



Speed Management Plan - Technical Assessment

Prepared for
Carterton District Council

Prepared by
Tonkin & Taylor Ltd

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1 Background

Carterton District Council (the 'Council') and South Wairarapa District Council are developing a Speed Management Plan with a 10-year vision and three-year implementation plan for both districts, as required by the Land Transport Rule: Setting of Speed Limits 2022. 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.

Tonkin & Taylor Limited (T+T) was engaged by the Council to develop a technical assessment of the roads proposed for speed limit changes as part of the Speed Management Plan. These roads are around schools (including preschools) and marae, and roads with local priority that have been collated to form an implementation plan in the next three years (2024-2027).

Changes to speed limits will be on-going as development in the district continues and to achieve alignment with the Road to Zero Action Plan¹ 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 Speed Management Plan provides the ten-year vision that contains objectives, principles and measures, aligns with the Government Policy Statement and Road to Zero road strategy and adopts the whole of network approach. The Speed Management Plan will be reviewed every three years in alignment with the National Land Transport Programme 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 filtering process included a number of criteria such as personal or collective risks (medium or above), Infrastructure Risks Rating (medium-high or above) and difference between posted speed limit and Safe and Appropriate Speed (30km/h or higher). The flowchart of the initial filtering process can be found in Figure 4.1 of the Speed Management Plan. However due to the legislative requirements and public desire for safe speed limits around schools and marae, these locations are prioritised in the first instance along with those local priority roads identified by the Council.

By 2027, Council will be required to have reduced the speed limits in the vicinity of all 14 schools within both districts to a maximum of 30km/hr for urban schools or 60km/hr for rural schools in either variable or permanent. Roads around marae are one of the focuses for safe and appropriate speed to emphasise the site-specific needs on the corridor.

The intention is for the plan to be reviewed every three years in alignment with the National Land Transport Programme 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 2023. Summary tables of the proposed speed limit changes are available in the Speed Management Plan as Table 5.1 and Table 5.2.

1.1 Speed management reviews

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

- Roads within close proximity of a school.

¹ Road to Zero Action Plan 2020-2022: https://www.transport.govt.nz/assets/Uploads/Report/Road-to-Zero-Action-Plan_Final.pdf

- Roads with a frontage to a marae.
- Roads with local priority identified by the Council.

Setting safe speed limits around all schools and marae improves actual and perceived safety to encourage and enable more active travel to and from school which is important for healthy communities. It also reduces the risk to tamariki and whānau of being killed or seriously injured while travelling to or from school or participating events at the marae. The Council, as the road controlling authority, has the local knowledge of their road network and these roads are selected as the priority for implementation in the next three years.

Each of the roads / locations identified are listed in Sections 2 and 3, with additional information and their assessment as well as details of any adjacent roads or sections of road that were included in the review. The methodology for the technical assessment can be found in the Interim Speed Management Plan.

1.2 Signs and road marking

A speed limit sign must be located on the left-hand side of a road at or near and not more than 20m from the point on the road where a speed limit changes. Repeater signs are generally used where the speed limit is above 50km/h and below 100km/h. The recommended maximum intervals between speed limit signs are:

- 2.0km when the speed limit is 60km/h.
- 2.4km when the speed limit is 70km/h.
- 2.7km when the speed limit is 80km/h.
- 3.0km when the speed limit is 90km/h.

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 (e.g., traffic calming and other engineering upgrades) have been identified for specific locations. Where traffic calming is recommended and for rural roads where the mean operating speed is higher than the proposed speed limit, the Waka Kotahi Standard Safety Intervention Toolkit² contains reference to detailed industry design resources for interventions that align to the appropriate treatments for Road to Zero funding.

² The Standard Safety Intervention toolkit provides guidance for road safety practitioners on the effectiveness and value-for-money cost range of proven safety interventions to reduce the number of people killed and seriously injured: <https://www.nzta.govt.nz/resources/standard-safety-intervention-toolkit/>

2 Schools and marae

There are five schools and one marae within Carterton District Council area for which the speed limit needs to be lowered to comply with the Land Transport Rule: Setting of Speed Limits 2022. The following sections consider the current use of the roads around each school and marae and proposes speed limits and any other measures to assist with safety and accessibility.

2.1 Carterton School

Carterton School is a full primary school (Year 0 – 8) and the access is located at where Dixon Street and Holloway Street intersect. There is a pedestrian crossing and school bus zone near this access on Dixon Street. Footpaths are available on both sides on Dixon Street, Holloway Street and Tyne Street. A footpath is only available on the southwestern wide of Nelson Crescent. Cycling facilities are not available on any of these streets.



Figure 2.1: Carterton School area

The speed information for roads near Carterton School from MegaMaps³ is shown in Table 2.1.

³ MegaMaps is a geospatial tool which contains speed management information and guidance for road network of each road controlling authority. <https://www.nzta.govt.nz/safety/partners/speed-and-infrastructure/safe-and-appropriate-speed-limits/mega-maps/>

Table 2.1: Speed information for roads near Carterton School

	Dixon Street	Holloway Street	Nelson Crescent	Tyne Street
AM peak mean speed	14 km/h	11 km/h	17 km/h	17 km/h
PM peak mean speed	16 km/h	12 km/h	16 km/h	17 km/h
Mean operating speed	20 km/h	18 km/h	20 km/h	17 km/h
Posted speed limit	50 km/h	50 km/h	50 km/h	50 km/h
Proposed speed limit	30 km/h	30 km/h	30 km/h	30 km/h

To improve the survivability of crashes involving pedestrians and cyclists, an impact speed of 30km/h or below is considered to be the safe and appropriate speed for vulnerable users. All of these streets around Carterton School have mean operating speeds of 20km/h or below. The school zone currently has an advisory speed of 40km/h speed limit when children are present rather than legal speed limit signs in school zones, as shown in Figure 2.2



Figure 2.2: Example of an advisory school zone speed limit on Dixon Street (Source: Google Maps)

The speed limits for Dixon Street, Nelson Crescent and Tyne Street are proposed to be 30km/h which aligns with the Safe and Appropriate Speed (SaAS) and enhances the residential nature in the area. The SaAS for Holloway Street is 10km/h which is the SaAS for Civic Spaces in the ONF category. However, Holloway Street is not a mixed environment and there are multiple speed humps (with an advisory speed of 20km/h) to reduce the operating speed of the vehicles. Therefore, the speed limit is proposed to be 30km/h which also provides consistency with the other streets in the area.

The following change is recommended for the streets near Carterton School:

- Lower the speed limit to 30km/h on Dixon Street, Holloway Street, Nelson Crescent and Tyne Street.
- Install speed limit threshold signs and update other speed limit signs as required, including the legal speed limit sign and consideration of adding warning signs in the school zone, as shown in Figure 2.3.



Figure 2.3:W19-2.1 Warning – symbol illuminated when activated (Kura School) — Permanent warning

2.2 St Mary's School

St Mary's School is a full primary school (Year 0 – 8) and the access is located on King Street. Fairbrother Street is not included in the school zone, but this road is a part of the school cycle trail. There is a designated school bus stop outside this access. A pedestrian crossing is available near the intersection of King Street and State Highway 2. Footpaths are available on both sides of King Street and there is no pedestrian crossing facility or cycling facility.



Figure 2.4: St Mary's School area

The speed information for roads near Carterton School from MegaMaps is shown in Table 2.2.

Table 2.2: Speed information for roads near St Mary's School

	King Street	Fairbrother Street
AM peak mean speed	20 km/h	-
PM peak mean speed	25 km/h	-
Mean operating speed	26 km/h	30 km/h
Posted speed limit	50 km/h	50 km/h
Proposed speed limit	30 km/h	30 km/h

To improve the survivability of crashes involving pedestrians and cyclists, an impact speed of 30km/h or below is considered to be the safe and appropriate speed for vulnerable users. King Street has a mean operating speed of 26km/h which indicates that half of the vehicles travel above 26km/h on King Street. The school zone currently has an advisory speed of 40km/h speed limit when children are present (rather than legal speed limit signs) in school zones. These signs are located on State Highway 2 near Richmond Road.

The speed limit for King Street is proposed to be 30km/h which aligns with the SaAS and enhances the residential nature in the area. The width of King Street is approximately 13.5 metres and there are no formalised crossing points for pedestrians or any traffic calming features to reduce operating speed.

