

UPDATE TO MAIN ROAD WESTERN AUSTRALIA'S CRASH REDUCTION FACTORS



Updated to the Crash Reduction Factors used in MRWA's Crash Analysis and Reporting System and Road Safety Management System







WARRIP updated the Crash Reduction Factors (CRFs) used in the costing and prioritisation of their road safety projects.

Background

The challenge faced by practitioners attempting to improve road safety through infrastructure is ensuring that allocated funding yields the highest safety returns per dollar spent. When investing in road safety infrastructure, the theoretical benefits of safety infrastructure investment are determined via use of Crash Reduction Factors (CRFs).

MRWA maintains two databases that use CRFs, the Road Safety Management System (ROSMA) and Crash Analysis and Reporting System (CARS).

Approach

	A comparison of the existing ROSMA and CARS spreadsheets was undertaken to identify any inconsistencies between the CRFs contained therein.
	A review of the commonly used treatments and best practice guidance available from Austroads and other jurisdictions and comparison of the results to those in ROSMA and CARS, identifying any gaps and inconsistencies.
	Based on the preceding two steps a list of priority treatments to review was developed
	A literature review was then undertaken of these priority treatments to identify new literature from both domestic and international sources.
	The proposed changes to the CRFs were then presented at a workshop between key stakeholders at MRWA and ARRB and discussed to arrive at a consensus of which values to adopt.
	The outcomes were then used to update the ROSMA database and CARS spreadsheets. Over 200 treatments are included in the databases.





Sources of CRF information

New CRF information was sourced from across Australia and internationally. Jurisdictions reviewed included VicRoads (now known as Department of Transport, Victoria); Transport for New South Wales, Transport and Main Roads (Queensland); Department of Planning, Transport and Infrastructure, South Australia; and Austroads. Sources from the literature review focussed primarily on domestic sources, including Austroads research reports and evaluations from across Australia. The primary source of international literature was the Crash Modification Factor Clearinghouse.



Workshop



It is not uncommon with CRFs that a number of different studies may record differing figures for a treatment's crash reduction benefits. This can be for a number of different reasons, including different approaches to treatment use, local road environment factors, differences in the study methodology and differences in the recording of CRFs. For instance, many of the key Austroads sources, record only a total fatal and serious injury reduction factor as opposed to relating it to a specific crash type. These sorts of discrepancies needed to be accounted for and discussed before arriving at a final figure.

It is also important to consider which treatments are included within the CRF sources. A treatment being recorded in such locations can be seen as an unofficial endorsement of a treatment and may encourage its use.

That is why the localised knowledge of MRWA staff was paramount to ensure only treatments that are used, or desired to be used, were included in the CRF sources.

Conclusion

By ensuring MRWA's sources of CRFs are consistent with domestic and international best practice, we ensure that road safety investment is being optimally spent in the ongoing pursuit of a future where no one is killed or seriously injured on Western Australian roads.

-  Best practice implemented for Western Australia.
-  Similar work has been done for Transport for NSW, Department of Transport Victoria and most recently TMR Queensland.
-  This work should lead to efficient and optimum allocation of road safety funding.

FUTURE CONSIDERATIONS

- Expand the review to include treatments not covered in the workshop and literature review**
- Ongoing revision and review of the CRFs as new literature becomes available and the Western Australia vehicle fleet changes (i.e. advances in vehicle safety features).**