NORTHLAND TRANSPORTATION ALLIANCE

"Moving Northland Forward"

Regional Speed Limit Review
Okaihau-Kaeo-Waimate Review Area

Recommendations Report

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1 Overview

Far North District Council (Council) is a Road Controlling Authority (RCA) within the Far North District and has a statutory role in managing the District's local roads (except State Highways), including the setting of speed limits. This statutory role as an RCA is set out under the Land Transport Act 1998, which also enables Council to make a bylaw that fixes the maximum speed of vehicles on any road for the safety of the public, or for the better preservation of any road (*Section 22AB(1)(d)*).

The Far North District Speed Limits Bylaw 2019 sets the speed limits on all local roads within the District, with the Schedules and maps in that Bylaw identifying the enforceable speed limits and where they apply.

Council undertook community consultation on proposed new speed limits within the Okaihau-Kaeo-Waimate Review Area (Figure 1). The proposed changes to speed limits were publicly notified in accordance with Section 156 of the Local Government Act 2002; with feedback being sought from 21 October to 5pm, Friday 22nd November 2019. Hearings were held on 4th December.

This Report brings together all the information that must be under Section 4.2(2) of the Setting of Speed Limits Rule 2017, including:

- Community feedback and recommendations (main body of Report)
- Recommended Speed Limit Maps (Appendix 1)
- Technical Information to be considered (Appendix 2 as a separate attachment)
- Statement of Proposal as notified (Appendix 3 as a separate attachment)
- Traffic Notes 37 and 56 (Appendix 4)

1.1 Purpose and Scope

The purpose of this Report is to provide all the information that the RCA is required to consider when setting speed limits under Section 4.2(2) of the Setting of Speed Limits Rule 2017.

The detailed technical information that was collated and considered when proposing new speed limits for public notification and community feedback forms part of the decision-making process and is appended to this Report.

This report meets the requirement of the Local Government Act (2002): Principles of Consultation (Section 82 and 82A). The report provides:

- A summary of the feedback received
- A discussion of the issues raised by submitters, either individually; or collectively where there are similar themes.
- The recommendations arising from the feedback, including the reasons for the recommendations.

Feedback is acknowledged in this report; but may not be specifically referenced within the body of this report due to the similarity of the decisions requested, reasons given, and the volume of submissions received.

1.2 Implementation of recommended speed limits

There are a number of factors that are required to ensure that a speed limit is legally enforceable:

- The Speed Limit must be set in accordance with the Setting of Speed Limits Rule 2017. This has been achieved through the speed limit review process (including the associated consultation process).
- New speed limits signage must be installed in accordance with Setting of Speed Limits Rule 2017 and relevant standards
- Speed limit signage must match the operative speed limits set out in the Speed Limits Bylaw

Once the recommended speed limits are confirmed, Council will prepare an implementation plan to ensure that new speed limits are legally enforceable.

2 Delegations

Speed Limits within the District are set by the RCA. The RCA is responsible for decisions relating to feedback on proposed speed limits. The Speed Limits Bylaw is made under Section 22AB(1)(d) of the Land Transport Act.

3 Community Consultation Process

The Far North District Speed Limits Bylaw is made pursuant to the Land Transport Act 1998. Section 22AD (1) of the Land Transport Act 1998 states that Section 156 of the Local Government Act 2002 applies. Section 156 (LGA) sets out the consultation requirements when making or amending a Bylaw.

- The Local Government Act 2002 provides the process for consultation
- The Land Transport Act 1998 and the Setting of Speed Limits Rule 2017 identifies who must be consulted.

The proposed changes to the Speed Limits Bylaw was assessed against the requirements of Section 156 of the LGA 2002. This assessment determined that the proposed changes would; or would likely to have; a significant impact on the public. The significance of the proposal relates to the wide-ranging proposals to change speed limits within the affected catchment area. These proposed changes would have the potential to impact on all road users to some degree.

Given the significance of the proposed changes, it was determined that consultation should be undertaken in accordance with Section 83 of the LGA 2002 – special Consultative Procedures.

3.1 Notification

A Statement of Proposal (Appendix 3) was prepared in accordance with the requirements of the LGA 2002 and notified in local media and on Council's website. In addition:

- The full Statement of Proposal and supporting technical information was made available on Council's website
- Press releases relating to the review and proposed speed limit changes were featured in local media
- Key Stakeholders and Statutory Consultees (Refer Section 8.10 of Appendix 2) were notified directly
- A detailed summary of the proposed changes for each road was sent to all ratepayers as part of a Council newsletter that accompanied rating information
- Information, including the Statement of Proposal and Technical Information was made available at Council offices and service centres
- An information / Drop in stand, attended by key staff was held at the Bay of Islands A&P Show at the Waimate Showgrounds (Located within the review area)

3.2 Hearings

Section 83(1)(d) and (e) of the LGA 2002 requires the Local Authority to provide an opportunity for persons to present their views to the local authority in a manner that enables spoken (or New Zealand sign language) interaction between the person and the local authority, or any representatives to whom an appropriate delegation has been made.

The community was provided with an opportunity to provide written submissions between 21 October and 22 November 2019. All submitters were asked to indicate if they wished to be heard in person to support their submission.

A total of 6 people presented their submissions at a formal hearing on 4th December, held in Council Chambers, Kaikohe.

The Hearing was attended by full Council in their capacity as the Road Controlling Authority. Key Northland Transportation Alliance Staff, who are responsible for recommending decisions to the RCA were also in attendance.

3.3 Hearing Summary

A range of issues were expanded upon by submitters at the hearing. Most of those issues have been addressed throughout this Report in some detail.

Sophie Bliss (*Submitter SLBOKW 19/41*) was generally opposed to the proposed changes in speed limits and provided detailed information relating to road safety issues, including information from Europe (refer 4.2.6).

Careless driving and poor driving skills were identified as key reasons for fatal and serious injury crashes. The submitters view was that changing the speed limits did not address this issue. Enforcement, or lack of enforcement was also highlighted, and the submitter questioned how the new speed limits would be enforced (refer 4.1.2).

The submitter requested that Council focus on logistics and maintenance issues (refer 4.2.3) and spend ratepayer money in that area, rather than on reviewing speed limits.

The submitter also raised specific issues relating to dust (refer 4.2.2).

Alex Hansen (*Submitter SLBOKW 19/60*) raised specific issues relating to Okokako Road (refer Tables in Section 7), Te Ahu Ahu Road and Waimate North Road (refer Section 6).

Okokako Road was identified as a 2.8km no exit road that was also utilised for walking, particularly by children and stock movement. A lower speed limit would therefore be appropriate.

The submitters primary concern related to lowering the speed limit on Te Ahu Ahu Road and how this may re-direct vehicles onto Waimate North Road, which is a winding and more dangerous road. This submitter suggested a further lowering of the speed limit along Waimate North Road (refer Section 6).

The submitter also raised some issues relating to Puketona Junction, which lay outside of the review area and principally relates to State Highways. The submitter suggested a small extension to the 60kph zone around Puketona Junction. This matter is noted; but is outside the jurisdiction of Council as an RCA (refer 4.1.1).

Keith Hawkins (*Submitter SLBOKW 19/*) lives at 547 Waimate North Road and provided additional evidence of crashes and near misses he had observed on Waimate North Road. In addition, the submitter provided some historical context about roads in the area (refer Section 6).

The submitter noted that, since Waimate North Road had been sealed, it has become a commuter route between Kerikeri and Kaikohe. This has had an impact on the safety of local people who used to walk along the road. The submitter believes that the road was never suitable as a 100kph road.

Reducing the speed limit further than proposed would help retain the historical context of the road (1st vehicular traffic road in New Zealand) and the surrounding area.

Vision Kerikeri (*Submitter SLBOKW 19/136*) focussed on speed limits in the Kerikeri area; specifically, Kapiro Road and Kerikeri Road. Vision Kerikeri raised issues relating to ongoing development in the Kapiro Road area. The submitter also noted that Kapiro Road is an east-west oriented road and is subject to sun strike and visibility issues as the sun rises and sets.

The matters that Vision Kerikeri raised have been noted, however, they relate to roads outside of the current review area (refer 4.1.1). These issues will be addressed when the Kerikeri area is reviewed in late 2020.

John Sanderson (*Submitter SLBOKW 19/43*) focussed on Kerikeri Road, which is outside of the current review area (refer 4.1.1). The submitter requested that the 50kph zone on Kerikeri Road be extended to a point past the markets. It was noted that, when the markets are active, a temporary speed limit of 50kph is often imposed.

The submitter pointed out that traffic travelling toward Kerikeri often backs up where the speed limit currently transitions from 80kph to 50kph. The submitters view is that Kerikeri Road from the Markets to the roundabout with State Highway 10 should also be lowered.

The submitter expressed an opinion that 60kph – 70kph on Kerikeri Road is too fast.

Robert Vincent Thompson (*Submitter SLBOKW 19/165*) discussed Ngawha Springs Road, noting that it should be included within the speed review (refer 4.1.1). The submitter also discussed views on the current NZTA reviews on the Puketona-Paihia Road. It should be noted that the speed review for Puketona-Paihia Road is being conducted by NZTA as the road is a State Highway (refer 4.1.1.1).

The submitter was supportive of the proposed speed reductions generally.

Submitter SLBOKW 19/106, representing Te Arangahnui requested a wide range of changes to the proposed speed limits across the review area. The main submission did not provide specific reasons for the suggested changed (refer Tables in Section 7). Dust was raised as a significant issue (refer 4.2.2).

4 Submissions Overview

4.1 Submissions Out of Scope

Out of scope submissions seek changes to speed limits that are outside of the Okaihau-Kaeo-Waimate Review Area; are seeking non-speed related decisions, for example, road maintenance; or seek solutions that are beyond Council's legal mandate, for example, enforcement issues.

The main out of scope issues are set out below. Specific submission numbers are not quoted to avoid confusion as often submissions also included comments and feedback that were both in and out of the scope of the review.

4.1.1 Speed limits in other areas

Submissions seeking a change in speed limit in areas outside of the review area are out of the scope of the current review and associated consultation. In order to make a legal change to a speed limit outside of the current review area; additional technical assessments would be required, as well as a separate consultation process. Submissions relating to areas outside the current review area, where Far North District RCA has jurisdiction have been retained on file for later consideration.

Prioritising speed reviews is primarily based on crash risk.

4.1.1.1 State Highways

Some submitters requested speed reviews to be undertaken on parts of the State Highway network, including, but not limited to:

- State Highway 1 north of Kaitaia
- State Highway 1 near Kawakawa
- State Highway 10 near Puketona

Council is an RCA for local roads only. This excludes State Highways, which are administered by the NZ Transport Agency (NZTA). NZTA have embarked on a review of speed limits on portions of the State Highway Network and are following a similar community consultation process to FNDC.

All submissions relating to the State Highway network has been noted and passed through to the NZTA Speed Limits Review Group.

4.1.2 Enforcement

Some submitters have raised the issue of enforcement. The feedback received can be categorised into the following broad topics:

- Without proper enforcement, lower speed limits won't work
- Lower speed limits will have a disproportionately high economic impact on lower socio-economic groups with more fines

Although speed limits are set by the RC, the responsibility for enforcing those speed limits is with the NZ Police. Any fines, including speed camera fines, do not go to Council. Nor do they go directly to the NZ Police.

It is agreed that enforcement is a key component of ensuring compliance with speed limits and improving safety on our roads. However, if the speed limit is neither safe, nor appropriate for the road environment, then, even with a good level of enforcement, safety outcomes will not be achieved.

NZ Police base their enforcement activities on risk, with the sole purpose of reducing serious and fatal crashes on our roads. The NZ Police target drivers that are driving in an unsafe manner for the road environment or exceeding a safe and appropriate speed (proposed speed limits).

4.1.3 Climate Change

The RCA is required to set speed limits in accordance with the legislation, rules and guidance of the day. The legislation that enables Council as an RCA to set a speed limit is the Land Transport Act 1998. Section 22AB(1)(d) states that the Road Controlling Authority may set a speed limit for the purposes of the safety of the public or for the better preservation of the road.

Current legislation does not allow the RCA to set a speed limit to better manage climate change. Studies do show that a lower speed limit does lead to lower fuel consumption and associated emissions. Some recent studies show that any increased costs associated with a longer journey time are offset by lower fuel and maintenance costs for commercial drivers. It is therefore considered that positive impacts on climate impacting emissions and fossil fuel usage may be an outcome of proposed lower speed limits; but cannot be a principle reason for setting a speed limit.

4.2 Other issues raised

Some submitters raised specific speed related issues that need to be specifically addressed. These issues raised by submitters were utilised to either oppose the lowering of speed limits generally; or justify a different speed limit.

4.2.1 Crashes occur on State Highways

One submitter stated that the Northland District Health Boards Briefing Paper on Fatal and Non-Fatal Motor Vehicle accidents in Northland identifies that the overwhelming majority of fatal crashes from 2013-2018 are on State Highways in Northland.

The submitter is correct in that many fatal and serious crashes do occur on our State Highways. Council does not have jurisdiction to set speed limits on State Highways as this is the responsibility of the NZ Transport Agency.

The speed reviews are based on a number of risk factors, including Personal Risk (number of vehicles vs crashes), Collective Risk (based on the km driven), and Infrastructure Risk (road and roadside hazards). These risks, and a range of other factors are considered when identifying a safe and appropriate speed for any given road.

Mapping of speed related crash statistics for the 10-year period from 2008 to 2018 (refer Technical Review Report) show the distribution of fatal, serious and minor crashes across all roads in the review area. It should be noted that the definition of a serious crash is where one or more persons have spent 3 days or more in hospital as a result of the crash. The mapping also only captures speed related crashes that have been reported through NZ Police and NZTA.

Anecdotal evidence suggests a significant number of speed related crashes are not reported, with farmers or local people pulling cars from ditches, particularly on unsealed roads.

Managing speed and setting a safe and appropriate speed limit that reflects the road environment is one component in reducing the number of these crashes.

4.2.2 Dust

Dust is an issue on our unsealed roads, and this is reflected in several submissions. Submissions either support lower speed limits as a way of controlling dust.

Dust generated on unsealed roads is influenced by both speed and the number / weight of wheels on the road. For example, a large logging truck traveling at 80kph will generate significantly more dust then a car travelling at the same speed. Likewise, a logging truck travelling at 60kph will generate less dust than if it were travelling at 80kph. There are other factors that have a significant influence on dust, including weather, road geometry and road surface materials.

Dust reduction is a potential outcome of a reduced speed limit. However, under the Land Transport Act 1998 (which restricts the purpose for a speed limit Bylaw), dust is not a principal reason for setting a speed limit.

The focus of the speed limit review is to identify and set a safe and appropriate speed that reflects the road environment, which includes, among other factors, dust generation.

4.2.3 Maintenance and Upgrade

Some submitters stated that Council should expend more effort on road maintenance rather than lowering speed limits. It was also noted that Council should upgrade or improve the roads instead of lowering speed limits.

4.2.3.1 Maintenance

Roading currently consumes one third of Council's overall Operating Expenditure (this excludes capital expenditure). In addition, Council receives additional subsidised funding from the government, which effectively triples Council budget for most road maintenance.

Council has an extensive road maintenance programme. However, the local road network in the Far North is extensive and includes a very high portion of unsealed roads.

4.2.3.2 Upgrading and widening roads

Submitters that have opposed the lowering of speed limits have stated that Council should widen or upgrade roads so that they are better quality, instead of lowering the speed limit.

Whilst upgrade and widening work may be desirable or planned; it is necessary to ensure that our speed limits reflect the current road environment. As roads are upgraded, speed limits can be revisited.

Upgrading roads comes at a significant financial cost. Council has a limited budget available for maintaining and upgrading our road network, even with government subsidies. Given the costs involved, it is necessary to prioritise which roads should be upgraded over time. Consideration needs to be given to a range of maters, including:

- The strategic nature of the road, for example, roads providing an efficient east-west linkage.
- The economic benefits of upgrading the road, for example reduced travel times.
- Other road priorities, including sealing unsealed roads

Once a road is identified for an upgrade, the time required to secure finances (including government subsidies), complete planning and design work and undertake the upgrades is typically in the 2-5 year timeframe, depending on the size and nature of the work to be undertaken. In most cases, it is cost prohibitive to upgrade the full length of a road to a consistent 100kph standard. Therefore, any upgrade work is normally undertaken in a staged manner over a several years.

Recommendations within this Report do identify some strategic roads where improving safety and upgrading the road should be considered over the medium to long term.

4.2.4 70kph Speed Limit

Some submitters, including the Automobile Association have suggested that some roads have a speed limit of 70kph set on them. The Automobile Association submission requests that a 70kph speed limit apply to most unsealed roads as that is a speed that is attainable on those roads (refer 4.2.4 below on attainable speeds).

The RCA must work within a hierarchy of legislation, national rules and guidance documents when setting speed limits. The RCA may set a 70kph speed limit. The National Speed Management Guidance 2016 and the Setting of Speed Limits Rule 2017 discourage 70kph zones, except in exceptional circumstances.

The Setting of Speed Limits Rule 2017 requires additional sign-off at a national level when setting a 70kph speed limit.

Consistent with the above documents, 70kph zones will only be used where there is clear evidence that both 60kph and 80kph are inappropriate. Where there is an existing 70kph zone, consideration will be given to the benefits of changing that speed limit to 60kph or 80kph.

4.2.5 Attainable Speed Limits

The Automobile Association (AA) makes a general comment in its submission that a safe speed as totally dependent on the current state of the road. On a recently graded road with copious loose gravel, a maximum speed of 50 kph may be appropriate, but on a well-swept road with minimal loose gravel, speeds of 70 kph are safe.

It is noted that the speed review is recommending a 60kph speed limit on many unsealed roads. This speed limit would seem appropriate, based on the AA example of different speeds on un-sealed roads. It is also noted that 60kph is near the actual speed that most road users travel at on unsealed roads in the Far North District.

