Roadway Departure Focus State Initiative
Roadside Safety Systems
Inspection, Maintenance & Designers’ Mentoring Program
Why worry about the roadside?

18,586 deaths per year in the USA
Annual U.S. Fatalities and Rwd Fatalities

Rwd Fatalities by MHE (FARS 2010-2013)

- Rollover/Overtun: 5,285 (28%)
- Opposing Direction: 4,570 (25%)
- Trees, Shrubs: 3,508 (19%)
- Signs, Poles, Signals: 1,180 (19%)
- Other Fixed Object: 1,452 (9%)
- Barriers: 967 (5%)
- Roadside Topography: 876 (5%)
- Other: 748 (4%)
Goal: Reduce national roadway departure fatalities by a minimum of 500 per year from the existing 17,000 per year to 8,500 per year by the year 2030.
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Reduce national roadway departure fatalities by a minimum of 500 per year from the existing 17,000 per year to 8,500 per year by the year 2030.

Fact: Roadside hardware installation & maintenance makes a difference.
Generally Accepted Practice for Crash Testing Roadside Hardware – AASHTO MASH
Generally Accepted Practice for Crash Testing Roadside Hardware – AASHTO MASH
Blunt Ends

Blunt End Impact  No Crash Cushion
Generally Accepted Practice for Crash Testing Roadside Hardware – AASHTO MASH
• **policies and procedures** to evaluate the selection of roadside safety hardware relative to the roadway type, configuration and terrain;

• **proper installation & maintenance**; and periodically evaluate its in-service condition.
Existing conditions on U.S. Highways
Existing conditions on U.S. Highways
Common Installation Issues
Common Installation Issues
Blunt Ends
Defining the Problem

Every 30 minutes

1 roadway departure fatality

On an average day

48 people die in roadway departure crashes
What tools do we currently have to help?
Objective 1:
Keep vehicles on the roadway, in their appropriate directional lane.

Strategies to achieve this objective include:

- Improved curve delineation;
- Advance Dynamic Speed Feedback signs for curves;
- Friction treatments in curves and other spot locations; and
- Center line, edge line and shoulder rumble strips.
Objective 2: Reduce the potential for crashes when vehicles do leave the roadway or cross into opposing traffic lanes.

Strategies to achieve this objective include:

- The Safety Edge℠ for all paving projects;
- Improved and maintained clear zones;
- Traversable roadside slopes; and
- Increased Separation between Opposing Lanes, particularly in curves.
Objective 3:
Minimize the severity of crashes that do occur.

Strategies to achieve this objective include:

- Design, selection and placement of barriers to prevent rollovers;
- Design and placement of barriers in medians;
- Use of barriers to shield the roadside trees and other hazards; and,
- Improvement of other roadside safety hardware.
To improve Roadway Departure safety through the following:

- Proper selection and design of barriers, terminals and crash cushions.
- Correct installation of these features.
- Maintenance and repair of damaged features.
Why This Program?
State DOT Strategic Highway Safety Plan

- Roadway Departure Module that addresses countermeasures to reduce Roadway Departure Fatalities in the state
1. Provides the skills needed to design, install and maintain effective barrier systems.
2. Supports Strategic Highway Safety Plan (SHSP) by reducing the severity of run-off-road crashes.
3. Fosters a roadway departure safety culture in both highway designers and construction inspectors.
4. Provides the materials for the state to continue the training on a regular basis.
How does it Work?

• By offering the tools for the State DOTs to provide their personnel and contractors with the appropriate information needed to ensure optimal barrier installations.

• Using the team’s expertise to review and/or assist in establishing state-of-the-art practices to enhance roadway departure safety.
What is Required?

- **State contact** – A committed leader that can coordinate and establish a team consisting of engineers, inspectors and maintenance personnel to review and comment on the materials and participate in conference calls.

- **FHWA Division Office representative** – To participate and be a member of the team.

- **State Legal Contact** – To review the liability issues involving the installation and repair of guardrails.
What is Required?

– **Training Facility** – To secure a training location to accommodate expected number of participants and manufacturers’ exhibit space.

– **State Materials** – Crash data, State Standards, Specifications, Construction details, list of State approved systems and a list of state’s barrier contractors.