Fairbrother Street meets the criteria of neighbourhood greenways (also known as 'quiet streets'). Neighbourhood greenways are streets with low volumes of motor traffic travelling at low speeds; this creates a pleasant cycling environment, without requiring specific cycle facilities. Neighbourhood greenways should have motor vehicle volumes of no higher than 1,500-2,000 vehicles/day (and 150-200 vehicles in the peak hour), and vehicle speeds no higher than 30 km/h. Currently, about half of the vehicles are travelling at 30km/h or below on Fairbrother Street. The speed environment on Fairbrother Street should be reviewed for consideration of further traffic calming features to reduce the operating speeds.

The following change is recommended for the streets near St Mary's School:

- Lower the speed limit to 30km/h on King Street.
- Install speed limit threshold signs and update other speed limit signs as required, including the legal speed limit sign and consideration of adding warning signs in the school zone, as shown in Figure 2.3.
- Liaise with Waka Kotahi and discuss the replacement of signs on State Highway 2.
- Review pedestrian access near the school entrance on King Street and consider formalising crossing points (e.g., kerb build-outs) to reduce crossing distance and traffic calming features to further reduce the operating speed for pedestrian safety.
- Monitor the operating speed on Fairbrother Street and consider traffic calming features to ensure more vehicles are travelling at the proposed speed limit of 30km/h or lower for a safe cycling environment.

2.3 Ponatahi Christian School

Ponatahi Christian School is a composite school which provides primary, intermediate and secondary education. The school zone encompasses Deller Drive and Howard Street, with access located on

Howard Street. Fairbrother Street is not included in the school zone, but this road is a part of the school cycle trail. Footpaths are available on both sides of Howard Street, Deller Drive and Fairbrother Street. There is no pedestrian crossing facility or cycling facility on these roads or State Highway 2.



Figure 2.5: Ponatahi Christian School area

The speed information for roads near Ponatahi Christian School from MegaMaps is shown in Table 2.3.

Table 2.3: Speed information for roads near Ponatahi Christian School

	Howard Street	Deller Drive	Fairbrother Street
AM peak mean speed	15 km/h	17 km/h	-
PM peak mean speed	16 km/h	17 km/h	-
Mean operating speed	17 km/h	17 km/h	30 km/h
Posted speed limit	50 km/h	50 km/h	50 km/h
Proposed speed limit	30 km/h	30 km/h	30 km/h

To improve the survivability of crashes involving pedestrians and cyclists, an impact speed of 30km/h or below is considered to be the safe and appropriate speed for vulnerable users. Howard Street and Deller Drive have a mean operating speed of 17km/h. The school zone currently has an advisory speed of 40km/h speed limit when children are present rather than the legal speed limit signs in school zones. These signs are located on State Highway 2 near the Richmond Road intersection (240

metres northeast of Howard Street) and Moreton Road intersection (580 metres southwest of Howard Street).

The speed limits for Howard Street and Deller Drive are proposed to be 30km/h which aligns with the SaAS and enhances the residential nature in the area. The width of Howard Street is approximately 13 metres but there is no formalised crossing point for pedestrians.

Fairbrother Street meets the criteria of neighbourhood greenways (also known as 'quiet streets'). Neighbourhood greenways are streets with low volumes of motor traffic travelling at low speeds; this creates a pleasant cycling environment, without requiring specific cycle facilities.

Neighbourhood greenways should have motor vehicle volumes of no higher than 1,500-2,000 vehicles/day (and 150-200 vehicles in the peak hour), and vehicle speeds no higher than 30 km/h. Currently, about half of the vehicles are travelling at 30km/h or below on Fairbrother Street. The speed environment on Fairbrother Street shall be review for consideration of further traffic calming features to reduce the operating speeds.

The following change is recommended for the streets near Ponatahi Christian School:

- Lower the speed limit to 30km/h on Howard Street and Deller Drive.
- Install speed limit threshold signs and update other speed limit signs as required, including the legal speed limit sign and consideration of adding warning signs in the school zone, as shown in Figure 2.3. Consider installing warning signs near the Howard Street intersections as the nearest school zone and pedestrian signs are at least 240 metres away.
- Review the pedestrian access near the school entrance on Howard Street and desirable crossing point on State Highway 2 with Waka Kotahi. Consider formalising crossing points (e.g., kerb build-outs and pedestrian crossing) to reduce crossing distance and traffic calming features for pedestrian safety.
- Monitor the operating speed on Fairbrother Street and consider traffic calming features to ensure more vehicles are travelling at 30km/h or lower for a pleasant cycling environment.

2.4 South End School

South End School is a full primary school (Year 0 – 8). There are two accesses on State Highway 2, one access for pedestrians and the other access for vehicles only. A raised pedestrian crossing is available near the pedestrian access to the school on State Highway 2. The existing school zone also includes Brooklyn Road between State Highway 2 and 95m northwest of State Highway 2. Footpaths are available on both sides of Brooklyn Road but no pedestrian crossing facility or cycling facility.



Figure 2.6: South End School area

The speed information for roads near South End School from MegaMaps is shown in Table 2.4.

Table 2.4: Speed information for roads near South End School

	Brooklyn Road between SH2 and 95m northwest of SH2
AM peak mean speed	31 km/h
PM peak mean speed	28 km/h
Mean operating speed	33 km/h
Posted speed limit	50 km/h
Proposed speed limit	30 km/h

To improve the survivability of crashes involving pedestrians and cyclists, an impact speed of 30km/h or below is considered to be the safe and appropriate speed for vulnerable users. Brooklyn Road has a mean operating speed of 33km/h which indicates more than half of the vehicles are travelling at 30km/h or higher. The school zone currently has an advisory speed of 40km/h speed limit when children are present rather than the legal speed limit signs in school zones. On State Highway 2, these signs are located near the Richmond Road intersection (240 metres northeast of Howard Street) and Moreton Road intersection (580 metres southwest of Howard Street). On Brooklyn Road, the sign is located at 95m northwest of State Highway 2.

The speed limit for Brooklyn Road between SH2 and 95m northwest of SH2 is proposed to be 30km/h which aligns with the SaAS and enhances the residential nature in the area. The width of

Brooklyn Road is approximately 9 metres and there are no traffic calming features or cues for a lower speed environment available.

The following change is recommended for the road near South End School:

- Lower the speed limit to 30km/h on Brooklyn Road.
- Install speed limit threshold signs and update other speed limit signs as required, including the legal speed limit sign and consideration of adding warning signs in the school zone, as shown in Figure 2.3.
- Liaise with Waka Kotahi and discuss the replacement of signs on State Highway 2.
- Review and consider formalising crossing points (e.g., kerb build-outs) to reduce crossing distance and traffic calming features (e.g. speed humps) to reduce the operating speed for pedestrian safety on Brooklyn Road.

2.5 Dalefield School

Dalefield School is a full primary school (Year 0 – 8) located at the corner of Dalefield Road and Thomas Road. The school zone also includes Watersons Line. There are accesses on both Dalefield Road and Thomas Road. The school seems to have no on-site parking as cars are parked on Thomas Road. Footpaths, pedestrian crossing facilities and cycling facilities are not available on the roads in the school zone.



Figure 2.7: Dalefield School area

The speed information for roads near Dalefield School from MegaMaps is shown in Table 2.5.

Table 2.5: Speed information for roads near Dalefield School

	Dalefield Road between 85m southeast of Thomas Road and 175m northwest of Thomas Road	Watersons Line between Dalefield Road and 95m southwest of Dalefield Road	Thomas Road between Dalefield Road and 200m northeast of Dalefield Road
AM peak mean speed	55-60 km/h	49 km/h	46 km/h
PM peak mean speed	55-57 km/h	49 km/h	46 km/h
Mean operating speed	58-61 km/h	52 km/h	44 km/h
Posted speed limit	100 km/h	100 km/h	100 km/h
Proposed speed limit	60 km/h (30 km/h variable speed limit (VSL))	60 km/h (30 km/h VSL)	60 km/h (30 km/h VSL)

A fatal side-impact crash occurred in 2020 at the intersection of Dalefield Road, Watersons Line and Thomas Road. Even though speed was not identified as a factor to the crash, there is a 10% risk that a person in a safe car will be killed at speed of up to 45–50km/h in a side impact crash while the risk increases to 80% at the impact speed of 70km/h⁴. Therefore, there is priority to reduce the speed limit and operating speed at and near this intersection.

