

98-102 Totara Road Whenuapai Preliminary Transport Assessment

Prepared for: Neil Construction Limited

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1. Introduction

Neil Construction Limited engaged Abley to undertake a preliminary assessment of the potential transport implications of establishing residential development at 98-102 Totara Road, Whenuapai, through the MfE fast-track consenting process.

This technical note provides an initial assessment of transportation matters including:

- Description of proposal including access, likely traffic generation and distribution onto wider network.
- Overview of future transport infrastructure projects and public transport commitments
- Accessibility assessment for walking, cycling and public transport modes
- Assessment of road safety in the vicinity.
- High-level capacity assessment of wider transport network.

In preparing this assessment we have referred to the following related documents:

- Site and context plan prepared by Construct
- Supporting Growth programme online resources
- The Auckland Unitary Plan

2. Proposed development

The proposal includes establishing residential development at 98-102 Totara Road in Whenuapai. The site covers approximately 16.4 hectares of currently Future Urban Zone land and is proposed to include 354 dwellings, being a mix of 2, 2.5, 3 and 4 bedroom dwellings as noted in the Construct site and context plan. The proposed new zoning would be Residential – Mixed Housing Urban.

The site includes the potential for a future school, and it is understood that there are ongoing discussions with the Ministry of Education in that regard. The school would likely have a roll in the order of 900-1200 students, and if a school were not to be established on site additional residential development may be included. This would bring the total yield to in the order of 453 dwellings across the full site.

The current AUPOP zoning and the proposed private plan change zoning are shown in **Figure 2.1**.

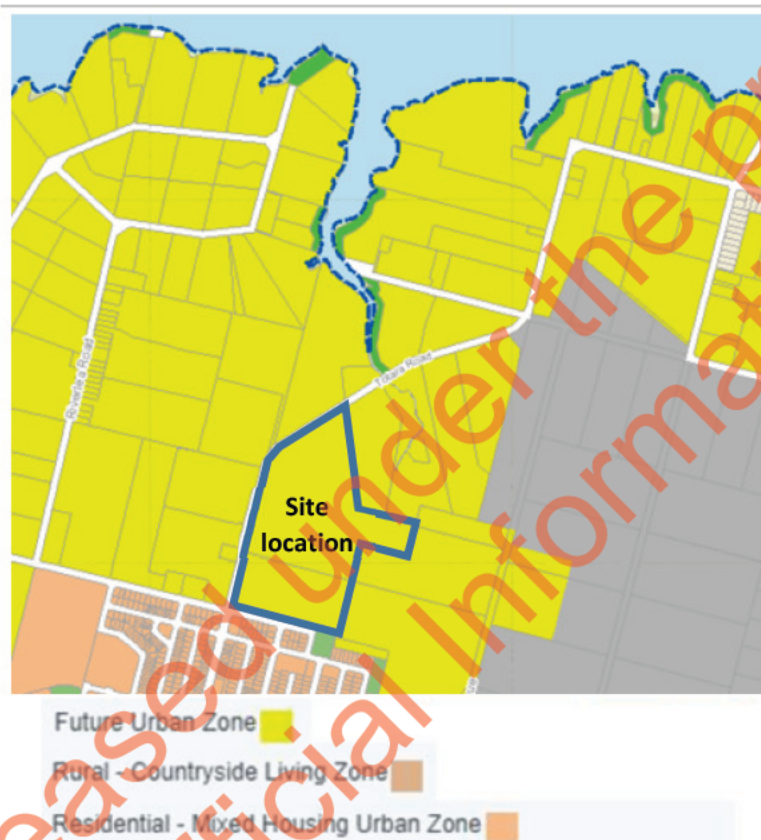


Figure 2.1 Site location and AUPOP zoning

The proposed layout of the site is shown in **Figure 2.2** and includes three connections to Totara Road, one connection to integrate the site with the adjacent residential development area at McCaw Avenue and the potential for a future connection to the Whenuapai Air Base. The location of the potential future school is in the northwest of the site and is well served with vehicle connections to Totara Road on each side of the school.

