

# **Safety Camera System**

**Tāmaki Makaurau Expansion Project**

**Phase 2 – Point to Point Corridors**

**Safety Camera Draft Site Assessment Report**

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# Safety Camera Sites Assessment Report

## Introduction

This document provides an overview of the safety camera installation process employed to deliver a confirmed shortlist of safety camera installation locations across Tamaki Makaurau local roads, i.e., those roads owned and operated by Auckland Transport.

The individual site reports included in this document address twelve corridors confirmed as appropriate for installation of average (point to point) speed safety cameras.

## Background

Waka Kotahi (The New Zealand Transport Agency) is in the process of assuming ownership of Safety Camera operations nationally. That ownership involves continuation of existing NZ Police operated camera enforcement along with the expansion of the Safety Camera network across New Zealand.

In order to expand the network, suitable locations for the installation and deployment of camera resources must be identified.

Tāmaki Makaurau has been identified as an appropriate location to undertake an early installation programme. This project allows safety benefits to be realised more quickly and provides a lessons learned approach to inform the greater national expansion programme.

This document provides an overview of the selection process used in identifying those new sites and provides detailed site selection reports for each of the sites identified.

The criteria for site selection is guided by the “Safety Camera Site Selection Methodology” Version 1.0.

## Tāmaki Makaurau corridor/site selection process

### Initial (desktop) review

A total of 57 local roads within Greater Auckland were identified in the initial national risk assessment. These 57 sites sat within the national top 297 camera sites identified in the risk analysis work completed by Abley’s Transport Consultants.

Representatives from Waka Kotahi and Auckland Transport jointly worked through the list of 57 candidate corridors. Each of the corridors was considered against pending engineering works, speed limit changes and appropriateness from a network operator point of view. The physical requirements of a camera were also considered including physical space to fit a camera and availability of 24-7 230-volt power supply. This was completed virtually utilising the Safety Camera Planning Tool supported with Google Streetview.

Each of the 57 corridors was discussed, and where supported, Streetview was used to determine a preliminary installation location.

## Physical review

Physical review involves physically visiting the identified sites to confirm physical room to install a camera, availability of power supply and sufficient cellular data capacity. During these visits' representatives from Vodafone, and the various power companies attended to provide expert advice. This process resulted in a total of 27 sites confirmed for final consideration. Detailed site design visits followed including safety barrier, drainage, and maintenance access assessment.

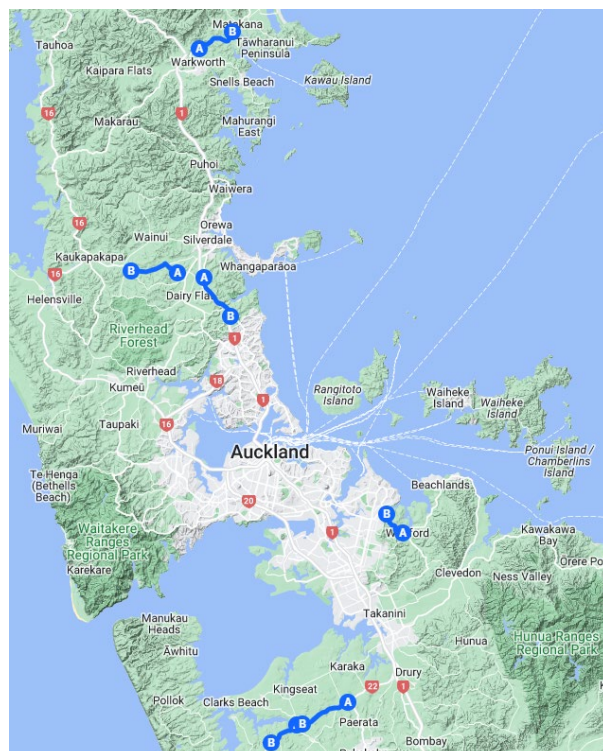
A final consideration was determined by baseline speed profiles for each of the identified installation locations. Traffic counters were deployed at ten sites for this purpose. Information from those counters includes total traffic counts, mean travel speeds and 85<sup>th</sup> percentile speeds. This data was used to confirm camera viability and provide baselines for performance monitoring over time.

## Final shortlisted sites

Road Name	Site code	Regional council	Suggested camera type	Status
Matakana Road	ATP01A / ATP01B	Rodney	P2P	Phase 2
Kahikatea Flat Road	ATP02A / ATP02B	Rodney	P2P	Phase 2
East Coast Road	ATP03A / ATP03B	Rodney	P2P	Phase 2
Whitford Road	ATP04A / ATP04B	Whitford	P2P	Phase 2
Glenbrook Road (East)	ATP05A / ATP05B	Franklin	P2P	Phase 2
Glenbrook Road (West)	ATP06A / ATP06B	Franklin	P2P	Phase 2

## Geographical spread

The following diagram describes the spread of identified point to point corridors across Tāmaki Makaurau.



## MATAKANA ROAD

<b>MATAKANA ROAD</b> <b>WARKWORTH, AUCKLAND</b>
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<b>ATP01A/ATP01B</b>
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### **Location**

The corridor is a 4.9 kilometre zone between numbers 297 and 789 Matakana Road. GPS coordinates for the extents are -36.381466, 174.662860, and -36.367648, 174.707326°

### **Extraordinary works**

Both sites require a road-side safety barrier.

### **Recommendation**

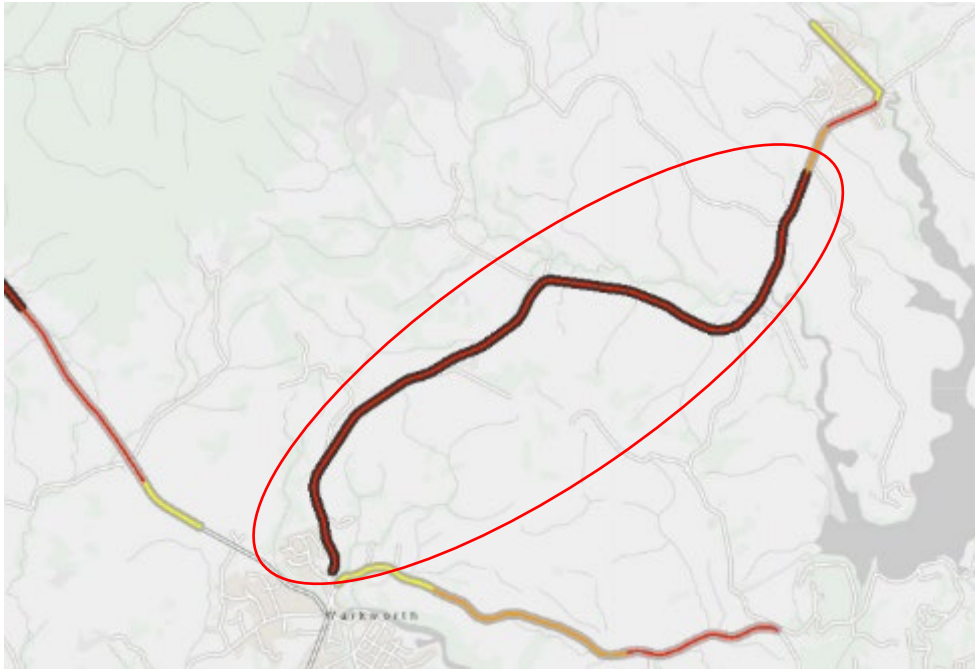
This site can progress to the construction phase including the completion of extraordinary works outlined above.

