

# Draft Interim Speed Management PLAN



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Appendix A – Technical Assessment

DRAFT

# 1. Why a Speed Management Plan?

This Speed Management Plan is being developed by South Waikato District Council to support their short-term and long-term road safety goals. To achieve the desired goals a range of initiatives are required to be implemented such as speed limit changes and future improvements to roads to support either existing or changes in speed limits if and when required. These physical works will be undertaken in conjunction with education programmes and enforcement as required.

These works support Council's vision – “Healthy people thriving in a safe vibrant and sustainable community” by ensuring that vehicle speeds are appropriate for the areas where we live, work and go to school.

## 1.1 Setting of Speed Limits Rule

The Land Transport Rule: Setting of Speed Limits was updated in 2022 and came into effect on 19 May 2022. This removes the requirement for Territorial Local Authorities<sup>1</sup> to set speed limits through bylaws, enabling a whole of network approach that considers safety-related infrastructure improvements, speed limit changes and safety camera placement together.

Speed limits will now be regularly reviewed, and any proposed speed limit changes and safety infrastructure improvements identified as part of the development and any future review of a Speed Management Plan for the Masterton district. These plans set out a 10-year vision with a 3-year implementation plan, and are to be reviewed in line with the National Land Transport Programme funding timelines.

The speed limit around schools must be reviewed and the road controlling authority must have made all reasonable efforts to reduce the speed limits in the vicinity of 40% of the schools directly accessed from their roading network by the 30th June 2024 and all schools compliant by the 31st December 2027.

All speed limit records are now held in the National Speed Limit Register (NSLR) and any change to an existing speed limit must conform to the changes proposed in a speed management plan to enable it to be certified and become operative after the appropriate signage has been installed.

## 1.2 Funding

The costs of implementing of road safety initiatives including speed management is a shared between South Waikato District and Waka Kotahi as the agent for the New Zealand Government. The guidelines for receiving this funding include the requirements for projects identified to support speed management and a reduction in death and serious injuries.

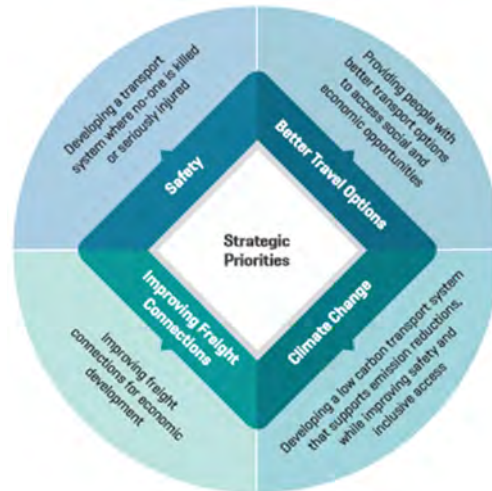
The outputs from this speed management plan will be used to develop a forward works programme for the Road to Zero programme, and funding will be sought for works to support speed management on these roads.

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<sup>1</sup> Territorial Local Authorities means a city council or a district council. A Council controls local roads. Waka Kotahi is responsible for the State Highway roading network.

### 1.3 Government Policy Statement on Land Transport

The Ministry of Transport has released the Government Policy Statement (GPS) on land transport 2021/22 – 2030/31<sup>2</sup>. The GPS provides direction and guidance to those who are planning, assessing and making decisions on Land Transport over the next 10 years. Safety and climate change are two of the four strategic priorities for investment in Land Transport which speed management can have an effect on.



### 1.4 Road to Zero

The NZ Government is committed to tackling unsafe speeds as part of their vision of a New Zealand where no one is killed or seriously injured in road crashes. The risk of a crash occurring and the resulting severity of injury resulting from the crash depends significantly on the speed of vehicles involved.

To underline the commitment to safety and speed management the following Intervention Indicators have been proposed in the NZ Governments Road to Zero Initial Action Plan 2020-2022:

- *Percentage of the highest risk roads addressed through speed management*
- *Percentage of urban schools with 30-40km/h speed limits (40 percent by 2024; 100 percent by 2030)*
- *Percentage of rural schools with 60km/h speed limits or lower (40 percent by 2024; 100 percent by 2030)*
- *Mobile speed camera deployment activity (hours) (increase to 80,000 in 19/20; 100,000 in 20/21)*
- *Number of police operations targeting speed*

### 1.5 Road Safety

Road safety goes beyond our obligation to prevent deaths and injuries to improving lives and lifestyles too. By ensuring that everyone feels safe to use our transport network we open up opportunities for a more diverse use of modes and opportunities for improvement in health such as letting children walk, bike or scooter to school. This creation of road networks that allow for

<sup>2</sup> <https://www.transport.govt.nz/assets/Uploads/Paper/GPS2021.pdf>

easy and multimodal transport use connect people and communities rather than dividing them. This in turn gives effect to the Council Vision – Healthy people thriving in a safe vibrant and sustainable community.

Influencing road user behaviour and improving our driving culture will continue to be critical to making significant gains in road safety. All users of our roads, streets and footpaths have a responsibility to make good choices and follow the rules, while central and local government has a responsibility to support and enforce that behaviour.

## 2. What is speed management?

Speed management is about achieving safe and appropriate vehicle speeds on roads that reflect the roads function, design, safety and use. People and goods need to move efficiently around our transport network; however, aligned to the Road to Zero vision, we also need to see a reduction in deaths and serious injuries on our roading network. Additional benefits gained from the implementation of appropriate vehicle speeds is a reduction in noise and air pollution which results in healthier and safer communities.

Speed management is more than just setting or adjusting speed limits. It requires input from policy makers, engineers, educators and the police to educate, encourage and influence road users to adopt safe and appropriate speeds.

### 2.1 Crash survivability

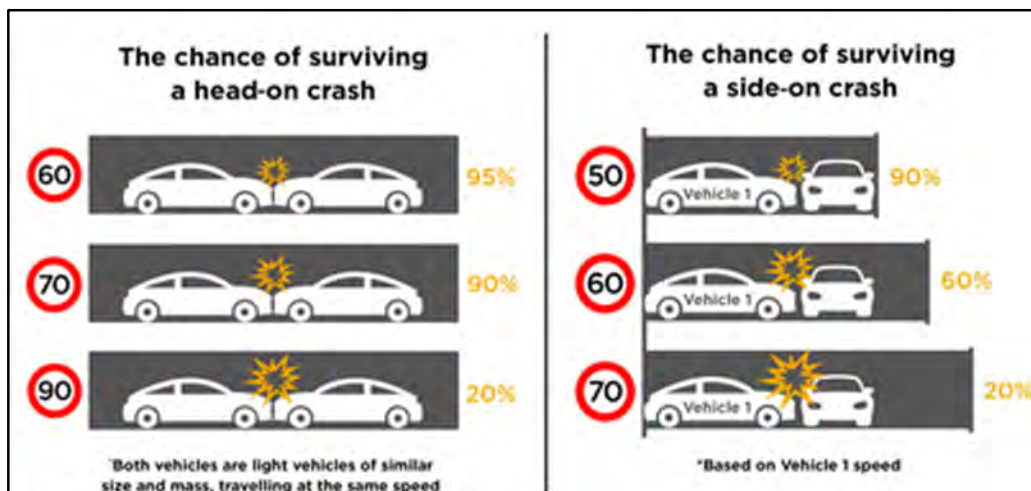
The role and impact of speed in crashes is often underestimated with the most common argument used against any reduction in speed limits being that “*vehicle speeds don’t cause crashes poor drivers do*”. This is correct in part.

The speed that a vehicle is traveling at does not cause the crash, however it has a direct effect on the severity of the crash and higher vehicle speeds increase the probability of a crash in several ways:

- by reducing the capacity of a driver/vehicle to stop in time;
- by reducing manoeuvrability in evading a problem;
- by making it impossible to negotiate curves and corners at speeds which are too high for the friction available;
- by reducing the driver’s field of vision; and
- by causing others to misjudge gaps.

Therefore, speed plays a significant role in the both the outcome of the crash as well as the potential for a crash to occur. The speed of the vehicle is the difference between a correctable mistake and a fatal error as illustrated in Figure 1.

Figure 1 Crash survivability<sup>3</sup>



The Waka Kotahi crash database (CAS) holds information on all crashes that have been reported to the Police. This data can be broken down into the various local authority regions and separated into local roads and state highways. Contributing factors and crash types are some of the features that are analysed to develop a picture of the crash history within South Waikato District.

## 2.2 Travel speed

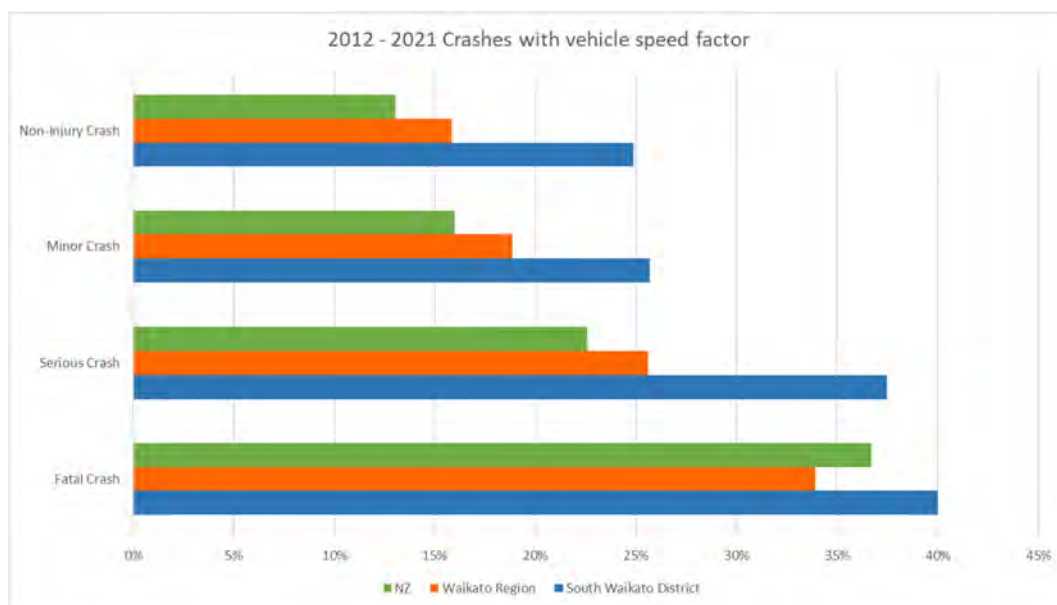
Travel speed was indicated as being a contributing factor in 39% of all fatal and serious crashes on the South Waikato local road network between 2012 and 2021. This indicates that inappropriate speed (not necessarily above the speed limit) plays a significant part in the number of crashes in this district.

Comparison between the regional and national data, for local roads only, is shown in Figure 2 and shows that speed is overrepresented in all crashes on the South Waikato local road network.

<sup>3</sup> Source - Centre for Road Safety – NSW Government



Figure 2 Crashes with vehicle speed factor 2012 - 2021



### 2.3 Crash types

A review of the crash data for the ten year period 2012 – 2021, shows that there has been five fatal and seventy-two serious crashes on local roads within the South Waikato District. The types of the crashes are shown in Table 1.

Table 1 Crash type: 2012 - 2021

Crash Type	Fatal	Serious	Minor	Non-injury	Total
Lost Control - Bend	2	36	105	328	471
Lost Control - Straight Road		14	30	78	122
Manoeuvring		2	8	69	79
Obstruction			11	33	44
Crossing one turning	1	3	11	29	44
Head on crash	1	1	12	24	38
Crossing not turning			11	26	37
Rear end crash		2	2	24	28
Merging		3	2	20	25
Same direction turning		1	6	18	25
Pedestrian crossing road	1	6	12	2	21
One turns right			3	15	18

Miscellaneous		1	5	4	10
Other pedestrian		3	2		5
Overtaking			2	2	4
Total	5	72	222	672	971

A review of the crash data for the Waikato region and nationally on local roads for the same period shows that the top crash factors are the same indicating that the issues in South Waikato District are not dissimilar to those elsewhere in the country.

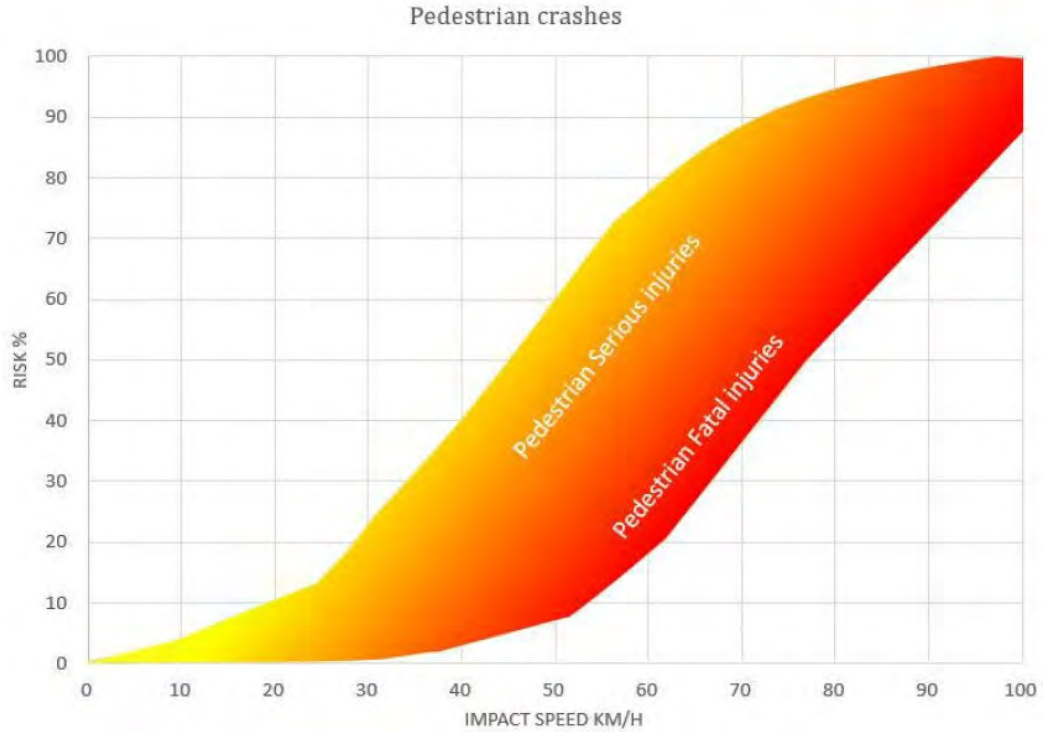
## 2.4 Pedestrians and Cyclists

Safer speed limits within town centres, around schools and other high pedestrian generating areas will help to support more liveable and thriving communities by improving safety and accessibility and encouraging more active modes of transport.

Pedestrian crashes can occur anywhere on the roading network, however there are opportunities to improve safety and accessibility, in particular around schools. Current speed limits within town centres and outside many schools do not make walking and cycling an appealing mode of transport and therefore increase the reliance on vehicles. Increased rates of children walking and cycling to school will reduce the level of congestion in the vicinity of schools, lowering the risk of crashes and stress to other road users. It may also have a range of co-benefits, including health and accessibility by helping people to feel safer to walk or bike to school which has benefits for the community as a whole.

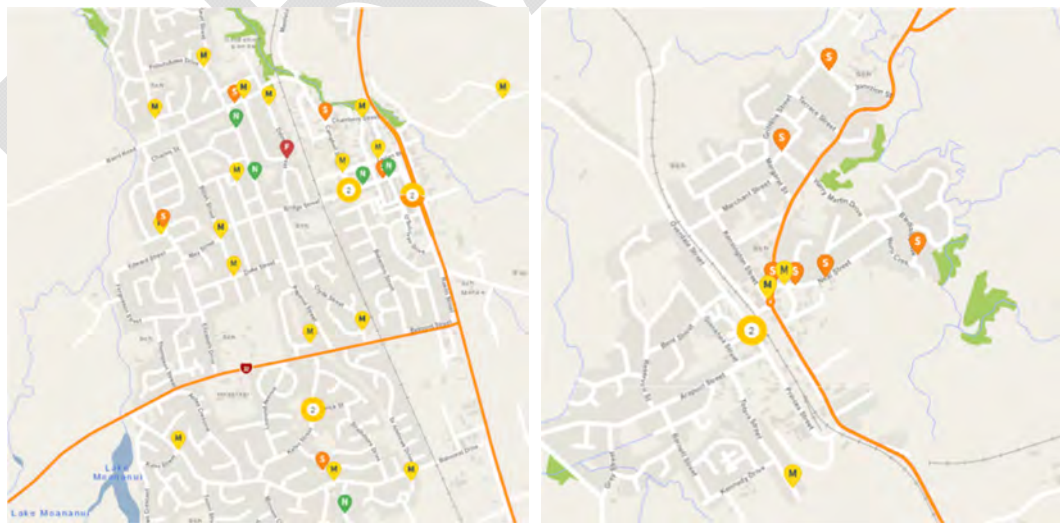
Pedestrians and cyclists are particularly vulnerable in crashes involving vehicles. A crash with an impact speed of 50km/h is 70% more likely to result in death or serious injury than one with an impact speed of 30km/h. Research conducted by Mackie Research Ltd for Waka Kotahi developed the chart shown in Figure 3 for pedestrians struck by light vehicles. They also demonstrated that the severity curve for cyclist and pedestrians is very similar. The width of the bands indicates that the severity of injury in a pedestrian or bicycle crash is not just a function of collision speed, but the age of the person and the type of vehicle striking them also have major influences.

Figure 3 Pedestrian injury risk<sup>4</sup>



In the 10-year period of 2012 to 2021 inclusive there have been forty-seven crashes involving pedestrians or cyclists on local roads within the South Waikato district. Of these, one has been fatal, with twelve resulting in serious injuries. A further twenty-nine resulted in minor injuries and six have been reported as non-injury crashes. The majority of the crashes have occurred in urban areas as shown below.

Figure 4 Urban pedestrian and cycle crashes



Tokoroa

Putaruru

<sup>4</sup> Source: Mackie Research Ltd

## 3. Speed Management Planning

### 3.1 Speed Management Plan

Speed Management Plans are required to be developed by Road Controlling Authorities<sup>5</sup> to show their proposed short-term and long-term changes to the whole network with respect to speed management and identify future improvements to roads to support changes in speed limits if required. Due to the requirement for funding to support any engineering treatments that need to be implemented the plans are proposed to have a 10-year horizon. The plans will be reviewed every 3 years to ensure that they are being delivered as expected, are adapting to any network changes and align with the Long -Term Planning process for funding.

The intention of the implementation of a speed management plan is not to undertake wholesale changes to speed limits within the district.

The purpose of the speed management plan is to provide a structured and methodological process for the review and change of speed limits and/or the implementation of speed management treatments as required to reduce the risk to road users. Where the road environment needs to be modified to support the desired speed limit then physical works will need to be undertaken. The nature of these engineering treatments will depend on the road and the speed management goal to be achieved.

### 3.2 Speed Limits

Road controlling authorities currently have the ability to set speed limits in 10km/hr increments from 20km/hr to 100km/hr. This range of limits is significant, and guidance has been provided by Waka Kotahi on what speed limits should be used in which environments.

As a speed management tool, speed limits are used to align drivers' expectations with the reality of the road environment. Often lowering the speed limit will not significantly affect the travel time of vehicles but may stop a driver pushing the bounds on the speed that they think they can achieve on the road and hopefully reduce the risk of them losing control. This also works to provide better alignment of speeds between visitors (who are more cautious) and locals (who push the limits) by providing all drivers will a more accurate reflection of what speed they should be travelling at.

It is acknowledged that speed limits are an emotive topic and that the requirement for dramatic changes to speed limits from a risk management perspective is not fully understood by the community.

To this end South Waikato District may look to take a staged approach to lowering speed limits in the district. The majority of changes proposed will result in a maximum of a 20km/hr drop in speed limit being implemented on a road in a single year. Should a larger decrease in the speed limit be desired, from an engineering perspective, or where there is significant resistance from the community, this will be addressed on a case-by-case basis and may result in the speed limit being reduced in stages. An initial drop in the speed limit with supporting engineering treatments would be implemented however if the risks continue to be present or the situation changes then a further reduction would be implemented as part of the next review or within 3 years whichever is the earlier.

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<sup>5</sup> Road Controlling Authority – Council is the road controlling authority for local roads. Waka Kotahi manages the state highway network.

### *Zones of influence*

To ensure that the lower speed limits are applied where they will offer the greatest protection to vulnerable road users in the vicinity of high pedestrian usage areas such as schools a 'zone of influence' is proposed to be used. This is to ensure that the length of any speed restriction is reasonable, and the purpose of the restriction is obvious to a driver so that there is a greater level of compliance.

Based on stopping distance calculations, the distances proposed ensures that the signs/restrictions are placed with sufficient distance from the likely area of conflict such that a driver can observe, react and stop prior to hitting the potential hazard.

### *Shared use*

Pedestrians and cyclists are particularly vulnerable in crashes involving vehicles and as such are a key focus area for South Waikato District Council.

In urban areas the ability to reduce the speed environment to 30km/hr is achievable and will be implemented where practical, however this is not possible in the rural environment due the competing requirements of users of these roads.

## 3.3 Megamaps

Waka Kotahi have developed a Speed Management Guide and the Safer Journeys Risk Assessment Tool (known as MegaMaps) for use by Council Staff that provides a range of technical information on each road within the South Waikato District. These metrics are used as a starting point to help to identify roads that are considered high risk and are likely to achieve the greatest benefit from speed management and assess the safe and appropriate speed for them. Each of the roads identified by the tool are then reviewed for appropriateness based on local knowledge of the area.

As a result of changing the speed limit effects associated with a number of factors can be calculated these include:

- Estimated death and serious injury savings per annum
- Travel time change per vehicle traversing the section of road
- Vehicle Operating Cost (VOC) change per vehicle traversing the section of road
- The change in CO2 emissions per annum

It is important to note that these effects assume that the speed limit will be lowered to the safe and appropriate speed, however for those sections of road where the decision is to invest in infrastructure improvements to bring the design and safety of the road to a level where the existing speed limit can be retained, then the travel time, vehicle operating, and CO2 emission changes will be zero. Safety savings from infrastructure improvements are expected to be greater than those achieved from lowering the speed limit alone.

## 3.4 Safe and appropriate speed

Due to the range of speed limits available for implementation by Councils, Waka Kotahi developed a process to determine the safe and appropriate speed (SAAS) for each road.

The SAAS for a section of road is derived from the combination of:

- Safe System speed thresholds for crash survivability,

- One Network Framework street categories,
- Infrastructure Risk Rating, and
- Presence or planned implementation of safety infrastructure.

The Infrastructure Risk Rating is based on road stereotype, horizontal alignment, volume, carriageway width, access density and land use.

The SAAS is based on a speed limit being appropriate for the road function, design, safety and use (i.e. it takes both safety and efficiency into account).

The use of these speeds as a speed limit is not compulsory, however they do assist with ensuring that speed limits are consistent across the country.

As a result of changing the speed limit, the following effects can be calculated:

- Estimated death and serious injury savings per annum
- Travel time change per vehicle traversing the section of road
- Vehicle Operating Cost (VOC) change per vehicle traversing the section of road
- The change in CO2 emissions per annum.

The tool estimates the effect of speed limit changes only. Safety savings from engineering improvements are expected to be greater than those achieved from lowering the speed limit alone.

### 3.5 Consultation

The development of the Speed Management Plan requires a formal consultation process as part of the communication and engagement with the community to assist with building public understanding and awareness of safe and appropriate speed limits.

Engagement with Māori and other key stakeholders on the development of speed management plans helps to ensure that this Speed Management Plan supports the desires of the community, improves road safety outcomes and reduce the impacts of unsafe speed limits on all communities.

## 4. 2022 Speed Management Review

Those roads considered as part of the development of the interim speed management plan for South Waikato District have been identified from the following sources:

- Schools
- Town centre areas
- Customer complaints/queries
- High risk roads / DSI routes – Roads with 2 or more fatal or serious crashes in the previous 10 years including at least 1 fatal crash.

Changes to speed limits will be on going as development in the district continues and to achieve alignment with the NZ Governments Road to Zero Action Plan with respect to speed management. The initial plan will provide guidance on when, how and why speed should be managed on each of the roads identified.

Details on the technical assessment of each of the roads based on the above mentioned criteria are included in Appendix A.