– **Other** – State specific areas of concerns, problem areas, new areas, etc.
Project Deliverables?

Designer Training
Inspection and Maintenance Training
Technical Briefs (5 topics)
Roadside Safety Pocket Guide
Resource Charts
Roadside Design Guide

4th Edition 2011

American Association of State Highway and Transportation Officials

Safe Roads for a Safer Future
Investment in roadway safety saves lives

http://safety.fhwa.dot.gov
This is a one-day training session.

Target audience includes State and local government personnel and consultants having direct responsibilities for selecting and designing traffic barriers, including end terminals and transitions, and crash cushions.
The course material consists of six sessions presented in PowerPoint, with photos and crash video clips and a workshop session. All references are State specific and utilize State standards, specifications and Design Manual.
# Roadside Safety Systems Designer Training

## Course Topics

- **Session One** – Defining the Problem, Describing Testing Requirements, and Pre-training Assessment.
- **Session Two** – Describing the Performance Characteristics of Common Barrier Systems.
- **Session Three** – Describing the Performance Characteristics of Common Terminals and Crash Cushions.

## Course Topics (cont’d)

- **Session Four** – Examining Barrier Guidelines.
- **Session Five** – Design Considerations.
- **Session Six** – Workshop/Post-training Review/Course Evaluation.
Roadside Safety System Inspection and Maintenance Training

- This is a two-day training session
- Target audience includes all levels of government, contractors, maintenance personnel, and inspectors having direct responsibilities for installing, maintaining, or inspecting traffic barriers, including end terminals and transitions, and crash cushions.
The course material consisted of 7 sessions presented in PowerPoint, with photos and crash video clips. All references are *State specific* and utilize the State’s standards, specifications & Design Manual w/objectives:

**Objectives of Course**

At the end of this 2-day training you will be able to:

- Identify when a traffic barrier is the best treatment to use at a specific site.
- Select a barrier that will adequately shield the identified hazard.
- Assess the topography of the site to ensure an optimal installation.
- Compare manufacturers’ safety hardware products.

**Objectives of Course (Cont’d)**

At the end of this 2-day training you will be able to:

- Inspect completed work and correct potential shortcomings
- Maintain various guardrail and terminal systems
Course Topics

- Session One – Introduction
- Session Two – Testing Requirements and Performance Characteristics of Common Barrier Systems
- Session Three – Testing Requirements and Performance Characteristics of Common Terminals and Crash Cushions
- Session Four – Guardrail Design and Site-specific Installation Considerations

Course Topics (cont’d)

- Session Five – Installation Considerations
- Session Six – Guardrail/Terminal Installation and Common Errors
- Session Seven – Maintenance of Systems
The safety hardware manufacturers make presentations on products used in the participating State, and participants are given hands-on familiarity with selected products on-site.
State Input

- **What?** – are state problems/areas of concern that they would like the trainings to address.
- **Legal Issues** – how does state want to handle liability topics?
- **Products** – products on the state qualified approved list.
- **When?** – Training sessions usually held back-to-back.
- **Where?** – Facility needs adequate space for the indoor/outdoor displays.
State Training Tools

Roadside Safety Systems Installer Mentor and Guardrail Installer Training

Participant Notebook

January 19-20, 2012

All materials used to present & facilitate the training will be packaged for the State.

Roadside Safety Systems Toolkit

Safe Roads for a Safer Future
Investment in roadway safety saves lives
http://safety.fhwa.dot.gov
Technical Briefs (5)

- Expand knowledge of the state-of-the-practice in Roadside Safety, for Design, Installation, and/or Maintenance.
- Provide summary information on topics selected by participating State to improve roadside safety.
- Can be used to fill existing gaps within existing state specifications.
Technical Briefs (5)

• Briefs are categorized:
  – Design-related Topics
  – Maintenance-related Topics
  – Installation-related Topics

• Brief layout will contain:
  – Issue
  – Objectives
  – Methodology
  – Process
Existing Technical Briefs Developed

1. Pre-Installation Field Review Check List. (2)
2. Pre-Installation Field Review.
5. Roadside Safety System Damage Assessment
7. MGS Guardrail System.
8. Use of Guardrail with Curbs
Existing Technical Briefs Developed