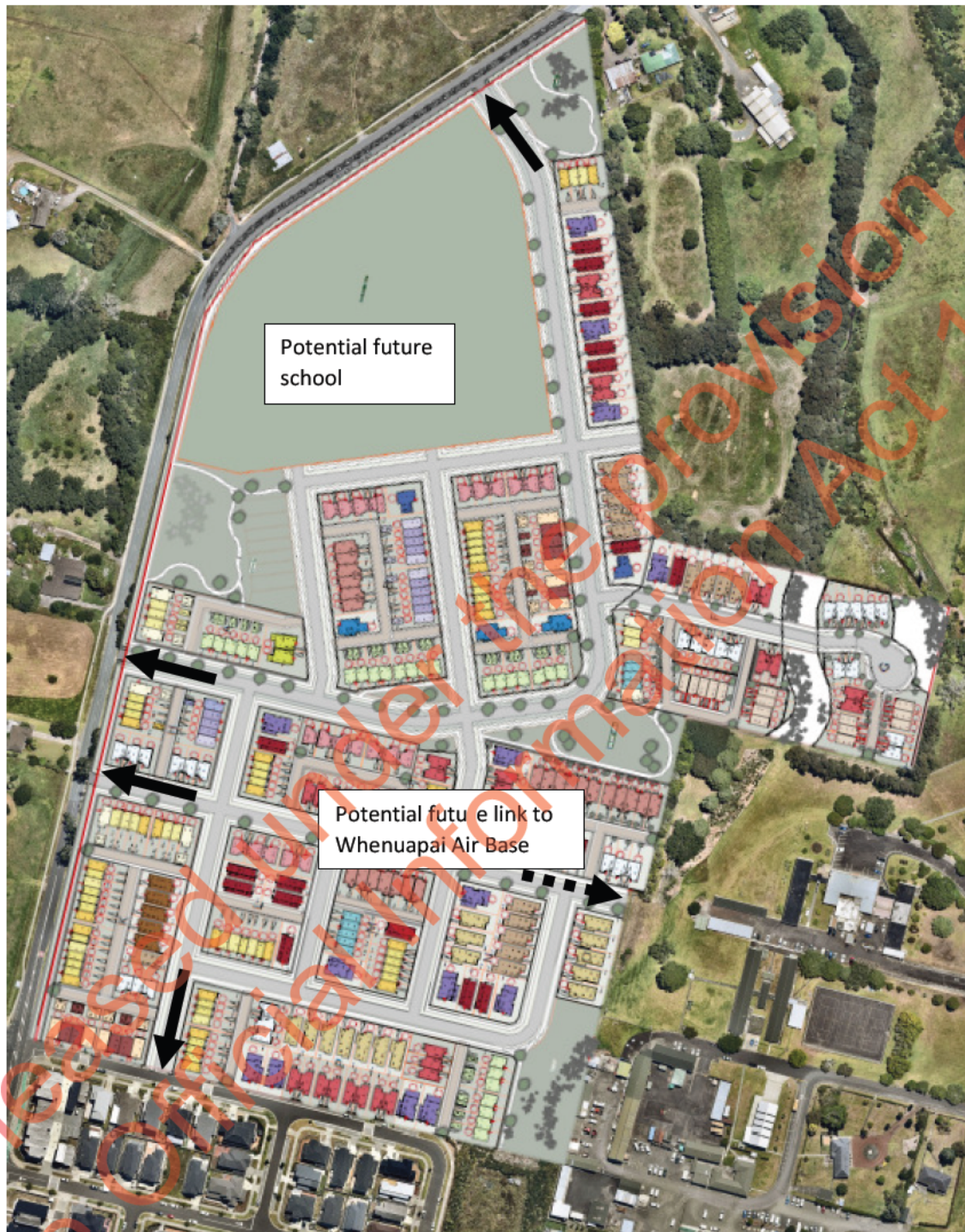


Figure 2.2 Site layout and access locations

Road cross sections are included in the supporting documents and are appropriate for the environment including the provision of a three-metre shared path for pedestrians and cyclists along Totara Road and footpaths on both sides of the roads within the site.