The speed limit is proposed to be 60km/h with variable speed limit of 30km/h during school pick-up and drop-off times at school terms on these sections of roads. This aligns with the requirements of safe speed limit around school outlined in the Setting of Speed Limit Rule 2022.

The following changes are recommended for roads around Dalefield School:

- Lower the permanent speed limit from 100km/h to 60km/h and Introduce school zone variable speed limit of 30km/h during school drop-off and pick-up hours at:
 - Dalefield Road between 85m southeast of Thomas Road and 175m northwest of Thomas Road;
 - Watersons Line between Dalefield Road and 95m southwest of Dalefield Road.
 - Thomas Road between Dalefield Road and 200m northeast of Dalefield Road.
- Install speed limit threshold signs and update other speed limit signs as required.
- Consider implementing traffic calming features (e.g., speed humps) to reduce the operating speed on Dalefield Road, particularly at the AM and PM peaks.

2.6 Gladstone School

Gladstone School is a full primary school (Year 0 – 8) on Te Whiti Road. The access is located on Fitzherbert Street, a side road of Te Whiti Road. Footpaths, pedestrian crossing facility and cycling facility are not available on the roads near the school. There are warning signs and road marking at both ends of the school zone on Te Whiti Road but there is no lower speed limit applied at the school zone.

⁴ Transport for NSW Speed Factsheet: <https://roadsafety.transport.nsw.gov.au/downloads/speed-fact-sheet.pdf>

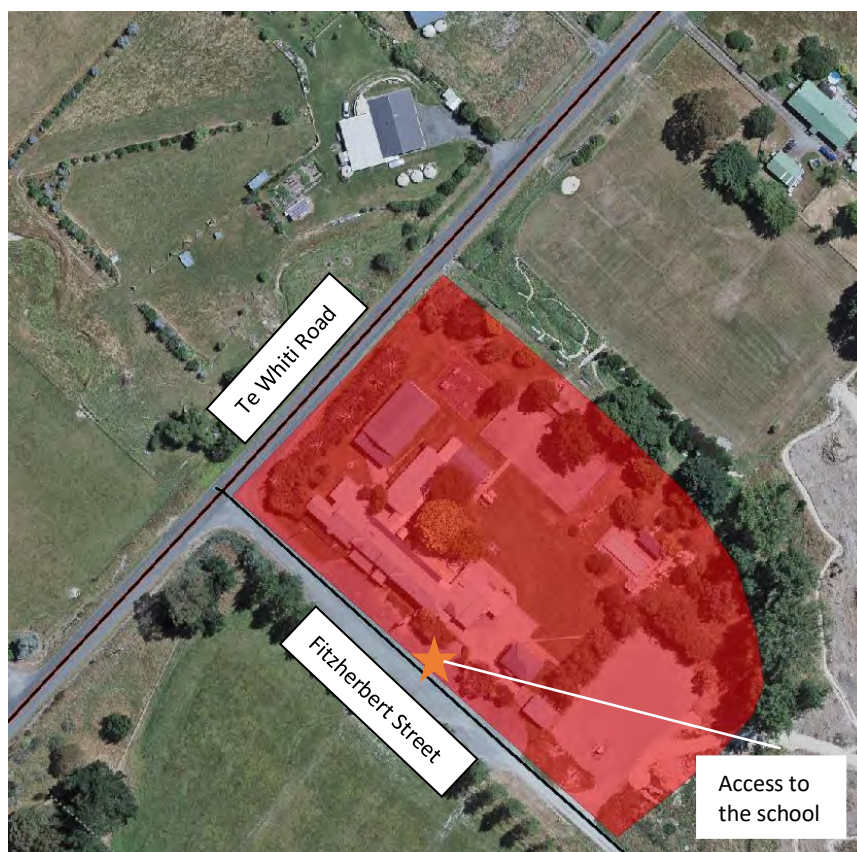


Figure 2.8: Gladstone School area

The speed information for roads near Gladstone School from MegaMaps is shown in Table 2.6.

Table 2.6: Speed information for roads near Gladstone School

	Te Whiti Road between 140m southwest of Brooklands Road and 95m southwest of Fitzherbert Street	Fitzherbert Street
AM peak mean speed	80 km/h	36 km/h
PM peak mean speed	83 km/h	36 km/h
Mean operating speed	91 km/h	36 km/h
Posted speed limit	100 km/h	100 km/h

Te Whiti Road between 140m southwest of Brooklands Road and 95m southwest of Fitzherbert Street is categorised as a Peri-urban Road in the ONF. Megamaps recommends the speed limit to be 60km/h for Peri-urban Road. The speed limit is proposed to be reduced to 60km/h to align with the SaAS as this section of Te Whiti Road does not satisfy the criteria for a higher or lower SaAS. A variable speed limit of 30km/h shall also be installed and activated during drop-off and pick-up periods. Given the high operating speed at all times of the day, traffic calming features are recommended to reduce the operating speed on Te Whiti Road.

Fitzherbert Street is a side road in this section of Te Whiti Road. It provides access to the carpark where pedestrian activities are expected. The speed limit is proposed to be 30km/h. Traffic calming features are needed to reduce the operating speed for compliance.

The following changes are recommended for roads around Dalefield School:

- Lower the permanent speed limit from 100km/h to 60km/h and introduce school zone variable speed limit of 30km/h during school drop-off and pick-up hours at:
 - Te Whiti Road between 140m southwest of Brooklands Road and 95m southwest of Fitzherbert Street.
 - Fitzherbert Street.
- Install speed limit threshold signs and update other speed limit signs as required.
- Consider implementing traffic calming features to reduce the operating speed and make the environment safer on Te Whiti Road and Fitzherbert Street.

2.7 Carterton Preschool Limited and Carterton Playcentre

Carterton Preschool Limited and Carterton Playcentre are located at 188-190 Belvedere Road. The preschool can be accessed from Belvedere Road and Howard Booth Park (driveway for Carterton Holiday Park). Footpaths are available on both sides in this section of Belvedere Road. There is no pedestrian crossing facility or dedicated cycling facility. The existing speed limit is 50km/h. The section of Belvedere Road between Augustus Street and Taylor Street is categorised as Activity Street in the ONF. The information from MegaMaps is shown in Table 2.7.

Table 2.7: Megamaps information for road near Carterton Preschool and Playcentre

	Belvedere Road between Augustus Street and Taylor Street
Posted speed limit	50 km/h
Mean operating speed	47 km/h
SaAS	30 km/h
Infrastructure Risk Rating	Medium
One Network Framework	Activity Street
Proposed speed limit	50 km/h (30km/h VSL)

MegaMaps indicates that Belvedere Road between Augustus Street and Taylor Street should have a speed limit of 30km/h. This section of Belvedere Road currently has an operating speed of 47km/h which indicates low likelihood of compliance with the SaAS of 30km/h. For consistency with the existing speed limit of 50km/h on the rest of Belvedere Road, the permanent speed remains at 50km/h and will be reviewed in the future. A variable speed limit of 30km/h is recommended during pick-up and drop-off periods for the preschool. Variable speed limit signs and warning signs are recommended to be installed.

2.8 Just Us Kids Preschool

Just Us Kids Preschool is located at 36 Victoria Street. The preschool can be accessed from Victoria Street. Footpaths are available on both sides in this section of Victoria Street. There is no pedestrian crossing facility or dedicated cycling facility. The existing speed limit is 50km/h. The section of Victoria Street between Fisher Place (northeast approach) and Porritt Place is categorised as Local Street in the ONF. The information from MegaMaps is shown in Table 2.8.

Table 2.8: Megamaps information for road near Just Us Kids Preschool

	Victoria Street between Fisher Place (northeast approach) and Porritt Place
Posted speed limit	50 km/h
Mean operating speed	36 km/h
SaAS	30 km/h
Infrastructure Risk Rating	Low Medium
One Network Framework	Local Street
Proposed speed limit	50 km/h (30 km/h VSL)

MegaMaps indicates that Victoria Street between Fisher Place (northeast approach) and Porritt Place should have a speed limit of 30km/h. This section of Victoria Street currently has an operating speed of 47km/h which indicates low likelihood of compliance with the SaAS of 30km/h. For consistency with the existing speed limit of 50km/h on the rest of Victoria Street, the permanent speed remains at 50km/h and will be reviewed in the future. A variable speed limit of 30km/h is recommended during pick-up and drop-off periods for the preschool. Variable speed limit signs and warning signs are recommended to be installed.