9. In-service Evaluation of Roadside Safety Features
10. Selection and Grading of W-beam End Treatments (2).
11. Transitioning W-beam Guardrail to Existing Bridge Rails.
12. Maintenance of High Tension Cable Barrier
13. Damaged Roadside Hardware: Repair or Upgrade?
14. Drive-by Inspection of Safety Hardware
Roadside Safety Pocket Guide

This is State specific guide and is designed to be used by field personnel involved in:

- selecting
- designing
- installing
- inspecting
- maintaining
roadside safety hardware.
Some of the areas covered in the guide are:

- Guardrail Basics
- Clear Zone
- Types of Barrier
- Length of Need
- Types of Terminals and Crash Cushions
- Maintenance
These charts have been developed as:

- National guidance.
- A resource or a quick guide for identifying and selecting various safety systems eligible for Federal reimbursement.
- Photos of existing in-service systems correctly installed.

http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/resourceCharts/
Resource Charts

Charts developed to date:

– Wok Zone Barrier – Steel
– Cast-In-Place Concrete Barriers
– Aesthetic Barriers
– Roadside Post and Beam Rail Element
– Cable Barriers
– Roadside Terminals
– Median Terminals
– Crash Cushions
## Cable Barriers

*Systems can be installed on 1V:6H and 1V:4H slopes, but cable configuration and offsets from the roadway edge and from the ditch bottom must be in accordance with test results and manufacturers' recommendations.*

<table>
<thead>
<tr>
<th>NAME</th>
<th>MANUFACTURER</th>
<th>TEST LEVEL</th>
<th>POST TYPE</th>
<th>CABLE</th>
<th>DISTINGUISHING CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generic Weak-post Cable Guardrail (Low Tension)</td>
<td>Generic</td>
<td>3</td>
<td>I-Beam Post&lt;br&gt;Flanged steel U-Channel Post&lt;br&gt;Weakened rounded Timber Posts</td>
<td>3 cable configuration.&lt;br&gt;Cables placed on one side of post; the side closer to the road - Roadside Application. Two cables are placed on one side of the post and the other cable is placed on the opposite side - Median Application.</td>
<td>Cables are attached with hook bolts.&lt;br&gt;Uses a crushworthy generic terminal. Typical Post Spacing 4 ft to 16 ft.</td>
</tr>
<tr>
<td>Britten Wire Rope Safety Fence [WRSF]</td>
<td>Britten</td>
<td>3 and 4</td>
<td>Z Shaped Posts</td>
<td>3 and 4 cable configuration.&lt;br&gt;Interweaving of cables between adjacent post.</td>
<td>Top cable is placed in a slot at the center of the post. Other 2 or 3 cables are woven around post. Uses proprietary terminal. Posts can be driven or sockets. Typical Post spacing 10.5 ft to 21 ft.</td>
</tr>
<tr>
<td>Glorater</td>
<td>Glorater</td>
<td>3 and 4</td>
<td>C-Channel Posts</td>
<td>3 and 4 cable configuration.&lt;br&gt;Pre-stretched or Non-pre-stretched.</td>
<td>Cables are attached using a single steel hair pin. Posts are placed such that adjacent post are on opposite sides of the cable. Uses proprietary terminal. Posts can be driven or sockets. Typical Post spacing 10 ft to 30 ft.</td>
</tr>
<tr>
<td>NuCor Steel Marion Cable Barrier System</td>
<td>NuCor Steel Marion</td>
<td>3 and 4</td>
<td>U Channel Posts</td>
<td>3 and 4 cable configuration.&lt;br&gt;Pre-stretched or Non-pre-stretched.</td>
<td>Cables are attached using locking hook bolts or hook bolts and a strap. 2 of 4 cable are placed on one side of post and the other two are placed on the opposite side. Uses proprietary terminal. Posts can be driven or sockets. Typical Post spacing 6.6 ft to 20 ft.</td>
</tr>
<tr>
<td>Safence</td>
<td>Gregory Highway Products</td>
<td>3 and 4</td>
<td>C-shaped Posts</td>
<td>3 and 4 cable configuration.</td>
<td>Cables are inserted in a slot at the center of the post and separated by plastic spacers. Uses proprietary terminal. Posts can be driven or sockets. Typical Post spacing 6.5 ft to 33.2 ft.</td>
</tr>
<tr>
<td>CASS</td>
<td>Trinity Highway Products, LLC</td>
<td>3 and 4</td>
<td>C-shaped and I-Beam Post [53 &amp; 54]</td>
<td>3 and 4 cable configuration.&lt;br&gt;Pre-stretched or Non-pre-stretched configuration.</td>
<td>Cables are placed in a wave-shaped slot at the center of the post and separated by plastic spacers. Some versions also have cables that are supported on the flanges of the post. Uses proprietary terminal. Posts can be driven or sockets. Typical Post spacing 6.5 ft to 32.5 ft.</td>
</tr>
</tbody>
</table>
### Resource Charts