3. Wider Transport Context

Abley have engaged with Supporting Growth Alliance (SGA) and Auckland Transport to discuss the wider transport planning context in Whenuapai. SGA confirmed that the most recent publicly-available documents are available on their website. They are currently in the process of finalising a business case for the delivery of the future roading projects identified in Whenuapai prior to preparing a Notice of Requirement application for designation process which ideally will finish in late 2022-early 2023. This means that the currently timeline is that the infrastructure presented in this section of the report will be able to be rolled out from 2023 onwards depending on funding availability.

3.1 Roothing Improvements

Whenuapai is identified as a future urban area and will undergo significant growth in the next 30 years. More homes will be built, and new business areas will be developed which will result in an increase in jobs and people working in the area. The transport network needs to keep up with the demand so future residents and workers can move around efficiently and safely. There is a major focus from the Supporting Growth Alliance and the Whenuapai Structure Plan aims to prioritise and accommodate walking, cycling and public transport in Whenuapai. There is an emphasis in ensuring people have choice in how they travel.

The Supporting Growth Alliance is in the process of obtaining route protection for many local roads in Whenuapai surrounding the proposed development at 98 – 102 Totara Road. These include plans to upgrade Brigham Creek Road, Mamari Road, Spedding Road, Trigg Road and Hobsonville Road. The local road upgrades which are relevant to the proposed site are shown in **Figure 3.1** and **Figure 3.** and are detailed further below.

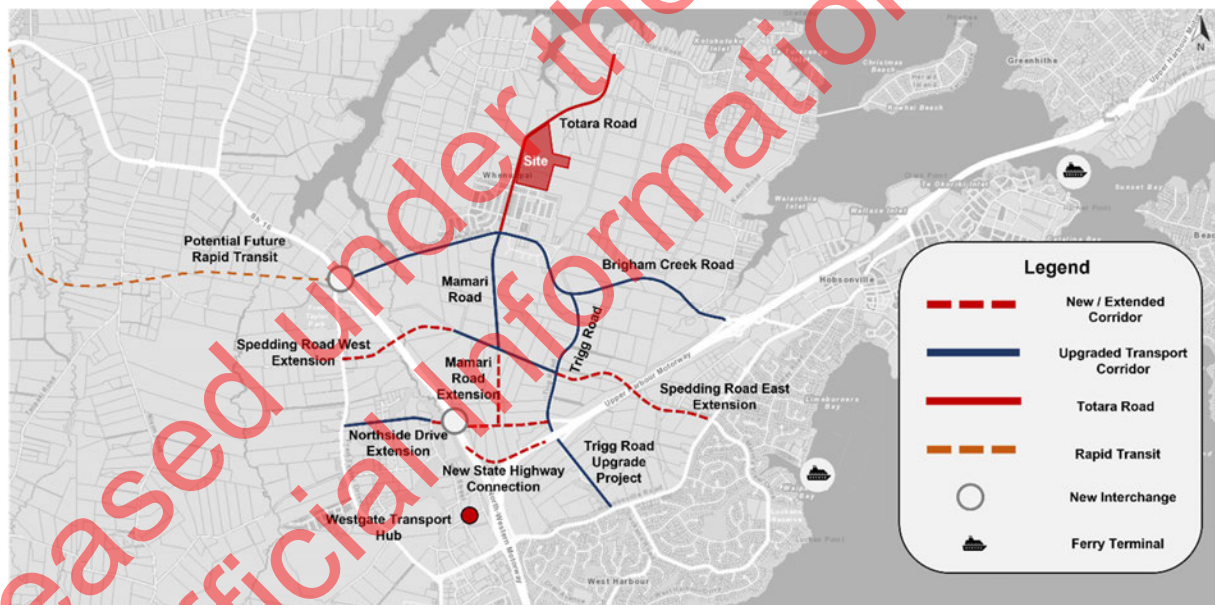


Figure 3.1 Future Road Upgrades in the Local Whenuapai Area



Figure 3.2 Proposed Upgrades to the Whenuapai Area (Source: Support Growth Alliance)

Brigham Creek Road

Brigham Creek Road will be widened to four lanes to accommodate walking, cycling and public transport. Brigham Creek Road is identified as a key east-west connection through Whenuapai, which provides access to State Highway 18 and Hobsonville at its eastern end, and State Highway 16 at its western end. Walking and cycling facilities will be provided on both sides of the road as seen in **Figure 3.3**. Buses are expected to run every seven minutes to and from Whenuapai town centre in peak times.