On some sections of road (whether sealed or unsealed) a higher speed than the posted speed limit may be attainable. Conversely, there will be other sections of the road where a much slower speed is required.

The purpose of the reviewed speed limits is to set a safe and appropriate speed for the road as whole, having consideration to the road geometry and the wider road environment and its principle uses. The safe and appropriate speed is intended to promote a safer driving environment for all road users, including other traffic, pedestrians and cyclists where appropriate.

4.2.6 European Speed Limits

One submitter presented detailed information on European speed limits at the Hearing with specific reference to the unlimited speed limit in Germany. The submitter was opposed to the lowering of speed and as part of the evidence opposing the reduction, relied on both speed and fatality data from Germany.

It is noted that, in Germany the only "unlimited" speed limit is on the Autobahn (motorway) that has been designed and maintained to an exceptionally high standard. It is also noted that there are sections of the Autobahn where a fixed lower speed limit applies due to the geometry of the road. In all cases, the posted recommended speed limit on the Autobahn is 130kph. Speeding tickets are also issued where a vehicle is travelling at a speed that is inappropriate for the conditions or the car itself.

Elsewhere in Germany, speed limits are generally 100kph and 50kph in urban areas. Speed limits are strictly enforced by police and there is an extensive network of speed cameras.

The roads in Germany and Western Europe as a whole, are of significantly higher design standards than New Zealand roads. Many of the main routes and arterial roads are dual carriageway. In comparison, roads in the Far North are often unsealed, narrow and have significant curves. Sealed roads in the Far North also tend to be relatively narrow with limited shoulder areas.

Comparison between New Zealand Roads and European Roads, including speed limits and relative crash and fatality rates is inappropriate as there are vast differences in the overall road environment.

4.3 Statutory Consultee Submissions

Section 2.5 of the Land Transport Rule: Setting of Speed Limits 2017 sets out the persons or groups that must be consulted before setting a speed limit. In addition to the local communities that may be affected, the Rule requires the RCA to consult:

- The Territorial Authorities that are affected by the proposed speed limits
- The Commissioner of Police
- The Chief Executive of the Automobile Association
- The Chief Executive of the Road Transport Forum New Zealand
- New Zealand Transport Agency (NZTA)
- Any other organisation or road user group that the RCA considers affected

All of the above Statutory Consultees were directly notified of the proposed new speed limits; were provided a full Statement of Proposal and advised of where additional information could be found. The current review area is entirely contained within the Council's Boundaries.

The notified Statement of Proposal identified two schools where Variable School Speed Zones were being considered. A further school was identified as a result of community consultation. To address these specific areas, the Ministry of Education and the two identified schools were consulted prior to notification. The Ministry of Education and the individual schools were also directly notified of the proposed speed limits and provided a copy of the Statement of Proposal and where additional information could be found.

The following Statutory Consultees provided no formal response:

- The Commissioner of Police, including the Northland Area Commander
- The Chief Executive of the Road Transport Forum New Zealand

It should be noted that, in addition to the Chief Executive of the Road Safety Forum, all local Road Safety Forum groups and their members were notified of the proposed changes and provided an opportunity to make a submission. Submissions from these groups or individuals are summarised in the tables below.

4.3.1 Automobile Association (AA)

The AA was consulted through the Chief Executive and the Northland Branch. The submission received stated that:

At the AA Northland District Council meeting on 19 Nov, the majority of our board members were in support of the proposed Far North speed review programme, with the one proviso that 60 km/h should be increased to 70 km/h for rural unsealed roads. While these are unlikely to be subject to intensive speed monitoring, councillors who frequently drive on unsealed roads felt that under certain road conditions (e.g. well-swept, little loose material), speeds in excess of 60 could be safely achieved.

The general support of the AA is noted. The issues noted by the AA are addressed specifically in 4.2.4 and 4.2.5 above.

4.3.2 New Zealand Transport Agency (NZTA)

A summary of the NZTA submission and the response is set out below:

NZTA Submission

The Agency's submission is focused on assisting Council with alignment of the proposals with the Setting of Speed Limits Rule and the intent of the Speed Management Guide, and on achieving national consistency (ie alignment with the information provided to RCAs by the Agency) for speed limits across all RCAs.

The proposals generally align very well with the information provided by the Agency. It is clear that generally 60km/h speed limits are proposed for unsealed roads and 80 for rural sealed roads.

Old Bay Road (IRR 1.97) and Waiere Road from SH10 to Upokorau Road (IRR 1.82) are sealed roads with SAAS of 60km/h that are proposed as 80km/h, but that seems to be to ensure consistency to the above approach in the context of the broader network. Fundamentally these roads have IRR well higher than 1.6 that allows 80km/h to be safe, so will require monitoring to identify if safety improvements are required to maintain the proposed 80km/h speed limit safely.

The following sealed roads have high IRR so won't be safe at 80, and also have very low travel speeds that would justify a lower, safer speed limit. The Agency ***disagrees*** *with the proposed 80km/h speed limits for these roads and recommends safe and appropriate speed limits of 60km/h:*

- *Waipapa West Road (IRR 1.88; mean speeds 45-49) and northern end of Ness Road (IRR 2.06; mean speed 35-39)*
- *South end of Waimate North Road (winding; IRR 1.87; mean speeds 40-44)*
- *Waipapa West Road (IRR 1.88; mean speeds 45-49)*
- *Valencia Lane (winding; IRR 1.93; mean speeds 40-44)*
- *Montrose Road is noted in MegaMaps as unsealed (IRR 2,25; mean speeds 35-39) – however using the IRR calculator in MegaMaps still gives an IRR of 1.82 if sealed, so still not achieving the 1.6 required for 80 to be safe.*

Other observations are:

- *Pataka Lane could be 40km/h (mean speeds are less than 30)*
- *Poplar Lane is rural in nature rather than an urban 50km/h arterial environment - table 1.4 of the Guide does not provide for 50km/h speed limits in rural environments - recommend 40km/h (mean speeds are 30-34).*

Roads in the top 10% of high benefit speed management opportunities

The government has tasked all Road Controlling Authorities to accelerate the implementation of the new Speed Management Guide, focusing on treating the top 10 percent of the network which will result in the greatest reduction in death and serious injury (DSi) as quickly as possible (refer 2018-21 Government Policy Statement page 12).

Three of the most significant of the top 10% DSi saving network lengths in the District are included in this area (Waiare, Wiroa and Te Ahu Ahu Roads), and have been addressed by the current proposals.

The other top 10% local roads within the Far North District are Russell-Whakapara Road; Otiria Road; Kaitai-Awaroa Road Ahipara Road; and Kaitai-Awaroa Road. Addressing speed on these roads has been assessed to address over 7 DSi each ten years and contribute to the 319 DSi saving annually through addressing the top 10% across the country. The Agency encourages Council to treat these top 10% corridors with safe and appropriate speed limits as quickly as possible.

School Speed Zones

The Agency does not believe either of the school zones proposed will meet the specific warrant requirements of the general 40km/h school speed zone approval gazette notice New Zealand Gazette, 21/4/2011, No. 55, p. 1284 (see Traffic Note 37) and ***disagrees*** *with these proposals:*

- *For Springbank School the number of pupils walking to school is not clear from the description, but generally the risk would appear to be a turning traffic risk in and out of the gates. 60km/h is the Safe System speed for this risk; and will be delivered with the permanent 60 speed limit proposed. Mean speeds are currently 55-59km/h, which will drop marginally with the new speed limit, but 40km/h will not be achieved in this rural environment if a variable 40 was operating without some reasonably significant traffic engineering measures (not detailed in the proposal). Therefore, the requirements of the general gazette approval for the proposed 40km/h variable speed limit will not be met, meaning the speed limit will not be legal or enforceable.*
- *For Te Rangi Aniwaniwa there is no mention of active mode activity in the description, which is the primary purpose of the 'urban' 40km/h variable speed limits outside schools. Mean speeds on the sealed roads around the airport are 60-64 which would justify a 60km/h speed limit (rather than the 80 assessed by Megamaps), which would address the turning traffic risk at the school and be appropriate for the unsealed section to the south. Again, the requirements of the general gazette approval for the proposed 40km/h variable speed limit will not be met; meaning the speed limit will not be legal or enforceable. Council has consulted on a speed limit change for this area, I believe the consultation expectations of the Rule have been met and a permanent 60km/h speed limit (as a legal alternative) could be set as part of the current process. This would provide an improvement over the current 100km/h limit. Please note the minimum length of a 60km/h limit is 500m.*

All other proposals are supported by the Agency, and we compliment the Council on its proactive approach to speed management, and the extent of the changes proposed.

Responses to NZTA Submission

Specific responses to speed limits on roads identified in the NZTA submission are set out in the Tables in Section 7 of this Report, alongside a summary of submissions received by the wider community. Recommendations relating to School Zones are set out in Section 5.

The NZTA comments relating to the Top 10% of roads are noted, and the following response is provided by way of clarification:

The Far North RCA acknowledge that the government has tasked RCA's with accelerating the implementation of the Speed Management Guide, and the requirement to address the top 10% High Benefit roads as quickly as possible. The NZTA Submission has identified the relevant roads in the District.

The Far North RCA is focussed on the highest benefit roads. However, there are also a number of areas where there is a strong community desire to address speed limits. This desire arises from a perception of road safety, but is primarily driven by rapid development, particularly in the Kerikeri area. The RCA has therefore developed a prioritisation matrix that gives priority to the highest risk roads, but also takes account of community concerns.

Pro-actively managing speed limits in rapidly developing areas enables the Road Controlling Authority to manage longer term risk, rather than taking an entirely re-active approach.

To resolve the competing priorities of current risk; growing risk due to development; and community concerns; a wider, more wholistic approach to managing speed limits was considered appropriate. A catchment-based approach that centres around the highest benefit roads was adopted.

The catchment wide approach takes an initial focus on high benefit roads; but also extends the review area out to a logical catchment area. This reduces the number of anomalies in speed limits (for example, where a sealed high-risk road has a reduced speed limit, and an unsealed poor-quality side road retains a 100kph speed limit); and enables the road Controlling Authority to address wider community issues.

The Far North RCA has developed its draft forward work programme as part of a regional approach to speed limit reviews, consistent with the Northland Transportation Alliance delivery model. The forward work programme sees the additional roads identified by NZTA and their catchments prioritised in the ongoing review programme.

5 School Speed Zones

There is a total of four schools within the speed review area. The Kaikohe Christian School (Waimate Campus) was not identified in the original Statement of Proposal as the School is private and does not appear on the Ministry of Education School Database. However, the School was identified by a submitter.

5.1.1 General Submissions on School Zones

The Ministry of Education is the governments lead advisor on the New Zealand education system and has a responsibility for all education property owned by the Crown. The Ministry of Education submission supported the proposed Variable School Speed Zones outside Springbank School and Te Rangi Aniwaniwa and a reduction in the speed limit from 100kph to 60kph outside Oromahoe School.

One submitter did not support the proposed School Zone speed limit regime on the basis that it is too confusing. *Drivers must read the sign, interpret it, check the time and then decide whether or not it applies. The submitter continued to note that the present regime at other schools (40kph "when children are present") makes far more sense, takes no time to work out, and causes less inconvenience to motorists. More education needs to remind the public that passing a stopped school bus is 20kph and many are still flying past at 60-80kph.*

It is unclear what the differences between the present regime at other schools, and what is proposed at Springbank and Te Awanawanui Schools are. It is assumed that the submitter

is referring to the difference between a static sign and the electronic flashing signs that show the variable speed limit at the appropriate time.

Variable School Speed Zones are now common throughout New Zealand, particularly in urban areas. Electronic signage, where appropriate, provides a clear statement as to the speed limit that is in force at the time.

The governments "Road to Zero: NZ's Road Safety Strategy 2020-2030 identifies the lowering of speed limits adjacent to education facilities as a priority. The target is for all urban schools to have a speed limit of 30kph or 40kph and rural schools, a minimum of 60kph. This is to be achieved through variable or permanent speed limits.

5.1.2 Oromahoe School

Oromahoe School is a rural school catering for Years 1 to 8 and has a current roll of 131 students.

Oromahoe School is located at the end of Oromahoe School Road. The School gate is located within a cul-de-sac at the end of the road. Oromahoe Road is approximately 400m long and is very narrow and unsealed. There is limited shoulder width and there are one lane bridges. There are no pedestrian facilities along the road.

The school drop-off area does not meet the requirements of both NZTA Traffic Note 37 and 56 (Appendix 4) which provides guidance as to when Variable School Speed Zones are appropriate. As such, a School Speed Zone was not proposed for this School.

Submitters generally supported a lowering of the speed limit, with submitters seeking 50, 60 or 80kph speed limits. Submitters noted that a lower speed limit of 60kph would be good for children.

An additional site visit was undertaken by a Senior Road Engineer. The road was further reviewed with consideration of the Governments newly released "Road to Zero" Strategy.

Oromahoe Road was found to be approximately 400m long and utilised as an access road. Given the narrow, unsealed character (including single lane bridge and lack of shoulder for pedestrians) it was considered that 40kph would be more appropriate to align with a school speed zone. A further lowering of the speed limit to 40kph would have an insignificant difference in travel time, compared to the originally proposed 60kph limit.

It is recommended that Oromahoe School Speed Limit be addressed by a permanent 40kph speed limit along the length of Oromahoe School Road to better align with the character of the road and the location of Oromahoe School. The lower speed limit should be accompanied by appropriate school signage.

5.1.3 Kaikohe Christian School (Waimate campus)

The Statement of Proposal did not identify Kaikohe Christian School as it did not appear in the Ministry of Education's school database. A submitter identified the School as needing a lowered speed limit at the Hearing.

Kaikohe Christian School (Waimate Campus) is a private school that caters for up to 36 students from Year 1 through to Year 8. The School is set back from the road and there are facilities for students to be dropped off within the school grounds. All students arrive at the school by bus.

The School is located at 421 Te Ahu Ahu Road, near the intersection with Waimate North Road. The school is not obvious from the road.

The school drop-off area does not meet any of the requirements of NZTA Traffic Note 37 or 56 (Appendix 4) which provides guidance as to when Variable School Speed Zones are appropriate.

The speed limit outside the School is 100kph. However, signage has been installed stating 40kph when children are present. This signage is advisory only and has no current legal enforceability.

The recommendations in this Report is to reduce the permanent speed limit on Te Ahu Ahu road to 80kph. A 40kph variable speed limit outside of the school would not meet the requirements of Traffic Note 37 (Appendix 4) and as such, **will** not be legally enforceable.

The reduction of the permanent speed limit along Te Ahu Ahu Road to 80kph will reduce the overall speed of vehicles approaching the school.

Although a permanent 60kph speed limit is consistent with the governments "Road to Zero" Strategy; a permanent reduction to 60kph for a 500m length from 100m to the east of the intersection with Waimate North Road through to a point (approximately 300m) to the west of the school is not expected to achieve an appropriate level of compliance.

The Road to Zero Strategy seeks a 60kph speed limit outside rural schools and educational facilities. However, standards are yet to be prepared with respect to this component of the Strategy. Given the overall circumstances of the Kaikohe Christian School (Waimate Campus) it is considered appropriate to further review the speed limit outside the school as soon as appropriate standards are developed and made clear.

It is recommended that Kaikohe Christian School (Waimate Campus) Speed Limit be addressed by the permanent 80kph speed limit as notified for Te Ahu Ahu Road. Additional signage and road markings should be installed to make the approaches to the school clear to the motorist.

The speed limit outside the school will be further reviewed as the standards for implementing Road to Zero Policy is made clear.

5.1.4 Springbank School – Waimate North Road

Springbank School is an independent co-educational school that caters for Year 1 – 13 students with a junior, middle and senior school. The current roll of the school is 190. Most students are dropped off by either car or bus, although some local students do walk to school.

The school is located on Waimate North Road approximately 500m south of State Highway 10.

The current speed limit outside the school is 100kph. However, signage has been installed stating 40kph when children are present. This signage is advisory only and has no current legal status and therefore unenforceable.

There were 14 submitters generally in support of lowering the speed limit along the section of road that incorporates the school. Several submitters sought an extension of the proposed 60kph permanent speed limit.

The Principal of Springbank School supported the Variable School Speed Zone; but noted that the proposed 60km/hr speed limit would ensure a good level of safety for the school's families (and local residents) without significantly affecting road users' travel time.

NZTA noted that the primary risk appeared to be a turning traffic risk in and out of the gates, and that this risk could be appropriately addressed with the 60kph permanent speed limit. NZTA believes that the requirements of the general gazette approval for the proposed 40km/h variable speed limit will not be met, meaning the speed limit will not be legal or enforceable.

An additional site visit was undertaken by a Senior Road Engineer. The road was further reviewed with consideration of the Governments newly released "Road to Zero" Strategy and the submissions received.

The additional review confirmed that only some of the requirements of NZTA Traffic Note 37 would be met by the School. A lower speed limit of 40kph would not be achieved without some significant engineering work to match the road to a lower speed limit.

The additional review agreed with the comments of NZTA in so far as a permanent 60kph speed limit would address the risk posed by the school drop off system.

Additional school signage would go some way to ensure drivers awareness of the school location and that children may be present. A permanent 60kph speed limit matches the road environment and is consistent with the Road to Zero Strategy.

It is recommended that the Springbank School Speed Limit be addressed by a permanent 60kph speed limit as part of the wider reduction in speed limits along Waimate North Road (set out in the tables below). Appropriate school signage should also be installed.

5.1.5 Te Rangi Aniwaniwa – Quarry Road, Kaitaia

Te Rangi Aniwaniwa is a rural school that caters for Year 1 to 13 students with 162 students and 30 staff members. All students arrive by bus or car.

Te Rangi Aniwaniwa is located on Quarry Road, near the Kaitaia Airport. Although the School is outside of the Okaihau-Kaeo-Waimate Speed Review Area; the Ministry of Education has identified this school as a priority for introducing a Variable School Speed Zone.

The School, along with the Ministry of Education was consulted prior to proposing a Variable School Speed Zone. Te Rangi Aniwaniwa did not provide a formal submission.

