Practical Safety Solutions

Maine Turnpike Authority

Determining the what and where of the “problem”.

- Regularly review data to determine “High Crash Locations” in our periodic “Safety and Capacity Study.”
- Annual review of crash data to determine changes in these locations between studies, or for early detection of “problem areas”.
- Actual Review of reports, including narrative information on crashes in identified areas.
- Use of “institutional knowledge” and feed-back from the field (Highway Maintenance, State Police, TMC Personnel) provides information on crash specifics.

Maine Crash Reporting System

- The MTA has access to the Maine Crash Reporting System Database.
- Ability to generate large reports based on whole or partial group data.
- Ability to review individual reports, including diagrams.
- Ability to read crash narratives is critical.

Data – Maine Turnpike

- CAD data - The Turnpike maintains its own Computer Aided Dispatch system in which all events are logged.
- Excellent resource for pulling crash data with identifying features not obtained through State System – especially location.
- Includes “Non-Reportable Crash” data.

What does the data show?

- The Nature of Serious Crashes – The majority of serious crashes on the Maine Turnpike fit generally into the category of “Lane Departure Crashes” and more specifically into the category of “Run Off Road Crashes.” Either through loss of controlled driving, inattention or impairment a motorist leaves the paved portion of the roadway and strikes a fixed object.

Lane Departure Data – State of Maine

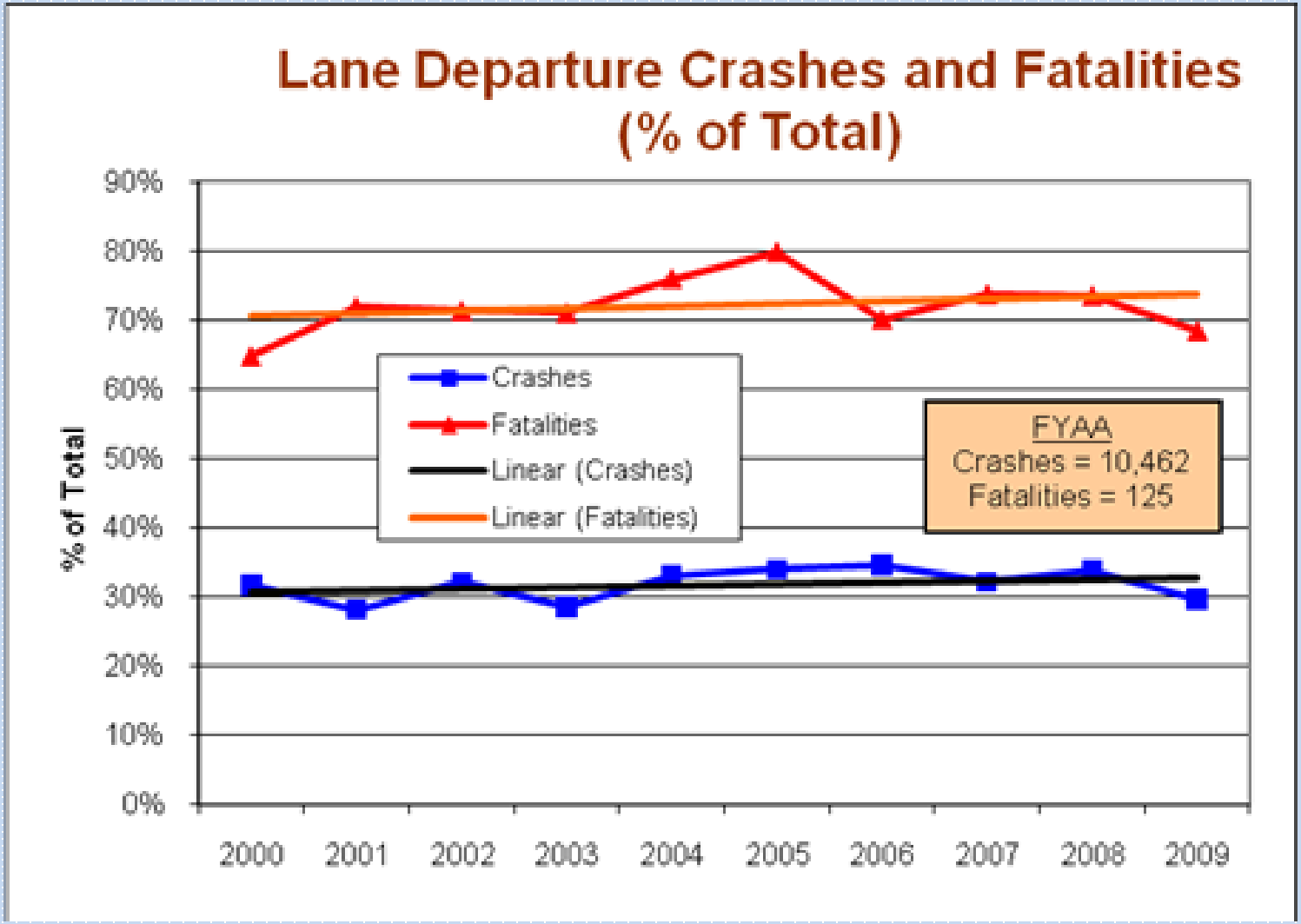
Consequences are typically severe, whether the errant vehicle collides head on with an oncoming vehicle or slams into a fixed object, rolls over or has some other impact.

