

Speed limits outside schools

Reason for this briefing	Hon Julie Anne Genter requested an update on options for enabling road controlling authorities to apply 30 km/h variable speed limits outside schools as soon as possible.
Action required	Discuss with the Ministry of Transport and the NZ Transport Agency the options for implementing 30 km/h variable speed limits outside schools.
Deadline	N/A
Reason for deadline	N/A

Contact for telephone discussion (if required)

Name	Position	Telephone	First contact
Brent Johnston	Manager, Mobility and Safety	██████████	✓
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MINISTER'S COMMENTS:

Date:	10/08/2018	Briefing number:	OC180650
Attention:	Hon James Shaw (Acting Associate Minister of Transport)	Security level:	In-confidence

Minister of Transport's office actions

- Noted*
 Seen
 Approved
- Needs change*
 Referred to
- Withdrawn*
 Not seen by Minister
 Overtaken by events

Purpose of briefing

1. Hon Julie Anne Genter requested an update on how road controlling authorities (RCAs) could be enabled to implement 30 km/h variable speed limits outside urban schools as soon as possible. This briefing outlines potential options and suggests you discuss these with officials from the Ministry of Transport and the NZ Transport Agency (NZTA).

Background

2. In March 2018, Cabinet was informed about Minister Genter's proposal to investigate reduced speed limits around schools, as part of the planned programme of key short to medium-term initiatives to improve road safety in New Zealand [DEV-18-MIN-0025 refers]. Officials are therefore investigating how to enable RCAs to apply 30 km/h variable speed limits outside schools as soon as possible.
3. At the Local Government Road Safety Summit in April 2018, there was widespread support for policies to improve safety around schools in order to promote walking and cycling. There was also discussion about the specific option of lower speed limits around schools (30 km/h was suggested), especially during school hours.
4. The Ministry of Transport has received correspondence from the Dunedin City Council about its considerations of adopting a policy of 30 km/h variable speed limits around all schools in Dunedin City. The Hamilton City Council has also formally expressed a desire to implement 30 km/h speed limits around schools.

The status quo

5. The urban default speed limit (50 km/h), is the speed limit outside the majority of schools in New Zealand. The Speed Management Guide and Safer Journeys for Schools Guide encourage 40 km/h permanent speed limits in urban residential areas, and 40 km/h variable speed limits outside schools. 'Urban residential areas' must be defined by RCAs and are usually selected based on the risk vehicles pose to vulnerable users. Urban schools are typically located near roads that have 50 km/h speed limits or lower (although in some cases, urban schools can be located on roads that have 60 and 70 km/h speed limits).
6. Research shows that at a collision impact speed of 30 km/h, the likelihood of a pedestrian fatality is 10 percent, whereas at an impact speed of 40 km/h, the likelihood of a pedestrian fatality is significantly higher at 40 percent¹. In general, 40 km/h speed limits in school environments provide travel speeds that result in 30 km/h collision impact speeds following normal reaction and braking responses. However, travel speeds for 50 km/h speed limits, which are outside the majority of schools in New Zealand, will result in collision impact speeds of 40 km/h or more.
7. In 2016, there were 102 minor injuries involving school aged children (5-17 years) within 250 m of a school, 23 serious injuries, and no fatalities (these statistics include roads that the school has no frontage on to).

¹ <http://apps.who.int/iris/bitstream/handle/10665/42871/9241562609.pdf;jsessionid=7C93E0F02F45E11BD414114A4D24C42F?sequence=1>.

8. The number of minor injuries involving school aged children has improved over recent years, however, there has been a plateauing trend of the number of serious injuries. While this data shows there are not a large number of road safety-related incidents around schools (compared to other parts of the road network), the roading environment outside schools can often be complex and varies from school to school. Many children are not equipped to understand and manage the associated risks.