~~What Brigham Creek Road could look like~~

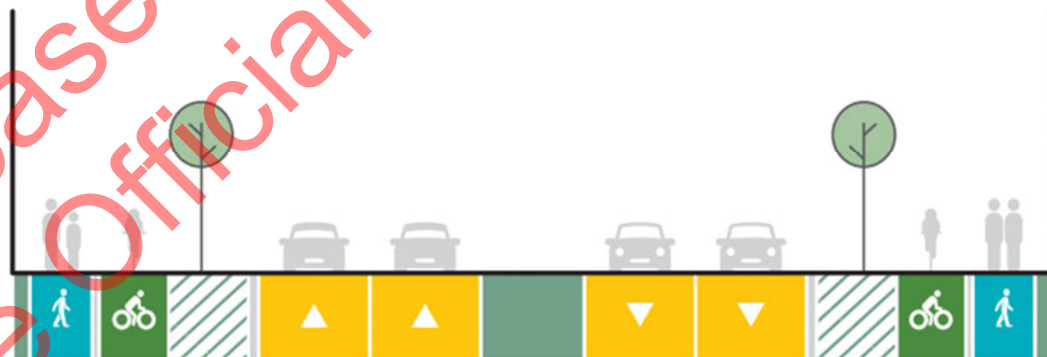


Figure 3.3 Potential Brigham Creek Road Layout (Source: Supporting Growth Alliance)

Additionally, in the long-term, Waka Kotahi is investigating a new direct motorway connection between State Highway 16 in the north and State Highway 18 in the east. However, there is no timeframe on this project and Waka Kotahi are yet to develop a detailed business case. This rapid transit route would reduce some east-west traffic movements along Brigham Creek Road. The interchange of Brigham Creek Road with State Highway 18 would also be upgraded. This new motorway connection, alongside other projects such as a rapid transit network from Westgate to the CBD and rapid transit along State Highway 18, are being investigated by Waka Kotahi.

Mamari Road

Mamari Road, from Brigham Creek Road, is currently a no exit road used to access residential and New Zealand Defence Force housing. Mamari Road is proposed to be extended and connected to Northside Drive and will be widened to four lanes, with dedicated bus lanes and walking and cycling facilities on both sides as seen in **Figure 3.5**. In terms of public transport, buses are proposed to arrive every 3 - 4 minutes in peak times. Mamari Road will become a key access point to Northside Drive and provide a high-quality north-south connection from Whenuapai to Westgate and other locations for buses, vehicles, and pedestrians.

Northside Drive will also be extended to include an overbridge over State Highway 16, connecting Trig Road to Fred Taylor Drive. This is to be delivered by Waka Kotahi as seen in **Figure 3.4**. Waka Kotahi are also investigating south facing ramps onto State Highway 16 from the new eastern sections of Northside Road. Mamari Road will become a key access point to the Northside Drive southern ramps for the Whenuapai area.

