

### **3.8M Truck Climbing Lanes**

#### **3.8.4M Application Heuristics**

The TAC Subsection **3.8.4** is applicable to the Department's highways with the following additions:

13. The lane widths for both the through and auxiliary climbing lane are to be 3.7 m. The outside shoulder adjacent to the auxiliary lane is to be the lesser of 2 m or the standard shoulder width for the road classification. The outside shoulder adjacent to the through lane in the opposite direction is to remain unchanged from the standard shoulder width as defined by the road classification.
14. Intersections and accesses are to be avoided wherever possible within climbing lane sections. Where they cannot be avoided, the following guidelines apply:
  - All intersections and access points are to be analyzed under the warrant procedure for the Department's "Warrants and Standards for Intersection Treatments of Rural Two Lane Highways".
  - If this analysis indicates that the required treatment for left turning traffic in the direction of the climbing lane would normally be a "bypass treatment", then a full channelized treatment will be provided. If the analysis indicates that the required treatment for left turning traffic in the direction of the climbing lane would normally be a "channelized treatment", then the intersection must be relocated off the climbing lane.

In essence, the level of treatment is bumped up one step compared to a standard intersection design. This reflects the greater hazard posed by left turning traffic that is stopped in a lane designed to carry high-speed passing traffic.

15. Low volume accesses such as driveways should be analyzed under the following guidelines to determine if elimination or relocation is warranted:
  - Accesses to the left of the climbing lane in the direction of travel pose a significantly greater risk than an access to the right. This is again due to the hazard of stopped, turning vehicles in the high-speed passing lane. These should be avoided to the degree possible.
  - A single, low-volume access can likely be tolerated. However, more than one access is cause to examine eliminating or relocating these accesses. Options include consolidation to a single point where an adequate intersection treatment can be applied. Alternatively, service roads can be investigated.

If it is determined that the costs of eliminating a low-volume access cannot be justified, the location of that access must nonetheless be analyzed. In particular, adequate sight distance becomes a crucial requirement. A higher than normal design speed should be utilized to reflect the higher travel speeds in both the downhill direction and for passing traffic in the uphill through-lane. Sight distance at access points must meet the intersection sight distance requirements described in Subsection 9.9. from TAC.