### **Assessment**

This corridor was identified as appropriate through a virtual exercise and a physical visit was carried out the week of 10 July 2023.

Following site visits the preferred installation locations were confirmed -36.381466, 174.662860° opposite 297 Matakana Road and -36.367648, 174.707326° opposite 789 Matakana Road.

## Site Location



Site Location Risk map for identified corridor

Corridor extents



### Installation Location 297 Matakana Road

Following a site inspection, the installation location for the southern camera was confirmed at  $-36.381466, 174.662860^\circ$  opposite 297 Matakana Road with the camera facing south.

Power is to be taken from a powerpole across the road so trenching and installation of a TUD from which camera power will be drawn is required.

**Access**

Access will be constructed to allow safe parking of maintenance vehicles behind the safety barrier.



**Installation location for the first camera**



**Installation location of first camera**

**Safety considerations**

A protective barrier is recommended for this installation site.

### Installation Location 789 Matakana Road

Following a site inspection, the installation location for the southern camera was confirmed at  $-36.367648, 174.707326^{\circ}$  opposite 789 Matakana Road with the camera facing north.

Power is to be taken from the adjacent powerpole, with the installation of a TUD from which camera power will be drawn is required.



Installation location for the second camera



### Access

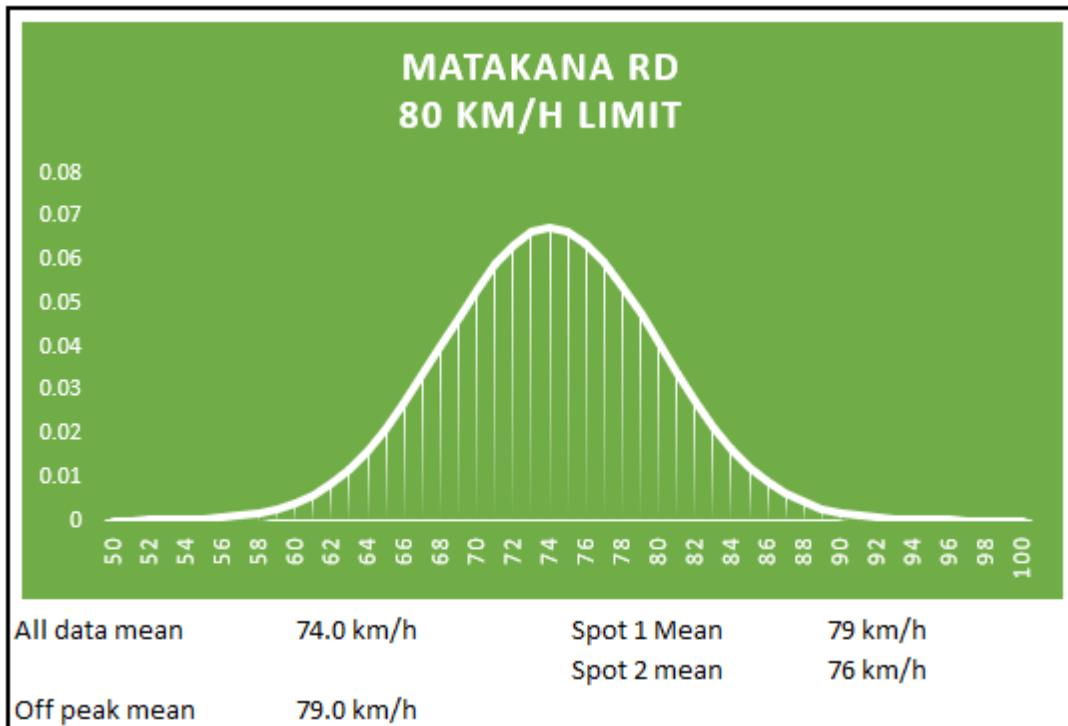
Access will be constructed to allow safe parking of maintenance vehicles behind the safety barrier.

### Safety considerations

A protective barrier is recommended for this installation site. .



**Average Speed profile**



The free flow mean speed is 79 km/h which is within the 5% criteria for a camera.

### Camera physical site requirements

Criteria	Required Standard / Guidance	Record Finding	OK
Camera line of sight	Clear line of sight for camera, flash unit, speed sensor.	Clear view	Yes
Road Geometry	Straight road for 100m		Yes
	Constant slope for 100m		Yes
Cellular phone signal	Cellular signal strength.		Yes
Site accessibility	Easy and safe access with no interference to traffic flows.	Parking in existing layby at camera 1. Behind barrier at camera 2.	Yes
Power source	Power requirements within the range of 230-240VAC.		Yes
Sun strike	Camera unit faces south	South - west facing	Yes
Security	Acceptable security for equipment		Yes
Pole protection	Errant vehicles protected from pole impact via barrier or similar		Yes
Interference	No large permanent metal objects within the RADAR zone		Yes
	No temporary blocking objects. e.g. Bus stops		Yes
Underground services	Full disclosure of all underground services	Refer design diagram. Pole holing to be carried out to locate services.	Yes

## KAHIKATEA FLAT ROAD

### KAHIKATEA FLAT ROAD

### DAIRY FLAT, AUCKLAND

### ATP02A/ATP02B

#### Location

The corridor is a 6.6 kilometre zone between numbers 117 and 793 Kahikatea Flat Road. GPS coordinates for the extents are -36.64349 174.63110°, and -36.640405, 174.563963°

#### Extraordinary works

793 Kahikatea Flat Road will require a road-side safety barrier. 117 Kahikatea Flat Road is yet to be determined.

#### Recommendation

This site can progress to the construction phase including the completion of extraordinary works outlined above.

