18 June 2025

Time	Topic and Purpose	Presenter(s)	Format	Time allocated
9.30am	Unsubsidised Minor Transport Improvement Programme – Macroscope Approvals The purpose of this session is to work through the project reports completed for next set of Transport Projects and seek feedback prior to presenting these at an upcoming Committee Meeting.	Martin Parkes, Kelly Stokes, Dharmen Singh	Open	90 Minutes
	Break 11.00am			
11.15am	Cycling Safety Update The purpose of this session is to provide Members an update on cycling safety within Hamilton and allow for Members to ask any questions they may have regarding cycling safety related topics.	Martin Parkes	Open	60 Minutes
	SESSION ENDS			

Project Report

Ruakiwi Road – Pedestrian Safety Improvement near Lake Domain Drive intersection

2025/26





Ruakiwi Road – Pedestrian Safety Improvement near Lake Domain Drive intersection

WHERE?



Figure 1 Site Location

SITE DISCRIPTION

Ruakiwi Road is a Minor Arterial Transport Corridor under Operative District Plan. The immediate surroundings are zoned as Special Natural Zone, General Residential Zone and Central City Zone. The Hamilton Girls' High School is located adjacent to the proposed crossing location. Ruakiwi Road has high traffic volume of 15000 vehicles per day (est.) according to 2021 mobile roads data.

The project is approved in the part 2 Unsubsidised Minor Transport Improvement programme 2024/27. The objectives of these projects are to enhance the overall safety and increase accessibility for all road users.

WHATS THE PROBLEM?

The onsite fixed camera shows more than 200 pedestrian's cross daily at this particular location on Ruakiwi Road (Refer <u>Figure 2</u>), 95% use the existing refuge. The majority are vulnerable school children accessing Hamilton Girls' High School, and people accessing recreational space, work and business.

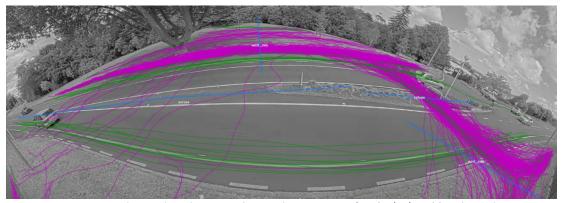


Figure 2 Survey Locations showing desire lines on Ruakiwi Road near existing refuge (22/03/2025) (Purple = Pedestrians, Green = Cyclists)

The video survey showed that the existing crossing was well used, whether the location is on the desire line or not, may be affected by the complexities of crossing at this location as the refuge does provide some measure of a "safe haven" to make a two-stage crossing. Irrespective, any proposed changes will need to reflect this and not deviate too far from this location and not introduce unwanted crossing behaviours.

The existing uncontrolled crossing has a narrow refuge island which does not provide a safe place to wait while crossing the road. The narrow refuge island can only accommodate 2 to 3 pedestrians safely, and its width does not allow for pedestrians with prams or mobility scooters, forcing children and other vulnerable road users to stand in the traffic lane or at the front and back of the island's kerbs while attempting to cross between gaps in traffic.



Figure 3 Students crossing in groups captured in the survey camera

The adjacent Intersection at Lake Domain / Tainui Street staggered side road geometry, combined with steep approach grades restrict visibility and further complicates the ability for pedestrians to judge safe gaps in traffic and for vehicles to observe pedestrians as they concentrating on finding gaps to safely merge.

WHY IT IS IMPORTANT TO ADDRESS THE PROBLEM?

Due to the high number of vulnerable road users, high volume of traffic and the absence of safe crossing facilities, pedestrians make high risk, unsafe decisions when judging safe gaps in traffic. The likelihood of a vehicle vs pedestrian resulting in death or serious injury is high.

Aspects that establish the importance of this site are:

- Proximity to School, Lake and Central City.
- People parking and walking daily for work and recreational purposes.

This site is identified in the West Town Belt Master Plan as a connection point for pedestrians and cyclists to access the lake. This aspect will be factored into the proposal to ensure the design is the future proof.

Data from the Waka Kotahi Crash Analysis System (CAS) shows, that since 2014 there have been 18 reported crashes (3 serious, 1 minor injury and 14 non injury) resulting in a social cost of \$4.04M at the intersection. No crossing related incidents/ crashes identified.

Identifying safe gaps in the continuous flow of traffic on Ruakiwi Road and Lake Road on peak hours is significantly challenging for vehicles making right turns movement to and from Lake Domain Drive, which has been reflected in the crash statistics. Implementing a formal pedestrian priority crossing will create opportunities in the traffic flow, facilitating right turn manoeuvres during peak hours and thereby enhancing intersection safety.

ROAD DATA

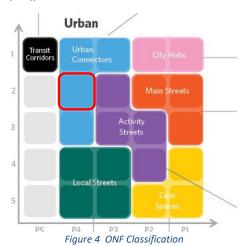
Ruakiwi Road has 2 traffic lanes with a central median and the following characteristics:

- Posted speed limit is 50km/h on Ruakiwi Road, the 85th%tile is 50.76km/h.
- There is an existing informal crossing with median refuge island near the Lake domain Drive intersection, which is only suitable enough to safely accommodate 2 people at a time.
- The overall road width is 12.8m.
- Ruakiwi Road is a 2-lane road.
- Ruakiwi Road has no dedicated cycle lanes, although there are 1.5m shoulders.
- There is 1.5m pedestrian footpath on both sides of the road.
- There is no pedestrian priority crossing within a 200-meter radius of the proposed location.
- This section of Ruakiwi Road is not a public bus route.

The One Network Framework (ONF) is a classification system which divides New Zealand's roads into categories based on their movement and place function. The ONF recognises that streets function as Urban Connector.

Road Name	ONF	Estimated AADT (veh/day) & Heavy Vehicles
Ruakiwi Road	Urban Connector (M2,P4)	15,000 (est.2023), 0% Heavy Vehicles

Table 1 One Network Framework & Volume of Traffic



CRASH HISTORY

Since 2014 there have been eighteen recorded crashes, three Serious crash, one Minor injury crashes and fourteen non-injury crashes, serious injury crashes included motorcycles. Out of the eighteen identified crashes, nine occurred between 3 PM and 6 PM, coinciding with peak hours, primarily attributed to poor decision making and judgement due to busy hours.

At this location due to Failed to give way or stop, poor judgement resulting in loss of control/Head on and Crossing/turning crashes. Since 2014 the social cost of crashes has been \$4.04M. No crashes identified at the existing refuge island and no pedestrian involved crashes.

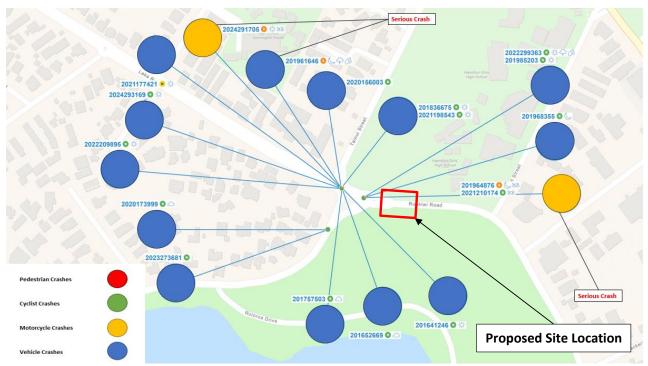


Figure 5 CAS Data – Showing Crashes (since 2014)

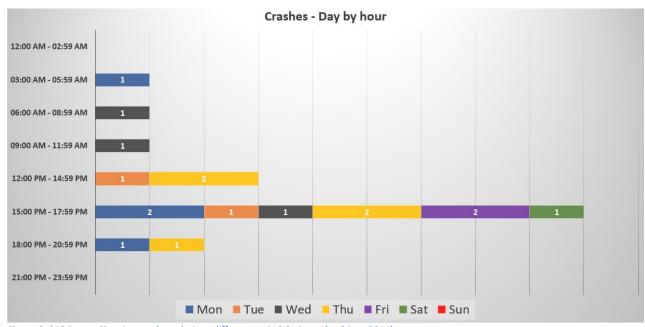


Figure 6 CAS Data – Showing crash analysis at different period during a day (since 2014)

PEDESTRIAN DATA

There is high pedestrian movement >800 along Ruakiwi Road near Lake Domain reserve, the surrounding environment consists of Hamilton Lake Domain to the west, Hamilton Girls' High School, offices and residential housing to the east together with unrestricted kerbside parking resulting in a high pedestrian crossing demand. This has resulted in high-risk decision making and risk taking by children and other vulnerable road users to cross this busy CBD fringe Urban Collector. The peak traffic times also coincide with high pedestrian and cyclist activity making it difficult for pedestrians to find safe gaps in traffic. This is compounded by pedestrians having to cross this extremely high-risk location near

the intersection. The recreational park and school adjacent, encourage pedestrian activity and there is significant pedestrian crossing activity to/from parks and Hamilton Girls' High school.

An onsite fixed camera was used to monitor and gather pedestrian and cyclist movement/ behaviour data.

Counts of the number of pedestrians and cyclist are summarised below:

	Date and Time 7am to 7pm	Pedestrian Crossing using	Pedestrian crossing	Cyclist Crossing using Existing	Cyclist crossing	Total Pedestrian
	7am to 7pm	Existing Refuge	nearby	Refuge	nearby	crossing
		(Ruakiwi Road)	locations	(Ruakiwi Road)	locations	
2	22 nd March 2025 (Saturday)*	189	12	11	0	201
	24th March 2025 (Monday)	191	9	11	0	200

Table 2 Pedestrian and cyclist Volume (* Balloons over Waikato on Saturday)

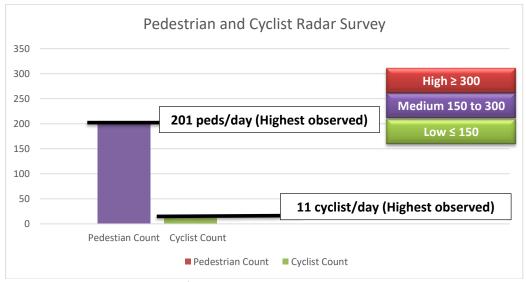


Figure 7 Pedestrian / Cyclist Crossing data survey at the existing refuge island



Figure 8 Camera survey captured on 22nd March 2025 (Saturday) (* Balloons over Waikato on Saturday)

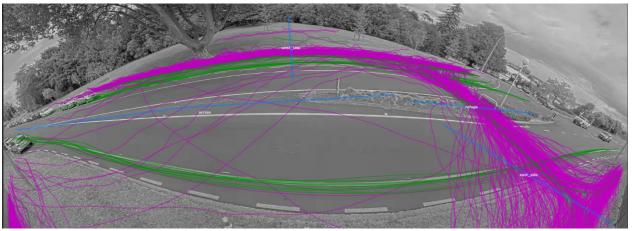


Figure 9 Survey Locations showing desire lines on Ruakiwi Road near existing refuge (24/03/2025) (Purple = Pedestrians, Green = Cyclists)

OBSERVATIONS

A site inspection was completed on 20th March 2025 and camera was installed on 22nd and 24th March to record pedestrian, cyclists and vehicle movements, during which the following observations were made:

- People were observed trapped on the central island trying to find gaps in the traffic to finish crossing the road due to the high traffic volumes.
- Vehicles accelerating at high speed through the intersection from Lake Domain Drive turning right on to Ruakiwi Road (challenge in finding gap).
- During peak hours the traffic gaps allowing pedestrians to cross the road are minimal and people had to run across the lanes while crossing.
- Existing cutdowns at the crossing are not non-wheelchair friendly due to slope up to the footpath.
- Students and family that used the narrow refuge island, were often in groups >4 which required them to stand on to the front and rear of the existing refuge island.



Figure 10 Site Photos - Observations

COMMUNITY AND PUBLIC FEEDBACK

Customer Request Management (CRM) System has recorded the following customer requests regarding pedestrian safety, crossing needs and speed environment near this location:

- August 2023: Request asking for a safe crossing facility on Ruakiwi Road to access the lake and park for recreational activities.
- January 2022: Request expressing concerns regarding vehicle speed and requesting for speed calming measure.
- August 2020: Customer raised a safety issue regarding the Ruakiwi road refuge island at the intersection of
 Lake Domain and Ruakiwi Road. They reported an incident where a child nearly got struck by a vehicle and
 noted frequent risky behaviours exhibited by both drivers and pedestrians. Additionally, they highlighted the
 high volume of foot traffic in this area, with vehicles often traveling at approximately 60 km/h and few
 opportunities for safe crossing. The customer recommends implementing a controlled crossing or some form
 of intersection improvement at this site.
- June 2020: A request has been made to consider the possibility of reviewing this specific intersection: Tainui St, Lake Rd, Ruakiwi Rd, and Lake Domain Drive and mentioned about the serious accident took place at this intersection during this period.
- March 2019: Request asking for a safe crossing facility on Ruakiwi Road to access the lake and park for recreational activities.

ENGAGEMENT PLAN

The stakeholders near this location include educational institutions (Hamilton Girls' High school who may have future planning access arrangements for students), the Cancer Society Lodge and adjacent residents. We will ensure effective and transparent communication with these primary stakeholders. This approach will facilitate face-to-face discussions regarding construction techniques and schedules. We will work with the contractor to determine traffic diversions and adaptable working hours.

The information provided to the stakeholders will encompass the project scope, objectives, a preliminary sketch of the project, and an estimated timeline for construction, while also soliciting their input on minimizing disruptions to their operations.

The approach to communication will involve postal mail, direct discussions with those affected, project signage and variable message boards (VMS). A dedicated six-week period will be established for soliciting public input. This initiative provides an opportunity for all stakeholders to converse about the processes and timelines, thereby seeking to alleviate any concerns prior to the initiation of physical activities.

STAKEHOLDERS ENGAGEMENT

Staff have completed early engagement with Hamilton Girls' High School to gather insights about the existing conditions. The school is very supportive for a formal pedestrian crossing at this location.

Ruakiwi Road is on the Fire and Emergency NZ (FENZ) priority route as shown below. Pending the direction from Elected Members, discussions will take place with FENZ to determine how we can best accommodate their operating requirements.



Figure 11 Aerial showing FENZ Route in red and the proposed location in blue rectangle.

RECOMMENDATIONS

Preferred Safest Option: Raised signalised pedestrian crossing Estimated costs \$950k (P95 including 30% contingency).

This option has an estimated social crash cost saving \$1,352,868 and a safe systems score of 126.

Alternative Option: At-grade signalised pedestrian crossing Estimated costs \$750k (P95 including 30% contingency).

As preferred option, without raised safety platform. This option has an estimated social crash cost saving \$1,270,876 and a safe systems score of 197.

TREATMENT CONSIDERATIONS

Five long-list options were developed Vehicle/Pedestrian Safety and pedestrian/ cyclist accessibility levels.

The following tables detail treatment options and matrix scoring for the options.

Treatment	Туре	Discussion	Cost ¹
A	Un-controlled crossing on Raised Safety Platform with wider refuge island and kerb buildout	Upgrade the existing Mid-Block Informal crossing on Raised Safety Platform, with kerb buildouts to provide visibility to/for crossing pedestrians and reduced crossing length and thus reduce traffic delays. Raised Safety Platform with 1:20 grade ramps. Existing Median Refuge Island width will be increased, through traveling cyclist consideration will be required at the kerb build outs. Upgrade the existing Mid-Block Informal crossing on Raised Safety Platform – \$400k Intersection improvement kerb buildout - \$150k	\$550k
В	2 Stage Mid-Block Zebra crossing on Raised Safety Platform with wider refuge island and kerb buildout	Mid-Block Zebra Crossing, located at the existing informal crossing with kerb buildouts to provide visibility to/for crossing pedestrians and reduced crossing length and thus reduce traffic delays. Raised Safety Platform with 1:20 grade ramps. Existing Median Refuge Island will be upgraded as part of this option, through traveling cyclist consideration will be required at the kerb build outs. Mid-Block Crossing with Raised Safety Platform – \$500k Intersection improvement kerb buildout - \$150k	\$650k
С	At-Grade Mid-Block Signalised Pedestrian Crossing with kerb buildout	Mid-Block Crossing, located at the existing informal Refuge Island. Refuge Island will be removed as part of this option. Mid-Block Crossing – \$600k Intersection improvement kerb buildout - \$150k	\$750k
D	Mid-Block Signalised Pedestrian Cross with Raised safety platform with kerb buildout	Mid-Block Crossing, located at the existing informal Refuge Island. Raised Safety Platform with 1:20 grade ramps. Refuge Island will be removed as part of this option. Mid-Block Crossing with Raised Safety Platform – \$800k Intersection improvement kerb buildout - \$150k	\$950k
Е	Signalised intersection	Signalised intersection with pedestrian crossing. This will change entire layout of the existing intersection and increase safety.	\$4M +

Table 3 Long List Treatment table

¹ These are concept level estimates (P95) include 30% contingencies.

TREATMENT ANALYSIS MATRIX

Treatment	Cost Estimate	Current Cost of Crashes	Crash Reduction	Traffic Delays	Driver Dissemfort	5-10 year	Active Mode	Active Mode	Safe System	Risk	Risk
Treatment	Cost Estimate	(Option Reduction)		Estimate		Maintenance Costs	Travel Time	Comfort	Risk Score	Reduction %	Reduction
Existing	\$ -	\$ 4,099,600	No Change	No Change	No Change	No Change	No Change	No Change	296	No Change	No Change
Un-controlled crossing with RSP with wider refuge island and kerb build outs	\$ 550,000	\$ 1,352,868	33%	Minor	Moderate	Moderate	Low Benefit	Medium Benefit	215	27%	81
2 stage Zebra crossing with RSP with wider refuge island and kerb build outs	\$ 650,000	\$ 1,291,374	32%	Moderate	Moderate	Moderate	High Benefit	High Benefit	199	33%	97
At-Grade Signalised Crossing with kerb build outs	\$ 750,000	\$ 1,270,876	31%	Moderate	Minor	Moderate	Medium Benefit	High Benefit	197	33%	99
Signalised Crossing with RSP and kerb build-outs	\$ 950,000	\$ 1,352,868	33%	Moderate	Moderate	Moderate	Medium Benefit	High Benefit	126	57%	170
Signalised Intersection	\$ 4,000,000	\$ 1,270,876	31%	Moderate	No Change	Moderate	Low Benefit	Low Benefit	179	40%	117.5

Figure 12 Treatment Comparison Table Mid-Block Pedestrian Crossing



Alternative Option

Ruakiwi Rd Pedestrian crossing Improvements Options Safe System Risk Score by Crash Type

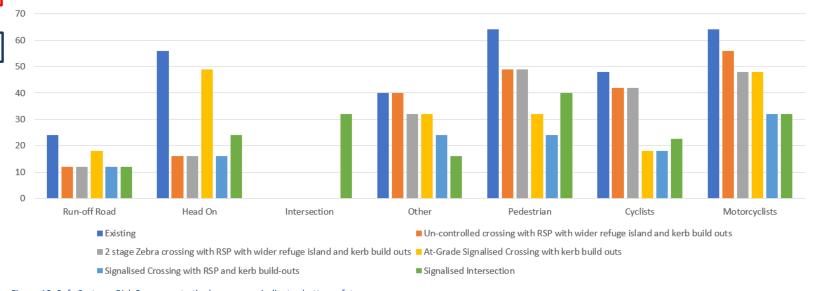


Figure 13 Safe Systems Risk Score – note the lower score indicates better safety.

RECOMMENDED OPTION

Preferred Safest Option: Raised signalised pedestrian crossing Estimated costs \$950k (P95 including 30% contingency).

The proposed crossing is located at the eastern end of the existing pedestrian refuge island, achieving the maximum distance from the intersection, while maintaining crossing desire lines. The crossing has a Raised Safety Platform with 1:20 ramp grades to balance safety of pedestrians (reduce speeds) and vehicle transition (transition speed 40km/h), which will provide additional intersection traffic calming by reducing operating speeds. This option has an estimated social crash cost saving \$1,352,868 and a safe systems score of 126.

It is recommended that future proofing be provided to enable the crossing to be upgraded to a dual crossing for cyclists. Recommend additional in ground ducting to save costly future pavement works.

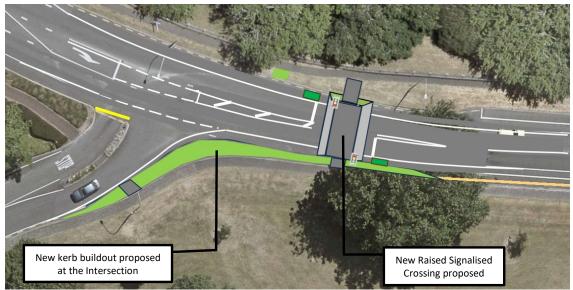


Figure 14 Preferred Option – Signalised Crossing on Raised Safety Platform.



Figure 15 Minor Branch trimming (Red Box) will be required

Approval has been granted for a new footpath project within the Part 2 Unsubsidised Minor Transport Improvement programme 2024/27, located on Lake Domain Drive, as part of a separate programme of works.

Alternative Option: At-grade signalised pedestrian crossing Estimated costs \$750k (P95 including 30% contingency).

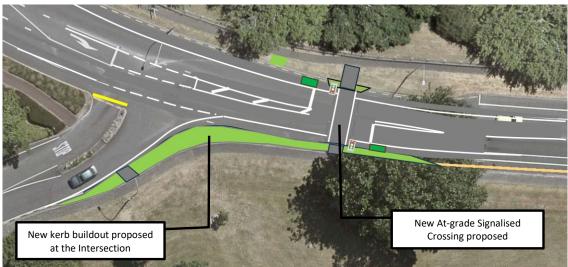


Figure 16 Alternative Option: At-grade signalised pedestrian

The proposed crossing is located at the eastern end of the existing pedestrian refuge island, achieving the maximum distance from the intersection, while maintaining crossing desire lines. This option is the same as preferred option but without Raised Safety Platform. However, without Raised Safety Platform, the approach and transition speeds are not reduced to a survivable pedestrian impact speed, as a result there is risk, that any crash involving a pedestrian is likely to result in death or serious harm. Drivers will be preparing to slow down while approaching the signalised crossing and this will provide some measure of traffic calming. This option has an estimated social crash cost saving \$1,270,876 and a safe systems score of 197.

It is recommended that future proofing be provided to enable the crossing to be upgraded to a dual crossing for cyclists. Recommend additional in ground ducting to save costly future pavement works.

This project would be 100% locally funded via Part 2 Unsubsidised Minor Transport Improvements Programme.



Figure 17 Minor Branch trimming (Red box) will be required

Approval has been granted for a new footpath project within the Part 2 Unsubsidised Minor Transport Improvement programme 2024/27, located on Lake Domain Drive, as part of a separate programme of works.

Project Report

Comries Road and Hukanui Road Intersection Improvements

2024/2025





WHERE?

The site is located at the intersection of Comries Road and Hukanui Road in Chartwell, on the south-eastern corner of Chartwell Mall. The location is shown below in Figure 1.



Figure 1: Site Location

SITE DESCRIPTION

The Comries Road and Hukanui Road intersection is located in Chartwell. Both roads are defined as 'Activity Streets' in the Hamilton One Network Framework (ONF) Classification report, dated 27 February 2024.