NZTA noted that Mean speeds on the sealed roads around the airport are 60-64 which would justify a 60km/h speed limit, which would address the turning traffic risk at the school and be appropriate for the unsealed section to the south.

It was NZTA's view that the requirements of the general gazette approval for the proposed 40km/h variable speed limit will not be met; meaning the speed limit will not be legal or enforceable. However, NZTA noted that the consultation expectations of the Setting of Speed Limits Rule 2017 have been met and a permanent 60km/h speed limit (as a legal alternative) could be set as part of the current process. This would provide an improvement over the current 100km/h limit.

An additional site visit was undertaken by a Senior Road Engineer. The road was further reviewed with consideration of the Governments newly released "Road to Zero" Strategy and the submissions received.

It is noted that, whilst the full length of Quarry Road is not part of the current review, there is a clear expectation that the speed limits along this road will be reviewed in the near future. The Megamaps dataset, which is utilised as an initial basis for speed reviews assesses the sealed section of Quarry Road as 80kph. Having not undertaken a detailed assessment, it is considered likely that a 60kph speed limit would be proposed for the unsealed section of Quarry Road. As such, having a 60kph permanent speed limit would not create a long-lasting anomaly.

The minimum length of a 60kph speed limit is 500m. A permanent speed limit of 60kph can therefore be implemented from the end of the seal to the south of Te Rangi Aniwaniwa to a point north-west of the Kaitaia Airport entrance. Vehicles approaching the school from the unsealed section of the road are expected to be travelling at a speed significantly slower than the current 100kph speed limit. A permanent 60kph speed limit will encourage the maintenance of a slower speed past the school, rather than an acceleration.

Extending the 60kph zone to a point north west of the Airport entrance has the added benefit of slowing traffic to and from the Airport.

It should be noted that there is an option to defer the lowering of this speed limit until the wider review of the area has been undertaken. However, it is considered that the speed related issues outside the School are significant and delaying the change is not recommended.

It is recommended that the Te Rangi Aniwaniwa Speed Limit be addressed by a permanent 60kph speed limit extending from the end of the seal on Quarry Road through to a point 50m to the north west of the Kaitaia Airport entrance. Appropriate school signage should also be installed.

6 Significant Roads

Following the consideration of submissions received, NTA Staff undertook additional site visits to further assess submitters views and the road environment. All recommended speed limits are set out in the Tables in Section 7 of this Report. Additional detail as to the reasons for recommendations have been provided for the following four roads as they form important links across the review area, or were subject to a number of submissions:

- Waimate North Road
- Waiare Road
- Wiroa Road
- Te Ahu Ahu Road

6.1 Waimate North Road

It was originally proposed that the speed limit on Waimate North Road be reduced from 100kph to 60kph from State Highway 10 to a point 50m south of Amuri Road. It was also proposed that the remainder of Waimate North Road have a speed limit of 80kph.

6.1.1 Community Feedback – Waimate North Road

A total of 14 submitters were supportive of a reduction in speed limit on Waimate North Road. One submitter opposed any reduction in speed limit.

Submitters supporting a lower speed limit suggested that the proposed 60kph speed limit be extended further along Waimate North Road. The extended 60kph speed limit zones sought by submitters ranged from a relatively short extension through to extending the 60kph zone for the full extent of the Road.

Some submitters suggested extending the 60kph zone further to the intersection with Te Ahu Ahu Road as it is a high residential area. One submitter suggested a speed of 50kph from SH10 to well past Springbank School.

The Principal of Springbank School supported the proposed 60km/hr speed limit and noted that it would ensure a good level of safety for our school's families (and local residents) without significantly affecting road users' travel time.

Several submitters stated that many stretches of the road are hazardous to drive as this is a winding road with few areas along the road to pull over. There are a lot of trucks and vehicles with trailers as well as agricultural machinery. It was also noted that Waimate North Road was often used as a “rat run” to avoid other congested areas.

During the hearing, submitters seeking a lower speed limit along the full length of Waimate North Road provided additional information. Waimate North Road is the shortest route between Kerikeri and Kaikohe. It was thought that lowering of speed limits on other roads would push additional traffic along Waimate North Road, unless there was a more extensive lowering of the speed limit on Waimate North Road.

It was noted that since Waimate North Road was sealed, it has become more of a commuter route, and as a result, activities such as cycling, walking and horse riding has significantly reduced along this road. One submitter expressed a view that Waimate North Road has

never been suitable for a 100kph speed limit and that a much slower speed limit would be appropriate.

The scenic and historic nature of Waimate North Road was also emphasised, particularly in that it was the first public road to be open to vehicular traffic in New Zealand. A higher speed limit is not considered conducive to the historic and scenic nature of the road.

One submitter requested that Waimate North Road/SH10 should have a round-about to stop traffic blocking the view. It should be noted that this request is beyond the scope of this Review. A round-about project at the location identified would be a project led by NZTA as it involves a State Highway.

6.1.2 Waimate North Road Analysis

All submissions were assessed, alongside evidence-based matters and relevant speed management guidance, legislation and engineering standards. The following options were considered:

1. Implement the speed limit change as proposed (60kph from SH10 to 50m south of Amuri Road)
2. Extend the 60kph speed limit from SH10 to the intersection with Wiroa Road and the remainder 80kph
3. Extend the 60kph speed limit from SH10 to Valencia Lane, with an 80kph zone from Valencia Lane to a point at approximately 660 Waimate North Road, reverting to a 60kph speed limit from that point to the intersection with Te Ahu Ahu Road.
4. Extend the 60kph speed limit for the entire length of Waimate North Road

Option 1

It is noted that Waimate North Road is subject to significant ongoing development for rural residential purposes from State Highway 10 through to Valencia Lane. Valencia Lane itself is principally used for access to rural residential properties.

Submitters identified a strong community desire to extend the currently proposed 60kph zone further to the south of Amuri Lane. However, the extent of such an extension varied among submitters.

A review of the road environment, as well as expected development, indicates that extending the 60kph zone to a point south of Valencia Lane would meet many of the submitters principle concerns, as well as the need to match the speed limit with the overall road environment.

Option 2

Extending the 60kph speed limit to the intersection with Wiroa Road would meet the majority of submitters concerns.

If this option were pursued, it would be necessary to extend the proposed 60kph zone on Wiroa Road (currently proposed to extend a short distance to the west of the airport entrance) to a point approximately 50m to the west of the intersection with Waimate North Road. This would provide continuity of speed limits and avoid changes in speed limits over a short distance, which is discouraged by the Speed Management Guidance 2016 document.

Waimate North Road, from Valencia Lane to Wiroa Road is a sealed, two lane road that has a generally straight alignment. The safe and appropriate speed for this stretch of road is 80kph. Lowering the speed limit from Valencia Lane through to Wiroa Road would not achieve a high level of compliance. In the medium term, some engineering work would be

required to match the road environment with the slower speed limit along this section of road.

Option 2 is therefore not supported in its entirety. However, extending the 60kph zone through to Valencia Lane would ensure that speed limits did match the road environment to a much better extent.

Option 3

Waimate North Road can be divided into three distinct zones:

State Highway 10 to Valencia Lane – where the road environment is winding in nature through to the southern part of this section where the alignment can be better described as curved. This section of the road is characterised by significant rural residential activities, including Springbank School. To the south of Valencia Lane, there is a distinctive change to a more rural environment.

Valencia Lane to approximately 660 Waimate North Road – where the road environment is generally straight with some curves. The wider environment is open space and rural in nature with fewer direct accesses onto the road.

660 Waimate North Road to Te Ahu Ahu Road – where the road begins to descend from the Waimate Plateau toward Te Ahu Ahu Road. The road is winding to torturous in its alignment and there are several one lane bridges along this stretch of road.

Option 3 would set three speed limits (two 60kph and one 80kph speed limit) along the length of Waimate North Road, with the boundaries of those speed limits indicating a clear change in the road environment. The changes in speed limits are not expected to be confusing as they are associated with changes in the road environment, and as such are consistent with Speed Management Guidance 2016.

The overall length of the two 60kph and the 80kph zone are significantly longer than the minimum distance required for each speed zone and would therefore meet Speed Management Guidance standards.

Option 3 is the preferred option.

Option 4

A few submitters requested that Waimate North Road be made 60kph for its entire length. The overall rationale highlighted by submitters included the historic nature of Waimate North Road and the surrounding landscape. The lower speed limit would enable the road to be promoted as a scenic route rather than a commuter and arterial route.

Submitters also highlighted that, since becoming sealed, Waimate North Road has become a higher speed commuter route between Kerikeri and Kaikohe. The proposed reduction in speed along Te Ahu Ahu Road (which was supported) would have the effect of shifting more traffic onto Waimate North Road, which is an unwanted outcome.

Reducing the speed limit along the full length of Waimate North Road would result in a speed limit that does not reflect the road environment for a significant portion of the road and therefore would not be credible. This is expected to lead to a high level of non-compliance.

6.1.3 Recommendation

It is recommended that the proposed 60kph zone be extended from SH10 to an appropriate distance to the south of Valencia Lane. An 80kph zone be set from Valencia Lane to a point at approximately 660 Waimate North Road and a 60kph speed limit from that point to the intersection with Te Ahu Ahu Road.

6.2 Waiare Road

Waiare Road forms a connection from State Highway 10 to State Highway 1 and provides access to Puketi Forest. The road is utilised by heavy goods vehicles, including logging

trucks, tankers and tourist buses. The road is also utilised by tourist vehicles such as campervans that are accessing Puketi Forest, as well as local traffic.

Waiare Road was considered in three sections:

- Waiare Road from State Highway 10 to Upokorau Road (northern sealed section)
- Waiare Road from Upokorau Road to 50m north of Puketi Road (unsealed Section)
- Waiare Road from 50m north of Puketi Road to State Highway 1 (southern sealed section)

6.2.1 Community Feedback - Waiare Road

Two submitters supported a reduction in speed and eight opposed. One submitter sought a speed limit of 80kph, although it is uncertain if this related only to the sealed sections or the road as a whole.

One submitter stated that the sealed section of this road can handle between 80kph and 100kph.

Submitters that supported the proposed speed limits highlighted that many sections of Waiare Road are hazardous to drive. Speed limits should be reduced from 100kph to 60kph, especially where the road narrows and there is no shoulder.

Submitters also noted that the road is winding with few areas to pull over. There are 3 one-way bridges; visibility of oncoming traffic is nil or limited on many corners; and vehicles are often trucks, or vehicles with trailers and agricultural machinery.

Eight submitters opposed the proposed lower speed limits, providing the following reasoning:

- The road is mainly straight and good visibility, it makes no sense to reduce the speed limit on this road (*note: it is assumed this comment relates to the sealed sections*).
- The issue is not speed, it is that the road is too narrow. Roads should be widened.
- Reducing the speed limit won't affect crash or fatal crash occurrences as the problem is road surface and condition. Widen and repair instead.
- The North is known to be a low socio-economic area. Reducing the speed will result in more fines, penalties and loss of demerit points, for families already struggling.

6.2.2 Analysis – Waiare Road

Waiare Road connects the Okaihau Settlement with State Highway 10 in the north. Waiare Road winds along the southern boundary of Puketi Forest and provides access to the forest. The northern section of the road that connects to State highway 10 is sealed and has two lanes with a marked centre line. The sealed section gives way to unsealed road at Upokorau Road. The unsealed road continues through to the intersection with Puketi Road, where the road becomes a two-lane sealed road again.

The unsealed section of Waiare Road is generally narrow, torturous and often has limited visibility. The road follows a river and is cut into an embankment in places. Where this occurs, there is no shoulder on either side of the road, and there are steep embankments.

A speed in excess of 60kph is unattainable on large parts of the unsealed part of the road. Exceeding 60kph would require the utilisation of the entire carriageway, and given the limited visibility, such driving behaviour would be considered dangerous or reckless.

Crash data for Waiare Road indicate consistent reported crashes along the southern sealed sections of Waiare Road. There is a medium to high personal risk of crashing on this road. This indicates that the current speed limit of 100kph is inappropriate.

An 80kph speed limit on the sealed sections of Waiare Road would maintain consistency with other similar roads in the area and would better match the current operating speed on the road.

6.2.3 Recommendation

It is recommended that a speed limit of:

- ***80kph be set on Waiare Road from State Highway 10 to Upokorau Rd (northern sealed section)***
- ***60kph be set on Waiare Road from Upokorau Rd to 50m north of Puketi Road (unsealed Section)***
- ***80kph be set on Waiare Road from 50m north of Puketi Road to State Highway 1 (southern sealed section)***

6.3 Wiroa Road

Wiroa Road forms an important east-west linkage and commuter route from Kerikeri to Kaikohe, as well as providing access to Far North's main Airport. Wiroa Road was considered in two sections:

- From the round-about intersection with State Highway 10 to 50m southwest of Kerikeri Airport Entrance
- From 50m southwest of Kerikeri Airport Entrance to Waiare Road

6.3.1 Community Feedback – Wiroa Road from State Highway 10 to Kerikeri Airport

Two submitters supported the proposed new speed limit and six were opposed.

Submitters were opposed the speed reduction from 80km to 60km because it is the main route and it will make driving to Kerikeri from Okaihau slower.

Submitters suggested that the road needed widening instead of lowering the speed limit. They also noted that it is very busy with commuters and every day local traffic.

Most drivers travel at 100kph as it is safe to do so, and slow down for corners where it is not. This is no different from any other road and as such a reduction in speed limits is not supported.

6.3.2 Community Feedback – Wiroa Road from Kerikeri Airport to Waiare Road

Two submitters supported the proposed new speed limit and six were opposed.

Submitters stated that the road is a main thoroughfare with a lot of traffic, both commuter and heavy vehicle. Reducing the speed limit will not affect crash or fatal crash occurrences as the problem is road surface and condition. Council should widen and repair the road instead of lowering the speed limit.

One submitter did not support the reduction in speed limits because most drivers travel at 100kph as it is safe to do so, and slow down for corners where it is not safe. This is no different from any other road.

Submitters stated that a speed reduction from 100kph to 80kph will make driving to Kerikeri from Okaihau slower. Concern was also expressed that enforcement would adversely affect low income families.

6.3.3 Analysis – Wiroa Road from State Highway 10 to Kerikeri Airport

Wiroa Road from State Highway 10 to the Kerikeri Airport has a 'safe and appropriate speed' assessment of 60-70kph. The current operating speed that most vehicles travel at is 60-80km/h. Overall, the desired speed along this section of road is 70-90km/h, which is above, or at the upper end of both the 'safe and appropriate speed' and the current operating speed. This variance indicates that lowering the speed limit is appropriate and will have an insignificant effect on travel times.

Wiroa Road from the roundabout at State Highway 10 to the Kerikeri Airport is characterised by rural residential and medium density commercial land uses. The overall environment has

changed over time from a rural countryside feel to more of an urban feel. This is based on growth in the number of dwellings and business that have direct access onto the road.

Wiroa Road is part of a tourism byway for wineries and is the main access Kerikeri Airport, which is the Far North and Bay of Islands main airport. As such, it is expected a high proportion of drivers will be unfamiliar with the road and the general surrounds.

Growth in the area will increase the urbanisation of Wiroa Road from State Highway 10 to the Airport, increasing the likelihood that this section of the road will become part of wider Kerikeri town.

Adopting a more urban speed limit of 60kph is appropriate given the current and expected future road environment. However, in adopting a 60kph speed limit from State Highway 10 to the Airport will require 'engineering down' to support the lower speed limit. Engineering work can be staged; change speed limit to 60km/h now, programme the upgrades (footpath or shared path and kerb & channel) over the next 5-10 years.

It is also recognised that, in adopting a 60kph speed limit, there will be some inconsistency with the current 80kph speed limit along Kerikeri Road. It is anticipated that, when reviewed, it will be recommended that Kerikeri Road be lowered to 60kph. A permanent lowering of Kerikeri Road speed limit cannot be undertaken until an appropriate level of consultation is undertaken within the next 12 months.

6.3.3.1 Recommendation

It is recommended that the speed limit for Wiroa Road, from State Highway 10 to a point 50m west of Kerikeri Airport access be set at 60kph; and that Far North District Council plan for engineering interventions to match the road to a more urbanised road environment (engineer down).

6.3.4 Analysis - Wiroa Road from Kerikeri Airport to Waiare Road

Wiroa Road, from the Kerikeri Airport through to Waiare Road forms an important east west linkage between State Highways for those travelling or commuting between Kerikeri and Kaikohe.

With regard to increased travel times, the distance from Waimate North Road to Waiare Rd via Wiroa Road is approximately 7.5km. Over 7.5km, the difference between travelling at a consistent 100kph and a consistent 80kph is approximately 45seconds.

West of the Kerikeri Airport entrance, Wiroa Road quickly transitions into a more rural and remote rural environment. Although some development is likely over time, the current District Plan does not give rise to any expectation of substantive development in the reasonably foreseeable future.

Wiroa Road from the intersection with Waimate North Road through to Waiare Road is one of the top 10% roads identified by NZTA with disproportionally high death and serious injury accidents. A lower speed limit that better matches the road environment and the assessed safe and appropriate speed of 80kph is expected to have a positive impact on the number and severity of speed related crashes.

The operating speed on this section of Wiroa Road is approximately 90kph which is consistent with similar roads within the review area. An 80kph speed limit would have little effect on the average driver that is travelling close to the operating speed. However, research indicates that a lower speed limit will reduce the high-end speed, making the road safer for all users.

'Engineering up' is an option to increase the safe and appropriate speed to 100kph. NTA Staff do not support this option due to the high cost and the very limited benefits in terms of reduced travel times.

6.3.5 Recommendation

It is recommended that the speed limit for Wiroa Road; from 50m west of Kerikeri Airport access to Waiare Road be set at 80kph

6.4 Te Ahu Ahu Road

Te Ahu Ahu Road forms an important east-west linkage between State Highway 10 and State Highway 1. Te Ahu Ahu Road was considered in two sections:

- State Highway 10 to Old Bay Road
- Old Bay Road to State Highway 1

6.4.1 Community Feedback – Te Ahu Ahu Road – State Highway 10 to Old Bay Road

Seven submitters supported the proposed new speed limit; four submitters partially supported the proposal but sought a different speed limit; six submitters opposed any change.