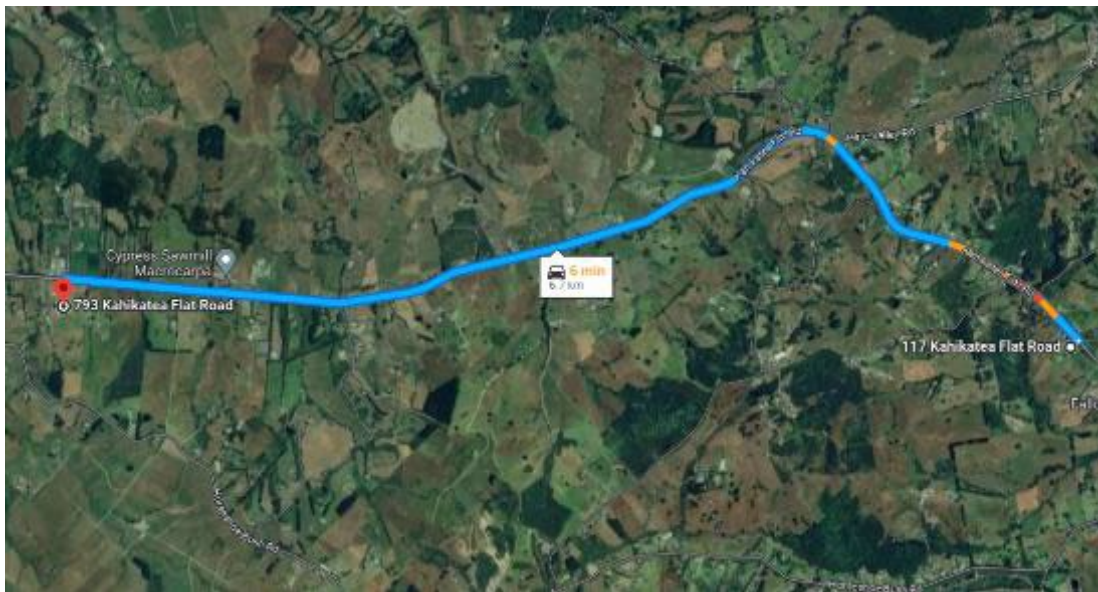
#### Assessment

This corridor was identified as appropriate through a virtual exercise and a physical visit was carried out the week of 10 July 2023.

## Site Location



Site Location Risk map for identified corridor



Corridor extents

### Installation Location 117 Kahikatea Flat Road

Following a site inspection, the installation location for the eastern camera was confirmed at - 36.64349 174.63110° outside 117 Kahikatea Flat Road with the camera facing south.

Power is to be taken from an adjacent powerpole requiring trenching and installation of a TUD from which camera power will be drawn is required.

### Access

Access will be constructed to allow safe parking of maintenance vehicles behind the safety barrier

### Installation location for the first camera



### Safety considerations

The need for a protective barrier is being explored for this installation site.

### Installation Location 793 Kahikatea Flat Road

Following a site inspection, the installation location for the southern camera was confirmed at - 36.640405, 174.563963° opposite 793 Kahikatea Flat Road with the camera facing north.

Power is to be taken from the adjacent powerpole, with the installation of a TUD from which camera power will be drawn is required.

### Installation location for the second camera



### Access

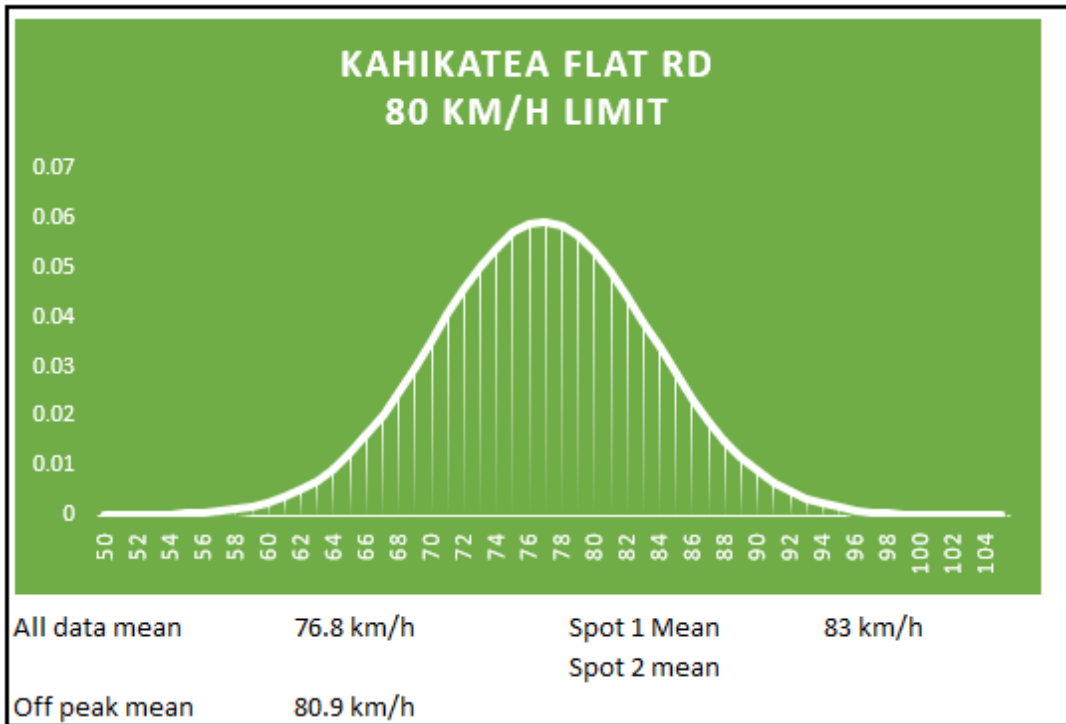
Access will be constructed to allow safe parking of maintenance vehicles behind the safety barrier.



### Safety considerations

A protective barrier is recommended for this installation site. .

**Average Speed profile**



The free flow mean speed is 81 km/h which is within the 5% criteria for a camera.

## Camera physical site requirements

Criteria	Required Standard / Guidance	Record Finding	OK
Camera line of sight	Clear line of sight for camera, flash unit, speed sensor.	Clear view	Yes
Road Geometry	Straight road for 100m		Yes
	Constant slope for 100m		Yes
Cellular phone signal	Cellular signal strength.		Yes
Site accessibility	Easy and safe access with no interference to traffic flows.	Parking in existing layby at camera 1. Behind barrier at camera 2.	Yes
Power source	Power requirements within the range of 230-240VAC.		Yes
Sun strike	Camera unit faces south	South - west facing	Yes
Security	Acceptable security for equipment		Yes
Pole protection	Errant vehicles protected from pole impact via barrier or similar		Yes
Interference	No large permanent metal objects within the RADAR zone		Yes
	No temporary blocking objects. e.g. Bus stops		Yes
Underground services	Full disclosure of all underground services	Refer design diagram. Pole holing to be carried out to locate services.	Yes



## EAST COAST ROAD

<b>EAST COAST ROAD</b> <b>STILLWATER, AUCKLAND</b>
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<b>ATP03A/ATP03B</b>
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### Location

The corridor is a 3.1 kilometre zone between numbers 1232 and 1627 East Coast Road. GPS coordinates for the extents are -36.693844, 174.707402° and -36.675161, 174.686470°.

### Extraordinary works

Both sites require a road-side safety barrier. This will be dependent upon assessment of the existing police camera site

### Recommendation

This site can progress to the construction phase including the completion of extraordinary works outlined above.

