

# Tom Maze Transportation Seminar

Traffic Safety  
at the  
Iowa Department of Transportation

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State Traffic Safety Engineer

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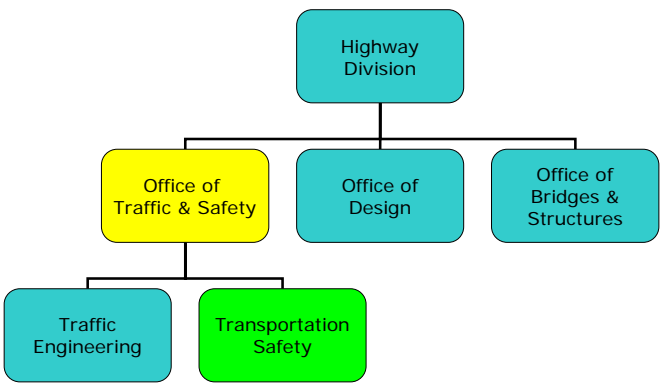
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## DOT Organizational Structure



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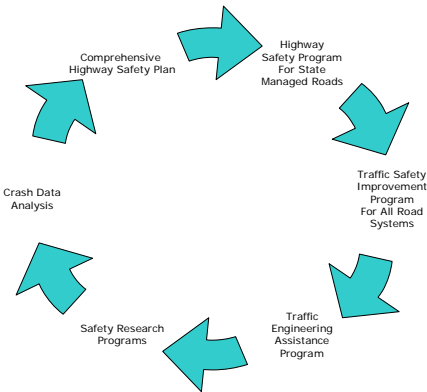
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## What our team does?



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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



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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

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Traffic Safety Improvement Program

- This program is for all highways in Iowa
- This program was established by the Iowa Legislature in 1987
- Sets aside ½% 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

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### 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.

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### 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

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### 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

