6. Shaping the Future

6.1 Introduction

At an implementation level consideration is required as to what can be done to improve the streetscape amenity and to make streets safer to all of the users. This part of the Streetscape Strategy identifies changes that the Council considers are appropriate to the roading hierarchy in the towns of Gore and Mataura. No changes are proposed to the hierarchy in the other towns of Waikaka, Mandeville and Pukerau.

This part of the strategy identifies various actions that can be taken to achieve better looking, safer and more environmentally friendly street environments. These latter works will be promoted by the Council wherever practicable, both in existing developed areas and in new subdivisions.

6.2 Road Hierarchy

Appendix 1 shows the current roading configurations for all towns in the District and the existing roading hierarchy for the towns of Gore and Mataura. For the latter two towns, changes to the hierarchy are considered appropriate, taking into account changes to traffic flows over time and reassessment of the future functions of some roads[6]. Figures 10 and 11 show the proposed new roading hierarchy for Gore and Mataura.

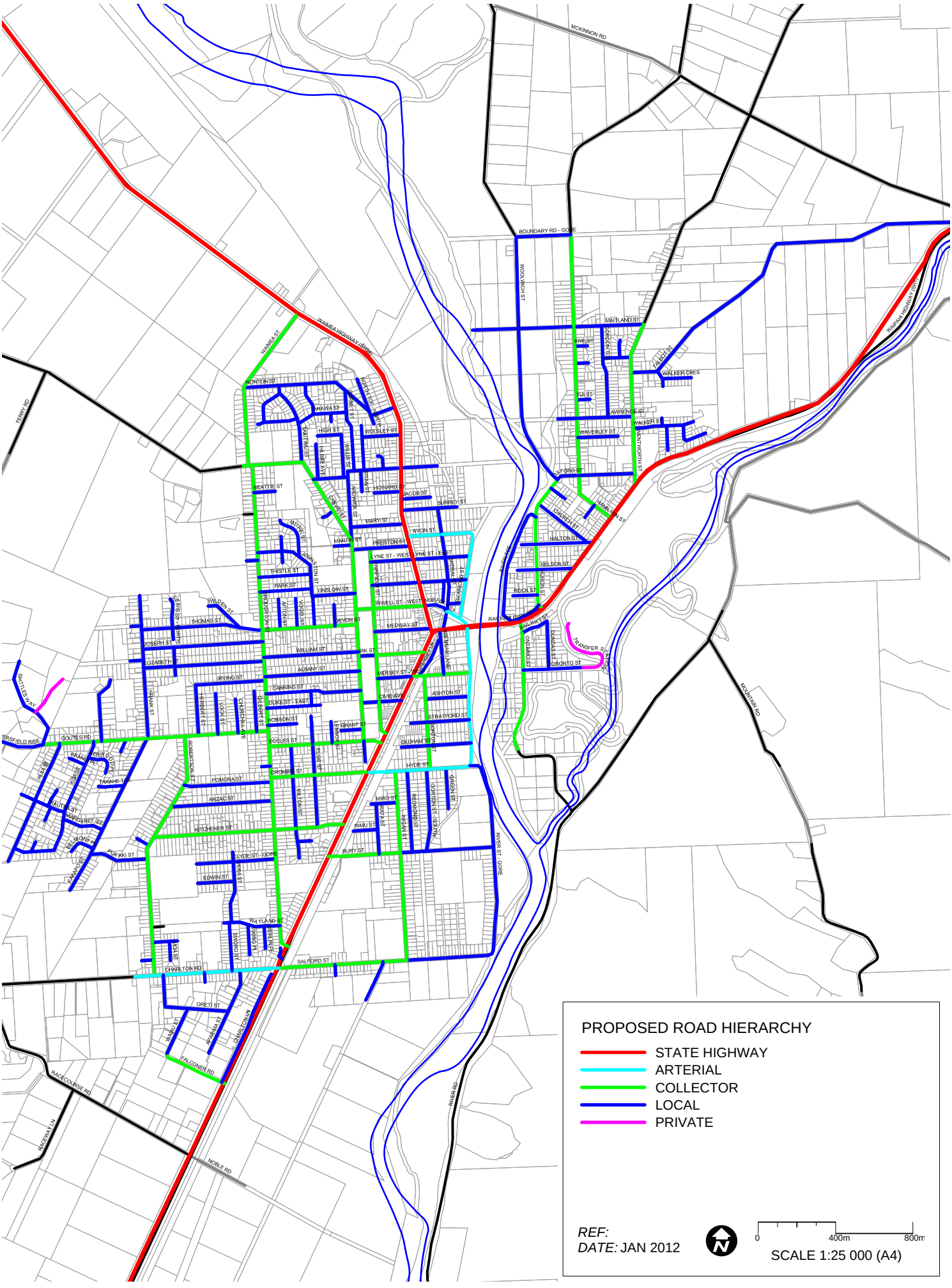
Changes to the roading hierarchy of significance are as follows:

Gore

- Falconer Road from local road to collector road – this will require widening and sealing of Falconer Road, including an upgrade of the storm water pipe across the road at the Waiau Street corner.
- Broughton Street from arterial to collector road.
- Waimea Road from arterial to collector road.
- Ardwick Street (from Crewe Street to George Street) from collector to local road.
- Medway Street from collector to local road.
- Mersey Street (from Main Street to Fairfield Street) from collector to local road.
- Civic Avenue from collector to local road.
- Bury Street (from Wigan Street to State Highway 1) from local to collector road.
- Salford Street (from Wigan Street to State Highway 1) from local to collector road.
- Woolwich Street from road to local road.

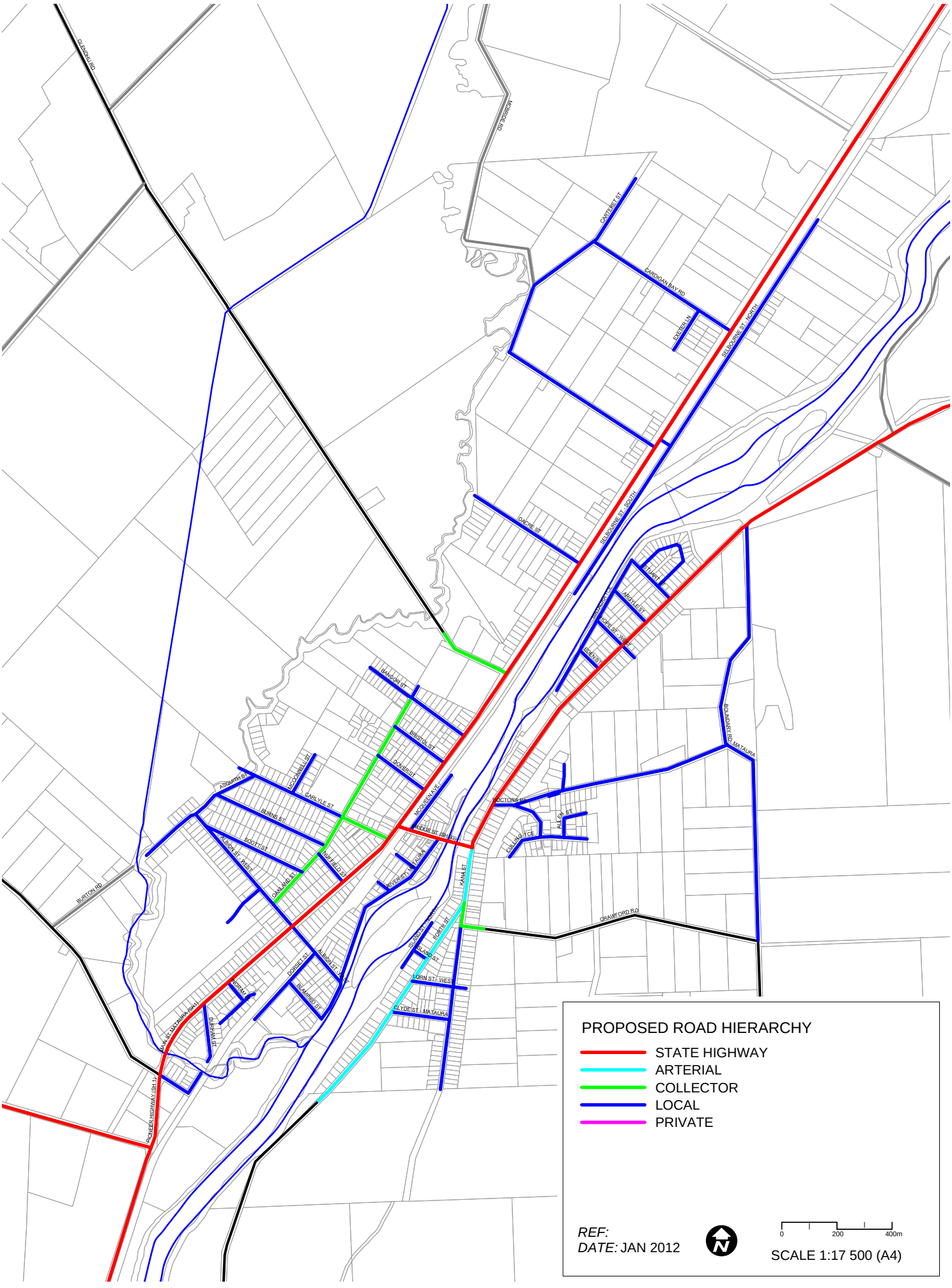
It is also proposed that Charlton Lane be extended from Falconer Road to Racecourse Road, so as to facilitate enhanced and safe access to those allotments that currently front State Highway 1.