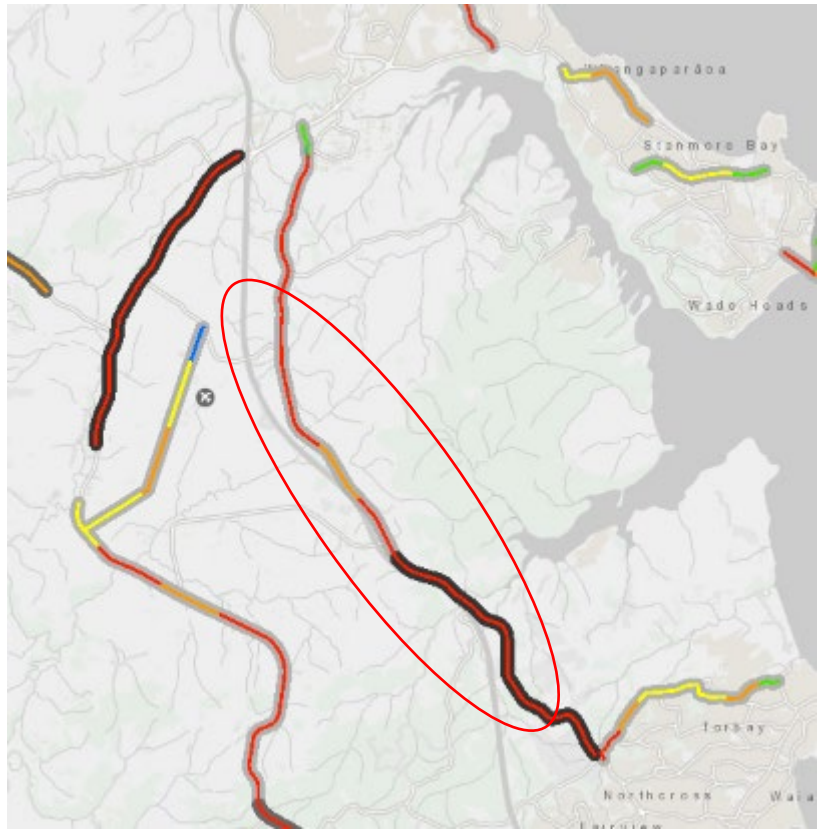
### Assessment

This corridor was identified as appropriate through a virtual exercise and a physical visit was carried out the week of 12 December 2022.

Following site visits the preferred installation locations were confirmed -36.693844, 174.707402° outside 1232 East Coast Road and -36.648711, 174.668978°, opposite 1627 East Coast Road.

Following meetings with NZ Police during May 2023 support was given for this corridor to be implemented as a P2P trial area.

**Site Location**



**Site Location Risk map for identified corridor**



**Corridor extents**

### Installation Location 1627 East Coast Road

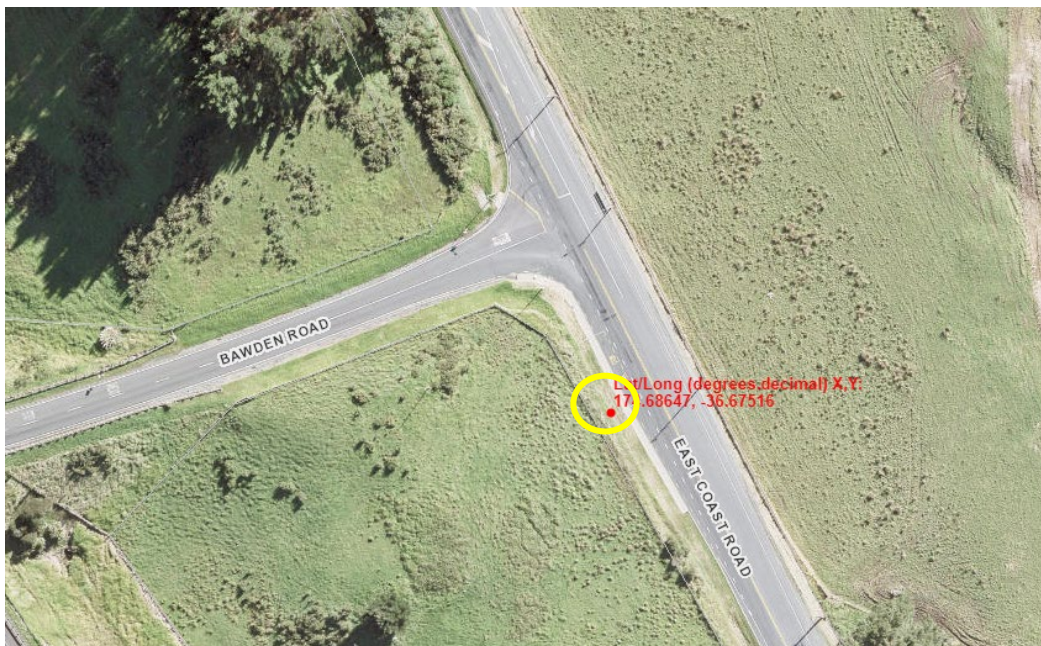
Following a site inspection, the installation location for the northern camera was confirmed at -36.675161, 174.686470° opposite 1627 East Coast Road with the camera facing south.

The outer edge of the foundation of the support structure will be about 7m from the white edge line sitting predominantly at about 1 metre above road level.

Power is to be taken from a powerpole across the road so trenching and installation of a TUD from which camera power will be drawn is required.

### Access

Access will be constructed to allow safe parking of maintenance vehicles behind the safety barrier.



Installation location for the first camera

### Safety considerations

A protective barrier is recommended for this installation site.

### Installation Location 1232 East Coast Road

Following a site inspection, the installation location for the southern camera was confirmed at -36.693844, 174.707402° outside 1232 East Coast Road, with the camera facing north.

The site is an existing New Zealand Police installed and operated safety camera. It is located on top of an earth bank (about 1m above road level) on the western side of the roadway. Due to the location up the embankment there is no safety barrier at this location.



Image of existing safety camera

#### Access

Existing access is by way of parking in a nearby pull off area and walking the short distance up the earth bank.