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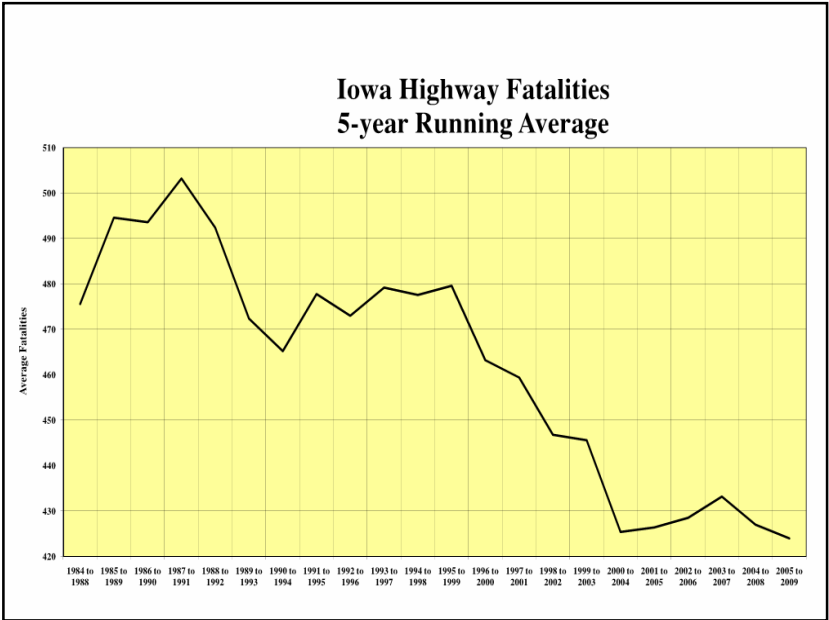
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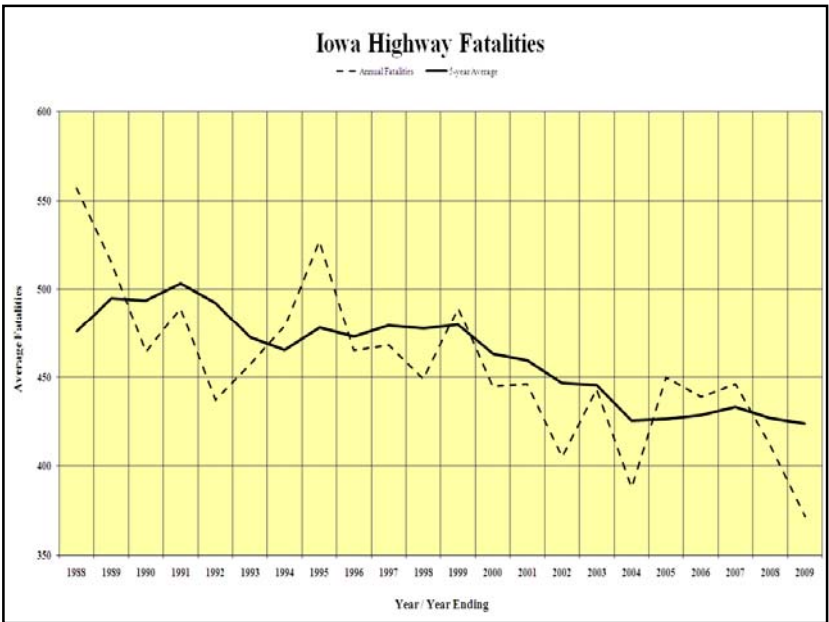
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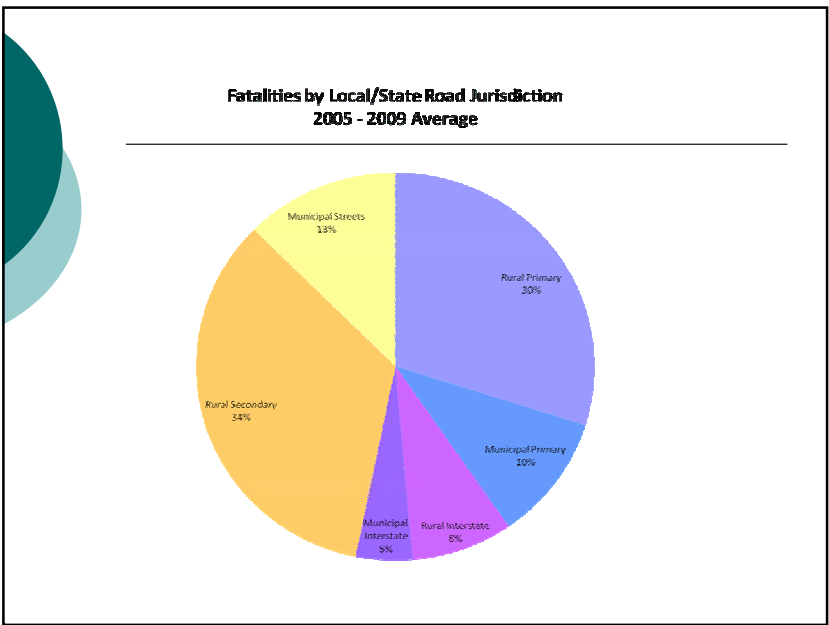
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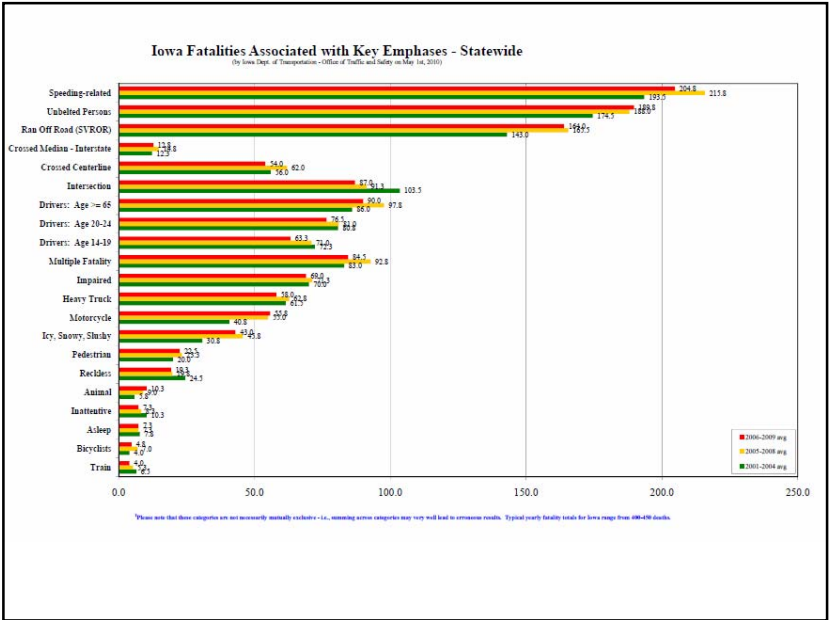
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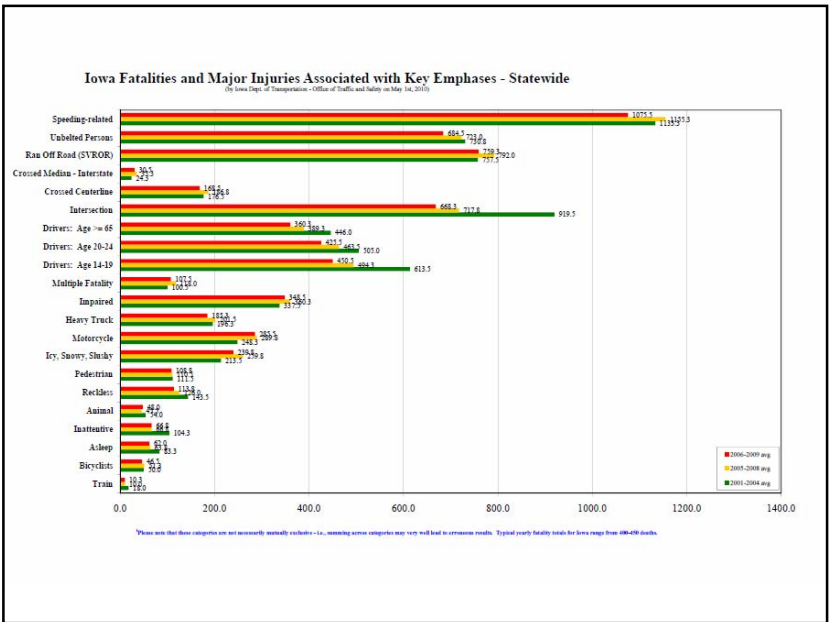
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Recent Safety Developments