### 4.1 Schools

The current speed limit on roads in the vicinity of urban schools within the South Waikato District is 50km/hr and for rural schools either 70km/hr or 100km/hr depending on the location of the school. By 2027 South Waikato District Council will be required to have reduced the speed limits in the vicinity of all twenty-one schools within its District to either 30 km/hr for urban schools or a maximum of 60km/hr for rural schools. These speed limits can be either variable or permanent. Where schools are located on a no exit road or within residential neighbourhoods then permanent speed limits would be installed. For locations that are on through roads with higher speed limits then a variable speed limit is considered to be the most appropriate form of treatment.

### 4.2 Town centres and High-volume pedestrian areas

Currently the default speed limit for all urban areas is 50km/hr, for locations such as town centres this speed is considered to be too high. Areas where pedestrians are likely to cross the road in multiple locations increase the risk of conflict, however often it is not practical to contain pedestrians to specific crossing points. Due to the high likelihood of pedestrians in these areas vehicles speeds should be in the order of 30km/hr to reduce the risk that a crash involving a pedestrian would be fatal. Crashes involving manoeuvring vehicles are not typically fatal however they do result in considerable cost and inconvenience to the parties involved. By reducing the speed limit in areas where these factors occur it creates a more inclusive atmosphere which then encourages further pedestrian use which is desired by retailers.

### 4.3 Residential areas

The default speed limit for all urban residential areas is 50km/hr. Consideration is being given to the use of 30 or 40km/h speed limits in residential neighbourhoods or areas that have a high 'place' value within the South Waikato District. These areas are those that are well developed and provide destinations for all traffic. The neighbourhood roading layout will typically include cul-de-sacs or roads that are interconnected within but not beyond the neighbourhood. 30km/hr is the preferred speed limit as this increases the survivability of any crash involving vulnerable users however the use of 40km/hr provides a balance between lowering the risk to pedestrians and cyclists in the area while not noticeably impacting on travel speeds. These areas typically

have lower vehicle speeds due to the short road lengths and multiple driveways and any reduction in speed limit is to align users' expectations of the area. The lower speed limit would not be applied to through-routes to ensure that a clear demarcation is maintained between the differing road hierarchy and uses.

The creation of 30km/hr residential areas would also assist the management of vehicle speeds in the vicinity of schools within these areas. As the speed limit would be consistent, no changes would be required reducing frustration regarding knowing what speed limit applies and when.

#### 4.4 High risk roads

The crash data for the 10 year period 2012 – 2021 has been reviewed for all local roads within South Waikato District. Those roads that have had two or more fatal or serious crashes in this period have been considered as a high risk road. As crashes have already occurred on these routes it indicates that the environment is not self-explaining to drivers. Each of these routes has been reviewed to determine what improvements are appropriate to lower the risk to users. This includes standard safety treatments as well as changes to speed limits.

#### 4.5 Engineering treatments

Supporting engineering treatments will be required regardless of where and what changes are made to speed limits in an area. Some treatments will be standard layouts such as the signs and markings used at threshold locations or in the vicinity of schools, while others will be more bespoke designs depending on the location and outcomes sought.

Portions of the South Waikato District roading network are straight sections of road which provide little topographical constraints to a driver's speed, however the presence of power poles, trees and other hazards pose an increased risk to drivers should they leave the road. In these situations, there are a number of engineering works that can be implemented to manage the speed of vehicles.

Some features such as the installation of barriers are proposed to be implemented to support the existing speed limit by improving the safety of the route rather than lower the speed limit to match the existing environment.

#### 4.6 Treatment lengths and adjacent roads

The South Waikato District roading network is interlinked and as a result speed limits and treatments that are applied to one section of a road should be consistent with the adjacent sections of road.

Schedule 1 of the Setting of Speed Limits Rule sets the minimum length of road over which a speed limit must apply. Where roads are directly connected then consideration should be given to applying the same speed limit over both, especially where the adjacent road is a cul-de-sac.

Isolated sections of reduced speed limits are undesirable unless there is significant change in the environment unless there are other factors such as a school in the vicinity to support the change.

#### 4.7 Future reviews

Future reviews of the Speed Management Plan are likely to focus on the urban areas (local streets) with a view to lowering speed limits on all local streets to 30km/h -40km/h.

The rural roading network will continue to be balance between safety and efficiency with speed limits required across local authority and regional boundaries to be consistent to avoid confusion



and driver frustration. This will be a longer-term project requiring collaboration across the Waikato region with Waka Kotahi and neighbouring territorial authorities.

## 5. Implementation Plan

The technical review (of each road or section of road) identified a number of recommendations that have been collated to form an implementation plan. The full technical assessment is included in Appendix A.

The initial 10 year plan for implementation will be reviewed every three years in alignment with the Long-Term Plan funding cycle to provide alignment with funding opportunities. The Speed Management Plan will also be reviewed when significant changes in development or funding occur, necessitating a change to the implementation plan.

Due to funding limitations those locations that require physical works will need to be prioritised. The initial ranking has been undertaken based on risk, however due to the legislative requirements for schools these locations are likely to be prioritised in the first instance.

### 5.1 Speed limits around schools

A summary of the proposed speed limits around schools in the South Waikato District are shown in Table 2. The National Land Transport Programme (NLTP<sup>6</sup>) dates gives an indicative implementation date which is based on the prioritisation undertaken for all speed limit changes on local roads in the district.

Table 2 Speed Limits around schools

School Name	Category	Proposed Speed Limit	Comments	NLTP
Amisfield School	Cat 1	30		
Bishop Edward Gaines Catholic School	Cat 1	30		
Cargill Open Plan School	Cat 1	30		
David Henry School	Cat 1	30		
Forest View High School	Cat 1	50/30 Variable		
Kuranui Primary School	Cat 2	100/60 Variable	60km/hr variable speed limit proposed. Remote rural site.	
Lichfield School	Cat 2	100/60 Variable	60km/hr variable speed limit proposed. Remote rural site.	
Putaruru College	Cat 1	30		
Putaruru Primary School	Cat 1	30		

<sup>6</sup> NLTP – National Land Transport Programme is the funding period in which works are likely to be installed based in available funding.

School Name	Category	Proposed Speed Limit	Comments	NLTP
St Mary's Catholic School	Cat 1	30		
Strathmore School	Cat 1	30	Strathmore Drive - Main Frontage	
Strathmore School	Cat 1	50/30 Variable	St Andrews Drive - Rear access	
Tainui Full Primary School	Cat 1	30		
Te Waotu School	Cat 2	60		
Te Wharekura o Te Kaokaoroa o Patetere School	Cat 1	30		
Tirau Primary School	-	-	State Highway frontage only	N/A
TKKM o Te Hiringa	Cat 1	30		
Tokoroa Central School	Cat 1	30		
Tokoroa High School	Cat 1	30	State Highway - Main frontage. Billah Street - Rear access	
Tokoroa Intermediate School	Cat 1	50/30 Variable	Elizabeth Drive - Main Frontage	
Tokoroa North School	Cat 1	50/30 Variable		

## 5.2 Speed limit changes

A summary of each road where a speed limit change has been recommended in the 2022 review process are tabled below. Due to funding limitations the locations have been prioritised for implementation with schools assigned the highest priority. Existing budgets have been used to determine a likely implementation time frame and these priorities will be reviewed each NLTP cycle as funding allocations are renegotiated.

Table 3 Speed Limit changes

Report Section	Road Name	Start RP	Start	End RP	End	Posted Speed Limit	Proposed Speed Limit	Speed Limit Type	Implementation timeframe (NLTP Period)	Safe and Appropriate Speed	Proposed = SAAS (Y/N)	Further Information	Dates / Times
6.1.7	Aberfoyle Place	0	Morvern Crescent	138	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.6	Alloa Place	0	Strathmore Drive	99	Cul de sac	50	30	Permanent	TBC	30	Y	Strathmore School	
2.1.4	Anne Place	0	Charles Crescent	92	Cul de sac	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
6.1.7	Arawa Crescent	0	Balmoral Drive	1138	Tainui Street	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Arran Place	0	Balmoral Drive	104	Arran Place	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.2	Baird Road	1781	800m West of Elizabeth Drive	2085	Boundary	50	50/30 Variable	Variable	TBC	50	Y	Forest View High School	
6.1.2	Baird Road	0	Tbc/Mcc Bndry	110	800m East of Old Taupo Road	50	50/30 Variable	Variable	TBC	80	N	Forest View High School	
6.1.2	Baird Road	0	Tbc/Mcc Bndry	910	Old Taupo Rd	100	80	Permanent	TBC	80	Y		
6.1.7	Benalder Crescent (East)	0	Balmoral Drive (East)	157	Benalder Crescent	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Benalder Crescent (West)	0	Benalder Crescent	288	Balmoral Drive (West)	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Benalder South	0	Benalder Rnd Area	59	Strathmore Park Entrance	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and	

Report Section	Road Name	Start RP	Start	End RP	End	Posted Speed Limit	Proposed Speed Limit	Speed Limit Type	Implementation timeframe (NLTP Period)	Safe and Appropriate Speed	Proposed = SAAS (Y/N)	Further Information	Dates / Times
												Cargill Open Plan Schools + residential area	
6.1.7	Benmohr Place	0	Benalder Crescent (East)	73	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.5	Billah Street	1017	Duke Street (2)	1192	Tokoroa Schools	50	30	Permanent	TBC	30	Y	Tokoroa Intermediate School and Tokoroa High School	
6.2	Bonaly Lane (West)	0	Bonaly Street	85	Campbell Street		30	Permanent	TBC		N/A	Tokoroa Town Centre	
6.2	Bonaly Lane (East)	0	Mannering Street	88	Bonaly Street		30	Permanent	TBC		N/A	Tokoroa Town Centre	
6.2	Bonaly Street	0	Bridge Street (2)	131	Logan Street	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Bridge Lane (North)	0	Bridge Street	57	Bridge Lane South		30	Permanent	TBC		N/A	Tokoroa Town Centre	
6.2	Bridge Lane (South)	0	Mannering Street	332	End		30	Permanent	TBC		N/A	Tokoroa Town Centre	
6.2	Bridge Street Central	48	Bridge Street Roundabout Leith	220	Bridge Street Roundabout Mannering	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Bridge Street East	0	S.H.1 (2)	32	Bridge Street Roundabout		30	Permanent	TBC		N/A	Tokoroa Town Centre	
6.2	Bridge Street West	18	Mannering Street Roundabout	192	Campbell Street	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
2.1.4	Buckland Street	0	Main Street	855	End of Street	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
2.2.1	Cambridge Street	0	Neal Street	293	Cul de sac	50	30	Permanent	TBC	30	Y		
6.2	Campbell Street (East)	0	Bridge Street (2)	121	Campbell Street Roundabout	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Campbell Street (West)	0	Bridge Street (2)	121	Campbell Street Roundabout	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.1.7	Cargill Street	0	Morvern Crescent	242	Grampian Street (East)	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	

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2.1.4	Central Street	0	S.H.1 (2)	191	Prospect Street	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
2.1.4	Charles Crescent	0	Clothier Street (East)	563	Clothier Street (West)	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
2.1.2	Charles Crescent	100	100m West of Clothier Street (East)	362	Anne Place	50	30	Permanent	TBC	30	Y	Te Wharekura o Te Kaokaoroa o Patetere School	
2.1.4	Clothier Street	0	Marchant Street	503	Griffith Street	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
6.1.3	Clyde Street	0	Bridge Street	274	Tay Street	50	30	Permanent	TBC	30	Y	Tokoroa Central School	
2.2.1	Commerce Lane	0	Commerce Street (Putaruru)	132	Commerce Street (Putaruru)		30	Permanent	TBC		N/A		
2.2.1	Commerce Street	0	Neal Street	186	Market Street	50	30	Permanent	TBC	30	Y		
6.1.6	Dunbar Place	0	Strathmore Drive	161	Cul de sac	50	30	Permanent	TBC	30	Y	Strathmore School	
6.1.6	Dunkeld Place	0	Strathmore Drive	138	Cul de sac	50	30	Permanent	TBC	30	Y	Strathmore School	
6.1.4	Edinburgh Street	0	Edward Street	450	Windsor Place	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
6.1.4	Edward Street	0	Elizabeth Drive	435	Fergusson Street	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
6.1.5	Elizabeth Drive	1214	50m South of Fergusson Street	1485	100m North of S.H.32	50	50/30 Variable	Variable	TBC	40	N	Tokoroa Intermediate School and Tokoroa High School	
2.1.4	Elizabeth Street	0	Griffith Street	202	Charles Crescent	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
6.1.4	Fergusson Street	0	Elizabeth Drive	784	Edward Street	50	30	Permanent	TBC	30	Y	David Henry School + residential area	

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6.1.4	George Place	0	Kent Street	163	Cul de sac	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
6.1.7	Glendevon Place	0	Morvern Crescent	183	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Grampian Street (East)	0	Balmoral Drive	341	End Of Street	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Grampian Street (South)	0	Tainui Street	996	End Of Street	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
2.1.4	Griffith Street	0	Riverview Street	599	Clothier Street	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
2.1.4	High Street (Putaruru)	0	View Street	123	Terrace Street	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
5.2.1	Horahora Road	2090		4500		100	80	Permanent	TBC	80	Y		
5.2.1	Horahora Road	12209		13158	Arapuni Road	100	80	Permanent	TBC	80	Y		
2.1.1	Junction Street	0	S.H.1 (2)	233	Riverview Street	50	30	Permanent	TBC	30	Y	Putaruru College	
6.1.7	Kahu Street	0	Balmoral Drive	300	Arawa Crescent	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Kaka Crescent	0	Tainui Street	475	Kahu Street	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
3.1.1	Kells Lane	430	Lichfield	1102	End Of Seal	100	60	Permanent	TBC	60	Y	Lichfield School	
6.1.6	Kenmore Place	0	Strathmore Drive	258	Cul de sac	50	30	Permanent	TBC	30	Y	Strathmore School	
2.1.5	Kennedy Drive	0	Totara Street (2)	447	End Of Road	50	30	Permanent	TBC	30	Y	Putaruru Primary School	

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2.1.4	Kensington Street (Putaruru)	0	Marchant Street	534	S.H.1 (2)	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
6.1.4	Kent Street	0	Fergusson Street	402	Victoria Place	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
6.1.7	Kereru Street	0	Morvern Crescent	606	Tainui Street	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
7.1.1	Kinleith Road	0	S.H.1 (2)	910	NZFP Entrance	100	80	Permanent	TBC	80	Y		
6.1.7	Kiwi Street	0	Tainui Street	375	Arawa Crescent	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Koreke Place	0	Arawa Crescent	169	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Korimako Place	0	Kereru Street	247	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Koropio Place	0	Kaka Crescent	60	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Kotuku Place	0	Balmoral Drive	254	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.1	Kowhai Place	0	Baird Rd	327	Cul de sac	50	30	Permanent	TBC	30	Y	Tokoroa North School	
6.1.7	Kuku Place	0	Kereru Street	92	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
3.1.2	Lake Arapuni Road	13783	150m West of Waotu Road	13933	Waotu	100	60	Permanent	TBC	60	Y	Te Waotu School	

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6.1.4	Lancaster Crescent	0	Thompson Street (North)	417	Thompson Street (South)	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
6.1.6	Lauriston Street	0	Strathmore Drive	293	Cul de sac	50	30	Permanent	TBC	30	Y	Strathmore School	
6.2	Leith Place (Central)	172	Bridge Street Roundabout	295	Logan Street	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Leith Place (East)	0	Leith Place (West)	115	Bridge Street East (South)	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Leith Place (West)	0	Swanston Street	156	Bridge Street Roundabout	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
3.1.1	Lichfield Road	7440	220m West of Kells Lane	7940	280m East of Kells Lane	100	100/60 Variable	Variable	TBC	60	Y	Lichfield School	
6.2	Logan Lane (East)	0	Mannering Street	88	Bonaly Street	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Logan Lane (West)	0	Bonaly Street	86	Campbell Street	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Logan Street	414	Campbell Roundabout	558	End Of Street	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Logan Street (South) East	0	S.H.1 (2)	217	Logan Street Roundabout	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Logan Street (South) West	237	Logan Street Roundabout	395	Campbell Roundabout	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
2.1.3	Mackenzie Street	0	S.H.1 (2)	311	Kensington Street (2)	50	30	Permanent	TBC	30	Y	St Mary's Catholic School	
6.2	Mannering Lane (South)	0	Dreghorn Place	58	Swanston Street		30	Permanent	TBC		N/A	Tokoroa Town Centre	
6.2	Mannering Lane North	0	Bridge Lane	58	Dreghorn Place		30	Permanent	TBC		N/A	Tokoroa Town Centre	
6.2	Mannering Street	303	Logan Roundabout	415	Mannering Roundabout	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Mannering Street (South)	432	Mannering Roundabout	588	Swanston Street	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.1.4	Maple Place	0	Victoria Place	62	Cul de sac	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
2.1.4	Marchant Street	0	Buckland Street	551	Margaret Street	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	



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2.1.4	Margaret Street (Putaruru)	0	S.H.1 (2)	281	Clothier Street	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
2.2.1	Market Street	0	S.H.1 (2)	249	End Of Road	50	30	Permanent	TBC	30	Y		
6.1.7	Matata Place	0	Kereru Street	185	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
2.1.1	Meadow Street	0	Peace Street	120	Pit Street	50	30	Permanent	TBC	30	Y	Putaruru College	
6.1.7	Moa Place	0	Kaka Crescent	149	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.9	Moffat Road	0	S.H.1 (2)	267	Lochmaben Road	50	30	Permanent	TBC	30	N	Amisfield School	
6.1.7	Morvern Crescent	0	Balmoral Drive (By Shops)	806	Balmoral Drive	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.8	Mossop Road	0	S.H.1 (2)	460	150m East of Pelliken Place	60	30	Permanent	TBC	40	Y	Bishop Edward Gaines Catholic School	
6.1.4	Mountbatten Place	0	Edinburgh Street	270	Cul de sac	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
2.2.1	Neal Street	0	S.H.1 (2)	291	Anderson Street	50	30	Permanent	TBC	30	Y		
3.2.4	Ngatira Road	9350	RP 9350	10928	END METAL	100	60	Permanent	TBC	60	Y	Ngatira Marae	
6.1.7	Ngatuku Place	0	Tainui Street	270	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
2.1.5	Nola Street	0	Kennedy Drive (Rs 311 Lhs)	276	Cul de sac	50	30	Permanent	TBC	30	Y	Putaruru Primary School	
6.1.4	Oak Place	0	Victoria Place	48	Cul de sac	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
6.2	O'Sullivan Drive (East)	259	Island	414	Swanston Lane	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	O'Sullivan Drive (North)	414	Swanston Lane	457	Swanston Street	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	

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6.2	O'Sullivan Drive (South)	0	Roslin Street	259	Island	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.1.1	Paraonui Road	190	70m North of Totara Street	454	Pohutukawa Drive	50	50/30 Variable	Variable	TBC	40	N	Tokoroa North School	
6.1.7	Pateke Place	0	Kereru Street	80	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
2.1.1	Peace Street	0	Riverview Street	262	Meadow Street	50	30	Permanent	TBC	30	Y	Putaruru College	
6.3.3	Pellikan Road	0	Mossop Road	429	Cul de sac	100	50	Permanent	TBC	60	N		
2.1.4	Philip Street (Putaruru)	0	Griffith Street	365	End Of Road	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
6.1.7	Piopio Place	0	Kereru Street	92	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
2.1.1	Pit Street	0	Meadow Street	37	End Of Road	50	30	Permanent	TBC	30	Y	Putaruru College	
6.1.7	Poaka Place	0	Kiwi Street	111	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.4	Princess Beatrix Avenue	0	Fergusson Street	310	End Of Avenue	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
2.1.4	Prospect Street	0	Margaret Street	245	View Street	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
6.1.7	Pukeko Place	0	Arawa Crescent	135	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.1	Puriri Place	0	Totara Street	177	Cul de sac	50	30	Permanent	TBC	30	Y	Tokoroa North School	
2.1.1	Riverview Street	0	Junction Street	361	Peace Street	50	30	Permanent	TBC	30	Y	Putaruru College	
6.2	Rosebery Lane (North)	0	Mannering Street	87	Rosebery Street		30	Permanent	TBC		N/A	Tokoroa Town Centre	
6.2	Rosebery Lane (South)	0	Rosebery Lane North	116	Swanston Street		30	Permanent	TBC		N/A	Tokoroa Town Centre	

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6.2	Rosebery Street	0	Swanston Street	165	Bridge Street (2)	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.2	Roslin Street (North)	0	Swanston Street	339	Roslin Street (South)	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.1.7	Ruru Place	0	Kiwi Street	119	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
5.2.3	Somerville Road	0	Okoroire	800	800m South of Okoroire Road	100	60	Permanent	TBC	80	N	Isolated section of road.	
6.1.6	Street Andrews Drive	650	Montrose Place	890	40m North of Kinross Place	50	50/30 Variable	Variable	TBC	30	N	Strathmore School	
6.1.6	Strathmore Drive	0	Hawick Street	574	Balmoral Drive	50	30	Permanent	TBC	30	Y	Strathmore School	
6.2	Swanston Lane	0	Swanston Street	171	O'sullivan Drive West		30	Permanent	TBC		N/A	Tokoroa Town Centre	
6.2	Swanston Street	0	S.H.1 (2)	264	End Of Street	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.1.7	Tainui Street	0	Balmoral Drive	907	End Of Street	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Takahe Place	0	Arawa Crescent	128	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
4.3.1	Tapapa Road	0	S.H.28 (Harwoods)	5024	S.H.5 (Mamaku)	100	80	Permanent	TBC	80	Y	Tapapa marae	
6.1.7	Tarapunga Place	0	Kaka Crescent	225	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Tararua Place	0	Toroa Place	59	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
2.1.4	Terrace Street	0	S.H.1 (2)	335	Griffith Street	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	

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6.1.4	Thompson Street	208	60m North of Lancaster Crescent (Nth)	485	Fergusson Street	50	30	Permanent	TBC	30	Y	David Henry School	
6.1.4	Thompson Street	0	S.H.32	208	60m North of Lancaster Crescent (Nth)	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
6.1.7	Tieke Place	0	Kiwi Street	125	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Toroa Place	0	Tainui Street	150	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.2	Torphin Crescent	0	Roslin Street (South)	613	O'Sullivan Drive	50	30	Permanent	TBC	30	Y	Tokoroa Town Centre	
6.1.1	Totara Street	0	Paraonui Rd	195	Kowhai Place	50	30	Permanent	TBC	30	Y	Tokoroa North School	
6.1.4	Victoria Place	0	Thompson Street	210	Oak Place	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
2.1.4	View Street	0	Griffith Street	156	Prospect Street	50	30	Permanent	TBC	30	Y	Putaruru schools + residential area	
6.1.7	Waianiwa Place	0	Waimate Crescent	362	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Waiiti Place	0	Waianiwa Place	62	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Waikato Place	0	Waianiwa Place	79	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Waimate Crescent	0	Grampian Street (East)	279	Waipapa Place	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	

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6.1.7	Waimea Place	0	Waianiwa Place	97	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
5.1.1	Waiomou Road	370	370m East of State Highway 28	860	860m East of State Highway 28	100	100/60 Variable	Variable	TBC	60	Y	Kuranui Primary School	
6.1.7	Waipapa Street	0	Grampian Street (East)	143	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Waipuna Place	0	Grampian Street (East)	157	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Wairakei Place	0	Waipapa Place	41	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Wairoa Place	0	Grampian Street (East)	289	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Waitangi Place	0	Wairoa Place	33	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.7	Waitara Place	0	Grampian Street (East)	74	Cul de sac	50	30	Permanent	TBC	30	Y	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools + residential area	
6.1.4	Walnut Place	0	Victoria Place	48	Cul de sac	50	30	Permanent	TBC	30	Y	David Henry School + residential area	
3.1.2	Wautu Road	12468	330m North of Lake Arapuni Road	12798	Lake Arapuni	100	60	Permanent	TBC	80	N	Te Wautu School	
3.1.2	Wiltsdown Road	17112	150m East of Wautu Road	17262	Wautu	100	60	Permanent	TBC	80	N	Te Wautu School	
6.1.4	Windsor Place	0	Fergusson Street	218	Cul de sac	50	30	Permanent	TBC	30	Y	David Henry School + residential area	

Report Section	Road Name	Start RP	Start	End RP	End	Posted Speed Limit	Proposed Speed Limit	Speed Limit Type	Implementation timeframe (NLTP Period)	Safe and Appropriate Speed	Proposed = SAAS (Y/N)	Further Information	Dates / Times
6.1.4	York Place	0	Lancaster Crescent	79	Cul de sac	50	30	Permanent	TBC	30	Y	David Henry School + residential area	

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### 5.3 Safety Infrastructure

A summary of the initial safety infrastructure recommendations in the 2022 review process is tabled below. This summary includes locations where safety infrastructure including speed limit signage and threshold improvements is required on a road with a proposed speed limit change as well as locations where safety infrastructure is required to support the existing speed limit. Existing budgets have been used to determine a likely implementation time frame and these priorities will be reviewed each NLTP cycle as funding allocations are renegotiated.