[6] For a description of categories in the roading hierarchy refer to section 4.2 pages 28-30.



GORE DISTRICT STREETSCAPE POLICY 2011

FIGURE 10: PROPOSED ROAD HIERARCHY: GORE



GORE DISTRICT STREETSCAPE POLICY 2011

FIGURE 11: PROPOSED ROAD HIERARCHY: MATAURA

Mataura

- Kana Street (from Crawford Street to Lorn Street) from collector to local road.
- Doctors Road (Old Coach Road to Culling Terrace) from collector to local road.
- McQueen Avenue from collector to local road.
- Albion Street (Main Street SH1 to Oakland Street) from collector to local road.
- Carlyle Street (from Oakland Street to end) from collector to local road.
- Bangor Street (Main Street SH1 to Oakland Street) from collector to local road.

As noted in Policy 8 it is proposed to investigate options for enhancing the existing commercial area of Mataura. That will include the option of diverting heavy traffic to and from the south along an alternative route such as River Street and Albion Street.

The status of roads in the hierarchy will impact on the approach that the Council adopts in managing traffic in those areas. For example, local roads may be subject to measures to reduce the speed and numbers of vehicles using those roads. Pomona Street and Anzac Street are examples where this is seen as desirable. Part 6.4 of the Streetscape Strategy identifies a number of traffic calming techniques that could be used to achieve this.