#### Roadside Terminals

<table>
<thead>
<tr>
<th>NAME</th>
<th>MANUFACTURER</th>
<th>PERFORMANCE CHARACTERISTICS</th>
<th>TEST LEVEL</th>
<th>FLARED</th>
<th>TANGENT</th>
<th>33-inch Height (optional)</th>
<th>DISTINGUISHING CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vermont GI-a</td>
<td>Generic</td>
<td>X</td>
<td>2</td>
<td>X</td>
<td></td>
<td></td>
<td>No impact head. Shop-bent w-beam 3 ft flare. Concrete anchor block with steel rod connecting at post 3.</td>
</tr>
<tr>
<td>Modified Eccentric Loader Terminal (MELT)</td>
<td>Generic</td>
<td>X</td>
<td>2</td>
<td>X</td>
<td></td>
<td></td>
<td>No impact head. Rail installed on parabolic curve. Strut between the steel tube foundation for the two end posts to act together to resist the cable loads. All wood posts. Built only where a reasonable runout area exists behind and downstream from the terminal. End of W-beam rail with offset of 4'-0&quot;.</td>
</tr>
<tr>
<td>Buried-in-Backslope Terminal</td>
<td>Generic</td>
<td>X</td>
<td>3</td>
<td>X</td>
<td></td>
<td></td>
<td>No impact head. Height of W-beam rail should be held constant in relation to the roadway shoulder elevation until barrier crosses the ditch bottom. Rubrail should be added below the W-beam. When the road transitions from a cut to a fill.</td>
</tr>
<tr>
<td>Eccentric Loader Terminal (ELT)</td>
<td>Generic</td>
<td>X</td>
<td>3</td>
<td>X</td>
<td></td>
<td></td>
<td>End consists of a fabricated steel weldment inside a section of corrugated steel pipe. Rail installed on parabolic curve. Strut between the steel tube foundation for the two end posts to act together to resist the cable loads. All wood posts. Installed only where a reasonable runout area exists behind and downstream from the terminal. End of W-beam rail with offset of 4'-0&quot;.</td>
</tr>
<tr>
<td>Slotted Rail Terminal (SRT-150)</td>
<td>Trinity Highway Products, LLC</td>
<td>X</td>
<td>3</td>
<td>X</td>
<td></td>
<td>X</td>
<td>No impact head. Longitudinal slots on W-beam rail element. Strut and cable anchor bracket between post 1 and 2 act together to resist the cable loads. Slot Guards on downstream end of slots. Steel and wood post options available. Parabolic flare on wood post. Straight line flare on all SYFP steel post version and HBA steel/wood post version. Installed only where a reasonable runout area exists behind and downstream from the terminal. End of W-beam rail with offset of 4'-0&quot;. Wood post option has 3'-0&quot; to 4'-0&quot; offset.</td>
</tr>
</tbody>
</table>
# Resource Charts

