
PP20 Revocation

Landscape + Urban Design Report



studiopacificarchitecture



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Introduction

As part of the construction of the Peka Peka to Ōtaki Expressway (PP2Ō EWY) the New Zealand Transport Agency is to hand over the section of the old State Highway 1 between Te Kōwhai Road and Taylors Road to the Kāpiti Coast District Council (KCDC), revoking it's State Highway status. This process is known as revocation.

In early 2015, the Transport Agency commenced the revocation project to determine the works required to ensure that the PP2Ō section of SH1 is suitable for use as a local road. In 2018 and 2019 The Transport Agency and KCDC collaborated and consulted with the local community and other affected stakeholders and partners to determine an accepted scope of the form and function of the proposed revoked section of SH1.

Tonkin & Taylor Limited (T+T) were commissioned to lead this process, providing engineering services and Studio Pacific Architecture were commissioned to provide landscape and urban design services.

This report concentrates on the landscape and urban design of the revoked section of road and in particular focuses on the following two areas:

- Ōtaki Railway Precinct/ Retail Strip
- Te Horo



Figure 1. View north to Ōtaki. Photo by Mark Coote

Scope

The section of existing State Highway between Te Kōwhai Road and Taylors Road is approximately 12km long and currently forms part of the north/south road up the Kāpiti Coast. To the east of the Highway are the mountains of the Tararua Ranges and on the west lies the beaches and sea of the Kāpiti Coast.

Once revoked the road has the opportunity to be more than just a transport corridor. To understand the opportunities and constraints of the road itself we need to look at the local and wider contextual relationships in terms of the land and its people.