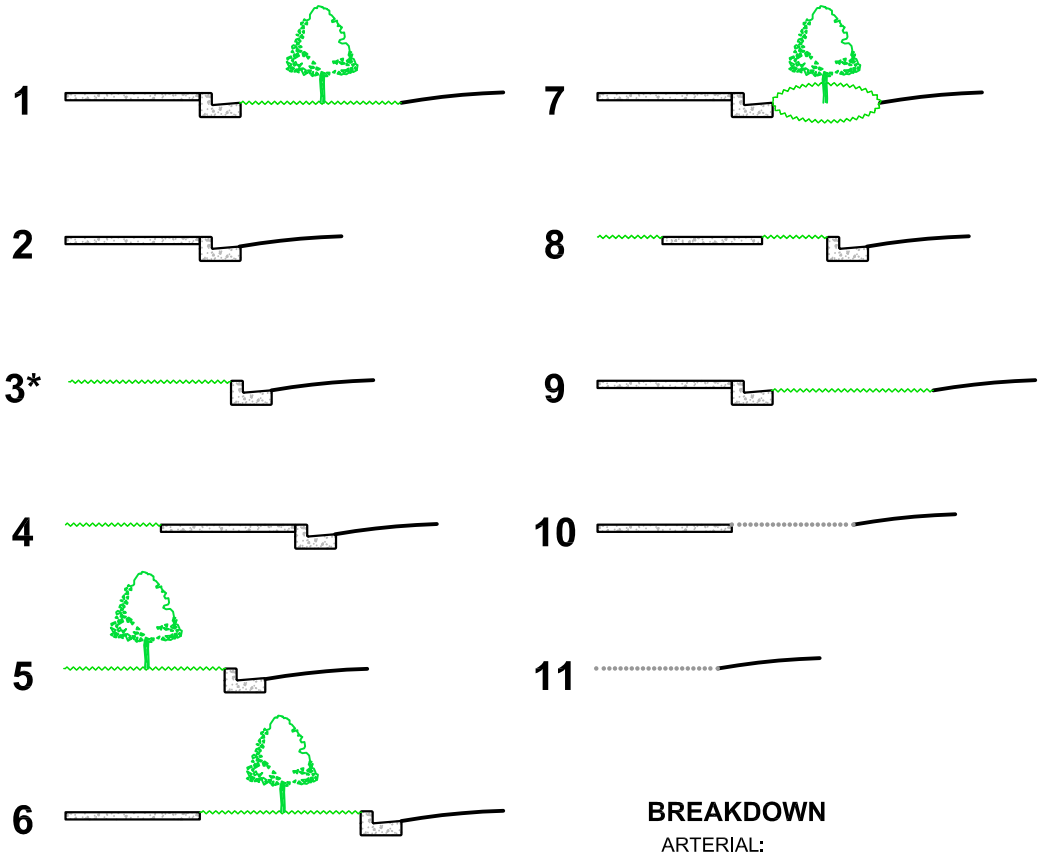
Changes to the hierarchy as set out above, once adopted, will necessitate amendments to the District Plan as that plan presently contains rules that require the movement of vehicles to and from arterial roads to be in a forward direction. Amending the status of Broughton Street to a collector road will enable such movements to now take place.

6.3 Road Layout Options

As development has taken place in the towns of the District, different standards have been applied at different times, resulting in different layouts in different streets. For example:

- Some roads are sealed, while others have gravel. Some have footpaths on both sides of the road, others on one side and yet others with no footpaths.
- Footpaths are constructed in concrete, bitumen of gravel.
- Some streets have trees, while others do not, and where there are trees some are close to the road carriageway, while others have trees between the carriageway and footpath and yet others have trees between the footpath and property boundary.
- Some streets have grassed areas between property boundaries and the carriageway. The location of that grassed area can vary in being located between the property boundary and footpath and the footpath and carriageway. A similar pattern can occur with strips of gravel, and mixtures in configuration between gravel and grass.
- Formed kerbs and channels can also vary in location, with most abutting the carriageway and others setback with grassed or gravel areas between.

The following table and photographs illustrate the various layout combinations that can occur. For each layout, an indication is given as to the suitability of that layout as an arterial, collector or local street.



LEGEND

- FOOTPATH
- KERB
- GRASS SURFACE
- GRAVEL SURFACE
- ~~11~~ UNDESIRABLE

BREAKDOWN

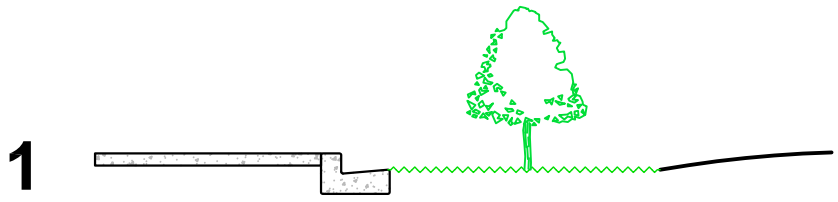
ARTERIAL:
1 2 6

COLLECTOR:
1 2 4 5 6 8 ~~11~~

LOCAL ROAD:
1 2 3* 4 5 6 7 8 ~~9~~ ~~10~~ ~~11~~

* WHERE OTHER OPTIONS ARE NOT PRACTICALLY AVAILABLE .