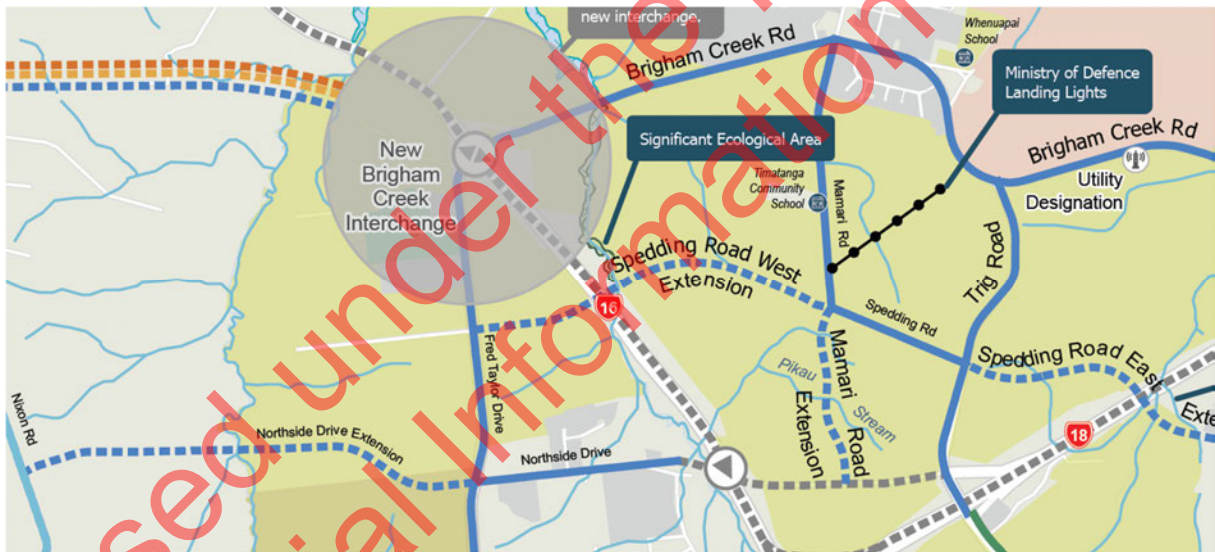


Figure 3.4 Mamari Road and Northside Road Extensions (Source: Supporting Growth Alliance)

What Mamari Road, and some sections of Hobsonville Road could look like



Figure 3.5 Potential Mamari Road Layout (Source: Supporting Growth Programme)

Hobsonville Road

Hobsonville Road is a west-east connection between Westgate and Hobsonville Point, providing a key link to the two ferry terminals in Hobsonville Point and West Harbour. There are sections of the corridor which will be widened to four lanes (Luckens Road to State Highway 16 and Brigham Creek Road to Hobsonville Point Road). This will allow for additional capacity for buses and vehicles. The widening of Hobsonville Road will tie in with the Trigg Road Upgrade Project. Bus services are proposed to arrive every 3–6 minutes in peak times.

Trigg Road

Trigg Road is proposed to be upgraded between Brigham Creek Road and Hobsonville Road to accommodate walking, cycling and public transport. It will stay at two lanes, but with a reduced speed limit of 50 km/h. It will provide an improved north-south connection within Whenuapai. It is planned to have a bus service every 15 minutes. Trigg Road will play an important part in connecting the future Whenuapai area to the state highway network.

There is already a project called the Trigg Road Upgrade Project which will upgrade Trigg Road between State Highway 18 and Hobsonville Road. This is to bring the road up to the standard that would support the current and future Whenuapai residents. This will upgrade the intersection of Trigg Road and Luckens Road with Hobsonville Road. It would also provide upgraded walking, cycling and public transport facilities.

Spedding Road

Spedding Road is proposed to be extended in both directions, connecting to Hobsonville Road in the east, and to Fred Taylor Drive in the west (with a bridge over State Highway 16). These extensions will enable access to the potential future rapid transit network as well as supporting bus services, walking, and cycling access. The extension of this road will provide an alternative connection through Whenuapai, providing resilience to the network. A cross-section of the road can be seen in **Figure 3.6**.