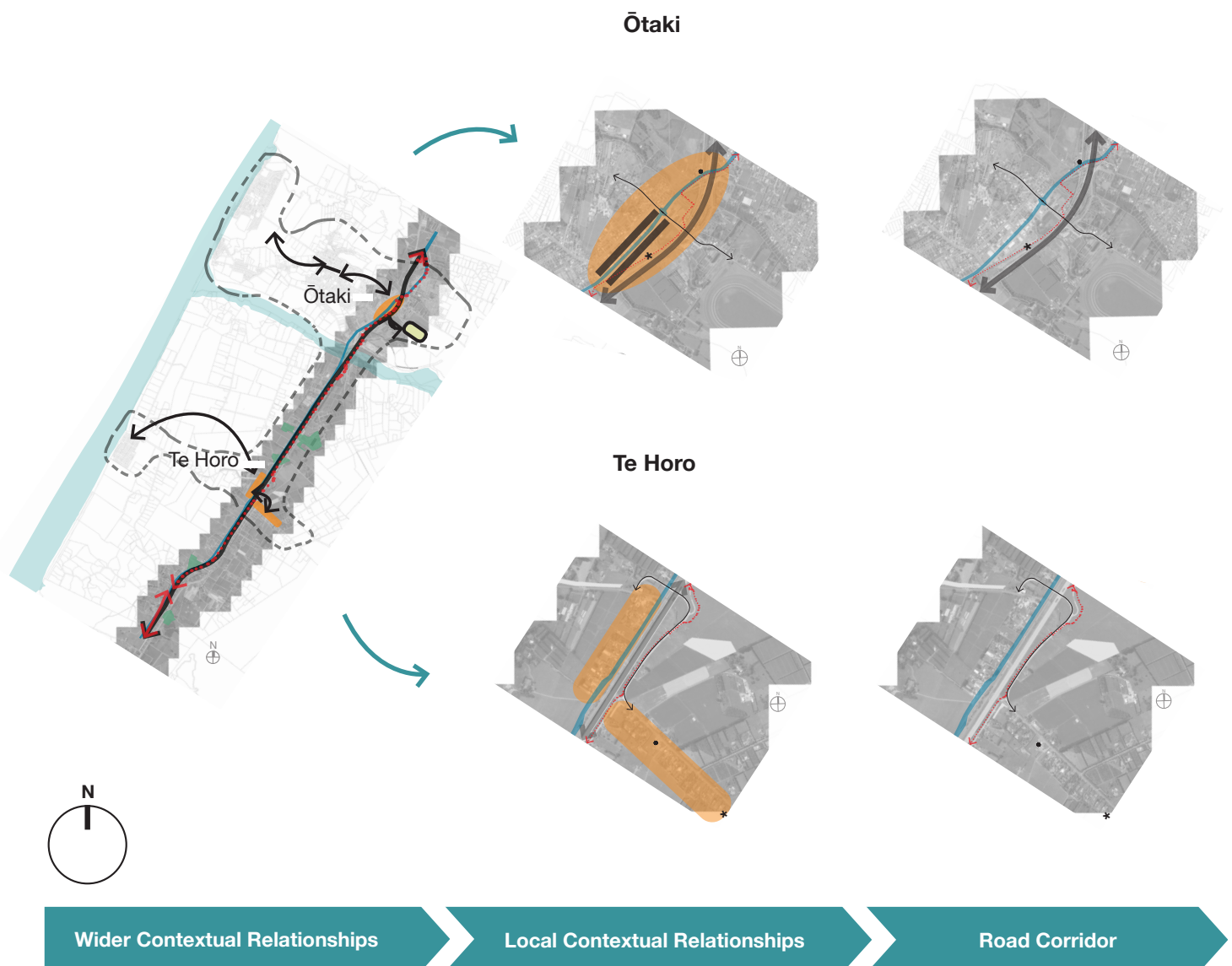


Figure 2. Context Diagram

Scope

Project Zones

The project has been divided into five broad zones that reflect changes in context and character along the length of the road corridor. These are as follows and illustrated below:

- 1 Taylors Road to Ōtaki north of the railway retail area
- 2 Ōtaki railway retail area
- 3 Ōtaki, north of Ōtaki River
- 4 Ōtaki south and Te Horo to Marycrest - including the Ōtaki River Bridge
- 5 Marycrest to Te Kōwhai Road - Southern M2PP Expressway interface

KEY

- M2PP / PP2Ō Expressway (EWY)
- Extent of PP2Ō Revocation project
- New local road built as part of PP2Ō EWY project
- Railway

