FHWA Safety Updates

By

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ITE Winter Meeting

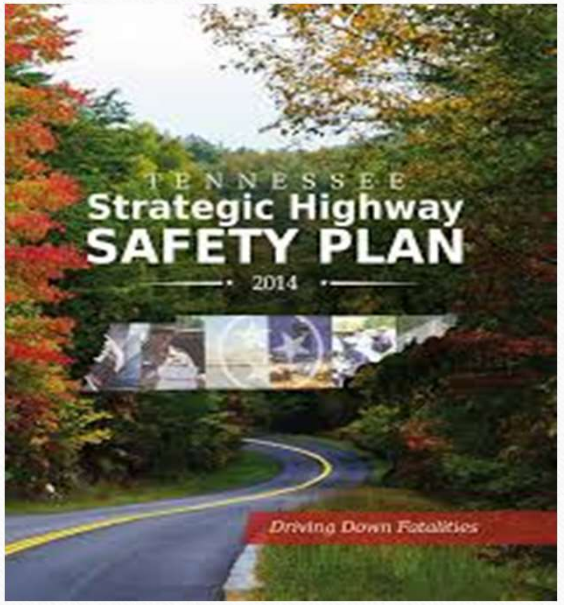
February 27, 2018

Overview

- Strategic Highway Safety Plan Update
- Safety Performance Measures
- Proven Safety Countermeasures
- Every Day Counts Update
  - Data Driven Safety Analysis
  - Safe Transportation for Every Pedestrian (STEP)
- Professional Development Program (PDP)

Strategic Highway Safety Plan (SHSP)

- Updated Every 5 Years
- Requirement of the Highway Safety Improvement Program
- Multi-disciplined approach
- Six Emphasis Areas in Tennessee



SHSP Emphasis Areas

- **Infrastructure Improvements**
  - Roadway Departures
  - Intersections
  - Railroad Crossings
  - Other Infrastructure Considerations
- **Driver Behavior**
  - Occupant Protection
  - Teen Drivers
  - Senior Drivers
  - Alcohol-Impaired Driving
  - Distracted Driving
  - Aggressive Driving
- **Data Collection and Analysis**
  - Traffic Records
  - Supplemental Data
  - Work Zone Data
- **Vulnerable Road Users**
  - Bicyclists & Pedestrians
  - Motorcyclists
  - Senior Drivers
- **Operational Improvements**
  - Work Zone Safety
  - Incident Management
- **Motor Vehicle Carrier Safety**

SHSP Update

- **Current Progress**
  - Data gathering and analysis
  - Development of statistics
  - Research of current strategies and countermeasures
- **Next Steps**
  - Development of data sheets
  - Release of analysis findings
  - Determination of Emphasis Areas
  - Safety Performance Measures

Safety Performance Measures

- Number of Fatalities
- Fatality Rate
- Number of Serious Injuries
- Serious Injury Rate
- Number of Non-motorized fatalities and serious injuries

Safety Performance Targets

- Targets are proposed annually.
  - 1st cycle – Targets 2014 – 2018 / Baseline is 2012 – 2016 (Set in 2017)
  - 2nd cycle – Targets 2015 – 2019 / Baseline is 2013 – 2017 (Set in 2018)
  - **3rd cycle – Targets 2016 – 2020 / Baseline is 2014 – 2018 (Current)**

Progress So Far…

Performance Measures	5 Year Rolling Averages			Target Achieved?	Better than Baseline?	Met or Made Significant Progress?
	TARGET	ACTUAL	BASELINE			
	2014-2018	2014-2018	2012-2016			
Number of Fatalities	1,021.4	**1006.6**	994.4	Yes	No	**Yes***
Fatality Rate	1.337	**1.308**	1.352	Yes	Yes	
Number of Serious Injuries	7,630.8	**6,988.2**	7,227.6	Yes	Yes	
Serious Injury Rate	9.982	**9.076**	9.594	Yes	Yes	
Number of Non-motorized Fatalities and Serious Injuries	493.2	**498**	467.4	No	No	

FHWA Proven Safety Countermeasures

- Started in 2008, updated in 2012 and 2017
- PSC*i* Version 3.0
  - **Reduced Left-Turn Conflict Intersections**
  - **Systemic Application of Countermeasures at Stop-Controlled Intersections**
  - **Roadside Design Improvements at Curves**
  - **Leading Pedestrian Intervals**
  - **Local Road Safety Plans**
  - **USLIMITS2**

Reduced Left-Turn Conflict Intersections

Median U-Turn (MUT)

- Reduces number of conflict points by 50%
- 30% decrease fatal and injury crashes.
- 16% decrease all crashes.