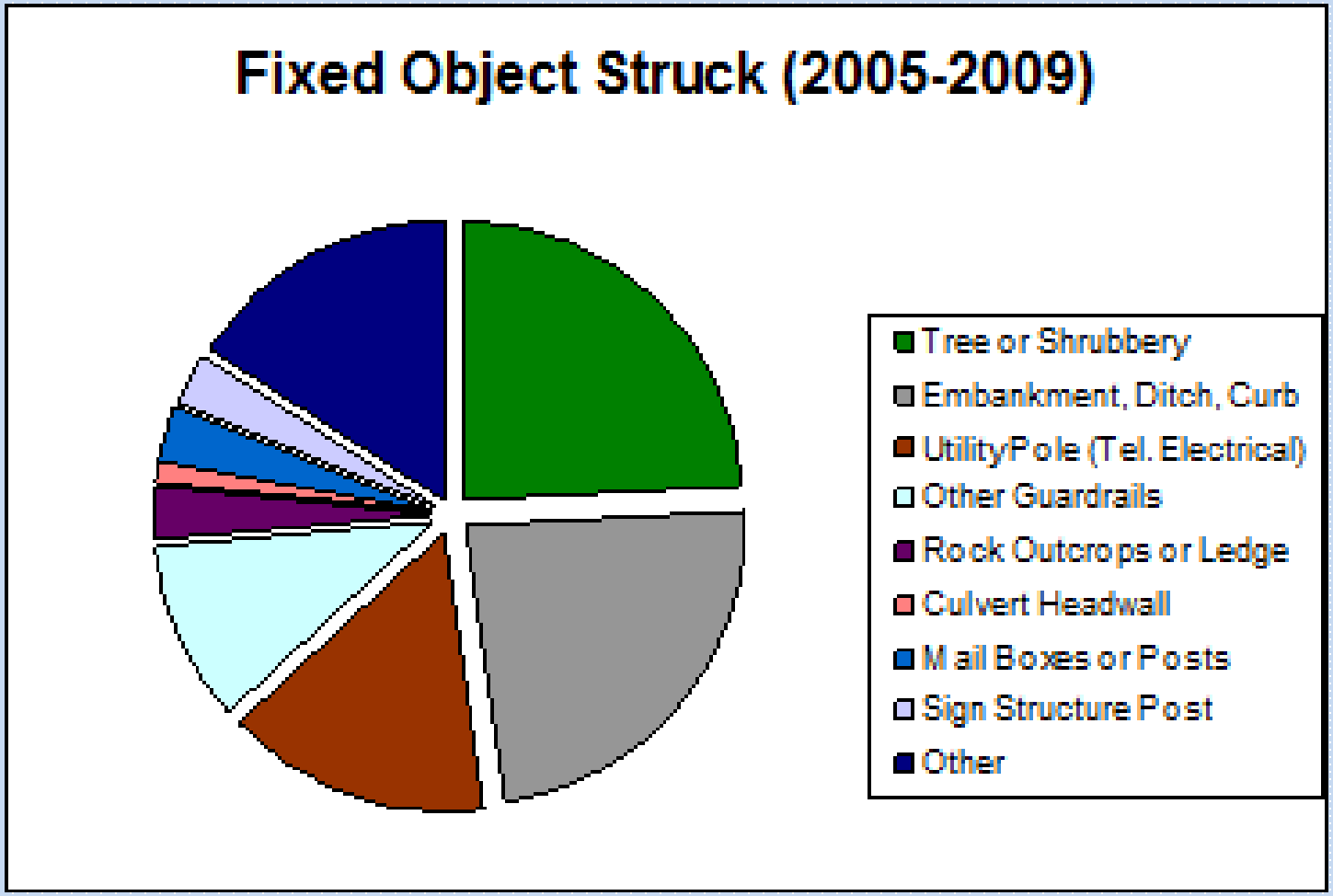
Lane Departure is Maine's most frequent fatal crash type.