Submitters opposed to the lowering of the speed limit requested that the speed limit should remain at 100kph to encourage traffic to use Te Ahu Ahu Road rather than the more winding Waimate North Road between Kerikeri and Kaikohe.

Those opposed also stated that the road was straight and had low residential volume and therefore should remain at 100kph. Submitters noted that most of the road can easily be driven between 80 and 100kph, although there are areas where it is necessary to slow down to below 80kph.

Submitters supporting an 80kph speed limit stated that 80km is an appropriate speed for this road which has high volumes of traffic at times, school children and school buses and is used by walkers, cyclists and horse riders. Submitters noted that it is extremely dangerous for walking at present with the 100km speed limit.

One submitter noted that the proposed speed limit could be lower than 80km from the Waimate North Road turn-off until Waikuku Road. 60 km would be preferable in this area due to the high volume of walkers, cyclists, tourists visiting Te Waimate Mission and school children walking to and from the bus stops. The submitter also noted that in summer, there are many extra vehicles with tourists and cyclists stopping and turning around in this stretch of road. This poses a real safety risk.

The submitter stated that many stretches of the road are hazardous to drive as it is a winding road with few areas along the road to pull over. There are three one-way bridges. Visibility of oncoming traffic is nil or limited on many corners. There are also a significant number of trucks and vehicles with trailers and agricultural machinery using the road.

6.4.2 Community Feedback – Te Ahu Ahu Road – Old Bay Road to State Highway 1

Eight submitters supported the proposed reduction in speed with a further two partially supporting the proposal. Six submitters opposed a reduction in the speed limit.

Submissions supporting a lower speed limit included two submitters who sought a speed limit of 60kph; one submitter who sought 70kph; with the remaining supportive submissions seeking 80kph.

Overall, submitters made similar comments to the section of Te Ahu Ahu Road from SH10 to Old Bay Road.

Submitters opposing a lowered speed limit highlighted that Te Ahu Ahu Road from Old Bay Road is a main thoroughfare. There is a lot of traffic, both commuter and heavy vehicles. Submitters believed that reducing the speed limit will not affect crash or fatal crash occurrences as the problem is road surface and condition and that the road should be widened and repair instead.

Submitters also requested that the speed limit remain at 100kph to encourage traffic to use Te Ahu Ahu Road rather than the more winding Waimate North road between Kerikeri and Kaikohe.

6.4.3 Te Ahu Ahu Road Analysis

A further review of Te Ahu Ahu Road has revealed similar issues for both sections of the road. As such, the following assessment applies to the entire road.

Some submitters expressed concern that lowering the speed limit would have the effect of re-directing more traffic along Waimate North Road, which they considered undesirable for a range of reasons. This specific issue is also addressed in Section 6.1 of this Report.

Te Ahu Ahu Road is one of the top 10% roads identified by NZTA with disproportionally high death and serious injury accidents. A lower speed limit that better matches the road environment and the assessed safe and appropriate speed of 80kph is expected to have a positive impact on the number and severity of speed related crashes.

The operating speed on Te Ahu Ahu Road is approximately 90kph which is consistent with similar roads within the review area. An 80kph speed limit would have little effect on the average driver that is travelling close to the operating speed. However, research indicates that a lower speed limit will reduce the high-end speed, making the road safer for all users.

Given the proposed changes to speed limits on Waimate North Road, it is considered unlikely that drivers will be effectively re-directed onto Waimate North Road as a result of a lower speed limit on Te Ahu Ahu Road. Waimate North Road is longer, more winding and lower speed limits at the northern and southern end of Waimate North Road have been recommended (refer 6.1).

It is noted that the Kaikohe Christian School (Waimate Campus) is located on Te Ahu Ahu Road near the intersection with Waimate North Road. Speed limit issues for Kaikohe Christian School have been addressed in 5.1.3 (above) and recommendations do not give rise to any changes in the recommendation for Te Ahu Ahu Road as a whole.

'Engineering up' is an option to increase the safe and appropriate speed to 100kph. NTA Staff do not support this option due to the high cost and the very limited benefits in terms of reduced travel times.

6.4.4 Recommendation

It is recommended that the speed limit for Te Ahu Ahu Road be set at 80kph.

7 Summary of submissions received and recommendations (road by road)

All submissions have been read and considered before recommending new speed limits. Submissions were broken down to comments on individual roads wherever possible. Summary information is provided in the following tables, including:

- Road name
- Current posted speed limit
- Proposed speed limit (as set out in the Statement of Proposal)
- A summary of the feedback received
- Northland Transportation Alliance Road Safety Engineer (Team Lead) comments and recommendations
- Recommended new speed limit

The summarised Northland Transportation Alliance Road Safety Engineer comments, and the resulting recommended speed limit, are made having considered:

- The initial assessment of the road

- Evidence based matters that are required to be considered under Section 4.2(2) of the setting of Speed Limits Rule 2017 and set out in the '*Technical Report Okaihau-Kaeo-Waimate Review Area*'; as referenced in the Statement of Proposal and published on Council's Website.
- Community feedback received during the consultation process
- Additional site visits and assessments undertaken as a result of the community feedback received

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Amuri Road	100	60	Amuri road is a Private Road	Confirmed as a Private Road – the RCA has no jurisdiction. However, a 60kph speed limit is advised.	Nil
Bullman Road	100	60	No feedback received	Proposed speed limit appropriate.	60
Caprine Road	100	60	One submitter supported 80kph	Caprine Road is a very narrow, unsealed access road with little or no shoulder area. Visibility is limited on parts of this road. Further engineering assessment indicates that a 40kph speed limit is appropriate.	40
Courthouse Lane	100	60	Four submitters sought 40kph, with one submitter each seeking a speed limit of 50, 60 and 80kph. Lower speed limits were sought as dust is a major issue. The road is also narrow with concealed driveways, and is utilised by horse riders, cyclists and pedestrians.	Courthouse Lane is a minor access road. An 80kph speed limit would not reflect the narrow, unsealed road environment. Setting of Speed Limits Guidance only allows for a 50kph speed limit with an urban environment. Given the overall road environment, and its access role, 40kph speed limit can be supported.	40
Daroux Drive	100	60	Support a lower speed limit of 40kph for car and pedestrian safety. Daraoux Road is narrow and cannot safely accommodate pedestrians and vehicles let alone trucks. High numbers of truck movements from rural production activity causing safety issues. Daroux Drive is a popular route for those walking with children, dogs and horses. There is a significant dust nuisance that causes a health hazard to those walking on the road and living nearby. There are several proposed subdivisions that will increase traffic.	Daroux Drive is an unsealed access road. Initial sections of Daroux Drive could sustain a 60kph speed limit. However, within a short distance, the road becomes very narrow and of poor quality and resembles a farm track. 40kph speed limit can be supported for the length of Daroux Drive.	40
Glendale Heights	100		No feedback received	This is a private road	N/A

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Herbert Road	100	40	No feedback received	Proposed speed limit appropriate.	40
Ironbark Road	100	60	No feedback received	Proposed speed limit appropriate.	60
Jennings Road	100	60	60kph supported as children use the road. There are commercial orchards along Jennings Road with big trucks coming in daily these as well as school buses and children.	Proposed speed limit appropriate.	60
Jenkins Road	100	60	No feedback received	Proposed speed limit appropriate.	60
Kahikatearoa Lane	50	50	Two submitters supported the proposed speed limit. Parking of trucks on the left-hand side of the road can be an issue at peak traffic times.	This is an urban commercial zone. Proposed speed limit appropriate.	50
Karaka Road	100	40	One submitter supported the proposed speed limit but did not provide further comment.	Proposed speed limit appropriate.	40
Klinac Lane	50	50	Three submitters supported the proposal, with one submitter seeking a 30kph speed limit.	A 30kph zone would normally be set in a highly pedestrianised environment. This is an urban commercial zone with limited pedestrian activity. Proposed speed limit appropriate.	50
Koranae Road	100	60	No feedback received	Proposed speed limit appropriate.	60
Koropewa Road	100	60	One submitter supported a lowering of the speed limit but sought a 50kph speed limit.	Setting of Speed Limits Guidance only allows for a 50kph speed limit with an urban environment.	60
Lodore Road	100	60	One submitter supported a lowering of the speed limit but sought a 80kph speed limit.	An unsealed road with a wide carriageway with gentle curves. Consistency of speed limits on unsealed roads is a determining factor.	60
Lodore Road East	100	60	One submitter supported a lowering of the speed limit but sought a 80kph speed limit.	This is a short unsealed, straight road. It has a narrow carriageway.	60

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Mangakaretu Road from Puketotara Rd to north of Tyree Rd (Sealed Section)	100	80	One submitter was partially opposed to a change of speed limit on Mangakaretu Road as a whole. Supported 80kph on the sealed section of the road	The proposed 80kph speed limit relates to the sealed section of the road. Proposed speed limit appropriate.	80
Mangakaretu Road from north of Tyree Rd to Puketotara Rd (Unsealed Section)	100	60	One submitter opposed the change of speed limit on the basis that a fixed 60kph is too slow. Another submitter supported a 60kph speed limit.	A site visit re-assessed this road and it was considered that, a speed limit of 60kph was appropriate as the unsealed section is utilised largely for access only.	60
Manuwai Lane	100	40	Two submitters sought a speed limit of 50kph but did not provide further comment.	Setting of Speed Limits Guidance only allows for a 50kph speed limit with an urban environment. National guidance indicates that the speed limit for this road should either be 60kph or 40kph. A site visit indicated that a 60kph speed limit is inappropriate for this road.	40
Maritime Lane	50	50	Two submitters supported the proposed speed limit.	Proposed speed limit appropriate.	50
McLeod Road	50	60	Submitters sought speed limits of 50, 60 and 80kph. The submitter seeking a 50kph speed limit noted blind corners and dangerous visibility issues due to trees on verge.	Setting of Speed Limits Guidance only allows for a 50kph speed limit with an urban environment. Proposed speed limit appropriate.	60
Montrose Road	100	80	Three submitters sought a lower speed limit of 50kph and two sought 60kph. Submitters highlighted dust as an issue and that the road is windy and unsafe at higher speeds.	Setting of Speed Limits Guidance only allows for a 50kph speed limit with an urban environment. Montrose Road is an unsealed, winding access road and a speed limit of 60kph is consistent with other unsealed roads of similar nature. A lower speed limit will have an improved dust outcome.	60

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Ness Road from Waipapa West Rd to Shirley Rd	100	80	Submitters supported a lower speed limit of 80kph noting the tight corners on the road. Submitters also noted that the neighbourhood has developed, and car numbers have increased making walking/ cycling and exercising animals less safe due to traffic speed/or excess speed	Proposed speed limit appropriate.	80
Ness Road from Shirley Rd	100	80	Submitters supported a lower speed limit of 80kph noting the tight corners on the road. Submitters also noted that the neighbourhood has developed, and car numbers have increased making walking/ cycling and exercising animals less safe due to traffic speed/or excess speed	Proposed speed limit appropriate.	80
Ngapuhi Road	100	60	No feedback received	Proposed speed limit appropriate.	60
Okokako Road	100	60	Submitters supported a reduction in the speed limit, with one submitter seeking 40kph, two seeking 50kph and one seeking 80kph. The submitter seeking 50kph noted that the road is narrow and unsealed with children on bikes and stock being moved.	Setting of Speed Limits Guidance only allows for a 50kph speed limit with an urban environment.	60
Old Bay Road	100	80	Two submitters supported the proposed 80kph speed limit, with an additional one submitter seeking a significantly lower speed limit of 40kph. Six submitters opposed any reduction in the speed limit, noting that the road can handle between 80 and 100kph and as such should stay at 100kph.	Old Bay Road provides a linkage between State Highway 1 and State Highway 10. The average operating speed on the road is less than 100kph and therefore a 100kph speed limit is considered too high.	80
Old Valley Road	50	60	One submitter sought a speed limit of 70kph but provided no reasoning for this.	70kph is a speed limit that is discouraged under national guidance unless there is compelling evidence, favouring 60kph or 80kph. Old Valley Road is unsealed, as such, 80kph is considered inappropriate.	60

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Onekura Road from Pungaere Rd to Daroux Drive	100	80	No community feedback	Proposed speed limit appropriate.	80
Onekura Road from Daroux Dr to road end	100	60	No community feedback	Proposed speed limit appropriate.	60
Oromahoe School Road	100	60	Submitters supported a lowering of the speed limit, with submitters seeking 50, 60 or 80kph speed limits. Submitters noted that a lower speed limit of 60kph would be good for children.	An additional site visit was undertaken, and the road reviewed with consideration of the Governments newly released "Road to Zero" Strategy. Given the overall access nature of the road, and narrow unsealed character (including single lane bridge and lack of shoulder for pedestrians) it was considered that 40kph would be appropriate to align with a school speed zone.	40
Otaere Road	100	60	One submitter sought an 80kph speed limit on this road.	Otaere Road is a narrow, winding unsealed road that is principally used for access. The proposed 60kph is consistent with proposed speed limits on similar roads.	60
Pataka Lane	50	50	Two submitters supported the proposal.	Proposed speed limit appropriate.	50
Poplar Lane	50	50	No feedback received	Poplar Lane is a very short lane that provides access to rural residential properties.	50
Porotu Road	100	60	One submitter sought an 80kph speed limit on this road.	Porotu Road is a narrow, windy unsealed road with a limited shoulder width. The proposed 60kph is consistent with proposed speed limits on similar roads.	60

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Pukepoto Road	100	60	Submitters supported a lowering of the speed limit, but suggested 70kph and 80kph.	70kph is a speed limit that is discouraged under national guidance unless there is compelling evidence, favouring 60kph or 80kph. Pukepoto Road is unsealed, winding and has a very narrow lane width. 60kph is considered appropriate.	60
Puketi Road	100	60	Two submitters supported a reduction in speed limit, with one seeking 80kph. Two submitters opposed any reduction in speed limit. Puketi Rd - The reduction of our speed limit on this road from 100km/h to 60km/h has been widely and strongly criticized by the community on the southern end of Puketi Rd. There is no evidence supporting your claim that Puketi Rd is not safe at the 100km speed limit with one non-injury crash reported in 20 years. Reducing the speed limit by 40km/h on our road would prove unbelievably irritating for all who use it. The overwhelming majority of fatal crashes from 2013-2018 are shown to be on the state highways in Northland,	Officially reported crashes are reported through the NZ Police. Statistics do not include un-reported speed related crashes where cars are recovered by local people. Puketi Road is a narrow winding unsealed road with very narrow shoulders that are often absent. A speed of 100kph is unattainable along much of the road length. 80kph is considered a dangerous speed where the winding corners cannot be safely negotiated. A site visit indicated that a safe driving speed on this road is often below 60kph, when allowing for potential oncoming traffic and maintaining control when cornering.	60

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Puketotara Road from SH10 to Mangakaretu Rd	100	80	Two submitters supported the lower speed limit, with one submitter seeking a 60kph speed limit. One submitter opposed the lower speed limit and sought the retention of 100kph. One submitter sought the retention of the 100kph limit from SH10 to 1st current 'temporary' 80kph sign. One submitter noted that the section of road that is currently temporarily 80kph: should be 60kph - too many drivers go down and up the windy stretch and there are frequent, unreported incidents of cars going into the ditches.	The road is sealed. Curves on this road are relatively sweeping. A 60kph speed limit does not match the current road environment and would require "engineering down". Proposed speed limit appropriate.	80
Puketotara Road from Mangakaretu Rd to Waiare Rd.	100	60	One submitter supported the proposed 60kph speed limit and two submitters sought an 80kph speed limit.	The road narrows soon after the Mangakaretu Road intersection and then reverts to an unsealed road that is narrow, winding and has a very limited shoulder area. The proposed speed limit is appropriate.	60
Pungaere Road from SH10 to Ngapuhi Rd	100	80	One submitter supported the proposed new speed limit and one submitter was opposed. The submitter supporting the lower speed limit noted that Pungaere Road from SH10 to 120m south of Glendale Heights (end of seal) should be 80kph as there are lots of driveways and the current speed limit of 100kph is unsafe.	Pungaere Road from SH10 to Ngapuhi Rd is a secondary collector road with a medium high personal risk rating, based on recorded crashes. The proposed speed limit is appropriate.	80

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Pungaere Road from Ngapuhi Rd to Waiare Rd	100	60	One submitter supports the proposed speed limit and another submitter is seeking an 80kph speed limit. Submitters noted that the unsealed section of Pungaere Road is dangerous for tourists and the dust is killing the residents. The submitter notes that they have towed many tourists out of ditches and fences due to the gravel.	A lower speed limit may have the outcome of reducing dust nuisance for residents. Travel times will not be significantly affected as the practical speed on this road is significantly lower than 100kph. The proposed speed limit is appropriate.	60
Riverstream Drive	100	60	Two submitters supported the proposed speed limit, with two additional submitters supporting different speed limits (40 and 80kph). Submitters noted that 60kph is still to high for this road and 40kph would be more appropriate. The road is rural residential with an increased number of children. There are no footpaths; a narrow bridge with poor visibility at both ends and nowhere safe to walk across. It was also noted that this is a no-exit access only road and many people like to walk on this road and there is no pavement. Motorbikes and cars "hoon" up and down this road especially in the summer.	Riverstream Drive is a residential access road. The road itself is sealed; but has no road markings and the carriageway is narrow. A slower speed than that originally proposed is appropriate.	40
Sandys Road	100	80	Three submitters supported a lower speed limit. With one of those submitters seeking a lower 60kph speed limit as the road is often used as a "speedway".	A site visit determined that the proposed speed limit of 80kph is appropriate. However, once beyond the last house (No238, near Kirikiri Lane) the road is exclusively used to access Lake Manuwai recreation area. A speed limit of 40km/h would be appropriate for the last section of road.	80 and 40 from Number 238 Sandys Road to end of road.