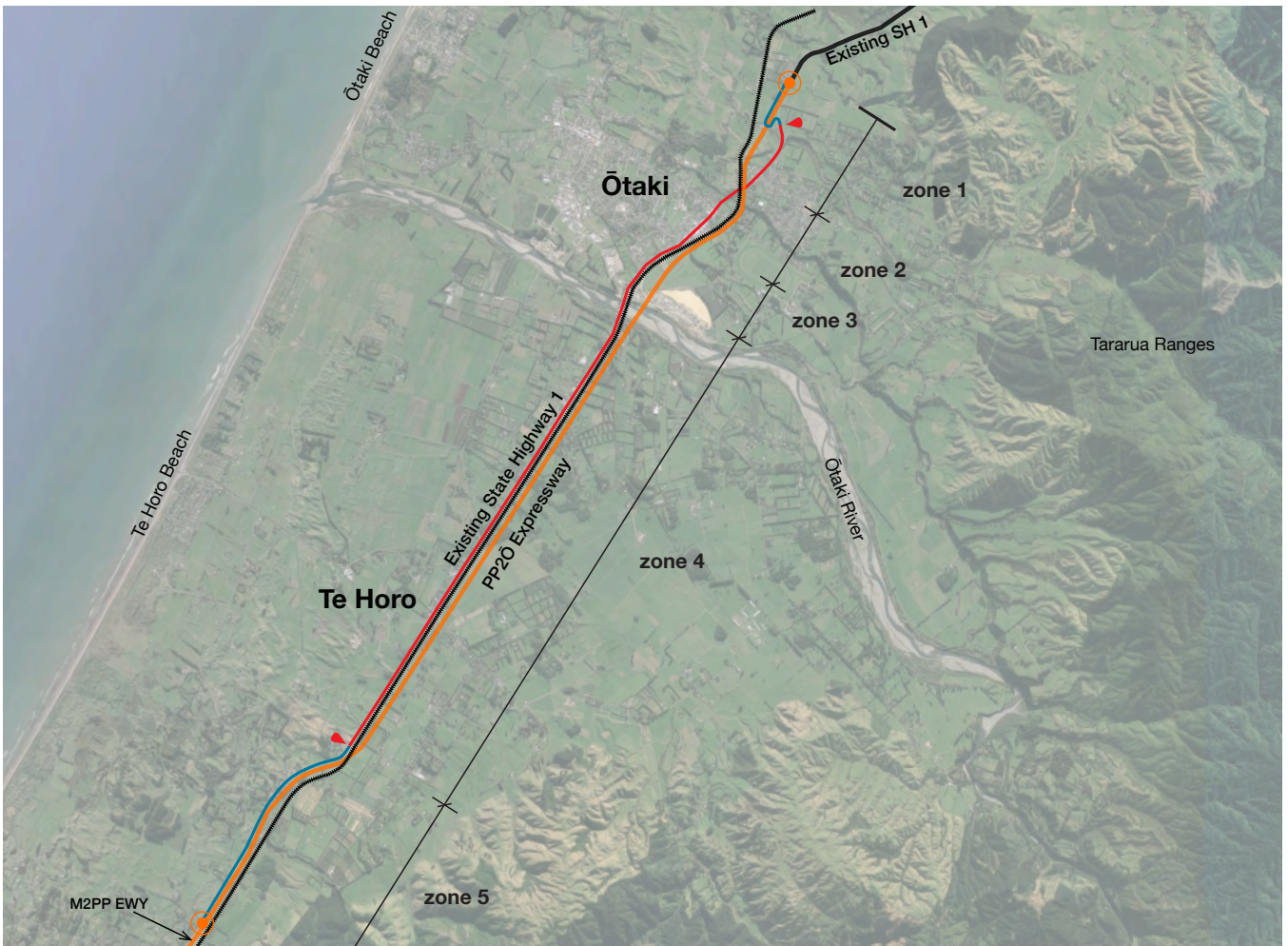


Figure 3. Project Zones

Process

To determine what a fit for purpose road might look like we have undertaken the following:

- Contextual analysis of the area – a desktop study and site visits looking at the social, economic and environmental aspects of the area
- Workshops with The Transport Agency and KCDC – to determine amongst other things the vision and desired outcomes of the project
- Public engagement – to understand their needs and aspirations and how the revoked road could be made fit for their purpose

Our design scoping process is illustrated in the following flow diagram.

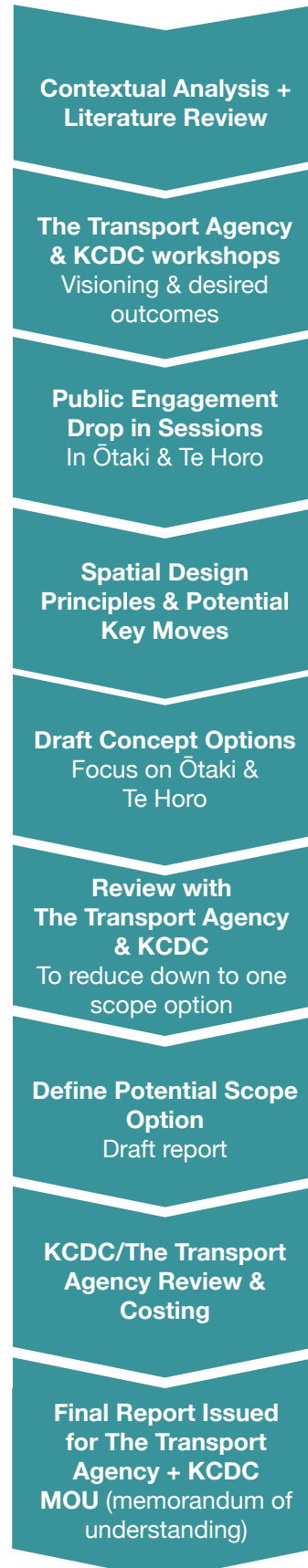


Figure 4. Scoping Process

Spatial Design Components

The pyramid diagram on this page illustrates the relationships between the brief elements (vision and desired outcomes) and the landscape and urban design elements (spatial design principles and key moves) of the project. The vision and desired outcomes are defined by and developed through consultation with The Transport Agency, KCDC, key stakeholders, and the community. Bridging between these two elements, spatial design principles and key moves are established in order to achieve the desired outcomes for the project and thus realise its vision. These four spatial design components are expanded upon in the following sections of this report.