- Lane Departure (LD) crashes account for 33% of Maine's crash total Weather plays a role in Maine's Lane Departure crashes – 4,600 crashes a year resulting in an average of 14 fatalities occurred on wintry road surfaces; 1,375 crashes resulting in 18 fatalities on wet roads.
- Most fatalities did NOT occur on major or interstate highways. 57% of Lane Departure fatalities occurred on these secondary road classes: major collectors (23%), minor collectors (12%) and local roads (22%).

- <u>Run Off Road</u>
- With 114 fatalities in 2009, this is Maine's leading fatal crash type (71% of the total).
- This crash usually occurs when a vehicle strikes a fixed object, such as a pole, tree, ditch or ledge.

Lethality of Lane Departure Crashes




Fixed Object Struck (2005-2009)
Tree or Shrubbery
Embankment, Ditch, Curb
Utility Pole (Tel. Electrical)
Other Guardrails
Rock Outcrops or Ledge
Culvert Headwall
Mail Boxes or Posts
Sign Structure Post
Other

Determining Locations for Intervention

- High Crash Locations.
- Part of Regular Capital Improvements or maintenance.
- Review of Crash Data Annually.
- Immediate review of Fatal/Serious crashes including survey of the scene.
- Some Improvements are system wide.

Categories of Improvements

- Prevention – Improvements to the roadway to prevent loss of control or to prevent vehicle from leaving the roadway.
- Mitigation - Improvements to roadway and surroundings that decrease the lethality of crashes – Close the gap between frequency and severity.

System Wide Improvements

Preventative : Addition of Reflective Tape for increased visibility, especially in low light and wet conditions.

- Supplemental to painting.
- In last couple of years multiple formats have been installed and compared.
- Cost per mile for 3’ skip lines is $1144 for two lane section and $2288 for three lane.

Performance of Different Patterns

Expanded Shoulder Clearing

Maine is most heavily forested state in Nation.