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Saward Road	100	60	One submitter supported the lower speed limit, whilst two submitters sought a speed limit of 80kph.	A further site visit has shown that a 60kph speed limit is appropriate for the road environment. Saward Road is a very narrow unsealed road that is utilised for access only. The lack of shoulder and carriageway width on this road would require opposing cars to slow and pull off the carriageway to pass each other.	60
Scott Road	100	60	One submitter supported the lower speed limit, whilst one submitter sought a speed limit of 80kph	A further site visit has shown that a 60kph speed limit is appropriate for the road environment. Scott Road is a very narrow unsealed road that is utilised for access only. The lack of shoulder and carriageway width on this road would require opposing cars to slow and pull off the carriageway to pass each other.	60
Shirley Road	100	60	One submitter supported the lower speed limit, whilst one submitter sought a speed limit of 80kph.	Shirley Road is a narrow (unmarked) sealed access road for rural residential activities. The road is relatively short and has no exit. The proposed speed limit is appropriate.	60

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Signal Road	100	60	No feedback received	The proposed speed limit is appropriate.	60
Skippers Lane	50	50	No feedback received	No change proposed	50
Te Ahu Ahu Road from SH10 to Old Bay Rd	100	80	Seven submitters supported the proposed new speed limit, four submitters partially supported, but sought a different speed limit and six submitters opposed any change. For further community feedback, refer to Section 6.4.	Refer to Section 6.4 for recommendations and analysis.	80
Te Ahu Ahu Road from Old Bay Rd to SH1	100	80	Eight submitters supported the proposed reduction in speed with a further two partially supporting the proposal. Six submitters opposed a reduction in the speed limit. For further community feedback, refer to Section 6.4.	Refer to Section 6.4 for recommendations and analysis.	80
Topps Access Road	100	60	One submitter sought a speed limit of 80kph; one submitter opposed any reduction in speed limit, seeking the retention of 100kph.	Topps Access Road is a very narrow, single lane, unsealed access road. The proposed speed limit is appropriate.	60
Tyree Road	100	60	One submitter sought a speed limit of 80kph	Tyree road is a very short access road used for moderate density residential land-use. The carriageway is very narrow, catering for single vehicles only. There is no road marking. The proposed speed limit is appropriate.	60

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Upokorau Road	100	60	Two submitters sought a speed limit of 80kph	Upokorau Road is a very narrow unsealed road that has torturous curves. Visibility around many curves is severely limited. There are steep drop-offs at the edge of the road, often with little or no shoulder width. A speed of 80kph is considered unattainable on this road. On many parts of this road, a speed of 40kph would be considered excessive with limited opportunity to reach 60kph.	40
Valencia Lane	100	80	Ten submitters supported a lowering of the speed limit, with one submitter each seeking 40, 50 and 70kph, and three submitters seeking 60kph. Submitters requested a speed limit lower than 80kph for the following reasons: Valencia Lane has become increasingly built-up with increased volume of traffic. Pedestrian safety – There is no safe provision for pedestrians especially for children walking to and from the school bus on Waimate North Road. Most people walking are walking on the road. There have been a lot of near misses, particularly with pedestrians on this road. There is limited visibility and sunstrike on the road with variable width and camber. And there is no centre lines and a single lane bridge. A long-time resident stated that the fastest speed limit should be 50-60 kph.	Valencia Lane is predominantly rural residential, with new subdivision development. The road has no exit and is therefore access only. The rural residential nature of the road and the location of the School Bus Stop significantly increases the pedestrian, cyclist and other non-motorised use of the road. 60kph is an appropriate speed limit for this road.	60

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Valencia Lane from Waingaro Lane	100	80	Four submitters partially support the lowered speed limit; but request different speed limits with one submitter each requesting 40 and 50kph and two submitters requesting 60kph. Submitters raised the same concerns as for the remainder of Valencia Lane	Valencia Lane changes character at Waingaro Lane. To maintain a consistent and appropriate speed limit along the length of Valencia Lane in line with the recommended decision on the other section of Valencia Lane – a 60kph speed limit is recommended.	60
Waiare Road from State Highway 10 to Upokorau Rd (end of seal)	100	80	Two submitters supported a reduction in speed and eight opposed. For further community feedback, refer to Section 6.2.	For analysis and recommendations, refer to Section 6.2 above.	80
Waiare Road from Upokorau Rd to 50m north of Puketi Road (Unsealed Section)	100	60	Two submitters supported a reduction in speed and eight opposed. For further community feedback, refer to Section 6.2.	For analysis and recommendations, refer to Section 6.2 above.	60
Waiare Road from 50m north of Puketi Road to State Highway 1	100	80	Two submitters supported a reduction in speed and eight opposed. For further community feedback, refer to Section 6.2.	For analysis and recommendations, refer to Section 6.2 above.	80
Waikaramu Road	100	60	One submitter sought a speed limit of 40kph but did not provide additional reasoning.	The road is unsealed, and in most cases the carriageway is narrow, with areas that have a limited shoulder area. Curves are generally relatively gentle and connected by straight sections of road. 60kph is an appropriate speed limit for this road.	60

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Waikopiro Lane	100	60	No feedback received	Proposed speed limit appropriate	60
Waikuku Road	100	60	Submitters supported a lower speed limit, with two submitters seeking 40, 50 or 60kph and one submitter seeking 70kph. Submitters noted that Waikuku Rd is a very narrow unsealed road. Recent development has seen an increase in houses and traffic. There are more driveway exits entrances. Submitters seeking a lower 40kph limit stated that 40kph is an appropriate speed for the road which is unsealed with a dust hazard for residents in summer. The road is narrow, with concealed driveways, stock movements, horse riders, pedestrians and cyclists. Traffic movements are increasing because of subdivision of land. Dust is an issue.	Setting of Speed Limits Guidance only allows for a 50kph speed limit with an urban environment. 70kph is a speed limit that is discouraged under national guidance unless there is compelling evidence, favouring 60kph or 80kph. It should be noted that 80kph is an unsafe speed on this road and is unlikely to be attainable – as such 80kph is not being considered.	60
Waimate North Road from SH10 to 50m south of Amuri Rd	100	60	14 submitters supported the lower speed limit and one opposed. For further community feedback, refer to Section 6.1.	For options and recommendations, refer to Section 6.1 above.	Refer 6.1 above
Waimate North Road from 50m south of Amuri Rd to Te Ahu Ahu Road	100	80	14 submitters supported the lower speed limit and one opposed. For further community feedback, refer to Section 6.1.	For options and recommendations, refer to Section 6.1 above.	Refer 6.1 above

Road Name	Current Speed Limit	Proposed Speed Limit	Community Feedback	NTA Road Safety Engineer (Team Lead) comments and recommendations	New Speed Limit
Waipapa Loop Road	50	50	Two submitters supported the proposed "no change" to this road.	Proposed speed limit appropriate	50
Waipapa West Road	100	80	One submitter sought to retain the current 100kph speed limit. Submitters supported a lower speed limit of 80kph noting the tight corners on the road. Submitters also noted that the area has developed, and car numbers have increased making walking/ cycling and exercising animals less safe due to traffic speed/or excess speed.	Waipapa West Road leads directly onto Ness Road, which has a proposed speed limit of 80kph. There is no significant change in the road environment from Waipapa West Road onto Ness Road. A consistent speed limit is therefore appropriate.	80
Wehirua Road	100	80	Wehirua Road is reasonably straight and a fairly good road. The issue is that it is narrow. There is plenty of room on the verge for widening the road. I have for the last 10 years, run the Okaihau Breakfast Club. When I get there at 8am to setup, there are already children waiting outside the School - their parents have to drop them off early to get to work in Keri on time. Reducing the speed will ensure these kids have to be dropped to School even earlier. The North is known to be a low socio-economic area - I'm concerned that reducing the speed on fairly decent roads such as ours, will result in more fines, penalties and loss of demerit points, for families already struggling.	Wehirua Road is a relatively short (1.9km) two lane undivided, sealed road connecting Waiare Road with SH 1 There is a significant shift in the road environment from the State Highway (100kph) to Wehirua Road, with the smaller local road being significantly narrower that the State Highway. The Wehirua Road and Waiare Road environment is similar, so speed limits should also be similar. A consistent speed limit is therefore appropriate. The difference in travelling 80kph vs 100kph over 2km is approximately 18seconds.	80

Road Name	Current	Proposed	Community Feedback	NTA Road Safety Engineer (Team	New

	Speed Limit	Speed Limit		Lead) comments and recommendations	Speed Limit
Whakataha Road	100	60	Two submitters supported the proposed lower speed limit, with a further two submitters seeking a 50kph speed limit and four seeking a 40kph speed limit. The road is narrow and unsealed and heavily used by large agricultural traffic and marae users, as well as residents. There is increased subdivision on the road. Because the greater part of the road appears to be straight, some users travel at unsafe high speeds. The road is frequently used by pedestrians, including school children walking up to Te Ahu Ahu Rd bus stop, and riders on horseback and some cyclists Dust is currently a health hazard and reduced speed would greatly assist in reducing this problem, which occurs any time there are a few days without rain, including winter. 40km is an appropriate speed for this road.	Setting of Speed Limits Guidance only allows for a 50kph speed limit with an urban environment. Whakataha Road is a narrow, unsealed, access only road with no exit. Vehicles using this road are expected to be local vehicles accessing properties. The shoulder area is very narrow, and in some areas, there is virtually no shoulder. Opposing cars would need to slow significantly to pass each other. A lower speed limit would be appropriate for this road.	60
Wiroa Road from SH10 to 50m southwest of Kerikeri Airport Entrance (current 100km/hr transition)	80	60	Two submitters supported the proposed new speed limit and six opposed it. For further community feedback, refer to Section 6.3.	Refer to Section 6.3 for recommendations and analysis.	60
Wiroa Road from 50m southwest of Kerikeri Airport Entrance to Waiare Rd	100	80	Two submitters supported the proposed new speed limit and six opposed it. For further community feedback, refer to Section 6.3.	Refer to Section 6.3 for recommendations and analysis.	80

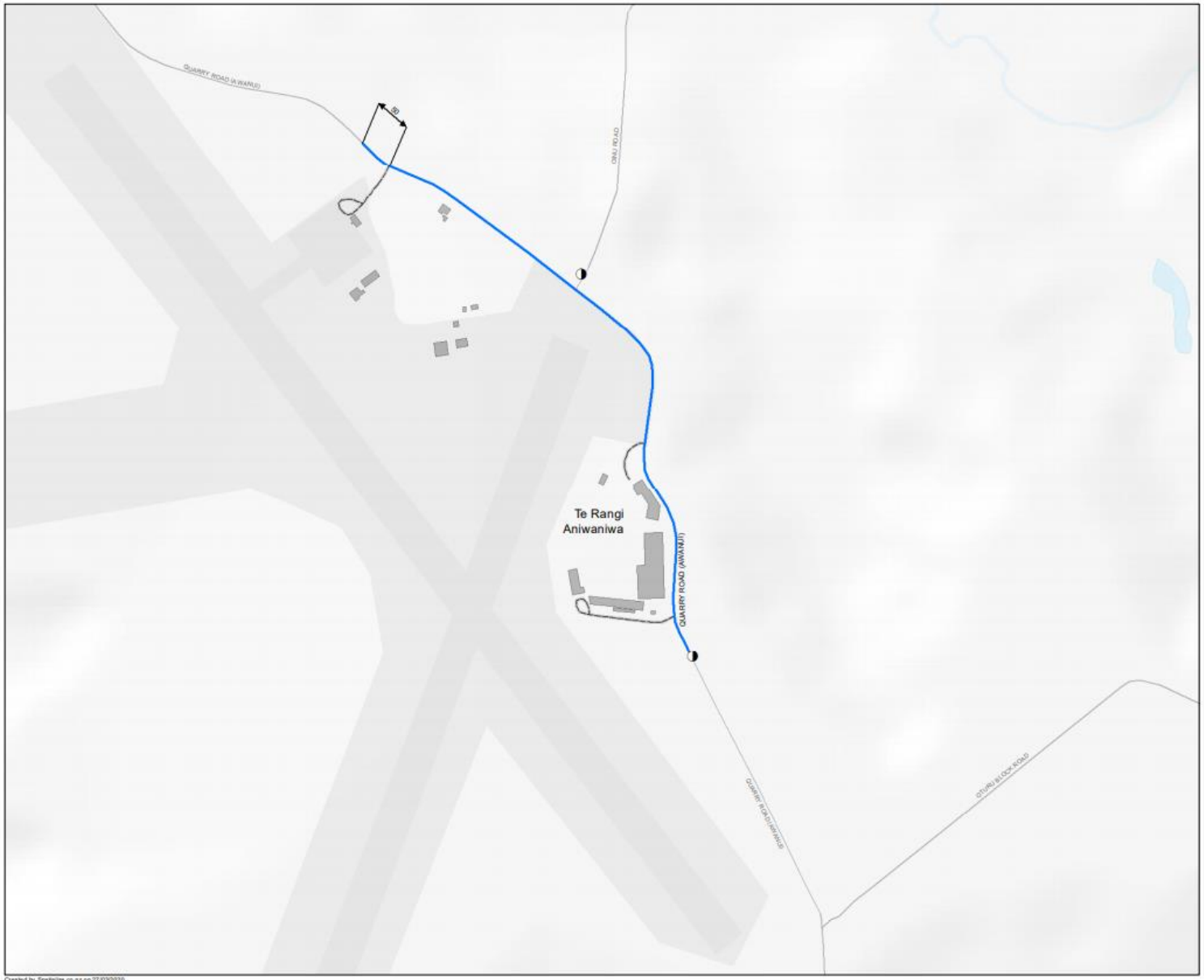
Appendix 1: Recommended Speed Limit Maps

Note: The Speed Limit Map contained within this Appendix is indicative only. Once Council confirms that recommended speed limits in this Report, the attached maps will be updated utilising RAMM mapping data and incorporated into the overall mapping of the Speed Limits Bylaw 2019. This may result in minor changes to the indicative map in this Report. These changes are expected to be only in the order of meters.

The minor changes to the map is a result of identifying the optimal position of new signage and the accuracy required by the Setting of Speed Limits Rule 2017. Accurate location of signage has been delayed due to the Covid-19 emergency.

NORTHLAND TRANSPORTATION ALLIANCE

"Moving Northland Forward"



Legend

- End of seal
- Roads that have a speed limit of 60
- Private Road
- Roads outside review
- Distance in metres from the centreline of an intersecting road or a geographical feature shown on the map to the speed limit boundary

1. Scales shown on map are approximate.
2. Dimensions show the boundaries of a speed limit for the purpose of the bylaw.
3. Speed limit boundaries that cross a road do so at right angles from one side of the road to the opposite side of the road by the shortest distance.
4. A speed limit boundary marked along a road is deemed to run along the carriageway edge of that road unless dimensioned or shown otherwise.
5. Where no dimensions or distance are given or shown when the speed limit crosses a road at a sideroad, the speed limit is deemed to cross the road at the extrapolation of the side road carriageway edge.
6. Where the boundary between Far North District and another territorial local authority runs along a road, this plan and bylaw apply to the whole width of the road.
7. Where a road crosses under or over a state highway or expressway, the speed limit on that road at that location is deemed to be the same as for the adjoining sections of either side of the state highway or expressway unless dimensioned or shown otherwise.
8. All Far North District Council roads shown on this map outside the urban traffic areas have a speed limit of 100 km/h, unless marked with a different speed limit.
9. Speed limits on state highways are not part of this bylaw. They are displayed for information only. Refer to NZ Transport Agency speed limit bylaw on State Highways.
10. This map is part of the Far North District Council Speed Limit Bylaw 2019.
11. Refer to the following Far North District Council Speed Limit Schedules:
    1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12
12. For the avoidance of doubt, where a speed limit or urban traffic area is described with both a map and a description, and there is an inconsistency between the map and the description, the description prevails.