The intersection is adjacent to Chartwell Shopping Centre. Chartwell Shopping Centre's car park can be accessed approximately 75m north of the intersection from Hukanui Road.

Hukanui Primary School is located approximately 400m north of the intersection, via Pickering Crescent which intersects with Hukanui Road. The intersection is utilised by students in the area.

Besides the Chartwell Shopping Centre, most of the surrounding land use is residential.

WHAT IS THE PROBLEM?

The existing formation of the Comries Road and Hukanui Road intersection is a standard give-way T-intersection with no priority for either pedestrians or mobility aid users to safely cross the road.

The traffic flows during peak times also makes it difficult for vehicles to turn right out of Comries Road which add significant delays to the bus routes that use this intersection, and they are regularly unable to keep to their timetable.

In October 2021, the Eastern Pathways School Link Single Stage Business Case (SSBC) was developed to look at improving active mode links along Peachgrove Road and Hukanui Road. Hukanui Road currently has low active transport/public transport mode share and significant/serious road safety concerns.



Figure 2: Picture of bus attempting to turn right out of Comries Road with a queue of traffic behind the bus

WHY IS IT IMPORTANT TO ADDRESS THE PROBLEM?

Due to the high number of vulnerable road users, high volume of traffic, including a large number of buses, and the absence of safe crossing facilities, pedestrians make high risk, unsafe decisions when judging safe gaps in traffic. The likelihood of a vehicle vs pedestrian resulting in death or serious injury is high. During peak times traffic turning right out of Comries Road are finding it difficult to find safe gaps in traffic and drivers are making high risk turns and this delay is also affecting buses and creating significant delays for the routes that go though this intersection.

Aspects that establish the importance of this site are:

- Proximity to the Chartwell Shopping Centre, Hukanui Primary School and the residential properties that surround the intersection.
- People parking and walking for work (either by bus or at the Shopping Centre), shopping and recreational purposes.

Data from the Waka Kotahi Crash Analysis System (CAS) shows, that since 2015 there have been 25 reported crashes (1 serious, 8 minor injury and 16 non injury) resulting in a social cost of \$4,178,800 at the intersection and included pedestrian crashes.

Identifying safe gaps in the continuous flow of traffic on Hukanui Road and Comries Road during peak hours is significantly challenging for vehicles making right turns movement to and from Comries Road, which is reflected in the crash statistics. Implementing a traffic signal controlled intersection will allow traffic flow, particularly right turn manoeuvres, reducing the delays for buses and allow pedestrian and active users to cross the intersection safely.

ROAD DATA

Comries Road has the following characteristics:

- Posted speed limit of 50km/h
- Two lane road with a flush median. Splits into left turn and right turn lane at the approach of the intersection

- Shoulder on northern side of road with no stopping at all times (NSAAT) broken yellow lines
- Parallel car parking located on the southern side of the road
- Uni-directional on road painted cycle lanes either side of the road
- Pedestrian footpath on either side of the road
- Pedestrian refuge/splitter island located at the intersection of Comries Road

Hukanui Road has the following characteristics:

- Posted speed limit of 50km/h
- Two lane road with a median/right turn lane
- Shoulder either side of the road with no stopping at all times (NSAAT) broken yellow lines
- No cycle lane
- Pedestrian footpath on either side of the road
- Pedestrian refuge crossing located 50m north of the intersection

There are currently six local bus routes that operate through the Comries Road and Hukanui Road intersection. These are shown below in Table 1.

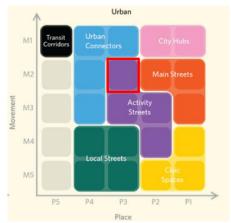
Table 1: Public Transport Routes

Road Name	Bus Service	Bus Stop Location
Hukanui Road (North)	14 Claudelands	248 Hukanui Road and 249 Hukanui Road, located
	11 Fairfield	470m north of the intersection.
	RC Rototuna Circular	There is a single bus stop at 201 Hukanui Road
		(northbound only) which caters for route 11 and 14
		only.
Hukanui Road (South)	14 Claudelands	52 Hukanui Road and 77 Hukanui Road, located
	11 Fairfield	970m south of the intersection.
	O Orbiter	
	21 Northern Connector	
	4N Flagstaff North	
Comries Road	RC Rototuna Circular	124 Comries Road and 127 Comries Road, located
	14 Claudelands	270m west of the intersection.
	11 Fairfield	
	O Orbiter	
	21 Northern Connector	

The One Network Framework (ONF) is a classification system which divides New Zealand's roads into categories based on their movement and place function. The ONF recognises that streets function as transport corridors but are also places where people spend time and interact with their surroundings. The current road ONF is listed below:

Table 2: One Network Framework & Volume of Traffic

Road Name	ONF	Traffic Count (12-hour 7am-7pm)
Hukanui Road	Activity Street (M2,P3)	13,230 (counted 24/05/25) 417 Heavy Vehicles (3%)
Comries Road	Activity Street (M3,P3)	7,923 (counted 24/05/25), 333 Heavy Vehicles (4%)





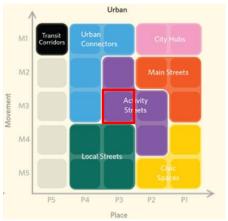


Figure 4: Comries Road ONF Classification

Both roads are defined as 'Activity Streets' in the Hamilton Future One Network Framework (ONF) Classification report, dated 27 February 2024

CRASH HISTORY

A ten year crash search was undertaken between 2015-2024, including all available results for 2025, for a 100m radius of the intersection. There have been 25 reported crashes from this search criteria.

16 of the reported crashes were non-injury, eight were minor injury and one resulted in a serious injury. The minor injury crashes included one cyclist, while the remaining seven crashes were due to vehicle/motorcyclist driver crashes. The one serious crash involved a pedestrian who crossed Hukanui Road just north of Comries Road and was struck by a vehicle.

Of the total crashes, 52% are related to crossing/turning crash types where drivers have failed to give way when turning out of Comries Road, which is common for a give-way t-intersection with relatively high traffic volumes. Nine crashes are related to rear end crashes and two are a result of drivers losing control. The total social costs of all reported crashes are estimated to be \$4.178m.

The collision diagram is show below in Figure 5.

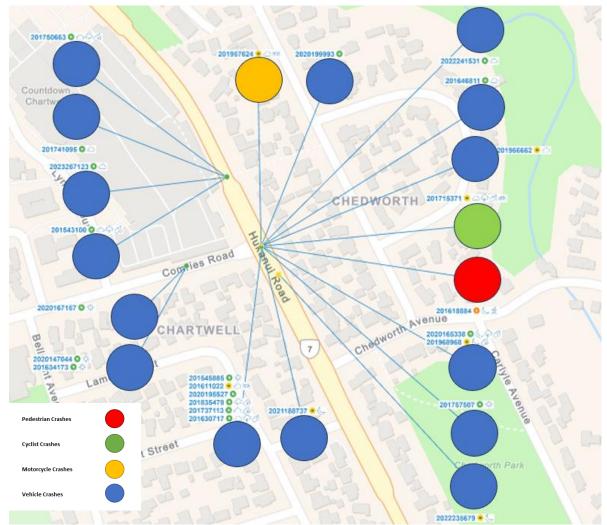


Figure 5: Collision Diagram

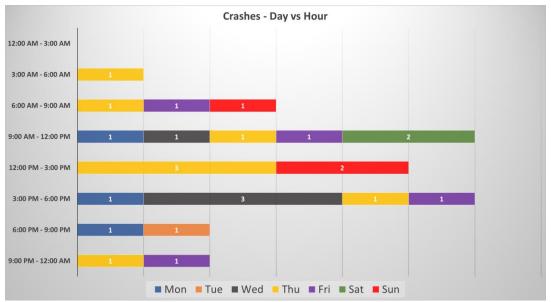


Figure 6: Crash History at Different Time Periods

PEDESTRIAN AND CYCLIST DATA

The Comries Road and Hukanui Road intersection serves many active mode users accessing the mall and school students heading northbound and southbound along Hukanui Road. Two surveys were for a 12-hour period (7am to 7pm) undertaken on:

- Tuesday 27 May 2025
- Saturday 31 May 2025

The following pedestrian and cyclist counts are summarised below in <u>Table 3</u>.

Table 3: Pedestrian and Cyclist Summary

Survey Date	Total Pedestrian Count (12-hr)	Total Cyclist Count (12-hr)
Tuesday 27 May 2025	237	33
Saturday 31 May 2025	294	42

An overview pedestrian and cyclist route map and summary of pedestrian and cyclist movements is summaries below in Figure 7 and Figure 8.

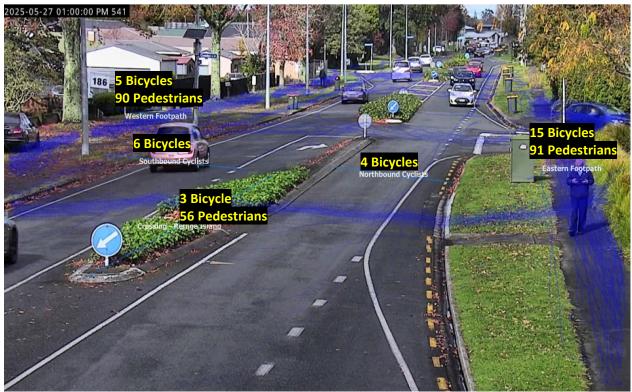


Figure 7: Tuesday 27 May 2025 Pedestrian and Cyclist Movement Summary

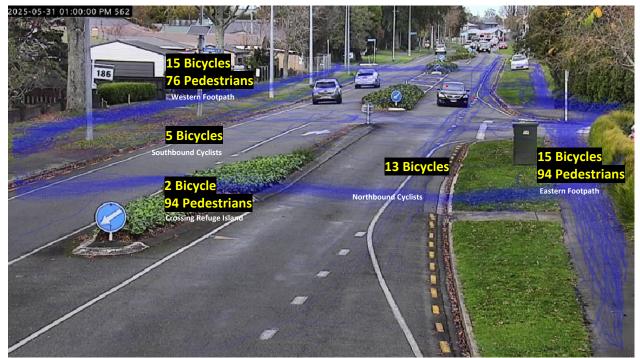


Figure 8: Saturday 31 May 2025 Pedestrian and Cyclist Movement Summary

The area was surveyed to have a high pedestrian and cyclist demand. It was surveyed that cyclists are using the footpath as opposed to cycling on the road given the lack of cycling facilities in the area.

The existing northern pedestrian refuge island is well used by active mode users. Almost all of the western and eastern footpath pedestrians used the existing refuge crossing to travel across Hukanui Road.

During the surveys, some pedestrians chose to cross Hukanui Road at the intersection (not the refuge) representing there is a demand for active mode users at the intersection.

SITE OBSERVATIONS

A site inspection was completed on 8 May 2025 during which the following observations were made:

- Driver speeds were observed on site to be high along Hukanui Road. A Radar Speed Analysis Report was
 undertaken on 27 May 2025 and indicated that the 85th percentile speed was 52.6km/h. Drivers turning
 right out of Comries Road accelerated quickly when gaps were present as traffic flows were observed to be
 moderate with limited gaps.
- The southern side of Comries Road had a moderate car parking demand, with approximately 50% car parking spaces unoccupied.
- Some pedestrians were observed crossing Comries Road to access the mall. This is a wide area to cross, especially on the eastbound lane where there are two traffic lanes.
- There is limited visibility for pedestrians looking right (south) when crossing using the existing pedestrian refuge island due to the presence of a hedge on the south-western corner of the intersection.
- Driver speeds were also observed to be fast for drivers turning left onto Comries Road. The carriageway is wide which enables higher driver speeds.

COMMUNITY AND PUBLIC REQUESTS

A search of the Customer Request Management (CRM) system found two results and there has been a request from Waikato Regional Council (WRC):

- **July 2022**: Customer summarised concerns of the intersection being dangerous for pedestrians. They stated that drivers turn around the intersection too quickly for pedestrians to cross and noted there is a high risk for a potential crash when they cross the road. Customer expressed concerns that the intersection is used by Hukanui Primary School students.
- **September 2020**: Customer stated that the intersection urgently needs traffic lights. The customer expressed concerns that they have observed near misses at the give way intersection. They stated this is because during peak hours drivers struggle to find a gap in traffic when turning and take chances.
- June 2025: Waikato Regional Council (WRC) have supported the idea for an upgrade to the Comries Road and Hukanui Road intersection. WRC stated that currently there several WRC services use this intersection, which presents notable safety concerns for drivers attempting to exit Comries Road. WRC stated that enhancements to this area would not only address these existing issues but also support the reliability of future service expansions, including potential high-frequency routes. WRC noted that this is a key intersection where there can be significant delays to numerous services particularly at peak times. WRC have had issues with the bus getting stuck in the intersection because of cars speeding up and closing the gaps not allowing the bus to continue through.

PROPSOED STAKEHOLDER ENGAGEMENT

Several stakeholders are located in close proximity to this intersection, including local businesses, educational institutions, and residents.

We will ensure effective and transparent communication with the primary stakeholders. This approach will facilitate face-to-face discussions regarding construction techniques and schedules. We will collaborate with the contractor to determine traffic diversions and adaptable working hours. The information provided to the stakeholders will encompass the project scope, objectives, a preliminary sketch of the project, and an estimated timeline for construction, while also soliciting their input on minimizing disruptions to their operations.

The approach to communication will involve postal mail, direct discussions with those affected, project signage, variable message boards (VMS), and posters placed in local shops. A dedicated six-week period will be established for soliciting public input. This initiative provides an opportunity for all stakeholders to converse about the processes and timelines, thereby seeking to alleviate any concerns prior to the initiation of physical activities.

The following parties have been identified for engagement:

- Chartwell Shopping Centre (and adjacent businesses in Lyndon Court): Intersection is located adjacent to the southeastern corner of the Chartwell Shopping Centre.
- Hukanui Primary School: The intersection is used by students from Hukanui Primary School.
- Residential properties on the eastern side of Hukanui Road. The project could impact how drivers access the properties adjacent to intersection.
- Residential properties on the southern side of Comries Road. The project might have an impact on the onroad parking on Comries Road.
- Comries Road and Hukanui Road are not identified key routes for Fire and Emergency NZ (FENZ) as below in Figure 9.

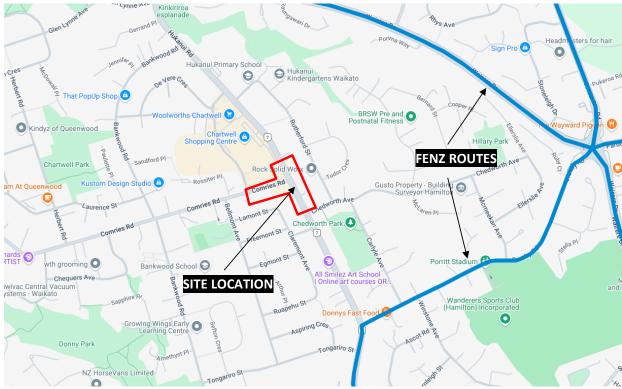


Figure 9: FENZ Routes

RECOMMENDATIONS

The Eastern Pathways School Link SSBC, prepared in 2021, recommended traffic signals at the Comries Road and Hukanui Road intersection. This was identified through a multi-criteria analysis (MCA) process and, at that time, was supported by the community and stakeholders. A signalised intersection would allow both active mode users time to cross the intersection and reduce delays for buses, as well as generally improving safety for all roads users at this intersection. A visualisation of this concept is shown below in Figure 10.



Figure 10: Visualisation of the Signalised Concept of Comries Road and Hukanui Road

In May 2023, an intersection report was prepared to provide an assessment of the above signalised intersection concept design. The intersection was modelled to assess traffic performance. This study identified that the Comries Road leg of this intersection currently operates at a poor level of service (LoS), particularly for right turn movements. The signalised concept design was assessed to improve LoS for Comries Road, especially for right turning traffic as well as decreasing the likelihood of right-angle crash types occurring. Therefore, a signalised T-intersection is recommended at this location.

There is currently no cycle lane on Hukanui Road and proposing a cycle lane here would not connect to any facility north or south along Hukanui Road. It is recommended to provide shared paths at a minimum width of 3m, and adjust kerbs where necessary, around the intersection to safely facilitate pedestrian and cyclist movements. There is an existing on-road cycle lane on Comries Road, which the shared path could tie into.

It is also recommended that the proposed signalised intersection is raised as the safest option to assist in lowering driver speeds through the intersection. The raised intersection can help reduce driver speeds to the desirable safe system threshold speed of 30km/h and the lessen the impact and severity should driver vs driver or driver vs active mode user conflict occur.

Having the proposed signalised intersection at grade is an alternative option, which is still safer than the existing intersection formation. However, the at-grade intersection will not help reduce vehicle speeds along Hukanui Road below to safe system threshold of 30km/h as effectively as a raised intersection.

The design options discussion, safe system scores and anticipated costs are summarised below in Table 4.

Table 4: Treatment Option Summary

Option	Treatment Type	Discussion	Indicative Cost Estimate
1. (Recommended)	Raised signalised intersection with kerb realignment and shared paths	Proposed raised signalised intersection to improve traffic efficiency on Comries Road and to reduce likelihood of intersection crash types occurring. The intersection is raised to help reduce driver speeds to the desirable safe system threshold speed of 30km/h. Shared paths proposed around the intersection to cater for both pedestrians and cyclists to use. Propose dual or shared crossing points on all intersection legs to cater for both pedestrians and cyclists.	\$2.5m
2.	At-grade signalised	Safe System Score = 149 Proposed signalised intersection to improve	\$2.0m
(Alternative)	intersection with kerb realignment and shared paths	traffic efficiency on Comries Road and to reduce likelihood of intersection crash types occurring. The intersection is at-grade which is unlikely to help reduce speeds for traffic along Hukanui	\$2.011
		Road to an acceptable safe system speed.	

		Shared paths proposed around the intersection to cater for both pedestrians and cyclists to use. Propose dual or shared crossing points on all intersection legs to cater for both pedestrians and cyclists. Safe System Score = 242	
3. (Not Recommended)	Roundabout	Proposed conversion of intersection into a roundabout. Unlikely to improve bus efficiency. Insufficient space to install a roundabout for all bus movements and conflict with protected trees. Roundabout does not align with the SSBC. Will help reduce driver speeds and remove right angle crash types. High cost option. Safe System Score = Not Assessed	\$5.0m
4. (Not Recommended)	Mid-block Crossings	Proposed mid block crossings for active mode users. Will improve connectivity for active mode users by priority crossings. Will not address bus efficiency issues. May not address speed reduction if mid block crossings are at grade. Mid block crossings do not align with the SSBC. Does not address safety concerns or remove right angle crash type. Safe System Score = Not Assessed	\$400k

TREATMENTS CONSIDERED

An alternative intersection type, such as a roundabout, does not align with the conclusions of the SSBC and would not provide the desired outcomes for active mode users and public transport. There is also insufficient space, due to the presence of multiple protected trees in the vicinity of the site, to propose a roundabout large enough to accommodate all turning movements for buses. Therefore, a roundabout is not recommended as an option.

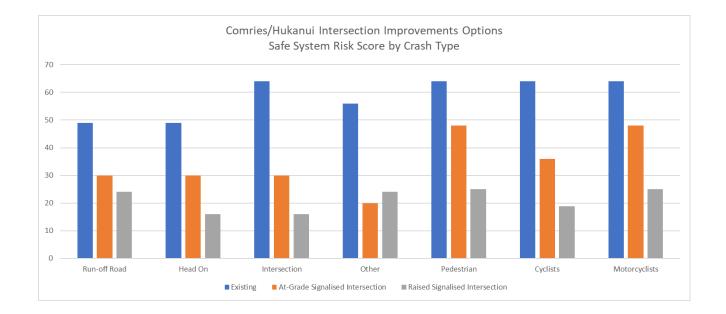
TREATMENT ANALYSIS MATRIX

Treatment	Cost Estimate	2	urrent Cost of Crashes (Option Reduction)	Crash Reduction Estimate	Traffic Delays	Driver Discomfort	5-10 year Maintenance Costs	Active Mode Travel Time			Risk Reduction %	Risk Reduction
Existing	\$ -	\$	4,178,800	No Change	No Change	No Change	No Change	No Change	No Change	410	No Change	No Change
At-Grade Signalised Intersection	\$ 2.000.000	Ś	940.230	23%	Moderate	No Change	Moderate	High Benefit	High Benefit	242	41%	168
Raised Signalised Intersection	\$ 2,500,000	\$	1,023,806	25%	Moderate	Moderate	Moderate	High Benefit	High Benefit	149	64%	261.25

Table 5 Treatment Comparison Table Mid-Block Pedestrian Crossing

Alternative Option

Preferred Option



Project Report

Te Rapa Road/Garnett Avenue/Vardon Road Intersection Improvements – 2025/26







Figure 1: Site location.

The intersection of Te Rapa Road, Garnett Avenue, and Vardon Road is located in Te Rapa. The intersection is located at the southern end of the Te Rapa industrial area. Te Rapa Road is an urban connector that links Te Rapa to the south, including to the city centre. The intersection is used by school children accessing several nearby schools such as Vardon School and St Peter Chanel Catholic School. The intersection is also close to Waterworld, Minogue Park, and Vardon Park.

Two bus stops (one northbound and one southbound) are located near to the intersection. These bus stops service the Comet and #21 bus routes.

The intersection is located immediately south of a service lane on the west side Te Rapa Road and is used by drivers (and other road users) accessing the service lane.

The project was part of the Low-Cost Low Risk (LCLR) programme in FY2023/24, however, was deferred to the 2024-27 LTP period. The objectives of these projects are to improve the overall safety of the intersection and improve accessibility.

This project has been funded in the 2024-27 Minor Transport Improvements Programme as an intersection improvement.

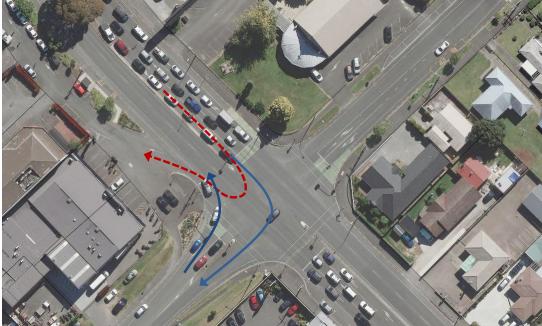
WHAT'S THE PROBLEM?

There are no crossing facilities for pedestrians crossing the north side of Te Rapa Road, forcing pedestrians to make three separate crossings or cross informally across five lanes of traffic.

The Garnett Avenue approach is busy but only allows for 15m of two-lane queueing. This causes congestion on Garnett Avenue and the inefficient queue requires additional green time which must be taken away from Te Rapa Road.

The intersection is close to a northbound service lane on Te Rapa Road and a lot of drivers' U-turn to access the service lane. At most intersections, drivers can turn left out of side roads while other drivers are turning right in. However, this cannot operate safely at this intersection due to conflicts with drivers making U-turns. This exacerbates the congestion on Garnett Avenue.





The entrance to the service lane is also very wide (approximately 15m) and bus passengers using the northbound stop are required to cross the entrance to access the bus stop. The southbound bus stop is a long way from the intersection (approximately 85m), which reduces access for passengers coming from the wider area.