Trees + Vehicles = Bad

Major Benefits:

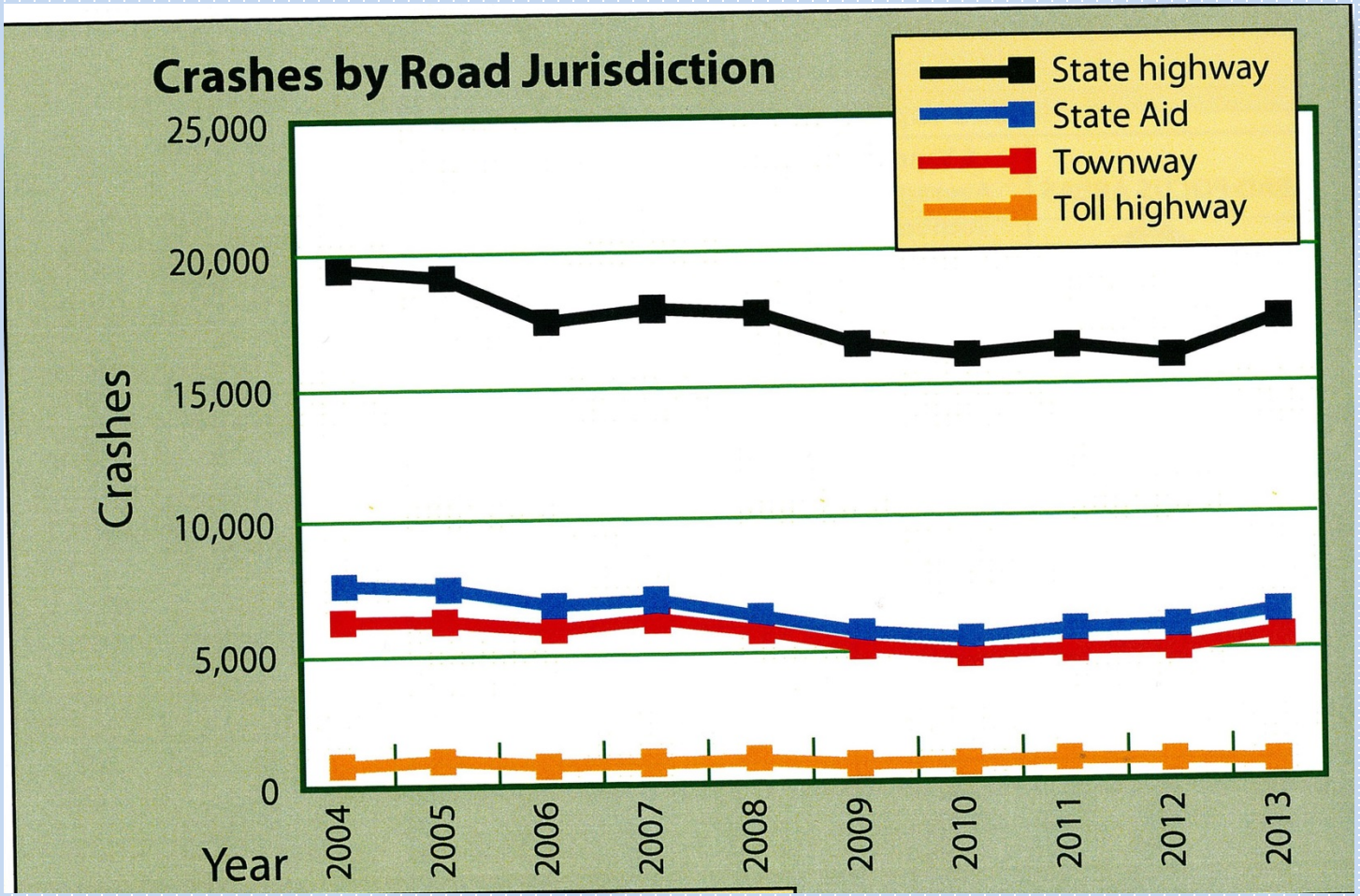
1. Fewer Deadly Fixed Objects.
2. Less Shade Means Less Ice and Salt.
3. Better Visibility Means Fewer Crashes with Moose and Deer.

Cost:

- $246,000 for 12 miles N/B & S/B

Expanded Clearing Project

Safety Payoff?



Safety Data, Maine Turnpike v. Other Maine Roads