Created by Spatialae.co.nz on 27/03/2020

Far North District Council

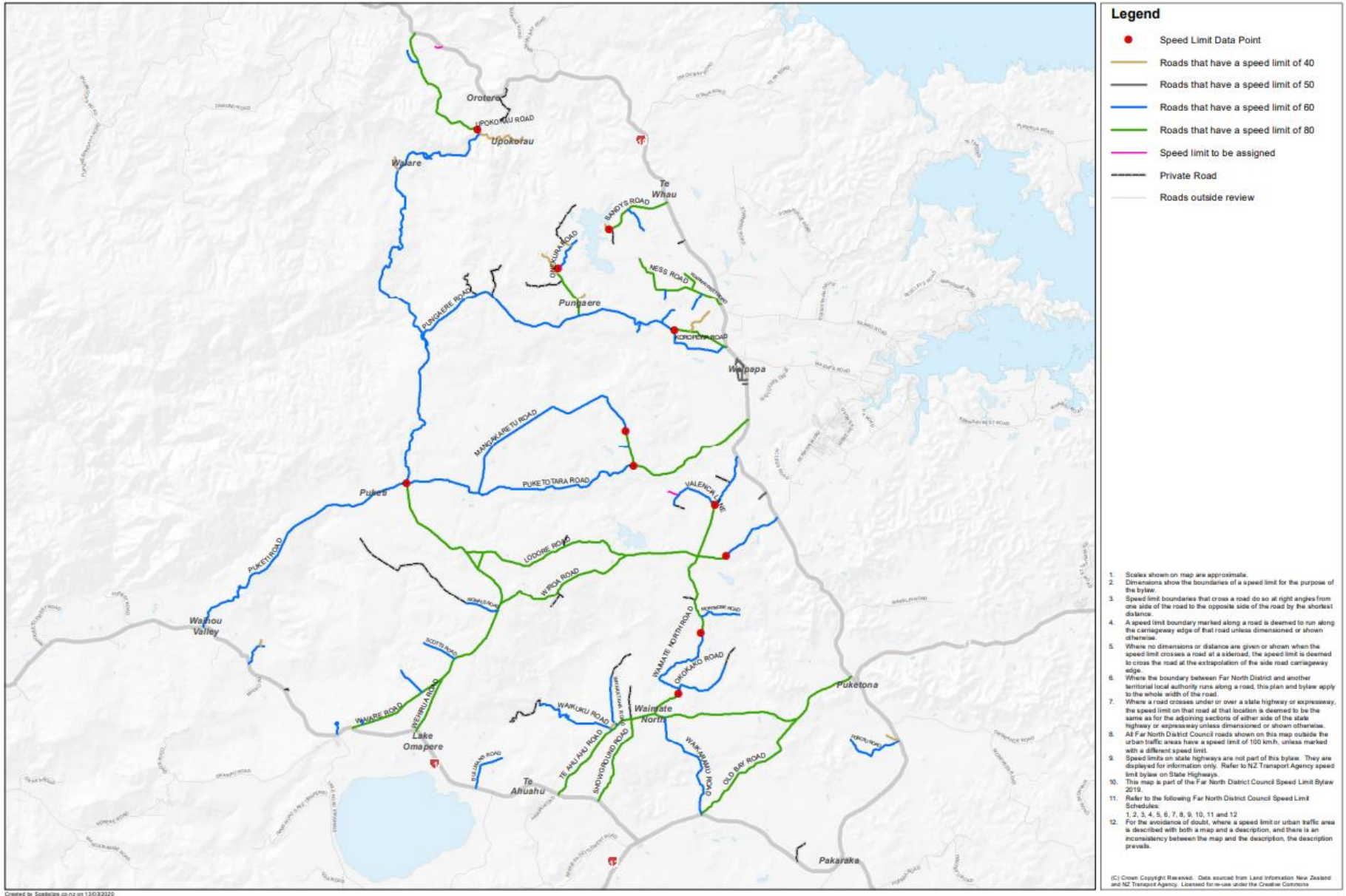
FAR NORTH DISTRICT COUNCIL SPEED LIMITS BYLAW 2019

TE RANGI ANIWANIWA - QUARRY ROAD SPEED LIMIT LOCATIONS

A3 Scale: 1:5,000

0 50 100 m

NORTH


Legend
Speed Limit Data Point
Roads that have a speed limit of 40
Roads that have a speed limit of 50
Roads that have a speed limit of 60
Roads that have a speed limit of 80
Speed limit to be assigned
Private Road
Roads outside review
Orotere
Upokorau
Walare
Te Whau
Punaere
Waipapa
Pukeo
Waihou Valley
Lake Omapere
Te Ahuahu
Waimate North
Puketona
Pakaraka
Far North District Council
FAR NORTH DISTRICT COUNCIL SPEED LIMITS BYLAW 2019
OKAIHAU-KAEO-WAIMATE SPEED LIMIT LOCATIONS
A3 Scale: 1:110,000
0 1 2 Km
NORTH

Appendix 2: Technical Report Okaihau – Kaeo – Waimate North Review Area

Note: this Report is attached separately.

Appendix 3: Statement of Proposal

Note: This Report is attached separately

Appendix 4 – Traffic Note 37 and 56 Variable Speed Limits Outside Schools

NZ TRANSPORT AGENCY
WAKA KOTAHI

TRAFFIC NOTE 37
Revision 2

Date	May 2011
From	National Planning Unit, Planning and Investment
Authorisation	Glenn Bunting, Network Manager
No. of pages	11

40km/h variable speed limits in school zones - guidelines

1 Purpose

40km/h variable speed limits in school zones have been operating successfully in New Zealand since they were first installed on a trial basis in Christchurch in January 2000. In April 2011 the NZ Transport Agency (NZTA) revised the conditions of approval to give road controlling authorities more flexibility to install these speed limits at both urban and rural schools.

Land Transport Rule: Setting of Speed Limits 2003 requires the NZTA to approve a variable speed limit before a road controlling authority can make a bylaw to set such a speed limit. For 40km/h variable speed limits in school zones, the NZTA has published a revised notice in the *New Zealand Gazette*[1] (the Gazette) which approves those speed limits, sets out appropriate conditions and authorises road controlling authorities to set them. This traffic note provides guidelines to comply with the Gazette notice, based on the results of the trials in Christchurch and subsequent experience with these speed limits. Recommendations for installing variable speed limits at rural schools are also included in this traffic note.

2 Background

Roads outside schools are perceived as dangerous for children. At the time when children are arriving at or leaving school and crossing the road there can be high volumes of traffic, manoeuvring vehicles, parked vehicles obscuring visibility and vehicle speeds often appear too high. Research has shown reducing vehicle speeds to 40km/h or less significantly reduces the level of injury if a child is struck by a vehicle.

In some situations standard traffic control devices and the level of activity outside a school do not result in lower traffic speeds. This is particularly likely where the school is on an arterial or other road where there is a high volume of traffic or high speeds. In these circumstances, installation of a 40km/h variable speed limit in the school zone may be desirable to achieve a lower speed environment.

In many jurisdictions, such as some states in Australia and the United States, school zones with special speed limits are indicated by permanently displayed signs. The major drawback of any permanently displayed sign is the manner in which drivers, many of whom pass the same sign regularly without requiring any action in response to it, tend to ignore or fail to see it.

Variable signs, which are displayed only when relevant, offer a way in which this drawback can be minimised and may actually enhance driver acceptance of any restriction imposed. Variable signs were used for the Christchurch trials and the results of that study are embodied in these guidelines.[1, 2] In recent years some states in Australia have begun to retro-fit permanently displayed signs with active signs that have flashing lights or electronically displayed speed limits to improve community acceptance and compliance with speed limits in school zones.

3 Objectives of variable speed limits in school zones

Variable speed limits in school zones have the following objectives:

- provide a safer road environment outside schools
- reinforce driver expectations of the likely presence of children
- encourage safe and active travel to school.

One of the objectives of the Christchurch trial was to encourage children to walk or ride to school. A major impediment is parents' concerns about child safety. The trial indicated general parent and school belief the signs provided benefits but any shift in mode of travel by children, if it did occur, was not measurable. This reinforces the view no single initiative is likely to bring about changes of the type sought. A 40km/h variable speed limit in a school zone is unlikely to be effective by itself and must complement other initiatives aimed at enhancing safety for children undertaken at the site by the road controlling authority, the school and other organisations.

4 Warrant

A road controlling authority may set a 40km/h variable speed limit in a school zone under the following conditions:

(a) there is school-related pedestrian or cycle activity on the road outside the school, which exceeds approximately 50 children crossing the road or entering or leaving vehicles at the roadside, and the traffic on the road outside the school meets at least one of the following conditions:

  (i) the mean speed of free-running vehicles is greater than 45km/h (measured when the 40km/h variable speed limit is not operating), or

  (ii) the 85th percentile speed of free-running vehicles is greater than 50km/h (measured when the 40km/h variable speed limit is not operating), or

  (iii) there have been pedestrian, cycle or speed-related crashes near the school in the previous five years, or

  (iv) the school-related activity occurs on a main traffic route, or

(b) there is school-related pedestrian or cycle activity on the road outside the school, with children crossing the road or entering or leaving vehicles at the roadside, and safe and appropriate traffic engineering measures are installed so that the mean operating speed of free-running vehicles on the road outside the school does not exceed 40km/h when the 40km/h variable speed limit is operating.

Evaluations in Christchurch found locations most likely to benefit from a variable speed limit in a school zone are those where there is a high level of school-related activity on the road outside the school and:

- are on arterial routes or multi-lane roads or high speed environments, and
- have on-road, school-related activity at an obscured school frontage (ie where the presence of the school is not immediately obvious to approaching traffic).

5 Best practice guidelines

Factors required for the successful operation of a 40km/h variable speed limit in a school zone are:

- having times of operation coinciding with on-road, school-related activity
- approved advisory signs and regulatory displays that alert motorists they are travelling through a school zone
- appropriate levels of enforcement by the police
- long-term commitment by the principal and Board of Trustees for the correct operation of a 40km/h variable speed limit at their school.

5.1 Times of operation

The Christchurch trials showed variable speed limits in school zones are effective in reducing speeds, but have the support of drivers only if there are children present when they are operating. Therefore, the times they are activated must be tightly controlled to match, as closely as possible, the times children are crossing the road or are gathered on the roadside. These times may vary from school to school and from time to time. An accurate time clock is therefore a necessary component of a variable speed limit in a school zone.

It is preferable that the 'School zone variable' signs are turned on manually by a supervisor approved by the school principal each time they are required. However, it is permissible to programme the system to operate at the standard times on school days only, provided the signs do not operate on holidays and can be switched on or off manually for special events or if they are not required for the maximum period of operation on any particular day. A system that is programmed to operate automatically must include a record of the times the signs are switched on and off each day. Even if the signs operate automatically, the school principal must still appoint a supervisor to oversee the operation on each occasion they are used. The signs may operate for a maximum period of:

- 35 minutes before the start of school until the start of school
- 20 minutes at the end of school commencing no earlier than five minutes before the end of school
- 10 minutes at any other time of day when children cross the road or enter or leave vehicles at the roadside.

Unless the signs are manually turned off earlier, they must turn off automatically when the maximum period has elapsed.

5.2 Length of variable speed limits in school zones

Variable speed limits in school zones should be installed to avoid, as far as possible, side roads with no school frontage. They should be as short as practicable; between 300 metres and 500 metres long.

There may be shorter lengths on no exit roads or minor roads with give way or stop control at the intersection with the school zone, provided the variable speed limit on these roads is adjoining the variable speed limit on the main road outside the school.

5.3 Signs

The signs for variable speed limits in school zones must comply with Land Transport Rule: Traffic Control Devices 2004. Signs with changeable speed limit numerals have been specified by the NZTA in the Gazette' as a condition of setting a variable speed limit in a school zone. The signs required are described below.

(a) R1-6 'School zone variable' sign:

The R1-6 'School zone variable' sign comprises a variable speed limit sign above a 'School zone' supplementary sign. The R1-2 or R1-2.1 variable speed limit sign displays the 40km/h speed limit only during the period when it applies. At all other times the sign is blank or displays the permanent speed limit. These signs must be installed on the main road passing the school entrance and on any significant road adjoining the school zone.

The Gazette notice specifies that at least one variable sign is required at each end of the speed limit on the main road outside the school and on major roads that intersect with the school zone. This condition in the Gazette notice is in accordance with clause 6.1 and subclause 8.4(1) of Land Transport Rule: Setting of Speed Limits 2003 and overrides the general requirement in *8.1(2)(a)* to have signs on both sides of the road if the traffic volume exceed 500 vehicles per day. However, there should be at least two of these signs facing traffic entering the variable speed limit on multi-lane roads, if the roadway is more than 15 metres wide or has a permanent speed limit of more than 70km/h.

The two options permitted for variable speed limit signs use different technology.

- R1-2: the speed limit numerals, roundel and background are displayed in the same colours as permanent speed limit signs, namely black, red and white respectively. Mechanical elements are used to display the speed limit and the message is depicted entirely with retro-reflective material.
- R1-2.1: the speed limit numerals are displayed using yellow or white, lit pixels (eg light emitting diodes, fibre optics). The background is black and unlit. For signs that display only the 40km/h variable speed limit and are blank for the rest of the time, the roundel is displayed with red, lit pixels. Alternatively, for signs that display the permanent speed limit at times when the variable speed limit does not apply, the roundel may be displayed with either red, lit pixels or with red retro-reflective material.

R1-6 using R1-2 R1-6 using R1-2.1

For each of these two variable speed limit signs:

- when not operating, the underlying message on the speed limit sign must not be discernible to approaching drivers, and
- yellow or white lights, of sufficient brightness to draw attention to, but not distract from, the sign nor dazzle, should be fitted in each corner and must operate by flashing in alternate diagonal pairs when the 40km/h variable speed limit is displayed, and
- the 'School zone' supplementary sign, fitted below the variable speed limit sign, must be displayed permanently. The 'School zone' supplementary sign has a black legend and border on a retro-reflective, fluorescent, yellow-green background.

Where the road controlling authority sets a 40km/h variable speed limit that may operate at other than the standard times, all the signs at the beginning of the school zone must be variable signs. This requirement includes all side roads intersecting with the school zone because fixed signs cannot provide accurate times of operation.

(b) R1-6.1 'School zone fixed' sign

The R1-6.1 'School zone fixed' sign has a black legend, red roundel and border on a white background. The roundel, border and background are retro-reflective. The legend showing the time must notify the times during which the 40km/h variable speed limit is in effect and must be specific for each school zone.

Instead of a 'School zone variable' sign a 'School zone fixed' sign may be installed on no exit or minor stop or give way controlled side roads adjoining the school zone. This is based on assumptions that:

- most traffic using such a road will be local and the drivers will be aware of, and responsive to, the school zone operation, or
- the speed of vehicles entering from the side road and passing through the school zone is unlikely to exceed 40km/h.

If these conditions do not apply, R1-6 'School zone variable' signs must be installed on the side road.

Likewise 'School zone variable' signs must be used if the times when the variable speed limit operates are likely to vary because:

- the variable speed limit may operate only at the times specified on a 'School zone fixed' sign; and
- it is not reasonable to expect drivers to read and react to messages longer than the standard operating times displayed on the 'School zone fixed' sign.

(c) R1-7 'School zone ends' sign

At least one R1-7 'School zone ends' sign must be used on each road leaving the school zone. There should be at least two of these signs on multi-lane roads, if the roadway is more than 15 metres wide or has a permanent speed limit of more than 70km/h.

A 'School zone ends' sign comprises a R1-1 speed limit sign above a 'School zone ends' supplementary sign. Both signs are mounted on a white retro-reflective backing board. The 'School zone ends' sign has a black legend and border on a retro-reflective, fluorescent, yellow-green background. The speed limit sign displays the permanent speed limit for the road.

(d) Sign layout

Appendix 1 has a diagram showing a typical layout of signs for a variable speed limit in a school zone.

5.4 Police enforcement

To be effective the variable speed limit in a school zone must be able to be enforced. The length of the zone, visibility of the signs, proof of display and other issues are all matters the Police must take into account in determining whether they are able to proceed with enforcement and subsequent action. It is therefore imperative any variable speed limit considerations involve the District Road Policing Manager of NZ Police.

The necessary enforcement precedents have been set to enable the police to enforce the 40km/h speed limit in school zones.

5.5 School commitment and activity

It is essential there be formal involvement by the school in the decision to introduce a 40km/h variable speed limit in a school zone. The school is often the prime instigator for consideration of a speed limit but they must understand that once installed there are functions the school must carry out for the speed limit to be effectively managed and for it to achieve the desired outcomes.
For example:

- The operation of the 'School zone variable' signs must be supervised by a person authorised by the school principal.
- Any defined school crossing facility for children must have an adult supervisor when it is operating.
- The signs must be activated and deactivated simultaneously (eg by radio signal or hard-wired) with a secure system which is accessible only by means such as a key or swipe card. This applies whether they are switched manually or automatically.
- The principal must agree to keep an accurate log of the occasions and times the 40km/h speed limit is operating unless these times are stored automatically by the equipment and can be retrieved by the road controlling authority. The log is essential for enforcement purposes (to demonstrate not only that the signs were operating at a particular time but, also to show the conditions of operation set out in the speed limit bylaw are being effectively managed). It can also be useful to determine justifiable changes to time or other aspects of the operation of the speed limit.

5.6 Rural schools

Records of crashes involving school-age pedestrians or cyclists in the vicinity of rural schools show that there have been very few injury crashes in recent years. One of the main reasons for the low number of crashes is that very few children walk or cycle to schools in rural areas. Most of the activity outside a rural school is the parking and manoeuvring of vehicles as parents and caregivers drop-off or pick-up their children. The most appropriate safety measure for this type of activity is to provide a set-down and pick-up facility clear of through traffic lanes. Ideally this would be in the school grounds or on a side road with low traffic volume.

Another measure that has proven successful in lowering speeds outside schools is active school warning signs. See *Traffic note 56* for more detail on active warning signs in school zones.

40km/h variable speed limits in school zones were originally intended for installation in urban or semi-urban areas where the permanent speed limit is 70km/h or less. Some Australian states allow school zone speed limits of 60 or 80km/h in areas where the permanent speed limit is over 80km/h. However, allowing a higher variable speed limit in a rural school zone would not provide an appropriate level of safety when considered from a Safe System perspective. The probability of a pedestrian being killed if struck by a car rises rapidly at impact speeds over 30km/h. Having a speed limit of 40km/h relies on there being some speed reduction before impact in a crash involving a car hitting a pedestrian. If the school zone speed limit was higher, impact speeds would be too high, even if there was some speed reduction before impact. So, regardless of the permanent speed limit, the maximum safe speed limit in a school zone is 40km/h.

In areas with a speed limit over 80km/h it is unlikely that motorists will slow to 40km/h within the short length of a school zone. However, there are some examples of 40km/h variable speed limits in rural school zones that operate satisfactorily on roads with a permanent speed limit of 80km/h. This suggests that where the permanent speed limit is higher than 80 km/h it will need to be reduced. This must be done in accordance with Land Transport Rule: Setting of Speed Limits 2003. In situations where the calculated speed limit is higher than 80km/h, it may be desirable to review the speed limit for the surrounding area in accordance with the Safe System Approach for managing safety on rural roads. *Traffic Note 61* provides more information on Safe System rural speed management.

Regardless of the criteria upon which an 80km/h speed limit is justified, it is essential that it operates safely with mean speeds at or below 80km/h. Some of the following measures will probably be necessary to achieve good compliance with a permanent 80km/h speed limit at a rural school:

- Thresholds (see www.nzta.govt.nz/resources/road-traffic-standards/docs/rts-15.pdf).
- Lane narrowing – (install median or increase shoulder width).
- Textured and or coloured road surface.
- Vertical elements, eg thresholds and planting, but care is necessary to avoid restricting sight lines that might obscure pedestrians in the school zone.
- Speed indicator devices, publicity and education.
- Enforcement.

