

Regional Speed Limit Review Implementation Costs

Okaihau-Kaeo-Waimate Review Area

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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. This role includes the maintenance and upgrade of all local roads and ensuring that speed limits are set and can be enforced.

In its capacity of RCA, Far North District Council (Council) has completed a comprehensive review of speed limits within the Kaeo-Waimate North-Okaihau review area.

A separate Report sets out the recommended new speed limits. This Report provides an overview of the expected costs of implementing the new recommended speed limits. The costs focus on the physical works required to ensure that speed limits are clear and enforceable throughout the review area.

2 Giving effect to new 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

In addition to signage, some engineering work may also be required to ensure that the adopted speed limit is self-explaining. In many cases, this additional engineering work is not required for speed limit enforceability; but is required to ensure maximum compliance with the new speed limits and to maximise the road safety benefits. This is a key principle in the Speed Management Guidance and the Setting of Speed Limits Rule 2017.

Additional engineering work to achieve speed compliance ranges from minor changes to lane markings through to significant 'engineering up' of the road to ensure that the road environment matches the speed limit.

Council engaged Northern Civil Consultants (NCC) to develop a cost estimate for implementing the speed limit changes. This estimate included options for the staging of physical works. Six main cost components are outlined in this Report:

1. New change in speed limit signs
2. Repeater signs
3. Remove existing signs
4. Threshold Treatments (rural villages)
5. Lane markings
6. Engineering Treatments

It is estimated that, within the Kaeo-Waimate-Okaihau Review Area, that 316 new signs will be required, which includes:

- 136 new speed limit change signs
- 112 threshold speed limit change signs
- 68 repeater signs on key through routes.

3 Required signage

3.1 New change in speed limit signs

Wherever a speed limit changes, it is a legal requirement to have a sign indicating the new speed limit. Then sign must comply with the standards set out in the Setting of Speed Limits Rule 2017.

It is estimated that 135 RG-1, 750mm diameter roundel signs on twin white wooden posts are required to denote each change in speed limit.

The estimated cost for new speed limit change signs is: \$50,000 to \$65,000.

3.2 Repeater Signs

Repeater signs are speed limit signs that are installed periodically along a road so that the driver is reminded of the current speed limit. The spacing of the repeater signs depends on the speed limit of the road. The Setting of speed Limits Rule 2017 identifies when repeater signs are required and at what spacing. The Rule does provide some flexibility. Where the following can be met, repeater signs can be omitted:

- The road environment has not changed, and the road user would reasonably understand that the speed limit would be the same along the length of the road; and
- The measured operating speed (average speed that 85% of vehicles actually travel) is less than 10% above the speed limit for that road (vehicles are driving at or below the speed limit anyway).

Staff have assessed all roads in accordance with the requirements of the Setting of Speed Limits Rule 2017 and the flexibility that it provides. Repeaters are not required on most roads within the catchment, however, where roads have a high number of non-local drivers it is advisable to use repeaters, irrespective of the flexibility that the Setting of Speed Limits Rule 2017 provides. Having considered all of the legal requirements and best practice, it has been determined that the following roads require repeater signs:

- Wiroa Road
- Waimate North Road (SH10 to Wiroa Road)
- Wehirua Rd
- Te Aha Ahu Road (SH10 to Old Bay Road)
- Old Bay Road

It is estimated that 68 RG-1, 600mm diameter roundel signs on one white wooden post are required.

The estimated cost for new repeater signs is \$15,000 to \$20,000.

3.3 Removal of existing signs

Existing signs that will require removal include all speed limit signs that are not consistent with the new speed limits and advisory signs that contradict the new speed limit. This includes advisory signs indicating a maximum speed that a corner should be taken at, where the advised speed exceeds the posted speed limit. Where practical, removed signs will be re-used elsewhere to save overall costs.

It is estimated that between 200 and 300 signs will require removal.

The estimated cost for removing signs is \$5,000 to \$10,000.

4 Threshold treatments and Line marking

Line marking and threshold treatments assist the driver in understanding the speed limit and creating a self-explaining speed environment. This leads to improved compliance with speed limits.

