

Intersection – Rural

Left-turn lanes



Fact sheet #7 of 13



Safety standard

Where a high volume of left turning traffic is present on high-speed rural roads, sight lines shall not be obscured for traffic entering from the minor road. This may require repositioning or channelising the left-turn lanes or bringing forward the Stop/Give way lines.

Safety countermeasure

Rural intersections which have auxiliary left-turn (AUL) lanes may not provide adequate visibility for a vehicle on the side road when there is a vehicle in the auxiliary turn lane (Figure 1).

The risk of side-impact crashes may increase when a high volume of vehicles are turning (especially heavy vehicles). If it is a high-speed road, this may result in fatal casualty crashes.

High through-traffic volume may result in drivers on the side road becoming frustrated by the lack of acceptable gaps between vehicles travelling on the road they want to enter. As a result, they may make poor vehicle movement judgements.

In 2010, a fatal crash on the Bruce Highway near Kybong occurred when a truck on the Bruce Highway was obscured by a bus turning left. The driver of a light vehicle waiting to turn right onto the highway entered the intersection, into the path of the truck. Following this

crash, the intersection was upgraded to a Channelised Left Turn (CHL) lane, which moved left-turning vehicles to the left and created a sight line for the entering vehicle on the side road.

This design is called an Offset CHL (Figure 2). For technical guidance refer to *Road Planning and Design Manual (RPDM) 2nd edition Volume 3 Part 4A Unsignalised and Signalised Intersections*.

The turning path of the design vehicle may require widening of the seal area to allow the Stop/Give way lines to be brought as far forward as possible, towards the edge of the shoulder.

The widening of the throat, as suggested in the guideline, may require a raised or painted splitter island in the side road to better define vehicle paths.

Safety outcome

Transport and Main Roads estimates a 30% drop in crashes where an offset CHL lane is installed.

Auxiliary left-turn (AUL) lane on a major road



Offset Channelised Left Turn (CHL) lane – preferred treatment



Source: Queensland Globe

This fact sheet is designed to assist the implementation of 13 safety standards for new and upgraded infrastructure on Queensland's state-controlled roads, as per the department's *Road Safety Policy* (2018, Appendix A). While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained within. To the best of our knowledge, the content was correct at the time of publishing.



Queensland
Government