

## **SECTION C-8 RAMP TERMINAL AND SPEED CHANGE LANE DESIGNS**

### **POLICY\***

The rate of accidents in gore areas is typically greater than that for run-off-the road accidents at other locations. For this reason, the gore area and the unpaved area beyond should be kept as free of obstructions as practicable to provide a clear recovery area. The unpaved area beyond the nose should be graded as nearly level with the roadways as is practicable so that vehicles inadvertently entering will not be upset or abruptly stopped by steep slopes. Heavy sign supports, street light standards, and roadway structure supports should be kept well out of the graded gore area. Yielding or breakaway-type supports should be employed for the standard exit sign, and concrete footings, where used, should be kept flush with adjoining ground level.

There will be situations where placement of a major obstruction in a gore is unavoidable. Gores that occur at exit ramp terminals on elevated structures are a prime example. There are occasions when a bridge pier in a gore cannot be avoided. Guardrails and bridge rails are designed to handle angular impacts but are not effective in handling the kind of near head-on impacts that occur at these gores.

Cushioning or energy-dissipating devices shall be provided in front of hazardous fixed objects. Several types and models of crash cushions are being used. These devices substantially reduce the severity of fixed-object accidents. In view of this reduction, adequate space should be provided for the installation of a crash-cushion device whenever it is found necessary to construct a major obstruction in a gore on a high-speed highway.

Tables in this section show **MINIMUM** designs for one lane of traffic and lengths may need to be increased based upon the traffic operational analysis. For two lanes or for other conditions see AASHTO's *A Policy on Geometric Design of Highways and Streets*. A design exception is required when design values are less than AASHTO minimums.

### **PROCEDURES**

Gore Area Design Details are to be furnished and included in the "2 series" plan detail sheets of the plan assembly at a recommended scale of approximately twice the plan scale. Gore Area design details shall show actual dimensions in accordance with details sheets provided below.

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\* Added 7/13