DESIRABLE STREETSCAPE LAYOUTS. NOT ALL ENCOMPASSING, ASSUMING THAT ADJOINING LANDS ARE PRIVATELY OWNED.



ARTERIAL	COLLECTOR	LOCAL ROAD
☑	☑	☑

GORE DISTRICT STREET SCAPE POLICY 2011

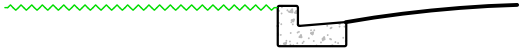
STREET CONFIGURATIONS: OPTIONS 1 & 2

Gore District Council

2

ARTERIAL	COLLECTOR	LOCAL ROAD
☑	☑	☑

3*



ARTERIAL	COLLECTOR	LOCAL ROAD
☒	☒	☒

LEGEND

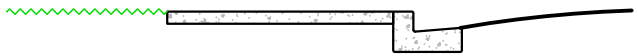
- FOOTPATH
- KERB
- GRASS SURFACE
- GRAVEL SURFACE

Gore District Council

GORE DISTRICT STREET SCAPE POLICY 2011

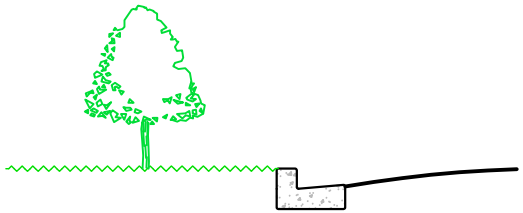
STREET CONFIGURATIONS: OPTIONS 2 & 3

4



ARTERIAL	COLLECTOR	LOCAL ROAD
☒	☑	☑

5



ARTERIAL	COLLECTOR	LOCAL ROAD
☒	☑	☑

LEGEND

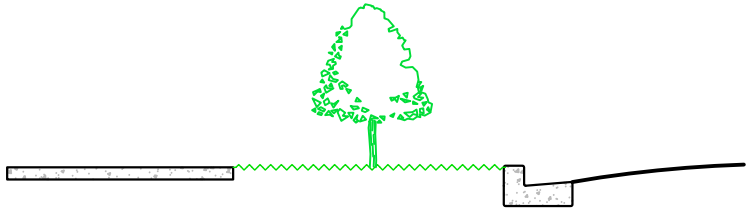
- FOOTPATH
- KERB
- GRASS SURFACE
- GRAVEL SURFACE

Gore District Council

GORE DISTRICT STREET SCAPE POLICY 2011

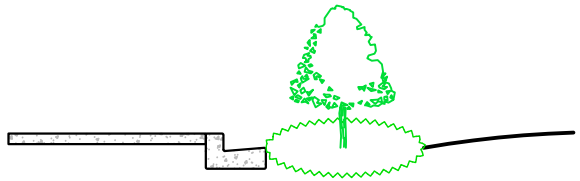
STREET CONFIGURATIONS: OPTIONS 4 & 5

6



ARTERIAL	COLLECTOR	LOCAL ROAD
☒	☑	☑

7



ARTERIAL	COLLECTOR	LOCAL ROAD
☒	☒	☑

LEGEND

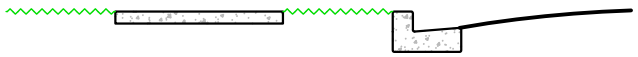
- FOOTPATH
- KERB
- GRASS SURFACE
- GRAVEL SURFACE