Source: FHWA-SA-14-069


WEST
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EAST
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INTERSTATE
15

Reduced Left-Turn Conflict Intersections

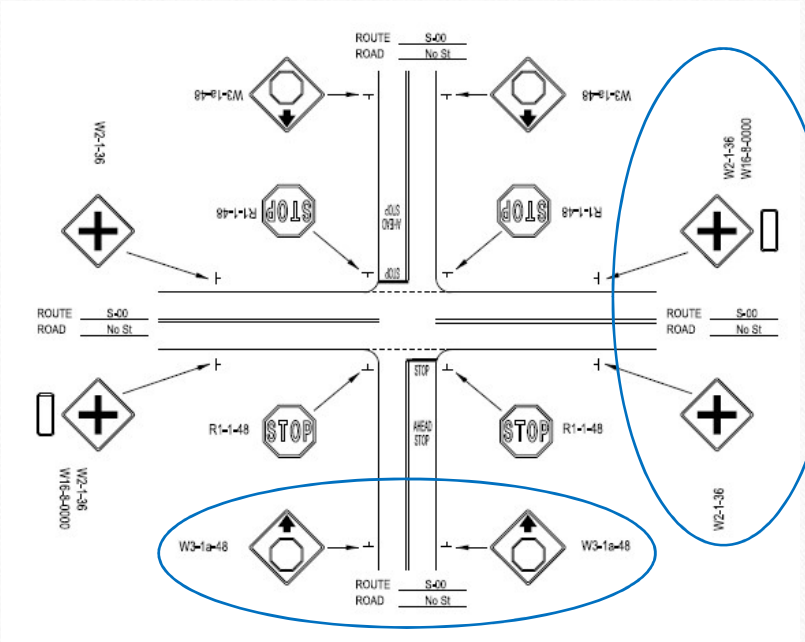
Restricted Crossing U-Turn (RCUT)

- Reduces the number of conflict points from 32 to 14
- 54% decrease fatal and injury crashes
- 35% decrease all crashes

Source: Wisconsin DOT

Source: FHWA

Systemic Approach for Stop Intersections



New PSC*i* – Roadway Departure

Roadside Design Improvements at Curves

- Increase **clear zone** at curves.
  - Recommended by AASHTO RDG.
  - Proven to reduce crashes.
- Improve **traversability**.
  - Adding or widening shoulders in curves.
  - Flatter slopes at curves than in tangent sections.
- Reconsider when to install **barrier**
  - Reduce severity.

New PSC*i* – Pedestrians & Bicycles

Leading Pedestrian Interval

- Pedestrians get "WALK" signal before vehicles get green light.
- Provides pedestrians a 3-7 second head start before vehicles are given a green indication.
- Allows pedestrians to establish presence in crosswalk before vehicles have priority to turn left.

New PSC*i* – Crosscutting Strategies

Local Road Safety Plans (LRSP)

- A coordinated plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on local roads within a specific jurisdiction.
- Flexible and utilizes the 4 E's as appropriate to establish and gain support for an agency's local safety goals, objectives, and key emphasis areas.

USLIMITS2

- Free and easy to use web tool for setting speed limits objectively.
- Considers all of the factors including pedestrian activity, crash history, roadside hazards, and access density
- Helps set consistent speed limits for similar conditions and that could help drivers' acceptance of and compliance with speed limits

www.safety.fhwa.dot.gov/uslimits

USLIMITS2 – Input

- State/City/County
- Route Name/Termini
- Project Description
- 85th and 50th Percentile Speeds
- Length of Section
- AADT
- Adverse Alignment
- Posted Speed Limit
- Crash Data
- One-way street
- Divided or Undivided Highway
- Number of Lanes
- Area Type
- Number of Driveways or unsignalized points
- Number of signals
- On street parking
- Bike/Ped activity

PSC*i* – Available Resources

http://safety.fhwa.dot.gov/provencountermeasures

Every Day Counts (EDC)

- Data Driven Safety Analysis
- Safe Transportation for Every Pedestrian

Data Driven Safety Analysis

- Using tools to analyze crash and roadway data to predict the safety impacts of highway projects allows agencies to target investments with more confidence and reduce severe crashes on the roadways.

- Predictive Analysis
- Systemic Analysis

DDSA Activities

- HSM Peer Exchanges
  - Kentucky DOT
  - North Carolina DOT
  - Virginia DOT
- HSM Implementation Plan
- TDOT Research Projects
  - Evaluation of Safety Projects using the HSM
  - Development of Safety Performance Functions on Rural Roadways

Safe Transportation for Every Pedestrian

- **Road Diets**
- **Pedestrian hybrid beacons** (PHBs)
- **Pedestrian refuge islands**
- **Raised crosswalks**
- **Crosswalk visibility enhancements**

Safe Transportation for Every Pedestrian

- STEP Implementation Plan
- STEP Peer Exchange
  - OKC
  - Arkansas
    - Memphis
    - Nashville
- Road Diets Policy
- RSAs for Pedestrian Safety Projects
  - Nashville
  - Memphis
  - Chattanooga

Professional Development Program

Requirements:

- Have received an accredited degree in engineering.
- Be a recent graduate: within the past two (2) years or six (6) years for Veterans.
- Be mobile.
- Submit an application in USAJOBS, when the announcement is posted and open by the closing date.

Contact Information

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