

A Review of International Best Practices to Improve Heavy Vehicle Safety in Urban Environments

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Abstract

Road freight is increasing across Australia's major cities due to rapid economic and population growth in urban centres. The increase in urban freight results in greater interactions between heavy vehicles and other road users sharing existing road infrastructure and can introduce road safety risks due to exposure and physical size incompatibilities. Many developed countries have invested in leading approaches to address the risks associated with heavy vehicle freight in urban environments. This presentation highlights the best practices identified and reviewed as part of a 2018 Churchill Fellowship and provides recommendations for governments, infrastructure planners, constructors and developers to consider in mitigating potential road safety impacts with the urban freight task.

Background and Context

The urban freight task in Australia is increasing significantly in major cities in response to rapid economic and population growth (Chau, 2018). Such growth has fueled a rise in consumer demand for goods and a pipeline of infrastructure projects and construction activity to support urban development (Infrastructure Australia, 2019). The freight task servicing these demands is almost always performed by heavy vehicles (BITRE, 2014), and whilst heavy vehicle road transport in Australia continues to remain one of the most productive and efficient forms of moving freight, productivity should not be at the expense of safety.

Overall, whilst Australia is seeing a decline in fatal heavy vehicle crashes, the number of fatal crashes involving heavy rigid vehicles has remained relatively unchanged over the last decade (BITRE, 2018). Heavy rigid vehicles predominantly perform the urban freight task, servicing the waste, construction and local transport and distribution sectors. At a state level, recent statistics from New South Wales have reflected the national trend whereby fatal heavy vehicle crashes have declined in all regions, but increased in the Sydney metropolitan region (NSW Centre for Road Safety, 2019).

Despite recent progress made to improve the safety of the heavy vehicle industry in general, such as reforms to Chain of Responsibility provisions under the *Heavy Vehicle National Law* and industry investment in Performance-Based Standards (PBS) vehicles, there are still areas requiring immediate attention to improve heavy vehicle safety in urban environments. Factors such as Australia's ageing heavy vehicle fleet, limitations to heavy vehicle accreditation schemes, logistics planning in urban construction projects and Australian Design Rules for heavy vehicles still lag behind international standards and are not commensurate with the nature of road safety risk presented. As a result, many fatal and serious injury crashes continue to occur due to these deficiencies.

Review of International Best Practices

As part of a 2018 Churchill Fellowship funded by the NRMA-ACT Road Safety Trust, international research was conducted to investigate best practices to improve heavy vehicle safety in urban environments in the United Kingdom, Europe and the United States. Following a desktop study of existing best practices, the following elements were reviewed to understand the international approaches currently being implemented, which included heavy vehicle design regulations,

accreditation schemes, vehicle safety technology and standards, sustainable logistics practices, training, education and awareness.

The presentation highlights those best practices identified during the research, providing a gap analysis between the standards and practices of each country visited. It explores the above elements in depth using case studies where governments, research agencies, planners, developers, constructors, and heavy vehicle operators have championed heavy vehicle safety in urban environments. Taking into consideration the Australian context, recommendations are further provided for local agencies for consideration to start leading the way in reducing preventable fatal and serious injury outcomes associated with the urban heavy vehicle freight task.

References

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