## Median Terminals

<table>
<thead>
<tr>
<th>NAME</th>
<th>MANUFACTURER</th>
<th>PERFORMANCE CHARACTERISTICS</th>
<th>TEST LEVEL</th>
<th>DISTINGUISHING CHARACTERISTICS</th>
<th>HOW IT WORKS</th>
<th>LOCATIONS CAN BE USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brakemaster 350</td>
<td>Energy Absorption Systems, Inc.</td>
<td>X</td>
<td>3</td>
<td>Steel posts are not embedded.</td>
<td>During head-on impacts, the system telescopes rearward, using friction technology to decelerate the vehicle.</td>
<td>Low frequency impact areas. In the median with 1-way or 2-way traffic.</td>
</tr>
<tr>
<td>Crash Cushion Attenuating Terminal (CAT 350)</td>
<td>Trinity Highway Products, LLC</td>
<td>X</td>
<td>3</td>
<td>Breakaway wood posts and a cable anchoring system.</td>
<td>During head-on impacts, the system telescopes rearward, shearing out rails between the slots to decelerate the vehicle.</td>
<td>Low frequency impact areas. Attached directly to a W-Beam median barrier, or to a Three-Beam median barrier using the standard W-Beam to Three-Beam transition section.</td>
</tr>
<tr>
<td>TREND 350 Median</td>
<td>Trinity Highway Products, LLC</td>
<td>X</td>
<td>3</td>
<td>Square impact face.</td>
<td>During head-on impacts the system telescopes rearward, using between the system rails and the deformation of the rails to decelerate the vehicle.</td>
<td>Low frequency impact areas. Attached directly to a W-Beam Median Barrier, or to a Three-Beam median barrier using the standard W-Beam to Three-Beam transition section.</td>
</tr>
<tr>
<td>FLEAT Median Terminal (FLEAT-MT)</td>
<td>Road Systems, Inc.</td>
<td>X</td>
<td>3</td>
<td>Two impact heads, two modified W-beam rails, standard W-beam rails, two breakaway cable anchor assemblies and weakened steel or wood posts.</td>
<td>During head-on impacts, the impact head translates down the rail, kinking the rail to decelerate the vehicle.</td>
<td>Low frequency impact areas. Attached directly to a W-Beam median barrier, or to a Three-Beam median barrier using the standard W-Beam to Three-Beam transition section.</td>
</tr>
</tbody>
</table>

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**Safe Roads for a Safer Future**

Investment in roadway safety saves lives

# Resource Charts

## Crash Cushions

**August 23, 2012**

<table>
<thead>
<tr>
<th>NAME</th>
<th>MANUFACTURER</th>
<th>PERFORMANCE CHARACTERISTICS</th>
<th>TEST LEVEL</th>
<th>DIMENSIONS</th>
<th>LOCATIONS</th>
<th>HOW IT WORKS</th>
<th>LOCATIONS CAN BE USED</th>
<th>MAINTENANCE CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEAT-SSCC Single Sided Crash Cushion</td>
<td>Road Systems, Inc.</td>
<td>X</td>
<td>TL3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Shoulder Protection</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mandrel section of the impact head bursts the tubing to absorb the impact energy.</td>
<td></td>
<td>Sacrificial</td>
</tr>
<tr>
<td>BEAT-SP Bridge Pier System</td>
<td>Road Systems, Inc.</td>
<td>X</td>
<td>TL3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Median protection at bridge piers.</td>
</tr>
<tr>
<td>Quadtrax</td>
<td>Energy Absorption Systems</td>
<td>X</td>
<td>TL3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Shoulder protection at the end of rigid barriers.</td>
</tr>
<tr>
<td>X-TEK Master</td>
<td>Barrier Systems, Inc.</td>
<td>X</td>
<td>TL3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Impact head has locking bar to lock cables into place. The friction between the cables and the impact head dissipates crash energy.</td>
</tr>
</tbody>
</table>


*[Image of BEAT-SSCC Single Sided Crash Cushion]*


*[Image of BEAT-SP Bridge Pier System]*

[http://www.energyabsorption.com/products/products_e/quadtrax100_end.jpg](http://www.energyabsorption.com/products/products_e/quadtrax100_end.jpg)

*[Image of Quadtrax]*

[http://www.barriersystemsinc.com/x-x-tekmaster](http://www.barriersystemsinc.com/x-x-tekmaster)

*[Image of X-TEK Master]*

U.S. Department of Transportation

Federal Highway Administration

http://safety fhwa dot gov
Currently under development:

- Work Zone Barriers
- Median Post and Beam Rail Element
Electronic versions of the Technical Briefs, Pocket Guide, and Resource charts will be provided to the State for publishing.
To determine what Missouri has done with the materials provided.

