

## Implementation Principles for 30 km/h Speed Limits and Zones

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### Abstract

In the context of the Safe System and harm minimisation approach where fatal and serious injuries are not accepted as inevitable costs of mobility in any transport system, there is an increasing need to consider implementing speed limits within the tolerance of road users, especially in urban areas with high pedestrian activity. Through a literature review, stakeholder consultation with Australia and New Zealand road transport agencies and a Safe System analysis, this paper presents the development of potential high-level principles and implementation criteria for 30 km/h speed limits and zones.

### Background

The Australian Road Research Board (ARRB) undertook a literature review and stakeholder consultation on the topic of 30 km/h speed zone implementation in order to inform its potential application on public roads as part of a revision of speed zoning guidelines for an Australian jurisdiction.

In Australia, current practices and guidelines foster the implementation of a 40 km/h speed limit in high pedestrian activity areas and a 10 km/h limit in designated shared zones. While there are trials and pilot tests in the country, the use of area-wide 30 km/h speed limits are not generally accepted, partly due to regulatory barriers. Internationally, particularly in Europe, a speed limit of 30 km/h (or 20 mph), by contrast, has long been employed as a measure to reduce vehicular dominance and for improving pedestrian safety and amenity. This reflects a recognition of Safe System speeds where the pedestrian fatality risk at 50 km/h is more than five times higher than the risk at 30 km/h (Rosén & Sander 2009)

### Method

The research method involved a review of the literature on the 30 km/h speed limit practice, consultation with Australian and New Zealand road transport agencies and analysis to determine the extent to which the 30 km/h speed zone implementation requirements align with the Safe System approach and its pillars (Karndacharuk & McTiernan 2017). The preliminary output of the project was a set of high-level evidence-based principles for setting 30 km/h speed limits and zones.

### Literature review

The outcome from the literature review revealed a shift from a linear or ‘pockets’ 30 km/h implementation towards an area-wide practice in both residential and mixed-use areas. A wide-ranging implementation of techniques from using either signs only or traffic calming measures only, to a combination of both measures have been employed. Some jurisdictions use these measures to protect vulnerable road users without explicitly posting speed limits in light of the effectiveness of the Self-Explaining Road design to slow down the speed of motorists (Preston et al. 2013).

### Stakeholder consultation

Consultation with Australasian transport agencies at both state and local levels was undertaken to obtain their views on 30 km/h speed limits and zones. While none of the Australian road transport authorities that responded to the survey requests opposed lowering the speed limit to 30 km/h in appropriate locations, only four jurisdictions (i.e. ACT, NSW, Tasmania and Victoria) have either planned or implemented 30 km/h speed zones. Collectively, the 30 km/h area has been or is being

applied, albeit on a relatively small scale, to school zones, activity centre areas and selected residential streets in Australia. In New Zealand, major cities (e.g. Auckland, Christchurch, Hamilton and Wellington) have implemented 30 km/h zones in mixed-use areas on an area-wide basis.

### High-level implementation principles

The purpose of the implementation principles is to ensure the consistency and credibility of establishing a 30 km/h limit that is matched, as closely as possible, to the road environment. With this in mind, the following 12 principles have been developed to maximise the potential for the zone to operate successfully by ensuring commonality and legibility for the end user.

1. Embrace the **Safe System** approach for harm minimisation
2. Enable a more balanced approach by taking into account **multi-modal** and **multi-functional** objectives for the use of the same road space.
3. Prioritise a location with strategic place significance in the **movement and place framework**.
4. Target **activity centres** and selective residential areas with a high level presence of vulnerable road users.
5. Focus on an **area-wide implementation** in homogeneous road sections.
6. Employ **traffic calming measures** for speed management and control.
7. Utilise a **mean speed** as a primary measure of actual traffic speed for a road section.
8. Consider **residual crash risks** associated with road, roadside and traffic characteristics.
9. Manage the impact of the 30 km/h implementation in **school zones**.
10. Set **technical criteria** (e.g. minimum length and provision for repeater signs and markings) that are consistent with the requirements in the existing guidelines.
11. Establish an **on-going evaluation** and monitoring process.
12. Engage key **stakeholders and communities** for support.

The paper will provide the discussion of high-level principles and potential implication of applying 30 km/h speed limits and zones for general urban speed limits, high pedestrian activity areas and school zones as well as the Safe System assessment against five Safe System pillars of road & roadside, vehicle, road user, speed and post-crash response.

### References

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