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TENNESSEE'S STRATEGIC HIGHWAY SAFETY PLAN (SHSP)

SAFETY EDGE

TENNESSEE
Strategic Highway
SAFETY PLAN

— ★ 2014 ★ —

Driving Down Fatalities

SHSP'S GOAL

- Reduce the number and rate of Fatalities and Serious Injuries on all roads in TN

Figure 9 - Fatalities Percent of Total by Contributing Factor (2008-2012)

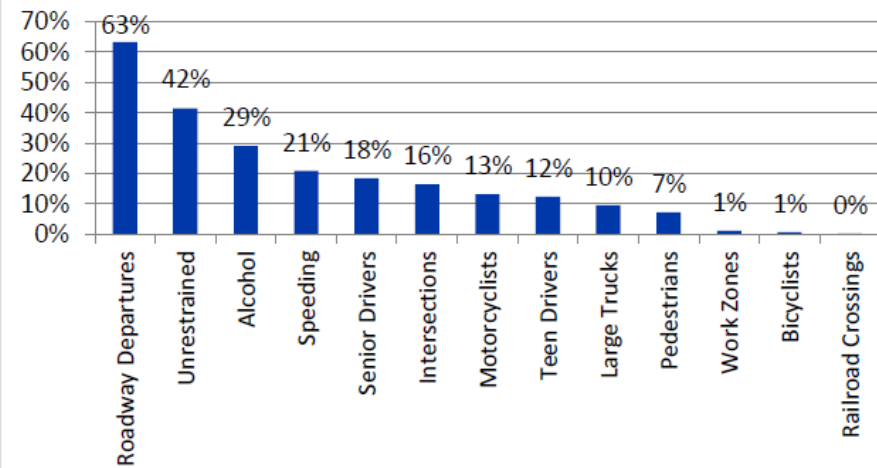
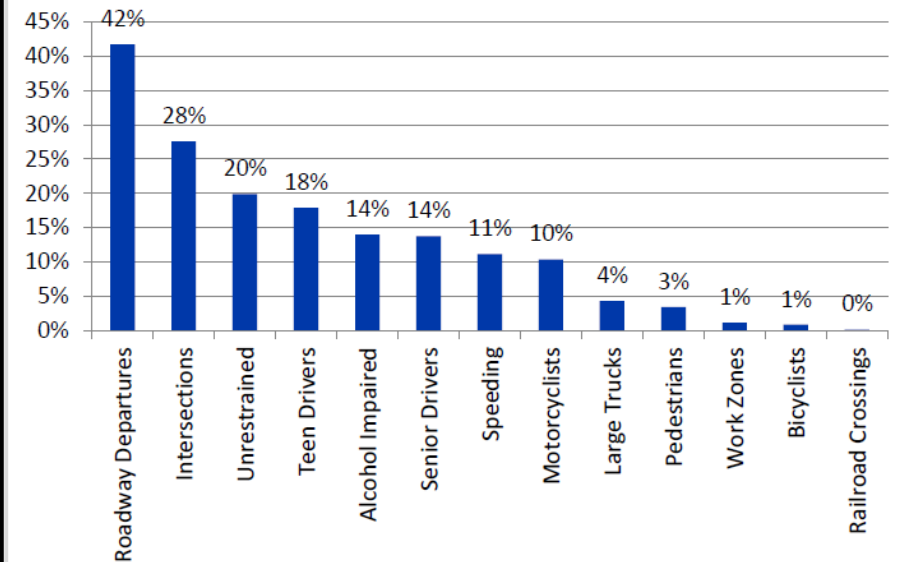


Figure 10 - Serious Injuries Percent of Total by Contributing Factor (2008-2012)



ROADWAY DEPARTURE CRASHES

- Roadway Departure type crashes account for ~60% of all fatalities in Tennessee (50% nationally)
 - Occurs when a driver loses control of their vehicle and departs the travel lane resulting in the vehicle colliding with either a fixed object or another vehicle.