Table 4 Safety Infrastructure

Report Section	Road Name / Location	Proposed safety infrastructure	Implementation timeframe (NLTP Period)	Comments
6.1.9	Amisfield School	Install school threshold style treatment on Moffat Road east of the intersection with State Highway 1	TBC	
6.1.9	Amisfield School	Install permanent speed limit signs on Moffat Road at the intersections with Dumfries Road and west of Lochmaben Road.	TBC	
6.1.9	Amisfield School	Install a raised platform on Moffat Road west of Dumfries Road in the vicinity of the pedestrian access from the school to provide for pedestrian connection and as a speed management treatment.	TBC	
3.2.1	Arapuni Road	Install edgeline and centreline ATP along the full length of the road.	TBC	
3.2.1	Arapuni Road	Undertake shoulder widening and barrier treatments in appropriate locations.	TBC	
3.2.1	Arapuni Road	Review existing signage and upgrade as necessary.	TBC	
3.2.1	Arapuni Road	Install advance and directional marae signage for Mangakaretu marae on both approaches to the marae.	TBC	
6.1.8	Bishop Edward Gaines Catholic School	Install permanent speed limit signs on Mossop Road at the intersection with State Highway 1.	TBC	
6.1.8	Bishop Edward Gaines Catholic School	Install school threshold style treatment at the change in speed limit 150m east of Pelliken Place.	TBC	
6.1.8	Bishop Edward Gaines Catholic School	Install a footpath on the southern side of Mossop Road between State Highway 1 and Pelliken Place.	TBC	
6.1.8	Bishop Edward Gaines Catholic School	Install a raised platform on Mossop Road east of the access to the Catholic Church to provide for pedestrian connection and as a speed management treatment.	TBC	
6.1.8	Bishop Edward Gaines Catholic School	Reconfigure the road layout to provide for a flush median on Mossop Road between State Highway 1 and the threshold 150m east of Pelliken Place.	TBC	
6.1.8	Bishop Edward Gaines Catholic School	Install advance and directional marae signage for Papa o te Aroha marae on both approaches to the marae	TBC	
6.1.4	David Henry School	Install school threshold style treatment at the change in speed limit points on Thompson Street.	TBC	
6.1.4	David Henry School	Consider installing a raised crossing point on Thompson Street in the vicinity of the school entrance.	TBC	
6.1.4	David Henry School	Install permanent speed limit signs on Thompson Street approach to State Highway 32, and Edward Street and Fergusson Street approaches to Elizabeth Drive.	TBC	
3.2.2	Domain Road	Extend the edgelines on both sides of the road from the existing to RP 1800.	TBC	
3.2.2	Domain Road	Install edge marker posts from on both sides of the road from the old railway line to Harris Road.	TBC	

Report Section	Road Name / Location	Proposed safety infrastructure	Implementation timeframe (NLTP Period)	Comments
3.2.2	Domain Road	Install advance and directional marae signage for Whakaaratamaiti marae on both approaches to the marae.	TBC	
6.1.2	Forest View High School	Install variable school threshold style treatment at the change in speed limit points on Baird Road.	TBC	
6.1.2	Forest View High School	Install permanent speed limit signs on Baird Road at the intersection with Old Taupo Road	TBC	
6.1.2	Forest View High School	Create a threshold treatment at the 80/50 speed limit change on Baird Road.	TBC	
6.1.2	Forest View High School	Mark cycle symbols on the section of Baird Road between the school and Elizabeth Drive	TBC	
5.2.1	Horahora Road	Install threshold style treatments at the change in speed limit locations.	TBC	
5.2.1	Horahora Road	Install no overtaking lines between RP2090 and 4500.	TBC	
5.2.1	Horahora Road	Install edgeline and centreline ATP along the full length of the road.	TBC	
5.2.1	Horahora Road	Undertake shoulder widening and barrier treatments in appropriate locations.	TBC	
5.2.1	Horahora Road	Review curve warning existing signage and upgrade as necessary.	TBC	
7.1.1	Kinleith Road	Install threshold style treatments at the change in speed limit locations.	TBC	
7.1.1	Kinleith Road	Install edgeline and centreline ATP along the full length of the road.	TBC	
5.1.1	Kuranui School	Install school threshold style treatment at the change in speed limit points on Waiomou Road.	TBC	
3.2.3	Lake Arapuni Road	Install curve advisory signage on the section of Lake Arapuni Road between Huihuitaha Road (south) and Waotu Road as required.	TBC	
3.2.3	Lake Arapuni Road	Install advance and directional marae signage for Matiti Pa marae on all approaches to the marae.	TBC	
3.1.1	Lichfield School	Install a variable school threshold style treatment at the change in speed limit points on Mackenzie Street.	TBC	
2.2.1	Neal Street	Install threshold style treatments on Neal Street at the intersection with State Highway 1 and west of Anderson Street.	TBC	
2.2.1	Neal Street	Install permanent speed limit signs on Market Street on the approach to State Highway 1.	TBC	
3.2.4	Ngatira Road	Install permanent speed limit signs at RP9350	TBC	
3.2.4	Ngatira Road	Install advance and directional marae signage for Ngatira marae.	TBC	
3.2.5	Old Taupo Road	Install edgeline and centreline ATP along the full length of the road.	TBC	
3.2.5	Old Taupo Road	Undertake shoulder widening and barrier treatments in appropriate locations.	TBC	
3.2.5	Old Taupo Road	Review existing curve warning signage and upgrade as necessary.	TBC	
6.3.2	Papanui Street	Consideration should be given to additional safety improvements at the Bridge Road/Papanui Road intersection.	TBC	
6.3.3	Pellikan Road / Dumfries Road	Install permanent speed limit signs on Pellikan Road at the intersection with Mossop Road.	TBC	
6.3.3	Pellikan Road / Dumfries Road	Install pedestrian crossing points either side of the cemetery to provide defined crossing points between the on-street parking and the cemetery. Alternatively switch the on-street parking to the access from the eastern side of the road and use the change in road alignment to create a traffic calming feature.	TBC	



Report Section	Road Name / Location	Proposed safety infrastructure	Implementation timeframe (NLTP Period)	Comments
6.3.3	Pellikan Road / Dumfries Road	Monitor vehicle speeds and investigate other speed management features as required.	TBC	
2.1.1	Putaruru College	Install school threshold style treatment on Junction Street at the intersection with State Highway 1.	TBC	
2.1.1	Putaruru College	Install permanent speed limit signs on Griffiths Street on the approach to Riverview Street.	TBC	
2.1.1	Putaruru College	Consider installing pedestrian crossing facilities on Junction Street and Riverview Street.	TBC	
2.1.5	Putaruru Primary School	Install school threshold style treatment at the change in speed limit points on Kennedy Drive east of Barnett Street and west of Totara Street.	TBC	
2.1.5	Putaruru Primary School	Install speed limit signage on the Barnett Street and Matai Crescent approaches to Kennedy Drive.	TBC	
2.1.5	Putaruru Primary School	Upgrade the existing crossing point on Kennedy Drive to a raised pedestrian crossing.	TBC	
2.1.4	Putaruru schools - alternative treatment	Install permanent speed limit signs on the Central Street, Junction Street, Kensington Street (Putaruru), Mackenzie Street, Margaret Street (Putaruru), and Terrace Street approaches to State Highway 1.	TBC	
5.2.3	Sommerville Road	Install threshold style treatments at the change in speed limit locations.	TBC	
2.1.3	St Mary's Catholic School	Install school threshold style treatment at the change in speed limit points on Mackenzie Street.	TBC	
2.1.3	St Mary's Catholic School	Upgrade the existing crossing point on Mackenzie Street to a raised pedestrian crossing.	TBC	
6.1.6	Strathmore School	Install permanent speed limit signs at each end of Strathmore Drive.	TBC	
6.1.6	Strathmore School	Upgrade the existing patrolled zebra crossing onto a raised platform.	TBC	
6.1.6	Strathmore School	Install variable school threshold style treatment at the change in speed limit points on St Andrews Drive.	TBC	
6.1.6	Strathmore School	Consider replacing the existing kea crossing on St Andrews Drive with a patrolled zebra crossing on a raised platform.	TBC	
4.3.1	Tapapa Road	Install permanent speed limit signs at each end of Tapapa Road.	TBC	
4.3.1	Tapapa Road	Install advance and directional marae signage for Tapapa marae on both approaches to the marae and at the intersections with State Highways 28 and 5.	TBC	
3.1.2	Te Waotu School	Install school threshold style treatment at the change in speed limit points on Waotu Road, Lake Arapuni Road and Wiltsdown Road	TBC	
2.1.2	Te Wharekura o Te Kaokaoroa o Patetere School	Install school threshold style treatment at the change in speed limit points on Charles Crescent.	TBC	
2.1.2	Te Wharekura o Te Kaokaoroa o Patetere School	Consider installing a raised crossing point on Charles Crescent in the vicinity of the school entrance.	TBC	
4.1.1	Tirau Primary School	Install school threshold style treatment at the Depot Road approach to Okoroire Street.	TBC	
6.1.7	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools	Install permanent speed limit signs Arawa Crescent, Kahu Street, Tainui Street, Kotuku Place, Morven Crescent (east and west), Arran Place, Grampian Street (east) and Benalder Crescent (east and west) at their intersection with Balmoral Drive.	TBC	

Report Section	Road Name / Location	Proposed safety infrastructure	Implementation timeframe (NLTP Period)	Comments
6.1.7	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools	Install school threshold style treatments on Tainui Street on the approaches to TKKM o Te Hiringa and Tainui Full Primary school and on Grampian Street (east) either side of Cargill Open Plan School.	TBC	
6.1.7	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools	Upgrade the existing three patrolled zebra crossings onto raised platforms. Consider relocating the crossing on Grampian Street (east) closer to the reserve for better connectivity.	TBC	
6.1.7	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools	Install a raised platform on Tainui Street south of Balmoral Drive.	TBC	
6.1.7	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools	Consider installing multiple pedestrian crossing facilities (side or central islands) on Arawa Crescent at various locations to provide pedestrian connection to the reserve area and assist with speed management.	TBC	
6.2	Tokoroa	Install permanent speed limit signs on; Commerce Street, Mannering Street and Campbell Street approaches to Logan Street; Bridge Lane and Dreghorn Place approaches to Mannering Street; and O'Sullivan Drive and Roslin Street approaches to Swanston Street.	TBC	
6.2	Tokoroa	Install a town centre threshold treatment on Bridge Street at Campbell Street and on Logan Street, Bridge Street and Swanston Street adjacent to their intersection with State Highway 1.	TBC	
6.1.3	Tokoroa Central School	Install school threshold style treatment at the change in speed limit points on Clyde Street.	TBC	
6.1.3	Tokoroa Central School	Consider replacing the existing kea crossing with a patrolled zebra crossing on a raised platform.	TBC	
6.1.5	Tokoroa Intermediate School, Tokoroa High School and Pa Harakeke Teen Parent Unit	Install variable school threshold style treatment at the change in speed limit points on Elizabeth Drive.	TBC	
6.1.5	Tokoroa Intermediate School, Tokoroa High School and Pa Harakeke Teen Parent Unit	Install permanent speed limit signs on the Baillah Street approach to Duke Street.	TBC	
6.1.5	Tokoroa Intermediate School, Tokoroa High School and Pa Harakeke Teen Parent Unit	Upgrade the existing patrolled zebra crossing onto a raised platform.	TBC	
6.1.1	Tokoroa North School	Install variable school threshold style treatment at the change in speed limit points on Paraonui Road.	TBC	
6.1.1	Tokoroa North School	Install permanent speed limit signs on Totara Street at the intersections with Paraonui Road and Baird Road.	TBC	
6.1.1	Tokoroa North School	Upgrade the existing patrolled zebra crossing onto a raised platform.	TBC	
3.2.6	Waotu Road	Install edgeline and centreline ATP on the section of Waotu Road between Arapuni Road and Old Taupo Road.	TBC	
3.2.6	Waotu Road	Install curve advisory signage on the section of Waotu Road between Arapuni Road and Old Taupo Road as required.	TBC	
3.2.7	Wiltsdown Road	Install edgeline and centreline ATP on the full length of Wiltsdown Road.	TBC	
3.2.7	Wiltsdown Road	Install curve advisory signage on the section of Wiltsdown Road between State Highway 1 and Paraonui Road as required.	TBC	

Report Section	Road Name / Location	Proposed safety infrastructure	Implementation timeframe (NLTP Period)	Comments
3.2.7	Wiltsdown Road	Install advance and directional marae signage for Pikitū marae on both approaches to the marae	TBC	

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**Appendices**

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# Appendix A – Technical Assessment

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# South Waikato District Council

## Speed Management Plan Technical Assessments

April 2023

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Appendix A – Example threshold layouts

# 1. Purpose of this document

South Waikato District Council is developing a 10-year speed management plan for the district, as is required by the government. The plan includes short-term and long-term road safety goals; speed limit changes for the whole network, and future improvements to roads to support changes in speed limits if and when required.

Changes to speed limits will be on-going as development in the district continues and to achieve alignment with the Governments Road to Zero Action Plan with respect to speed management. This initial plan will provide guidance on when, how and why speed should be managed on each of the roads identified.

The intention is for the plan to be reviewed every 3 years in alignment with the Long Term Plan funding cycle to provide alignment with funding opportunities. The plan will also be reviewed when significant changes in development or funding occur necessitating a change to the implementation plan.

This document sets out the technical assessment undertaken on each of the roads identified for review in 2022.

## 1.1 2022 Speed Management Reviews

Those roads considered as part of the development of the inaugural speed management plan for South Waikato District have been identified from the following sources:

- School and marae locations
- Town Centres
- Roads of concern

Each of the roads / locations originally identified are listed below, with additional information and their assessment as well as details of any adjacent roads or sections of road that were included in the review.

## 1.2 Signs and roadmarking

Speed limit signs must be installed within 20m of the identified speed limit location. To support the management of vehicle speeds in these areas and provide a sense of place some general threshold treatments have been developed to assist with cost estimating. Typical layouts are provided in Appendix A.

Each location will require site specific design but is unlikely to vary significantly to provide a degree of consistency for drivers as they travel throughout the district.

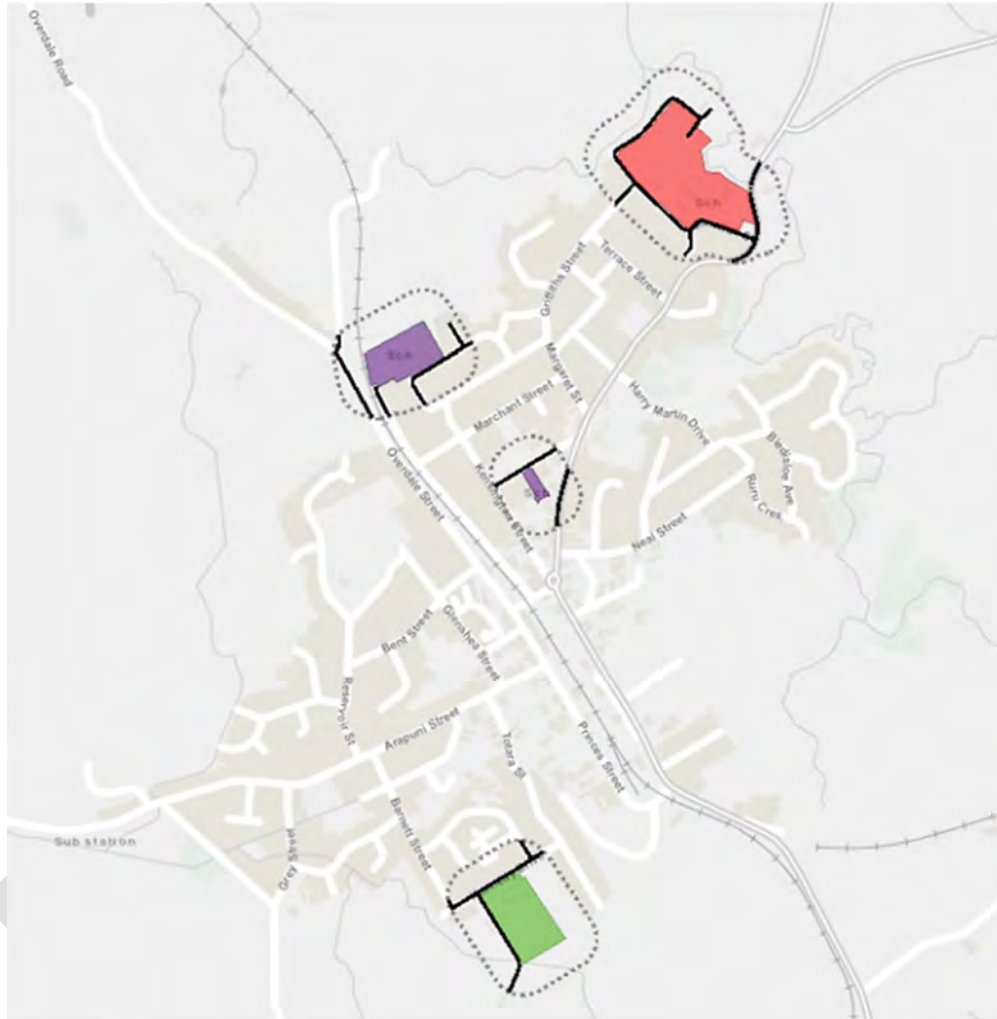
Other supporting infrastructure improvements have been identified for each location as required and the installation of these will be dependent on the funding available for these types of works.

## 2. Putaruru Township

### 2.1 Schools

There are four schools in Putaruru for which the speed limit needs to be lowered in the vicinity of to assist with safety and accessibility as shown in Figure 31.

Figure 1 Putaruru Schools



#### 2.1.1 Putaruru College

Vehicle and pedestrian access to Putaruru College is primarily from Junction Street with access to the sports grounds from Riverview Street and Pearce Street. A footpath is provided on the southern side of Junction Street only, with footpaths on both sides of Riverview Street. Pedestrian access is also available from State Highway 1 via a walkway to Porritt Place, however there are no crossing points on either Junction Street or Riverview Street. No cycle facilities are provided in the area.

Figure 2 Putaruru College



Safety and speed information from MegaMaps shows the following.

**Junction Street**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	27km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	22km/hr

**Riverview Street**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	28km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	27km/hr

**Peace Street**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	30km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	30km/hr

Junction Street, Riverview Street and Peace Street are all local urban roads that provide access to Putaruru College on the northern side and residential properties on the southern side of the roads.

Griffiths Street is the main side road off Riverview Street and provides access into the residential area to the south which is bounded by farmland to the west, State Highway 1 to the east and the North Island Main Trunk railway line to the south.

### Recommendation

The following changes are recommended in the vicinity of Putaruru College:

- Install a 30km/hr permanent speed limit for Junction Street, Riverview Street, Peace Street and Porritt Place.
- Install school threshold style treatment on Junction Street at the intersection with State Highway 1.
- Install permanent speed limit signs on Griffiths Street on the approach to Riverview Street.
- Consider installing pedestrian crossing facilities on Junction Street and Riverview Street.

### 2.1.2 Te Wharekura o Te Kaokaoroa o Patetere School

Vehicle and pedestrian access to Te Wharekura o Te Kaokaoroa o Patetere School is primarily from Charles Crescent with an alternative access from the end of Buckland Street. There are no crossing or cycle facilities provided in the area.

Figure 3 Te Wharekura o Te Kaokaoroa o Patetere



Safety and speed information from MegaMaps shows the following.

#### Charles Crescent and adjacent roads

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	26km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	27km/hr

Charles Crescent is a local urban road with a 50km/hr speed limit that loops off Clothier Street with two side roads, Anne Place and Elizabeth Street.

**Recommendation**

The following changes are recommended in the vicinity of Te Wharekura o Te Kaokaoroa o Patetere School:

- Install a permanent 30km/hr speed limit on Charles Crescent between 100m north of Clothier Street and Anna Place.
- Install school threshold style treatment at the change in speed limit points on Charles Crescent.
- Consider installing a raised crossing point on Charles Crescent in the vicinity of the school entrance.

2.1.3 St Mary’s Catholic School

Vehicle and pedestrian access to St Mary’s Catholic School is from MacKenzie Street with a crossing point approximately 130m east of Kensington Street. The school is split by the road with the school playground and sports field on the northern side and the school buildings on the southern side of MacKenzie Street. There are no cycle facilities provided in the area.

Figure 4 St Mary’s Catholic School



Safety and speed information from MegaMaps shows the following.

**MacKenzie Street**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	22km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	28km/hr

Mackenzie Street is local urban road with a 50km/hr speed limit runs between State Highway 1 and Kensington Street. Due to the short length of the street any change to the speed limit should encompass the full length of the street.

The existing crossing point should be upgraded to a raised pedestrian crossing to improve the safety for all users.

Figure 5 Existing crossing on Mackenzie Street



#### **Recommendation**

The following changes are recommended in the vicinity of St Mary's Catholic School:

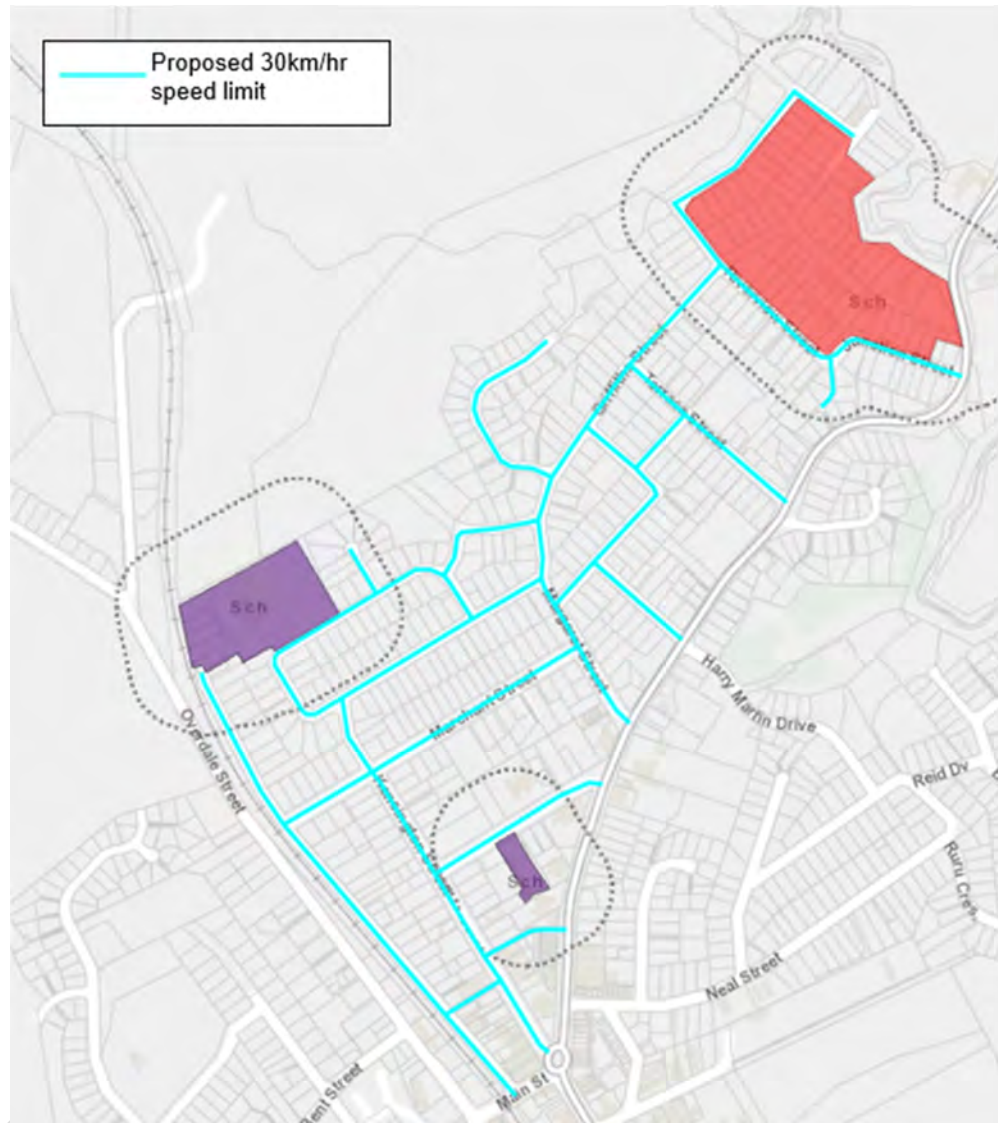
- Install a permanent 30km/hr speed limit on the full length of MacKenzie Street.
- Install school threshold style treatment at the change in speed limit points on Mackenzie Street.
- Upgrade the existing crossing point on MacKenzie Street to a raised pedestrian crossing.

