

Appendix A: DOT Survey Instrument and Instructions

NCHRP Project 22-29: Performance of Longitudinal Barriers on Curves and Superelevated Roadway Sections

Background:

In 2009, the AASHTO Technical Committee on Roadside Safety (TCRS) promoted a Research Problem Statement to investigate the safety performance of longitudinal barriers installed on curved and superelevated roadway sections. In 2010, the AASHTO Standing Committee (SCOR) on Research recognized this need and provided funding for research under the National Cooperative Highway Research Program (NCHRP). Under NCHRP Project 22-29, a detailed study will be conducted to establish performance envelopes for longitudinal barriers when placed on varying curved, superelevated roadway sections. The study will make use of statistical analyses of crash data, reviews of current practices, vehicle dynamics analyses, finite element simulations of vehicle to barrier impacts, and full-scale crash testing to determine performance envelopes and develop recommendations for the selection, design, and installation of barriers for such roadway situations.

To assure study relevance, your help is sought to assist the research team in identifying the commonly installed longitudinal barriers on curves and superelevated roadway sections and understanding the experience with and critical concerns/issues related to the safety performance of such barrier deployments. It is not expected that all of the information requested below will be available from all states, but even partial responses or knowing that such barriers are not used in a state is useful. The emphasis of the study is on longitudinal barrier use on **high-speed highways** (55 mph or higher). Please consider only high-speed highway installations when answering the questions.

Please complete the survey with all readily available information. Any additional information related to the topic can be included in Question 8 of the survey. We greatly appreciate your help in completing the survey. If you have any questions, please do not hesitate to contact:

Dhafer Marzougui
The National Crash Analysis Center
The George Washington University, Virginia Science & Technology Campus
45085 University Drive, Ashburn, VA 20147, USA
Phone: 703-726-8532, Fax: 703-726-8530, E-mail: dmarzoug@ncac.gwu.edu

Your Name: _____
Title: _____
Agency: _____
Address: _____

City/State: _____
Phone: _____
E-Mail: _____
Date Survey Completed: _____

Survey Questions:

1. Please indicate (check) which longitudinal barriers are currently in place or are being installed on curved/superelevated **high-speed** road sections in your state. If available, please rank previously installed and currently being installed barriers from most to least commonly used (1 most commonly used, higher numbers for less commonly used).

	Previously installed barrier ranking	Currently being installed barrier ranking
<input type="checkbox"/> W-beam guardrail (31" or greater height)	_____	_____
<input type="checkbox"/> W-beam guardrail (less than 31" height)	_____	_____
<input type="checkbox"/> Thrie beam barrier	_____	_____
<input type="checkbox"/> Concrete barrier (32" or lower height)	_____	_____
<input type="checkbox"/> Concrete barrier (greater than 32" height)	_____	_____
<input type="checkbox"/> Other longitudinal barrier		
<input type="checkbox"/> Please specify barrier designation or barrier details		
1- _____		
_____	_____	_____
2- _____		
_____	_____	_____
3- _____		
_____	_____	_____

2. Please list longitudinal barriers that you expect your state is likely to have as a standard for applications in curved/superelevated **high-speed** road sections in 2014 (the completion year of this research). Please include all relevant design and installation information (For concrete barriers include shape, height, and vertical inclination; For semi-rigid and flexible barriers include post type, rail height, blockout width, and vertical inclination). Include web links or drawings describing barrier design details if available.

1- _____

2- _____

3- _____

4- _____



3. Does your state have special criteria to decide if a barrier is warranted on curved/superelevated **high-speed** roadway sections?

- No
- Yes

If yes, please provide a summary or cite manuals or guidelines that document the criteria followed in your state:

4. Does your state have special criteria to select the type (i.e. rigid, semi-rigid, or flexible) and Test Level (Report 350 or MASH TL3, TL4, etc.) for longitudinal barriers to be installed on curved/superelevated **high-speed** roadway sections?

- No
- Yes

If yes, please provide a summary or cite manuals or guidelines that document the criteria followed in your state:

5. Is there available data related to crashes involving longitudinal barriers installed on curved/superelevated **high-speed** roadway sections in your state?

- No
- Yes

If yes, please provide references or a person that we can contact to obtain the data.

6. Are you aware of in-service evaluations or accident investigations related to longitudinal barriers installed on curved/superelevated **high-speed** roadway sections that were conducted in your state?

- No
- Yes

If yes, please provide references or a person that we can contact to obtain the data.

7. Are there locations in your state where a longitudinal barrier, placed on a curved/superelevated **high-speed** roadway section, did not function as desired?

No

Yes

If yes, please provide details or list a person we can contact to obtain further information.

8. Please list, e-mail, mail, or fax any available additional information related to the performance of longitudinal barriers placed on curved/superelevated **high-speed** road sections. If you have a website where we can see your state's standard plans for barriers, particularly those on curved alignments or superelevated sections, then please include the link for the web site. Any comments that you like to convey to the research team can also be included below.