WHY IT IS IMPORTANT TO ADDRESS THE PROBLEM?

Data from the Waka Kotahi Crash Analysis System (CAS), the High-Risk Intersections Guide (HRIG), staff observations, public and stakeholder feedback, show that the intersection is high risk to both pedestrians and vehicle occupants. The current intersection has a poor safety record, from 2015 to 2024, there have been 28 reported crashes, including 5 injury crashes. Resulting in a social cost of \$2.54M.

One of the injury crashes involved a pedestrian.

Fourteen of the recorded crashes (50%) occurred between 1500 and 1800 hours.

ROAD DATA

This intersection is a 4-legged signal-controlled intersection and has the following characteristics:

- Te Rapa Road
 - o The posted speed limit is 60 km/h
 - o There are signalised pedestrian crossings on three sides of the intersection, but the northern side has no pedestrian crossing facilities
 - o The road reserve is 30-42m wide
 - o There are two traffic lanes in each direction with a flush median or solid median
 - There are painted on-road cycle lanes
 - Has no footpath on the western side north of this intersection.

There are currently two bus routes (#21: Northern Connector and The Comet) operating along Te Rapa Road and one bus route (#18: Te Rapa) operating along Garnett Avenue and Vardon Road as shown in the table below:

Road Name	Bus Service	Bus Stop Location
Te Rapa Road (north)	#21 and Comet	Two bus stops; Approximately 50 m (northbound) and 100 m (southbound) from the intersection.
Garnett Avenue	#18	Approximately 60 m west of the intersection.
Vardon Road	#18	Two bus stops; Approximately 50 m (westbound) and 150 m (eastbound) from the intersection.

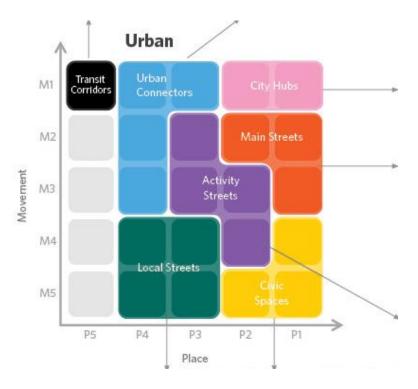
Table 1 Public Transport Routes

Our data shows that the existing bus stops accommodate approximately 48 bus journeys per day. However, passenger numbers are limited by the lack of safe crossing facilities Te Rapa Road and the service lane entrance.

The One Network Framework (ONF) is a classification system which divides New Zealand's roads into categories based on their movement and place function. The ONF recognises that streets function as transport corridors but are also places where people spend time and interact with their surroundings. The current road ONF is listed below:

Road Name	ONF	Estimated AADT (veh/day) & HV
Te Rapa Road	Urban Connector (M1,P3)	25,100 – 26,900 (est.2023), 7% Heavy
Vardon Road	Activity Street (M3,P3)	5,600 (est.2021), 0% Heavy
Garnett Avenue	Activity Street (not classified)	3,900 (est.2021), 3% Heavy

Table 2 One Network Framework & Volume of Traffic



CRASH HISTORY

In the last ten years (2015 to 2024), 28 crashes were recorded with the following severity:

- Five minor injury crashes
- 23 non-injury crashes

While the recorded crashes did not include any serious or fatal injuries, there is significant potential for serious or fatal injuries in the future. The operating speeds of vehicles on Te Rapa Road exceeds the survivable speeds for the following crashes:

- Crashes involving a pedestrian, cyclist, or micromobility user;
- · Crashes involving a motorcyclist; and
- Side impact crashes between motor vehicles.

1.1 PEDESTRIAN, BIKING AND MICROMOBILITY DATA

There are notable pedestrian links across this intersection as it provides connections to nearby schools (St Peter Chanel Catholic, Vardon, Forest Lake, St Andrews Middle), Waterworld, local shops and employment, and to the bus stops noted above.

Garnett Avenue is a community link and Te Rapa Road and Vardon Road are cross city connections in the Strategic Plan for Biking and Micromobility.

Currently, most pedestrians who cross Te Rapa Road use the southern side. However, the north side would provide a better connection for many journeys, especially to and from bus stops, if a safe crossing were available.

Vehicle, pedestrian, and cyclist data was recorded on Tuesday 21st March 2024 in the following time periods:

- 0630-0930
- 1100-1330
- 1430-1630

The total recorded volumes are shown in the figures below:

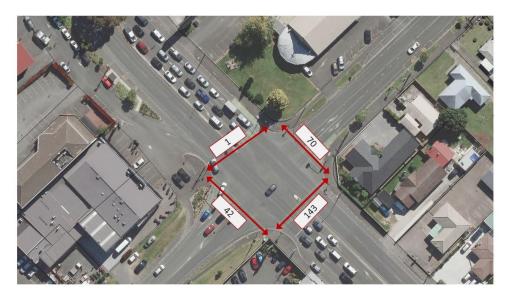


Figure 2: Recorded walking movements on 21 March 2024

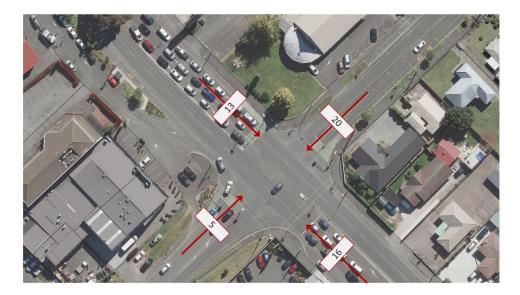


Figure 3: Recorded biking movements on 21 March 2024 (note that the approach volumes shown include all turning movements).

SITE OBSERVATIONS

Staff completed several site visits to assess existing conditions.

Below are the observed driver and pedestrian behaviours on site:

- Drivers approaching the intersection on Garnett Avenue routinely queue in the cycle lane even though it is illegal to do so.
- The service lane entrance is wide and at a shallow angle to the main road which allows drivers to enter the service lane at high speed. However, the service lane has many driveways and is shared with pedestrians, therefore, high speeds are inappropriate
- Passengers accessing the northbound bus stop must cross the service lane entrance to access the bus stop
- Many southbound drivers accessed the service lane by doing a U-turn at the signalised intersection
- There is no pedestrian crossing on the northern side of the intersection so pedestrians (including bus passengers) must use multiple crossings resulting in significant delays or choose to cross in the mid-block of Te Rapa Road where the face multiple lanes of fast-moving traffic.
- The wide kerb radii at the intersection increase the crossing distances for pedestrians (including bus passengers) and allow drivers to turn at high speed, increasing the likelihood of crashes between turning drivers and pedestrians and increasing the severity of injuries when crashes do occur.
- At peak periods, side roads receive very short green lights to prioritise traffic on Te Rapa Road.
 When the pedestrian phase across Te Rapa Road runs, this green light must be extended
 which can contribute to traffic delays. Shortening this crossing distance or allowing traffic
 from Vardon Road and Garnett Avenue to move at the same time would reduce this impact
 on traffic.

COMMUNITY AND PUBLIC FEEDBACK

Customer Request Management (CRM) System has shown the following customer requests were generally regarding pedestrian crossing requirements and safe intersection requirements and include:

The corner of Garnet Av with Te Rapa of Could do with a whole for of those bike lanner safety potentially from the corner of Garnet Av with Te Rapa of Could do with a whole for of those bike lanner safety potentially from the corner of Garnet Av with Te Rapa of Could do with a whole for of those bike lanner safety potentially from the corner of Garnet Av with Te Rapa of Could do with a whole for of those bike lanner safety potentially. Just a matter of respecting the cyclists and their space. That is how we get the looks from the other drivers but want to go straight. Just a matter of respecting the cyclists and their space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space. The space of the space of the space of the space of the space. That is how we get may be part as a few lands of the space of the space. That is how we get may be part as a few lands of the space. That is how we get may be part as a few lands of the space of the space. That is how we get the looks from the other drivers but want to go straight. Just a matter of respecting the cyclist and the space of t

STAKEHOLDER ENGAGEMENT

[TBC]

TREATMENT CONSIDERATIONS

The following tables detail treatment options and matrix scoring for the options.

	Treatments	Discussion	Cost
1.	Add the missing pedestrian crossing, and correct the kerblines at the intersection and service lane entrance	 Option would have significant impact on travel times for drivers, especially on Garnett Avenue Bus passengers are still required to cross the service lane entrance to access the bus stop, but driver speeds are controlled Option does not address existing safety issues at the intersection. This option could enable the southbound bus stop to be relocated to the preferred location Due to the impacts on traffic delays, this option has not been assessed further 	
1A.	Add the missing pedestrian crossing, and correct the kerblines at the intersection and service lane entrance Add a left turn slip lane and shared path on Garnett Avenue	 Bus passengers are still required to cross the service lane entrance to access the bus stop, but driver speeds are controlled Any crashes involving pedestrians, cyclists, motorbikes, or right angles crashes between drivers are likely to result in death or serious injury due to high operating speeds on Te Rapa Road Option is likely to improve travel time for drivers Option will resolve the issue of drivers illegally queueing in the cycle lane This option could enable the southbound bus stop to be relocated to the preferred location Raised safety platforms designed for a comfortable negotiation speed of 40 km/h (1:20 gradient) will be included on the left turn slip lane and at the entrance to the service lane 	\$1.5m
1B	Add the missing pedestrian crossing, and correct the kerblines at the intersection and service lane entrance Add a left turn slip lane and shared path on Garnett Avenue	 Bus passengers are still required to cross the service lane entrance to access the bus stop, but driver speeds are controlled Any crashes involving pedestrians, cyclists, motorbikes, or right angles crashes between drivers are likely to result in death or serious injury due to high operating speeds on Te Rapa Road Option is likely to improve travel time for drivers Option will resolve the issue of drivers illegally queueing in the cycle lane This option could enable the southbound bus stop to be relocated to the preferred location 	\$2m

			1
	Add raised safety platforms on all approaches	 All raised safety platforms will be designed for a comfortable negotiation speed of 40 km/h (1:20 gradient) 	
2.	Add the missing pedestrian crossing, and correct the kerblines at the intersection and service lane entrance Relocate the service lane entrance	 Option would have significant impact on travel times for drivers on Garnett Avenue The new service lane entrance would introduce a new risk from vehicles turning right in or performing U-turns. Option would have some impact on travel times for drivers on Garnett Avenue It may not be possible for the new service lane entrance to accommodate the largest vehicles that currently use the service lane This option could enable the southbound bus stop to be relocated to the preferred location Due to the impacts on traffic delays, this option has not been assessed further 	\$1.5m
2A.	Add the missing pedestrian crossing, and correct the kerblines at the intersection and service lane entrance Relocated service lane entrance Left turn slip lane and shared path on Garnett Avenue	 The new service lane entrance would introduce a new risk from vehicles turning right in or performing U-turns. It may not be possible for the new service lane entrance to accommodate the largest vehicles that currently use the service lane Any crashes that do occur are likely to result in death or serious injury due to high operating speeds on Te Rapa Road This option could enable the southbound bus stop to be relocated to the preferred location 	\$2m
28	Add the missing pedestrian crossing, and correct the kerblines at the intersection and service lane entrance Relocated service lane entrance Left turn slip lane and shared path on Garnett Avenue Raised safety platforms on all approaches	 The new service lane entrance would introduce a new risk from vehicles turning right in or performing U-turns. It may not be possible for the new service lane entrance to accommodate the largest vehicles that currently use the service lane This option could enable the southbound bus stop to be relocated to the preferred location 	\$2.5m
3.	Provide a two- stage midblock pedestrian crossing near	Bus stops would be located further away from the side roads which provides a poorer connection to the wider community	\$2m

	400 Te Rapa Road (Metro motors) Relocate bus stops to suit the crossing location	 An additional crossing would cause greater delays for drivers Option does not address existing safety and efficiency issues at the intersection. 	
4.	Convert to a roundabout Provide underpasses for walking and cycling	 A minimum sized roundabout would require property purchase on at least two corners of the intersection A roundabout would result in greater delays for drivers Option has the greatest cost This option is likely to have the greatest impact on travel Due to the high costs, this option has not been assessed further 	\$10m

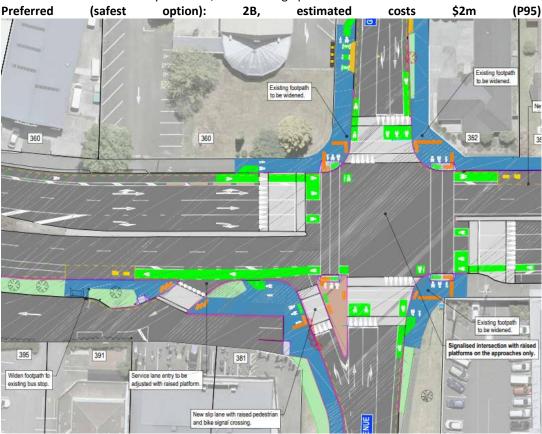
Table 1 Long list

TREATMENT ANALYSIS MATRIX

Treatment	Cost Est	imate	 ent Cost of Crashes ption Reduction)	Crash Reduction Estimate	Traffic Delays	Driver Discomfort	5-10 year Maintenance Costs	Active Mode Travel Time	Active Mode Comfort	Safe System Risk Score	Risk Reduction %	Risk Reduction
Existing	\$	-	\$ 2,582,000	No Change	No Change	No Change	No Change	No Change	No Change	172	No Change	No Change
Option 1A	\$	1,500,000	\$ 361,480	14%	Minor	No Change	Minor	High Benefit	High Benefit	164	5%	8
Option 1B	\$	2,000,000	\$ 413,120	16%	Moderate	Significant	Moderate	High Benefit	High Benefit	104	40%	68.5
Option 2A	\$	2,000,000	\$ 361,480	14%	Minor	No Change	Minor	High Benefit	High Benefit	238	-38%	-66
Option 2B	\$	2,500,000	\$ 413,120	16%	Moderate	Significant	Moderate	High Benefit	High Benefit	213	-24%	-41
Option 3 - Signal Midblock Crossing	\$	2,000,000	\$ 451,850	18%	Moderate	Minor	Moderate	High Benefit	High Benefit	200	-16%	-28

OPTIONS FOR FURTHER CONSIDERATION

Based on the treatment analysis matrix, the following options are recommended:



This option raises the intersection to manage driver speeds. Ramps will be designed for a comfortable negotiation speed of 40 km/h (1:20 gradient). This reduces the likelihood of death or serious injury if a crash does occur while still allowing emergency vehicles to travel through with minimal delay.

This option adds the missing pedestrian crossing on the north side of Te Rapa Road, reduces crossing distances, at all crossing points, and controls vehicle speeds which all contribute to making the pedestrians experience (including access for bus passengers) safer and more comfortable.

The existing southbound bus stop will be relocated closer to the intersection. This improves access for passengers coming from the wider area. Bus stops will be kerbside, the same as the current bus stops, to minimise impacts on drivers.

This option tightens the service lane entrance and introduces a raised safety platform to encourage appropriate driver speeds within the service lane. The alignment still enables the largest vehicles to access the service lane, including newer high productivity motor vehicles HPMVs.

Changing the existing on road cycle lane on Garnett Avenue to a shared path and providing a signalised crossing for cyclists will stop drivers illegally blocking the cycle lane and provide safer access for cyclists across the intersection.

This option achieves a 40% risk reduction compared to the existing intersection layout.

Alternative (safer) option 2A, estimated costs \$1.5m (P95)

This option is the same as option 2B (above), except that the raised safety platforms are removed, except at the left turn slip lane, and the service lane entrance.

Without a raised platform, the approach speeds are not reduced. Therefore, crashes involving pedestrians, cyclists, motorcyclists, and right-angled crashes between vehicles are likely to result in death or serious injury.

This option achieves a 5% risk reduction compared to the existing intersection layout.

Project Report

Ulster Street/Maeroa Road Safety Improvement Project 2025/26





Ulster Street/Maeroa Road Intersection Safety Improvement Project

WHERE?



Figure 1 Site Location

SITE DISCRIPTION

The Ulster Street/Maeroa Road intersection is located in Whitiora. The intersection is near the Beerescourt Neighbourhood Centre. Ulster Street is an urban connector that links the Central City to the northern suburbs. The intersection is used by school children accessing several nearby schools such as Maeroa Intermediate School, Forest Lake School, and Whitiora School.

The intersection provides a link to the Te Awa River Ride shared path and is close to several small service businesses such as a physiotherapist and mortgage broker. This section of Ulster Street has several bus stops that service the high frequency Comet bus service.

The project originally received design funding in the 2021-2024 LTP period as part of the Low-Cost Low Risk (LCLR) programme under the Public Transport Improvements workstream. The objectives of these projects was to enhance the accessibility to the bus stops and facilities at the bus stops.

This project has been funded in the 2024-27 Minor Transport Improvements Programme as an intersection improvement.

WHATS THE PROBLEM?

There are no crossing facilities for pedestrians, leading to pedestrians making 2 stages crossings, and using the flush median as a waiting place. Pedestrians crossing the road including those accessing the nearby bus stops and local schools.

The intersection is stop controlled with a high number of vehicles on Ulster Street, making it difficult for side road vehicles to find into safe gaps in traffic, resulting in high risk turning or crossing from the side roads. These turning vehicles are not focusing on whether there are pedestrians present.

The existing bus stops are tightly spaced (approximately 200 m), the bus stops do not have accessible kerbs and there is no safe crossing facility for bus passengers to access the stops. Waikato Regional Council have indicated that they would like to run buses from Maeroa Road on to Ulster Street; however, they cannot do this currently due to the delays and unreliability turning at this intersection, so they use Hobson Street, a narrow local street parallel to Ulster Street.

WHY IT IS IMPORTANT TO ADDRESS THE PROBLEM?

Data from the Waka Kotahi Crash Analysis System (CAS), the High-Risk Intersections Guide (HRIG), staff observations, public and stakeholder feedback, show that the intersection is high risk to both pedestrians and vehicles. The current intersection has a poor safety record, since 2015 there have been 39 reported crashes (3 serious injury, 13 minor injury and 22 non injury), resulting in a total social cost of \$8.07m.

ROAD DATA

This intersection is a 4-legged Priority (Stop) controlled intersection and has the following characteristics:

- The posted speed limit is 60km/hr on Ulster Street and 50 km/h on Maeroa Road.
- The overall site width boundary to boundary is 24 m on Ulster Street and 20 m on Maeroa Road.
- Maeroa Road has:
 - o Two lanes for general traffic
 - Painted on-road cycle lanes
 - Some on-street car parking
 - Pedestrian crossing facilities with a splitter islands at Ulster Street
- Ulster Street has:
 - o Four lanes for general traffic,
 - A flush median
 - o Painted on-road cycle lanes.
 - No pedestrian crossing facilities
- There are pedestrian footpaths on all approaches.
- Driver approaching the intersection westbound on Maeroa Road are required to turn left. This requirement is in the traffic bylaw and is supported by suitable signs and markings.

There are currently two bus routes (#:21 Northern Connector and the Comet) operating along Ulster Street as shown in the table below. Additionally, Waikato Regional Council (WRC) have indicated that they would like to re-route the #18 Te Rapa to Ulster Street if this intersection were signalised. Currently the stops are spaced much closer than the recommended spacing of 400 m.

recommended spacing of 400 m.					
Road Name	Bus Service	Bus Stop Location			
Ulster Street (southbound)	#21, Comet	3 bus stops, approximately 20 and 150 m north and 60 m			
		south of the intersection			
Ulster Street (northbound)	#21, Comet	2 bus stops, approximately 160 m north and 90 m south of the			
		intersection			

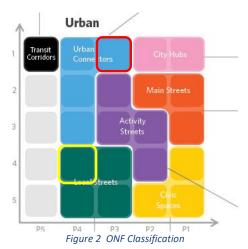
Table 1 Public Transport Stops

Our data shows that the existing bus stops accommodate approximately 85 bus journeys per day. However, passenger numbers are limited by the lack of safe crossing facilities across Ulster Street.

The One Network Framework (ONF) is a classification system which divides New Zealand's roads into categories based on their movement and place function. The ONF recognises that streets function as transport corridors but are also places where people spend time and interact with their surroundings. The current road ONF is listed below:

Road Name	One Network Framework Classification	Estimated AADT (veh/day) & HV
Ulster Street (north)	Urban Connector(M1,P3)	18,100 (est.2023), 7% Heavy
Maeroa Road (west)	Local Street (M4,P4)	5,500 (est.2021), 0.8% Heavy
Maeroa Road (east)	Local Street (M5, P4)	5,500 (est.2021), 0.8% Heavy

Table 2 One Network Framework & Volume of Traffic



CRASH HISTORY

Between 2015 and 2024, 39 crashes were recorded in NZTA's Crash Analysis System, including:

- 3 serious injury crashes
- 13 minor injury crashes

Crashes were most likely (14 out of 39) to be recorded between 1500 and 1800. 'Crossing not turning', i.e. crossroads crashes were the most common movement type (17 out of 39).

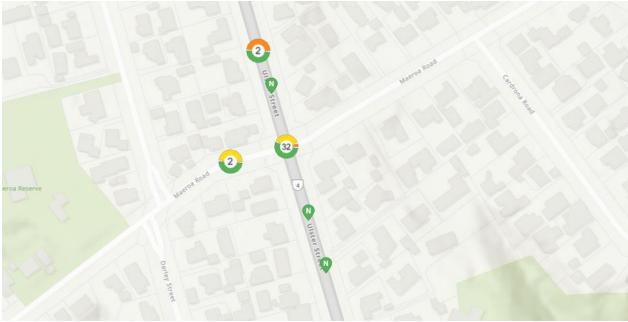


Figure 3 CAS Data – Showing Crashes (since 2015)

Of the three recorded serious injury crashes, one involved a cyclist, one involved an overtaking driver losing control, and one driver failing to give way at the crossroads.

PEDESTRIAN, BIKING AND MICROMOBILITY DATA

This intersection provides connections between Forest Lake/Maeroa and Whitiora/Fairfield, including access to key community facilities such as the netball centre and BMX track at Minogue Park, Maeroa Intermediate, Forest Lake, and Whitiora schools, tennis courts and bowls greens in Maeroa, Awatere Care centre, Beerescourt neighbourhood centre, and Te Awa River Path.

Maeroa Road is a community link and Ulster Street is a cross city connection in the Strategic Plan for Biking and Micromobility.

There are pedestrian desire lines to access the local schools, businesses, and bus stops. It is also likely that people who would like to travel on foot are discouraged by the dangerous crossing conditions.

OBSERVATIONS

A site inspection was completed on 07th November 2024 and on 14th May 2025 during which the following observations were made:

- It is difficult for pedestrians to cross the road as there are no formal pedestrian crossings present on Ulster Street. Pedestrians are required to cross approximately 20m of roadway in one go.
- The stop control on Maeroa Road results in long delays for side road traffic, especially when turning right and some delay for users turning right into side roads.
- The cycle lanes do not meet the minimum width requirements (1.75 m) for the operating speed of traffic (60 km/h).
- Bus stops do not include accessible kerbs which can make it difficult to board or alight the bus, especially for people using walking aids or prams.
- Some drivers are illegally travelling straight or turning right from the eastern side of Maeroa Road.In a 15 minute period, 6 drivers were observed and crossing Ulster Street westbound, this movement is prohibited under the traffic bylaw with appropriate signs and markings on site.