SHSP

- Safety Edge and Lane-departure type crashes.



30°

SAFETY EDGE AND LANE-DEPARTURES

- A vertical edge can make it difficult for a driver to safely re-enter the travel lane. The **Safety Edge** is a solution to allow driver to re-enter the road safely.
- Installation of the Safety Edge is a standard for TDOT (non micro-surface)



EMPHASIS AREAS

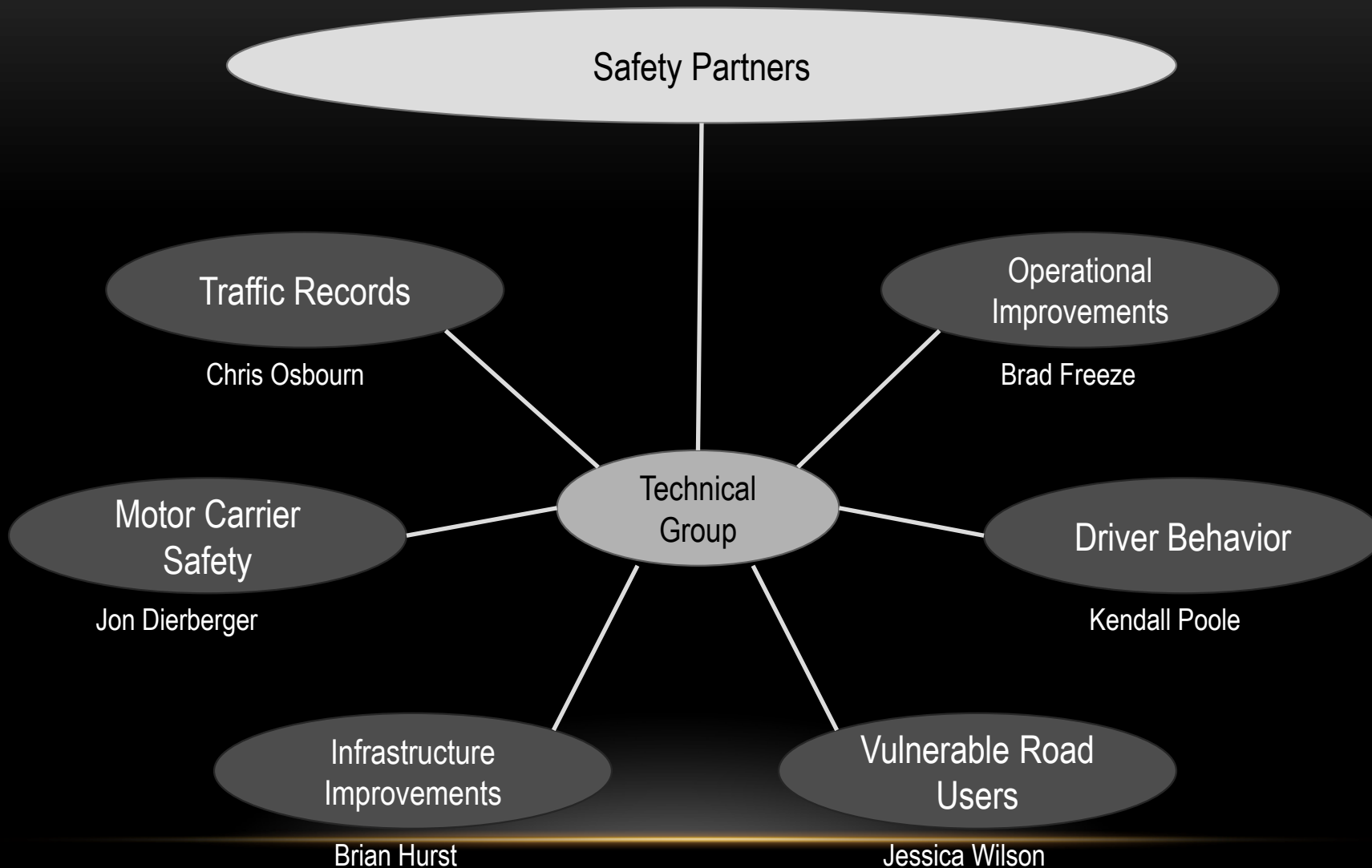
Current Emphasis Areas

- Crash Data
- Lane Departures
- Intersections
- Work Zone Safety
- Motor Carrier Safety
- Driver Behavior
- Legislation
- Educational and Awareness Programs

