

DESIGN BULLETIN #67/2010

Median Crossovers on Rural Divided Highways

Summary

This Bulletin is issued to provide guidance to planners and designers regarding the spacing, placement, signing and geometric details of median crossovers on rural divided highways in Alberta. There is a need to consider roadside safety, highway operations, access management, access by emergency and law enforcement vehicles and cost when designing median crossovers on divided highways. Between interchanges and/or at-grade intersections, emergency crossovers should normally be spaced at between 5 and 6.5 km intervals. Exceptions may be made where necessary for access however these additional crossovers should be considered temporary and subject to removal when alternate access is provided.

Background and findings

At the time of twinning, decisions need to be made regarding access management and the spacing and location of median crossovers. Many divided highways in rural Alberta are twinned initially as “arterial” or “expressway” type facilities with the ultimate objective of upgrading to “freeway” standards in the future. The duration of the staging period may be several decades or longer. In the interim there may be little or no supporting network of parallel arterial, collector or local roads. Consequently it may be necessary to provide direct access from the divided highway to crossing roadways or adjacent lands until alternate access is provided through service roads and interchanges as required. This will generally entail providing a median crossover.

Where access is not a concern but interchange and/or at-grade intersection spacing exceeds 8 km, median crossovers should be provided to avoid adverse travel for emergency and law enforcement vehicles and to provide for detours of highway traffic when necessary due to collisions or other highway incidents. Between interchanges (or intersections), emergency crossovers are to be spaced at 5 to 6.5 km intervals. Also, maintenance crossovers may be required at one or both ends of interchange facilities, depending on interchange type, for the purpose of snow removal and at other locations to facilitate maintenance operations. Maintenance or emergency crossovers should generally not be closer than 450 m from the end of speed change tapers or structures. Crossovers should be located where stopping sight distance exceeds the minimum and should not be located on superelevated curves.

The width of a crossover should be sufficient to provide for safe turning movements of the appropriate design vehicles. The surface should be capable of supporting maintenance vehicles that will use it. The crossover should be depressed below the shoulder elevation so that it is inconspicuous to traffic and should have 10:1 or flatter sideslopes to minimize

its effect as an obstacle for run-off-road vehicles. Crossovers should not be placed in reduced width medians unless the median is sufficiently wide to accommodate the design vehicle length. Where median barriers are used, each end of the barrier at the median opening may require a crashworthy terminal. Median barriers should not create sightline issues for design vehicles using the median crossover. For further information, refer to Alberta's Roadside Design Guide.

To restrict public use of median crossovers, typical signing as shown in drawing TEB 1.63 (revised March 2010) should be installed where the median crossover is to be used by maintenance equipment and emergency vehicles only. The median edge line pavement markings shall also be continuous through these types of median crossovers.

Recommendation

The guidance as shown in this Bulletin is to be implemented immediately as per the usual practice.

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References

- Alberta Highway Geometric Design Guide, Updated 1999.
- Alberta Roadside Design Guide, November 2007.
- Alberta Transportation Traffic Control Standard, Typical Signage Drawings (online): <http://www.transportation.alberta.ca/Content/docType233/Production/signage.pdf>)
- AASHTO A Policy on Geometric Design of Highways and Streets, 2004.

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