FIXED OBJECTS WITHIN DEFLECTION AREA

No fixed objects, regardless of their distances from the edge-of-pavement, will be allowed within the deflection zone of the guardrail system to assure that the guardrail system will perform as designed. This will include overhead sign supports, walls, drainage structures, bridge piers, signal supports, utility poles, trees, etc. Additionally, the deflection zone must be free of breakaway signs, signals, and luminaire supports since their performance when struck by deflecting guardrail is unknown and untested. If a sign or luminaire support <u>must</u> remain within the deflection zone, it must be a breakaway design.

When it is impractical to locate hazards outside of the deflection zone of standard guardrail, it may be necessary to use concrete barrier.

Table I-3-2 (Typical Barrier/Guardrail Selection and Placement) specifies the minimum offset distance required from "hazardous objects" to meet deflection requirements of the different types of barrier systems.

PONDS OR OTHER BODIES OF WATER

Barrier is to be constructed on all functional classifications at ponds or other bodies of water over 2 feet in depth when it is within the design clear zone.

SHORT GAPS

Short gaps between barrier installations should be avoided. When the areas of concern are less than 200 feet apart, the barrier protection shall be made continuous.

BARRIER TYPE SELECTION

When it has been determined that a barrier is required, a determination must be made as to the type of barrier that is to be used. System and terminal specific guidelines are provided later in this appendix that can be used in making a barrier system selection. The most desirable system is one that offers the lowest accident severity at the least cost within the given constraints.

The AASHTO *Roadside Design Guide* presents eight items which must be considered before a system selection is made.

Performance capability
Deflection
Site conditions
Compatibility
Cost
Maintenance
Field Experience
Aesthetics (occasionally)