  - Intersection Treatments

Traffic Safety Improvement Program

- This program is for all highways in Iowa.
- This program was established by the Iowa Legislature in 1987.
- Sets aside 1/2% of the Iowa Road Use Tax Fund – for FY 2012 this is ~$6 million.
- The program has 3 categories:
  - Site Projects
    - Traffic Control Devices
    - Research, Studies and Public Information Initiatives
  - Want to emphasize low cost safety improvements that have good benefit cost ratios.
Traffic Engineering Assistance Program
- TEAP provides traffic engineering expertise to local units of government.
- We contract with consulting engineers to provide this assistance.
- The purpose is to identify cost-effective traffic safety and operational improvements.
- Typical studies include high-crash locations, unique lane configurations, obsolete traffic control devices, school pedestrians, truck routes, parking issues, and other traffic studies.

Safety Research Programs
- Safety research is sponsored by different programs within the DOT:
  - Federal funds from the Systems Planning & Research program
  - State funds from the Iowa Highway Research Board program
  - State funds from the TSIP program
  - State and Federal funds reserved for the CHSP program
- Often used to help guide DOT policies related to safety:
  - Roundabout planning
  - Lane departure countermeasures: median cable, paved shoulders, rumble strips, centerline rumbles
  - Safety edge evaluation
  - Curve countermeasures
- Local outreach programs: LTAP, Safety Circuit Rider

Crash Data Analysis
- We provide data for a variety of purposes – project/site investigation, news inquiries, citizen requests
- We use analysis to determine safety candidate locations
- We provide mapped crash data for cities, counties, and DOT Districts on DOT website
- Provide free data and training & analysis tools
Recent Safety Developments
Median Cable Barrier

Paved Shoulders with Rumble Strips or Rumble Stripes

Safety Edge

Safety Edge
Paving technique where the interface between the roadway and graded shoulder is paved at an angle to eliminate vertical drop-off.

Very low cost:
The technique requires a slight change in the paving equipment (approximately $1,200).

Research between 2002-2004 shows that pavement edges may have been a contributing factor in as many as 15-20% of ROR crashes.
CHSP Program Initiatives
- Sweet Ride Contest promotes safe driving habits to teens
- Alternative ways to change the culture

Personal Interests in Highway Safety
- Close the link between evaluation and design standards
- Make improvements before the problems originate
- Better educate roadway designers to the relationships between geometric design features and resulting safety performance
- Shift our engineering process from a lookup criteria mindset to a holistic relational mindset
- Understand how drivers respond to our engineering features to reduce the number of driver errors and to make better engineering choices.