Gore District Council

GORE DISTRICT STREET SCAPE POLICY 2011

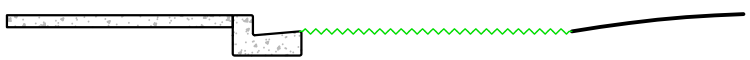
STREET CONFIGURATIONS: OPTIONS 6 & 7

8



ARTERIAL	COLLECTOR	LOCAL ROAD
☒	☑	☑

9



ARTERIAL	COLLECTOR	LOCAL ROAD
☒	☒	☒

LEGEND

- FOOTPATH
- KERB
- GRASS SURFACE
- GRAVEL SURFACE

Gore District Council

GORE DISTRICT STREET SCAPE POLICY 2011

STREET CONFIGURATIONS: OPTIONS 8 & 9

10

ARTERIAL ☒ COLLECTOR ☒ LOCAL ROAD ☒

11

ARTERIAL ☒ COLLECTOR ☒ LOCAL ROAD ☒

LEGEND

- FOOTPATH
- KERB
- GRASS SURFACE
- GRAVEL SURFACE

Gore District Council

GORE DISTRICT STREET SCAPE POLICY 2011

STREET CONFIGURATIONS: OPTIONS 10 & 11

6.4 Traffic Calming Techniques

Traffic calming seeks to reduce vehicle speeds, improve safety and enhance amenity within the areas it is undertaken. It can be achieved by **education**, **enforcement** and **engineering** and within the Gore District a mix of the three is appropriate.

Traffic calming seeks to alter the behaviour of motorists by encouraging use of alternative routes (volume controls) and by slowing their speeds on those routes where calming is undertaken (speed controls).

Volume controls include:

- Making roads one way along their entire length or at intersections.
- Closing roads at one end, effectively creating a cul-de-sac.
- Restricting classes of vehicles that can use a road, for example, excluding heavy vehicles.
- Restricting times of the day when certain vehicles can enter an area, such as for goods delivery.

Regulatory speed control measures such as Stop and Give Way signs at intersections and lower speed limits or lower tolerances of exceeding the allowable speed limit over sections of road are readily accepted by the community and effective in the vicinity of sensitive land uses, particularly schools. Such a technique can be applied to any type of road, be it classified as an arterial, collector or local road. However, regular policing is necessary to ensure compliance.

Psychological speed control measures are associated with an actual narrowing of the road carriageway or undertaking initiatives that make it appear the carriageway is narrower, such as by:

- The planting of trees.
- Different and lower level street lighting to areas elsewhere.
- Use of different road surfaces, either in materials used and colours of surfaces.

Physical speed control measures are used on roads where low traffic volumes are being encouraged, or in places where high priority is being given to pedestrians, such as in main commercial areas. Physical devices used for traffic calming can be divided into three broad categories:

- Vertical deflections are raised segments that force drivers to slow down in order to minimise unpleasant bumping or vibration. These include speed humps and raised pedestrian crossings.
- Horizontal deflections are either lateral shifts in the roadway that create turns, or constrictions of the roadway that cause drivers to lower speeds in order to manoeuvre safely through the deflection. These include roundabouts and chicanes.
- Horizontal narrowing is used to create a slower environment, by use of kerb line alterations and centre island narrowing.

Techniques for traffic calming are evolving over time. The following diagrams illustrate a range of the techniques that are currently available[7]. Which technique

[7] From RSS 21 Traffic Calming Devices Land Transport Safety Authority ISSN 1174-7161

is adopted will be dependent on the particular circumstances of the street, in particular its classification and the range and type of transport modes that need to be provided for.

Road humps

Photo 1

Photo 2

Photos 1 and 2, above, show two different approaches to marking road humps. In Photo 1, markings are used to highlight the presence of the ramps. In Photo 2, no markings are used on the ramps and it is difficult to tell that the pedestrian crossing is actually on top of a raised platform.

Photo 1 shows a road hump used in isolation. Although this approach is very effective for reducing the speed of vehicles at a given location, it will have little effect on vehicle speeds along the rest of the road and can create some adverse noise problems. Placing pedestrian crossings on top of road humps helps to reduce speed and conflict, if marked correctly.

Speed cushions

Photo 3

Photo 4

Speed cushions are not widely used in New Zealand. Photos 3 and 4 show examples of permanent and temporary speed cushions in Hamilton.

Pedestrian refuges

Pedestrian refuges are widely used on all types of road. Photo 5 shows the use of a coloured road surface to highlight the presence of the crossing location. The use of colour in this way has to be done carefully because it can give an impression to pedestrians that they have a right of way over traffic. Photo 6 shows the use of barriers to direct pedestrians in the middle of the road.

Photo 5

Photo 6

Surface treatments

Photo 7

Photo 8

Surface treatments are most commonly used on local roads. Photo 7 shows the use of a contrasting surface colour to highlight the presence of a platform. Photo 8 shows the use of block work to emphasise to drivers that they are in a shopping area. In schemes such as that shown in photo 8, care has to be taken to ensure that the road surface provides a suitable contrast to the footpath surface, for the visually impaired.