COMMUNITY AND PUBLIC FEEDBACK

Customer Request Management (CRM) System has shown the following customer requests were generally in regard to pedestrian crossing requirements and safe intersection requirements and include:

Multiple requests received in January 2024. Resident described the intersection as "very hectic and extremely hard to get out of". Advised that it can take "over seven minutes to turn right off Maeroa Road in the mornings". Requested "traffic calming measures" and a roundabout.

STAKEHOLDERS ENGAGEMENT

Staff will complete early engagement with Maeroa Intermediate School to gather insights about the existing intersection and with Waikato Reginal Council to understand potential bus operations.

The proposed Project is likely to require some car parking removal on Maeroa Road approaching the intersection, HCC Staff will engage with the business (The Back Clinic) and gather feedback at the early stage.

The proposed project could re-introduce through movements westbound on Maeroa Road. Staff have engaged residents on this section of Maeroa Road to assess whether this is desirable.

Ulster Street is a confirmed key route for Fire and Emergency NZ (FENZ) as shown below. Staff will engage with FENZ at the appropriate time depending on the direction provided by Elected Members.

Several stakeholders are located in close proximity to this intersection, including local businesses, educational institutions, and residential areas. We will ensure effective and transparent communication with the primary stakeholders, especially the businesses. This approach will facilitate face-to-face discussions regarding construction techniques and schedules. We will collaborate with the contractor to determine traffic diversions and adaptable working hours. The information provided to the stakeholders will encompass the project scope, objectives, a preliminary sketch of the project, and an estimated timeline for construction, while also soliciting their input on minimizing disruptions to their operations.

The approach to communication will involve postal mail, direct discussions with those affected, project signage, variable message boards (VMS), and posters placed in local shops. A dedicated six-week period will be established for soliciting public input. This initiative provides an opportunity for all stakeholders to converse about the processes and timelines, thereby seeking to alleviate any concerns prior to the initiation of physical activities.

RECOMMENDATIONS

Eight options were identified for this site, and results of the analysis are shown below

Based on the outcome of this analysis, staff recommend the following improvement options for this site:

Recommended Safest Option: Raised signalised intersection and relocated bus stops.

A signalised intersection with raised safety platforms to enable a comfortable negotiation speed of 40 km/h (1:20 gradient). The intersection will include pedestrian crossing on all four legs. Kerb realignments are included to ensure suitable vehicle tracking and provide space for pedestrians waiting to cross the road. Bus stops will be relocated closer to the crossing points to improve access and will remain kerbside. Estimated cost of \$1.5m.

Alternative Option: At-grade signalised intersection and relocated bus stops.

As preferred option, without RSP. Vehicle speed is not addressed, crashes involving pedestrians, cyclists, or motorcyclists or side impact crashes between vehicles are likely to result in death or serious injury. Estimated cost of \$1.3m.

TREATMENT CONSIDERATIONS

The following tables detail treatment options and matrix scoring for the options.

	Treatment	Discussion	Cost ¹
A.	Midblock signalised pedestrian crossing and relocated bus stops	 Does not address intersection crash risk or delays. It is not possible to implement a two stage crossing at this location, therefore, crossing distances would be ~20m which can result in significant delays for traffic and can result in greater red light running. The crossing is likely to be ~50 m south of the intersection, which imposes approximately 70 s delay for pedestrians. Due to the minimal improvement and significant cost associated with this option, it has not been assessed further. 	\$800K
B.	Midblock zebra or courtesy crossing and relocated bus stops	 Zebra crossings on 60 km/h roads need sign off from the NZTA and staff are not aware of any such installation being installed NZTA guidelines only recommend courtesy crossing where operating speeds are 30 km/h or less which is not met here Zebra and courtesy crossings on multi-lane roads can cause 'masking' where a vehicle that is stopped in one lane hides a 	\$800K

¹ These are concept level estimates (P95) include 30% contingencies.

C.	Midblock uncontrolled crossing with refuge island and relocated	 crossing pedestrian from other approaching traffic and can cause failure to give way type crashes Due to the legal and design challenges, this option has not been assessed further Does not address intersection crash risk or delays. The crossing is likely to be ~30 m away from the intersection, which imposes approximately 45 s delay for pedestrians. Pedestrians would still need to cross two lanes of 60 km/h traffic 	\$300k
D.	bus stops Grade separated	at once with 8.5m crossing distance Does not address intersection crash risk or delays. The provide is likely to be \$220 and for the interesting the second control of the se	\$6m-\$10m
	crossing and relocated bus stops	 The crossing is likely to be ~30 m away from the intersection, which imposes approximately 45 s delay for pedestrians. Some pedestrians feel uncomfortable using underpasses This option would require property purchase Due to the high cost, this option has not been assessed further 	
E.	Turning restrictions (west side)	 This option does not allow buses to be re-routed to Ulster Street This option is likely to re-direct drivers to local streets in Maeroa to make right turns. These streets are not designed to accommodate larger volumes of traffic This option would need to be combined with another option Due to the likely traffic re-routing, this treatment has not been assessed further 	-
E.	Turning restrictions (east side)	 This option would need to be combined with another option This option would reinforce the desired function of Maeroa Road (east) as a local road for access This option could include left out only or no access This option would reduce delays for all other users at the intersection. Staff have completed early engagement with local residents and businesses to assess potential impacts and opportunities for this option. 	-
F.	Roundabout or grade separation	 This option would require property purchase Due to the high cost, this option has not been assessed further 	\$10m-\$100m
G.	Signalised intersection – at grade	 Addresses failure to give way crashes Provides formal crossings for pedestrians close to desire lines and significantly improves safety for pedestrians Allows bus stops to be consolidated to reduce travel time and improve legibility for passengers There is some residual risk due to the high operating speeds on Ulster Street. 	\$1.3m
G.	Signalised intersection – raised	 Addresses failure to give way crashes Provides formal crossings for pedestrians close to desire lines and significantly improves safety for pedestrians Allows bus stops to be consolidated to reduce travel time and improve legibility for passengers It is unlikely that NZTA would approve co-funding for the raised components of this option. 	\$1.5m

Table 3 Long List Treatment table

TREATMENT ANALYSIS MATRIX

Treatment	Cost Estimate	Current Cost of Crashes (Option Reduction)	Crash Reduction Estimate	Traffic Delays	Driver Discomfort	5-10 year Maintenance Costs		Active Mode Comfort		Risk Reduction %	Risk Reduction
Existing	\$ -	\$ 8,190,800	No Change	No Change	No Change	No Change	No Change	No Change	230	No Change	No Change
Option 1 - At-grade Intersection with Signals	\$ 1,300,000	\$ 1,515,298	19%	Moderate	No Change	Moderate	High Benefit	High Benefit	100	57%	130
Option 2 - Fully Raised Intersection with Signals	\$ 1,500,000	\$ 1,679,114	21%	Moderate	Moderate	Moderate	High Benefit	High Benefit	54	77%	176

Table 4 - Treatment Analysis Matrix

OPTIONS FOR FURTHER CONSIDERATION

Based on the treatment analysis matrix:

Preferred Safest Option: Raised signalised intersection with relocated bus stops. Estimated costs \$1.5m (P95).

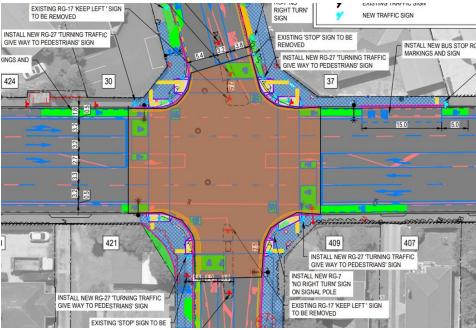


Figure 4 Preferred Option – raised signalised intersection

This option upgrades the intersection to traffic signal control. This reduces the likelihood of crashes occurring as road user judgement is removed.

This option raises the intersection to manage driver speeds. Ramps will be designed for a comfortable negotiation speed of 40 km/h (1:20 gradient). This reduces the likelihood of death or serious injury if a crash does occur while still allowing emergency vehicles to travel through with minimal delay.

The existing bus stops will be consolidated and relocated closer to the intersection. This improves access for passengers and reduces travel time for busses. Bus stops will be kerbside, the same as the current bus stops, to minimise impacts on drivers.

This option can feasibly accommodate turning restrictions on the eastern side of Maeroa Road. Staff will engage with residents and businesses to identify their preferred arrangement. Scoring does not reflect the turning restrictions, but safety outcomes are likely to improve if turning restrictions are included.

This option will accommodate buses turning into and out of Maeroa Road (west) as part of an optimised #18 route.

Alternative Option: Signalised intersection with relocated bus stops. Estimated costs \$1.3m (P95).

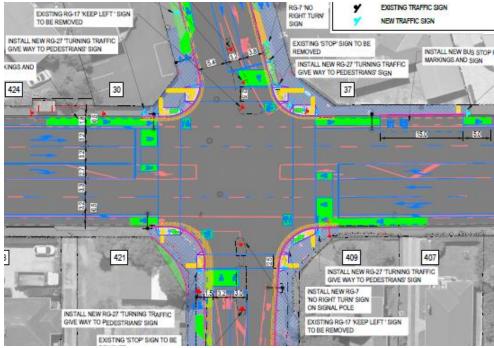


Figure 5 Alternative Option – At-grade signalised intersection

This option upgrades the intersection to signal control. This reduces the likelihood of crashes occurring as road user judgement is removed.

Without a raised platform, the approach speeds are not reduced. Therefore, crashes involving pedestrians, cyclists, motorcyclists, and right angled crashes between vehicles are likely to result in death or serious injury.

The existing bus stops will be consolidated and relocated closer to the intersection. This improves access for passengers and reduces travel time for busses. Bus stops will be kerbside as the current bus stops to minimise impacts on drivers.

This option can feasibly accommodate turning restrictions on the eastern side of Maeroa Road. Staff will engage with residents and businesses to identify their preferred arrangement. Scoring does not reflect the tunring restrictions, but safety outcomes are likely to improve if turning restrictions are included.

Project Report

Ulster / Abbotsford Street Crossing Improvements

2024/2025





WHERE?



Figure 1 Site location

The intersection of Ulster Street and Abbotsford Street is located in Whitiora. The intersection is near to FMG Stadium and is located within the urban growth area. Ulster Street is an urban connector that links the Central City to the northern suburbs. The intersection is used by school children accessing Whitiora School, and local residents making daily trips including accessing bus stops on Ulster Street.

The intersection is adjacent to FMG Stadium and provides a link to the Te Awa River Ride shared path.

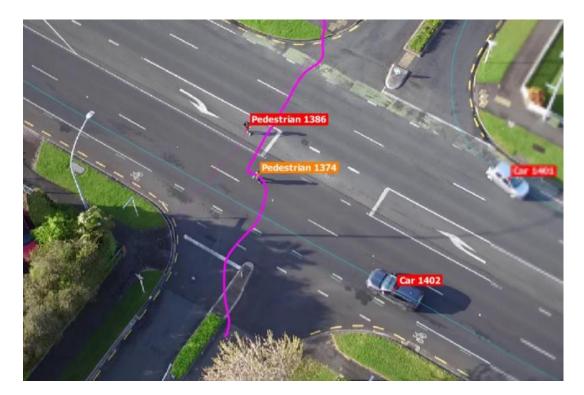
The project was part of the Low-Cost Low Risk (LCLR) programme in FY2023/24, however, was deferred to the 2024-27 LTP period. The objectives of these projects are to improve the overall safety of the intersection and improve accessibility.

WHAT'S THE PROBLEM?

Residents and business owners have requested improvements to address dangerous conditions for pedestrians and frequent crashes. Crashes are failure to give way mainly from side road vehicles having to turn right out/ straight across 4 lanes of traffic travelling at 60km/h.

Whilst the speed limit on Ulster Street is 60 km/h, vehicles are often observed exceeding this, particularly westbound traffic who are accelerating from the Whitiora traffic Signals.

Pedestrians crossing Ulster Street must cross 4 lanes of traffic, while attempting to judge safe gaps in high volumes of fast-moving traffic. Median refuge islands are located 85 m either side of the intersection and are too far from the desire lines for crossing the road. In addition, the islands are too narrow to safely accommodate pedestrians particularly with prams, wheelchairs or mobility scooters or travelling in groups (such as parents with children). The result is pedestrians (including school children) taking high risks, crossing at the intersection and using the flush median/ right turn bay as a waiting place.



In addition, it is difficult for side road drivers to find safe gaps in 4 lanes of traffic and has resulted in a high number of 'failure to give way' crashes and near misses. Several of these crashes have resulted in serious injuries.

WHY IT IS IMPORTANT TO ADDRESS THE PROBLEM?

There is an ongoing pattern of failure to give way crash issue and this is due to side road vehicles wanting to turn right out / or straight across, having to judge gaps in 4 lanes of high-volume traffic travelling at 60 km/h. In addition, without a crossing facility, the likelihood of a pedestrian crash resulting in death or serious harm is high. A crossing facility could also improve side road vehicles being able to turn safely, however, this depending on the type of crossing facility being proposed.

Data from the Waka Kotahi Crash Analysis System (CAS), the High-Risk Intersections Guide (HRIG), staff observations, public and stakeholder feedback, show that the intersection is high risk to both pedestrians and vehicle occupants.

The current intersection has a poor safety record. Between 2015 and 2024 there have been 28 crashes recorded at the intersection including 13 injury crashes corresponding to a social cost of \$5,673,400.

ROAD DATA

This intersection is a 4-legged Priority (Give Way) controlled intersection and has the following characteristics:

- The posted speed limit is 60km/hr. Observed peak hour operating speeds are approximately 50km/h for each direction of travel.
- There are no pedestrian crossing facilities for pedestrians crossing Ulster Stree
- There are pedestrian footpaths on all approaches.
- The overall site width boundary to boundary is 20 m (Abbotsford) or 30 m (Ulster).

- Abbotsford Street
 - Is a 2-lane road
 - Has no dedicated cycling facilities
 - Has pedestrian refuge islands at the intersection
- Ulster Street
 - Is a 4-lane road with a flush median and right-turn bay.
 - Has painted on-road cycle lanes.
 - Has pedestrian refuge islands approximately 85 m away from the intersection



The Comet and #21 bus routes currently serve Ulster Street. Bus stops are located midblock north and south of Abbotsford Street. Bus stops are closely spaced (~250) and the Comet route study identified that consolidating the nearby stops would improve efficiency and that the unsafe/uncomfortable access discouraged bus use.

The One Network Framework (ONF) is a classification system which divides New Zealand's roads into categories based on their movement and place function. The ONF recognises that streets function as transport corridors but are also places where people spend time and interact with their surroundings. The current road ONF is listed below:

Road Name	ONF	Estimated AADT (veh/day) & HV		
Ulster Street	Urban Connector (M1,P3)	15,000 (est.2023), 5% Heavy		
Abbotsford Street (east)	Local Street (M5,P4)	2,600 (est.2021), 2% Heavy		
Abbotsford Street (west)	Local Street (M5,P4)	2,700 (est.2021), 4% Heavy		

Table 2 One Network Framework & Volume of Traffic

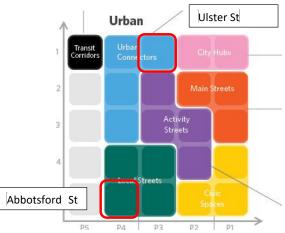


Figure 2: Ulster Street and Abbotsford Street within the One Network Framework for 2035

Within Hamilton's Strategic Network for Biking and Micromobility, Abbotsford Street is identified as a Local Link, intended to incorporate "Speed management treatments on local roads and quieter collector roads to integrate with the Tier 1 and 2 networks.". Abbotsford Street currently meets this intended function with traffic volumes and speed low enough to enable cycling on road by people of all ages and abilities. However, the crossing of Ulster Street is unattractive for users and not suitable for all ages and abilities.

Ulster Street is identified as a Cross City Connection, intended to "Connect key activity clusters with separated bike lanes". Ulster Street does not currently meet this intended function. However, painted on road cycle lanes accommodate more confident riders.

CRASH HISTORY

Between 2015 and 2024 there have been 28 crashes recorded at the intersection:

- 2 crashes resulted in serious injuries,
- 11 crashes resulted in minor injuries, and
- 15 crashes did not cause injuries
- The estimated social cost of the recorded crashes at the intersection is \$5,673,400.



Figure 2: Recorded crashes (2015 to 2024) NZTA CAS

Both serious injury crashes involved vehicles travelling straight through on Abbotsford Street colliding with vehicles on Ulster Street. Six of the minor injury crashes involved vehicles travelling straight through on Abbotsford Street colliding with vehicles turning to or from Ulster Street.

These movements are over-represented in the crash record. Crossing and turning movements are <8% of peak period traffic, but represent 62% of injury crashes/

Several crashes have also been recorded between the intersections and the nearby pedestrian refuge islands. It's worth noting that a short distance to the south of the intersection, there have been 2 injury crashes involving pedestrians crossing Ulster Street,1 serious, 1 minor. This demonstrates the high risk that exists at this location and the need for safe crossing provisions.

PEDESTRIAN DATA

This intersection forms an important walking link across Whitiora, particularly for trips to or from FMG Stadium, Whitiora School, Te Awa River Ride, and bus stops on Ulster Street. There are on-road cycle lanes along Ulster Street.

3 surveys were undertaken

- 10th October 2023- Staff observation
- 10th October -Video Camera data collections
- 15th August 2024 Staff observation

Observations 10 October 2023

Walking and biking counts were completed on between 0750 and 0850 and between 1645 and 1745. The results are displayed below.

Observed biking volumes were higher eastbound (towards the city centre) in the morning and higher westbound (away from the city centre) in the evening. Observed walking volumes were higher on the southern side of Ulster Street in both observation periods.

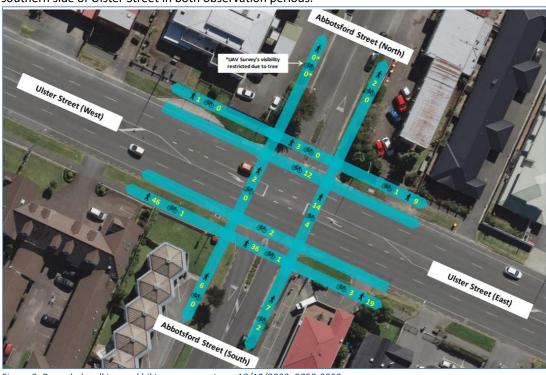


Figure 3: Recorded walking and biking movements on 10/10/2023, 0750-0850

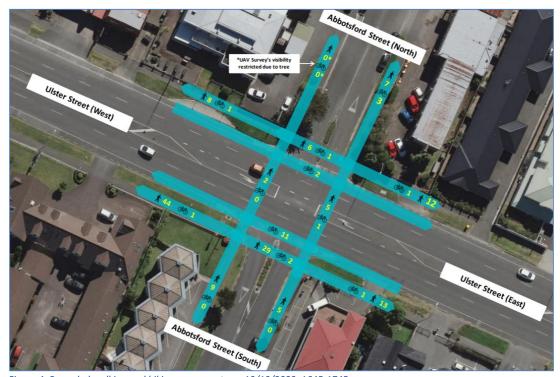


Figure 4: Recorded walking and biking movements on 10/10/2023, 1645-1745

Observed walking routes across Ulster Street were dispersed along the street, however crossings were more likely to be observed east of Abbotsford Street (note that, in the image below, east is on the left). Observed walking routes across Abbotsford Street were concentrated at the existing formal crossings at Ulster Street.



Figure 5 Indicative crossing locations for walking and biking.

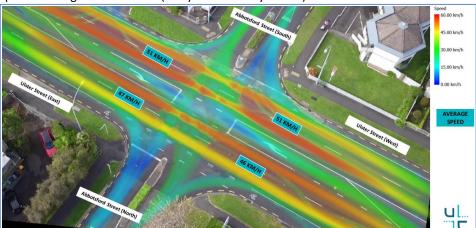
Observations 15 August 2024

Staff completed an additional pedestrian and cyclist survey on Thursday 15 August 2024 from 1500 – 1600 hours to observe school travel. Staff counted pedestrians who crossed Ulster Street at or between the existing refuge islands (80m north and south of Abbotsford Street). A total of

- 23 pedestrians crossed Ulster Street north of Abbotsford Street
- 25 pedestrians crossed Ulster Street south of Abbotsford Street

Summary of Observations

- Pedestrians do not consistently cross at the same location and frequently pause in the flush median and / or right turn bay.
- Staff observed multiple near hits due to drivers turning right or proceeding straight ahead from Abbotsford Street failing to give way to traffic on Ulster Street.
- Mean vehicle speeds on Ulster Street, even at peak hours, are approximately 50 km/h.
 Speeds are higher westbound (away from the city centre).



- During the one-hour school period on 15 August 2024, staff observed the following behaviour:
 - Five near misses due to drivers proceeding straight or heading right from Abbotsford Street failing to give way to vehicles on Ulster Street.
 - Drivers waiting to proceed straight or turn right from Abbotsford Street block the exit from Abbotsford Street causing delay to drivers behind wanting to turn left, which creates pressure to turn quickly when a gap may not be suitable.
 - o Four primary aged children crossed Ulster Street unaccompanied.

COMMUNITY AND PUBLIC FEEDBACK

Hamilton City Council (HCC) have received complaints about the lack of safe opportunities to cross Ulster Street, including most recently from Hamilton West MP Tama Potaka, Whitiora Primary School, StudyFit and Te Maapura.

The initial complaint received by HCC explained that "We have genuine concerns over the safety of our tauira [students] who live and play on Ulster Street. We do a regular walking school bus four days a week along this street and it is extremely dangerous to cross in its current state. There is one electronic crossing at the intersection and this alone is insufficient for the families who live in the vicinity. There are several small pedestrian points (that are fairly battered and small enough for only several people at a time) that simply do not provide the ability for children to cross safely. The speed

at which people travel along the street is also a concern, in what is now a densely populated area of housing."

Hamilton West MP Tama Potaka posted a video on Facebook on 18 April 2023 with the following text, "As the MP for Hamilton West, I am deeply concerned about the safety of children in emergency housing on Ulster Street. Everyone in Hamilton West deserves a safe environment to grow up and grow old in. We need to implement infrastructure for safety on Ulster Street to make it a safer place for all.".

Whitiora School is located on Abbotsford Street south of Ulster Street, with some students travelling from the north side of Ulster Street. HCC's School Travel Planning Team have been working with Whitiora School. A survey completed by whanau and tamariki from the kura found that their main safety concern was the lack of safe crossings, with Ulster Street identified as the most unsafe location.

Previous requests sitting in our old customer request system:

Irene has been in to express her concern of the danger down Ulster Street. Has requested we put in some lights signalling people to slow down, as people go far too fast down that street. Also requesting pedestrian crossings to be put in as there is nowhere for people to cross safely. Traffic calming is needed in the area, especially towards the Fountain Motel. There are a lot of elderly residents in the area who catch buses. However, there is no safe crossings to get across the road once dropped

Hi there, I work at one of the hotels close to the beetham golf course on ulster street and have noticed that there has been a concerning amount of car accidents occur which has been impacting a lot of the motels on ulster street and I think the best suggestion is to look at putting speed bumps before and after the corner by the beetham park golf course.