2.9 He Pouanmu Early Nurture

He Pouanmu Early Nurture is located at 683 Dalefield Road. The preschool can be accessed from Dalefield Road. Given the surrounding rural environment, there is no pedestrian facility or dedicated cycling facility. The existing speed limit is 100km/h. This section Dalefield Road is categorised as Stopping Place in the ONF. The information from MegaMaps is shown in Table 2.9.

Table 2.9: Megamaps information for road near He Pouanmu Early Nurture

	Dalefield Road between 665 Dalefield Road and 718 Dalefield Road
Posted speed limit	100 km/h
Mean operating speed	52 km/h
SaAS	60 km/h
Infrastructure Risk Rating	Medium
One Network Framework	Stopping Place or Rural Road
Proposed speed limit	100 km/h (30 km/h VSL)

MegaMaps indicates that Dalefield Road between 665 Dalefield Road and 718 Dalefield Road should have a speed limit of 60km/h. For consistency with the speed limits on the roads near schools and preschools in Carterton District, a variable speed limit of 30km/h at drop-off and pick-up periods is proposed in this section of Dalefield Road. The permanent speed limit in this section of Dalefield Road remains at 100km/h and will be reviewed in the future. Variable speed limit signs and warning signs are recommended to be installed.

2.10 Hurunui o Rangi marae

Gladstone Road runs between Te Whiti Road and Carters Line in Carterton District. The Hurunui o Rangi marae is located at 457 Gladstone Road. There is a small sign on the road to identify the marae but there is no advance warning signage or directional signage for the marae.

The information for the road near Hurunui o Rangi marae from MegaMaps is shown in Table 2.10.

Table 2.10: Megamaps information for the road near Hurunui o Rangi marae

	Gladstone Road between Te Whiti Road and 3.4km northwest of Te Whiti Road
Posted speed limit	100 km/h
Mean operating speed	83-85 km/h
SaAS	60 km/h or 80 km/h
Proposed speed limit	80 km/h (30 km/h VSL)

When tangihanga, poukai or hui are held at the marae, the capacity of marae grounds to hold all parked vehicles is insufficient. There are also a shooting sports club and sports complex on this section of Gladstone Road. Therefore, the demand for parking is likely to overflow onto the road and participants need to walk from their cars to the marae ground which generate high pedestrian activities. Pedestrian facilities are not available on Gladstone Road.

A section of Gladstone Road is classified as Stopping Place with a SaAS of 60km/h in MegaMaps. However, this section has identical land use (primarily rural) as the other sections of Gladstone Road and the number of pedestrians and cyclists is likely to be very low. Therefore, the speed limit on Gladstone Road between Te Whiti Road and 3.4km northwest of Te Whiti Road is proposed to be 80km/h to align with the SaAS for Rural Connector. A variable speed limit of 30km/h is also proposed between 1.5km and 3.4km northwest of Te Whiti Road at the time of events with a manual flip-down sign. A cultural marae sign and a marae warning and supplementary – pedestrians are also recommended, as shown in Figure 2.9.



Figure 2.9: Options of cultural marae sign (left) and W16-11 marae warning and supplementary – pedestrians (right)

3 Other local priority roads in Carterton District

3.1 Lincoln Road (between 185m southwest of Victoria Street and Dalefield Road) and Taverner Street

Lincoln Road runs between Dalefield Road and Belvedere Road, parallel to State Highway 2. The information from MegaMaps is shown in Table 3.1.

Table 3.1: Megamaps information for Lincoln Road (between 185m southwest of Victoria Street and Dalefield Road)

	Lincoln Road (between 185m southwest of Victoria Street and Dalefield Road)
Posted speed limit	70 km/h
Mean operating speed	60 km/h
SaAS	40 km/h
Infrastructure Risk Rating	Medium to Medium High
One Network Framework	Urban Connector
Proposed speed limit	50 km/h

MegaMaps indicates that this section of Lincoln Road should have a speed limit of 40km/h. This speed limit is recommended due to the SaAS for Urban Connector is 40km/h. This section of Lincoln Road has an operating speed of 60km/h which indicates low likelihood of compliance with the SaAS of 40km/h. However, a speed limit reduction is needed as the residential area southeast of Lincoln Road intensifies and more pedestrians and cyclists will be present. Therefore, the speed limit is proposed to be 50km/h which is consistent with the rest of Lincoln Road and enhances the residential nature. Traffic calming features are needed to reduce the operating speed for compliance due to the straight alignment of Lincoln Road.

The following changes are recommended for Lincoln Road between 185m southwest of Victoria Street and Dalefield Road:

- Lower the speed limit from 70km/h to 50km/h.
- Install speed limit threshold signs and update other speed limit signs as required.
- Consider implementing traffic calming features to reduce the operating speed.

3.2 Rutland Road

Rutland Road runs between Hilton Road and Park Road, parallel to State Highway 2. The information from MegaMaps is shown in Table 3.2.

Table 3.2: Megamaps information for Rutland Road

	Rutland Road
Posted speed limit	100 km/h
Mean operating speed	55-58 km/h
SaAS	60 km/h
Infrastructure Risk Rating	Medium
One Network Framework	Rural Connector or Stopping Place
Proposed speed limit	60 km/h

MegaMaps indicates that Rutland Road should have a speed limit of 60km/h. Rutland Road has an operating speed of 55-58km/h which indicates the high likelihood of compliance with the SaAS of 60km/h. Reducing the speed limit to 60km/h will align better with the mean operating speed.

The following changes are recommended for Rutland Road:

- Lower the speed limit from 100km/h to 60km/h.
- Install speed limit threshold signs and update other speed limit signs as required.

3.3 Hughes Line

Hughes Line is a side road of State Highway 2 and terminates at 215 metres northeast of Cornwall Road. The information from MegaMaps is shown in Table 3.3.

Table 3.3: Megamaps information for Hughes Line

	Hughes Line
Posted speed limit	100 km/h
Mean operating speed	58-60 km/h between SH2 and Cornwall Road 17 km/h between Cornwall Road and the end
SaAS	60 km/h
Infrastructure Risk Rating	Low Medium between SH2 and East Taratahi Road Medium between East Taratahi Road and Cornwall Road High between Cornwall Road and the end
One Network Framework	Peri-urban Road or Rural Road
Proposed speed limit	60 km/h

MegaMaps indicates that Hughes Line should have a speed limit of 60km/h. Hughes Line has an operating speed of 58-60km/h (except the section between Cornwall Road and the end). However, the operating speed indicates that at least half of the vehicles are travelling at 60km/h or higher. The section of Hughes Line between Cornwall Road and the end has a low operating speed of 17km/h due to the increased number of property accesses. Reducing the speed limit to 60km/h will align better with the mean operating speed on most of sections of the road.

The following change is recommended for Hughes Line:

- Lower the speed limit from 100km/h to 60km/h.
- Install speed limit threshold signs and update other speed limit signs as require.
- Monitor the operating speed on Hughes Line and consider the addition of traffic calming features or speed limit repeater signs.

3.4 Cornwall Road (between SH2 and Hughes Line)

Cornwall Road runs southeast between State Highway 2 and Waingawa River. The information from MegaMaps is shown in Table 3.4.

Table 3.4: Megamaps information for Cornwall Road (between SH2 and Hughes Line)

	Cornwall Road between SH2 and Hughes Line
Posted speed limit	100 km/h
Mean operating speed	54 km/h
SaAS	60 km/h
Infrastructure Risk Rating	Medium
One Network Framework	Rural Connector
Proposed speed limit	60 km/h

MegaMaps indicates that Cornwall Road (between SH2 and Hughes Line) should have a speed limit of 60km/h. Cornwall Road (between SH2 and Hughes Line) has an operating speed of 54km/h which indicates the high likelihood of compliance with the SaAS of 60km/h. Reducing the speed limit to 60km/h will be consistent with the proposed speed limit on Hughes Line and align better with the mean operating speed.

The following changes are recommended for Cornwall Road (between SH2 and Hughes Line):

- Lower the speed limit from 100km/h to 60km/h.
- Install speed limit threshold signs and update other speed limit signs as required.

