



# INDIANA DEPARTMENT OF TRANSPORTATION

*Driving Indiana's Economic Growth*

## Design Memorandum No. 07-02 Technical Advisory

January 23, 2007

**TO:** All Design, Operations, and District Personnel, and Consultants

**FROM:** /s/ Richard L. VanCleave  
Richard L. VanCleave  
Design Policy Engineer  
Office of Roadway Engineering Services

**SUBJECT:** Roadside Locations of Guardrail, Guardrail End Treatments, Impact Attenuators, Light Standards, and Breakaway Sign Supports

**REVISES:** *Indiana Design Manual Section 49-3.06*

**EFFECTIVE:** Immediately

Roadway, signing, and lighting plans for a project are often prepared separately by different INDOT designers or consultants. Therefore it is possible that guardrail, guardrail end treatments, impact attenuators, light standards, or breakaway overhead sign supports within the clear zone may have been located too close to one another and are therefore clustered at one location. An errant vehicle may have multiple impacts due to this clustering of such devices. The multiple impacts may cause higher G forces than those recommended in National Cooperative Highway Research Program *Report 350* (NCHRP 350), thus creating a hazardous condition for the occupants of the impacting vehicle.

Where the devices are clustered, they should be separated and relocated as far from one another as conditions permit to avoid the possibility of multiple impacts to them while ensuring that each system performs properly. For example, guardrail and end treatments may be relocated by extending each guardrail run beyond its length of need and then attaching the end treatment to the guardrail.

The project manager should coordinate the review of all separately-developed sets of plans with the designer of the mother project and the reviewer before the final design stage.

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