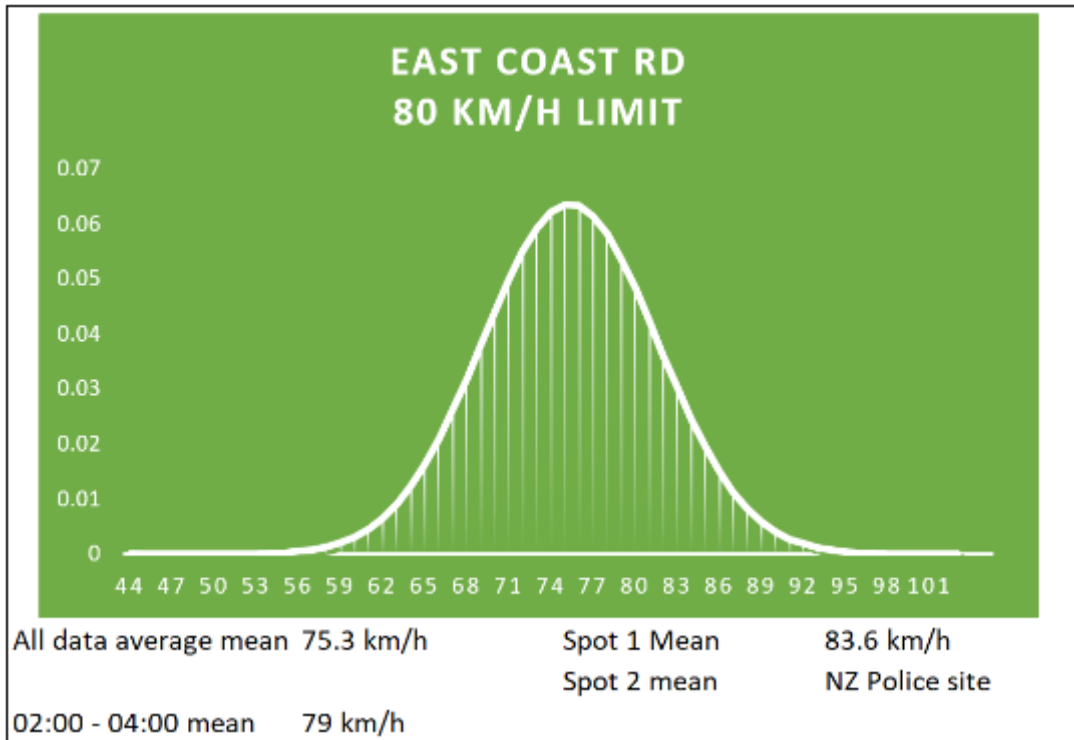


Installation location of second camera

#### Safety considerations

Consideration given to forming a safe walkway to camera and possibly investigate barrier.

**Average Speed profile**



The free flow mean speed is 79 km/h which is within the 5% criteria for a camera.

## Camera physical site requirements

Criteria	Required Standard / Guidance	Record Finding	OK
Camera line of sight	Clear line of sight for camera, flash unit, speed sensor.	Clear view	Yes
Road Geometry	Straight road for 100m		Yes
	Constant slope for 100m		Yes
Cellular phone signal	Cellular signal strength.		Yes
Site accessibility	Easy and safe access with no interference to traffic flows.	Parking in existing layby at camera 1. Behind barrier at camera 2.	Yes
Power source	Power requirements within the range of 230-240VAC.		Yes
Sun strike	Camera unit faces south	South - west facing	Yes
Security	Acceptable security for equipment		Yes
Pole protection	Errant vehicles protected from pole impact via barrier or similar		Yes
Interference	No large permanent metal objects within the RADAR zone		Yes
	No temporary blocking objects. e.g. Bus stops		Yes
Underground services	Full disclosure of all underground services	Refer design diagram. Pole holing to be carried out to locate services.	Yes

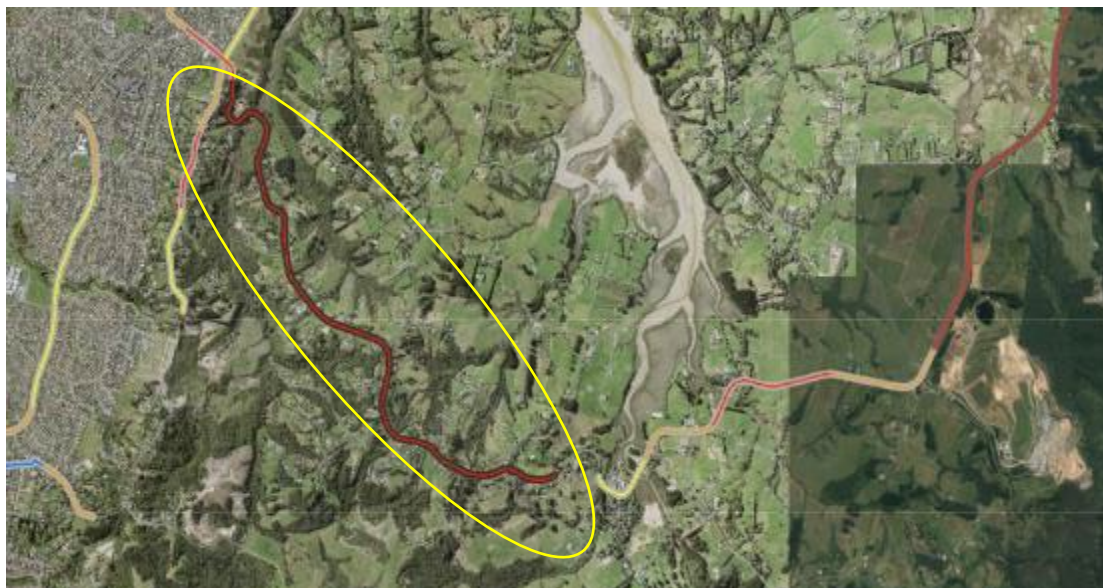
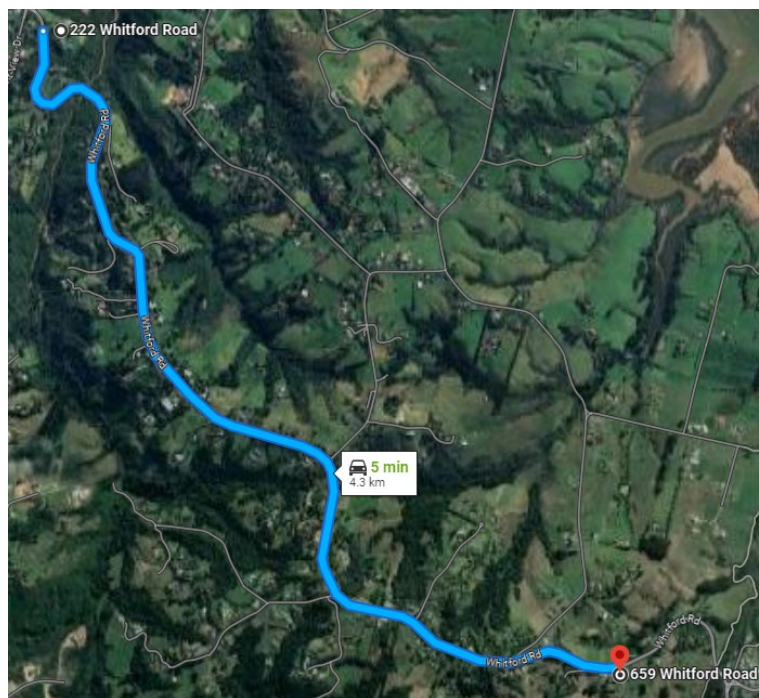
## WHITFORD ROAD

# WHITFORD ROAD WHITFORD, AUCKLAND

## SITE CODE ATP04A /ATP04B

### Location

This corridor requires two camera installations, the first is at 222 Whitford Road (-36.922509, 174.933444°), the second outside 659 Whitford Road (-36.944063, 174.956009°).