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## Median Cable Barrier



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## Paved Shoulders with Rumble Strips or Rumble Strips



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## 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.



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Centerline Rumble Stripe



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THE J-TURN INTERSECTION



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CHSP Program Initiatives



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## CHSP Program Initiatives

- Sweet Ride Contest promotes safe driving habits to teens
- Alternative ways to change the culture



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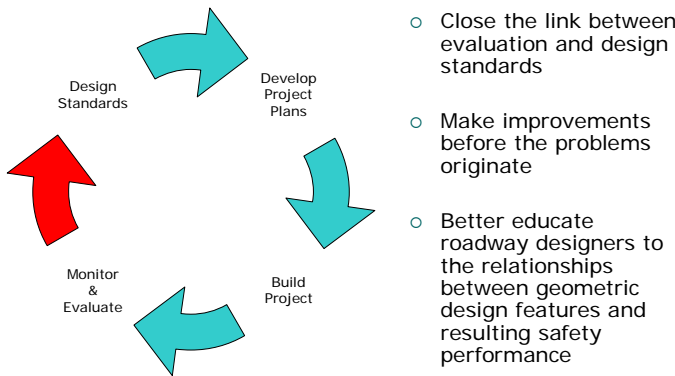
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## Personal Interests in Highway Safety



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## Personal Interests in Highway Safety

- 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.

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