STAKEHOLDER IMPACT AND MITIGATION

Early Engagement with Stakeholders

Staff undertook public and stakeholder engagement based on Option 7A in late 2023.

Several stakeholders expressed support for the project including: StudyFit, Whitiora Primary School, Hamilton West MP Tama Potaka, Living Streets, Bike Waikato, Go Eco, Parents of Vision Impaired NZ, and Waikato Regional Council.

Waikato Rugby Union did not take a position on the project but noted that "if anything ... it will improve safety and access to the area around the stadium". NZ Police did not have any concerns about the project and suggested the speed limit on Ulster Street should be reduced to 50km/h.

FENZ raised concerns about the potential impact of the project on response times as Ulster Street is a key route for them responding to fires in both directions. Staff have since worked with FENZ to improve our understanding of FENZ emergency responses and how our projects can minimise impacts – including giving FENZ priority through signalised intersections and crossings.

The owner of Ulster Street Superette, Ulster Lodge Motel, and Motel Six provided feedback indicating their strong support and asking for several detailed changes. The owner has since contacted staff to

provide videos of crashes and near misses at the intersection recorded from security cameras at the businesses and regularly contacts staff to follow up on the progress of the project.

Engagement Plan

Clear and accurate communication will be given to the key stakeholders. Informed stakeholders are likely to be more accepting of any inconvenience caused during construction. This communication will inform construction methodologies, traffic diversions and flexible working hours.

Each site has different types of immediate neighbour stakeholders, from businesses, schools through to residential housing. These stakeholders will be identified by the HCC staff and provide them with project scope, purpose of the project, project sketch plan with estimated time of construction.

Staff have already identified the following key stakeholder issues and potential mitigation at this site:

- Motels: Night works have the potential to be disruptive to moteliers and their guests. Night
 works can be scheduled in advance to allow moteliers to fill rear facing rooms first to minimise
 disruption.
- **School travel**: Students cross Ulster Street to access Whitiora school. Works can be coordinated to ensure a safe route through the works is available at the start and end of school with the most disruptive works completed in the school holidays.
- FMG Stadium: Ulster Street is used to access FMG Stadium during events. Works can be
 coordinated to ensure safe access through the site for pedestrians, drivers, and event buses
 on event days and to minimise any impacts on traffic capacity when road closures are
 implemented for events.
- Peak period travel: Ulster Street is Major Arterial route with high movement function and is
 especially important for trips between Te Rapa, Frankton, and the City Centre. Works can be
 coordinated to ensure that the most disruptive works are completed at lower traffic times
 such as interpeak periods, weekends, and/or school holidays.

Communication methods includes project signage, postal communications, face-to-face discussions with impacted parties, variable message boards (VMS) and two weeks' notice period dedicated for gathering public feedback. This gives all parties an opportunity to discuss processes and timeframes, and to try to mitigate any issues prior to the physical works commencing.

OPTIONS CONSIDERED

Staff developed and assessed 12 options for improvements at this intersection, which are listed below. Four options were advanced to the shortlist for greater consideration.

Option	Description	Discussion

1		Improve existing up	Risk:
		Improve existing un- controlled crossing – kerb buildouts and larger refuge islands	 Option does not address failure to give way crashes for drivers from Abbotsford Street. Option offers very little improvement for pedestrian experience. I.e. still exposed to 60 km/h passing traffic while waiting in median island. Option still imposes a large detour on pedestrians, which will encourage users to cross informally closer to the intersection Note: Due to the poor improvements offered for the key issues identified, this option has not been assessed further.
2	•	Uncontrolled crossing improvements – kerb buildouts and a larger refuge island that encompasses the intersection, which will impose turning restrictions at Abbotsford Street (LEFT IN/LEFT OUT)	Risk: Restricts straight/right turn movements result in eliminating some crash types May result in u-turning at end of island Option offers only a small improvement for pedestrian experience. I.e. still exposed to 60 km/h passing traffic while waiting in median island.
3	•	Un-controlled crossing	 Risk: Un-controlled crossings on multi-lane roads can cause 'masking' which results in pedestrians failing to give way if a driver in one lane has stopped. Un-controlled crossings rely on drivers and pedestrians negotiating priority, which will be uncomfortable due to the high operating speeds. Council receives regular complaints that existing courtesy crossings are not working well Option does not address failure to give way crashes for drivers from Abbotsford Street. Note: Due to the safety risks and poor public experience, this option has not been assessed further.
4	•	Zebra crossing in combination with extended median island	 Risk: Zebra crossings on multi-lane roads can cause 'masking' which results in drivers failing to give way. NZ Transport Agency sign off is required for zebra crossings where the speed limit is <50 km/h and staff are not aware of this ever being signed off in New Zealand Note: Due to the legislative risk, this option has not been assessed further.

5	 At Grade Two-stage, signalised pedestrian crossing across Ulster Street ~70m south of Abbotsford Street in combination with extended median island Bus stops relocated to the crossing 	 Risk: Depending on location from the intersection, may be outside crossing desire lines Restricts straight/right turn movements result in eliminating some crash types May result in u-turning at end of island Note: Given the restriction on location away from desire lines this option has not been assessed further.
6	 Two-stage, signalised pedestrian and cyclist crossing across Ulster Street south of Abbotsford Street in combination with extended median island Raised zebra crossings across Abbotsford Street Bus stops relocated south of the crossing 	
7A	 Raised, signalised pedestrian and cyclist crossing across Ulster Street south of Abbotsford Street in combination with extended median island Raised dual priority crossings across Abbotsford Street Turning restrictions at Abbotsford Street Bus stops relocated north of Ulster Street and kerbside 	Option will require some drivers to change lanes to pass buses.
		with or without side road treatments, in-lane bus stops, fest option and was progressed for further consideration
8	 Raised, signalised intersection Bus stops relocated closer to intersection 	Risk: Greatest delay to all road users, Greatest cost This option is likely to exceed the funding envelope for the minor transport improvements programme and there is no other path available to fund this option. Note: Due to the funding risk, this option has not been

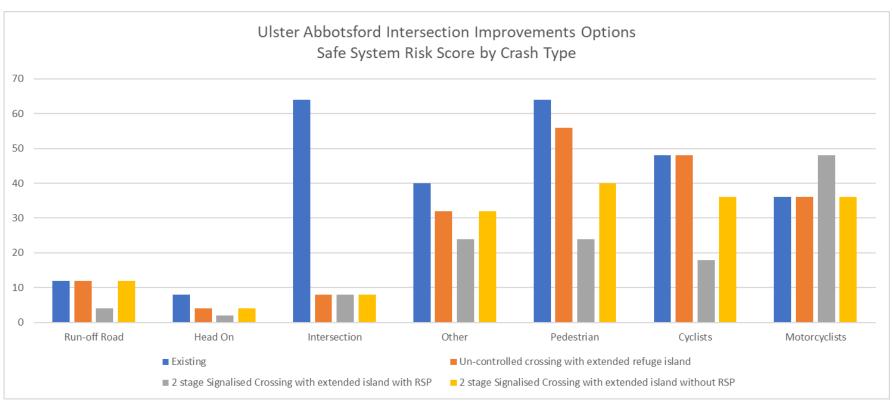
assessed further.

9	•	Underpass for walking and cycling	 Risk: This option would exceed the funding envelope for the minor transport improvements programme and there is no other path available to fund this option. Option imposes an ~100 second detour for pedestrians travelling along Abbotsford Street The approach ramps would include sharp bends that prevent visibility through the tunnel which will make it unattractive to pedestrians and cyclists who are likely to still cross at grade. Note: Due to the funding risk, this option has not been assessed further.
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Table 1 Long list

ANALYSIS MATRIX

Treatment	Cost Estimate	Current Cost of Crashes (Option Reduction)	Crash Reduction Estimate	Traffic Delays	Driver Discomfort	5-10 year Maintenance Costs	Active Mode Travel Time		Safe System Risk Score		Risk Reduction	Risk Assumptions
Existing	\$ -	\$ 5,673,400	No Change	No Change	No Change	No Change	No Change	No Change	272	No Change	No Change	0
Un-controlled crossing with extended refuge island	\$ 400,000	\$ 1,730,387	31%	Minor	No Change	Moderate	Low Benefit	Low Benefit	196	28%	76	0
2 stage Signalised Crossing with extended island with RSP	\$ 1,500,000	\$ 2,014,057	36%	Moderate	Moderate	Moderate	Medium Benefit	High Benefit	128	53%	144	0
2 stage Signalised Crossing with extended island without RSP	\$ 1,300,000	\$ 1,900,589	34%	Moderate	Minor	Moderate	Medium Benefit	High Benefit	168	38%	104	0



OPTIONS FOR FURTHER CONSIDERATION

Based on the treatment analysis matrix:

Recommended Option: At-grade uncontrolled crossing with median island Estimated costs \$400k (P95 including 30% contingency).



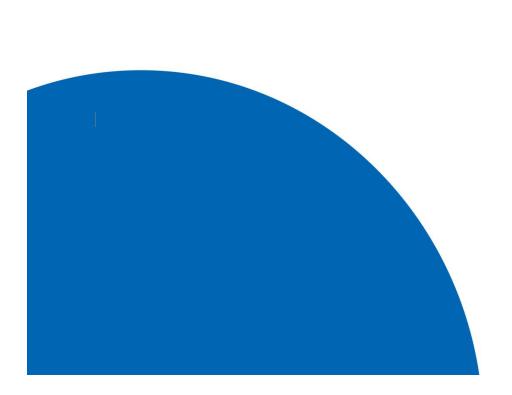
This option partially mitigates the risk for pedestrians and crossing the road to access Abbotsford Street and the local bus stops. The crossing includes a widened median island to provide safer and more comfortable place for pedestrians to wait while crossing. The crossing is closer to the desire line for pedestrians which will encourage pedestrians to use the facility rather than crossing informally.

This option addresses the risk of failure to give way type crashes by banning right turns and through movements on Abbotsford Street and reinforcing this with a raised median.

This option improves bus service performance and bus stop access by consolidating existing closely spaced stops and locating them closer to the new crossing point. The relocated bus stops will still be kerbside to minimise any impact on drivers.

Alternative Option:

No alternative option has been recommended. The signalised options require significantly more investment and disruption and, without the inclusion of raised safety platforms, do not achieve significant improvements to road safety. Additionally, this route is part of the corridor for future bus rapid transit and may experience significant changes in traffic volume which may make the investment redundant. Staff have recommended an option that addresses the urgent safety issues at minimal cost.



Project Report

Tristram Street/Clarence Street – Safety Improvements – 2025/26





Tristram Street/Clarence Street - Safety Improvements Project

WHERE?



Figure 1 Site Location

SITE DISCRIPTION

Tristram Street is a Major Arterial Corridor under the Operative District Plan, with Clarence Street east being a pedestrian focused corridor and Clarence Street west being a local road. The immediate surrounding location is zoned as large format retail, and Central City land use. A mixed used development has been granted consent on the southeastern corner of Clarence Street, consisting of commercial and residential development.

This project is seeking approval through the Unsubsidised Minor Transport Improvement programme 2024/27, with construction planned for the 2025/26 financial year. The objective of the project is to enhance overall safety and increase accessibility for people walking and cycling in the area.

WHAT'S THE PROBLEM?

From survey information, it is noted there are 506 pedestrians moving through this section of road and a recorded 164 pedestrians crossing Clarence Street, and 304 crossing Tristram Street, this includes central city workers as well as shoppers to and from Pak'nSave. The survey data also shows 67 Cyclists using the area, with 30 of them crossing Tristram Street, and one crossing Clarence Street.

There are no pedestrian or cycle priority crossing facilities in this area, with the closest facility being approx. 370m north outside the ACC building on Tristram Street.

On Tristram Street there is currently a pedestrian refuge within the central solid median at the proposed crossing location, this crossing point includes kerb cut downs. Immediately south of this is a secondary crossing point, however this one has no kerb cut downs. On Clarence Street, there is a small pedestrian refuge within a central median island.

Neither of these facilities provide pedestrians or cyclists with adequate priority or safety when crossing the road.

The high volumes of pedestrians coincide with high peak traffic, making it difficult for pedestrians to find safe gaps between traffic, resulting in high-risk decisions being made.

There is a left slip lane on Tristram Street provided for traffic turning into Clarence Street (west). Left slip lanes are not desirable in high traffic/high heavy vehicle locations, as they can often lead to a 'masking' problem. This is when larger vehicles, turning left, mask the visibility to traffic behind. Not only can this cause crashes but leads to driver hesitation. The wider slip lane also increases the width for a pedestrian or cyclists to cross the higher speed northbound traffic lanes.

WHY IT IS IMPORTANT TO ADDRESS THE PROBLEM?

The likelihood of a vehicle vs pedestrian crash resulting in death or serious injury is high at this location, due to the high number of people crossing the road, high volume of traffic and the absence of safe formal crossing facilities.

While data from the NZTA Waka Kotahi Crash Analysis System (CAS) shows a relatively poor safety record, it is the combination of vehicles speeds, wide traffic lanes and poor crossing facilities for pedestrians and cyclists that makes Tristram Street a barrier for these users to want to cross in this area. If Council are wanting to give road users the option to either walk or cycle from the southwestern part of the city into the Central City then improving their ability to cross at this intersection is needed.

ROAD DATA

Tristram Street is a two-lane road with solid central median with the following characteristics:

- Posted speed limit is 50km/h, the median speed is 41 km/h with an 85th%tile of 46.4km/h. The fastest recorded speed is 90.6km/hr.
- There is an existing informal crossing within the solid median island.
- The overall road width is 19m.
- A left slip lane begins 35m before the intersection.
- No cycle lanes.
- Delivery vehicles into Pak'nSave and Placemakers use this left in and out to access their respective businesses
- A 2.5m wide pedestrian footpath and 2m wide planted berm on the Pak'nSave side but no footpath on the
 opposite side, however there is a pedestrian accessway linking to the cul-de-sac end of Clarence Street (east).
- There is no formal pedestrian priority crossing within a 370-metres of the location.
- This is part of Fire and Emergency New Zealand rapid response network.

Clarence Street (west), is also a two-lane road, with a central island at the intersection, with the following characteristics:

- Posted Speed limit is 50km/h
- There's an existing informal crossing within the solid median island close to Tristram Street.
- The road is 17m wide at the mouth of the intersection
- No cycle lanes
- There is a 3.4m wide footpath on the Pak'nSave side, and a 1.5m wide footpath on opposite side.
- There is no formal pedestrian crossing along the length of Clarence Street 9west)

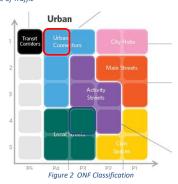
ONE NETWORK FRAMEWORK

The One Network Framework (ONF) is a classification system which divides New Zealand's roads into categories based on their movement and place function. The ONF recognises that streets function as Urban Connector.

Road Name	ONF	Estimated AADT (veh/day) & Heavy Vehicles
Tristram Street (red square)	Urban Connector (M1,P4)	18000 vpd (2025) 2% Heavy Vehicles

Clareance	Street	(blue	Local Street (M4,P3)	3800 vpd (est. 2025) 3% Heavy Vehicles	l
square)					l

Table 1 One Network Framework & Volume of Traffic



CRASH HISTORY

Since 2014 there have been six recorded crashes, one fatal crash, and five non-injury crashes.

At this location in travel speed, poor judgement resulting in loss of control/head on and rear end/obstruction crashes. Since 2014 the social cost of crashes has been \$14.76M.

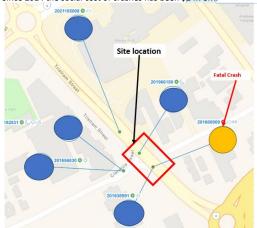


Figure 3 CAS Data – Showing Crashes (since 2014)

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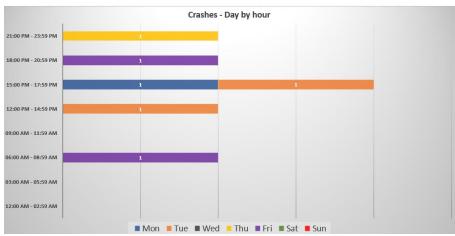


Figure 4 CAS Data – Showing crash analysis at different period during a day (since 2014)

PEDESTRIAN AND CYCLE DATA

There are notable pedestrian movements along Clarence Street and across Tristram Street, this is likely people walking, biking or scootering into the Central City from the lake area. Most pedestrians and cyclists travel in an east-west direction across Tristram Street.

 $An onsite fixed camera \ was \ used \ to \ monitor \ and \ gather \ pedestrian \ and \ cyclist \ movement/behaviour \ data.$

Counts of the number of pedestrians and cyclist are summarised below:

Road name	Date and Time 7am to 7pm	Pedestrians moving through site	Pedestrian Crossing	Cyclist moving through site	Cyclist Crossing	Total Pedestrian and Cyclist
Clarence Street	1 May 2025 (Thursday)	58	106	1	0	165
Tristram Street	1 May 2025 (Thursday)	106	304	13	30	453

Table 2 Pedestrian and cyclist Volume

Due to the planted median on Tristram Street, there are two clear crossing locations. Of the two crossing locations (a) and (b) the number of people crossing is almost equal.

Crossing location	Number of people crossing (peds and cyclists)	% of people crossing
Northern Crossing (a)	166	49.7%
Southern Crossing (b)	168	50.3%

Table 3 Pedestrian and Cyclists crossing on Tristram Street

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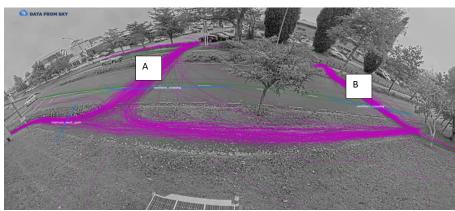


Figure 5 Survey Locations showing desire lines in the existing refuge, on Tristram Street (1 May 2025) (Purple = Pedestrians, Green = Cyclists)

On Clarence Street, there are two relatively clear crossing locations. However, there is a clear crossing preference.

Clarence Street Crossing location		Number of people crossing (peds and cyclists)	% of people crossing
	Eastern Crossing (a)	106	64.2%
	Western Crossing (b)	59	35.8%

Table 4 Pedestrians and Cyclists crossing Clarence Street



Figure 6 Survey Locations showing desire lines on Clarence Steet (1may 2025) (Purple = Pedestrians, Green = Cyclists)

OBSERVATIONS

A site inspection was completed on Wednesday 30 April 2025 and a "Pathways" © camera was installed to record pedestrian, cyclists and vehicle movements, during which the following observations were made:

- Many people cross Tristram Street, at both the northern and southern crossing, with no formal protection. Choosing high risk decisions often running across the road, when a gap in traffic becomes available.
- People are crossing from the direction they are coming from, for example people coming from Pak'nSave are crossing at the southern crossing point, whereas those who are coming from Clarence Street are crossing at the northern crossing point.
- The left slip lane causes masking when a truck is turning into Clarence Street from Tristram Street

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Figure 7 Site Photos - Observations

- Observed vehicles travelling at relatively high speed (particularly northbound) which can lead to serious crashes,
- The existing cutdowns at the crossing are observed to be non-wheelchair friendly due to tree roots under the pavement, on the western side.

COMMUNITY AND PUBLIC FEEDBACK

This project was part of the Transport Choices (CERF) Programme. It was given macroscope approval by the Infrastructure & Transport Committee on 7 March 2023. Consultation with key stakeholders resulted in feedback from FENZ stating a preference for an at-grade crossing facility. Community feedback, received in late July 2023, was fully supportive of the project.

Customer Request Management (CRM) System has shown the following customer requests are generally about pedestrian crossing requirements:

- November 2022: Resident requested a crossing location and new footpath across Tristram Street.
- August 2020: Request for improved cutdown across Tristram Street, from the Clarence Street parking area to the Central City. They find it very hazardous.
- December 2017: Customer has suggested a pedestrian crossing outside of the Clarence Street theatre.

STAKEHOLDER ENGAGEMENT

Through the Transport Choices (CERF) Programme, consultation was undertaken with the community, this included Pak'nSave, Pacemakers and the Big Box retail on the north-western corner. All these businesses had very little feedback at the time, however, there was good discussion with both Pak'nSave and Placemakers around their delivery times, which allowed us to plan and prepare for an appropriate construction window. For this project, staff will reengage with the community again before designs are completed.

Tristram Street is on a strategic FENZ response route, they will be a key stakeholder during consultation.

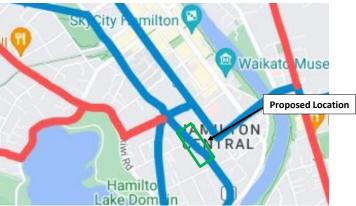


Figure 8 Aerial showing FENZ Route in blue and the proposed location in green rectangle.

ENGAGEMENT PLAN

The stakeholders near this location include private businesses, shops and residential areas. We will ensure effective and transparent communication with the primary stakeholders. This approach will facilitate face-to-face discussions regarding construction techniques and schedules. We will work with the contractor to determine traffic diversions and adaptable working hours.

The information provided to the stakeholders will encompass the project scope, objectives, a preliminary sketch of the project, and an estimated timeline for construction, while also soliciting their input on minimising disruptions to their operations.

The approach to communication will involve postal mail, direct discussions with those affected, project signage, variable message boards (VMS), and posters placed in Pak'nSave and local shops. A dedicated two -week period will be established for soliciting public input. This initiative provides an opportunity for all stakeholders to converse about the processes and timelines, thereby seeking to alleviate any concerns prior to the initiation of physical activities.

SITE LIMITATIONS

Along Tristram Street there are two clear crossing locations. Whilst both crossing locations are desirable, trees along the eastern side limit the location of the crossing and the ability to install a safe path connection. As part of the design the southern crossing would be removed to encourage all pedestrians and cyclists to cross at the northern location.

LINKS TO OTHER PLANS AND PROJECTS

This crossing is a key link in the Biking and Micromobility Network Plan for cyclist travelling from the hospital area into the Central City. It is forecast this route will carry a significantly high number of cyclists and scooters between the two employment areas once safe and well-connected infrastructure is in place.

Site location



Figure 9 – Hospital to city centre Biking and Micromobility route

TREATMENT CONSIDERATIONS

Two options were developed Vehicle/Pedestrian Safety and pedestrian/ cyclist accessibility levels.

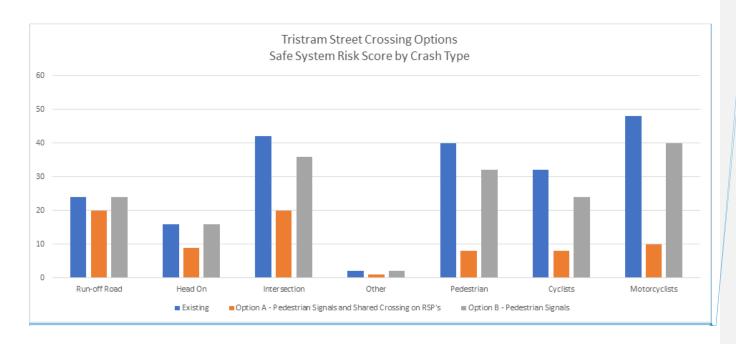
The following tables detail treatment options and matrix scoring for the options.