Risk map for identified corridor

### Extraordinary works

The sites will not require a road-side safety barriers.

### Recommendation

This site can progress to the construction phase including the completion of extraordinary works outlined above.

### Assessment

This sites were identified as appropriate through a virtual exercise and a physical visit was carried out the week of 10 July 2023.

Following a site visit the preferred installation locations were confirmed as -36.922514, 174.933412° outside 222 Whitford Road and outside 659 Whitford Rd (-36.954063, 174.959009°).

### First installation Location - 222 Whitford Road

Following a site inspection, the installation location for the camera was confirmed at -36.922514, 174.933412°, outside 222 Whitford Road with the camera facing northeast.



### Access

Access will be constructed to allow safe entry for personnel and a parking area at the southern end of the site.

Power is to be taken from the powerpole and will require trenching and installation of a TUD from which camera power will be drawn.





Installation location for the first camera

### Safety considerations

A protective barrier is not required for this site.

### Second installation location – 659 Whitford Road

The second camera is to be installed opposite 659 Whitford Road (-36.945063, 174.959009). Power is available from a nearby pole. The camera will face northeast

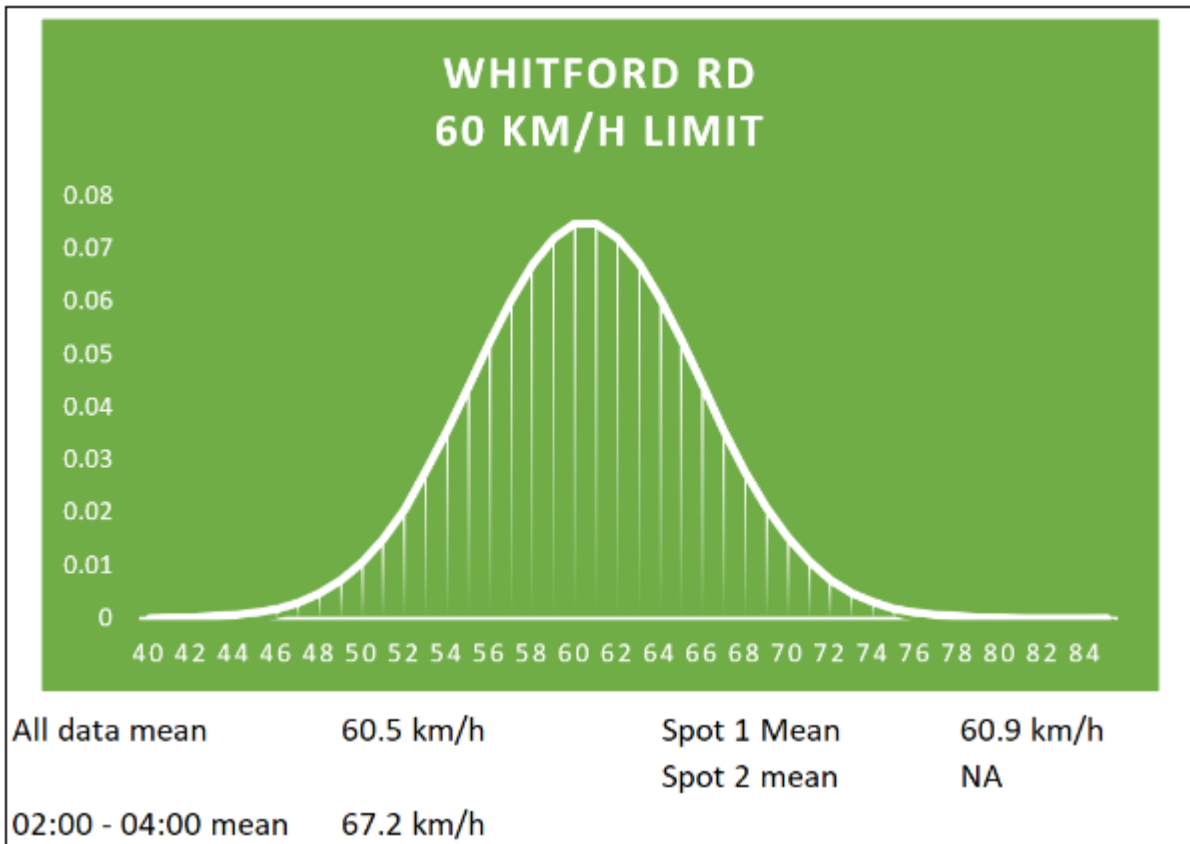


Installation location for the second camera



Installation location for the second camera

Travel Speed profile



## Camera physical site requirements

Criteria	Required Standard / Guidance	Record Finding	OK
Camera line of sight	Clear line of sight for camera, flash unit, speed sensor.	Clear view	Yes
Road Geometry	Straight road for 100m		Yes
	Constant slope for 100m		Yes
Cellular phone signal	Cellular signal strength.		Yes
Site accessibility	Easy and safe access with no interference to traffic flows.	Parking in existing layby at camera 1. Behind barrier at camera 2.	Yes
Power source	Power requirements within the range of 230-240VAC.		Yes
Sun strike	Camera unit faces south	South - west facing	Yes
Security	Acceptable security for equipment		Yes
Pole protection	Errant vehicles protected from pole impact via barrier or similar		Yes
Interference	No large permanent metal objects within the RADAR zone		Yes
	No temporary blocking objects. e.g. Bus stops		Yes
Underground services	Full disclosure of all underground services	Refer design diagram. Pole holing to be carried out to locate services.	Yes

## GLENBROOK ROAD (EAST)

# GLENBROOK ROAD (EAST) RODNEY, AUCKLAND

## ATP05A / ATP05B

### Location

The corridor is a 6.5 kilometre zone between numbers 83 and 721 Glenbrook Road. GPS coordinates for the extents are -37.143135, 174.875426° and -37.166823, 174.811143°.

### Extraordinary works

Both sites require a road-side safety barrier.

### Recommendation

This site can progress to the construction phase including the completion of extraordinary works outlined above.