Variable 30 and 40 km/h speed limits

9. The Land Transport Rule: Setting of Speed Limits 2017 (the Rule) permits the establishment of variable speed limits, such as a school speed zone operating before and after school. The Rule requires NZTA to approve variable speed limits, after which RCAs must still make a bylaw to set the speed limit in the normal way.
10. The NZTA has not approved 30 km/h variable speed limits outside schools for two primary reasons:
 - 10.1. The policy objectives of the Rule, the Land Transport Rule: Traffic Control Devices 2004, and the Speed Management Guide are to ensure national consistency. Having a mix of 30 and 40 km/h variable speed limits outside different schools challenges those policy objectives.
 - 10.2. Section 4.4(2)(c) in the Rule sets a performance requirement that RCAs must meet before lower speed limits can be set. This requirement states that in setting a permanent, holiday, or variable speed limit, an RCA must aim to achieve a mean operating speed less than 10 percent above that speed limit. Without other interventions, such as traffic calming², 30 km/h variable speed limits on higher classification 50 and 60 km/h roads will generally achieve mean travel speeds greater than 33 km/h.
11. The NZTA has issued a general Gazette notice approving RCAs to implement 40 km/h variable speed limits outside schools (as outlined in the New Zealand Gazette, 21/4/2011, No. 55, p. 1284). 40 km/h variable school speed limits were first installed on a trial basis in Christchurch in January 2000. However, despite the proven safety benefits, after 18 years, RCAs have generally only implemented these where there has been an identified speed-related safety problem. The estimated few hundred (actual numbers are not available) installed to date on major roads outside schools have a good safety record. The NZTA advises that these generally achieve good public acceptance and levels of compliance, supported by Police's 4 km/h enforcement threshold outside schools³.

Permanent 30 and 40 km/h speed limits

12. Permanent 30 km/h speed limits are most commonly seen in CBDs, where they are supported with traffic calming (for example, Courtenay Place (Wellington), Queen Street, (Auckland) and large parts of the Christchurch CBD). Permanent 30 km/h speed limits outside schools will likely achieve low compliance without additional traffic calming⁴, particularly during periods when children are not entering or exiting a school and the need for drivers to slow down is less obvious.

² A range of techniques used to manage road users and the road environment to ensure speeds are appropriate to the local environment and the safety of other road users (e.g. speed humps, road narrowing, curb extensions, raised crosswalks, traffic islands etc.).

³ https://www.transportationgroup.nz/papers/2002/12_Osmers.pdf and 2014 AA research.

⁴ <https://www.rospa.com/rospaweb/docs/advice-services/road-safety/drivers/20-mph-zone-factsheet.pdf>.

13. Many regions, including Hamilton, Auckland and Christchurch, now have permanent 40 km/h speed limits covering broad residential areas. Based on the evidence from these areas, a 40 km/h permanent speed limit for residential areas, in line with the Speed Management Guide, could provide road safety benefits outside half of the approximately 2,000 urban schools if implemented. Permanent, neighbourhood-wide 40 km/h speed limits would also avoid the costs associated with installing variable speed limit electronic signage.

Summary of the limitations to enabling RCAs to quickly apply 30 km/h variable speed limits

14. There are currently two limitations to that prevent RCAs from applying 30 km/h variable speed limits outside schools:
 - 14.1. The Rule requires the NZTA to approve variable speed limits. 30 km/h variable speed limits are unlikely to meet the performance requirement under section 4.4(2)(c) of the Rule. Together with 40 km/h variable speed limits currently approved, approving 30 km/h variable speed limits will challenge those policy objectives.
 - 14.2. The Rule requires an RCA to set a speed limit through making a bylaw. At present, there are complex and outdated regulatory requirements that RCAs need to follow to set a legal speed limit. This means it can take up to six months for speed limits to be legally amended. Officials are currently investigating the bylaw making requirements as part of a package of short-term changes to improve road safety. More information regarding the bylaw making process was included in the aide memoire provided to Minister Genter's office on 17 July 2018 (there was no reference number for this paper).