Treatment	Туре	Inclusions	Cost ¹
A	Raised signalised pedestrian crossing across Tristram street and a raised dual Zebra	 Raised signalised crossing for both pedestrians and cyclists, through a single stage crossing. A Raised dual- zebra crossing on Clarence Street 	\$1.58M

 $^{^{\}rm 1}$ These are concept level estimates (P95) include 30% contingencies.

	crossing across Clarence Street	A large island to re-in force the left turn only out of Clarence Street A buildout to remove the left slip lane.	
В	At-grade signalised pedestrian crossing across Tristram Street and improved kerb cut down crossing across Clarence Street	 An at grade crossing for both pedestrians and cyclists, with a single stage crossing A non-priority crossing across Clarence Street. This will include new cut downs, a wider island and tactile pavers A buildout to the remove the left slip lane. 	\$1.17M

Table 5 Long List Treatment table



TREATMENT ANALYSIS MATRIX

Figure 10 Treatment Comparison Table Mid-Block Pedestrian Crossing

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Treatment	Co	ost Estimate	Current Cost of Crashes (Option Reduction)	Crash Reduction Estimate	Traffic Delays	Driver Discomfort	5-10 year Maintenance Costs	Active Mode Travel Time	Active Mode Comfort	Safe System Risk Score	Risk Reduction %	Risk Reduction
Existing	\$	-	\$ 16,879,400	No Change	No Change	No Change	No Change	No Change	No Change	204	No Change	No Change
Option A - Pedestrian Signals and Shared Crossing on RSP's	\$	1,580,000	\$ 1,687,940	10%	Moderate	Moderate	Moderate	Medium Benefit	High Benefit	76	63%	128
Option B - Pedestrian Signals	\$	1,170,000	\$ 759,573	5%	Moderate	Minor	Moderate	Medium Benefit	High Benefit	174	15%	30

Figure 11 Safe Systems Risk Score – note the lower score indicates better safety.

RECOMMENDED OPTION

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Preferred Safest Option - Raised signalised pedestrian crossing across Tristram Street and a raised dual crossing across Clarence Street Estimated costs \$1.58M (P95 including 30% contingency).

On Tristram Street the crossing is currently proposed at the location of the northern pedestrian refuge island, this provides the best and easiest connection to the cul-de-sac head of Clarence Street (East). The crossing has a Raised Safety Platform with 1:20 ramp grades to balance safety of pedestrians and cyclists (reduce speeds) and vehicle transition (transition speed 40km/h).

This also include the build out to remove the left slip lane, therefore shortening the crossing distance for both pedestrians and cyclists, as well as shortening the 'run time' for the signals when a pedestrian is crossing.

On Clarence Street, this provides a raised dual crossing to allow a safe crossing for pedestrians and cyclists, this will also be installed on 1:20 ramps. This option has an estimated social crash cost saving \$1,687,900 and a safe systems score of 76.

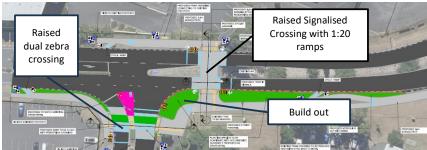


Figure 12 Preferred Option – Signalised Crossing on Raised Safety Platform, a duel RSP and a build out

Alternative Safer Option: At-grade signalised pedestrian crossing across Tristram Street and improved kerb cut down crossing across Clarence Street Estimated costs \$1.17M (P95 including 30% contingency).



Figure 13 Alternative Option: At-grade signalised pedestrian

This option removes the raised safety platform on Tristram Street and the raised dual crossing on Clarence Street. However, without raised safety platforms, the approach and transition speeds, especially on Tristram Street, are not reduced to a survivable pedestrian impact speed. As a result, there is risk, that any

crash involving a pedestrian is likely to result in death or serious harm. This option also includes the build out, to reduce the crossing distance, and to shorten the 'run time' of the crossing phase.

On Clarence Street, this option removed the dual zebra and RSP, and provide new cut downs, and tactiles for visually impaired users. This option has an estimated social crash cost saving \$759,600 and a safe systems score of 174

This project would be 100% locally funded via Part 2 Unsubsidised Minor Transport Improvements Programme.

DISCUSSION TOPIC SUMMARY

Topic: Transport Projects – Macroscope proposals
Related Committee: Infrastructure and Transport
Business Unit/Group: Infrastructure and Assets
Key Staff Contact/s: Martin Parkes & Dharmen Singh

Direction Discussion recommended?

Status: Open

Briefing Date: 18 June 2025

PURPOSE OF TOPIC/INFORMATION

- To provide a presentation on the proposed improvements for the following projects which were approved inthe Part 2 Unsubsidised Minor Transport Improvements at the 11 March Infrastructure and Transport Committee:
 - i. Comries Road/Hukanui Road Intersection improvement (Eastern Pathways)
 - ii. Ulster Street/Abbotsford Street Intersection improvement
 - iii. Ulster Street/Maeroa Road Intersection improvement
 - iv. Te Rapa Road/Garnett Avenue/Vardon Road pedestrian crossing improvements
 - v. Ruakiwi Road/Lake Domain Road/Lake Road pedestrian crossing improvements
 - vi. Tristram Street/Clarence Street pedestrian crossing improvements
 - vii. Worley Place
- Approval of the Macroscope Design for these projects will be recommended to the 24 July 2025 Infrastructureand Transport Committee

WHAT KEY THINGS SHOULD MEMBERS THINK ABOUT/ CONSIDER IN UNDERSTANDING THIS INFORMATION?

- These projects have been approved via the development of Part 2 of the Unsubsidised Minor Transport Improvements Programme as approved at the 11 March 2025 Infrastructure and Transport Committee.
- 4. Based on the Transport Decision Making Framework these projects were assessed as being 'Yellow' and therefore require the presentation of a Project Report at an Elected Member Information Session ahead ofseeking Macroscope Approval at a subsequent Infrastructure and Transport Committee meeting.
- Funding for these projects is included in Year 2 of the Part 2 Unsubsidised Minor Transport Improvementsprogramme.

KEY SUMMARY POINTS

- 6. Comries Road/Hukanui Road Intersection improvement (Eastern Pathways)
 - i. There is a relatively high number of pedestrians and cyclists travelling through the intersection. There is a lack of formal crossing facilities at the intersection.
 - ii. The proximity to the Chartwell Shopping Centre, Hukanui Primary School and residential properties in the area generates high numbers of pedestrian movements.
 - iii. The intersection has a poor safety record. The absence of safe crossing facilities, pedestrians make high risk, unsafe decisions when judging safe gaps in traffic.
 - iv. During peak times traffic turning right out of Comries Road find it difficult to determine safe gaps in traffic and drivers are making high risk turns.



- v. Delay turning from Comries Road onto Hukanui Road affecting the efficient of bus services in the area, which have a knock-on effect to overall bus travel times.
- vi. We have received requests for improvements in this area.
- vii. A raised signalised intersection with kerb realignment and shared paths is recommended as the safest option, but an alternative option is proposed that does not include raising the intersection.
- viii. The signalised intersection will create gaps in the traffic flow which will make it easier and safer for vehicles to turn into and out of this intersection and assist pedestrians and cyclists to safely navigate the area.

7. Ulster Street/Abbotsford Street – Intersection improvement

- Residents and business owners have requested improvements to address dangerous conditions for pedestrians.
- ii. The intersection has a poor safety record. Crashes associated with movements from Abbotsford Streetonto Ulster Street are frequent.
- iii. Pedestrians crossing Ulster Street must cross 4 lanes of traffic, while attempting to judge safe gaps inhigh volumes of fast-moving traffic.
- iv. Pedestrians (including school children) are taking high risks, crossing at the intersection and using theflush median/right turn bay as a waiting place.
- We have received community requests for improvements in this area, including from Whitiora School.
- vi. The recommended option is an at-grade uncontrolled crossing with a large median island. This option partially mitigates the risk for pedestrians crossing Ulster Street. This option addresses the risk of failureto give way type crashes by physically preventing right turns and through movements on Abbotsford Street. This option improves bus service performance and bus stop access by consolidating existing stops and locating them closer to the new crossing point.

8. Ulster Street/Maeroa Road - Intersection improvement

- i. There are no formal pedestrian crossing facilities at the intersection. Pedestrians are required to cross approximately 20m of carriageway in one go.
- ii. The intersection is stop controlled with a high number of vehicles on Ulster Street, making it difficult for side road vehicles to find safe gaps in traffic, resulting in high risk turning or crossing from the side roads.
- iii. Existing bus stops are approximately 200 m apart. The stops do not have accessible kerbs and there is no safe crossing facility for bus passengers to access the stops. Waikato Regional Council would like to run buses from Maeroa Road on to Ulster Street; however, due to the delays at this intersection they use Hobson Street, a narrow local street parallel to Ulster Street.
- iv. The intersection has a poor safety record. Crossing, not turning, crashes are the most common type of crash occurring.
- v. Existing cycle lanes do not meet the minimum width requirements (1.75 m) for the operating speed of traffic (60 km/h).
- vi. The recommended safest option is a raised signalised intersection and relocated bus stops.
- vii. The alternative to this is an at-grade signalised intersection and relocated bus tops. This includes pedestrian crossing facilities. Bus stops will be relocated closer to the crossing points to improve access and will remain kerbside.

9. Te Rapa Road/Garnett Avenue/Vardon Road – Pedestrian crossing improvements

- There are no crossing facilities for pedestrians on the north side of the intersection. This forces some pedestrians to make three separate crossings or cross informally across five lanes of traffic.
- ii. The intersection is close to a northbound service lane on Te Rapa Road. Many drivers' U-turn to access the service lane. At most intersections, drivers can turn left out of side roads while other drivers are turning right in. However, this cannot operate safely at this intersection due to conflicts with drivers making U-turns. This exacerbates congestion on Garnett Avenue.



- iii. The entrance to the service lane is wide (approximately 15m) and bus passengers using the northbound stop are required to cross the service lane entrance to access the bus stop.
- iv. The current intersection has a poor safety.
- v. This intersection provides links to notable local facilities several nearby schools, Waterworld, and local shops/businesses.
- vi. The recommended safest option is to raise the intersection to manage driver speeds and make the intersection safer for all road users. This option adds the missing pedestrian crossing on the north side of Te Rapa Road. This option tightens the service lane entrance and introduces a raised safety platform to encourage appropriate driver speeds within the service lane.
- vii. The alternative to this is keep the intersection at-grade, except at the left turn slip lane and the servicelane entrance.

10. Ruakiwi Road – Pedestrian Safety Improvement near Lake Domain Drive intersection

- Large numbers of pedestrians cross daily at this location on Ruakiwi Road (200+). 95% use the
 existing pedestrian refuge. The majority are Hamilton Girls High School students, and people
 accessing recreational space, work and businesses in the area.
- ii. The existing refuge is narrow and can only accommodate 2 to 3 pedestrians safely. It does not fully accommodate people with prams or mobility scooters, or larger groups of pedestrians seeking to crossat the same time.
- iii. The adjacent intersection (Lake Domain Drive/Tainui Street) has a staggered side road geometry. This combined with steep approach grades restricts visibility and further complicates the ability for pedestrians to judge safe gaps in traffic.
- iv. The site has a relatively poor safety record.
- v. Implementing a formal pedestrian priority crossing will create safe breaks in the traffic flow, facilitating right turn manoeuvres during peak hours and thereby enhancing intersection safety.
- vi. The preferred safest option is a raised signalised pedestrian crossing, which will provide additional intersection traffic calming by reducing operating speeds.
- vii. Approval has been granted for a new footpath project within the Part 2 Unsubsidised Minor Transport Improvement programme 2024/27, located on Lake Domain Drive, as part of a separate programme ofworks.
- viii. The alternative to the raised crossing is the same as the preferred option but without the raised safety platform.

11. Worley Place

i. Discission about minor amenity improvements to the Worley Place shared zone area.

WHERE CAN MEMBERS FIND MORE INFORMATION?

- 12. A copy of the presentation will be sent to Elected Members ahead of the briefing.
- 13. A copy of the Project reports for each site will be sent to Elected Members ahead of the briefing.

WHAT DIRECTION/FEEDBACK/INPUT DO YOU NEED FROM ELECTED MEMBERS

14. Staff will be seeking direction from EMs on any additional information that will be required for inclusion in thereport requesting Macroscope approval of these projects at the 24 July 2025 Infrastructure and Transport Committee meeting.



Purpose of Briefing

To present the work that has been completed investigating options for improvements to the following locations:

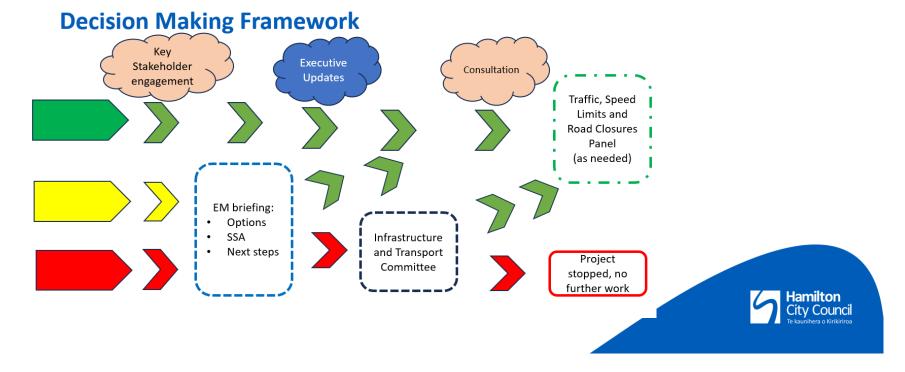
- Ulster Street/Maeroa Road intersection safety improvements
- Ulster St / Abbotsford St intersection safety improvements
- Te Rapa Rd / Garnet Ave pedestrian and PT improvements
- Comries Rd / Hukanui Rd intersection improvements
- Tristram St pedestrian crossing improvements
- Ruakiwi Rd pedestrian crossing improvements
- Worley Place

To seek feedback on the proposals for inclusion in the report to the 24 July 2025 Infrastructure and Transport Committee which will recommend approval of the macroscope designs

Background

11 March 2025 Infrastructure & Transport Committee approved Part 2 of the Unsubsidised Minor Transport Improvements Programme.

The list included several projects that had been assessed as "Yellow" projects in accordance with the Transport Decision Making framework.



Project reports and options

As part of the briefing pack there is a project report for each of the sites.

Several options have been considered for each site and the detail of these is in the supporting project reports

Staff have identified the <u>safest</u> option as a preferred option, noting some of these do include Raised Safety Platforms (RSP). An alternative option is also provided – generally without an RSP.

The final decision on which option (if any) will proceed will be made at the Infrastructure & Transport Committee meeting.



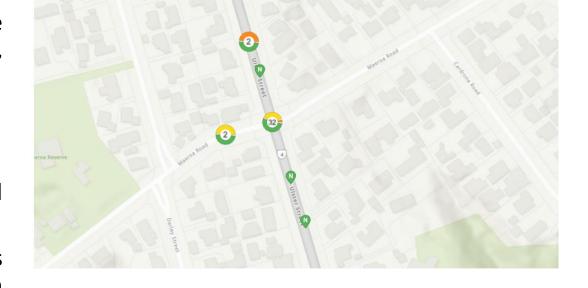


Between 2015 and 2024, 39 crashes were recorded in NZTA's Crash Analysis System, including:

- 3 serious injury crashes
- 13 minor injury crashes

14 out of 39 occurred between 3pm and 6pm – i.e. peak afternoon traffic

'Crossing not turning', i.e. crossroads crashes were the most common movement type (17 out of 39).



Of the three recorded serious injury crashes, one involved a cyclist, one involved an overtaking driver losing control, and one driver failing to give way at the crossroads.



Vehicle Movements

- The posted speed limit is 60km/hr on Ulster Street and 50 km/h on Maeroa Road.
- The overall site width boundary to boundary is 24 metres on Ulster Street and 20 metres on Maeroa Road.
- Maeroa Road has:
 - Two lanes for general traffic
 - Painted on-road cycle lanes
 - Some on-street car parking
 - o Pedestrian crossing facilities with a splitter islands at Ulster Street
- Ulster Street has:
 - o Four lanes for general traffic,
 - A flush median
 - o Painted on-road cycle lanes.
 - No pedestrian crossing facilities

Road Name	One Network Framework Classifcation	Estimated AADT (veh/day) & HV
Ulster Street (north)	Urban Connector(M1,P3)	18,100 (est.2023), 7% Heavy
Maeroa Road (west)	Local Street (M4,P4)	5,500 (est.2021), 0.8% Heavy
Maeroa Road (east)	Local Street (M5, P4)	5,500 (est.2021), 0.8% Heavy



Pedestrian and Cyclist Movements

This intersection provides connections between Forest Lake/Maeroa and Whitiora/Fairfield, incl. access to key community facilities (netball centre and BMX track at Minogue Park, various schools, tennis courts and bowls greens in Maeroa, Awatere Care centre, Beerescourt neighbourhood centre, and Te Awa River Path.

Biking & Micromobility Network Plan - Maeroa Road is a community link and Ulster Street is a cross-city connection.

There are pedestrian desire lines to access the local schools, businesses, and bus stops. People walking are discouraged to cross here – it is believed there is a suppressed demand for pedestrian activity at the intersection.



- Site inspections on 7 November 2024 and 14 May 2025 observed the following:
- It is difficult for pedestrians to cross the road as there are no formal pedestrian crossings.
- Pedestrians are required to cross approximately 20 metres of carriageway in one go.
- The stop control on Maeroa Road results in long delays for side road traffic, especially for right turning vehicles.
- At busy times, there are some delay for vehicles turning right into Maeroa Road.
- Existing painted cycle lanes do not meet the minimum width requirements (1.75 metres) for the operating speed of traffic (60 km/h).
- Bus stops do not include accessible kerbs which makes it difficult to board or alight the bus, especially for people with prams or with mobility issues.
- Some drivers are illegally travelling straight or turning right from the eastern side of Maeroa Road. In a 15-minute period, 6 drivers were observed crossing Ulster Street westbound. This movement is prohibited with appropriate signs and markings on site.

Customer Requests

Customer Request Management (CRM) System shows requests were generally about pedestrian crossing requirements and safety at the intersection.



Early Engagement with Maeroa Rd (East) residents

Options are available for how the Maeroa Rd eastern approach to the intersection is treated:

- Full movements
- Restricted to left out only
- No movements

Early targeted engagement has been completed with the residents on this section of road to understand their preferences – noting that there is a potential for an increase in traffic if all movements are allowed with full signalisation. Where the owner does not occupy the property, letters have been sent asking them to contact us.

Residents were invited to a street workshop to discuss the options and provide a preference – residents representing 8 properties came to meeting. 2 properties sent emails saying they couldn't attend and several of the properties are rented out or air bnbs. One property said they didn't care.

Of the residents that attended the workshop most were very concerned about the potential for increased traffic if we were to create a fully signalised intersection. They all agreed that signals would improve amenity and safety of the intersection for cars, pedestrians and cyclists. Though many suggested that 4-way signals would create more u-turn manoeuvres on Ulster Street that could make that option more dangerous.



Early Engagement with Maeroa Rd (East) residents

Of the residents that attended the workshop the majority strongly opposed the full signalisation of the intersection.

These residents strongly supported the full closure of Maeroa Road (east) to traffic coming from Ulster Street – effectively creating a cul-de-sac of Maeroa Road East. They felt that the amenity benefit this would bring would far outweigh the disbenefit of having to use Victoria Street as the sole access and exit.

There was a greater split over the option that would still allow a left turn out of Maeroa Road (east) onto Ulster Street. With 6 votes that opposed or strongly opposed that option and 5 votes that supported or were neutral.

Council staff also received emails from two other residents on Maeroa Road – one resident had questions related to the intersection of Victoria Street. One resident emailed that they would not be in favour of a full closure but were more amenable to the partial closure.



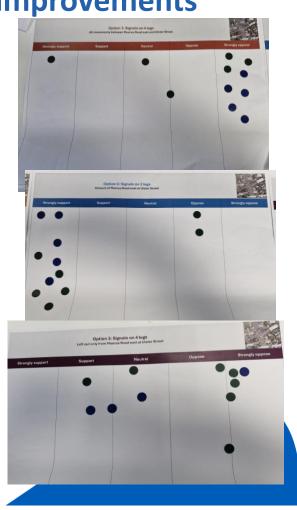
Early Engagement with Maeroa Rd (East) residents

Of the residents that attended the workshop the majority strongly opposed the full signalisation of the intersection.

These residents strongly supported the full closure of Maeroa Road (east) to traffic coming from Ulster Street – effectively creating a cul-de-sac of Maeroa Road East. They felt that the amenity benefit this would bring would far outweigh the disbenefit of having to use Victoria Street as the sole access and exit.

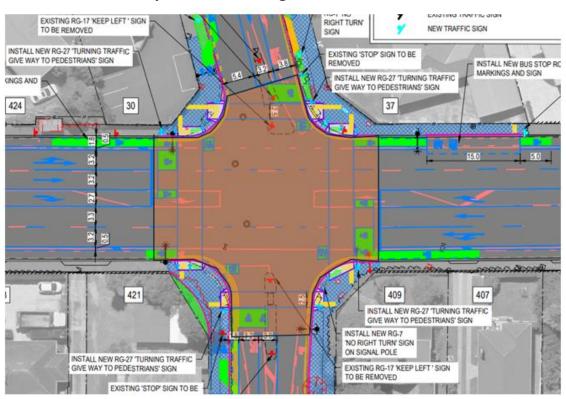
There was a greater split over the option that would still allow a left turn out of Maeroa Road (east) onto Ulster Street. With 6 votes that opposed or strongly opposed that option and 5 votes that supported or were neutral.

Council staff also received emails from two other residents on Maeroa Road – one resident had questions related to the intersection of Victoria Street. One resident emailed that they would <u>not</u> be in favour of a full closure but were more amenable to the partial closure.



Recommended option:

Preferred Safest Option: Raised signalised intersection with relocated bus stops. Estimated cost \$1.5m (P95).

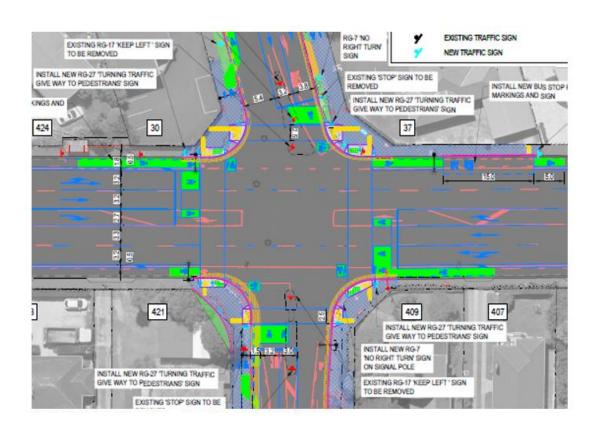


A signalised intersection with raised safety platforms to enable a comfortable negotiation speed of 40 km/h (1:20 gradient). The intersection will include pedestrian crossing on all four legs. Kerb realignments are included to ensure suitable vehicle tracking and provide space for pedestrians waiting to cross the road.