Kerb line alterations

Photo 9

Photo 10

Kerb line alterations are used on all types of road. Photo 9 shows how the radius of an intersection has been reduced to lower entry speeds from the side road. Photo 10 shows the use of kerb line alterations and central islands to create a chicane effect. The visual impact of such schemes has to be taken into consideration, to aid their acceptance by the public.

Coloured road surface

Coloured road surfaces can be used to highlight areas of conflict to drivers, as in Photo 11, or to enhance other measures, such as central hatching, as in Photo 12. The choice of colour is very important and there should be consistency throughout road networks and between neighbouring road networks.

Photo 11

Photo 12

Reduced road space

Photo 13

Photo 14

Reducing the width of road available to vehicles is the most common type of traffic calming device used. Photo 13 shows road markings being used to achieve this. Photo 14 shows mature planting being used to achieve the same effect in a CBD. When using planting, as in photo 14, care needs to be taken to ensure that safety is not compromised by reducing intervisibility between drivers and other road users.

Traffic signs

Photo 15

Photo 16

Signs can be used to indicate, to drivers, a change in the area they will be driving through. This can either be done on a local, neighbourhood basis, as in Photo 15, or at a gateway to an urban area, as in photo 16. Care needs to be taken with the design of the signs and the message they convey. For example, the meaning of the sign in Photo 15 is not clear.

Chicanes

Photo 17

Photo 18

Chicanes are used on all types of road, but to a far lesser extent than some of the more popular devices. They can be effective at reducing speed on wide streets. Because of their design, chicanes can cause problems for cyclists when drivers try to squeeze past at the narrow points. The use of central islands also has to be carefully considered, so additional hazards are not introduced into the road. Chicanes can be viewed as a challenge by drivers who like to race on the road, which can lead to safety and noise concerns.

Platforms

Photo 19

Platforms can be used to provide crossing points for pedestrians, as in Photo 19. They are mainly used on local roads. As with road humps, ramps need to be clearly marked, to maximise the speed-reducing effect.

Intersections

Altering intersections can also help reduce speed. Photo 20 shows a roundabout being used to reduce speed. In photo 21, the priority at an intersection has been changed and kerb line alterations have been undertaken to emphasise the change. Raising the road level at intersections can also help to reduce speed and minimise any conflicts that may occur, as illustrated in photo 22.

Photo 20

Photo 21

Photo 22

Provision for cyclists

Photo 23

Photo 24

As mentioned previously, traffic calming devices that rely on a reduction in road width can cause problems for cyclists. One remedy is to provide a channel for cyclists, as shown in photo 23. When channels like this are provided next to the kerb, the location of adjacent gullies must be considered. In photo 24, the proximity of the gully to the road narrowing negates the usefulness of the channel for cyclists.

6.5 Green Infrastructure

Green infrastructure seeks to minimise large impervious surfaces as are typically found within the street environment and to treat storm water runoff using low impact environmental design techniques. Soft rather than harsh, planted rather

than sealed streetscapes result. Ecological corridors for birds and wildlife habitat can also be provided. Techniques that can be adopted can include:

- Use of swales, ponds, and rain-gardens to temporarily retain and gradually dispose of storm water.
- The use of semi-permeable pavers and other permeable surfaces can contrast with concrete and asphalt, creating greater visual interest within the streetscape.
- Wide-spread low impact technology can significantly reduce the quantity and improve the quality of water and materials discharging to creeks and rivers.

Swales are of particular benefit. They can serve as part of a storm water drainage system and can replace kerbs, gutters and storm sewer systems. Swales are best suited for residential, industrial, and commercial areas with low flow and smaller populations.

Swales can have significant environmental benefits but they do have limitations. Swales can reduce peak flows, remove pollutants and promote runoff infiltration, and they tend to have lower capital costs. However, vegetated swales are typically ineffective in, and vulnerable to, large storms, because high-velocity flows can erode the vegetated cover.