Consideration of implementing 30 km/h speed limits outside schools

15. Mandating variable 30 km/h speed limits outside all urban schools is a tangible way of increasing the safety of walking and cycling around schools. It also sends a strong road safety signal from Government. Reducing speed limits around schools is also likely to have co-benefits, such as reducing perceived road safety concerns. This may help improve the rates of children walking and cycling to school, which is one of the Government's long-term objectives.
16. Although schools are clearly an important focus area for road safety, given the large number of vulnerable users found outside schools, consideration may also need to be given to whether 30 km/h speed limits should be applied in other areas that have a large number of vulnerable users. This could include areas such as childcare centres, playgrounds, sports grounds, universities and hospitals. For many of these locations, permanent 30 km/h speed limits may be more appropriate as the number of pedestrians is often not limited to a particular time of day.
17. It is also important to acknowledge that reducing posted speed limits is not the only option to improve safety around schools or improve rates of walking and cycling. For example, lower speed limits used in conjunction with other treatments, such as traffic calming, may achieve better safety outcomes for vulnerable users. Broader changes to support safety around schools and increased walking and cycling will be considered as part of the development of the new road safety strategy.

18. Due the timeframe for providing this briefing, officials have not been able to conduct a thorough policy review required to develop a firm recommendation regarding the approach to enable RCAs to implement 30 km/h variable speed limits outside schools. This would be undertaken as part of the development of any regulatory impact analysis should you wish to pursue a Rule change.
19. Officials have undertaken an initial examination of the literature in relation to the effectiveness of 30 km/h variable speed limits in other jurisdictions. The results show that success varies between different locations. Reasons for this include whether 30 km/h variable speed limits are applied on two or four-lane roads, and whether there is a presence of specific elements in the physical road environment (for example, pedestrian fencing). A summary of the research is outlined in Appendix One.
20. As discussed in paragraph 9.2, section 4.4(2)(c) in the Rule sets a performance requirement that RCAs must meet before lower speed limits can be set. This requirement will be difficult to meet for variable 30 km/h speed limits on 50 and 60 km/h roads. This will limit the ability of the NZTA to give approval for them. However, if traffic calming is installed outside schools, permanent 30 km/h speed limits are more suitable and cost effective, and able to be set without NZTA approval.
21. It is also likely that allowing 30 km/h variable speed limits at one-off locations (rather than consistently outside all schools) would have little impact on improving the safety of vulnerable users or increasing the rates of children walking and cycling to and from schools.

Options for enabling road controlling authorities to apply 30 km/h variable speed limits outside schools as soon as possible

22. Mandating 30 km/h speed limits as the standard outside all urban schools would be a strong signal from Government that it is taking action to achieve the long-term objectives of improving the safety of vulnerable users and increasing the rates of children walking and cycling to school. If you want to enable RCAs to apply 30 km/h variable speed limits outside schools, options for achieving this are:
 - Option 1:** The NZTA approves individual 30 km/h variable speed limit requests where RCAs are able to show how the performance requirement under section 4.4(2)(c) of the Rule will be met.
 - Option 2:** A Rule change would allow 30 km/h variable speed limits to be implemented outside urban schools even if section 4.4(2)(c) of the Rule is not met, provided they have NZTA approval.
 - Option 3:** According to section 5.2(2)(a)⁵ of the Rule, 30 km/h speed limits are implemented outside all urban schools in an agreed timeframe through a Rule change that does not require RCAs to consult further or process bylaws.
23. As officials have not been able to conduct a thorough policy review, we do not have a preferred option at this stage.

⁵ Section 5.2(2) – the NZTA may, by notice in the Gazette and subject to any specified conditions that the NZTA considers appropriate, approve a variable speed limit for roads adjacent to an educational facility.