#### 2.1.4 Alternative treatment for Putaruru College, Te Wharekura o Te Kaokaoroa o Patetere School and St Mary's Catholic School

Due to the close proximity of Putaruru College, Te Wharekura o Te Kaokaoroa o Patetere School and St Mary's Catholic School to each other and the likelihood that students will be walking and/or cycling throughout the adjacent residential area consideration should be given to creating a 30km/hr residential area encompassing the whole area as shown in Figure 6.



Figure 6 Possible 30km/hr residential area



### **Recommendation**

The following changes are recommended in the vicinity of Putaruru College, Te Wharekura o Te Kaokaoroa o Patetere School and St Mary's Catholic School and the surrounding residential area in Putaruru:

- Install a permanent 30 km/hr speed limit on the full length of the following roads:
  - Anne Place
  - Buckland Street
  - Central Street
  - Charles Crescent
  - Clothier Street
  - Elizabeth Street
  - Griffith Street
  - High Street (Putaruru)
  - Junction Street

- Kensington Street (Putaruru)
  - Mackenzie Street
  - Marchant Street
  - Margaret Street (Putaruru)
  - Meadow Street
  - Peace Street
  - Philip Street (Putaruru)
  - Pit Street
  - Prospect Street
  - Riverview Street
  - Terrace Street
  - View Street.
- Install threshold style treatments at the change in speed limit points off State Highway 1 (x8).

#### 2.1.5 Putaruru Primary School

Vehicle and pedestrian access to Putaruru Primary School is from Kennedy Drive with a patrolled zebra crossing located approximately 60m east of Matai Crescent. There are no cycle facilities provided in the area.

Figure 7 Putaruru Primary School



Safety and speed information from MegaMaps shows the following.

### **Kennedy Drive**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	24km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	31km/hr

Kennedy Drive is a local urban road with a 50km/hr speed limit that runs between Totara Street and Barnett Street with two side roads. Access to a park and a playcentre are also off Kennedy Drive, while sports grounds are located off Nola Street. Due to the short length of Kennedy Drive any change to the speed limit should encompass the full length of the street.

The existing crossing point should be upgraded to a raised pedestrian crossing to improve the safety for all users.

### **Recommendation**

The following changes are recommended in the vicinity of Putaruru Primary School:

- Install a permanent 30km/hr speed limit on the full length of Kennedy Drive and Nola Street.
- Install school threshold style treatment at the change in speed limit points on Kennedy Drive east of Barnett Street and west of Totara Street.
- Install speed limit signage on the Barnett Street and Matai Crescent approaches to Kennedy Drive.
- Upgrade the existing crossing point on Kennedy Drive to a raised pedestrian crossing.

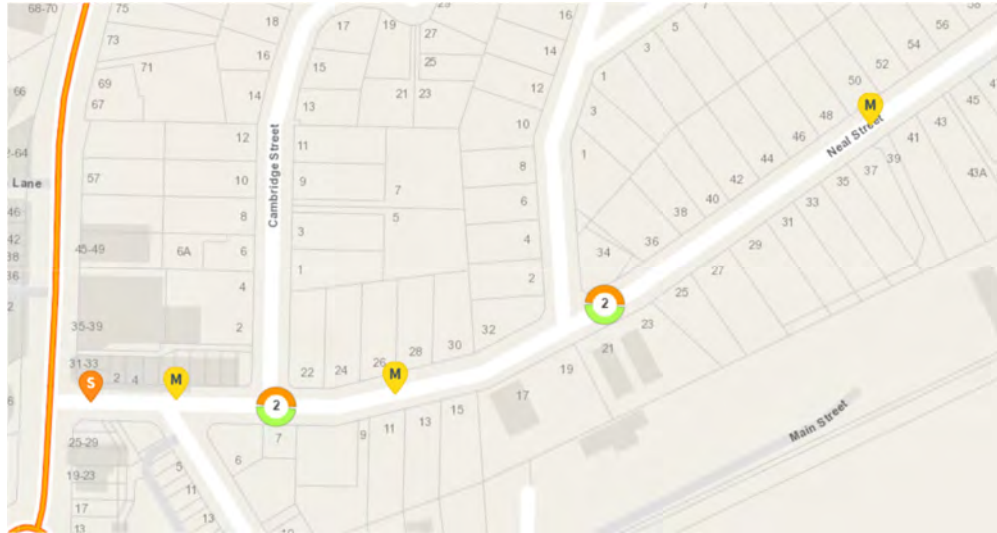
## 2.2 Town Centre - Putaruru

Putaruru Town Centre is split by State Highway 1 with commercial areas on both sides of the road. Due to this any changes to the speed limit in this area will need to be coordinated with Waka Kotahi.

### 2.2.1 Neal Street

Neal Street is a collector road that runs off State Highway 1 and provides access to a small commercial/industrial area as well as into a larger residential area to the east of Anderson Street. There have been three serious, three minor and two non-injury crashes reported in the 10 year period 2012 to 2021. Three of the crashes involved pedestrians, one involved a cyclist.

Figure 8 Neal Street crashes



Safety and speed information from MegaMaps shows the following.

**Neal Street**

<i>Posted speed limit</i>	50km/hr	<i>Mean Free Flow Speed</i>	42.23km/hr
<i>Safe and Appropriate Speed</i>	40km/hr	<i>Infrastructure Risk Rating</i>	Low Medium

Due to the high number of pedestrians and vehicle manoeuvring movements, a lower speed limit would assist with managing the risks in this area. The side roads of Cambridge Street, Commerce Steet and Market Street should also be included to provide a coherent treatment for users.

Consideration should be given to lowering the speed limit in the residential area to the west of Cambridge Street as well.

Figure 9 Neal Street proposed changes



**Recommendation**

The following changes are recommended for Neal Street:

- Install a permanent 30km/hr speed limit the full length of the following roads: Cambridge Street, Commerce Street, Commerce Lane and Market Street.
- Install a permanent 30km/hr speed limit on the following section of road:
  - Neal Street – State Highway 1 to Anderson Street
- Install threshold style treatments on Neal Street at the intersection with State Highway 1 and west of Anderson Street.
- Install permanent speed limit signs on Market Street on the approach to State Highway 1.

### 3. Putaruru surrounds

#### 3.1 School

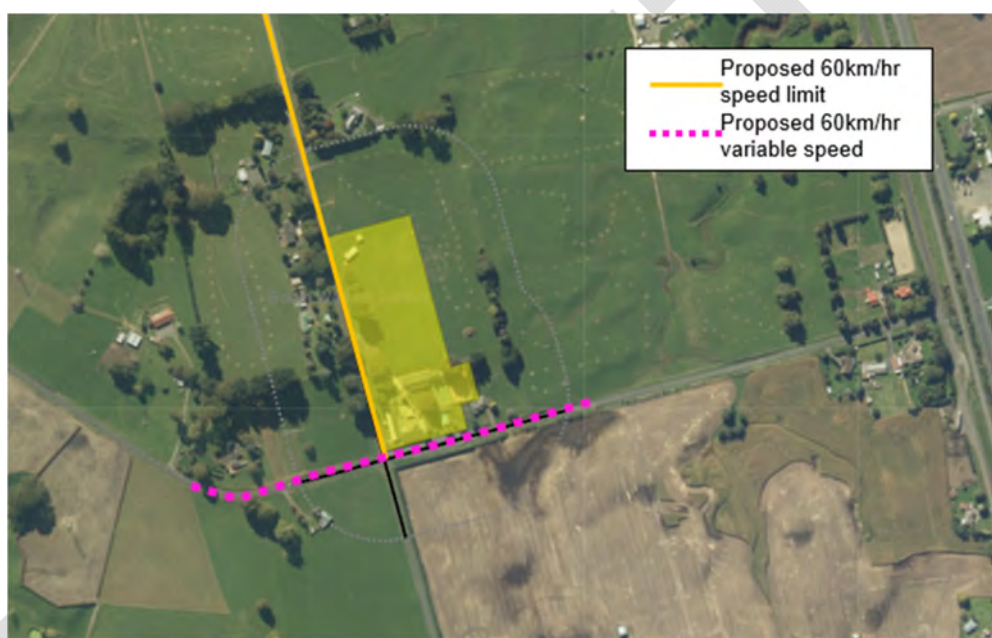
There are two rural schools in the surrounds of Putaruru for which the speed limit needs to be lowered in the vicinity of to assist with improved accessibility.

##### 3.1.1 Lichfield School

The main vehicle and pedestrian access to Lichfield School is from Lichfield Road with a secondary access and parking area off Kells Lane. The school is located in a rural environment with no pedestrian or cycle facilities provided in the area. All students arrive and depart by bus or car.

There have been no reported crashes in the last 10 years in the vicinity of the school.

Figure 10 Lichfield School



Safety and speed information from MegaMaps shows the following.

##### Lichfield Road

<i>Posted speed limit</i>	100km/hr	<i>AM Peak mean speed</i>	54km/hr
<i>Safe and Appropriate Speed</i>	60km/hr	<i>PM Peak mean speed</i>	53km/hr

##### Kells Lane

<i>Posted speed limit</i>	100km/hr	<i>AM Peak mean speed</i>	34km/hr
<i>Safe and Appropriate Speed</i>	60km/hr	<i>PM Peak mean speed</i>	36km/hr

Lichfield School is located on the corner of the intersection of Kells Lane and Lichfield Road. Given the rural location and the limited amount of activity on Lichfield Road in the vicinity of the school it is recommended that a variable speed limit be installed on Lichfield Road. In addition,

and due to the higher number of driveways and the no exit nature of the section of Kells Lane adjacent to the school it is recommended that a permanent speed limit be applied for this section of Kells Lane.

**Recommendation**

The following changes are recommended in the vicinity of Lichfield School:

- Install a variable 60km/hr speed limit on Lichfield Road from 220m west of Kells Lane to 280m east of Kells Lane
- Install a permanent 60km/hr speed limit on Kells Lane from Lichfield Road to its end.
- Install variable school threshold style treatment at the change in speed limit points on Lichfield Road.

3.1.2 Te Waotu School

Vehicle and pedestrian access to Te Waotu School is from Waotu Road. The school is located in a rural environment with no pedestrian or cycle facilities provided in the area. All students arrive and depart by bus or car.

There have been no reported crashes in the last 10 years in the vicinity of the school.

Figure 11 Te Waotu School



Safety and speed information from MegaMaps shows the following.

**Waotu Road**

<i>Posted speed limit</i>	100km/hr	<i>AM Peak mean speed</i>	47km/hr
<i>Safe and Appropriate Speed</i>	60km/hr	<i>PM Peak mean speed</i>	47km/hr

Te Waotu School is located within close proximity of the intersection with Lake Arapuni Road and Wiltsdown Road. Due to the rural location and the presence of other activities in the vicinity it is recommended that a permanent speed limit be installed in the area.

### **Recommendation**

The following changes are recommended in the vicinity of Te Waotu School:

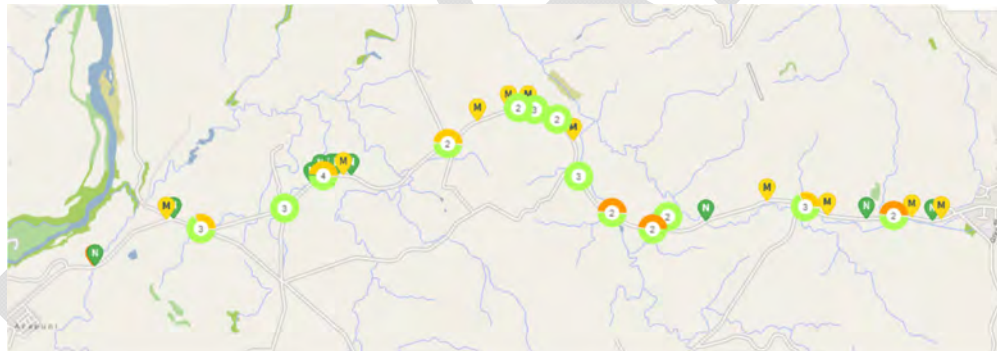
- Install a permanent 60km/hr speed limit on the following sections of road:
  - Waotu Road from Lake Arapuni Road to 330m north of Lake Arapuni Road
  - Lake Arapuni Road – 150m west of Waotu Road to Waotu Road
  - Wiltsdown Road – Waotu Road to 150m east of Waotu Road.
- Install school threshold style treatment at the change in speed limit points on Waotu Road, Lake Arapuni Road and Wiltsdown Road

## 3.2 Other roads

### 3.2.1 Arapuni Road

Arapuni Road is an arterial road that runs between Putaruru and Arapuni and the open road is 11km long. There have been four serious, fifteen minor and thirty-five non-injury crashes reported in the 10 year period 2012 to 2021. Inappropriate speed was identified in seventeen instances with the majority of crashes being single vehicle loss of control crashes.

Figure 12 Arapuni Road crashes



This road was also identified for review as Mangakaretu marae is located at 279 Arapuni Road.



Figure 13 Mangakaretu marae



Safety and speed information from MegaMaps shows the following.

**Arapuni Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	85.95km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Medium

Megamaps has identified this route as a High Benefit Road. These roads have strong safety benefits associated with lowering the speed limit to align with the safe and appropriate speed (SAAS) however the operating speeds are higher than the SAAS and therefore compliance could be an issue. Engineering improvements can be considered to support a higher speed limit if desired.

Due to the significance of the route in the wider roading network as a connecting route between districts a programme of improvement works should be developed to reduce the risk to users. As the majority of crashes are loss of control single vehicle crashes, treatments such as edgeline and centreline ATP should be installed. Shoulder widening and barriers should also be installed at appropriate locations. Due to the alignment of the road being a mix of straights and curves the existing curve warning signage should also be reviewed and upgraded as necessary to ensure that drivers are receiving appropriate and correct information.

There is limited interaction between the marae and the road and therefore no changes to the speed limit are proposed in this area at this stage. Changes to the speed limit in this area needs to be considered as part of a wider strategy for speed limits on rural roads across the district.

The location of Mangakaretu marae is currently not identified and advance and directional signage should be installed to show the location of the marae <sup>1</sup>.

### **Recommendation**

The following changes are recommended for Arapuni Road:

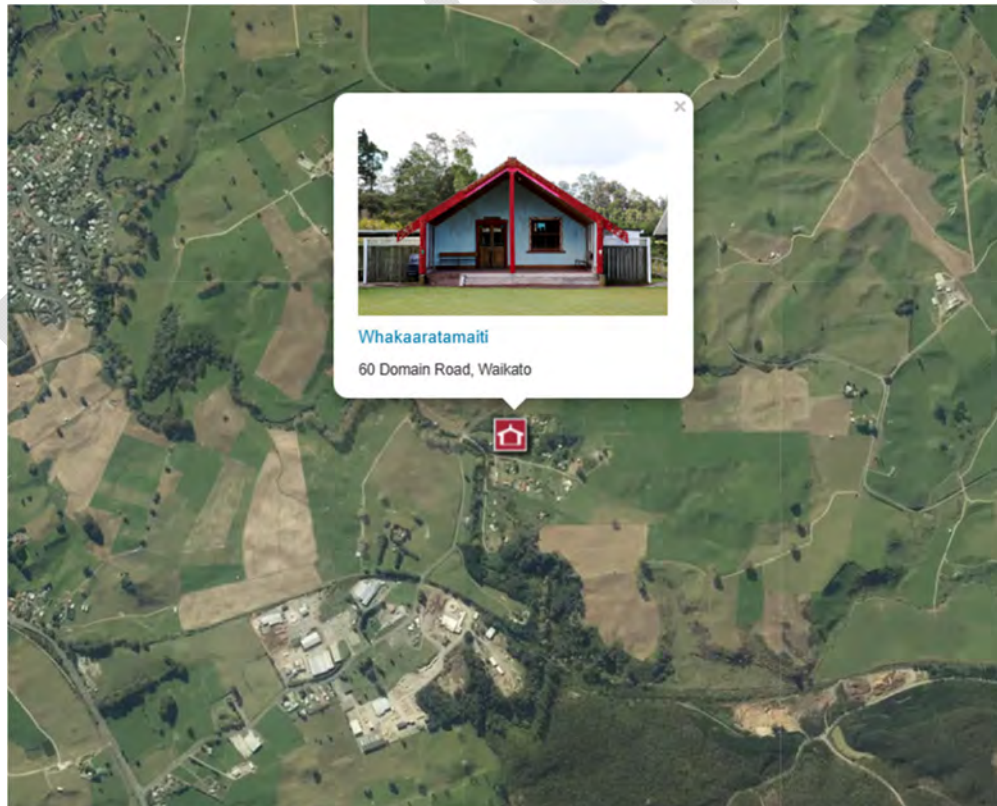
- Install edgeline and centreline ATP along the full length of the road.
- Undertake shoulder widening and barrier treatments in appropriate locations.
- Review existing signage and upgrade as necessary.
- Install advance and directional marae signage for Mangakaretu marae on both approaches to the marae

Any change to the speed limit on Arapuni Road will need to be considered as part of a wider strategy for the rural roading network.

### 3.2.2 Domain Road

Domain Road is a local road that runs between State Highway 1 and Harris Road and is 2660m long. This road was identified for review as Whakaaratamaiti marae is located at 60 Domain Road.

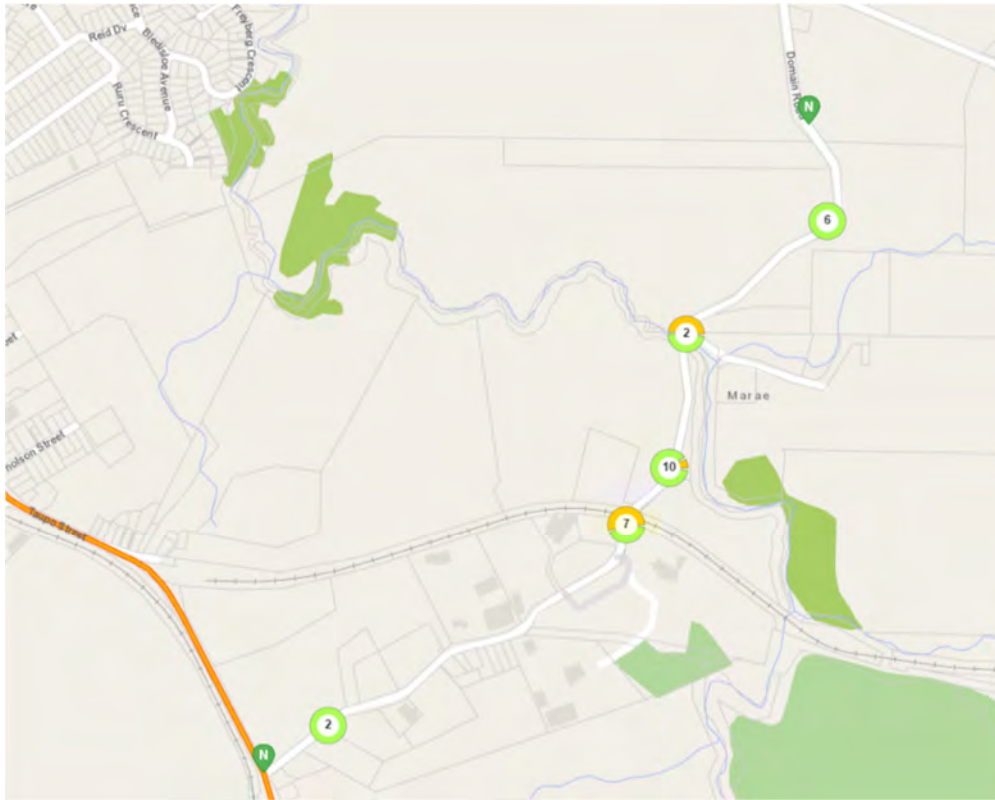
Figure 14 Whakaaratamaiti marae



<sup>1</sup> [Cultural marae sign | Waka Kotahi NZ Transport Agency \(nzta.govt.nz\)](https://www.nzta.govt.nz/cultural-marae-sign/)

There have been six minor and twenty-three non-injury crashes reported in the 10 year period 2012 to 2021. Inappropriate speed was identified in fourteen instances with the majority of crashes being single vehicle loss of control crashes.

Figure 15 Domain Road crashes



Safety and speed information from MegaMaps shows the following.

**Domain Road**

<i>Posted speed limit</i>	80km/hr	<i>Mean Free Flow Speed</i>	63km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Low Medium

There is limited interaction between the marae and the road, however there are a number of commercial and residential properties in the first 1.8km of the road and a lower speed limit is considered to be appropriate. The majority of crashes have occurred in the section of the road from the east of the development and the marae indicating that drivers are not “reading” the road correctly.

The location of Whakaaratamaiti marae is currently not identified with only old advance fingerboard signs positioned at each end of the road. Updated advance and directional signage should be installed on Whakaaratamaiti Road to show the location of the marae.

**Recommendation**

The following changes are recommended for Domain Road:

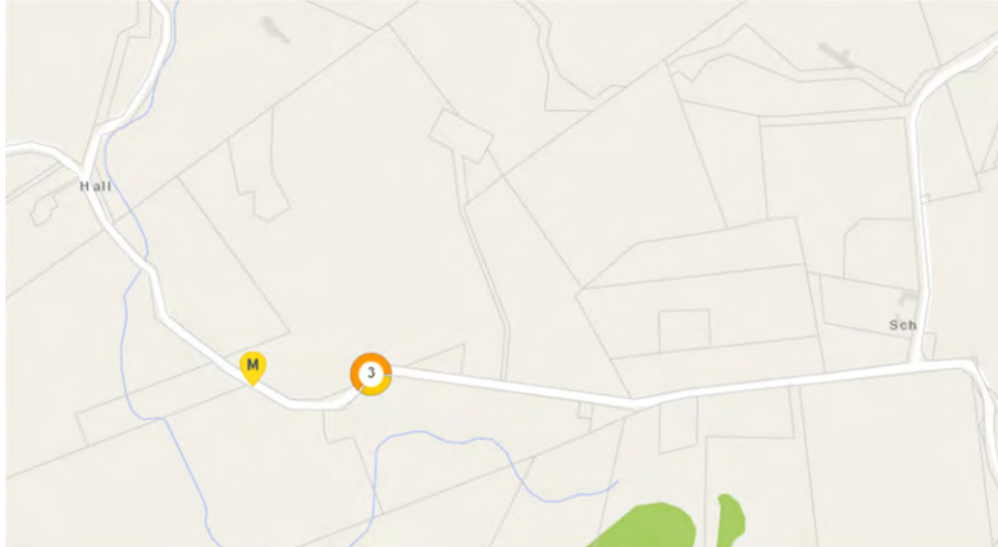
- Extend the edgelines on both sides of the road from the existing to RP 1800.
- Install edge marker posts from on both sides of the road from the old railway line to Harris Road.

- Install advance and directional marae signage for Whakaaratamaiti marae on both approaches to the marae.

### 3.2.3 Lake Arapuni Road

Lake Arapuni Road is local rural road that runs from Huihuitaha Road in the north to Waotu Road in the south and is 14km long. The only serious and minor injury crashes reported in the 10 year period 2012 to 2021 on this road have occurred between Huihuitaha Road (south) and Waotu Road. There were a range of factors including distraction, fatigue and speed.