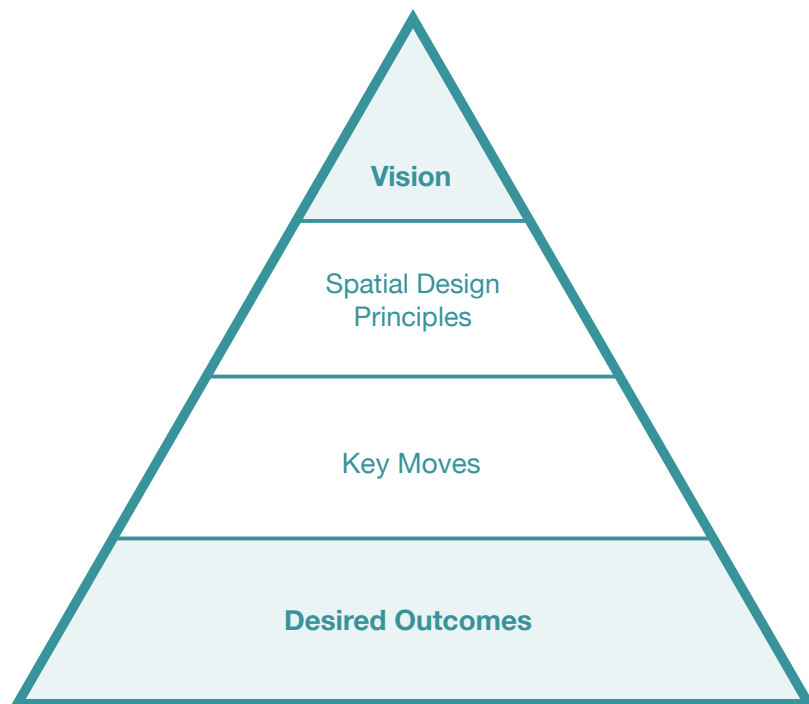


Figure 5. Spatial Design Components

Vision

The vision for the PP20 Revocation project is:

To deliver a road that has a different purpose and function to its current State Highway form.

Achieved in a way that is: safe, legible to all users, integrated by means of continuity of urban design, and aligned with the strategic outcomes desired for the area.

This is to be achieved through a process of collaboration between The Transport Agency and KCDC in consultation with the local community, stakeholders and partners to determine an accepted design form and function.

Desired Outcomes

Broadly speaking, the desired outcomes for the project are to provide a road that:

- is fit for purpose – under its new status as a local road
- responds to the community's needs + aspirations
- supports the economic prosperity of the region

The above are to be achieved by developing a design that is set against the following criteria as set out in the 2013 Revocation Agreement:

- Affordability – achieve value for money
- Risk-based – provide a resilient network
- Integrated and optimised – function as an effective and appropriate part of the district and regional transport network
- Future-proofed – maintain its ability to operate as an emergency bypass route, and
- Lawful – lawfully continue to operate under the provisions of the RMA



Figure 6. View to Kāpiti Island. SH1 & Waitohu Stream in foreground

Photo by Mark Coote

Literature Review

As part of the contextual analysis, a literature review was undertaken in order to ensure that the vision and desired outcomes for the project aligned with regional, district and local policy and legislation.

The following table lists the local policy and KCDC-commissioned documents that we reviewed for this project and the actions taken in considering their influence on the design of the revocation corridor. Other relevant documents not summarised below but considered relevant when developing the spatial design principles and key moves included best practice guidance such as Bridging the Gap: The Transport Agency Urban Design Guidelines, Te Aranga Māori Design Principles and the Urban Design Protocol.