The existing bus stops will be consolidated and relocated closer to the intersection. This improves access for passengers and reduces travel time for busses. Bus stops will be kerbside as are the current bus stops to minimise impacts on drivers.

Alternative option:

Safer Option: At-grade signalised intersection with relocated bus stops. Estimated cost \$1.3m (P95).



This alternative option, not raised, does not address vehicle speeds, however, is much safer than the existing situation.

The existing bus stops will be consolidated and relocated closer to the intersection. This improves access for passengers and reduces travel time for buses. Bus stops will be kerbside as are the current bus stops to minimise impacts on general traffic.





Between 2015 and 2024 there have been 28 crashes recorded at the intersection:

- 2 crashes resulted in serious injuries,
- 11 crashes resulted in minor injuries, and
- 15 crashes did not cause injuries
- Both serious injury crashes involved vehicles travelling straight through on Abbotsford Street colliding with vehicles on Ulster Street. Six of the minor injury crashes involved vehicles travelling straight through on Abbotsford Street colliding with vehicles turning to or from Ulster Street.
- These movements are over-represented in the crash record 62% of injury crashes.





4-leg priority (Give Way) controlled intersection with the following characteristics:

• Posted speed limit is 60km/hr. Observed peak hour operating speeds approx. 50km/h for each direction of travel
☐ No formal pedestrian crossing facilities.
☐ Footpaths on all approaches.
☐ Overall site width, boundary to boundary, is 20 metres on Abbotsford Street and 30 metres on Ulster Street.
☐ Abbotsford Street:
☐ 2-lane road
\square no dedicated cycling facilities
\square pedestrian refuge islands at the intersection
□ Ulster Street:
\square 4-lane road with a flush median and right-turn bay.
☐ painted on-road cycle lanes.
\square pedestrian refuge islands approximately 85 metres from the intersection

Road Name	ONF	Estimated AADT (veh/day) & HV
Ulster Street	Urban Connector (M1,P3)	15,000 (est.2023), 5% Heavy
Abbotsford Street (east)	Local Street (M5,P4)	2,600 (est.2021), 2% Heavy
Abbotsford Street (west)	Local Street (M5,P4)	2,700 (est.2021), 4% Heavy

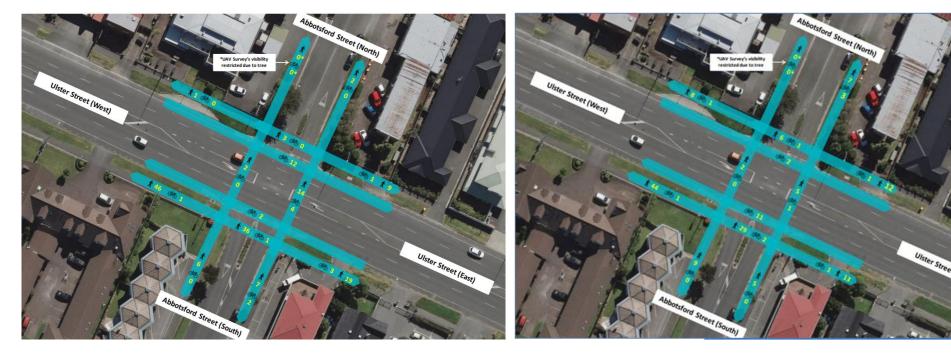


3 pedestrian and cycle surveys were undertaken:

- □ 10 October 2023 Staff observation
- ☐ 10 October 2023 Video Camera data collections
- ☐ 15 August 2024 Staff observation

Observations 10 October 2023 - 7.50am to 8.50am

Observations 10 October 2023 - 4.45pm to 5.45pm



Pedestrian and cycle information

Observations 15 August 2024

Staff completed an additional pedestrian and cyclist survey on 15 August 2024 from 3pm to 4pm to observe school travel.

Staff counted pedestrians who crossed Ulster Street at or between the existing refuge islands (approx. 80 metres north and south of Abbotsford Street).

- 23 pedestrians crossed Ulster Street north of Abbotsford Street
- 25 pedestrians crossed Ulster Street south of Abbotsford Street

Staff also observed the following behaviour:

- 5 near misses due to drivers proceeding straight or heading right from Abbotsford Street failing to give way to vehicles on Ulster Street.
- Drivers waiting to proceed straight or turn right from Abbotsford Street block the exit from Abbotsford Street causing delay to drivers behind wanting to turn left, which creates pressure to turn quickly when a gap may not be suitable.
- 4 primary aged children crossed Ulster Street unaccompanied.

Customer Requests

- Complaints received about the lack of safe opportunities to cross Ulster Street from Tama Potaka MP, Whitiora Primary School, StudyFit and Te Maapura.
- Hamilton West MP Tama Potaka posted a video on Facebook on 18 April 2023 with the
 following text, "As the MP for Hamilton West, I am deeply concerned about the safety of
 children in emergency housing on Ulster Street. Everyone in Hamilton West deserves a safe
 environment to grow up and grow old in. We need to implement infrastructure for safety on
 Ulster Street to make it a safer place for all.".
- School Travel Planning staff have been working with Whitiora School. A survey completed found the main safety concern was the lack of safe crossings, with Ulster Street identified as the most unsafe location.

Engagement

 The owner of Ulster Street Superette, Ulster Lodge Motel, and Motel Six provided feedback indicating their strong support for improvements to the intersection. Videos of crashes and near misses at the intersection recorded from security cameras at the businesses have been provided to HCC staff.



Recommended option:

At-grade uncontrolled crossing with median island Estimated costs \$400k (P95 including 30% contingency).



This option partially mitigates the risk for pedestrians. The informal crossing includes a widened median island to provide safer and more comfortable place for pedestrians to wait. The crossing is closer to the desire line for pedestrians.

This option addresses the risk of failure to give way type crashes by banning right turns and through movements on Abbotsford Street, reinforcing this with a raised median.

This option consolidates bus stops and locates them closer to the new crossing point. The relocated bus stops will be kerbside.

Alternative Option:

No alternative option has been recommended.



Te Rapa Road/Garnett Avenue/Vardon Road - pedestrian and public transport

improvements



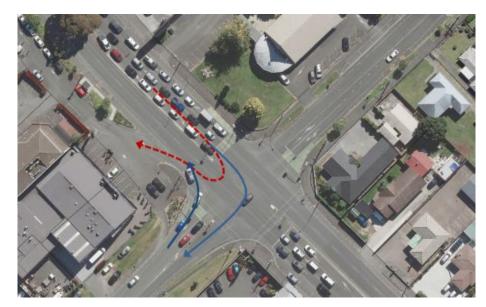


Te Rapa Road/Garnett Avenue/Vardon Road - pedestrian and public transport

improvements

There are no crossing facilities for pedestrians on the north side of the intersection, forcing pedestrians to make three separate crossings or cross informally across five lanes of traffic.

The intersection is close to a northbound service lane on Te Rapa Road and many drivers' U-turn to access the service lane. At most intersections, drivers can turn left out of side roads while other drivers are turning right in. However, this cannot operate safely at this intersection due to conflicts with drivers making U-turns this cannot happen, which exacerbates queuing on Garnett Avenue.





In the last ten years (2015 to 2024), 28 crashes were recorded with the following severity:	
☐ Five minor injury crashes☐ 23 non-injury crashes	
While the recorded crashes did not include any serious or fatal injuries, there is significant potential for serious or fatal injuries in the future.	
The operating speeds of vehicles on Te Rapa Road exceeds the survivable speeds for the following crashes:	
 Crashes involving a pedestrian, cyclist, or micromobility user; Crashes involving a motorcyclist; and Side impact crashes between motor vehicles. 	



This intersection is a 4-legged signal-controlled intersection and **Te Rapa Road** has the following characteristics:

- Signalised pedestrian crossings on 3 sides of the intersection, but not on northern side
- Road reserve is 30 metres to 42 metres wide
- Two traffic lanes in each direction with flush/solid median
- Painted on-road cycle lanes
- No footpath on western side of road north of the intersection.
- 3 bus services operate through the intersection approx. 48 bus journeys per day

Road Name	Bus Service	Bus Stop Location
Te Rapa Road (north)	#21 and Comet	Two bus stops; Approximately 50 m (northbound) and 100 m (southbound) from the intersection.
Garnett Avenue	#18	Approximately 60 m west of the intersection.
Vardon Road	#18	Two bus stops; Approximately 50 m (westbound) and 150 m (eastbound) from the intersection.

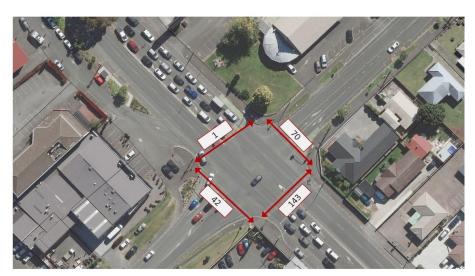
Road Name	ONF	Estimated AADT (veh/day) & HV		
Te Rapa Road	Urban Connector (M1,P3)	25,100 – 26,900 (est.2023), 7% Heavy		
Vardon Road	Activity Street (M3,P3)	5,600 (est.2021), 0% Heavy		
Garnett Avenue	Activity Street (not classified)	3,900 (est.2021), 3% Heavy		

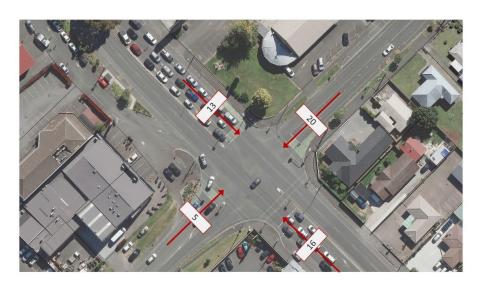


Pedestrian & Cycling Movements

Pedestrian and cycle data was recorded on 21 March 2024 in the following time periods:

- 0630-0930
- □ 1100-1330
- □ 1430-1630





Walking and Cycling Movements - 21 March 2024



SITE OBSERVATIONS

- Drivers approaching the intersection on Garnett Avenue routinely illegally queue in the cycle lane.
- Service lane entrance is wide allowing drivers to enter the service lane at high speed.
- Passengers using northbound buses must cross the service lane entrance to access the bus stop
- Many southbound drivers accessed the service lane by doing a U-turn at the signalised intersection
- No pedestrian crossing on the northern side of the intersection so pedestrians use up to 3 crossings resulting in unnecessary delays for general traffic.
- Wide kerb radii at the intersection increases crossing distances for pedestrians and allows drivers to turn at high speed.
- At peak periods, side roads receive very short green times to prioritise traffic on Te Rapa Road. When
 the pedestrian phase across Te Rapa Road runs, this green light must be extended which can contribute
 to traffic delays. Shortening this crossing distance or allowing traffic from Vardon Road and Garnett
 Avenue to move at the same time would reduce this impact on traffic.

Recommended option:

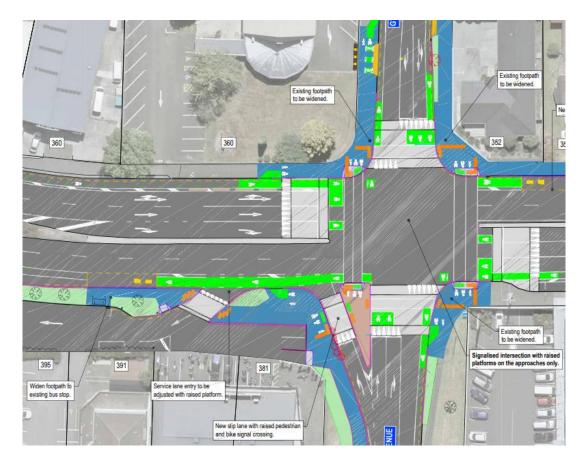
Preferred safest option: estimated costs \$2m (P95)

This option raises the intersection to manage driver speeds. This option adds in the missing pedestrian crossing on the north side of Te Rapa Road, reduces crossing distances, at all crossing points, which will help make the intersection operate more efficiently.

The existing southbound bus stop will be relocated closer to the intersection, improving access for passengers coming from the wider area. Bus stops will be kerbside, the same as the current bus stops.

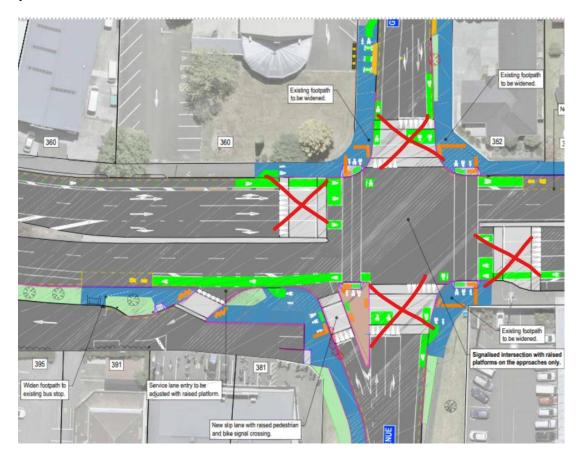
This option tightens the service lane entrance and introduces a raised safety platform to encourage appropriate driver speeds entering the service lane. The alignment still enables the largest vehicles to access the service lane, incl. HPMVs.

Changing the existing on road cycle lane on Garnett Avenue to a shared path and providing a signalised crossing for cyclists will stop drivers illegally blocking the cycle lane and provide safer access for cyclists across the intersection.



Alternative safer option: estimated costs \$1.5m (P95)

This option is the same as the preferred, except that the raised intersection is removed. Raised safety platforms remain on the left turn slip lane (Garnett Avenue) and at the service lane entrance.



Customer Requests

We have received a number of customer requests regarding vehicles drifting into bike lanes whilst waiting at the traffic lights.

We have also received feedback about the distance to cross if trying to catch the bus – potential requiring pedestrians to cross three roads.

A wheelchair user highlighted some significant issues with levels between the road and the footpath including width of the footpath.

Enagement

We will provide a verbal update at the meeting as we have spoken to the Harley Davidson store about the alterations.





Crash Data

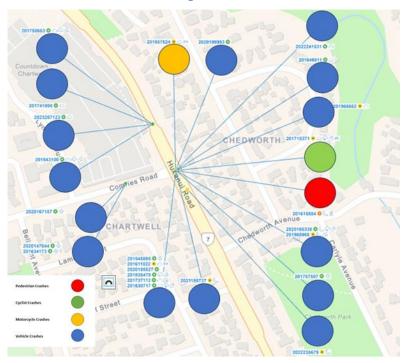
A ten-year crash search between 2015-2024 has shown 25 reported crashes:

- 1 Serious injury crashes
- 8 minor injury crashes
- 16 non-injury crashes

The serious crash involved a pedestrian who crossed Hukanui Road just north of Comries Road and was struck by a vehicle.

52% of crashes are related to crossing/turning crash types, where drivers have failed to give way when turning out of Comries Road.

One cyclist and one motorcyclist minor injury crash was also recorded for this intersection.





Vehicle Movements

Comries Road and Hukanui Road are posted at 50km/h speed limit. Both these roads have pedestrian footpath facility located on either side of the roads.

Comries Road has:

- Two lane road with a flush median.
- Parallel car parking located on the southern side of the road
- Uni-directional on road painted cycle lanes either side of the road
- Pedestrian refuge/splitter island located at the intersection of Comries Road

Hukanui Road has the following characteristics:

- Two lane road with a median/right turn lane
- No cycle lane
- Pedestrian refuge crossing located 50m north of the intersection

Road Name	ONF	Traffic Count (12-hour 7am-7pm)	
Hukanui Road	Activity Street (M2,P3)	13,230 (counted 24/05/25) 417 Heavy Vehicles (3%)	
Comries Road	Activity Street (M3,P3)	7,923 (counted 24/05/25), 333 Heavy Vehicles (4%)	

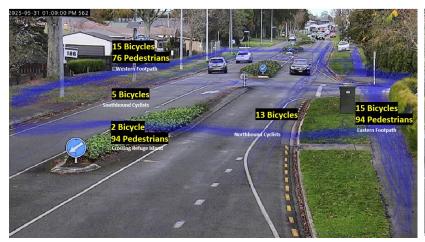


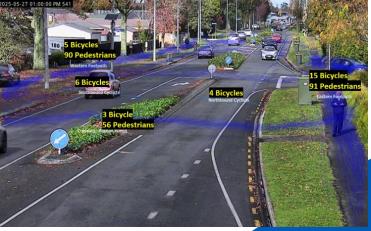
Pedestrian Movements

Comries Road and Hukanui Road intersection serves active mode users accessing the mall and school students heading northbound and southbound along Hukanui Road.

The area was surveyed to have a high pedestrian and cyclist demand. It was surveyed that cyclists are using the footpath as opposed to cycling on the road given the lack of cycling facilities in the area.

The existing northern pedestrian refuge island is well used by active mode users. Almost all of the western and eastern footpath pedestrians used the existing refuge crossing to travel across Hukanui Road.







Site Observations

A site inspection was completed on 8 May 2025 during which the following observations were made:

- **Speeds were observed to be high**. A Radar Speed Analysis Report indicated that the 85th percentile speed was 52.6km/h. Drivers turning right out of Comries Road accelerated quickly as gaps were limited.
- The southern side of Comries Road had a **moderate car parking demand**, with approximately 50% car parking spaces unoccupied.
- Some pedestrians were observed crossing Comries Road to access the mall. This is a wide area to cross.
- There is limited visibility for pedestrians looking right (south) when crossing using the existing pedestrian refuge island due to the presence of a hedge on the south-western corner.
- Driver speeds were fast for drivers turning left onto Comries Road. The carriageway is wide which
 enables higher driver speeds.

Customer Requests

A search of the Customer Request Management (CRM) system found two results and there has been a request from Waikato Regional Council (WRC):

- **July 2022**: Customer summarised concerns of the intersection being dangerous for pedestrians. They stated that drivers turn around the intersection too quickly for pedestrians to cross and noted there is a high risk for a potential crash when they cross the road.
- **September 2020**: Customer stated that the intersection urgently needs traffic lights. They stated this is because during peak hours drivers struggle to find a gap in traffic when turning and take chances.
- **June 2025**: WRC stated that currently WRC services use this intersection, which presents notable safety concerns for drivers attempting to exit Comries Road. WRC have had issues with the bus getting stuck in the intersection because of cars speeding up and closing the gaps not allowing the bus to exit.
- WRC stated that enhancements to this area would not only address these existing issues but also support the reliability of future service expansions, including potential high-frequency routes.



Early Engagement

Waikato Regional Council have been engaged with and are supportive of a signalised intersection

The following parties have been identified for engagement:

- Chartwell Shopping Centre (and adjacent businesses in Lyndon Court)
- Hukanui Primary School
- St John Ambulance
- Residential properties adjacent to the intersection
- Waikato Regional Council
- Fire and Emergency NZ (FENZ) not identified as a key FENZ routes.

We will ensure **effective and transparent communication** with the primary stakeholders. This approach will facilitate face-to-face discussions regarding proposal and construction technique.

The approach to communication will involve postal mail, direct discussions with those affected, project signage, variable message boards (VMS), and posters placed in local shops.

Recommended option:

Preferred Safest Option: Raised signalised intersection - Estimated cost \$2.5m (P95).



Signalised intersection would allow both active mode users time to cross the intersection and reduce delay for buses.

Raised intersection will help reduce driver speeds to the desirable safe system threshold speed of 30km/h.

Shared paths proposed around the intersection to cater for both pedestrians and cyclists to use.

Propose dual crossing points on all intersection legs to cater for both pedestrians and cyclists.

Alternative option:

Safer Option: At Grade signalised intersection - Estimated cost \$2.0m (P95).



Signalised intersection would allow both active mode users time to cross the intersection and reduce delay for buses.

At-Grade intersection will unlikely help reduce driver speeds to the desirable safe system threshold speed of 30km/h.

At-grade crossing unlikely to provide any additional intersection traffic calming for side on driver impacts.

Shared paths proposed around the intersection to cater for both pedestrians and cyclists to use.

Propose dual crossing points on all intersection legs to cater for both pedestrians and cyclististon



Tristram Street/Clarence Street – pedestrian crossing improvements

Crash Data

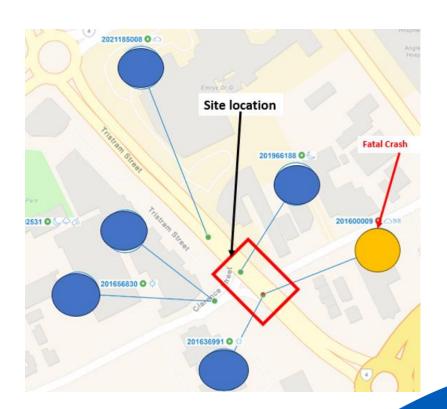
A ten-year crash search since 2014 has shown 6 reported crashes:

- 1 Fatal Crash
- 5 non-injury crashes

The fatal crash involved a car vs motorcyclist.

Near misses have been observed at this site.

Likelihood of a DSI in event of a crash at this site is high. This is due to the high traffic volume and speed coupled with pedestrian demand.





Vehicle Movements

Tristram and Clarence Street are:

- Posted at 50km/h speed limit.
- Both these roads have pedestrian footpath facility but no cycle facilities.
- There is a short 70m section of footpath missing link along Tristram Street south/east section.

Tristram Street No cycle facilities on both roads:

- Two lane road with a solid central median with cut through for pedestrians just south of Clarence Street
- No parking is provided for along this section of Tristram Street

Clarence Street has the following characteristics:

- Two lane road with a pedestrian refuge throat island at Tristram Street end
- Has parking provided for outside Clarence Street Theatre

Road Name	ONF	Estimated AADT (veh/day) & Heavy Vehicles
Tristram Street (red square)	Urban Connector (M1,P4)	18000 vpd (2025) 2% Heavy Vehicles
Clareance Street (blue square)	Local Street (M4,P3)	3800 <u>vpd</u> (est. 2025) 3% <u>Heavy Vehicles</u>



Pedestrian Movements

- There are notable pedestrian movements along Clarence Street and across Tristram Street.
- People walk, bike or scooter into the Central City from the lake area.
- Most pedestrians and cyclists travel in an east-west direction across Tristram Street.
- A combination of vehicles speeds, wide traffic lanes and poor crossing facilities for pedestrians and cyclists makes Tristram St a barrier for active users.

An onsite fixed camera was used to monitor and gather pedestrian and cyclist movement/ behaviour data

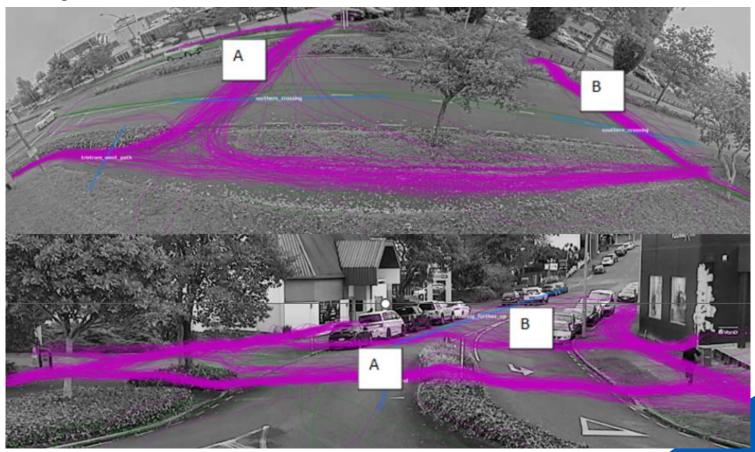
Road name	Date and Time 7am to 7pm	Pedestrians moving through site	Pedestrian Crossing	Cyclist moving through site	Cyclist Crossing	Total Pedestrian and Cyclist
Clarence	1 May 2025	58	106	1	0	165
Street	(Thursday)					
Tristram	1 May 2025	106	304	13	30	453
Street	(Thursday)					

There are two paved refuge areas (a and b) provided for along the Tristram Street solid median.