Suggested Emphasis Areas

- Traffic Records
 - Crash
 - Drivers License
 - Vehicle Registration
- Motor Carrier Safety
- Infrastructure Improvements
 - Intersections
 - Lane Departure
 - R.R. Crossings
- Vulnerable Road Users
 - Bike/Pedestrian
 - Motorcycles
- Driver Behavior
- Operational Improvements
 - Incident Management
 - Work Zone Safety
 - Congestion Management

Organizational Structure and Emphasis Area Teams



Strategy/Countermeasure Example

Infrastructure Improvements Emphasis Area Plan

Strategy 2 - Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.

2.1 **Road Safety Audits (RSAs)** – Identify and review intersections at local and state routes with disproportionate occurrences of fatal and injury crashes. Fund and prioritize such intersections based on the number and severity of these crashes; and develop plans to reduce conflicts in traffic flow by improving geometry, traffic control, roadway lighting, pedestrian accommodations and other appropriate measures.



2.2 **Intersection Action Plan** – Identify and review stop-controlled and yield-controlled intersections on a state route with four or more crashes within a three year time period, and develop plans to improve intersection signing and pavement marking and to install object delineation.



2.3 **Spot Safety Program** – Initiate safety studies by regional TDOT Traffic Engineers of state route intersections located within cities or towns with populations of less than 50,000. Develop limited-cost safety projects for eligible sites to install a traffic signal, fix a sight distance problem, add turn lanes with or without a traffic signal, install a flashing beacon or install school flashing signals.



2.4 **Partial Cloverleaf Safety Initiative** – Identify and review such interstate, freeway and expressway interchanges where the entrance and exit ramps are in close proximity which could result in wrong way movements onto the mainline facility. Develop plans to include skip line and arrow pavement markings, Do Not Enter and Wrong Way signs with red reflective posts, and roadway directional signs to address these deficiencies.



2.5 **Wrong Way Vehicle Detection Initiative** – Identify interchange exit ramp locations with a history of wrong way vehicle entries and apply Intelligent Transportation System (ITS) solutions to detect wrong way vehicles and to use this information to flash wrong way signs, to change dynamic message signs (DMS) to warn oncoming traffic of the presence of a wrong way vehicle, and to notify law enforcement of such a vehicle.



2.6 Incorporate countermeasures from intersection safety programs into the TDOT Traffic Design Manual and TDOT Roadway Design Standard Drawings, as appropriate.



Strategy 3 - Reduce the likelihood of conflict between trains and vehicles at railroad crossings with improvements to geometry, traffic control and visibility.

3.1 **Section 130 Program** – Review and select railroad crossing safety projects based on crash prediction models which consider past crash experiences, number of trains, train speeds and number of cars at crossing sites. Develop project proposals which may include flashing lights, gates, warning time adjustments, geometric improvements, signing, pavement markings and other safety measures at crossing sites.



3.2 **23 CFR 646 Investigations** – Review and make recommendations for any highway-railroad crossing within the limits or near the terminus of any federal-aid new or reconstruction highway project. Recommendations to such projects may include railroad-related signing and pavement markings, flashing lights, gates, warning time adjustments, geometric improvements and other railroad crossing safety measures.



STRATEGIC HIGHWAY SAFETY PLAN (SHSP) 2013 UPDATE

MAKING TENNESSEE'S HIGHWAYS SAFER