4.1 Threshold Treatments (rural villages)

Threshold treatments are normally a combination of engineering and signage that denote an entry into a new road environment such as a rural village environment where there is a predominance of residential dwellings and associated land-use. Threshold treatments improve the effectiveness of a speed limit.

Within the review area, there are a number of smaller catchment areas that have a rural village form where either 40kph or 60kph speed limits have been recommended. Threshold treatments are recommended in these areas to ensure the effectiveness of the posted speed limit. Threshold treatments also contribute to a "sense of place" which also heightens driver awareness of potential hazards that may be present in a rural residential area, for example, pedestrians or vehicles entering the carriageway.

There are two levels of Threshold Treatment, with varying levels of effectiveness and cost:

- **Minimum treatment** – gated threshold signs with village name and painted roundel on pavement. Typical cost \$3,000 to \$5,000 per site.
- **Higher Standard Treatment** – gated signs with village name and painted roundel on pavement; and kerb channelized threshold. Typical cost is \$20,000 to \$30,000 per site.

There are 26 sites identified where Threshold Treatment will have a beneficial effect and is advised. Provision of the higher standard of treatment is not financially viable within existing budgets. It is therefore recommended that the minimum treatment option is taken for all 26 sites and the effectiveness of the treatment monitored for a period of 24 months.

It is estimated that the minimum threshold treatment for all 26 sites will require 112 signs consisting of:

- 56 gated threshold signs on twin white steel posts
- 56 RG-1 750mm diameter signs on the rear of threshold signs

The estimated cost for the minimum Threshold Treatment option is \$120,000 to \$200,000.

4.2 Line markings

Line markings help create a self-explaining speed environment by defining lane widths and centre lines. Recommended lane widths are:

- 3.0m for speed limits of 60kph or lower
- 3.25m for speed limits of 80kph
- 3.5m for speed limits of 100kph

Not all sealed roads in the review area have edge-lines (lane markings). Roads with edge-lines typically have lane widths of 3.5m or greater. Edge line marking, including marking those that are currently missing and remarking where width adjustments are required, can be undertaken as part of the annual remark programme. The additional cost of including this work in the annual work programme is minimal.

It is recommended that additional road marking be undertaken as part of the annual road marking programme.

4.3 Engineering Treatments

There are two types of engineering treatments in relation to speed management:

- **Engineering up** – where engineering interventions are undertaken to make the road more suitable for a higher speed. This may include widening of the road, easing curves and other safety interventions.
- **Engineering down** – where engineering interventions are intended to slow traffic down closer to the posted speed limit. This is often referred to as urbanisation and may include kerb and channels, footpaths and traffic calming measures.

FNDC Bylaw Waimate speed Review Confirmation Agenda Attachment 3 Implementation Costs

Wiroa Road, from State Highway 10 to 100m west of the Kerikeri Airport access is the only candidate for significant engineering interventions.

It is proposed to reduce the speed limit on Wiroa road between State Highway 10 and Kerikeri Airport from 80kph to 60kph. The density of housing and commercial uses and general built environment on this stretch of Wiroa Road supports a speed limit of 60kph. However, the current operating speed (average speed of 85% of vehicles) is between 70kph and 80kph.

To ensure a high level of compliance with the new speed limit, this section of Wiroa Road should be urbanised (engineered down). Urbanising includes kerbs, footpaths and or a shared path making the 60kph speed limit more self-explaining to the driver.

Due to the cost of the engineering works, it is recommended that engineering down, or urbanisation of this stretch of Wiroa Road be deferred and programmed into the next Long-Term Plan. Alternatively, urbanisation can be undertaken when road renewal or rehabilitation is undertaken.

The estimated cost to urbanise the 2.2km section of Wiroa Road is \$2 - \$3m.

5 Overall Costs

The expected life of a speed limit sign is 7-years. The average remaining effective life of speed limit signs within the review area is less than 4-years. Most of the new signage will be replacing existing signs. As such, this work can be undertaken by bringing forward current renewal costs and thereby minimising additional expenditure.

The estimated overall cost to undertake the recommended changes to implement new speed limits within the review area is \$190,000 to \$300,000.