What Trig Road, Hobsonville Road and Spedding Road could look like

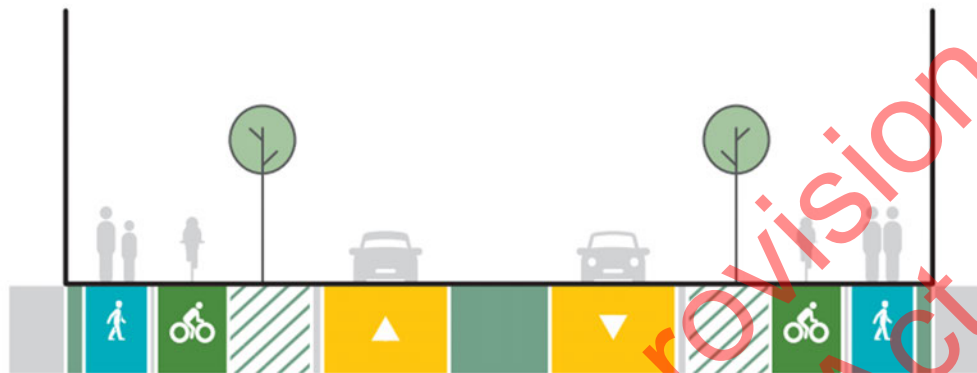


Figure 3.6 Potential Spedding Road Layout (Source: Supporting Growth Programme)

3.2 Public Transport Improvements

Current

The site currently is accessible by public transport with one bus route services the area. The nearest bus stop from the centroid of the proposed development site on Totara Road is located approximately 500m south. This bus stop caters for bus route 114, which travels from Hobsonville ferry terminal and finishes at Westgate. This service occurs at least once every 60 minutes, 7 days a week and travels along Totara Road, past the proposed site.

Ferries operate from Hobsonville Point and West Harbour ferry terminals to Auckland CBD throughout the day. At Westgate, there are options to catch other buses which head to further destinations around Auckland. Bus route 114 can be seen in **Figure 3.7**



Figure 3.7 Bus Routes (Source: Auckland Transport)

Future Public Transport

There are many future public transport plans as touched upon in the roading improvement sections above. The routes and destinations are not conceptualised at the present, but many roads will be upgraded in the future to cater for buses. These include:

- **Brigham Creek Road:** with a bus expected to run every 7 minutes from Whenuapai town centre in peak times
- **Mamari Road:** will have dedicated bus lanes, with buses every 3 – 4 minutes in peak times
- **Trigg Road:** with a bus every 15 minutes in peak times
- **Spedding Road:** with a bus every 5 minutes in peak times at Spedding Road east, and every 12 minutes in peak times at Spedding Road west
- **Hobsonville Road:** with buses every 3 – 6 minutes in peak times

There are plans to provide rapid transit to the northwest of Brigham Creek Road in the long term. Waka Kotahi is investigating a rapid transit corridor between Brigham Creek Road and Kumeū-Huapai. This will begin from a new interchange where the current Brigham Creek Road and State Highway 16 roundabout is located. The interchange will cater for a range of transport modes including a walking and cycling corridor, and an alternative State Highway. The type of vehicle that will use the rapid transit network in the northwest is yet to be determined by Waka Kotahi.

Raid Transit along SH18 is also understood to be under investigation by Waka Kotahi as is the potential to create a Westgate bus station but these are yet to progress through Detailed Business Case processes.

3.3 Walking and Cycling Improvements

All roads and new developments in the Whenuapai area are to have a homogenous design regarding walking and cycling facilities. Cycle lanes and shared paths are expected on several local roads, creating a comprehensive walking, and cycling network. The development on Totara Road is within short walking distance (approximately 10 minutes) of Whenuapai local centre where there are several shops.

There is a potential plan to create a new primary school in the proposed development site on Totara Road, which will be within walking distance from all proposed residential housing. In addition, Whenuapai Primary School is within 15 – 20 minutes walking distance from the proposed development.

3.4 Summary

It is evident that significant investment is planned here to accommodate growth with a focus on providing frequent and convenient public transport as part of ensuring there is transport choice for future residents. This means that the development is well located from a transportation perspective and the future transportation needs in wider Whenuapai are well-known and planned for.

4. Road Safety Assessment

The roads within the development area of 98 – 102 Totara Road are designed with low-speed in mind and will be consistent with the adjacent residential areas in Whenuapai. Lower speeds results in less harmful injuries if collisions occur. In addition, the planned upgrades of local roads as discussed in the road improvement sections seek to deliver safe infrastructure for all modes of travel and will be subject to safety audits.