Figure 16 Lake Arapuni Road crashes



This road was also identified for review as Matiti Pa marae is located at 1195 Lake Arapuni Road.

Figure 17 Matiti Pa marae



Safety and speed information from MegaMaps shows the following.

### **Lake Arapuni Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	59.29km/hr
<i>Safe and Appropriate Speed</i>	60km/hr	<i>Infrastructure Risk Rating</i>	Medium

The crashes are located within an isolated section of road which indicates that drivers are not adjusting to these out of context curves. To improve safety through the area the curves should be checked for the need for advisory signage and that they be installed as required.

There is limited interaction between the marae and the road and therefore no changes to the speed limit are proposed in this area at this stage. Changes to the speed limit in this area needs to be considered as part of a wider strategy for speed limits on rural roads across the district.

The location of Matiti Pa marae is currently not identified and advance and directional signage should be installed to show the location of the marae.

### **Recommendation**

The following changes are recommended for Lake Arapuni Road:

- Install curve advisory signage on the section of Lake Arapuni Road between Huihuitaha Road (south) and Waotu Road as required.
- Install advance and directional marae signage for Matiti Pa marae on all approaches to the marae.

Any change to the speed limit on Lake Arapuni Road will need to be considered as part of a wider strategy for the rural roading network.

### 3.2.4 Ngatira Road

Ngatira Road is a local road that runs off State Highway 1 and is 11km long. This road was identified for review as Ngatira marae is located at 956 Ngatira Road.

Figure 18 Ngatira marae



Safety and speed information from MegaMaps shows the following.

**Ngatira Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	63km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Low Medium

The marae is located at the end of sealed section of the road. Consideration should be given to reducing the speed limit from where the road environment changes south of the railway crossing (RP9350) to the end of the road. This would include the 300m sealed section in front of the marae and the full length of the unsealed portion of the road.

The location of Ngatira marae is currently not identified with only an old advance fingerboard sign positioned at the intersection with State Highway 1. Updated advance and directional signage should be installed on Ngatira Road to show the location of the marae

**Recommendation**

The following changes are recommended for Ngatira Road:

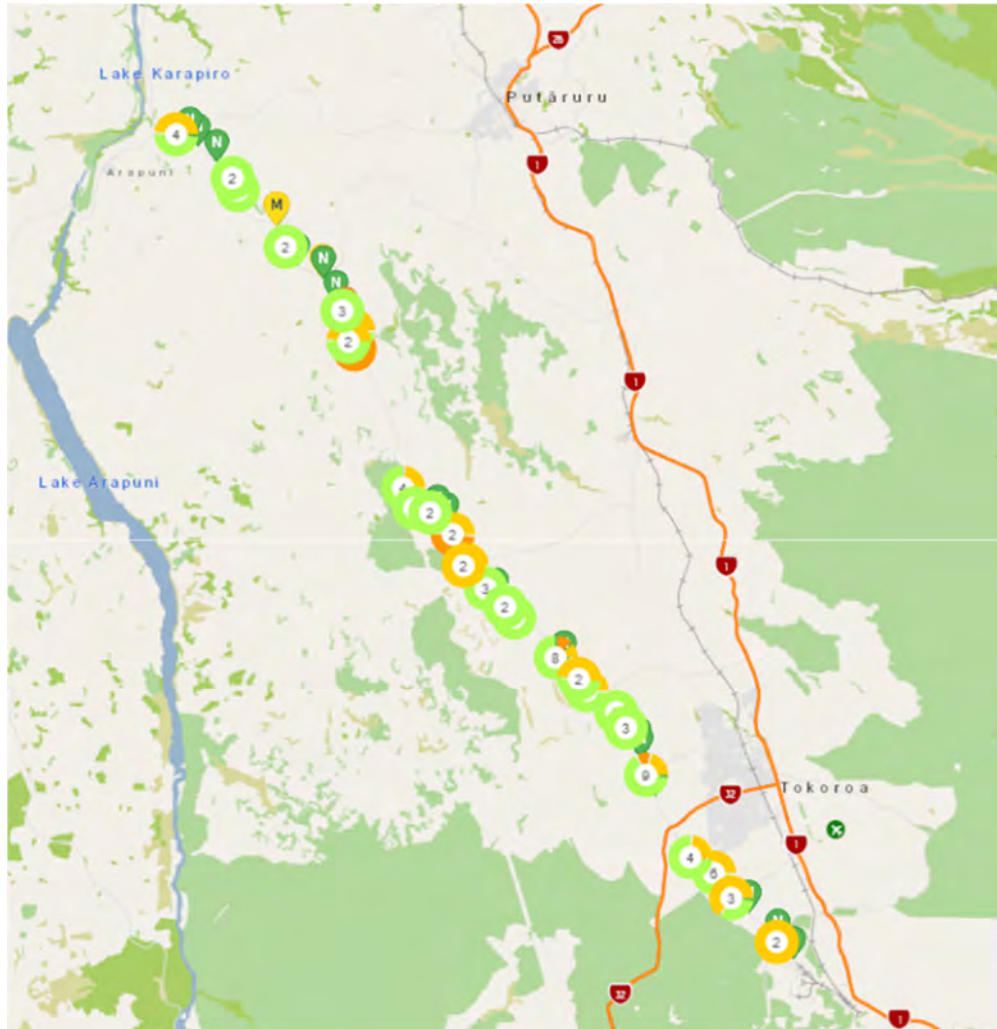
- Lower the speed limit to 60km/hr between RP9350 and the end of the road.
- Install permanent speed limit signs at RP9350.
- Install advance and directional marae signage for Ngatira marae.

3.2.5 Old Taupo Road

Old Taupo Road is a collector road that runs between Kinleith and Arapuni. The section between Kinleith and State Highway 32 is 5km long, the remaining section to Arapuni is 27km long. There have been 109 reported crashes in the 10 year period 2012 to 2021 with seven serious, twenty-five minor and seventy-seven non-injury crashes. Inappropriate speed was

identified in twenty-three instances with the majority of crashes being single vehicle (90%) and loss of control crashes on bends (86%).

Figure 19 Old Taupo Road crashes



The road environment is different either side of the intersection with State Highway 32, with the road to the north is curved and winding, the section south to Kinleith is straight.

Safety and speed information from MegaMaps shows the following.

**Old Taupo Road – Arapuni Road to Waotu Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	82.22km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Medium

**Old Taupo Road – Waotu Road to Wiltstown Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	77.24km/hr
<i>Safe and Appropriate Speed</i>	60km/hr	<i>Infrastructure Risk Rating</i>	Medium

### **Old Taupo Road – Wiltsdown Road to State Highway 32**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	83.27km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Medium

### **Old Taupo Road – State Highway 32 to Kinleith Mill**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	68.47km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Medium

Old Taupo Road in conjunction with Horahora Road is used as an alternative route to State Highway 1 with a number of side roads that provide connections to Tokoroa, Lichfield and Putaruru.

Due to the significance of the route as a spine road within the wider roading network and as an alternative route to State Highway 1 a programme of improvement works should be developed to reduce the risk to users. As the majority of crashes are loss of control single vehicle crashes, treatments such as edgeline and centreline ATP should be installed. Shoulder widening and barriers should also be installed at appropriate locations. As the alignment of the road is a mix of straights and curves and the majority of crashes have occurred on curves the existing curve warning signage should also be reviewed and upgraded as necessary to ensure that drivers are receiving appropriate and correct information.

#### **Recommendation**

The following changes are recommended for Old Taupo Road:

- Install edgeline and centreline ATP along the full length of the road.
- Undertake shoulder widening and barrier treatments in appropriate locations.
- Review existing curve warning signage and upgrade as necessary.

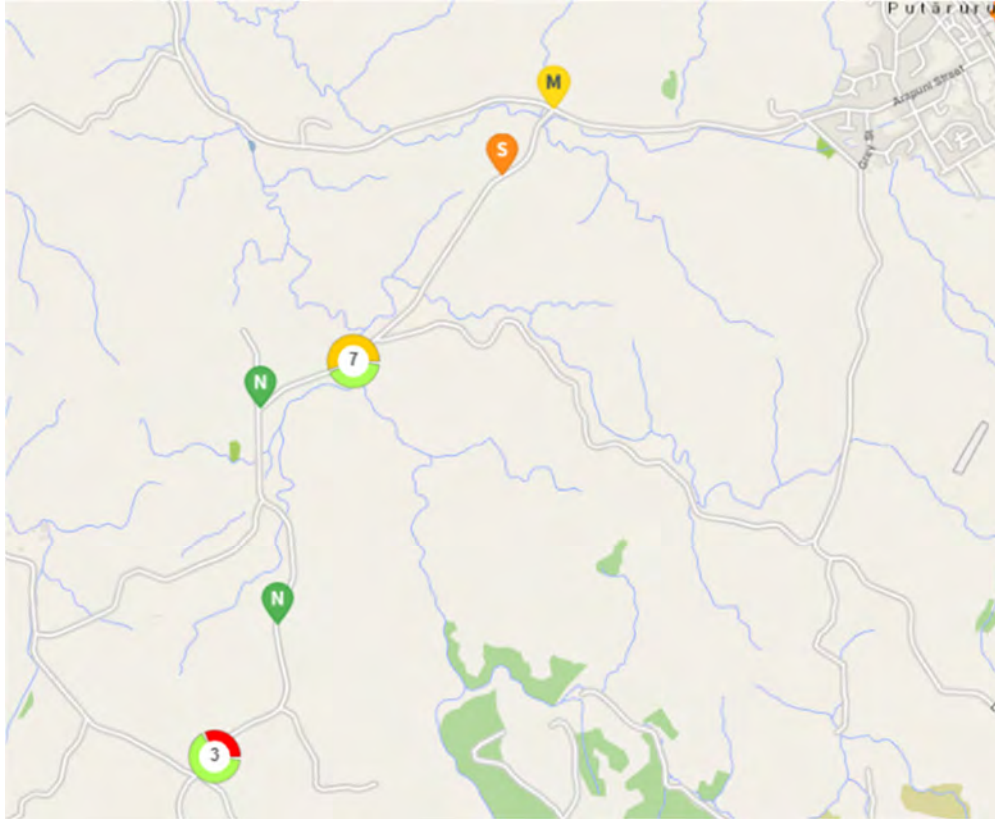
Any change to the speed limit on Old Taupo Road will need to be considered as part of a wider strategy for the rural roading network.

#### **3.2.6 Waotu Road**

Waotu Road is collector rural road that runs from Arapuni Road in the north to Wiltsdown Road in the south and is 13km long. The only fatal and serious crashes reported in the 10 year period 2012 to 2021 on this road have occurred between Arapuni Road and Old Taupo Road. The fatal crash involved an American tourist travelling on the wrong side of the road, while the serious crash was an inexperienced driver who lost control in the wet.



Figure 20 Waotu Road crashes



The cluster of crashes near Dukeson Road indicates that there is an issue with the out of context curves in this area.

Safety and speed information from MegaMaps shows the following.

**Waotu Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	64.05km/hr
<i>Safe and Appropriate Speed</i>	60km/hr	<i>Infrastructure Risk Rating</i>	Medium

The majority of crashes are loss of control single vehicle crashes with fatigue being a factor, treatments such as edgeline and centreline ATP should be installed. The cluster of crashes located within an isolated section of the road indicates that drivers are not adjusting to these out of context curves. To improve safety through the area the curves should be checked for the need for advisory signage and that they be installed as required.

Any change to the speed limit would need to be considered as part of a wider strategy for rural roads within the district.

**Recommendation**

The following changes are recommended for Waotu Road:

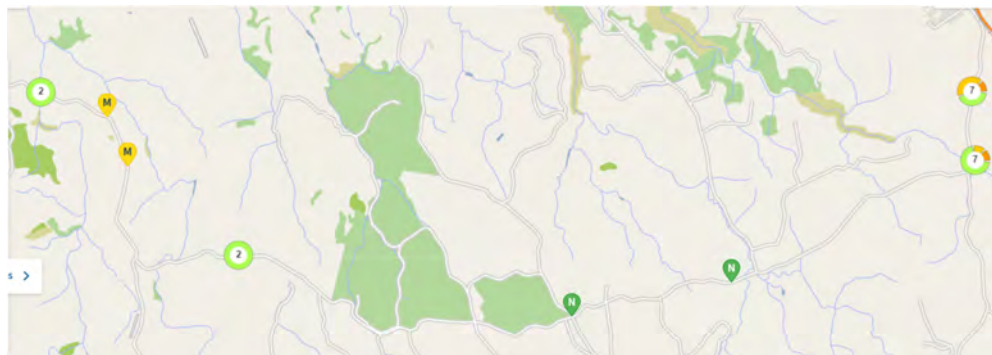
- Install edgeline and centreline ATP on the section of Waotu Road between Arapuni Road and Old Taupo Road.
- Install curve advisory signage on the section of Waotu Road between Arapuni Road and Old Taupo Road as required.

Any change to the speed limit on Waotu Road will need to be considered as part of a wider strategy for the rural roading network.

### 3.2.7 Wiltsdown Road

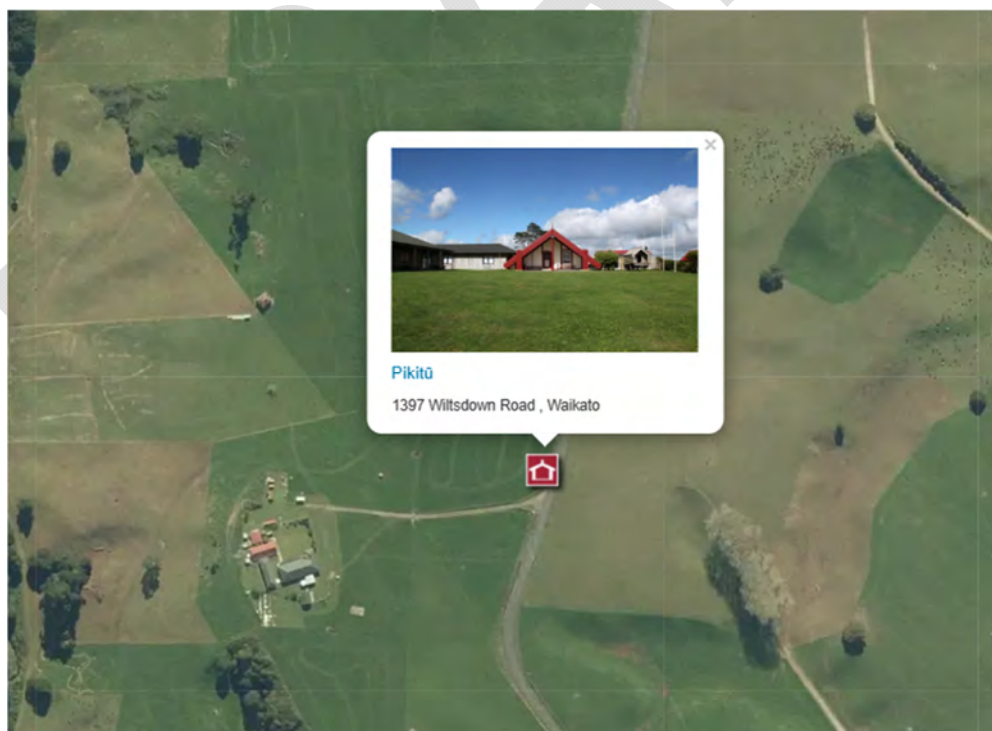
Wiltsdown Road is collector rural road that runs west/east from State Highway 1 to Waotu Road and is 17km long. There have been two serious, six minor and fourteen non-injury crashes reported in the 10 year period 2012 to 2021 with the majority of crashes occurring in the first 2km of the road. Inappropriate speed was identified in seven instances with the majority of crashes being single vehicle and loss of control on bend crashes. Nineteen of the crashes occurred in overcast or dark conditions.

Figure 21 Wiltsdown Road crashes



This road was also identified for review as Pikitū marae is located at 1397 Wiltsdown Road.

Figure 22 Pikitū marae



Safety and speed information from MegaMaps shows the following.

#### **Wiltsdown Road – State Highway 1 to Paraonui Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	60.03km/hr
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<i>Safe and Appropriate Speed</i>	60km/hr	<i>Infrastructure Risk Rating</i>	Medium High
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**Wiltsdown Road –Paraonui Road to Waotu Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	60.58km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Medium

As the majority of crashes are loss of control single vehicle crashes occurring in overcast or dark conditions treatments such as edgeline and centreline ATP should be installed.

The cluster of crashes located within the first 2km of the road indicates that drivers are not adjusting to in the change of environment from the State Highway. To improve safety through the area the curves should be checked for the need for advisory signage and that they be installed as required.

There is limited interaction between the marae and the road and therefore no changes to the speed limit are proposed in this area at this stage. Changes to the speed limit in this area needs to be considered as part of a wider strategy for speed limits on rural roads across the district.

The location of Pikitu marae is currently not identified and advance and directional signage should be installed to show the location of the marae.

**Recommendation**

The following changes are recommended for Wiltsdown Road:

- Install edgeline and centreline ATP on the full length of Wiltsdown Road.
- Install curve advisory signage on the section of Wiltsdown Road between State Highway 1 and Paraonui Road as required.
- Install advance and directional marae signage for Pikitu marae on both approaches to the marae

Any change to the speed limit on Wiltsdown Road will need to be considered as part of a wider strategy for the rural roading network.

## 4. Tirau Township

### 4.1 Schools

There is one school in Tirau for which the speed limit needs to be lowered in the vicinity of to assist with safety and accessibility.

#### 4.1.1 Tirau Primary School

The main vehicle and pedestrian access to Tirau Primary School is from State Highways 1 and 27 with a crossing point on State Highway 1 approximately 170m south of State Highway 27. There are no cycle facilities provided in the area.

Figure 23 Tirau Primary School



Safety and speed information from MegaMaps shows the following.

South Waikato District Council has no jurisdiction on a State Highway, speed management on State Highways 1 and 27 is the responsibility of Waka Kotahi.

#### 4.2 Town Centre - Tirau

Tirau Town Centre is split by State Highway 1 with commercial areas on both sides of the road. Any changes to the speed limit in this area will need to be coordinated with Waka Kotahi.

#### 4.3 Other roads

##### 4.3.1 Tapapa Road

Tapapa Road is a local road that runs between State Highway 28 and State Highway 5 parallel to State Highway 5 that is 5km long. This road was identified for review as Tapapa marae is located at 95-101 Tapapa Road.

Figure 24 Tapapa marae



Safety and speed information from MegaMaps shows the following.

**Tapapa Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	65km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Medium

There is limited interaction between the marae and the road and no crashes have been reported along this route, however due to the very narrow road width (5.8 – 3.9m) a lower speed limit is considered to be appropriate. Due to the constrained nature of the road any changes to the speed limit in this area will have no effect on a wider strategy for speed limits on rural roads across the district.

The location of Tapapa marae is currently not identified with only old advance fingerboard signs positioned at each end of the road. Updated advance and directional signage should be installed on Tapapa Road to show the location of the marae.

**Recommendation**

The following changes are recommended for Tapapa Road:

- Lower the speed limit to 80km/hr for the full length of Tapapa Road.
- Install permanent speed limit signs at each end of Tapapa Road.
- Install advance and directional marae signage for Tapapa marae on both approaches to the marae and at the intersections with State Highways 28 and 5.

## 5. Tirau surrounds

### 5.1 Schools

There is one rural school in the surrounds of Tirau for which the speed limit needs to be lowered in the vicinity of to assist with safety and accessibility.

#### 5.1.1 Kuranui Primary School

Vehicle and pedestrian access to Kuranui School is from Waiomou Road. The school is located in a rural environment with no pedestrian or cycle facilities provided in the area. All students arrive and depart by bus or car.

There have been no reported crashes in the last 10 years in the vicinity of the school.

Figure 25 Kuranui Primary School



Safety and speed information from MegaMaps shows the following.

#### **Waiomou Road**

<i>Posted speed limit</i>	100km/hr	<i>AM Peak mean speed</i>	70km/hr
<i>Safe and Appropriate Speed</i>	60km/hr	<i>PM Peak mean speed</i>	68km/hr

Due to the rural location and the limited amount of activity on Waiomou Road in the vicinity of the school it is recommended that a variable speed limit be installed on Waiomou Road.

#### **Recommendation**

The following changes are recommended in the vicinity of Kuranui Primary School:

- Install a variable 60km/hr speed limit on Waiomou Road from 370m east of State Highway 28 to 860m east of State Highway 28.
- Install variable school threshold style treatment at the change in speed limit points on Waiomou Road.

## 5.2 Other Roads

### 5.2.1 Horahora Road

Horahora Road is an arterial road that runs between State Highway 1 at Piarere and Arapuni and is 13km long. There have been five serious, three minor and seventeen non-injury crashes reported in the 10 year period 2012 to 2021. Inappropriate speed was identified in only two instances with the majority of crashes being single vehicle loss of control on bend crashes.

Figure 26 Horahora Road crashes



Safety and speed information from MegaMaps shows the following.

#### **Horahora Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	59.8km/hr
<i>Safe and Appropriate Speed</i>	60km/hr	<i>Infrastructure Risk Rating</i>	Medium High

Horahora Road in combination with Old Taupo Road is used as an alternative route to State Highway 1 and has an off-road cycle path (Waikato River Trails) between Pokaiwhenua Bridge carpark (RP4350) and the access to Little Waipa Reserve (RP9500).

The route is significant in the wider roading network as an alternative route and a programme of improvement works should be developed to reduce the risk to users. The majority of crashes are loss of control single vehicle crashes, treatments such as edgeline and centreline ATP should be installed. Shoulder widening and barriers should also be installed at appropriate locations. The alignment of the road is a mix of straights and curves, therefore the existing curve warning signage should also be reviewed and upgraded as necessary to ensure that drivers are receiving appropriate and correct information.

There is a section of development approximately 2km south of State Highway 1, with a number of residential and business properties in this area. The southern end of this area is marked by the Pokaiwhenua Bridge and the carpark which is used by the Waikato River Trail. Due to the change in development level and increased conflicts from turning movements in this area a lower speed limit is considered to be appropriate. The reduction in speed limit to 80km/hr should extend from RP 2090 to RP 4500.

The section of road between RP 12210 and Arapuni Road is out of context with the rest of road being narrow and windy. Due to the significant difference in environment a lower speed limit is considered appropriate in this area.

Figure 27 Horahora Road proposed speed limit changes



### Recommendation

The following changes are recommended for Horahora Road:

- Lower the speed limit to 80km/hr between RP2090 and 4500 and between RP12210 and Arapuni Road.
- Install threshold style treatments at the change in speed limit locations.
- Install no overtaking lines between RP2090 and 4500.
- Install edgeline and centreline ATP along the full length of the road.
- Undertake shoulder widening and barrier treatments in appropriate locations.



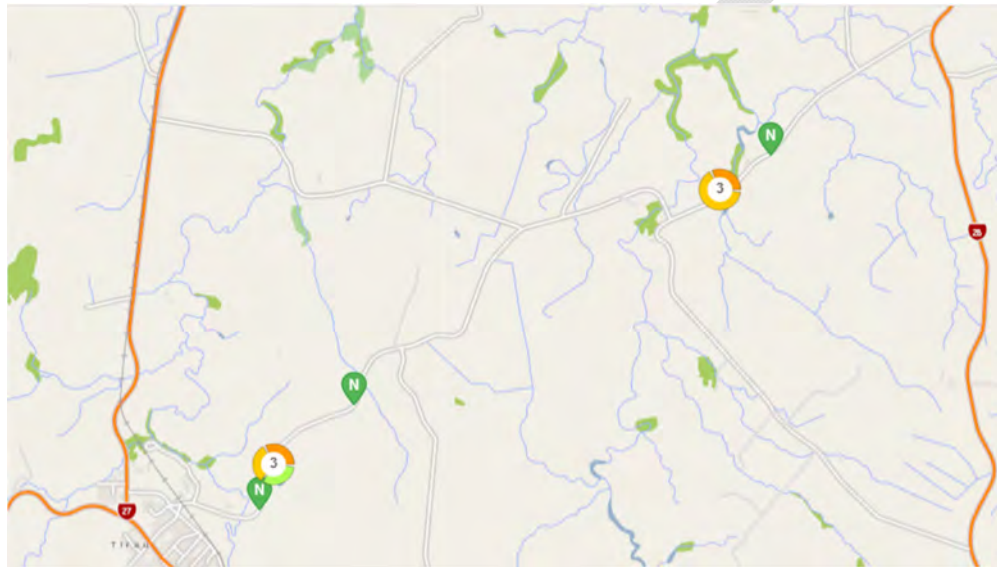
- Review curve warning existing signage and upgrade as necessary.