Reference	Summary	Action
Kāpiti Coast: Choosing Futures. Ōtaki Local Outcomes – Greater Ōtaki Vision (KCDC, August 2007)	A document that builds on the General Kāpiti Coast: Choosing Futures – Community Outcomes documentation for the Ōtaki Community	Consider and incorporate the specific strengths of Ōtaki into the PP2Ō revocation design where appropriate. The strengths are recognised as the following; <ul style="list-style-type: none"> • Cultural vibrancy and heritage; • Ōtaki River & Streams; • Coast & Ranges; • Role of Te Wānanga-o-Raukawa as a gateway to learning; • Capacity of rural areas; • Strong community bonds, elders and prospective young leaders; • Enthusiasm for new jobs and opportunities.
2020 and Beyond – A Greater Ōtaki Vision (Helix Consulting, August 2017)	Commissioned by KCDC to provide a commentary on the Greater Ōtaki Vision (2007) document. It identifies that there is a need for a ‘2020 & beyond’ vision and that this should be built upon the existing one.	Consider how the PP2Ō revocation can contribute to the education, environment, community, cultural, arts & leisure, business and growth of the area. The vision sets out that development should be sustainable, respectful, consolidating, efficient and promote the creation of job opportunities.
Reassessment of the Likely Impacts of the Pekapeka to Ōtaki Expressway on the Performance of Ōtaki’s Retail Areas (Brown, Copeland & Co Ltd, December 2018)	An update on the findings of the 2013 Assessment of Economic Effects report, plus the identification of steps to maintain and enhance the vitality, vibrancy and amenity values of Ōtaki’s retail areas. It recognises that the completion of the PP2Ō Expressway project will bring positive benefits for the Ōtaki Railway Precinct and Ōtaki Main Street retail centres.	Consider the following in order to reinforce the positive impacts of the PP2Ō Expressway: <ul style="list-style-type: none"> • Provision of appropriate signage. Engage with Ngā Hapū o Ōtaki to ensure correct place names are used. • Cater for tourist and day tripper visits to Ōtaki • Improve access to public transport services • Enhance the look and feel of the Ōtaki Railway Precinct

Contextual Analysis

Wider Context: Connectivity

Local roads connect Peka Peka, Te Horo and Ōtaki beaches with the inland townships and extend up to the foothills of the Tararua Ranges. Currently State Highway 1 cuts through these. Traffic volumes and speeds on the Highway are high, making it a difficult road to cross or indeed gain access to for local trips.

The introduction of the PP2Ō Expressway is set to reduce traffic volumes on the revoked highway and therefore there is the opportunity to review the speed environment of the road and make it more inviting for active transport modes – walking, cycling and horse riding. There is also an opportunity to link in, where possible, to the new shared path (walking, cycling, horse riding) that is to be constructed along the length of the Expressway.

KEY





-  PP2Ō/M2PP Expressway corridor
-  Proposed PP2Ō shared path
-  Railway



Figure 7. Aerial photo showing road network and shared path

 Scale: NTS

Contextual Analysis

Wider Context: Land Use

From the KCDC Proposed District Plan (2018) shown below we note the following:

- Future Urban Development is planned to the north of the Ōtaki township (on the western side of SH1)
- Rural Residential areas are zoned to the east of SH1
- The Ōtaki River Corridor is a prominent feature
- There is no Residential zoning in Te Horo – it is all Rural Plains and Rural Dunes
- The Industrial/Service area lies along the southern edge of the Ōtaki township, along Riverbank Road.
- Ōtaki has two Local Centres – the cultural/historic town centre towards Ōtaki Beach; and the railway/retail precinct along SH1.

KEY

	Residential		Open Space (Conservation and Scenic)
	Beach Residential		Open Space (Recreation)
	Ngārara		Open Space (Local Parks)
	Town Centre		Private Recreation and Leisure
	Civic and Community		River Corridor
	Industrial/Service		Water Collection Area
	Local Centre		Focused Infill
	Rural Dunes		Appealed Area
	Rural Plains		
	Rural Hills		
	Rural Residential		
	Rural Eco-Hamlet		
	Future Urban Development		



Figure 8. KCDC Proposed District Plan (2018) - with SH1 highlighted

Contextual Analysis

Ōtaki: Overview

Overview

Currently Ōtaki straddles the railway line and the figure below illustrates how, with the introduction of the Expressway, the revoked state highway will become a key connection between the east and west of Ōtaki. Key aspects of the urban development include :

