In-Service Performance Evaluation of Median Cable Barriers in Iowa

Final Report
May 2018
REPORT FINDINGS

• Fatalities: reduced by 61.6%
• Incapacitating Injuries: reduced by 30.8%
• Non-Incapacitating Injuries: reduced by 25.8%

ALSO FOUND

• Injuries that have been reported with no visible injury, but complaints of pain Possible Injuries: increased by 11.2%
• Property Damage: increased by 108.3%
INSLOPES:
- not steeper than 4:1
- 6:1 or shallower is preferable

LATERAL OFFSET
- Underride: vehicle slides under the cable
- Override: vehicle vaults over the cable
Figure 6.1. Underride criteria for V-shaped medians.

(b) Medians steeper than 6H:1V slope

Figure 6.2. Override criteria for V-shaped medians steeper than 6H:1V slope.
HORIZONTAL CURVES:
Cable median barrier should be located on the side farthest away from the outside of curve.
WISCONSIN:
- TL-3 or TL-4 NCHRP 350 equipment
- 15’ maximum post spacing

OHIO:
- NCHRP 350 equipment
- Installing 12’ from edge of traveled way

MONTANA:
- TL-4 NCHRP 350 equipment on 6:1 slopes
- Socketed line posts with 16.5’ max post spacing
- Installing 8’ from bottom of ditch
SOUTH DAKOTA:
- TL-3 NCHRP 350 equipment
- Steel socketed line posts
- 16’ maximum post spacing

MINNESOTA:
- TL-3 and TL-4 NCHRP 350 and MASH equipment
- Steel socketed line posts
- Four pre-stretched cables
- 10’ maximum post spacing
- Installing 4’ from top of inslope (using 4:1 slope)
WHAT WE USE IN NORTH DAKOTA:
- TL-3 MASH for length of need / TL-3 MASH for end terminals
- Four cable system
WHAT WE USE IN NORTH DAKOTA:

- Driven steel socketed line posts with soil plates
WHAT WE USE IN NORTH DAKOTA:

- 10’ post spacing
- 10’ maximum deflection
- 6:1 inslopes
- Installing posts 8’ above the inslope/ditch bottom intersection
- Target offset 14’ from edge of shoulder
WHAT WE USE IN NORTH DAKOTA:

- Concrete anchors
  target minimum = 1000’
  target maximum = 1 mile

- Place on inside of horizontal curves

- Anchor behind bridge’s guardrail

- Effects of snow
  Place near South roadway for I-94
  Place near East roadway for I-29
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