Further changes to the speed limit on Horahora Road will need to be considered as part of a wider strategy for the rural roading network.

### 5.2.2 Okoroire Road

Okoroire Road is a collector road that runs between State Highway 28 and Tirau and is 8km long. There have been two serious, three minor and four non-injury crashes reported in the 10 year period 2012 to 2021. There are a range of crash types and cause factors however inappropriate speed was not identified as a contributing factor in any of the crashes.

Figure 28 Okoroire Road crashes



Safety and speed information from MegaMaps shows the following.

#### Okoroire Road

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	77.11km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Medium

Due to the primarily straight alignment of this road and the side roads any change to the speed limit is likely to result in poor compliance.

#### Recommendation

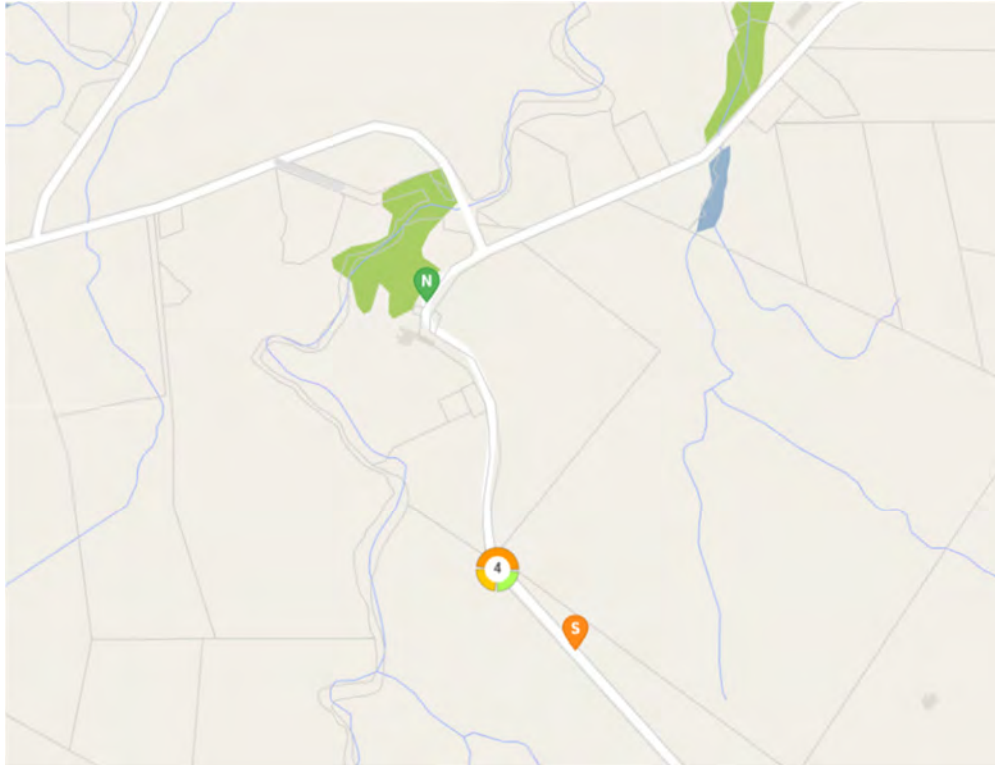
No changes are recommended for Okoroire Road at this time. Any change to the speed limit on Okoroire Road will need to be considered as part of a wider strategy for the rural roading network.

### 5.2.3 Sommerville Road

Sommerville Road is a rural access road that runs between State Highway 28 and Okoroire Road and is 4km long. There have been three serious, one minor and three non-injury crashes reported in the 10 year period 2012 to 2021. Six of the crashes have occurred within a 200m

section of road. Inexperience and inappropriate speed were identified as the most common contributing factors in the crashes.

Figure 29 Somerville Road crashes



Safety and speed information from MegaMaps shows the following.

**Sommerville Road**

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	58.59km/hr – 83.24km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Medium

The first 800m of Somerville Road is a different environment with a series of tight curves compared to the straight alignment of either the adjacent section of Somerville Road or the preceding section of Okoroire Road.

Consideration should be given to lowering the speed limit for the 800m section from Okoroire Road to 800m south of Okoroire Road due to the presence of pedestrians and turning movements associated with the Okoroire Hotel, camp ground and golf course.

Figure 30 Sommerville Road proposed speed limit changes



As the remaining section of the road has a primarily straight alignment and the side roads are of a similar nature any change to the speed limit in these areas is likely to result in poor compliance.

### ***Recommendation***

The following changes are recommended for Sommerville Road:

- Lower the speed limit to 60km/hr between Okoroire Road and RP800.
- Install threshold style treatments at the change in speed limit locations.

Further changes to the speed limit on Sommerville Road will need to be considered as part of a wider strategy for the rural roading network.

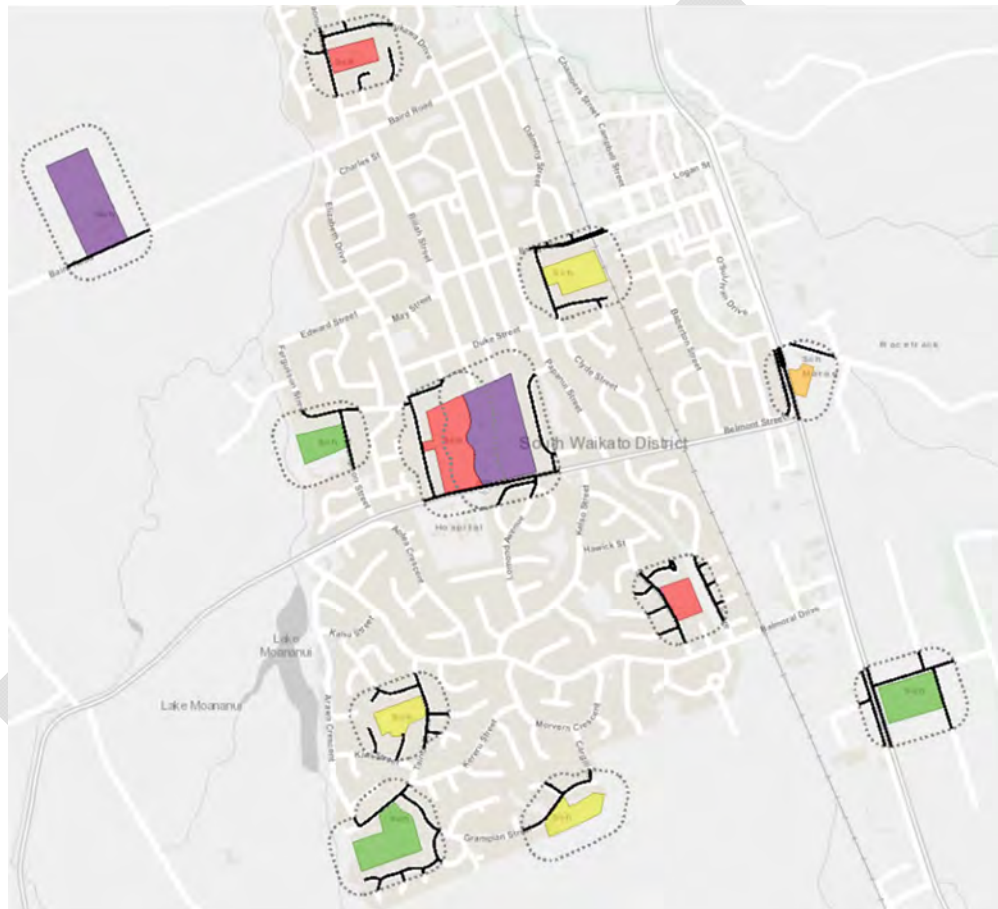
## 6. Tokoroa Township

Tokoroa is the largest settlement in South Waikato with the majority of the town located to the west of State Highway 1. The town centre is located to the north of the settlement with a large industrial area to the south. The residential area is split by State Highway 32 separating it into north and south sections.

### 6.1 Schools

There are thirteen schools in Tokoroa for which the speed limit needs to be lowered in the vicinity of to assist with safety and accessibility. Seven are located north of State Highway 32 with four to the south and two located to the east of State Highway 1 as shown in Figure 31.

Figure 31 Tokoroa Schools



#### 6.1.1 Tokoroa North School

Vehicle and pedestrian access to Tokoroa North School is primarily from Paraonui Road with a patrolled zebra crossing located approximately 70m south of Tasman Drive. There are additional pedestrian accesses off Puriri Place and Kowhai Place. No cycle facilities are provided in the area.

Figure 32 Tokoroa North School



Safety and speed information from MegaMaps shows the following.

**Paraonui Road**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	41km/hr
<i>Safe and Appropriate Speed</i>	50km/hr	<i>PM Peak mean speed</i>	41km/hr

**Puriri Place and Kowhai Place**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	18km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	18km/hr

Paraonui Road is an urban collector road with a 50km/hr speed limit that provides access to the residential area north of Baird Road and also serves as an alternative route to State Highway 1.

Puriri Place and Kowhai Place are access roads connected by Totara Road to Paraonui Road and Baird Road.

**Recommendation**

The following changes are recommended in the vicinity of Tokoroa North School:

- Install a 30km/hr variable speed limit on Paraonui Road from 70m north of Totara Street to Pohutukawa Drive.
- Install a permanent 30km/hr speed limit on Totara Street, Puriri Place and Kowhai Place.
- Install variable school threshold style treatment at the change in speed limit points on Paraonui Road.

- Install permanent speed limit signs on Totara Street at the intersections with Paraonui Road and Baird Road.
- Upgrade the existing patrolled zebra crossing into a raised platform.

### 6.1.2 Forest View High School

Forest View High School is located off Baird Road approximately 1.1km from the edge of development in Tokoroa. Vehicle and pedestrian access to Forest View High School is from Baird Road and a footpath is provided on the northern side of the road only, edgelines are marked on both sides of the road.

Figure 33 Forest View High School



Safety and speed information from MegaMaps shows the following.

#### **Baird Road**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	52km/hr
<i>Safe and Appropriate Speed</i>	50km/hr	<i>PM Peak mean speed</i>	52km/hr

Baird Road is an urban collector road with a 50km/hr speed limit that changes to 100km/hr 180m west of the school. The road provides connection between Old Taupo Road and Tokoroa and is a parallel route to State Highway 32.

A review of the crash data shows that there have been two serious crashes within the 50km/hr section of Baird Road and a third serious crash at the intersection with Old Taupo Road, within the last 5 years. Factors involved in the two urban crashes included speed, alcohol and anti-social behaviour. Half of the crashes along the route have been intersection crashes while the remainder are a mix of loss of control and random crash types.

Vehicle speed data shows that there is poor compliance with the existing speed limit with a free flow speed being 55km/hr, this is potentially due to the lack of any definitive change in environment. To provide a better alignment of speed with environment it is suggested that the speed limits on the section of Baird Road between the existing 50km/hr and Old Taupo Road be changed and additional engineering treatments be implemented to support the speed limits.

### Recommendation

The following changes are recommended in the vicinity of Forest View High School:

- Install a 30km/hr variable speed limit on Baird Road from 800m west of Elizabeth Drive to 800m east of Old Taupo Road.
- Install variable school threshold style treatment at the change in speed limit points on Baird Road.
- Lower the speed limit to 80km/hr on Baird Road from Old Taupo Road to the existing 50km/hr speed limit.
- Install permanent speed limit signs on Baird Road at the intersection with Old Taupo Road
- Create a threshold treatment at the 80/50 speed limit change on Baird Road.
- Mark cycle symbols on the section of Baird Road between the school and Elizabeth Drive (*check – not showing on google*)

### 6.1.3 Tokoroa Central School

The only vehicle and pedestrian access to Tokoroa Central School is from Clyde Street with a kea crossing located approximately 140m south of Bridge Street. No cycle facilities are provided in the area.

Figure 34 Tokoroa Central School



Safety and speed information from MegaMaps shows the following.

### Clyde Street

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	30km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	31km/hr

Clyde Street is an urban collector road with a 50km/hr speed limit that provides access to the residential area south of Bridge Street. A raised platform has been installed on the approach to Bridge Street to assist with speed management in the area.

**Recommendation**

The following changes are recommended in the vicinity of Tokoroa Central School:

- Install a permanent 30km/hr speed limit on Clyde Street between Bridge Street and Tay Street.
- Install school threshold style treatment at the change in speed limit points on Clyde Street.
- Consider replacing the existing kea crossing with a patrolled zebra crossing on a raised platform.

6.1.4 David Henry School

The only vehicle and pedestrian access to David Henry School is from Thompson Street. There are no crossing or cycle facilities provided in the area.

Figure 35 David Henry School



Safety and speed information from MegaMaps shows the following.

**Thompson Street and adjacent roads**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	31km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	32km/hr

Thompson Street is a local urban road with a 50km/hr speed limit that provides connection between State Highway 32 and Fergusson Street and access to the adjacent residential areas.

A review of the crash data shows that there have been two serious crashes within the last 5 years. One crash involved a speeding vehicle failing to stop at the Fergusson Street



intersection and the other was a mechanical fault where the throttle cable stuck open resulted on the bike hitting a through vehicle.

To discourage drivers from using Thompson Street as a through route a residential 40km/hr speed limit should be considered for the full length of Thompson Street. For consistency the speed limit should also need be lowered on Lancaster Crescent, York Place, Victoria Place, Maple Place, Oak Place, Kent Street and George Place.

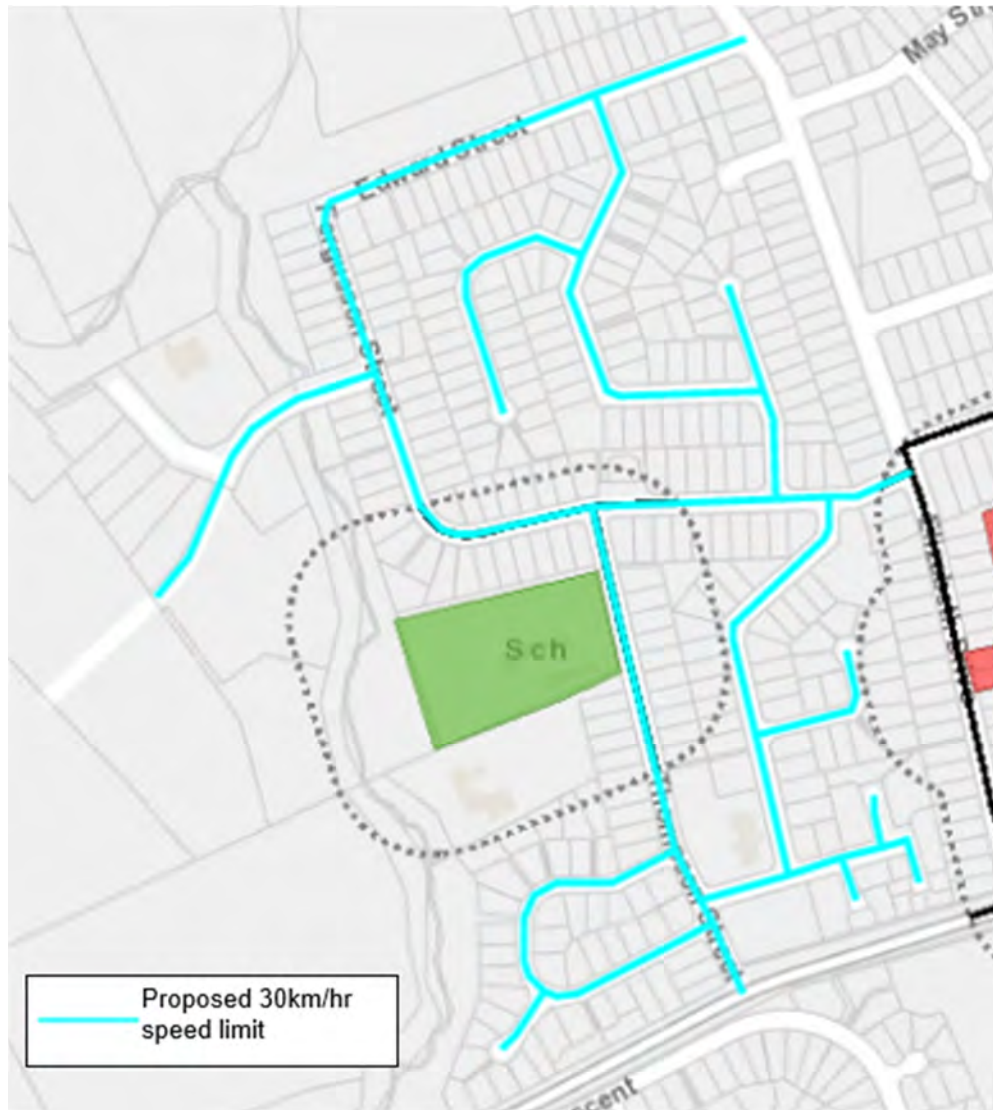
Fergusson Street provides access to David Henry School from the north. There have been three serious, one minor and six non-injury crashes reported on Fergusson Street in the 10 year period 2012 to 2021. The crashes involved a variety of movements and contributing factors with no common factors. As this area is also a contained residential area consideration should be given to lowering the speed limit to 30km/hr on Edward Street, Princess Beatrix Avenue, Windsor Place, Mountbatten Place and Edinburgh Street and all side roads.

### ***Recommendation***

The following changes are recommended in the vicinity of David Henry School:

- Install a permanent 30km/hr speed limit on Thompson Street between 60m north of Lancaster Crescent (North) and Fergusson Street.
- Install school threshold style treatment at the change in speed limit points on Thompson Street.
- Consider installing a raised crossing point on Thompson Street in the vicinity of the school entrance.
- Consider creating a 30km/hr residential area encompassing the full length of Thompson Street, Lancaster Crescent, York Place, Victoria Place, Maple Place, Oak Place, Kent Street, George Place, Edward Street, Princess Beatrix Avenue, Windsor Place, Mountbatten Place and Edinburgh Street.

Figure 36 Possible 30km/hr residential area around David Henry School



#### 6.1.5 Tokoroa Intermediate School and Tokoroa High School

Vehicle and pedestrian access to Tokoroa Intermediate School is from Elizabeth Drive and the private access road off Billah Street which separates Tokoroa Intermediate and Tokoroa High Schools. Tokoroa High School and the Pa Harakeke Teen Parent Unit is also accessed from State Highway 32. The Pa Harakeke Teen Parent Unit is located within the Tokoroa High School site.

A patrolled zebra crossing is located approximately 260m north of State Highway 32. No cycle facilities are provided in the area.

Figure 37 Tokoroa Intermediate School and Tokoroa High School



Safety and speed information from MegaMaps shows the following.

**Elizabeth Drive**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	40km/hr
<i>Safe and Appropriate Speed</i>	50km/hr	<i>PM Peak mean speed</i>	39km/hr

**Baillah Street**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	29km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	29km/hr

Elizabeth Drive is an urban collector road with a 50km/hr speed limit that provides connection between State Highway 32 and Baird Road and access to the adjacent residential areas. The section of Baillah Street under review is a dead end residential street with access to the Tokoroa Intermediate and Tokoroa High Schools at the end.

**Recommendation**

The following changes are recommended in the vicinity of Tokoroa Intermediate and Tokoroa High Schools:

- Install a 30km/hr variable speed limit on Elizabeth Drive from 50m south of Fergusson Street to 100m north of State Highway 32.
- Install variable school threshold style treatment at the change in speed limit points on Elizabeth Drive.
- Install a permanent 30km/hr speed limit on the section of Baillah Street between Duke Street and its end.
- Install permanent speed limit signs on the Baillah Street approach to Duke Street.
- Upgrade the existing patrolled zebra crossing onto a raised platform.

South Waikato District Council has no jurisdiction on a State Highway, speed management in this area is the responsibility of Waka Kotahi.

### 6.1.6 Strathmore School

The only vehicle and main pedestrian access to Strathmore School is from Strathmore Drive with a patrolled zebra crossing located 30m south of Lauriston Place. A kea crossing is located on St Andrews Drive connecting to the pedestrian access at the rear of the school. There are no cycle facilities provided in the area.

Figure 38 Strathmore School



Safety and speed information from MegaMaps shows the following.

#### Strathmore Drive

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	25km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	31km/hr

#### St Andrews Drive

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	42km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	42km/hr

Strathmore Drive is an urban local road with a 50km/hr speed limit that provides connection between Balmoral Drive and Hawick Street and access to a number of residential cul-de-sacs.

To discourage drivers from using Strathmore Drive as a through route a residential 30km/hr speed limit should be considered for the full length of Strathmore Road and the adjacent cul-de-sacs of Dunbar Place, Dunkeld Place, Alloa Place, Lauriston Street and Kenmore Place.

St Andrews Drive is an urban collector road that connects Balmoral Drive to State Highway 32. Due to the presence of the kea crossing for Strathmore School a 30km/hr speed limit should be in operation when the kea crossing is operating.

### **Recommendation**

The following changes are recommended in the vicinity of Strathmore School:

- Install a permanent 30km/hr speed limit on the full length of Strathmore Drive, Dunbar Place, Dunkeld Place, Alloa Place, Lauriston Street and Kenmore Place
- Install permanent speed limit signs at each end of Strathmore Drive.
- Upgrade the existing patrolled zebra crossing onto a raised platform.
- Install a 30km/hr variable speed limit on St Andrews Drive from Montrose Place to 40m north of Kinross Place.
- Install variable school threshold style treatment at the change in speed limit points on St Andrews Drive.
- Consider replacing the existing kea crossing on St Andrews Drive with a patrolled zebra crossing on a raised platform.

#### 6.1.7 TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools

TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools are located within close proximity of each other south of Balmoral Drive. The only vehicle and pedestrian accesses to TKKM o Te Hiringa and Tainui Full Primary School is from Tainui Street with Cargill Open Plan School accessed from Grampian Street.

Figure 39 TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools



There are three patrolled zebra crossings located in the area:

1. Tainui Street 20m south of Ngatuku Place for access to TKKM o Te Hiringa
2. Grampian Street (east) to the west of Tainui Street for Tainui Full Primary School
3. Grampian Street (east) 30m west of Waipuna Place for Cargill Open Plan School

There are no cycle facilities provided in the area.

Safety and speed information from MegaMaps shows the following.

**Tainui Street – outside TKKM o Te Hiringa**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	31km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	36km/hr

**Tainui Street – outside Tainui Full Primary School**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	24km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	25km/hr

**Grampian Street (east) – outside Cargill Open Plan School**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	32km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>PM Peak mean speed</i>	32km/hr

Tainui Street and Grampian Street (east) are urban collector roads with a 50km/hr speed limit that provides connection off Balmoral Drive into a number of residential cul-de-sacs. Free flow

speeds on these collector roads is between 36 and 46km/hr, with the cul-de-sacs having mean travel speeds of 20km/hr.

Applying 30km/hr speed limits to only the area in the vicinity of the school frontages would result in five speed limit changes along the length of Tainui Street with approx. 150m between the sections of 30km/hr.

