Safety solutions on mixed use urban arterial roads

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Abstract

Urban arterials and intersections account for a large proportion of high severity crashes in Australia and New Zealand, particularly involving vulnerable road users. Safety gains appear to be slower in these ‘mixed use’ environments than in other areas. Austroads commissioned research to help identify solutions that might be applied on mixed use arterial roads to improve safety through the provision of Safe System infrastructure.

The project involved assessment of six case studies around Australia and New Zealand. Concept designs were developed for each of the routes based on analysis of safety issues and the likely safety benefits were assessed. This paper presents information on the safety solutions identified, as well as the broader implications from the use of these interventions, including impact on traffic.

Background

Urban arterials and intersections account for a large proportion of high severity crashes in Australia and New Zealand, particularly involving vulnerable road users. Safety gains appear to be slower in these ‘mixed use’ environments than in other areas. Austroads commissioned research to help identify solutions that might be applied on mixed use arterial roads to improve safety through the provision of Safe System infrastructure.

Method

The project involved assessment of six case studies around Australia and New Zealand. Concept designs were developed for each of the routes based on analysis of safety issues and the likely safety benefits from different treatments. Likely crash reduction was estimated by calculating the combined benefits from packages of treatments. The Safe System Assessment Framework was also used to determine alignment with Safe System principles.

Results and conclusions

Information is provided on the crash reduction benefits for different infrastructure treatments. Implications for other aspects of traffic operation, including traffic flow, is provided for each of these treatments. In addition, general information is provided on the functional classification of roads (using the Movement and Place framework), processes for risk assessment on mixed use arterials, and the extent to which infrastructure improvements can help reach Safe System objectives.