6 Application

6.1 Implementation

A 40km/h variable speed limit in a school zone can only be implemented by a road controlling authority if:

- the conditions approved by the NZTA in the Gazette[1] are complied with
- consultation is undertaken in accordance with Land Transport Rule: Setting of Speed Limits 2003, and the people consulted are provided with details of the proposed speed limit including changes to the permanent speed limit, times of operation of the variable speed limit, placement of signs and method for controlling the variable signs
- written consent is obtained from the principal of the school concerned (agreeing to operate the school zone in accordance with the operating conditions)
- the speed limit is set by bylaw in accordance with Land Transport Rule: Setting of Speed Limits 2003.

6.2 Monitoring, review or removal of a variable speed limit in a school zone

It is important that a 40km/h variable speed limit that is installed in accordance with condition 5(b) of the Gazette[1] notice is monitored regularly to confirm the conditions of approval are being met (ie the mean speed of traffic in the school zone is no more than 40km/h when the 40km/h speed limit is operating). If traffic is not complying with the speed limit then safety within the school zone will be compromised and the road controlling authority will not be complying with its obligations under Land Transport Rule: Setting of Speed Limits 2003. The risk to children within the zone may be worse than without a variable speed limit, especially if their behaviour is influenced by a misconception that traffic will slow down.

A 40km/h variable speed limit in a school zone must be reviewed by the road controlling authority if:

- there is a change in the road or school environment resulting in the conditions specified by the NZTA in the Gazette[1] not being met, or
- requested to do so, in writing, by the principal of the school or the District Road Policing Manager of the NZ Police, or
- instructed to do so by the NZTA.

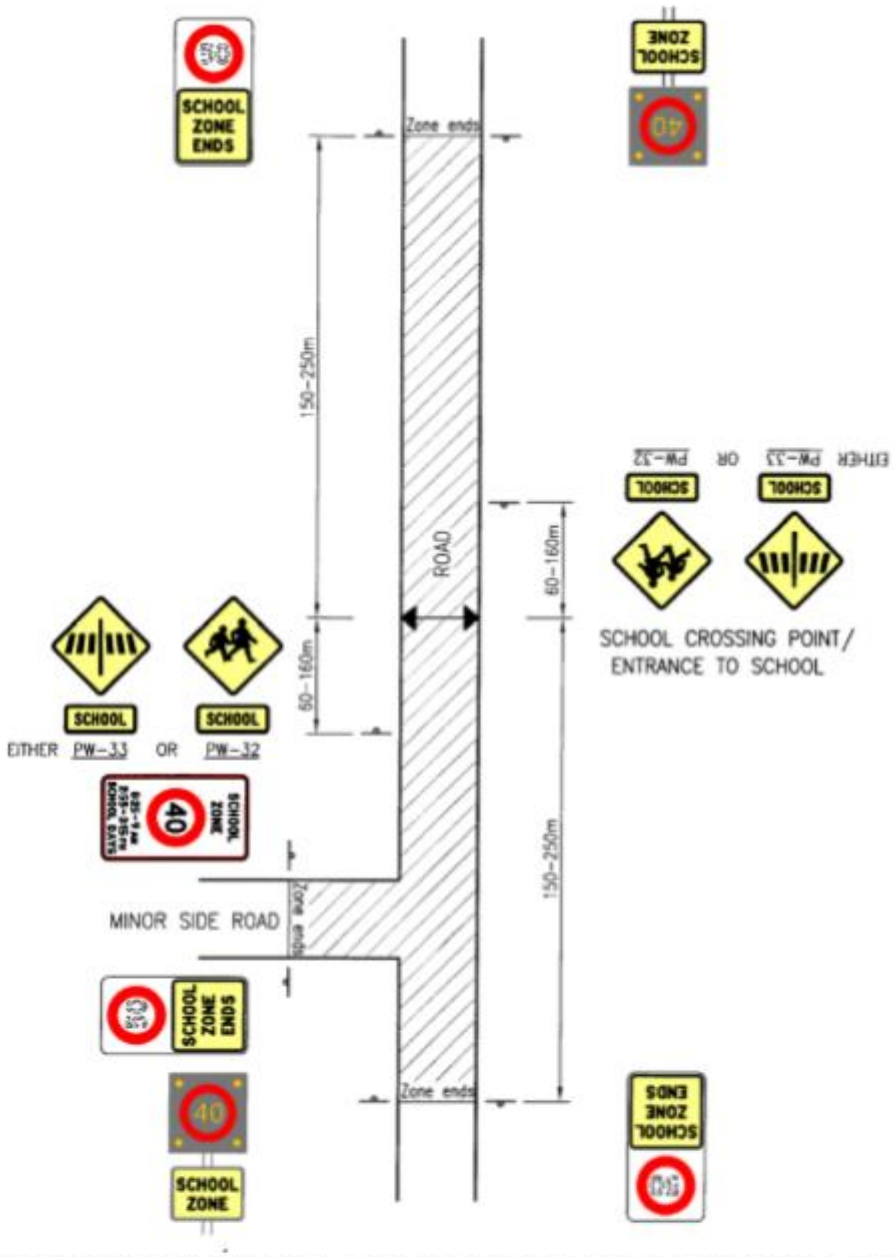
A 40km/h variable speed limit in a school zone must be removed by the road controlling authority if:

- the variable speed limit is not operated in accordance with the conditions specified by the NZTA in the Gazette[1], or
- instructed to do so by the NZTA.

Acknowledgement:
The NZ Transport Agency acknowledges the valuable input of the Christchurch City Council through the school zone trial and their assistance with the development of these guidelines.

[1] *New Zealand Gazette* dated 21 April 2011, No. 55, page 1284 [see Appendix 2].
[2] Cottam, Paul. 2001. *Christchurch's 40 km/h part-time school speed zone trial: Community perceptions and attitudes.*
[3] Osmers, Wayne. 2001. *The effect on vehicle speeds of electronically-signed part-time speed limits outside schools.*
Both papers were presented at the Road Safety Research, Policing and Education Conference 18-20 November 2001, Melbourne.

Appendix 1: Typical layout – 40km/h variable speed limit in a school zone



In this diagram the sign numbers quoted are those appearing in MOTSAM. These numbers and descriptions are cross-referenced to signs in Land Transport Rule: Traffic Control Devices 2004 (the TCD Rule) as follows:

MOTSAM	Description	TCD Rule
PW-32	Symbol of two children with 'School' supplementary	W16-4 with W16-5.1
PW-33	Symbol of pedestrian crossing with 'School' supplementary	W16-2 with W16-5.1

Appendix 2

Extract from *New Zealand Gazette*, 21/4/2011, No. 55, p. 1284

Variable Speed Limit in School Zones

Pursuant to clause 6.1 of Land Transport Rule: Setting of Speed Limits 2003 and a delegation from the NZ Transport Agency, I, Glenn Bunting, Network Manager, approve variable speed limits in school zones in accordance with the conditions set out in this notice.

Conditions

1. Variable Speed Limit

A road controlling authority may set a speed limit of 40km/h that operates in a school zone during the periods specified in condition 2 of this notice. At all other times, the speed limit is the permanent speed limit for the road.

2. Periods of Operation

The 40km/h speed limit may operate for a maximum period of:

(a) 35 minutes before the start of school until the start of school;

(b) 20 minutes at the end of school, beginning no earlier than 5 minutes before the end of school;

(c) 10 minutes at any other time when children cross the road or enter or leave vehicles at the roadside.

3. Signs

Signs that comply with Land Transport Rule: Traffic Control Devices 2004 must be installed to mark the beginning and end of the variable speed limit in the school zone as follows:

(a) At least one R1-6 "School zone variable" sign at each end of the variable speed limit on the main road outside the school, facing road users travelling towards the variable speed limit; and

(b) at least one R1-6 "School zone variable" sign facing road users travelling towards the variable speed limit on each side road that intersects with the school zone, where that side road is a major road; and

(c) at least one R1-6 "School zone variable" sign or R1-6.1 "School zone fixed" sign facing road users travelling towards the variable speed limit on each side road that intersects with the school zone, where that side road is a no exit road or is a minor road controlled by Give-way or Stop signs at the intersection with the school zone; and

(d) at least one R1-7 "School zone ends" sign at each end of the variable speed limit on every road, facing road users leaving the variable speed limit.

4. Length of Variable Speed Limit

A variable speed limit in a school zone must be a minimum length of 300 metres, unless this condition is impractical, but should not be longer than 500 metres. The length of variable speed limit on side roads that intersect with the school zone may be shorter than 300 metres.

5. Warrant

A road controlling authority may set a variable speed limit in a school zone that meets the requirements in (a) or (b) as follows:

(a) There is school-related pedestrian or cycle activity on the road outside the school, which exceeds approximately 50 children crossing the road or entering or leaving vehicles at the roadside, and traffic on the road outside the school meets at least one of the following conditions:

(i) the mean speed of free-running vehicles is greater than 45km/h (measured when the 40km/h variable speed limit is not operating); or

(ii) the 85th percentile speed of free-running vehicles is greater than 50km/h (measured when the 40km/h variable speed limit is not operating); or

(iii) there have been pedestrian, cycle or speed-related crashes near the school in the previous five years; or

(iv) the school-related activity in condition 5(a) occurs on a main traffic route; or

(b) there is school-related pedestrian or cycle activity on the road outside the school, with children crossing the road or entering or leaving vehicles at the roadside and safe and appropriate traffic engineering measures are installed so that the mean operating speed of free-running vehicles on the road outside the school does not exceed 40km/h when the 40km/h variable speed limit is operating.

6. Bylaw

A road controlling authority must set a variable speed limit in a school zone by making a bylaw in accordance with Land Transport Rule: Setting of Speed Limits 2003.

Revocation and Replacement

The notice dated the 31st day of May 2005, and published in the *New Zealand Gazette*, 2 June 2005, No. 86, page 2051, relating to variable speed limits in school zones is hereby revoked and replaced by this notice.

A 40km/h variable speed limit in a school zone that was set in accordance with the conditions of the notice published in the *New Zealand Gazette*, 2 June 2005, No. 86, page 2051, is considered to be set in accordance with the conditions of this notice and remains in force until amended or revoked in accordance with Land Transport Rule: Setting of Speed Limits 2003.

Definition:

School zone means a length of road outside a pre-school, primary school, intermediate school or secondary school.

Signed at Wellington this 19th day of April 2011.

GLENN BUNTING, Network Manager.

NZ TRANSPORT AGENCY
WAKA KOTAHI

TRAFFIC NOTE 56

Revision 1

Date	January 2011
From	National Planning Unit, Regional Partnerships and Planning
Authorisation	Glenn Bunting, Network Manager
No. of pages	12

Active school warning signs – Guidelines

1 Purpose

This ***Traffic note*** provides guidance for road controlling authorities (RCAs) on the use of active school warning signs - that is those warning signs that have an electronic display component which becomes active when children are likely to be present on or near the roadway. It should also be read in conjunction with ***Traffic note 37*** 40km/h variable speed limits in school zones [(1)]. Active school warning signs should be implemented in conjunction with other complementary initiatives such as neighbourhood accessibility plans [(2)], school travel plans (see ***School travel plan coordinator's guide*** [(3)]) or a local authority travel behaviour change strategy.

Active school zone warning signs were approved by notice in the ***NZ Gazette*** on 24 July 2008 and subsequently incorporated into the Land Transport Rule: Traffic Control Devices through the 2010 amendment to that rule.

2 Background

In 2004 Land Transport New Zealand (now NZ Transport Agency (NZTA)) approved a trial of active school warning signs in Timaru District and Invercargill City. This initial trial was inconclusive and in 2006 approval was given to extend the trial to sites in Dunedin City.

The Dunedin City trial aimed to assess the effectiveness of these 'active' school warning signs on driver awareness of the risk posed by school activity and any subsequent impact on road user behaviour, including the effect on vehicle speeds. The results demonstrated strong community support for the signs, reduction in speeds at 'high' speed sites and an increase in motorists' awareness of the signs.

Roads around schools are often perceived as dangerous for children due to high traffic speeds, manoeuvring vehicles, parked vehicles and other features which restrict a driver's visibility. Often there can be a mixture of pedestrians, cyclists and drivers using the same road. In particular, the risk at the beginning and end of the school day is seen as much greater than during other periods of the day and there is a need to manage and minimise this risk.

One disadvantage of any permanently displayed sign is drivers tend to ignore it or fail to see it, particularly if they pass the same sign regularly without requiring any action in response to it. Active signs incorporate flashing lights and/or lit (LED) components which are displayed only when relevant. Introduction of these types of signs may heighten the visibility of these signs compared with standard (non-flashing) warning signs thereby enhancing driver awareness of the risk.

Internationally, flashing lights have been used to give additional emphasis to the warning or instruction given on a sign. In New Zealand the use of these lights has been restricted to variable message signs including those installed on Auckland and Wellington motorways, some roadwork vehicles, variable speed limits in school zones and advance warning of traffic signals. In many situations however, the cost of a full variable message sign cannot be justified.

For this reason the trial of less costly warning signs (rectangular in shape with two yellow orange flashing lights and yellow/green children symbols on a black background) was conducted. The ***Dunedin active school warning signs trial: evaluation report*** [4] (the Evaluation report) prepared by Dunedin City Council provides details and sets out the results of the Dunedin City trial. The trial results are embodied within this note.

3 Objectives of active school warning signs in school zones

Active school warning signs on roads near schools are intended to meet the following objectives:

- provide a safer environment outside schools during times of peak school activity
- reinforce driver expectation of the likely presence of children
- reinforce driver awareness of a school where the visibility of the school or its entrance is limited
- encourage active modes of travel (walking and cycling) to school.

School zones are parts of roads near schools which include both:

(a) the length of roadside used for short-term parking, bus stops, crossing facilities and school entrances etc before and after the hours when the school is in session (called the 'hazard area'), and

(b) the distance from the warning sign to the hazard area in each direction (which depends of the speed of approaching traffic).

The Dunedin trial attempted to assess whether these types of signs had any effect on increasing driver awareness to school activity on or near the road, including reducing driver reaction time and vehicle stopping distances and speeds. The trial included schools where the average vehicle speed was higher than 45km/h as well as schools located adjacent to congested urban roads. Three types of evaluation measures were used to assess the effect of these signs - vehicle speed surveys, driver awareness and pedestrian delay surveys.

Feedback from the schools has indicated the objective to increase active modes of travel to school has not happened to date. Achieving this objective will most likely require a package of activities.

4 Complementary school travel initiatives

Active school warning signs should be implemented as part of a package including engineering, education and enforcement to reduce speeds and the risk to children around schools.

The active school warning signs could be installed as a component of the following complementary initiatives.

4.1 Neighbourhood accessibility planning

Neighbourhood accessibility plans seek to ensure, at the neighbourhood level, the provision of safe and sustainable transport modes focusing on active and shared modes. Further information can be found on the NZTA website at:

http://www.nzta.govt.nz/resources/neighbourhood-accessibility-plans/index.html

4.2 School travel plans

The preparation and implementation of a school travel plan is a process of developing a package of measures to encourage the choice of safe and sustainable transport options for travel to and from school. Further information can be found on the NZTA website at:

http://www.nzta.govt.nz/resources/school-travel-plan-coordinators-guide/docs/school-travel-plan.pdf

The NZTA education website will also provide useful resources. This can be found at:

http://www.education.nzta.govt.nz/home

4.3 Integrated planning

There is not necessarily a single best option for providing safety for children travelling to and from school. The NZTA's ***Integrated planning toolkit*** presents a wide range of transport and land use relevant tools, processes and concepts. It encourages linkages and enables the identification of ideas that may not be familiar to the user. The toolkit can be found at:

http://www.nzta.govt.nz/planning/process/trial-ip-toolkit/

5 Selection criteria

5.1 Selecting sites and appropriate traffic control devices

Figure 1, based on ***Traffic note 37*** and the Evaluation report, is a flow chart of recommended selection criteria for the use of traffic control devices at school sites.

In urban areas there are several sign variations that can be used depending on the type of environment, including school activity, crash history and speed profile.

In rural areas, the selection of a suitable sign type can be more limited. The 40km/h variable speed limit is generally not regarded as appropriate in most open road speed areas (that is, where speed limits are greater than 80km/h). However, in these areas active warning signs could be suitable to encourage slower speeds during periods when children are present.

5.2 Area and site-specific treatments

Active school warning signs have the potential to cover an area incorporating a number of schools in addition to a specific school site. Where there are schools in close proximity and where school times vary, RCAs may choose to select an area-wide or route treatment for schools rather than undertake individual school site improvements. In such instances, it may be more appropriate to use active school warning signs rather than 40km/h variable speed limit signs which are more specific to individual schools. If this is the case, it is recommended the RCA plan a sign regime (including times of operation for active signs) for the area covering the different school locations and develop safer routes for children to travel. Further information on this can be obtained from the Evaluation report, neighbourhood accessibility plans and the NZTA website.

5.3 Prioritising sites

Once the type of traffic control device has been identified, its appropriateness and clarity within the surrounding environment and proximity to other schools and message systems determined, the site, area or route should be prioritised for implementation. This prioritisation process is managed through local policy based on factors such as traffic volumes, school roll number, ages of school pupils, crash data and speed of through traffic. Further information, including a suggested rating system for finding suitable sites and then prioritising each one, can be found within the Evaluation report.

5.4 Other signs

The possible use of active school warning signs must be considered in conjunction with other existing or proposed signs in that area (for example a pedestrian crossing sign). Their use in conjunction with, or within close proximity to, other variable or flashing signs (such as a 40km/h variable speed limit sign) needs to be carefully considered to ensure the intended (combined) message to drivers is consistent and will not be confusing or ineffective.