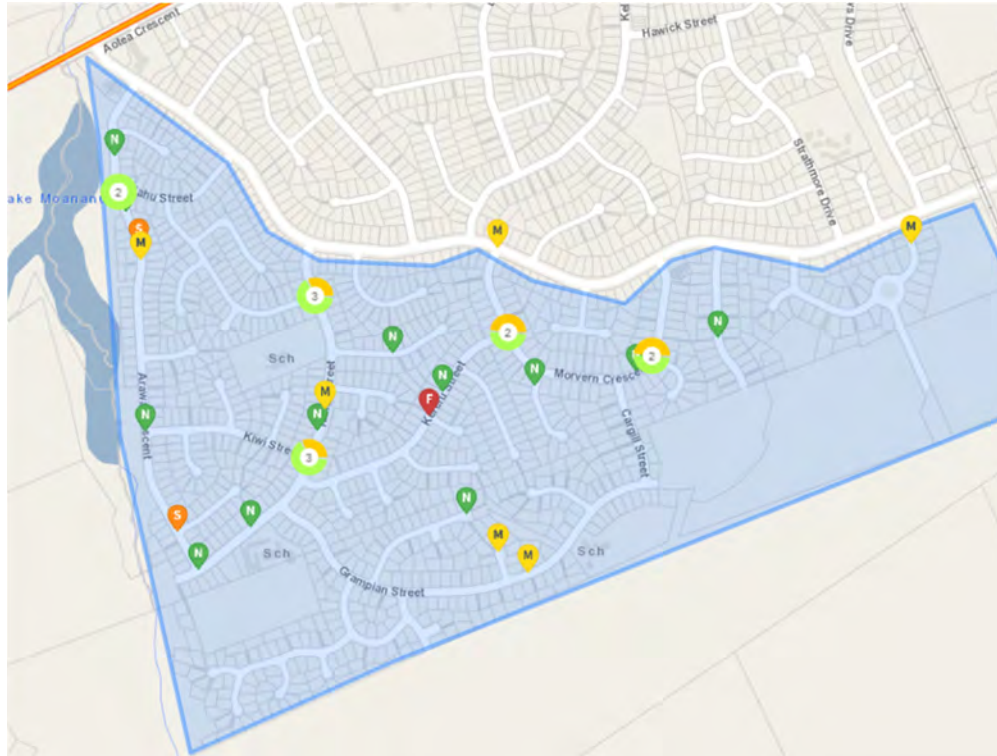
The area is bounded by Balmoral Drive to the north and there are no other exits a single speed limit could be applied across the neighbourhood. This would reduce confusion to drivers and allow for safer use of the area by pedestrians and cyclists by being enforce irrespective of the time of day.

Figure 40 Possible lower speed limit area



There have been thirty-three reported crashes in this area in the 10 year period 2012 to 2021. Travel speed was indicated as being a factor in ten instances. There has been one fatal crash on Kereru Street (2015) and two serious crashes on Arawa Crescent (2020 and 2021). The fatal crash involved a car pulling out in front of a motorcyclists while both of the serious crashes were loss of control type crashes.

Figure 41 Crashes 2012 – 2021



To reduce the risk to users irrespective of where and when they are using this network a 30km/hr speed limit is proposed. This will need to be supported by engineering works on the collector routes to assist with lowering the mean travel speeds on these routes.

### **Recommendation**

The following changes are recommended in the vicinity of TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools:

- Install a permanent 30km/hr speed limit on the full length of all roads to the south of Balmoral Drive between State Highway 32 and the railway line. Roads include: Aberfoyle Place, Arawa Crescent, Arran Place, Benalder Crescent, Benmohr Place, Cargill Street, Glendevon Place, Grampian Street (east), Grampian Street (south), Kahu Street, Kaka Crescent, Kereru Street, Kiwi Street, Koreke Place, Korimako Place, Koropio Place, Kotuku Place, Kuku Place, Matata Place, Moa Place, Morvern Crescent, Ngatuku Place, Pateke Place, Piopio Place, Poaka Place, Pukeko Place, Ruru Place, Tainui Street, Takahe Place, Tarapunga Place, Tararua Place, Tieke Place, Toroa Place, Waianiwa Place, Waiiti Place, Waikato Place, Waimate Crescent, Waimea Place, Waipapa Street, Waipuna Place, Wairakei Place, Wairoa Place, Waitangi Place and Waitara Place.
- Install permanent speed limit signs Arawa Crescent, Kahu Street, Tainui Street, Kotuku Place, Morvern Crescent (east and west), Arran Place, Grampian Street (east) and Benalder Crescent (east and west) at their intersection with Balmoral Drive.
- Install school threshold treatments on Tainui Street on the approaches to TKKM o Te Hiringa and Tainui Full Primary school and on Grampian Street (east) either side of Cargill Open Plan School.
- Upgrade the existing three patrolled zebra crossings onto raised platforms. Consider relocating the crossing on Grampian Street (east) closer to the reserve for better connectivity.



- Install a raised platform on Tainui Street south of Balmoral Drive.
- Consider installing multiple pedestrian crossing facilities (side or central islands) on Arawa Crescent at various locations to provide pedestrian connection to the reserve area and assist with speed management.

#### 6.1.8 Bishop Edward Gaines Catholic School

The only vehicle and pedestrian access to Bishop Edward Gaines Catholic School is from Mossop Road. There are no pedestrian or cycle facilities provided in the area.

Figure 42 Bishop Edward Gaines Catholic School



Safety and speed information from MegaMaps shows the following.

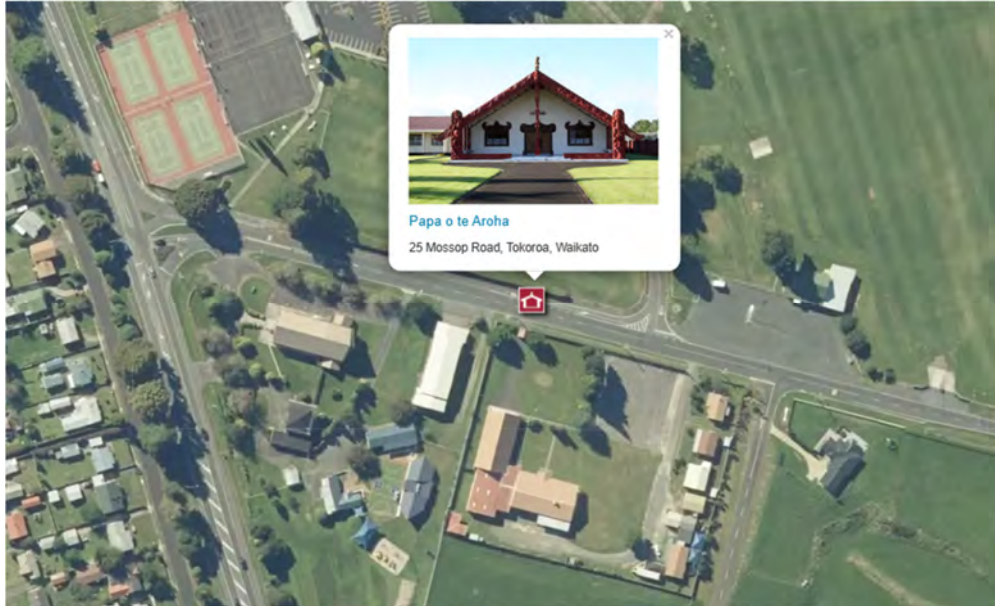
#### **Mossop Road**

<i>Posted speed limit</i>	60km/hr	<i>AM Peak mean speed</i>	36km/hr
<i>Safe and Appropriate Speed</i>	50km/hr	<i>PM Peak mean speed</i>	38km/hr

Mossop Road is a collector road with a 60km/hr speed limit for the first 450m after which the speed limit increases to 80km/hr for 650m before changing to an open road speed limit.

The first 450m of Mossop Road provides access to a church, school, Papa o te Aroha marae, an events centre and sports grounds as well as the side road of Pellikan Place.

Figure 43 Papa o te Aroha marae



When there is an activity or multiple activities in the area it can get very busy, an example of the resulting parking is shown below.

Figure 44 Parking on Mossop Road



Due to the number of driveways and the increase in traffic using Pellikan Place once the extension to Dumfries Road is completed a flush median should be installed to provide separation between turning and through traffic. A footpath should also be provided on the southern side of the road to provide access to the adjacent properties as well as Pellikan Place with a connection provided across Mossop Road near the intersection with State Highway 1.

The location of Papa o te Aroha marae is currently not identified and advance and directional signage should be installed to show the location of the marae.

**Recommendation**

The following changes are recommended in the vicinity of Bishop Edward Gaines Catholic School:

- Install a permanent 30km/hr speed limit on Mossop Road from State Highway 1 to 150m east of Pelliken Place.
- Install permanent speed limit signs on Mossop Road at the intersection with State Highway 1.
- Install school threshold style treatment at the change in speed limit 150m east of Pelliken Place.
- Install a footpath on the southern side of Mossop Road between State Highway 1 and Pelliken Place.
- Install a raised platform on Mossop Road east of the access to the Catholic Church to provide for pedestrian connection and as a speed management treatment.
- Reconfigure the road layout to provide for a flush median on Mossop Road between State Highway 1 and the threshold 150m east of Pelliken Place.
- Install advance and directional marae signage for Papa o te Aroha marae on both approaches to the marae

#### 6.1.9 Amisfield School

The only vehicle and pedestrian access to Amisfield School is from Moffat Road. The footpath on the southern side of Moffat Road connects to a pedestrian crossing point on State Highway 1. There are no cycle facilities provided in the area.

Figure 45 Amisfield School



Safety and speed information from MegaMaps shows the following.

#### **Moffat Road**

<i>Posted speed limit</i>	50km/hr	<i>AM Peak mean speed</i>	30km/hr
<i>Safe and Appropriate Speed</i>	40km/hr	<i>PM Peak mean speed</i>	32km/hr

Moffat Road is an urban local road with a 50km/hr speed limit that provides access to a small rural residential area as well as the Tokoroa Airport.

There is an existing variable speed limit on State Highway 1 of 60km/hr, any changes to the speed limit in the vicinity of the school will need to be coordinated with Waka Kotahi.

### **Recommendation**

The following changes are recommended in the vicinity of Aimsfield School:

- Install a permanent 30km/hr speed limit on Moffat Road from State Highway 1 to Lochmaben Road.
- Install permanent speed limit signs on Moffat Road at the intersections with State Highway 1, Dumfries Road and west of Lochmaben Road.
- Install a raised platform on Moffat Road west of Dumfries Road in the vicinity of the pedestrian access from the school to provide for pedestrian connection and as a speed management treatment.

## 6.2 Town Centre - Tokoroa

Tokoroa Town Centre has number of features that manage vehicle speeds in the area with mean speeds less than 30km/hr. To align driver expectation of what is an appropriate speed with the desired environment it is recommended that a 30km/hr speed limit be applied in the area shown in blue below.

Figure 46 Tokoroa Town Centre



Safety and speed information from MegaMaps shows the following.

### Town Centre roads

The information below is an average of the data across all the roads identified above.

<i>Posted speed limit</i>	50km/hr	<i>Mean Free Flow Speed</i>	24km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>Infrastructure Risk Rating</i>	Medium

A review of the crash data shows that there have been four serious crashes in the area with two on Bridge Street and two on Swanson Street, within the last 10 years. Two of the crashes involved pedestrians while the other two were turning movement crashes. The introduction of a lower speed limit in the area will reduce the risk and the severity of these types of crashes.

### Recommendation

The following changes are recommended in the vicinity of Tokoroa Town Centre:

- Install a permanent 30km/hr speed limit the full length of the following roads: Bonaly Street, Bonaly Lane, Leith Lane, Leith Place, Logan Street, Logan Lane, O'Sullivan Drive, Rosebery Lane, Rosebery Street, and Swanston Street.
- Install a permanent 30km/hr speed limit the following sections of road:
  - Bridge Street – State Highway 1 to Campbell Street
  - Campbell Street – Logan Street to Bridge Street
  - Mannering Street – Logan Street to Bridge Street
  - Roslin Street – Swanston Street to O'Sullivan Drive
  - Torphin Crescent – Roslin Street to O'Sullivan Drive
- Install permanent speed limit signs on; Commerce Street, Mannering Street and Campbell Street approaches to Logan Street; Bridge Lane and Dreghorn Place approaches to Mannering Street and the Torphin Crescent approach to O'Sullivan Drive.
- Install a town centre threshold treatment on Bridge Street at Campbell Street and on Logan Street, Bridge Street and Swanston Street adjacent to their intersection with State Highway 1.

## 6.3 Other roads

### 6.3.1 Dalmeny Street

There have been one fatal, one serious, one minor and five non-injury crashes reported on Dalmeny Street in the 10 year period 2012 to 2021. The fatal crash involved a pedestrian being hit in the dark, while the serious crash resulted from a speeding motorcyclist losing control. The remainder of the crashes involved a variety of movements and contributing factors.

Safety and speed information from MegaMaps shows the following.

### Dalmeny Street

<i>Posted speed limit</i>	50km/hr	<i>Mean Free Flow Speed</i>	37.57km/hr
<i>Safe and Appropriate Speed</i>	40km/hr	<i>Infrastructure Risk Rating</i>	Medium

Dalmeny Street has three side roads, two of which provide alternative access to either Bridge Street or Baird Road. Any changes to the speed limit in the area would need to include these side roads. Consideration should be given to reducing the speed limit in this area to 40km/hr if supported by the community.

**Recommendation**

No changes are recommended for Dalmeny Street at this time. Any change to the speed limit will be driven by changes within the wider roading network.

6.3.2 Papanui Road

There have been thirty-nine crashes reported on Papanui Street with three serious, ten minor and twenty-six non-injury crashes in the 10 year period 2012 to 2021. Of the serious crashes two were loss of control crashes that occurred within 50m north of the Bridge Street intersection while the third was 100m north of State Highway 32. All of these crashes involved fatigue and/or distraction.

Safety and speed information from MegaMaps shows the following.

**Papanui Road (North)**

<i>Posted speed limit</i>	50km/hr	<i>Mean Free Flow Speed</i>	44.91km/hr
<i>Safe and Appropriate Speed</i>	40km/hr	<i>Infrastructure Risk Rating</i>	Low Medium

**Papanui Road (South)**

<i>Posted speed limit</i>	50km/hr	<i>Mean Free Flow Speed</i>	42.55km/hr
<i>Safe and Appropriate Speed</i>	40km/hr	<i>Infrastructure Risk Rating</i>	Low Medium

Papanui Road is a bus route with buses passing through every hour between 9am and 3pm. The safe and appropriate speed of 40km/hr is inconsistent with the secondary collector function of the road.

Due to the high number of crashes in the vicinity of the Bridge Street roundabout consideration should be given to investigating additional safety improvements in this area.

**Recommendation**

No changes are recommended for Papanui Road at this time however consideration should be given to additional safety improvements at the Bridge Road/Papanui Road intersection.

6.3.3 Pellikan Road / Dumfries Road

Pellikan Road has recently been connected to Dumfries Road creating a connection between Mossop Road and Moffat Road. Pellikan Road currently has a speed limit of 60km/hr while the speed limit on Dumfries Road is 50km/hr.

Figure 47 Pellikan Road / Dumfries Road extension



Safety and speed information from MegaMaps shows the following.

**Pellikan Road**

<i>Posted speed limit</i>	50km/hr	<i>Mean Free Flow Speed</i>	30km/hr
<i>Safe and Appropriate Speed</i>	30km/hr	<i>Infrastructure Risk Rating</i>	Medium

**Dumfries Road**

<i>Posted speed limit</i>	50km/hr	<i>Mean Free Flow Speed</i>	31km/hr
<i>Safe and Appropriate Speed</i>	60km/hr	<i>Infrastructure Risk Rating</i>	Low

Both roads are access roads that provide access to the adjacent residential properties and the Tokoroa Cemetery.

Figure 48 On street parking on Dumfries Road



As Dumfries Road has the lower speed limit, the speed limit on Pellikan Road should be lowered to match and provide consistency to drivers.

**Recommendation**

The following changes are recommended for Pellikan Road and Dumfries Road:

- Install a permanent 50km/hr speed limit on Pellikan Road and the extension of Dumfries Road.

- Install permanent speed limit signs on Pellikan Road at the intersection with Mossop Road.
- Install pedestrian crossing points either side of the cemetery to provide defined crossing points between the on-street parking and the cemetery. Alternatively switch the on-street parking to the access from the eastern side of the road and use the change in road alignment to create a traffic calming feature.
- Monitor vehicle speeds and investigate other speed management features as required.

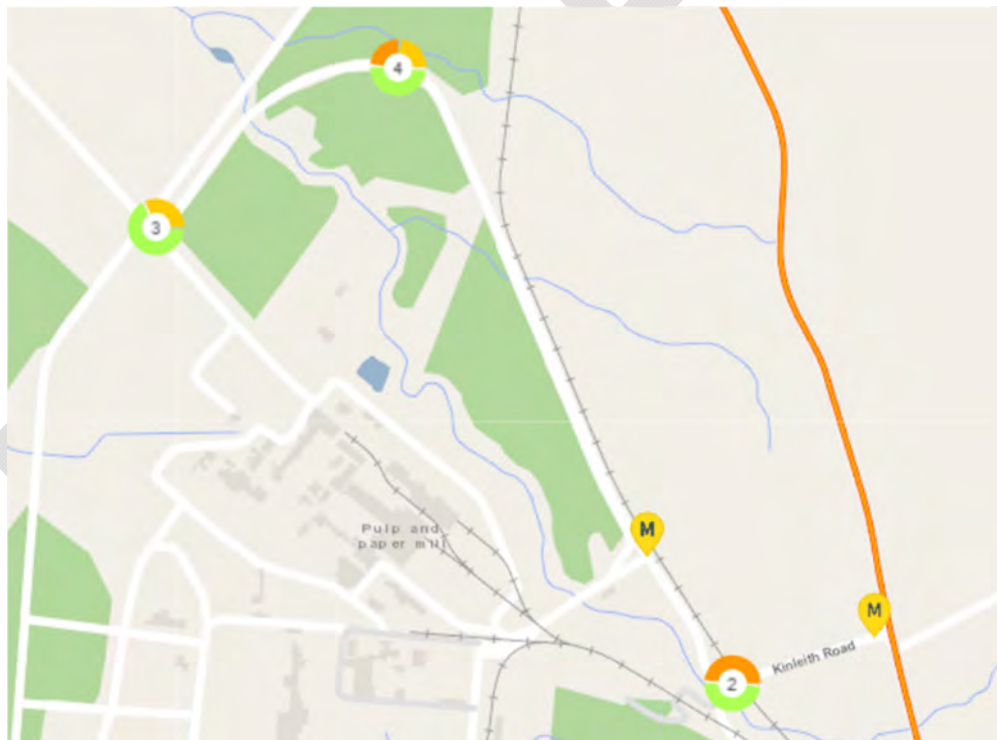
## 7. Tokoroa surrounds

### 7.1 Other roads

#### 7.1.1 Kinleith Road

Kinleith Road is a collector road that runs between State Highway 1 and Old Taupo Road around the Kinleith Paper Mill and is 3km long. There have been two serious, four minor and five non-injury crashes reported in the 10 year period 2012 to 2021. The most common factor in the crashes was fatigue with drivers falling asleep.

Figure 49 Kinleith Road crashes



Safety and speed information from MegaMaps shows the following.

#### ***Kinleith Road***

<i>Posted speed limit</i>	100km/hr	<i>Mean Free Flow Speed</i>	47.41km/hr
<i>Safe and Appropriate Speed</i>	80km/hr	<i>Infrastructure Risk Rating</i>	Medium



As this route can be used as an alternative route to state highway a programme of improvement works should be developed to reduce the risk to users. The majority of crashes are loss of control single vehicle crashes with fatigue being a factor, treatments such as edgeline and centreline ATP should be installed.

Due to the number of hazards in the section of Kinleith Road from State Highway 1 to the Mill entrance the speed limit in this area should be lowered.

Figure 50 Kinleith Road proposed speed limit change



### **Recommendation**

The following changes are recommended for Kinleith Road:

- Lower the speed limit to 80km/hr for the section of Kinleith Road from State Highway 1 to Mill entrance.
- Install threshold style treatments at the change in speed limit locations.
- Install edgeline and centreline ATP along the full length of the road.

Further changes to the speed limit on Kinleith Road will need to be considered as part of a wider strategy for the rural roading network.

## 8. Summary

A summary of the recommendations for each road or section of road identified above is tabled below.

Report Section	School / Road Name	Recommendations
2.1.1	Putaruru College	<p>Install a 30km/hr permanent speed limit Junction Street, Riverview Street, Peace Street and Porritt Place.</p> <p>Install school threshold style treatment on Junction Street at the intersection with State Highway 1.</p> <p>Install permanent speed limit signs on Griffiths Street on the approach to Riverview Street.</p> <p>Consider installing pedestrian crossing facilities on Junction Street and Riverview Street.</p>
2.1.2	Te Wharekura o Te Kaokaoroa o Patetere School	<p>Install a permanent 30km/hr speed limit on Charles Crescent between 100m north of Clothier Street and Anna Place.</p> <p>Install school threshold style treatment at the change in speed limit points on Charles Crescent.</p> <p>Consider installing a raised crossing point on Charles Crescent in the vicinity of the school entrance.</p>
2.1.3	St Mary's Catholic School	<p>Install a permanent 30km/hr speed limit on the full length of MacKenzie Street.</p> <p>Install school threshold style treatment at the change in speed limit points on Mackenzie Street.</p> <p>Upgrade the existing crossing point on Mackenzie Street to a raised pedestrian crossing.</p>
2.1.4	Putaruru schools - alternative treatment	<p>Create a 30km/hr residential area encompassing Putaruru College, Te Wharekura o Te Kaokaoroa o Patetere School and St Mary's Catholic Schools and the surrounding residential area in Putaruru.</p> <p>Install a permanent 30 km/hr speed limit on the full length of the following roads: Anne Place, Buckland Street, Central Street, Charles Crescent, Clothier Street, Elizabeth Street, Griffith Street, High Street (Putaruru), Junction Street, Kensington Street (Putaruru), Mackenzie Street, Marchant Street, Margaret Street (Putaruru), Meadow Street, Peace Street, Philip Street (Putaruru), Pit Street, Prospect Street, Riverview Street, Terrace Street, View Street.</p>

Report Section	School / Road Name	Recommendations
		Install permanent speed limit signs on Central Street, Junction Street, Kensington Street (Putaruru), Mackenzie Street, Margaret Street (Putaruru), and Terrace Street approaches to State Highway 1.
2.1.5	Putaruru Primary School	<p>Install a permanent 30km/hr speed limit on the full length of Kennedy Drive and Nola Street.</p> <p>Install school threshold style treatment at the change in speed limit points on Kennedy Drive east of Barnett Street and west of Totara Street.</p> <p>Install speed limit signage on the Barnett Street and Matai Crescent approaches to Kennedy Drive.</p> <p>Upgrade the existing crossing point on Kennedy Drive to a raised pedestrian crossing.</p>
2.2.1	Neal Street	<p>Install a permanent 30km/hr speed limit the full length of the following roads: Cambridge Street, Commerce Street, Commerce Lane and Market Lane.</p> <p>Install a permanent 30km/hr speed limit on Neal Street between State Highway 1 and Anderson Street</p> <p>Install threshold style treatments on Neal Street at the intersection with State Highway 1 and west of Anderson Street.</p> <p>Install permanent speed limit signs on Market Street on the approach to State Highway 1.</p>
3.1.1	Lichfield School	<p>Install a variable 60km/hr speed limit on Lichfield Road from 220m west of Kells Lane to 280m east of Kells Lane</p> <p>Install a permanent 60km/hr speed limit on Kells Lane from Lichfield Road to its end.</p> <p>Install a variable school threshold style treatment at the change in speed limit points on Mackenzie Street.</p>
3.1.2	Te Waotu School	<p>Install a permanent 60km/hr speed limit on the following sections of road:</p> <ul style="list-style-type: none"> <li>o Waotu Road from Lake Arapuni Road to 330m north of Lake Arapuni Road</li> <li>o Lake Arapuni Road – 150m west of Waotu Road to Waotu Road</li> <li>o Wiltsdown Road – Waotu Road to 150m east of Waotu Road.</li> </ul> <p>Install school threshold style treatment at the change in speed limit points on Waotu Road, Lake Arapuni Road and</p>

Report Section	School / Road Name	Recommendations
		Wiltsdown Road
3.2.1	Arapuni Road	<p>Install edgeline and centreline ATP along the full length of the road.</p> <p>Undertake shoulder widening and barrier treatments in appropriate locations.</p> <p>Review existing signage and upgrade as necessary.</p> <p>Install advance and directional marae signage for Mangakaretu marae on both approaches to the marae.</p>
3.2.2	Domain Road	<p>Extend the edgelines on both sides of the road from the existing to RP 1800.</p> <p>Install edge marker posts from on both sides of the road from the old railway line to Harris Road.</p> <p>Install advance and directional marae signage for Whakaaratamaiti marae on both approaches to the marae.</p>
3.2.3	Lake Arapuni Road	<p>Install curve advisory signage on the section of Lake Arapuni Road between Huihuitaha Road (south) and Waotu Road as required.</p> <p>Install advance and directional marae signage for Matiti Pa marae on all approaches to the marae.</p>
3.2.4	Ngatira Road	<p>Lower the speed limit to 60km/hr between RP9350 and the end of the road.</p> <p>Install permanent speed limit signs at RP9350</p> <p>Install advance and directional marae signage for Ngatira marae.</p>
3.2.5	Old Taupo Road	<p>Install edgeline and centreline ATP along the full length of the road.</p> <p>Undertake shoulder widening and barrier treatments in appropriate locations.</p> <p>Review existing curve warning signage and upgrade as necessary.</p>
3.2.6	Waotu Road	<p>Install edgeline and centreline ATP on the section of Waotu Road between Arapuni Road and Old Taupo Road.</p> <p>Install curve advisory signage on the section of Waotu Road between Arapuni Road and Old Taupo Road as required.</p>