- **90 Days Evaluation** – All training attendees
- **1 year Evaluation** – Program Completion
  
  To determine what Missouri has done with the materials provided.
Evaluation Summary

B. Roadside Safety Design Mentor and Designer Training

1. Did you attend this 1-day training?
   - Yes: 56%
   - No, go to next section: 44%
   - 50 total responses, 28 attended training.

2. Did the training help meet your present work objective?
   - Strongly Agree: 57%
   - Somewhat Agree: 36%
   - Had no effect: 7%
   - 28 total responses, 16 strongly agree that the training helped meet their present work objective.

3. As a result of the training, has your understanding of the subject matter improved?
   - Strongly Agree: 46%
   - Agree: 39%
   - Neutral: 14%
   - Disagree: 0%
   - Strongly Disagree: 0%
   - 28 total responses, 13 strongly agree that the training helped meet their present work objective.

4. Additional Comments/Recommendations:
   - 4 total responses, 14% of submissions.
   - Excellent.
   - Liked watching the testing of guardrail. It was interesting to see how it held up under crash situations.
   - This is extremely important to my field of 3R projects. One issue is the conundrum of a T intersection at a creek, what to do around a radius to protect drivers from the bridge and perpendicular creek. Radius guard rail treatment is the only current option yet hit head on presents a fixed object/ramping hazard. For which the FHWA presents no better solution. We need to collaborate and resolve.
   - I think training should be done once a year as a refresher along with new updated data.

C. Roadway Departure Technical Briefs

1. FHWA developed technical briefs specific to your state for the Design, Maintenance and Inspections disciplines. What is your overall appraisal of the Technical Briefs?
   - Very useful/technical resource: 33%
   - No impact to my job responsibilities but good information to know: 15%
   - Was not aware of them: 51%
   - 39 total responses, 20 responded that they were not aware of them.

2. Additional Comments/Recommendations:
   - 2 total responses, 5% of submissions.
   - Good information.
   - The last memo — Roadside Design: Steel Strong Post W-Beam Guardrail — dated 5/17/10 is fine. However FHWA is ahead of PennDOT policy. Keep our options open. We work in a world of “Alternations” and very limited “New Construction”.

D. Roadway Safety Pocket Guide

1. FHWA developed a Roadway Safety Pocket Guide for your state. What is your overall appraisal of the Roadway Safety Pocket Guide?
   - Very useful/technical resource, frequently use it: 20%
   - Very useful/technical resource, moderately use it: 27%
   - Very useful/technical resource, barely use it: 13%
   - No impact on my job responsibilities but good information: 16%
   - Knowledgeable of its development but do not have a copy of it: 11%
   - Have not yet been printed/distributed to personnel: 13%
   - 45 total responses, 12 responded that it is a very useful/technical resource and they use it moderately.

2. Additional Comments/Recommendations:
   - 5 total responses, 11% of submissions.
   - Great. Great. I keep and use the Roadside Pocket Guide EVERY TIME I design a guardrail system. Good job for using English Units only. Leave metric for the chemist/microfields. 2 unit manuals are ineffective and show blurred vision. English system is intuitive. We are a bimetric nation. Keep politics out of Transportation. Thank you.
   - I carry the Publication with me on every field review for guardrail and consider it to be ‘essential’.
   - I would like to have one of these Roadside Safety Pocket Guides.
   - In addition to having it saved on my computer, I just printed it off last week.
   - Need a copy of the Roadside Guideline manual to prove to people what it
Where have we gone?

Pennsylvania (Nov. 2009—Nov. 2010)

Delaware (Feb. 2011—Feb. 2012)

Louisiana (May 2012 – November 2012)

Florida (January 2013 - May 2013)
Where have we gone?

**Ohio** (June 2013—Dec. 2013)

**Tennessee** (Nov. 2013—April 2014)

**Texas** (Feb. 2014—Sept. 2014 est.)

**Missouri** (May 2014—Oct. 2014)
Where have we gone?

Georgia (October 2014—March 2015)

Kentucky (Nov. 2014—May 2015)

Alabama (June 2015—November 2015)
Thank You!

Contact Info:
Will Longstreet, FHWA Office of Safety
Phone: (202) 366-0087
Email: will.longstreet@dot.gov