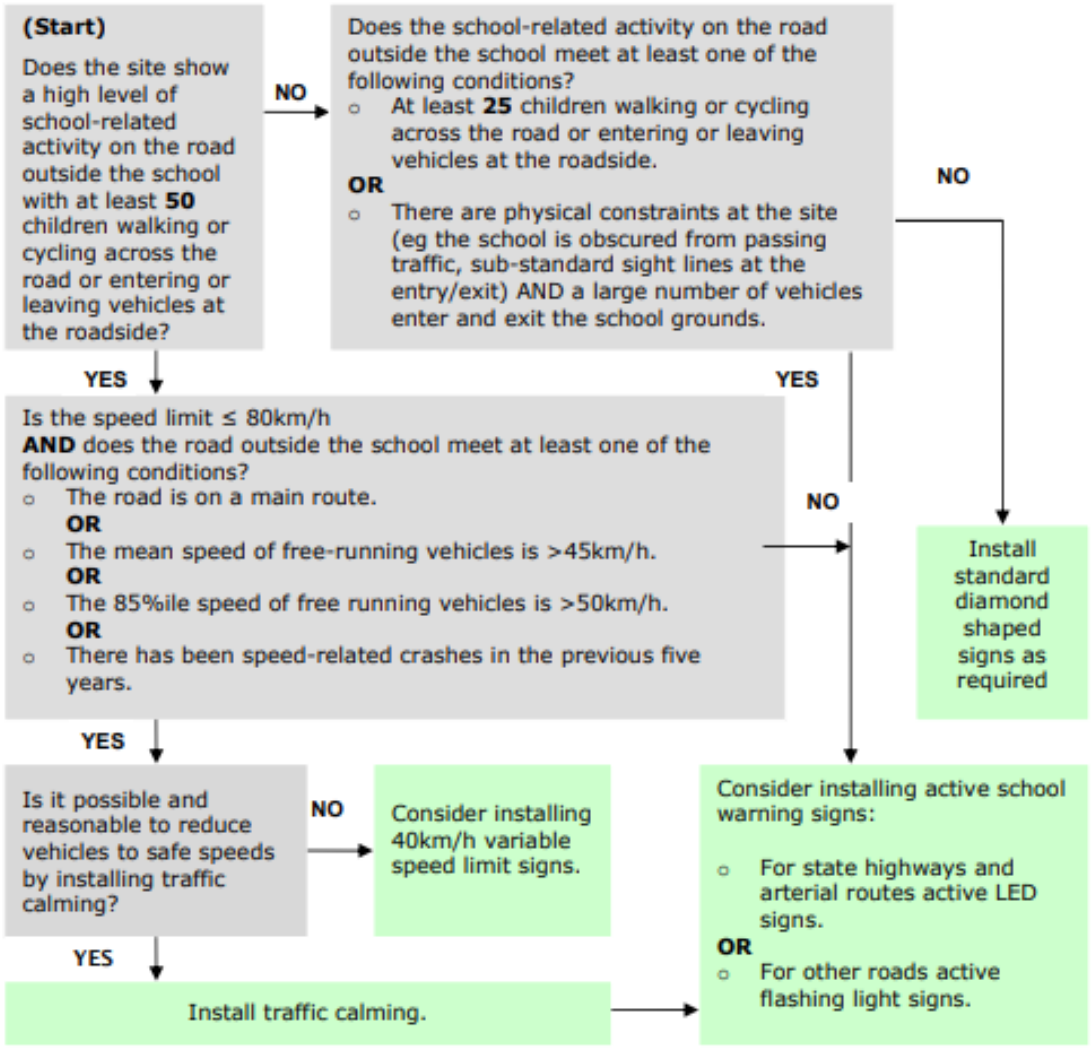


Figure 1: Selection criteria for the appropriate use of traffic control devices near schools

6 Best practice guidelines

Factors required for the successful operation of an active school warning sign are:

- coinciding times of operation with on-road school related activity (see section 6.4)
- good visibility of the signs by motorists
- long-term commitment to their correct use.

6.1 Signs – general principles

Standard reflective diamond shape school warning signs should be installed on all roads where there is an entrance to a school (unless they are replaced by active school warning signs as set out below). The standard sign is depicted in figure 2. Other signs may be used in these locations such as 'school pedestrian crossing' or 'school bus route'.

Figure 2: Standard school warning sign

Active school warning signs should be installed in place of the standard sign where additional awareness of children is considered necessary in and around schools in areas and sites meeting the criteria set out in figure 1

6.2 Active school warning signs

The type of school warning signs used to indicate a school zone should be prioritised by risk using the selection criteria shown at figure 1. Where the RCA determines an active sign is appropriate there are two versions of sign – flashing light and full LED displays.

6.2.1 'Children' symbol and 'school zone' with backing board with two flashing lights (active –flashing light type)

The 'children' symbol and the words 'school zone' depicted in figure 3 are reflectorised, fluorescent yellow-green in colour while the sign has a plain black, unlit background. There are two orange flashing lights located on the top of the sign at each side which light alternately when in use. Outside school hours the board shows the 'children' symbol and the words 'school zone'.

Figure 3: Active – flashing light school warning sign

6.2.2 'Children' symbol and 'school zone' with full LED display (active LED type)

When activated, the 'children' symbol and the words 'school zone' depicted in figure 4 are displayed using light emitting diodes (LEDs) on a black unlit background. Two orange flashing lights (which may be LED) are located in the top left and right corner of the sign. When the sign is activated the two lights are not illuminated unless the RCA has set an appropriate condition which would trigger them to be illuminated. This condition could be that an approaching vehicle is detected (by a radar unit mounted in or beside the sign) exceeding a pre-set speed. The orange lights will then flash alternately for a short period until the vehicle has passed the sign. Such a pre-set speed will depend on the speed limit and the circumstances relating to a particular school.

Figure 4: Active – LED school warning sign

When the symbol and text LEDs are turned off this sign displays a black rectangular panel.

Where the selection criteria (figure 1) suggests the use of an active sign could be appropriate the RCA can consider either option. The 'active – LED' sign may be considered over the 'active – flashing light' sign if the RCA determines the risk is higher. This may be based on traffic volumes, road hierarchy and whether they are part of a set of signs in an area treatment or are site-specific. For example, if an RCA is developing an area treatment, the 'active – LED' signs may be placed on the highest risk road (that is the one with higher vehicle and pedestrian volumes) while the 'active – flashing light' signs might be located on roads with lower risk sites.

For both of the above signs the orange lights must be of sufficient brightness to draw attention to, but not distract from, the sign or dazzle drivers. They must operate by flashing alternatively at a rate of 1 hertz.

Further technical and operational information for these signs is provided in appendix A.

6.2.3 40km/h variable school zone speed limits (see *Traffic note 37*)

If active school warning signs are proposed near other variable message signs (such as 40km/h variable speed limit signs depicted in figure 5) a careful evaluation of all relevant factors (and options) needs to undertaken. This is important to avoid the signs' messages being confused or their effectiveness being compromised.

Figure 5: Variable 40km/h speed limit sign

6.2.4 Different (permanent) speed limits near school

If the school is located near roads with different (permanent) speed limits, then a careful evaluation of all the children's routes and options for improvement should undertaken so that the cost of each option can be established. If a 40km/h variable speed limit is placed over roads with more than one underlying "permanent" speed limit, then (in addition to the 40km/h variable signs) special variable speed limit signs will be needed where the 'permanent' speed limits change. These special signs will be blank when the 40km/h speed limit signs are on but they need to show the 'permanent' speed limit at all other times. Most 40km/h variable speed limits are located on main traffic routes. If the annual average traffic flow on the road is more than 500 vehicles per day, then these signs indicating a change of permanent speed limit must be installed on both the left hand side and on the right hand side (or on a solid median) [see clause 8.1(2)(a) of the Land Transport Rule: Setting of Speed Limits 2003]. If this is the case, then four of these special signs will be needed, possibly placed back to back.

6.2.5 Children on or near the roadway

Both standard diamond shape and active school warning signs could be considered where the RCA considers there are likely to be school children on or near the roadway. Special consideration should be given where children often congregate near a school on sections of road without footpaths or where children gather at a recreation reserve abutting a road which has a speed limit higher than 50km/h. RCAs should also investigate the provision of adequate footpaths and other pedestrian or cyclist facilities in these cases.

6.3 Layout of signs

The active school warning signs should be positioned as illustrated in figure 6.

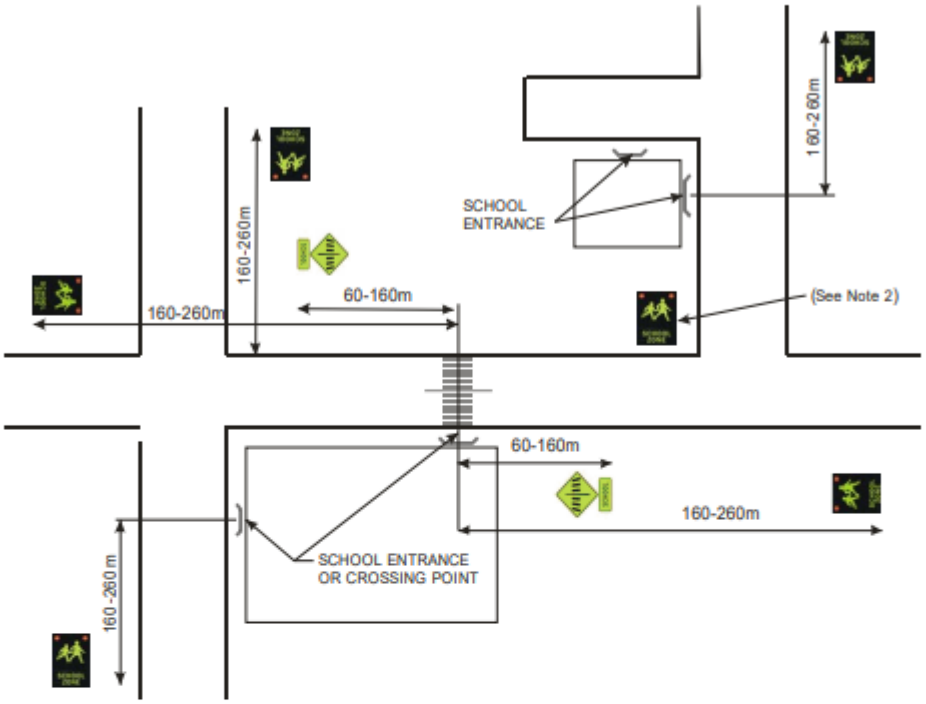


Figure 6: Example of a road and area layout for the use of active warning signs

Note 1: If a formal pedestrian crossing is present (ie a zebra crossing) then a diamond shaped pedestrian crossing warning sign must be installed in addition to the active warning sign. Active warning signs can be installed within 160m-260m from the school entrance or informal crossing point, to give a school zone length of 320 to 520 metres. The length of the school zone will be the sum of:

(a) the length of roadside used for short term parking, bus stops, crossing facilities and school entrances etc before and after the hours when the school is in session (called the 'hazard area'), and

(b) the warning sign approach distance from each direction (which depends of the speed of approaching traffic). For higher speeds, the warning sign needs to be located further in advance of the hazard area (see appendix A). If there is a cluster of schools then the school zone could be longer than 520 metres.

Note 2: Where a second school is located on a side road close to the main road junction and is reasonably obvious to drivers who turn from the main road then this active warning sign may not be necessary and could be replaced by a standard diamond shaped reflective sign.

6.4 Times of operation

As previously stated, where signs are used continuously to highlight a particular activity occurring only during short periods of the day, drivers become accustomed to their presence and may not adapt their driving during times of high risk. With this principle in mind, and supported by information provided within the Evaluation report and ***Traffic note 37***, it is recommended that the times of operation for active school warning should be as follows:

- Before and after school:
  - 35 minutes before the start of school until the start of school
  - 20 minutes at the end of school, beginning no earlier than 5 minutes before the end of school.
- During times when school activities may create additional risk to children (eg early finish times, school functions) the signs should be active for at least 10 minutes and normally not more than 30 minutes.

Times of operation must be agreed between the school and RCA.

6.5 School commitment and activity

It is essential schools are formally involved in the decision to introduce active warning signs. For these signs to be effective and remain so they must only be switched on when activity relating to the school is occurring on or alongside the road to highlight risk and to achieve the desired outcomes.

Conditions of operation of the active signs should be agreed between the school and RCA and should include the following requirements:

- The signs must only be activated by a person authorised by the school principal.
- The signs must not be used at times of day where there are no children present.

7 Acknowledgements

Dunedin City Council has developed additional notes on the trial and evaluation of active school warning signs, including detailed information on prioritising sites for their use, and technical information on their installation. Road controlling authorities and other parties interested in these types of signs are welcome to approach them seeking a copy of this information.

The NZTA acknowledges the valuable input of Dunedin City Council, Timaru District Council, Invercargill City Council, Auckland City Council and the former Transit New Zealand with regards to both the information supplied and the review of these guidelines.

References

1. NZTA/Land Transport New Zealand, Traffic Note 37, ***40km/h variable speed limits in school zones – guidelines.***
2. Dunedin City Council ***Dunedin active school warning signs trial: Evaluation report,*** October 2007.

Appendix A: Technical and installation information on active school signs

A Locations of signs in relation to the school activity

The active warning signs can be used in addition to permanent 'pedestrian crossing' signs or in place of 'school children' signs. Where a formal pedestrian (zebra) crossing is marked the diamond shaped 'pedestrian crossing' sign must still be placed in its normal position in advance of the crossing. (See figure 2 in section 6.3.)

A school warning sign (either the standard diamond shape reflective or one of the active types) should be located where approaching drivers have an uninterrupted view of it over a distance of at least 120m in rural areas and at least 60m in urban areas. The sign should be erected in advance of the hazard area (which can include the pedestrian crossing point, school entrances, bus stops, and short term roadside 'drop off and pick up' parking) by not less than the distance shown in the following table:

Operating speed	Distance
50km/h	65m
60km/h	80m
70km/h	100m
80km/h	120m
90km/h	140m
100km/h	160m

Where there are several schools in close proximity an area treatment may be more suitable. Specific details on sign placement may be at the discretion of the RCA and can be prioritised with respect to risk and criteria as outlined in section 5.

B Sign specifications

Active – flashing light (with reflective symbol and text)
(minimum size as specified for sign W19-2.2 (with symbol W16-4 'children'))

Shape and size:	rectangle 700 x 900mm
Background:	black
Symbol:	children - 600mm wide x 480mm high retroreflective, fluorescent yellow-green
Text:	'SCHOOL ZONE' 100mm high/14mm stroke width retroreflective, fluorescent yellow-green

Figure A1: Active – flashing light

Note: The size of sign used in the trials in Dunedin, Timaru and Invercargill was larger (900mm wide x 1200mm high) and this size can be used in 50km/h areas if considered appropriate. Larger sizes may be used, particularly where the speed limit is above 50km/h or there is a wide or divided carriageway.

Active – LED (light emitting diodes)

Shape and size:	rectangle 700 mm wide x 1000 mm high
Background:	black
Symbol:	children - 600mm wide x 480mm high yellow LED
Legend:	'SCHOOL ZONE' yellow LED, letters 160mm high/25mm wide

Figure A2 Active – LED

Note: This is the minimum size as specified in the Gazette notice. Larger sizes may be used, particularly where the speed limit is above 50km/h or there is a wide or divided carriageway.

C Flashing light specifications

The lights should:

- be placed in the top left and right hand corners of the sign
- be coloured orange
- be at least 60 square centimetres each in area
- be set to flash alternately at a rate of 1 hertz, and
- have cowls installed if sun strike is likely to be an issue.

There may be a need to have an indicator light that can be seen from the rear of the sign from the school or crossing point to indicate when the lights are operating.

D Power supply

Options to be considered for supplying power to the active sign units include:

- solar power (which worked well within the trial process) and is generally most suitable for rural areas)
- linking the battery for the sign to an adjacent street light
- run the signs by cable from the school's power supply.

E Installation of the signs

Signs can be attached to power poles so the units have a solid base. Where new support structures have to be erected they should be at least 100mm diameter with a foundation design that will prevent twisting yet remain frangible.

They should be mounted high enough to provide a suitable clearance above the footpath or ground so they are less likely to be tampered with. MOTSAM recommends a clearance of 2.5 metres above footpaths. However if the support pole is located close to the kerb where large vehicles (such as buses) are likely to stop, then a higher mounting height of 4.4 metres or more may be needed so that the sign is not damaged by high vehicles.

Signs should be placed so the driver's view of them is not obscured by vegetation. If necessary, trees located near the roadway should be pruned regularly to maintain the effectiveness of these signs.

At some sites where there is a special need to highlight the presence of the school to drivers, a duplicate active school zone warning sign can be placed on the right hand side of the road or on a solid median.

F Activation of the lights and LED displays

There are different types of activation systems depending on the sign type and operation. These include:

- automatic activation by wireless control. An antenna is placed on the outside of the school building and connected to the control box. Ideally there should be a direct line of sight from the antenna to the receivers (located on the signs) - while this is more effective, it may not be essential. However, at some sites there could be difficulty obtaining reception for the units and care will be needed to place them so this can be achieved. Checks should be made for possible interference from other nearby electronic equipment
- manual activation by hand held remote control units
- activation from a control box by wired connection direct to the signs.

The control box or activation unit should be located at a secure place within the school grounds where only authorised personnel can have access to it.

G Programming systems

If a programming system is used, it needs to allow for any variations to normal school operating hours including holidays and events that may be held at the school outside normal hours. The activation units need to be programmed to allow information to be entered into the system for set school activity times, holidays and daylight saving time changes together with a manual override system to allow for one-off special events.

The times when the signs operate should coincide with the school activity times as agreed in writing by the school and RCA.

A time-out facility should be installed so that the signs automatically switch off after a maximum time (possibly 1 hour for normal use and possibly 30 minutes for one-off events) if the unit has not been manually switched off.

The programming system can be completed by installation of specific software. Further information can be obtained from Dunedin City Council or the sign supplier.

H Maintenance

It is essential that regular checks are made to ensure the active device is working correctly. The RCA needs to ensure that appropriate inspection and maintenance systems are in place as part of its agreement with those authorised to operate the system. The respective maintenance responsibilities of the RCA and the school should be clearly set out in this written agreement.