3.5 East Taratahi Road (between SH2 and Hughes Line)

East Taratahi Road runs southeast between State Highway 2 and Dakins Road. Dakins Road and Woodlands North Road are side roads off East Taratahi Road. The information from MegaMaps is shown in Table 3.5.

Table 3.5: Megamaps information for East Taratahi Road between SH2 and Hughes Line

	East Taratahi Road between SH2 and Hughes Line
Posted speed limit	100 km/h
Mean operating speed	84 km/h
SaAS	60 km/h
Infrastructure Risk Rating	Medium
One Network Framework	Rural Connector
Proposed speed limit	60 km/h

East Taratahi Road (between SH2 and Hughes Line) has a high operating speed of 84km/h which indicates low likelihood of compliance with the SaAS of 60km/h. The higher operating speed is likely caused by the straight road alignment, marked centreline and edge marker posts, and lack of cues for a low-speed environment. Reducing the speed limit to 60km/h will be consistent with the proposed speed limit on Hughes Line and Cornwall Road but traffic calming features are needed to reduce the operating speed.

The following changes are recommended:

- Lower the speed limit on East Taratahi Road (between SH2 and Hughes Line) from 100km/h to 60km/h.
- Install speed limit threshold signs and update other speed limit signs as required.
- Consider implementing traffic calming features to reduce the operating speed on East Taratahi Road.

3.6 Dalefield Road (between SH2 and 175m northwest of Thomas Road) and Hodders Road

Dalefield Road runs northwest between State Highway 2 and Kaipaitangata Valley. Hodders Road is a side road of Dalefield Road, located at 800m northwest of Lincoln Road. The information from MegaMaps is shown in Table 3.6.

Table 3.6: Megamaps information for Dalefield Road (between SH2 and 85m southeast of Thomas Road) and Hodders Road

	Dalefield Road between SH2 and 100m northwest of Lincoln Road	Dalefield Road between 100m northwest of Lincoln Road and 85m southeast of Thomas Road	Hodders Road
Posted speed limit	70 km/h	100 km/h	100 km/h
Mean operating speed	58 km/h	56 km/h	30 km/h
SaAS	30 km/h or 60 km/h	80 km/h	60 km/h
Infrastructure Risk Rating	Medium or Medium High	Medium	Medium
One Network Framework	Activity Street or Peri-urban Road	Rural Connector	Rural Road
Proposed speed limit	50 km/h	80 km/h	60 km/h

Dalefield Road between SH2 and 100m northwest of Lincoln Road is categorised as an Activity Street in the ONF (a 100m section northwest of Lincoln Road is categorised as Peri-urban Road). Megamaps recommends the speed limit to be 30km/h (for the Activity Street section) or 60km/h (for the Peri-urban Road section). The operating speed on Lincoln Road of 58km/h is much higher than the recommended speed limit of 30km/h and this indicates low likelihood of compliance. Therefore, the speed limit is recommended to be 50km/h which is consistent with the proposed speed limit on Lincoln Road and aligns better with operating speed. However, traffic calming features are needed to reduce the operating speed.

Dalefield Road between 100m northwest of Lincoln Road and 85m southeast of Thomas Road is categorised as Rural Connector in the ONF. Megamaps recommends the speed limit to be 80km/h. The mean operating speed on this section of Dalefield Road is 56km/h and this indicates the high likelihood of compliance. Therefore, the speed limit is recommended to be the SaAS of 80km/h on this section of road.

Hodders Road is categorised as Rural Road in the ONF. Megamaps recommends the speed limit to be 60km/h. Most parts of Hodders Road have marked centrelines and the operating speed is 30km/h. The speed limit is recommended to align with the SaAS of 60km/h.

The following changes are recommended:

- Lower the speed limit from 70km/h to 50km/h on Dalefield Road between SH2 and 100m northwest of Lincoln Road.

- Lower the speed limit from 100km/h to 80km/h on Dalefield Road between 100m northwest of Lincoln Road and 85m southeast of Thomas Road.
- Lower the speed limit from 100km/h to 60 km/h on Hodders Road.
- Install speed limit threshold signs and update other speed limit signs as required.
- Consider implementing traffic calming features to reduce the operating speed on Dalefield Road between SH2 and 100m northwest of Lincoln Road.

3.7 Belvedere Road (between 85m northwest of Taverner Street and 50m northwest of Connollys Line)

Belvedere Road runs northwest between State Highway 2 and Hinau Gully Road. The information from MegaMaps is shown in Table 3.7.

Table 3.7: Megamaps information for Belvedere Road (between 85m northwest of Taverner Street and 50m northwest of Connollys Line)

	Belvedere Road (between 85m northwest of Taverner Street and 50m northwest of Connollys Line)
Posted speed limit	70 km/h
Mean operating speed	58-63 km/h
SaAS	30 km/h or 40 km/h
Infrastructure Risk Rating	Medium
One Network Framework	Activity Street or Urban Connector
Proposed speed limit	50 km/h

Belvedere Road between 85m northwest of Taverner Street and 50m northwest of Connollys Line is categorised as Urban Connector in the ONF (a 40m section is categorised as Activity Street). Megamaps recommends the speed limit to be 30km/h (for the Activity Street section) and 40km/h (for the Urban Connector section). Sparks Park is the key destination that attracts pedestrians on this section of Belvedere Road. However, the operating speed on Belvedere Road is much higher than the recommended speed limit of 30km/h or 40km/h and this indicates low likelihood of compliance. Therefore, the speed limit is recommended to be 50km/h which is consistent with the existing speed limit on Lincoln Road and Taverner Street. However, traffic calming features are needed to reduce the operating speed.

The following changes are recommended:

- Lower the speed limit from 70km/h to 50km/h on Belvedere Road (between 85m northwest of Taverner Street and 50m northwest of Connollys Line).
- Install speed limit threshold signs and update other speed limit signs as required.
- Review the ONF category for the short 40 metres section and update the category to align with the rest of this section.
- Consider implementing traffic calming features to reduce the operating speed on Belvedere Road (between 85m northwest of Taverner Street and 50m northwest of Connollys Line).

3.8 Park Road (between 205m southeast of Dixon Street and Rutland Road), Richmond Road (between 50m southeast of Deller Drive and Rutland Road) and Hilton Road (between 25m southeast of Madison Street and Rutland Road)

Park Road runs southeast between State Highway 2 and Carters Line. Richmond Road and Hilton Road are both parallel to Park Road and run between State Highway 2 and Marshall Road. The information for these roads from MegaMaps is shown in Table 3.8.

Table 3.8: Megamaps information for Park Road (between 205m southeast of Dixon Street and Rutland Road), Richmond Road (between 50m southeast of Deller Drive and Rutland Road) and Hilton Road (between 25m southeast of Madison Street and Rutland Road)

	Park Road (between 207m southeast of Dixon Street and Rutland Road)	Richmond Road (between 50m southeast of Deller Drive and Rutland Road)	Hilton Road (between 25m southeast of Madison Street and Rutland Road)
Posted speed limit	100 km/h	70 km/h	100 km/h
Mean operating speed	80 km/h	42 km/h	34-40 km/h
SaAS	60 km/h	40 km/h	60 km/h
Infrastructure Risk Rating	Low Medium	Medium	Medium High
One Network Framework	Peri-urban Road	Urban Connector	Peri-urban Road or Rural Connector
Proposed speed limit	50 km/h	50 km/h	50 km/h

Park Road between 205m southeast of Dixon Street and Rutland Road is categorised as Peri-urban Road in the ONF. Megamaps recommends the speed limit to be 60km/h for Peri-urban Road. However, this section of Park Road meets the criteria for a lower SaAS of 50km/h as there are more than 10 property accesses per kilometre. Reducing the speed limit to 50km/h is also consistent with the proposed speed limit on Rutland Road. Given the higher operating speed of 80km/h, traffic calming features are needed to reduce the operating speed and ensure compliance.

Richmond Road between 50m southeast of Deller Drive and Rutland Road is categorised as Urban Connector in the ONF. Megamaps recommends the speed limit to be 40km/h for Peri-urban Road. The mean operating speed is 42km/h which indicates the low likelihood of compliance. In order to be consistent with the proposed speed limit reduction on Rutland Road and Park Road and receive high level of compliance, the proposed speed limit on Richmond Road (between 50m southeast of Deller Drive and Rutland Road) is 50km/h.