24. Option 3 would likely have the greatest impact on increasing the rates of children walking and cycling to school, and improving the safety of vulnerable users. The Rule change associated with this option could be progressed immediately, which would enable RCAs to apply 30 km/h variable speed limits outside schools once the Rule has been formally amended. The process of making the amendment rule would take approximately 6-12 months (depending on any changes that are made to the bylaw making requirements and extent of consultation required).
25. Options 1 and 2 would result in 30, 40 and 50 km/h speed limits outside New Zealand schools, which is not compatible with current policies around consistency. It would also still require RCAs to go through the process required to change a speed limit. Pursuing these options is unlikely to result in significant changes to the number of 50 km/h speed limits outside most schools.
26. If Option 2 was progressed, the NZTA would likely approve 30 km/h speed limits by individual schools (or clusters of schools). This would be until it was confident enough in the requirements for 30 km/h variable speed limits to be able to develop a general approval. This is the same process that was taken to enable the NZTA to approve 40 km/h variable speed limits. Like Option 3, the ability for Option 2 to take effect will be determined by the time required to undertake the Rule change process.
27. We have not had any formal consultation with local government representatives on any of the options outlined above, and do not know what their views on any proposed changes would be.
28. In conjunction with the options identified above, the NZTA and NZ Police could work with RCAs immediately to understand the technical and operational details of applying 30 km/h speed limits, including signage requirements and the enforcement approach. For options 2 and 3, this work would inform the Rule change.
29. If you wish to proceed with Option 2 or 3, the associated Rule change could be included as part of the Speed Limits Rule revision scheduled for public consultation late this year.
30. Officials have also considered whether to allow 30 km/h variable speed limits to be implemented on a trial basis. However, we do not suggest that trials are pursued for the following reasons:
 - 30.1. Trials will likely only confirm current knowledge around lower speed limits applied in isolation, and do little to inform the fundamental policy shift required to improve the safety of vulnerable users or increase the rates of children walking and cycling to school.
 - 30.2. The NZTA has noted that from previous experience it is difficult to remove trial speed limits once they are implemented due to community opposition.
 - 30.3. As Minister Genter would like to see changes made as quickly as possible, we are aware that trials are likely to slow down the ability to consider a Rule change. This is because RCAs included in the trial would still need 4-6 months to change their bylaws for the speed limits to be legal. We would then need to wait for the outcomes of a trial.

Recommendations

31. We recommend that you discuss with the Ministry of Transport and the NZTA the options for implementing 30 km/h variable speed limits outside urban schools in the context of improving the safety of children walking and cycling to school.

Brent Johnston
Manager, Mobility and Safety

MINISTER'S SIGNATURE:

DATE:

Appendix One – the effectiveness of 30 km/h variable speed limits in other jurisdictions

1. It appears that the effectiveness of 30 km/h variable speed limits differs from one city to another, and even from one location inside the same city to another.
2. A study⁶ in Calgary, Canada showed that when a 30 km/h variable speed limit was implemented in school zones, the mean and 85th percentile speeds in these zones were 31.4 km/h and 38.0 km/h respectively. While considerably lower than the 50 km/h speed limit on these roads at other times of the day (which reduces collision impact speed), this shows a significant spread in the travel speeds past schools which makes it more difficult for children to anticipate how much time they have to cross a road.
3. However, a study⁷ in Saskatoon, Canada, found that only 23 percent of motorists complied with a 30 km/h variable speed limit (50 km/h was the speed limit at other times of the day), in the absence of any enforcement or traffic calming measures. This study also showed that compliance levels dropped around 15 months after the 30 km/h variable speed limit was first implemented, which is likely a result of the 'novelty effect'. Despite the low levels of compliance in this study, the overall speed reduction represented an improvement to child pedestrian safety, and similar to that achieved in New Zealand where 40 km/h variable speed limits are in place with far better compliance.
4. Another study⁸ in Nebraska indicates that speeds in school zones were influenced more by the characteristics and speed limits of the streets on which the zones were located, rather than by the posted school zone speed limits.

⁶ https://ac.els-cdn.com/S000145751100090X/1-s2.0-S000145751100090X-main.pdf?_tid=15751e8d-4c0d-486b-8591-edb02646c22f&acdnat=1533156265_62d1084d1efe25907b2484929bac4c2a.

⁷ <https://www.roadsafety-dss.eu/#/reference/586>.

⁸ <http://onlinepubs.trb.org/Onlinepubs/trr/1990/1254/1254-001.pdf>.