Report Section	School / Road Name	Recommendations
3.2.7	Wiltstown Road	<p>Install edgeline and centreline ATP on the full length of Wiltstown Road.</p> <p>Install curve advisory signage on the section of Wiltstown Road between State Highway 1 and Paraonui Road as required.</p> <p>Install advance and directional marae signage for Pikitu marae on both approaches to the marae</p>
4.1.1	Tirau Primary School	<p>South Waikato District Council has no jurisdiction on a State Highway, speed management on State Highways 1 and 27 is the responsibility of Waka Kotahi.</p>
4.3.1	Tapapa Road	<p>Lower the speed limit to 80km/hr for the full length of Tapapa Road.</p> <p>Install permanent speed limit signs at each end of Tapapa Road.</p> <p>Install advance and directional marae signage for Tapapa marae on both approaches to the marae and at the intersections with State Highways 28 and 5.</p>
5.1.1	Kuranui School	<p>Install a variable 60km/hr speed limit on Waiomou Road from 370m east of State Highway 28 to 860m east of State Highway 28.</p> <p>Install school threshold style treatment at the change in speed limit points on Waiomou Road.</p>
5.2.1	Horahora Road	<p>Lower the speed limit to 80km/hr between RP2090 and 4500.</p> <p>Install threshold style treatments at the change in speed limit locations.</p> <p>Install no overtaking lines between RP2090 and 4500.</p> <p>Install edgeline and centreline ATP along the full length of the road.</p> <p>Undertake shoulder widening and barrier treatments in appropriate locations.</p> <p>Review curve warning existing signage and upgrade as necessary.</p>
5.2.2	Okoroire Road	<p>No changes are recommended for Okoroire Road at this time</p>

Report Section	School / Road Name	Recommendations
5.2.3	Sommerville Road	<p>Lower the speed limit to 60km/hr between Okororie Road and RP800.</p> <p>Install threshold style treatments at the change in speed limit locations.</p>
6.1.1	Tokoroa North School	<p>Install a 30km/hr variable speed limit on Paraonui Road from 70m north of Totara Street to Pohutukawa Drive.</p> <p>Install a permanent 30km/hr speed limit on Totara Street, Puriri Place and Kowhai Place.</p> <p>Install variable school threshold style treatment at the change in speed limit points on Paraonui Road.</p> <p>Install permanent speed limit signs on Totara Street at the intersections with Paraonui Road and Baird Road.</p> <p>Upgrade the existing patrolled zebra crossing onto a raised platform.</p>
6.1.2	Forest View High School	<p>Install a 30km/hr variable speed limit on Baird Road from 800m west of Elizabeth Drive to 800m east of Old Taupo Road.</p> <p>Install variable school threshold style treatment at the change in speed limit points on Baird Road.</p> <p>Lower the speed limit to 80km/hr on Baird Road from Old Taupo Road to the existing 50km/hr speed limit.</p> <p>Install permanent speed limit signs on Baird Road at the intersection with Old Taupo Road</p> <p>Create a threshold treatment at the 80/50 speed limit change on Baird Road.</p> <p>Mark cycle symbols on the section of Baird Road between the school and Elizabeth Drive</p>
6.1.3	Tokoroa Central School	<p>Install a permanent 30km/hr speed limit on Clyde Street between Bridge Street and Tay Street.</p> <p>Install school threshold style treatment at the change in speed limit points on Clyde Street.</p> <p>Consider replacing the existing kea crossing with a patrolled zebra crossing on a raised platform.</p>

Report Section	School / Road Name	Recommendations
6.1.4	David Henry School	<p>Install a permanent 30km/hr speed limit on Thompson Street between 60m north of Lancaster Crescent (North) and Fergusson Street.</p> <p>Install school threshold style treatment at the change in speed limit points on Thompson Street.</p> <p>Consider installing a raised crossing point on Thompson Street in the vicinity of the school entrance.</p> <p>Consider creating a 30km/hr residential area encompassing the full length of Fergusson Street, Thompson Street, Lancaster Crescent, York Place, Victoria Place, Maple Place, Oak Place, Kent Street, George Place, Edward Street, Princess Beatrix Avenue, Windsor Place, Mountbatten Place and Edinburgh Street.</p> <p>Install permanent speed limit signs on Thompson Street approach to State Highway 32, and Edward Street and Fergusson Street approaches to Elizabeth Drive.</p>
6.1.5	Tokoroa Intermediate School, Tokoroa High School and Pa Harakeke Teen Parent Unit	<p>Install a 30km/hr variable speed limit on Elizabeth Drive from 50m south of Fergusson Street to 100m north of State Highway 32.</p> <p>Install variable school threshold style treatment at the change in speed limit points on Elizabeth Drive.</p> <p>Install a permanent 30km/hr speed limit on the section of Baillah Street between Duke Street and its end.</p> <p>Install permanent speed limit signs on the Baillah Street approach to Duke Street.</p> <p>Upgrade the existing patrolled zebra crossing onto a raised platform.</p>
6.1.6	Strathmore School	<p>Install a permanent 30km/hr speed limit on the full length of Strathmore Drive, Dunbar Place, Dunkeld Place, Alloa Place, Lauriston Street and Kenmore Place</p> <p>Install permanent speed limit signs at each end of Strathmore Drive.</p> <p>Upgrade the existing patrolled zebra crossing onto a raised platform.</p> <p>Install a 30km/hr variable speed limit on St Andrews Drive from Montrose Place to 40m north of Kinross Place.</p> <p>Install variable school threshold style treatment at the change in speed limit points on St Andrews Drive.</p> <p>Consider replacing the existing kea crossing on St Andrews Drive with a patrolled zebra crossing on a raised</p>

Report Section	School / Road Name	Recommendations
		platform.
6.1.7	TKKM o Te Hiringa, Tainui Full Primary and Cargill Open Plan Schools	<p>Install a permanent 30km/hr speed limit on the full length of all roads to the south of Balmoral Drive between State Highway 32 and the railway line. Roads include: Aberfoyle Place, Arawa Crescent, Arran Place, Benalder Crescent, Benmohr Place, Cargill Street, Glendevon Place, Grampian Street (east), Grampian Street (south), Kahu Street, Kaka Crescent, Kereru Street, Kiwi Street, Koreke Place, Korimako Place, Koropio Place, Kotuku Place, Kuku Place, Matata Place, Moa Place, Morvern Crescent, Ngatuku Place, Pateke Place, Piopio Place, Poaka Place, Pukeko Place, Ruru Place, Tainui Street, Takaha Place, Tarapunga Place, Tararua Place, Tieke Place, Toroa Place, Waianiwa Place, Waiiti Place, Waikato Place, Waimate Crescent, Waimea Place, Waipapa Street, Waipuna Place, Wairakei Place, Wairoa Place, Waitangi Place and Waitara Place.</p> <p>Install permanent speed limit signs Arawa Crescent, Kahu Street, Tainui Street, Kotuku Place, Morven Crescent (east and west), Arran Place, Grampian Street (east) and Benalder Crescent (east and west) at their intersection with Balmoral Drive.</p> <p>Install school threshold style treatments on Tainui Street on the approaches to TKKM o Te Hiringa and Tainui Full Primary school and on Grampian Street (east) either side of Cargill Open Plan School.</p> <p>Upgrade the existing three patrolled zebra crossings onto raised platforms. Consider relocating the crossing on Grampian Street (east) closer to the reserve for better connectivity.</p> <p>Install a raised platform on Tainui Street south of Balmoral Drive.</p> <p>Consider installing multiple pedestrian crossing facilities (side or central islands) on Arawa Crescent at various locations to provide pedestrian connection to the reserve area and assist with speed management.</p>
6.1.8	Bishop Edward Gaines Catholic School	<p>Install a permanent 30km/hr speed limit on Mossop Road from State Highway 1 to 150m east of Pelliken Place.</p> <p>Install permanent speed limit signs on Mossop Road at the intersection with State Highway 1.</p>



Report Section	School / Road Name	Recommendations
		<p>Install school threshold style treatment at the change in speed limit 150m east of Pelliken Place.</p> <p>Install a footpath on the southern side of Mossop Road between State Highway 1 and Pelliken Place.</p> <p>Install a raised platform on Mossop Road east of the access to the Catholic Church to provide for pedestrian connection and as a speed management treatment.</p> <p>Reconfigure the road layout to provide for a flush median on Mossop Road between State Highway 1 and the threshold 150m east of Pelliken Place.</p> <p>Install advance and directional marae signage for Papa o te Aroha marae on both approaches to the marae</p>
6.1.9	Amisfield School	<p>Install a permanent 30km/hr speed limit on Moffat Road from State Highway 1 to Lochmaben Road.</p> <p>Install school threshold style treatment on Moffat Road east of the intersection with State Highway 1</p> <p>Install permanent speed limit signs on Moffat Road at the intersections with Dumfries Road and west of Lochmaben Road.</p> <p>Install a raised platform on Moffat Road west of Dumfries Road in the vicinity of the pedestrian access from the school to provide for pedestrian connection and as a speed management treatment.</p>
6.2	Tokoroa	<p>Install a permanent 30km/hr speed limit the full length of the following roads: Bonaly Street, Bonaly Lane, Leith Lane, Leith Place, Logan Street, Logan Lane, O'Sullivan Drive, Rosebery Lane, Rosebery Street, and Swanston Street.</p> <p>Install a permanent 30km/hr speed limit the following sections of road:</p> <ul style="list-style-type: none"> <li>o Bridge Street – State Highway 1 to Campbell Street</li> <li>o Campbell Street – Logan Street to Bridge Street</li> <li>o Mannering Street – Logan Street to Bridge Street</li> <li>o Roslin Street – Swanston Street to O'Sullivan Drive</li> <li>o Torphin Crescent – Roslin Street to O'Sullivan Drive</li> </ul>

Report Section	School / Road Name	Recommendations
		<p>Install permanent speed limit signs on; Commerce Street, Mannering Street and Campbell Street approaches to Logan Street; Bridge Lane and Dreghorn Place approaches to Mannering Street; and O'Sullivan Drive and Roslin Street approaches to Swanston Street.</p> <p>Install a town centre threshold treatment on Bridge Street at Campbell Street and on Logan Street, Bridge Street and Swanston Street adjacent to their intersection with State Highway 1.</p>
6.3.1	Dalmeny Street	No changes are recommended for Dalmeny Street at this time
6.3.2	Papanui Street	No changes are recommended for Papanui Road at this time however consideration should be given to additional safety improvements at the Bridge Road/Papanui Road intersection.
6.3.3	Pellikan Road / Dumfries Road	<p>Install a permanent 50km/hr speed limit on Pellikan Road and the extension of Dumfries Road.</p> <p>Install permanent speed limit signs on Pellikan Road at the intersection with Mossop Road.</p> <p>Install pedestrian crossing points either side of the cemetery to provide defined crossing points between the on-street parking and the cemetery. Alternatively switch the on-street parking to the access from the eastern side of the road and use the change in road alignment to create a traffic calming feature.</p> <p>Monitor vehicle speeds and investigate other speed management features as required.</p>
7.1.1	Kinleith Road	<p>Lower the speed limit to 80km/hr for the section of Kinleith Road from State Highway 1 to the mill entrance.</p> <p>Install threshold style treatments at the change in speed limit locations.</p> <p>Install edgeline and centreline ATP along the full length of the road.</p>

# Appendices

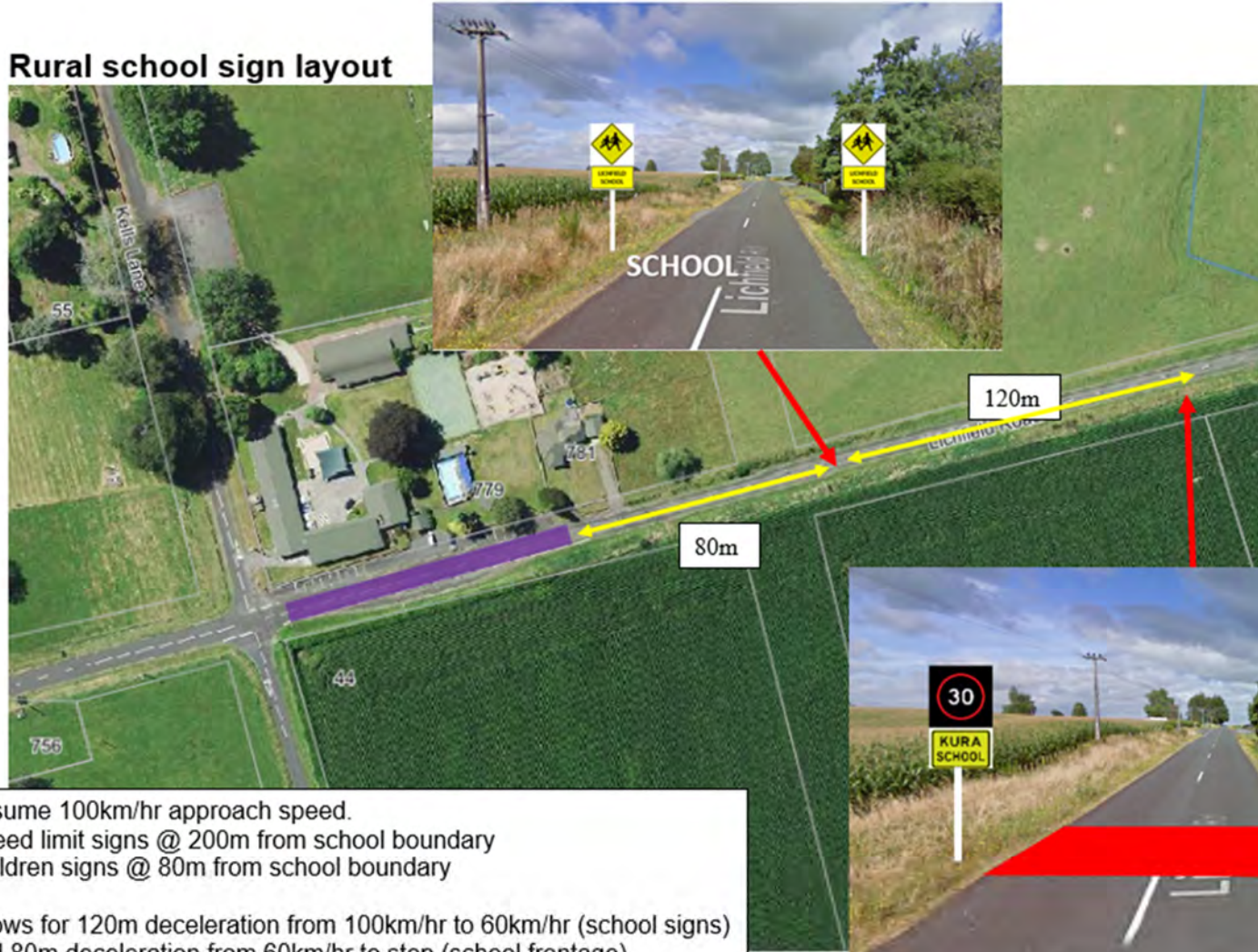


## Appendix A – Example threshold layouts

## Settlement thresholds



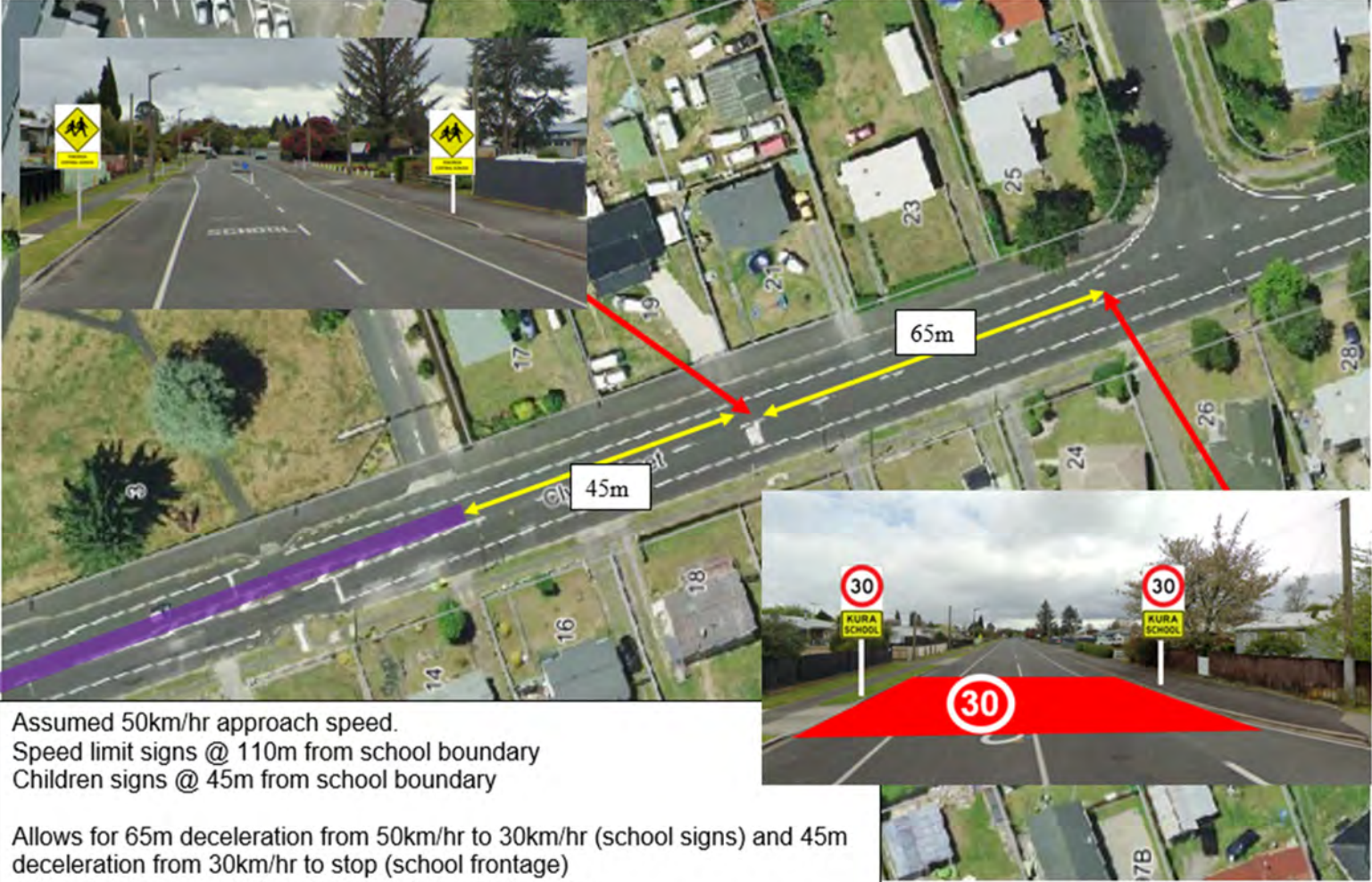
## Rural school sign layout



Assume 100km/hr approach speed.  
Speed limit signs @ 200m from school boundary  
Children signs @ 80m from school boundary

Allows for 120m deceleration from 100km/hr to 60km/hr (school signs)  
and 80m deceleration from 60km/hr to stop (school frontage)  
Add school name supplementary plate to children sign.

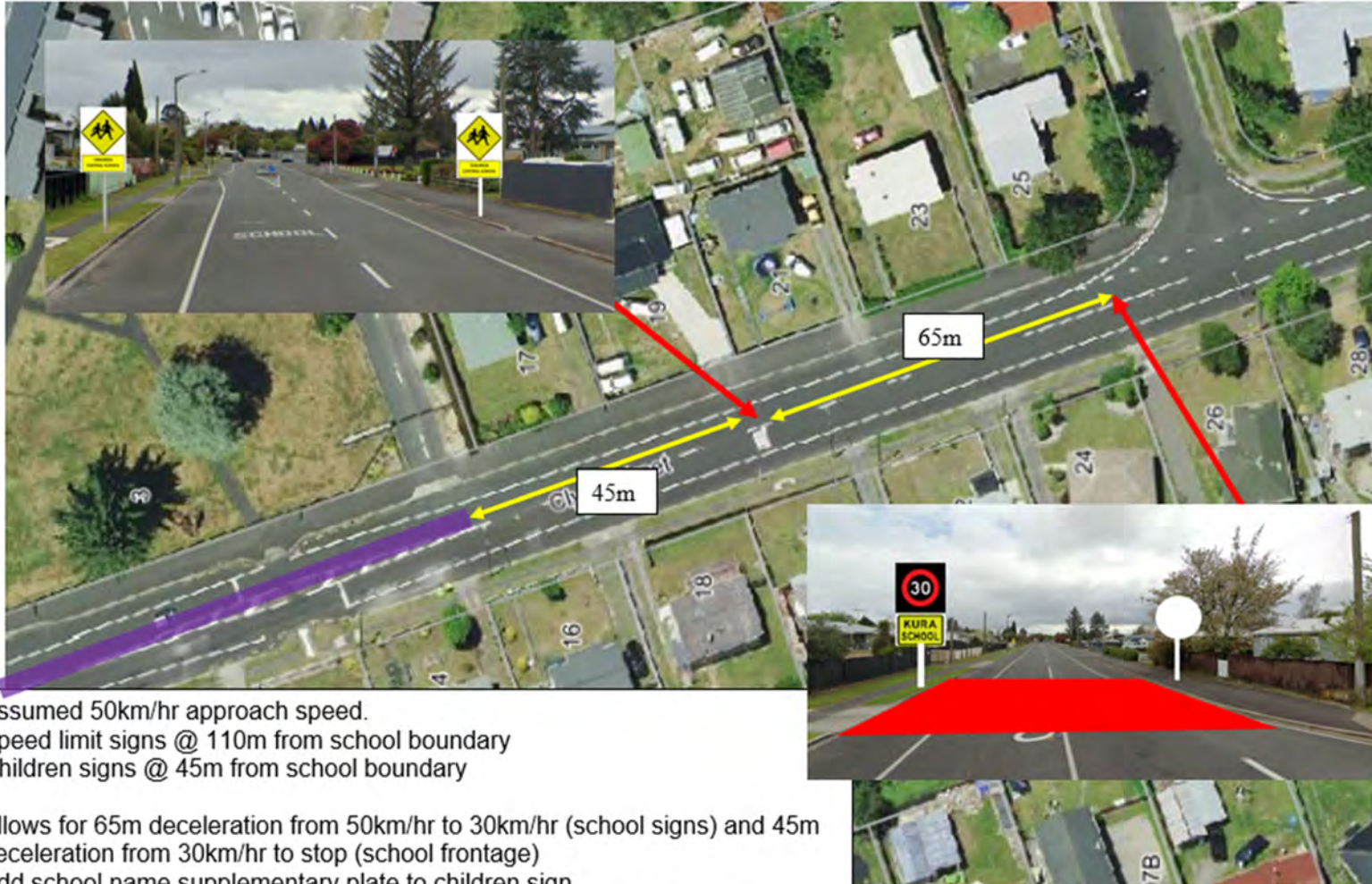
# Urban school – permanent speed sign layout



Assumed 50km/hr approach speed.  
Speed limit signs @ 110m from school boundary  
Children signs @ 45m from school boundary

Allows for 65m deceleration from 50km/hr to 30km/hr (school signs) and 45m deceleration from 30km/hr to stop (school frontage)  
Add school name supplementary plate to children sign.  
If there is a zebra crossing present, use crossing sign in place of children sign.

## Urban school – variable speed sign layout



Assumed 50km/hr approach speed.

Speed limit signs @ 110m from school boundary

Children signs @ 45m from school boundary

Allows for 65m deceleration from 50km/hr to 30km/hr (school signs) and 45m deceleration from 30km/hr to stop (school frontage)

Add school name supplementary plate to children sign.

If there is a zebra crossing present, use crossing sign in place of children sign.



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