Hilton Road between 25m southeast of Madison Street and Rutland Road is categorised as Peri-urban Road or Rural Connector in the ONF. Megamaps recommends the speed limit to be 60km/h for Peri-urban Road. However, this section of Hilton Road meets the criteria for a lower SaAS of 50km/h as there are more than 10 property accesses per kilometre⁵. For the section of Hilton Road categorised as Rural Connector, the speed limit is proposed to be 50km/h to better align with the

⁵ Access density refers to the frequency of accessways (driveways or intersections) on a road or street section. The definition is from Waka Kotahi Speed Management Guide Road to Zero Edition: <https://www.nzta.govt.nz/assets/resources/speed-management-guide-road-to-zero-edition/speed-management-guide-road-to-zero-edition.pdf>

operating speed and be consistent with the proposed speed limit on the rest of Hilton Road and Rutland Road. The mean operating speed on this section of Hilton Road is 34-40km/h which indicates the high likelihood of compliance.

The following changes are recommended:

- Lower the speed limit from 100km/h to 50km/h on Richmond Road (between 50m southeast of Deller Drive and Rutland Road).
- Lower the speed limit from 70km/h to 50km/h on Richmond Road (between 50m southeast of Deller Drive and Rutland Road).
- Lower the speed limit from 100km/h to 50km/h on Hilton Road (between 25m southeast of Madison Street and Rutland Road).
- Install speed limit threshold signs and update other speed limit signs as required.
- Consider implementing traffic calming features to reduce the operating speed on Park Road (between 205m southeast of Dixon Street and Rutland Road).

3.9 Chester Road, Chester Park Drive, Parkers Road and Wiltons Road

Chester Road runs between State Highway 2 and Norfolk Road. Chester Park Drive and Parkers Road are the side roads of Chester Road. Wiltons Road runs between State Highway 2 and Chester Road. These roads may be used as an alternative route to State Highway 2. The information from MegaMaps is shown in Table 3.9.

Table 3.9: Megamaps information for Chester Road, Chester Park Drive, Parkers Road and Wiltons Road

	Chester Road	Chester Park Drive	Parkers Road	Wiltons Road
Posted speed limit	100 km/h	100 km/h	100 km/h	100 km/h
Mean operating speed	68-79 km/h	39 km/h	17 km/h	70 km/h
SaAS	60 km/h	60 km/h	60 km/h	60 km/h
Infrastructure Risk Rating	Low Medium, Medium or High	Medium	Low Medium	Medium
One Network Framework	Stopping Place, Rural Connector or Peri-urban Road	Peri-urban Road	Peri-urban Road	Peri-urban Road
Proposed speed limit	80 km/h	60 km/h	60 km/h	80 km/h

Chester Road is categorised as Stopping Place, Rural Connector or Peri-urban Road in the ONF at various sections. Megamaps recommends the speed limit to be 60km/h on the entire Chester Road. However, the operating speed on Chester Road is much higher than the recommended speed limit of 60km/h and this indicates a low likelihood of compliance. Therefore, the speed limit is proposed to be 80km/h which is consistent with the existing speed limit on State Highway 2. The operating speed indicates that more than half of the vehicles are travelling at 80km/h or higher on parts of Chester Road. Traffic calming features are recommended to reduce the operating speed and achieve better compliance.

Similar to Chester Road, the speed limit of Wiltons Road is proposed to be 80km/h to be consistent with the existing speed limit on State Highway 2 to prevent it being used as a faster alternative route. The operating speed is 70km/h, so the likelihood of compliance is high.

The speed limit on Chester Park Drive and Parkers Road are proposed to be 60km/h to align with the SaAS for these roads. The mean operating speed is 39km/h on Chester Park Drive and 17km/h on Parkers Road which indicate the high likelihood of compliance.

The following changes are recommended:

- Lower the speed limit from 100km/h to 80km/h on Chester Road.
- Lower the speed limit from 100km/h to 60km/h on Chester Park Drive and Parkers Road.
- Lower the speed limit from 100km/h to 80km/h on Wiltons Road.
- Install speed limit threshold signs and update other speed limit signs as required.
- Consider implementing traffic calming features to reduce the operating speed on Chester Road.

3.10 Norfolk Road (between SH2 and Chester Road), David Lowes Lane, Waingawa Road, Maungahau Road and Jordan Road

Norfolk Road runs between State Highway 2 and Blake Road in Mount Holdsworth. David Lowes Lane, Waingawa Road and Maungahau Road are side roads of Norfolk Road. Jordan Road intersects with Maungahau Road. The information from MegaMaps is shown in Table 3.10.

Table 3.10: Megamaps information for Norfolk Road (between SH2 and Chester Road), David Lowes Lane, Waingawa Road, Maungahau Road and Jordan Road

	Norfolk Road (between SH2 and David Lowes Lane)	Norfolk Road (between David Lowes Lane and Chester Road)	David Lowes Lane	Waingawa Road	Maungahau Road	Jordan Road
Posted speed limit	100 km/h	100 km/h	100 km/h	100 km/h	100 km/h	100 km/h
Mean operating speed	67 km/h (between SH2 and 170m southeast of David Lowes Lane)	86 km/h (between 170m southeast of David Lowes Lane and Chester Road)	39 km/h	49 km/h	57 km/h	39 km/h
SaAS	60 km/h	60 km/h	60 km/h	60 km/h	60 km/h	60 km/h
Infrastruct ure Risk Rating	Low Medium	Low Medium	Medium	Medium High	Low Medium	Low Medium
One Network Framewor k	Stopping Place	Peri-urban Road	Rural Road	Stopping Place	Peri-urban Road	Peri-urban Road
Proposed speed limit	60 km/h	80km/h	60 km/h	60 km/h	60 km/h	60 km/h

Norfolk Road between SH2 and David Lowes Lane is categorised as Stopping Place in the ONF. Megamaps recommends the speed limit to be 60km/h in this section of Norfolk Road. However, the mean operating speed is higher than the recommended speed limit of 60km/h and this indicates a low likelihood of compliance.

The proposed speed limit between David Lowes Lane and Chester Road is 80km/h, which better aligns with the operating speed on this section (86 km/h), and is also consistent with the proposed speed limit on Chester Road. Traffic calming features are recommended to reduce the operating speed and achieve better alignment and compliance.

For the side roads, the speed limits are proposed to be 60km/h to align with the SaAS. The mean operating speed on these roads are below or close to the proposed speed limits which indicate a high likelihood of compliance.

The following changes are recommended:

- Lower the speed limit from 100km/h to 60km/h on Norfolk Road between SH2 and 170m southeast of David Lowes Lane.
- Lower the speed limit from 100km/h to 60km/h on Norfolk Road between 170m southeast of David Lowes Lane and Chester Road.
- Lower the speed limit from 100km/h to 60km/h on David Lowes Lane, Waingawa Road, Maungahau Road and Jordan Road.
- Install speed limit threshold signs and update other speed limit signs as required.
- Consider implementing traffic calming features to reduce the operating speed on Norfolk Road.

3.11 Norman Avenue, Ahumahi Road, and Pakihi Road

On 27 January 2023, Waka Kotahi reduced the speed limit on State Highway 2 between Masterton and Featherston. The open road 100 km/h sections were reduced to 80 km/h. Norman Avenue is one of the side roads of State Highway 2 (intersection with State Highway 2 is not available currently) and the current speed limit is 100km/h. Ahumahi Road and Pakihi are connected to Norman Avenue. The information from MegaMaps is shown in Table 3.11.

Table 3.11: Megamaps information for Norman Avenue, Ahumahi Road and Pakihi Road

	Norman Avenue	Ahumahi Road	Pakihi Road
Posted speed limit	100 km/h	100 km/h	100 km/h
Mean operating speed	27 km/h	34 km/h	26 km/h
SaAS	60 km/h	60 km/h	60 km/h
Infrastructure Risk Rating	Medium	Medium High	Medium High
One Network Framework	Stopping Place	Stopping Place	Stopping Place
Proposed speed limit	60 km/h	50 km/h	50 km/h

The surrounding land use on these roads are primarily industrial. All these roads are categorised as stopping place and Megamaps recommends the speed limit to be 60km/h. For consistency, the proposed speed limit for Norman Avenue is 60km/h which is the same as Waingawa Road (as discussed in Section 3.10). Both roads share similar characteristics, such as marked centreline and have relatively narrow widths (5.5-6.8m). All the other roads do not have marked centrelines but have widths of 9.5-10m. The speed limits for Ahumahi Road and Pakihi Road are proposed to be 50km/h. Given the low operating speeds on all the roads, the likelihood of compliance is high.