Crossing location Number of people crossing (peds and cyclists)		% of people crossing	
Northern Crossing (a)	166	49.7%	
Southern Crossing (b)	168	50.3%	



Ped diagram





Site Observations

A site inspection was completed on **30 April 2025** during which the following observations were made:

- **High number of pedestrians** cross Tristram Street.
- The left slip lane causes masking when a truck is turning into Clarence Street from Tristram Street.
- Vehicles travelling at high speed.
- **Minimal gaps** in traffic due to high volume and flow along Tristram Street. Hence less crossing opportunities resulting in people running across the live lanes accepting short gaps.
- The existing cutdowns at the crossing are observed to be non-wheelchair friendly due to tree roots under the pavement.

Customer Requests

Customer Request Management (CRM) System has shown the following customer requests are generally about pedestrian crossing requirements:

- **November 2022:** Resident requested a crossing location and new footpath across Tristram Street.
- August 2020: Request for improved cutdown across Tristram Street, from the Clarence Street parking area to the Central City. They find it very hazardous.
- **December 2017:** Customer has suggested a pedestrian crossing outside of the Clarence Street theatre.



Early Engagement

This project was part of the Transport Choices (CERF) Programme. It was given macroscope approval by the Infrastructure & Transport Committee on 7 March 2023. Consultation with key stakeholders resulted in feedback from FENZ stating a preference for an at-grade crossing facility. Community feedback, received in late July 2023, was fully supportive of the project.

The following parties have been identified for engagement:

- Pak'nSave
- Pacemakers
- •Clarence Street Theatre
- •Big Box retail on the north-western corner.
- •Fire and Emergency NZ (FENZ) Site is on FENZ key route.

Staff will ensure **effective and transparent communication** with the primary stakeholders. This approach will facilitate face-to-face discussions regarding proposal and construction technique.

The approach to communication will involve postal mail, direct discussions with those affected, project signage, variable message boards (VMS), and posters placed in local shops.

Recommended Option:

Preferred Safest Option: Raised signalised pedestrian crossing - Estimated costs \$1.58M (P95)

- Signalised crossing would allow active mode users time to safely clear the live lanes.
- Raised safety platform will help reduce driver speeds to 40km/h with a 1:20 ramp grades.
- Proposal include the build out to remove the left slip lane, therefore shortening the crossing distance for both pedestrians and cyclists, as well as shortening the 'run time' for the signals.
- Raised dual crossings will allow a safe crossing for pedestrians and cyclists and for other vulnerable users.

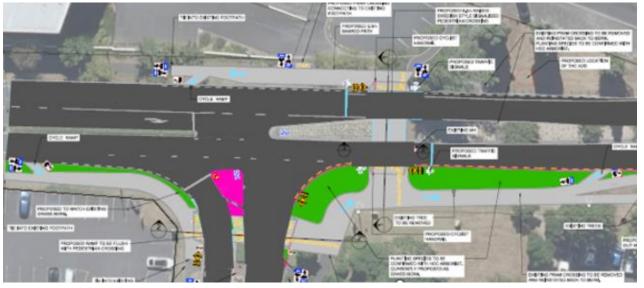




Alternative Option:

Safer Option: At-grade signalised pedestrian crossing - Estimated costs \$1.17M (P95)

- Signalised crossing would allow active mode users time to safely clear the live lanes.
- At-Grade intersection will unlikely help reduce driver speeds to the desirable safe system threshold
- Proposal include the build out to remove the left slip lane, therefore shortening the crossing distance for both pedestrians and cyclists, as well as shortening the 'run time' for the signals.
- Dual crossings will allow a safe crossing for pedestrians and cyclists and for other vulnerable users.







Crash Data

A ten-year crash search has shown 18 reported crashes:

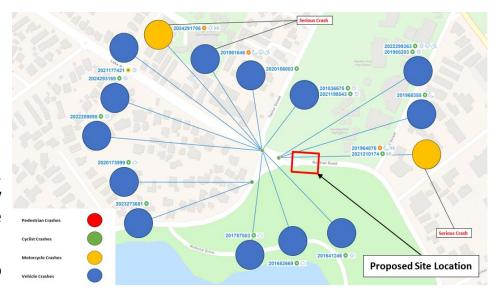
- 3 Serious injury crashes
- 1 minor injury crashes
- 14 non-injury crashes

Nine crashes occurred between 3 PM and 6 PM, coinciding with afternoon peak hours, primarily attributed to poor decision making and judgement due to busy hours.

No crashes identified at the existing refuge island and no pedestrian involved crashes.

The serious injury crashes did not involve cyclist or pedestrians.

Two of the serious injury crashes involved motorcyclist.





Vehicle Movements

Ruakiwi Road has 2 traffic lanes with a central median and the following characteristics:

- Posted speed limit is 50km/h on Ruakiwi Road, the 85th%tile is 50.76km/h.
- There is an existing informal crossing with median refuge island near the Lake domain Drive intersection, which is only suitable enough to safely accommodate 2 people at a time.
- Ruakiwi Road has no dedicated cycle lanes, although there are 1.5m shoulders.
- There is 1.5m pedestrian footpath on both sides of the road.
- There is no pedestrian priority crossing within a 200-meter radius of the proposed location.
- This section of Ruakiwi Road is not a public bus route.

Road Name	ONF	Estimated AADT (veh/day) & Heavy Vehicles	
Ruakiwi Road Urban Connector (M2,P4)		15,000 (est.2023), 0% Heavy Vehicles	



Pedestrian Movements

There is high pedestrian demand along Ruakiwi Road near Lake Domain reserve.

200 pedestrian's cross daily at this particular location on Ruakiwi Road This has resulted in high-risk decision making and risk taking by children and other vulnerable users.

The peak traffic times also coincide with high pedestrian and cyclist activity making it difficult for pedestrians to find safe gaps in traffic.

This is compounded by pedestrians having to cross this extremely high-risk location near a busy intersection.



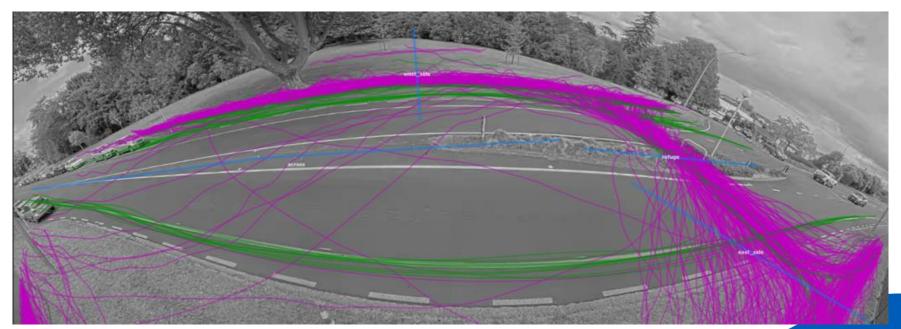
An onsite fixed camera was used to monitor and gather pedestrian and cyclist movement/ behaviour data:

Date and Time 7am to 7pm	Pedestrian Crossing using Existing Refuge (Ruakiwi Road)	Pedestrian crossing nearby locations	Cyclist Crossing using Existing Refuge (Ruakiwi Road)	Cyclist crossing nearby locations	Total Pedestrian crossing
22 nd March 2025 (Saturday)*	189	12	11	0	201
24 th March 2025 (Monday)	191	9	11	0	200



Pedestrian diagram

Survey Locations showing desire lines on Ruakiwi Road near existing refuge (Purple = Pedestrians, Green = Cyclists)





Site Observations

A site inspection was completed on 20 March 2025 during which the following observations were made:

- **People were observed trapped** on the central island trying to find gaps in the traffic to finish crossing the road due to the high traffic volumes.
- **Vehicles accelerating at high speed** through the intersection from Lake Domain Drive turning right on to Ruakiwi Road (challenge in finding gap).
- During peak hours **minimal traffic gaps** were noted for pedestrians to cross the road and people had to run across the lanes while crossing.
- Existing cutdowns at the crossing are **not non-wheelchair friendly** due to slope up to the footpath.
- Students and family that used the narrow refuge island, were **often in groups >4** which required them to stand on to the front and rear of the existing refuge island.



Customer Requests

Customer Request Management (CRM) System has recorded the following customer requests regarding pedestrian safety, crossing needs and speed environment near this location:

- **August 2023:** Request for a safe crossing facility on Ruakiwi Road to access the lake and park for recreational activities.
- January 2022: Request expressing concerns regarding vehicle speed and requesting for speed calming measure.
- August 2020: Customer reported child near hit by a vehicle and noted frequent risky behaviours exhibited by both drivers and pedestrians. They highlighted high foot traffic and vehicles travelling at approximately 60km/h with few gaps. The customer recommends implementing a controlled crossing.
- **June 2020:** A request has been made to consider the possibility of reviewing this specific intersection: Tainui St, Lake Rd, Ruakiwi Rd, and Lake Domain Drive.
- March 2019: Request for a safe crossing facility on Ruakiwi Road to access the lake and park for recreational activities.

Early Engagement

Staff have completed early engagement with Hamilton Girls' High School to gather insights about the existing conditions. The school is very supportive for a formal pedestrian crossing at this location.

The following parties have been identified for engagement:

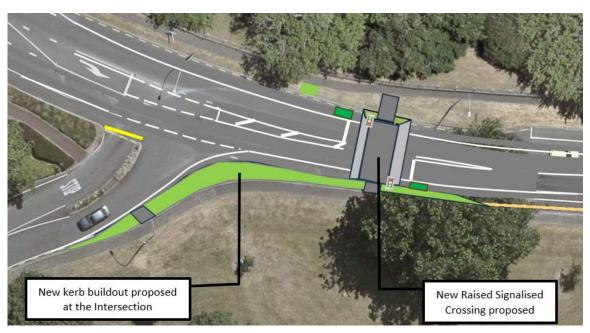
- •Girls High School
- Cancer Society Lodge
- Residential properties adjacent to the intersection
- Fire and Emergency NZ (FENZ) Site is on FENZ routes.

The site is located away from any property so primary communication for this project would be around construction timeframes and disruption.



Recommended option:

Preferred Safest Option: Raised signalised pedestrian crossing - Estimated costs \$950k (P95)



Signalised intersection would allow active mode users time to safely clear the live lanes.

Raised intersection will help reduce driver speeds to 40km/h with a 1:20 ramp grades.

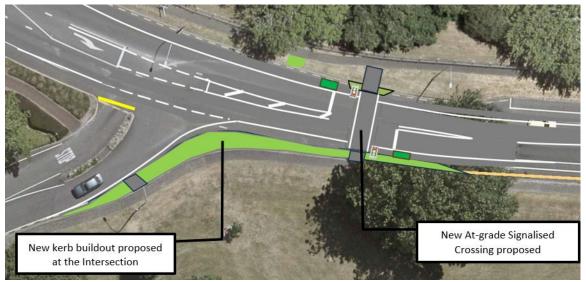
A Raised signals will allow for additional intersection traffic calming with more gaps for traffic exiting side roads.

It is recommended that future proofing be provided to enable the crossing to be upgraded to a dual crossing for cyclists

Ruakiwi Road – Pedestrian crossing improvements

Alternative option:

Safer Option: At-grade signalised pedestrian crossing - Estimated costs \$750k (P95)



Signalised intersection would allow active mode users time to safely clear the live lanes.

The approach and transition speeds are not reduced to a survivable pedestrian impact speed, as a result there is risk, that any crash involving a pedestrian is likely to result in death or serious harm.

At-grade crossing unlikely to provide any additional intersection traffic calming

It is recommended that future proofing be provided to enable the crossing to the upgraded to a dual crossing for cyclis (Sound

Worley Place Shared Zone improvements





Proposed trees



Existing trees

\$200,000 approved at the March 2025 I&T Committee for:

- New street furniture removal metal planters replace with pots
- New gardens and trees
- NO paving changes







Worley Place Shared Zone improvements



- Currently in the programme as a <u>Yellow</u> project but with narrower scope for this option
 would like agreement from EM's to change to <u>Green *</u> status to match the rest of the CBD
 projects.
- This will enable us to coordinate consultation and engagement and aim for works to be undertaken this calendar year.

Feedback and Direction

 Staff need direction on preferred option to progress to inclusion in future reports to Infrastructure and Transport Committee

Next Steps

- Based on direction from this workshop staff will complete any additional targeted consultation needed
- Report to 24 July 2025 Infrastructure and Transport Committee to seek macro-scope and funding approval

Purpose of Briefing

To present information to EM's to answer questions posed following recent incidents involving cyclists:

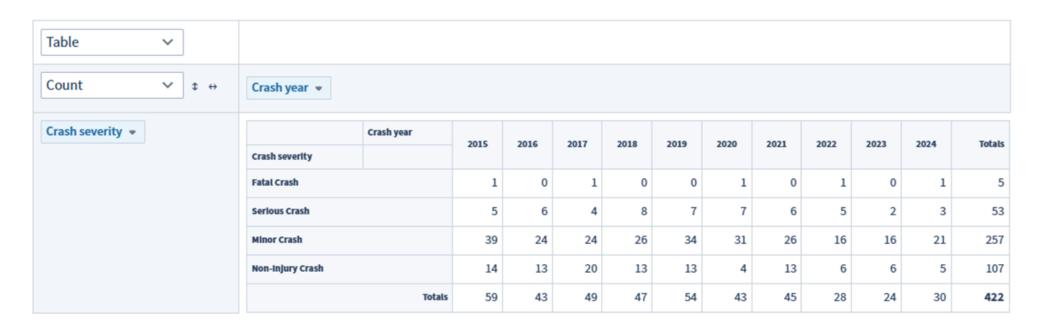
- Contributing factors in crashes involving this user group
- Blindzones for heavy motor vehicles what are these
- Technology and changes to heavy motor vehicles to reduce the blindzone risk
- Cost implications for retrofitting the existing fleet
- Council's role and ability to mandate retrofitting the fleet
- Other measures



The questions from the EM's

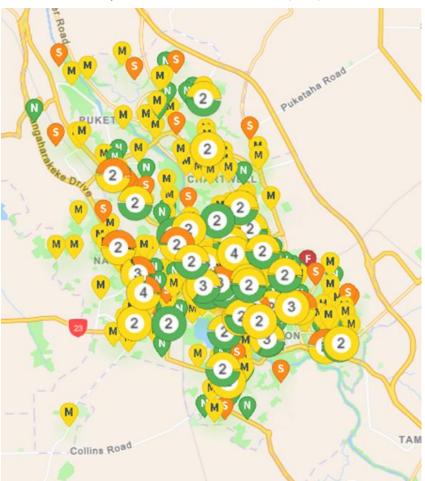
- Any safety treatments or alert systems that can be fitted to trucks & other large vehicles operating in our inner city - specifically those that detect cyclists or other vulnerable road users on the left-hand side?
- What would be the cost implications to retrofit such systems to existing fleets?
- Is it within Council's ability to mandate the use of such safety systems for trucks operating on our roading networks? What would be required to progress this?
- Advice on other measures, vehicle based, infrastructure improvements, policy changes or advocacy to Government agencies that could prevent further incidents like these.
- Blindzone for large vehicles and safety for cyclists using advance cycle stop boxes.



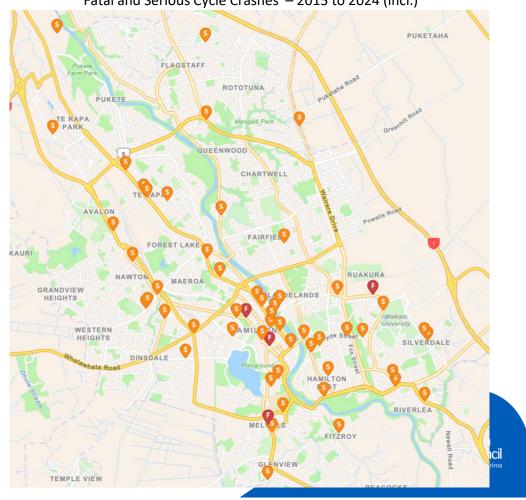




All Cycle Crashes – 2015 to 2024 (incl.)

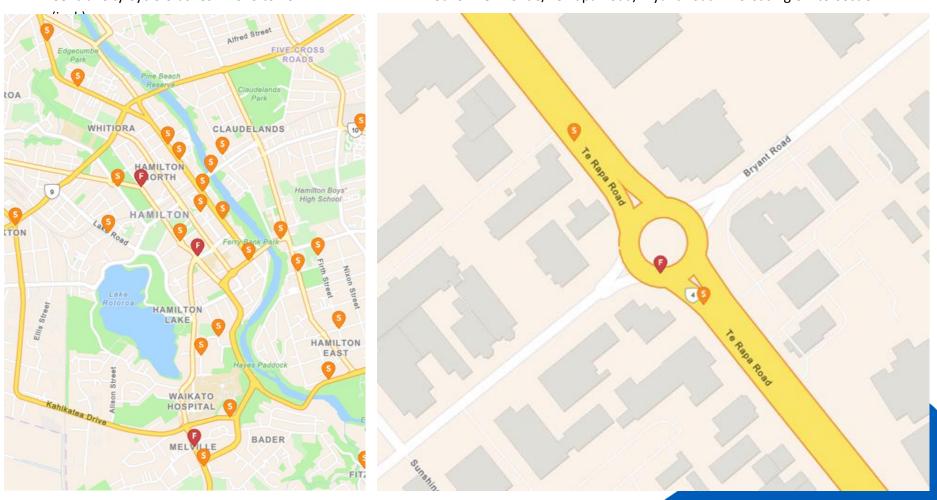


Fatal and Serious Cycle Crashes – 2015 to 2024 (incl.)



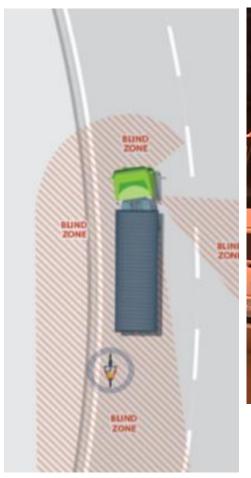
Central City Cycle Crashes – 2015 to 2024

Sunshine Avenue/Te Rapa Road/Bryant Road - worst single intersection





Blind zone for heavy motor vehicles – what are these?





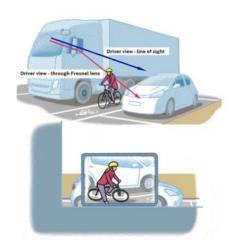
Technology and changes to heavy motor vehicles to reduce the blind spot risk

- Coroners' enquiry for Te Rapa Road/Sunshine Avenue/Bryant Road cycle fatality had a strong focus on exploring this.
- Recommendations aimed at work to be undertaken by Road Controlling Authorities.
- In 'Comments' included the message that caution is required when sharing the road with a large truck must be made clear to cyclists
- Accepted that while some truck modifications may be helpful in keeping vulnerable road users visible on the roads, they did not consider such recommendations practical or viable for current heavy vehicle trucks on our roads



Implications for Retrofitting the Existing NZ Fleet

- Heavy vehicles (trucks and buses) are not manufactured in NZ and there are inherent issues and costs prescribing a particular safety measure to heavy vehicles where there are such a wide variety of trucks on our roads
- There is a lack of global standards for these.
- Modifications included:
 - Fresnel lenses added to wing mirrors
 - Additional windows in lower parts of doors driver and passenger
 - Cameras and sensors
 - External audible left turning signal
 - Under run prevention skirts







Council's role and ability to mandate retrofitting the fleet

- Council can have a role for encouragement and advocacy to those who can mandate for the country e.g. Ministry of Transport
- Council can mandate and require additional safety measures on any vehicles that we buy/lease.
- Council can consider opportunities for encouraging any truck operators that we have contracts with.



Safe Roads

- Safer Cycling Infrastructure Creating protected bike facilities that are physically separated from general traffic, incl. additional markings at key conflict points e.g. driveways
- Lower Speed Limits Reducing speed limits in urban areas helps reduce volume and severity of crashes.
- Improved Road Design Road designs that take account of the needs of cyclists.
- **Better Road Maintenance** Ensuring bike facilities are maintained well, fit for purpose, and useable.
- **Stronger Traffic Laws** Enforcing minimum passing distances for vehicles overtaking cyclists and improving road user behaviour.
- Public Awareness & Education Educating both cyclists and drivers about road-sharing, blindzones, rules, etc.



Safe Vehicles

HCC Heavy vehicle fleet

Camera Systems (HCC Fleet team installing on our trucks at renewals)

- 360° bird's eye view camera systems
- · Multi reverse camera
- · Split-screen monitors for side/rear live feed
- Night-vision options for low light conditions

To improve cycle safety in the New Zealand truck fleet, consideration for the following features as standard:

- **1. Side Under-Run Protection** Installing barriers on the sides of trucks can prevent cyclists from being pulled under the vehicle in a collision.
- **2. Blindzone Detection Systems** Advanced mirror systems and sensors, such as Fresnel lenses, help truck drivers see cyclists in their blind spots.
- **3. Improved Driver Training** Ensuring truck drivers are trained to recognize and anticipate cyclist movements, especially at intersections.
- **4. Cyclist Awareness Technology** Some trucks are equipped with in-vehicle bike detection systems to alert drivers of nearby cyclists.
- **5. Safe Turning Practices** Trucks should have clear signaling systems and drivers should be trained to check for cyclists before turning left.

Safe Road Users

Examples of education initiatives

- Blindzone education sessions community events
- Working with Waikato Regional Council for bus driver education
- Development of a blindzone video for cyclists/trucks - June 2025 (HCC/Connect Hamilton)

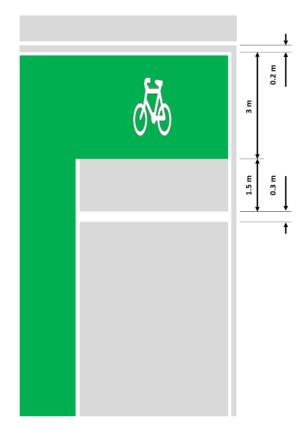
Other cycling safety videos:

- How to use of hook turn and advanced cycle stop box markings
- How to take the lane at a roundabout.
- How to navigate shared paths at roundabouts
- How to take the lane where there are sharrow markings
- How to safely pass a stationary bus
- How to safely use shared paths
- How to use separated cycle facilities





Advanced Cycle Stop Box Markings





Feedback and Direction

Staff need direction on what EMs would like to see progressed and reported back on via the Infrastructure and Transport Committee