According to RTS-6 (guidelines for visibility at driveways), a high-volume driveway (greater than 200 vehicle manoeuvres per day) onto an arterial road with a speed limit of 50km/h, requires the minimum sight distance of 90 metres. The three proposed roads connecting to Totara Road have sight distances which exceed the required minimum of 90m, therefore are deemed acceptable in terms of visibility.

A search of the Waka Kotahi Crash Analysis System (CAS) database for the period of 2016 to 2021 (inclusive) has been undertaken to assess the safety of the site. The analysis area can be seen in **Figure 4.1** and includes:

- The frontage of 98 – 102 Totara Road
- The intersection of Dale Road and McCaw Avenue (crashes within 50m)
- The intersection of McCaw Avenue and Nils Andersen Road (crashes within 50m)
- The beginning of Lilley Terrace

The analysis reveals a total of one crash has been reported over the five-year period between 2016 and 2021 inclusive. This crash was located at the intersection of Totara Road and Dale Road. This occurred in 2017 prior to the creation of McCaw Avenue. The reported crash was classified as non-injury and was the result of a driver performing a U-turn without properly checking on-coming traffic.

There are no underlying safety concerns in the local road network that would be exacerbated by the proposed development.

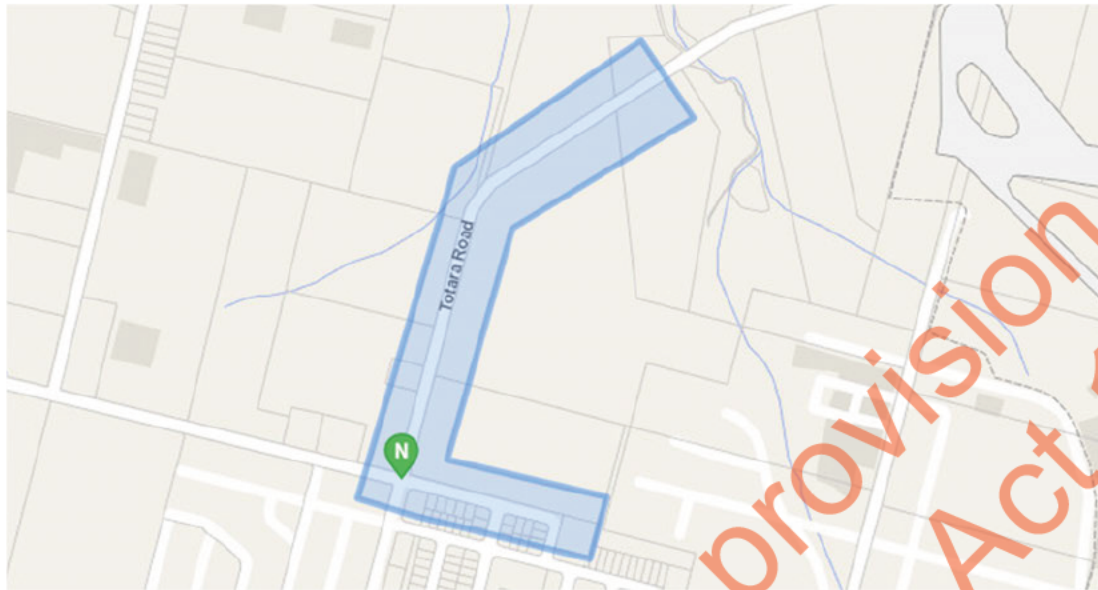


Figure 4.1 Crash Analysis Area

5. Accessibility Assessment

An accessibility assessment has been undertaken to demonstrate the excellent access to local town centre, school (potentially on site) and other services by walking, cycling and public transport. The assessment uses Google Maps to calculate how close the nearest school, shopping centre, bus stop, employment centre and ferry service are by each mode of transport. The travel time for each mode has been calculated based on typical morning peak (8-9am) and evening peak (4:30-5:30pm) travel with results summarised in **Table 5.1**.