The following changes are recommended:

- Lower the speed limit from 100km/h to 60km/h on Norman Avenue.
- Lower the speed limit from 100km/h to 50km/h on Ahumahi Road and Pakihi Road.
- Install speed limit threshold signs and update other speed limit signs as required.

3.12 Te Whiti Road (between Gladstone Road and 130m northeast of Waipoapoa Road), Waipoapoa Road and Brooklands Road

Section 2.6 has proposed to change the speed limit on Te Whiti Road and Fitzherbert Street in the Gladstone School Zone. This section proposes to change the speed limit on Te Whiti Road between 140m southwest of Brooklands Road and 95m southwest of Fitzherbert Street to provide consistency with the proposed speed limit on Gladstone Road (as discussed in Section 2.10) and Te Whiti Road around Gladstone School.

The information from MegaMaps is shown in Table 3.12.

Table 3.12: Megamaps information for Te Whiti Road (between Gladstone Road and 130m northeast of Waipoapoa Road), Brooklands Road and Waipoapoa Road

	Te Whiti Road (between Gladstone Road and 130m northeast of Waipoapoa Road)	Brooklands Road	Waipoapoa Road
Posted speed limit	100 km/h	100 km/h	100 km/h
Mean operating speed	67-86 km/h	23 km/h	26 km/h
SaAS	60 km/h or 80km/h	60 km/h	60 km/h
Infrastructure Risk Rating	Low Medium, Medium, Medium High or High	Medium	Medium High
One Network Framework	Stopping Place (between SH2 and 65m northeast of Admiral Road), Rural Connector (between 65m northeast of Admiral Road and 280m southwest of Fitzherbert Street) or Peri-urban roads (between 280m southwest of Fitzherbert Street and 130m northeast of Waipoapoa Road)	Rural Road	Rural Road
Proposed speed limit	60 km/h	30 km/h	30 km/h

Te Whiti Road (between Gladstone Road and 130m northeast of Waipoapoa Road) is categorised as Stopping Place, Rural Connector or Peri-urban Road in the ONF at various sections. Megamaps recommends the speed limit to be 60km/h or 80km/h in this section of Te Whiti Road. The section of Te Whiti Road with a SaAS of 80km/h has an Infrastructure Risk Rating of 1.76 which is close to the criteria of 1.8 for a lower speed limit of 60km/h. Therefore, the speed limit is proposed to be 60km/h which is consistent with the proposed speed limit on Gladstone Road. Given the high operating speeds, traffic calming features are recommended to reduce the operating speed and achieve better compliance.

The SaAS is 60km/h for both of the side roads. However, given the speed limit on the main road is proposed to be 60km/h and the low operating speed on the side roads, the proposed speed limits are 30km/h on both side roads.

The following changes are recommended:

- Lower the speed limit from 100km/h to 60km/h on Te Whiti Road (between Gladstone Road and 130m northeast of Waipoapoa Road).
- Lower the speed limit from 100km/h to 30km/h on Brooklands Road and Waipoapoa Road.
- Install speed limit threshold signs and update other speed limit signs as required.
- Consider implementing traffic calming features to reduce the operating speed on Te Whiti Road (between Gladstone Road and 130m northeast of Waipoapoa Road).

3.13 Carters Line (between Moreton Road and Park Road), Kokotau Road, Ponatahi Road (between Kokotau Road and 170m northeast of Johns Way), Riverside Road, Foreman Jury Road and Opuakaio Road

Carters Line (between Moreton Road and Park Road), Kokotau Road and Ponatahi Road form a route between Francis Line in Carterton and northeast of Martinborough Township in South Wairarapa. These roads are identified due to 14 crashes occurred in 2022 and May 2023⁶ (inclusive) with two fatal crashes and one serious injury crash. Even though speeding isn't identified as a contributing factor to all the crashes, speed affects the severity of all crashes and will most likely determine whether anyone is killed, injured, or walks away unharmed⁷. Riverside Road, Foreman Jury Road and Opuakaio Road are included in this analysis as they are side roads off these roads. The information from MegaMaps is shown in Table 3.13.

⁶ CAS Query submitted on 12 June 2023. At the time of submission, fatal crashes are processed in one working day and injury crashes are processed in four weeks after data received from the Police. Non-injury crashes are processed in more than three months.

⁷ From Waka Kotahi Driving Safely page: <https://www.nzta.govt.nz/safety/driving-safely/speed/>

Table 3.13: Megamaps information for Kokotau Road, Ponatahi Road (between Kokotau Road and 170m northeast of Johns Way), Riverside Road, Foreman Jury Road and Opuakaio Road

	Carters Line (between Moreton Road and Park Road)	Kokotau Road	Ponatahi Road (between Kokotau Road and 170m northeast of Johns Way)	Riverside Road	Foreman Jury Road	Opuakaio Road
Posted speed limit	100 km/h	100 km/h	100 km/h	100 km/h	100 km/h	100 km/h
Mean operating speed	90 km/h	80-89 km/h	90-96 km/h	33 km/h	17 km/h	33 km/h
SaAS	80 km/h	60 km/h (between Carters Line and 600m southeast of Carters Line) 80km/h (between 600m southeast of Carters Line and Ponatahi Road)	80 km/h	60 km/h	60 km/h	60 km/h
Infrastructure Risk Rating	Low Medium	Medium to Medium High	Medium High	High	High	Medium High
One Network Framework	Rural Connector	Rural Connector or Stopping Place (200m section)	Rural Connector	Rural Road	Rural Road	Rural Road
Proposed speed limit	80 km/h	80 km/h	80 km/h	60 km/h	60 km/h	60 km/h

Carters Line (between Moreton Road and Park Road) has a high operating speed of 90km/h which indicates a low likelihood of compliance with the SaAS of 80km/h. The higher operating speed is likely caused by the straight road alignment, marked centreline and edge marker posts, and lack of cues for a low-speed environment. Reducing the speed limit to 80km/h will be consistent with the SaAS for Rural Connector. Traffic calming features are needed to reduce the operating speed.

Kokotau Road has a high operating speed of 80-89km/h which indicates possible compliance with the SaAS of 80km/h. The higher operating speed is likely caused by the straight road alignment, marked centreline and edge marker posts, and lack of cues for a low-speed environment. This road does not meet the criteria for a different speed limit as outlined in the Speed Management Guide⁸. Reducing the speed limit to 80km/h will be consistent with the SaAS for Rural Connector and the proposed speed limit change on Carters Line. Traffic calming features are needed to reduce the operating speed. A short 200m section in Kokotau Road is identified as Stopping Place in the ONF likely due to the mushroom farm which shows it is temporarily closed. The ONF category is

⁸ Page 25 of the Speed Management Guide:

- For a SaAS of 60km/h on Rural Connector: Road stereotype is unsealed, or Alignment is tortuous, or Infrastructure Risk Rating is 1.8 or over, or Access Density $\geq 10/\text{km}$
- For a SaAS of 100km/h on Rural Connector: Road is median divided, and alignment is straight or curved.

recommended to be reviewed as the section is short and the surrounding land use is similar to the other sections of Kokotau Road.

Ponatahi Road has a high operating speed of 90-96km/h which indicates a low likelihood of compliance with the SaAS of 80km/h. Most sections of Ponatahi Road have relatively straight road alignment while the entire Ponatahi Road have marked centreline and edge marker posts but lacks cues for a low-speed environment. Reducing the speed limit to 80km/h will be consistent with the SaAS for Rural Connector and this road does not meet the criteria for a different speed limit (refer to footnote 7). Traffic calming features are needed to reduce the operating speed. The speed limit between Nelsons Road and 170m northeast of Johns Way are proposed as part of the South Wairarapa District Council Speed Management Plan Technical Report (SWDC SMP Tech Report).

Given the reduced speed limits on Carters Line, Kokotau Road and Ponatahi Road, the speed limits on Riverside Road, Foreman Jury Road and Opuakaio Road should also be reduced for consistency with the SaAS and proposed speed limits on the main roads. Traffic calming features are not needed on these side roads as the operating speeds are already low.