### Assessment

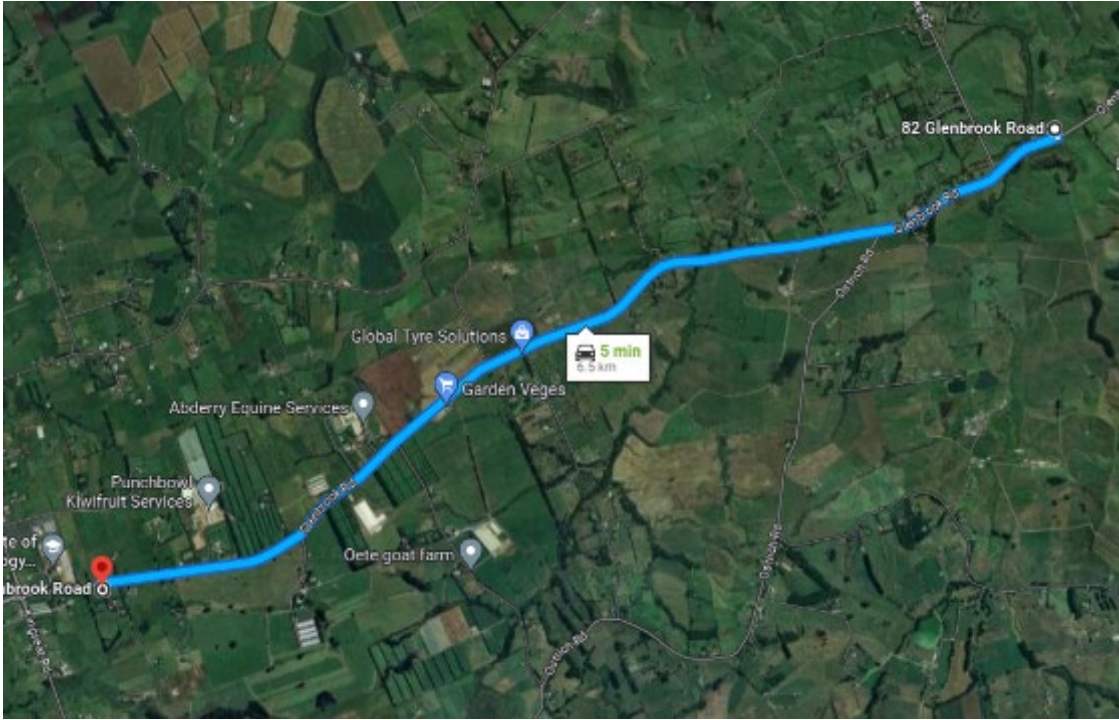
This corridor was identified as appropriate through a virtual exercise and a physical visit was carried out the week of 12 December 2022.

Following site visits the preferred installation locations were confirmed as -37.143135, 174.875426° outside 83 Glenbrook Road and -37.166823, 174.811143° outside 721 Glenbrook Road.

### Site Location



Site Location Risk map for identified corridor



### Corridor extents

#### Installation Location 82 Glenbrook Road

Following a site inspection, the installation location for the southern camera was confirmed at GPS - 37.143135, 174.875426° outside 82 Glenbrook Road with the camera facing west. The camera is to be installed on the south side of the road.

Power is to be taken from the existing nearby TUD.

#### Access

Access will be from the nearby driveway area.





**Installation location for the first camera**

**Safety considerations**

A safety barrier is required at this location.

**Installation Location 721 Glenbrook Road**

Following a site inspection, the installation location for the southern camera was confirmed at - 37.166823, 174.811143°, opposite 721 Glenbrook Road, with the camera facing east. The camera will be installed on the north side of the road.

**Access**

Access will be constructed to allow safe entry and exit for vehicles to a parking area located behind the safety barrier at the eastern end of the barrier.



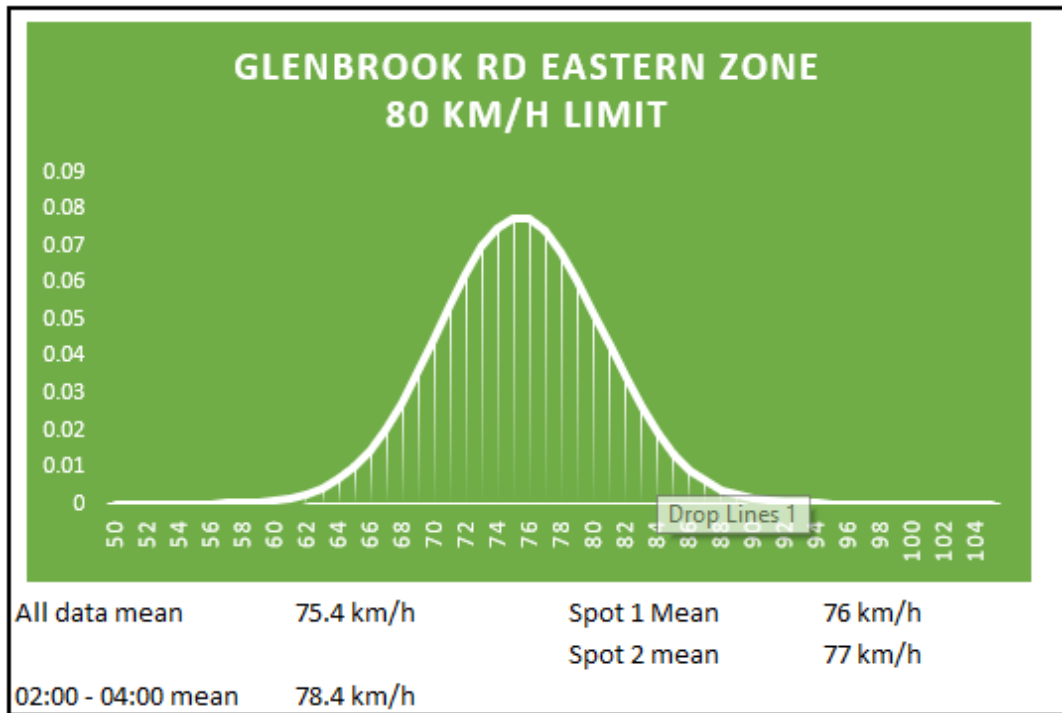
**Installation location of second camera**

### Safety considerations

A protective barrier is recommended for this installation site.

### Travel Speed profile

Average speed across entire corridor



## Camera physical site requirements

Criteria	Required Standard / Guidance	Record Finding	OK
Camera line of sight	Clear line of sight for camera, flash unit, speed sensor.	Clear view	Yes
Road Geometry	Straight road for 100m		Yes
	Constant slope for 100m		Yes
Cellular phone signal	Cellular signal strength.		Yes
Site accessibility	Easy and safe access with no interference to traffic flows.	Parking in existing layby at camera 1. Behind barrier at camera 2.	Yes
Power source	Power requirements within the range of 230-240VAC.		Yes
Sun strike	Camera unit faces south	South - west facing	Yes
Security	Acceptable security for equipment		Yes
Pole protection	Errant vehicles protected from pole impact via barrier or similar		Yes
Interference	No large permanent metal objects within the RADAR zone		Yes
	No temporary blocking objects. e.g. Bus stops		Yes
Underground services	Full disclosure of all underground services	Refer design diagram. Pole holing to be carried out to locate services.	Yes



## GLENBROOK ROAD (WEST)

### GLENBROOK ROAD (WEST)

### RODNEY, AUCKLAND

### ATP06A/ATP06B

#### Location

The corridor is a 2.8 kilometre zone between numbers 946 and 1233 Glenbrook Road. GPS coordinates for the extents are -37.174819, 174.789122° and -37.188881, 174.766308°.