Table 5.1 Travel times (minutes) to/from popular travel destinations from Plan Change area

	Nearest School (Whenuapai School)	Whenuapai Shopping Centre	Nearest Bus Stop	West Gate Centre and Future PT hub	Nearest Ferry Terminal (Hobsonville Marina)
Distance	1 – 1.5 km	1 – 1.5 km	0.35 km	5.4 – 5.6 km	6.1 - 6.4 km
Private Vehicle AM peak	4 min	3 min	-	7 – 14 min	8 – 12 min
Private Vehicle – PM peak	4 min	2 min	-	7 – 12 min	8 – 14 min
Public Transport AM peak	20 min	-	-	21 min	45 - 50 min
Public Transport – PM peak	20 min	-	-	21 min	45 – 50 min
Cycling – AM peak	6 min	5 min	1 minute	20 – 22 min	20 – 23 min
Cycling – PM peak	6 min	5 min	1 minute	20 – 22 min	20 – 23 min
Walking – AM peak	15 - 20 min	15 – 20 min	4 min	1 hr 10 min	1 hr 30 min
Walking – PM peak	15 – 20 min	15 – 20 min	4 min	1 hr 10 min	1 hr 30 min

Typically, good walking and cycling connections allow for people to access all their needs and destinations within 15 minutes. This is around a 1km radius for walking and a 3km radius for cycling. These align with best practice accessibility guidance from the Auckland Integrated Transport Assessment Guidelines¹. The proposed site has the potential to establish a primary school to further improve accessibility results and the local shopping centre is within comfortable walking and cycling distance.

The accessibility of the proposed development will further improve as the SGA Whenuapai roading upgrades as discussed in the Roothing Improvement sections above are established.

6. Network Capacity Assessment

To illustrate the potential number of additional trips that would be generated by the proposal and how these trips may disperse across the network, a is shown in Appendix One with a high-level of estimate of traffic generation and distribution.

We have referred to 'Whenuapai Plan Change Stage 1 Technical Inputs' prepared by Flow for Plan Change 5 which includes a table of likely traffic generation rates which can be applied assuming that there is a high level of public transport connectivity to the Totara Road development. The resultant traffic generation has been included in Appendix One and equates to 230 two-way trips in peak hour or a total of four vehicles per minute. Given there are three connections to Totara Road, there is sufficient provision for development traffic to access the wider network.

Northbound traffic from Totara Road would likely use the Brigham Creek Road / SH18 intersection and citybound traffic would use the Brigham Creek Road / SH16 intersection. Not all of the additional 230 vehicle movements will travel beyond the local area as many will visit local employment areas, schools and shopping/recreational opportunities but as a general rule-of-thumb approximately half of these would be expected to be local trips with the remainder added to the wider arterial network, resulting in approximately 115 two-way vehicles combined across SH18 and SH16.

Industry standard splits of peak hour inbound and outbound traffic from residential areas are in the order of 70% outbound/30% inbound morning peak and 40% outbound/60% inbound evening peak, so the highest level of demand is likely to be outbound in the morning peak with 80 additional trips. If 50% of these trips were to travel via SH16 towards the City and the remaining 50% towards North Shore, an additional 40 trips would travel on each of SH16 and SH18 southbound in morning peak hour. This equates to only one vehicle every 90 seconds and in isolation is unlikely to be noticeable on the wider network.

To put this into perspective the typical lane capacity of a motorway lane is 2200 vehicles per lane per hour so this would only use less than 2% of the capacity of a single lane and this percentage would reduce as vehicles travel further south past other destinations (such as Te Atatu and Henderson).

7. Conclusions

The transportation assessment of the proposed development of 98-102 Totara Road has focused on the likely impacts of establishing residential development and a potential school. It is concluded that the site is well-positioned for these activities from a transport perspective as:

- the proposed development will be well served by public transport, walking and cycling connections in the near future which are currently being planned by Supporting Growth Alliance and Waka Kotahi;
- the ODP will integrate well with the local transport network, with no inherent safety concerns;
- there is excellent accessibility to key activities and services by all modes; and
- the site is well-served by SH16 and SH18 resulting in negligible increases in traffic across the wide network.

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Appendix One

Traffic generation and distribution estimates

Released under the provision of
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