The following changes are recommended:

- Lower the speed limit on Carters Line, Kokotau Road and Ponatahi Road (between 170m northeast of Johns Way and Kokotau Road) from 100km/h to 80km/h.
- Lower the speed limit on Riverside Road, Foreman Jury Road and Opuakaio Road from 100km/h to 60km/h.
- Lower the speed limit on Ponatahi Road between Nelsons Road and 105m northeast of Nelsons Road from 70km/h to 40km/h (proposed in the SWDC SMP Tech Report).
- Lower the speed limit on Ponatahi Road (between 105m northeast of Nelsons Road and 170m northeast of Johns Way) from 100km/h to 60km/h (proposed in the SWDC SMP Tech Report).
- Install speed limit threshold signs and update other speed limit signs as required.
- Consider implementing traffic calming features to reduce the operating speeds on Carters Line, Kokotau Road and Ponatahi Road.
- Review the ONF category of the 200m section on Kokotau Road.

3.14 Park Road (between Rutland Road and Carters Line), Moreton Road (between Rutland Road and Carters Line), Johnsons Road, Waitangi Road and Baylys Road

Park Road runs southeast between State Highway 2 and Carters Line. Moreton Road runs southeast between State Highway 2 and Carters Line. Johnsons Road and Waitangi Road are side roads of Moreton Road. Baylys Road has access from both Waitangi Road and Para Road. The speed limit on Para Road will be reviewed in the future. The information for these roads from MegaMaps is shown in Table 3.14.

Table 3.14: Megamaps information for Park Road (between Rutland Road and Carters Line), Moreton Road (between Rutland Road and Carters Line), Johnsons Road, Waitangi Road and Baylys Road

	Park Road (between Rutland Road and Carters Line)	Moreton Road (between Rutland Road and Carters Line)	Johnsons Road	Waitangi Road	Baylys Road
Posted speed limit	100 km/h	100 km/h	100 km/h	100 km/h	100 km/h
Mean operating speed	80-81 km/h	88 km/h	39 km/h	52 km/h	52 km/h
SaAS	60 km/h	60 km/h	60 km/h	60 km/h	60km/h
Infrastructure Risk Rating	Low Medium	Medium	Medium	Medium or Medium High	Medium
One Network Framework	Peri-urban Road	Rural Connector	Rural Road	Rural Road	Rural Road
Proposed speed limit	80 km/h	80 km/h	60 km/h	60 km/h	60 km/h

Park Road between Rutland Road and Carters Line is categorised as Peri-urban Road in the ONF. Megamaps recommends the speed limit to be 60km/h for Peri-urban Road. However, this section of Park Road has higher mean operating speed due to the surrounding rural land use and lack of cue for lower speed. Reducing the speed limit to 80km/h will better align with the mean operating speed and proposed speed limit of 80km/h on Carters Line. Traffic calming features are needed to reduce the operating speed and ensure compliance.

Moreton Road between Rutland Road and Carters Line is categorised as Rural Connector in the ONF. Megamaps recommends the speed limit to be 60km/h for Rural Connector. The mean operating speed is 88km/h which indicates the low likelihood of compliance if changing the speed limit to 60km/h. In order to be consistent with the proposed speed limit reduction on Park Road (parallel to Moreton Road) and Carters Line, the speed limit is proposed to be 80km/h. Traffic calming features are needed to reduce the operating speed and ensure compliance. There is a short 150m section northwest of Rutland Road where the posted speed limit is 100km/h. The speed limit in this short section will become 50km/h to align with the approach on Park Road by relocating the speed limit threshold sign to southeast of Rutland Road on Moreton Road.

Johnsons Road and Waitangi Road are side roads of Moreton Road. The speed limits on these roads are proposed to be 60km/h to align with the proposed speed limit change on Moreton Road and the SaAS. Baylys Road connects Waitangi Road and Para Road. The speed limit on Baylys Road is proposed to be reduced to 60km/h for consistency with Waitangi Road and future review of Para Road.

The following changes are recommended:

- Lower the speed limit from 100km/h to 80km/h on Park Road (between Rutland Road and Carters Line), Moreton Road (between Rutland Road and Carters Line).
- Lower the speed limit from 100km/h to 60km/h on Johnsons Road, Waitangi Road and Baylys Road.

- Install speed limit threshold signs and update other speed limit signs as required. Relocate the speed limit threshold sign from its existing location (150 metres northwest of Rutland Road) to southeast of Rutland Road.
- Consider implementing traffic calming features to reduce the operating speed on Park Road (between Rutland Road and Carters Line), Moreton Road (between Rutland Road and Carters Line).

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4 Applicability

We have been engaged by our client South Wairarapa District Council to complete this report. The report has been prepared for use by both South Wairarapa District Council and Carterton District Council with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than South Wairarapa District Council and Carterton District Council, without our prior written agreement.

We understand and agree that this report will be used by Carterton District Council in undertaking its regulatory functions in connection with the speed limit changes in Carterton District.

Tonkin & Taylor Ltd
Environmental and Engineering Consultants

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Appendix A Methodology for filtering the roads and road sections

The selection of other roads consists of two sources, local knowledge and filtered roads based on criteria. A list of roads with local priority is obtained from the engineer at both SWDC and CDC. These roads are reviewed for compliance likelihood and public acceptance with additional measures identified to ensure compliance and acceptance. All other roads will be filtered based on the following criteria to identify the roads with the highest risks:

- Personal or Collective Risk: medium or above.
- Infrastructure Risk Rating: medium-high or above.
- Difference between the posted speed limit and SaAS more than 30km/h (inclusive).

Figure Appendix A.1 shows the entire process for assessing the proposed speed limit changes in Carterton and South Wairarapa.

Process for assessing the proposed speed limit changes in Carterton and South Wairarapa

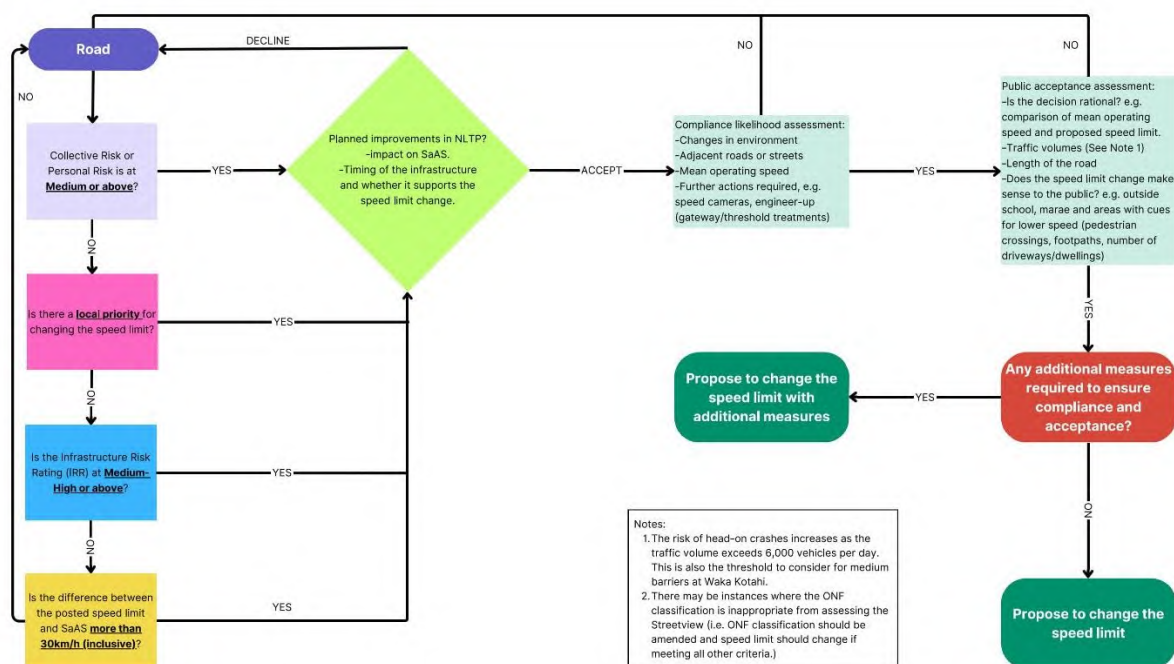


Figure Appendix A.1: Flowchart for assessing the proposed speed limit changes

For this technical assessment, the selected roads and road sections have been identified from the following sources:

- Roads within close proximity of a school.
- Roads with a frontage to a marae.
- Roads with local priority identified by the Council.