This makes use of the existing NZ Police safety camera hardware installed outside 946 Glenbrook Road.

#### Extraordinary works

Both sites require a road-side safety barrier.

#### Recommendation

This site can progress to the construction phase including the completion of extraordinary works outlined above.

#### Assessment

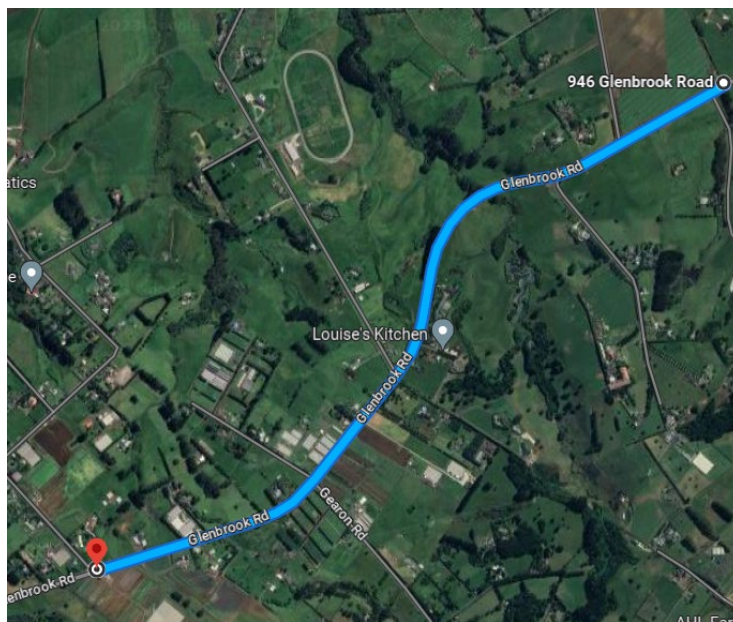
This corridor was identified as appropriate through a virtual exercise and a physical visit was carried out the week of 10 July 2023.

Following site visits the preferred installation locations were confirmed as -37.174819, 174.789122° outside 946 Glenbrook Rd and -37.188881, 174.766308° outside 1233 Glenbrook Road.

## Site Location



Site Location Risk map for identified corridor



Corridor extents

## Installation Location 946 Glenbrook Road

Following a site inspection, the installation location for the southern camera was confirmed at -  $37.174819, 174.789122^\circ$  outside 946 Glenbrook Rd with the camera facing west. The camera is to be installed on the north side of the road on the existing NZ Police camera pole hardware.

Power connectivity is in place at this location as is a safety barrier.

**Installation location for the first camera**



**Access**

Access will be from the existing safe entry/egress lane constructed during the initial installation by NZ Police.

**Safety considerations**

A protective barrier is already installed at this site.

### Installation Location 1233 Glenbrook Road

Following a site inspection, the installation location for the southern camera was confirmed at - 37.188863, 174.766419°, opposite 1233 Glenbrook Road, with the camera facing east. The camera will be installed on the north side of the road.



Installation location of second camera

### Access

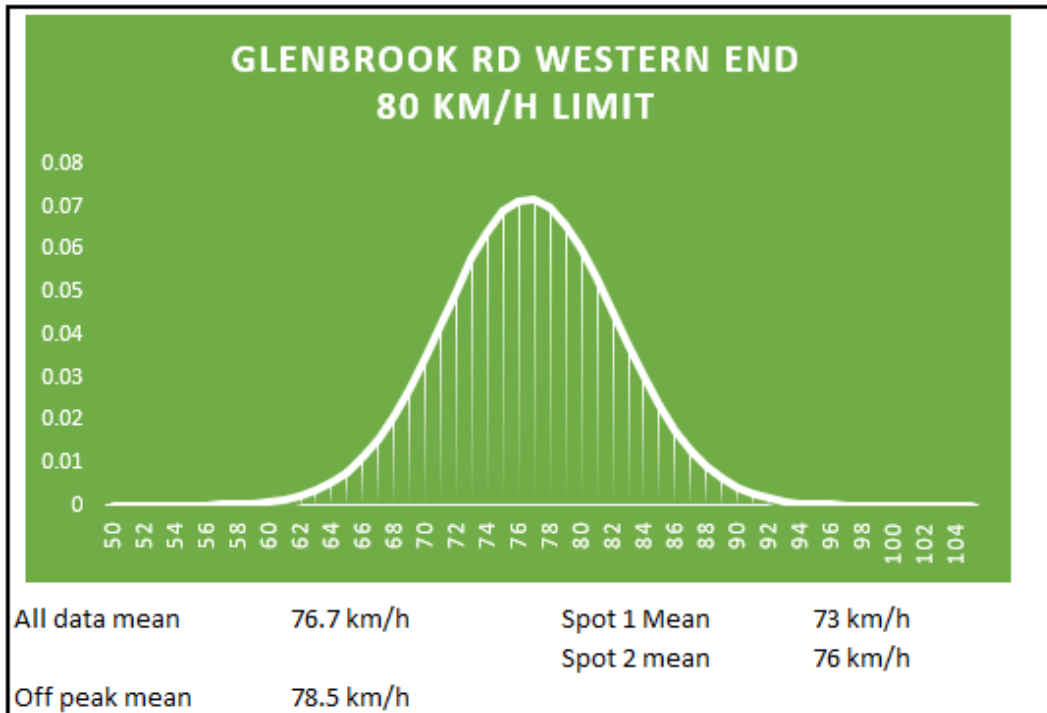
Access will be constructed to allow safe entry and exit for vehicles to a parking area located behind the safety barrier at the eastern end of the barrier.

### Safety considerations

A protective barrier is recommended for this installation site.

### Travel Speed profile

Average speed across entire corridor



## Camera physical site requirements

Criteria	Required Standard / Guidance	Record Finding	OK
Camera line of sight	Clear line of sight for camera, flash unit, speed sensor.	Clear view	Yes
Road Geometry	Straight road for 100m		Yes
	Constant slope for 100m		Yes
Cellular phone signal	Cellular signal strength.		Yes
Site accessibility	Easy and safe access with no interference to traffic flows.	Parking in existing layby at camera 1. Behind barrier at camera 2.	Yes
Power source	Power requirements within the range of 230-240VAC.		Yes
Sun strike	Camera unit faces south	South - west facing	Yes
Security	Acceptable security for equipment		Yes
Pole protection	Errant vehicles protected from pole impact via barrier or similar		Yes
Interference	No large permanent metal objects within the RADAR zone		Yes
	No temporary blocking objects. e.g. Bus stops		Yes
Underground services	Full disclosure of all underground services	Refer design diagram. Pole holing to be carried out to locate services.	Yes