- The historic town centre that is the gateway to Ōtaki Beach
- The industrial area along Riverbank Road
- The Railway/retail precinct
- The historic train station
- The Ōtaki River
- Winstone Aggregates Ōtaki Quarry
- The Ōtaki Māori Racing Club
- Waitohu residential area

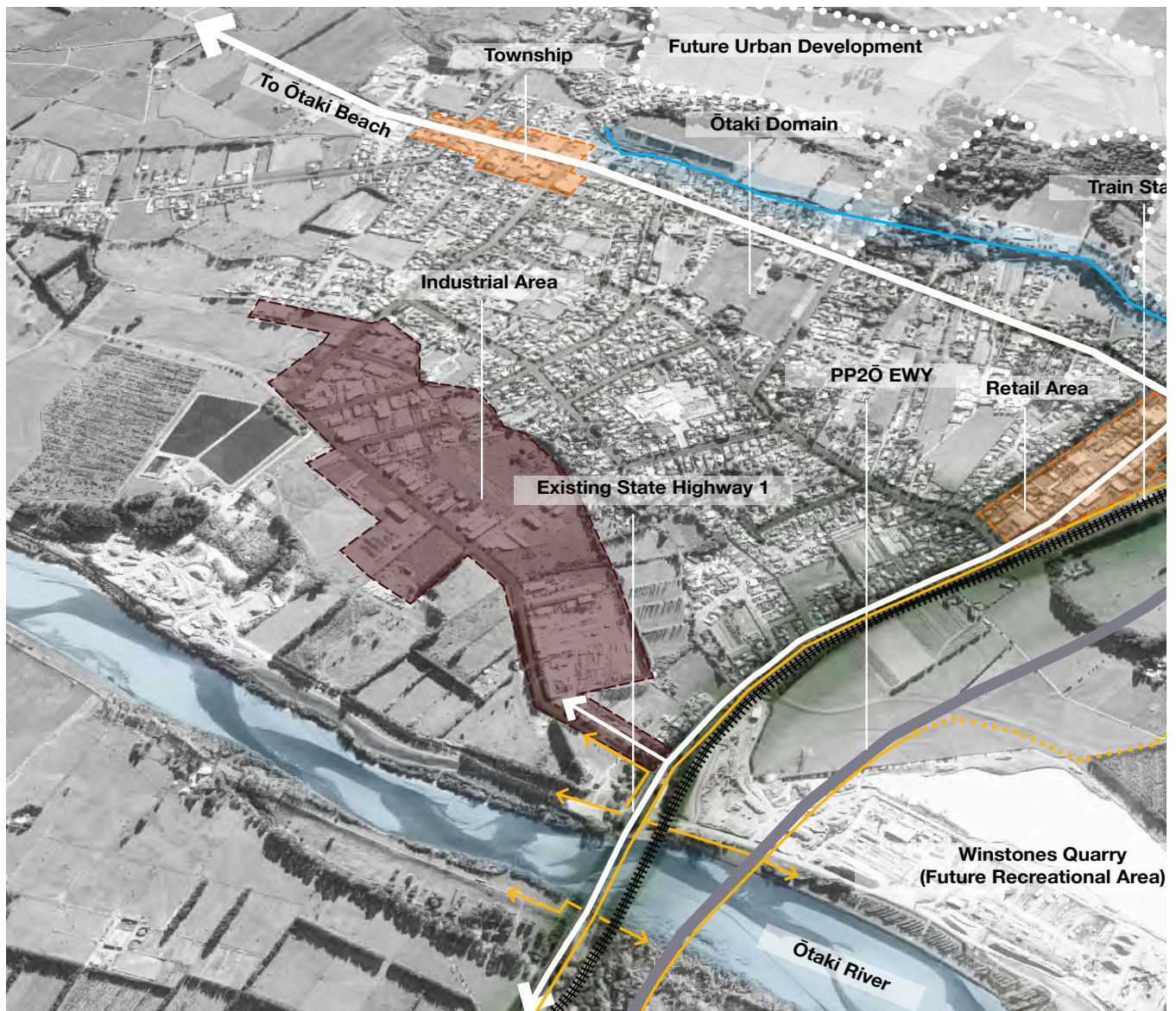
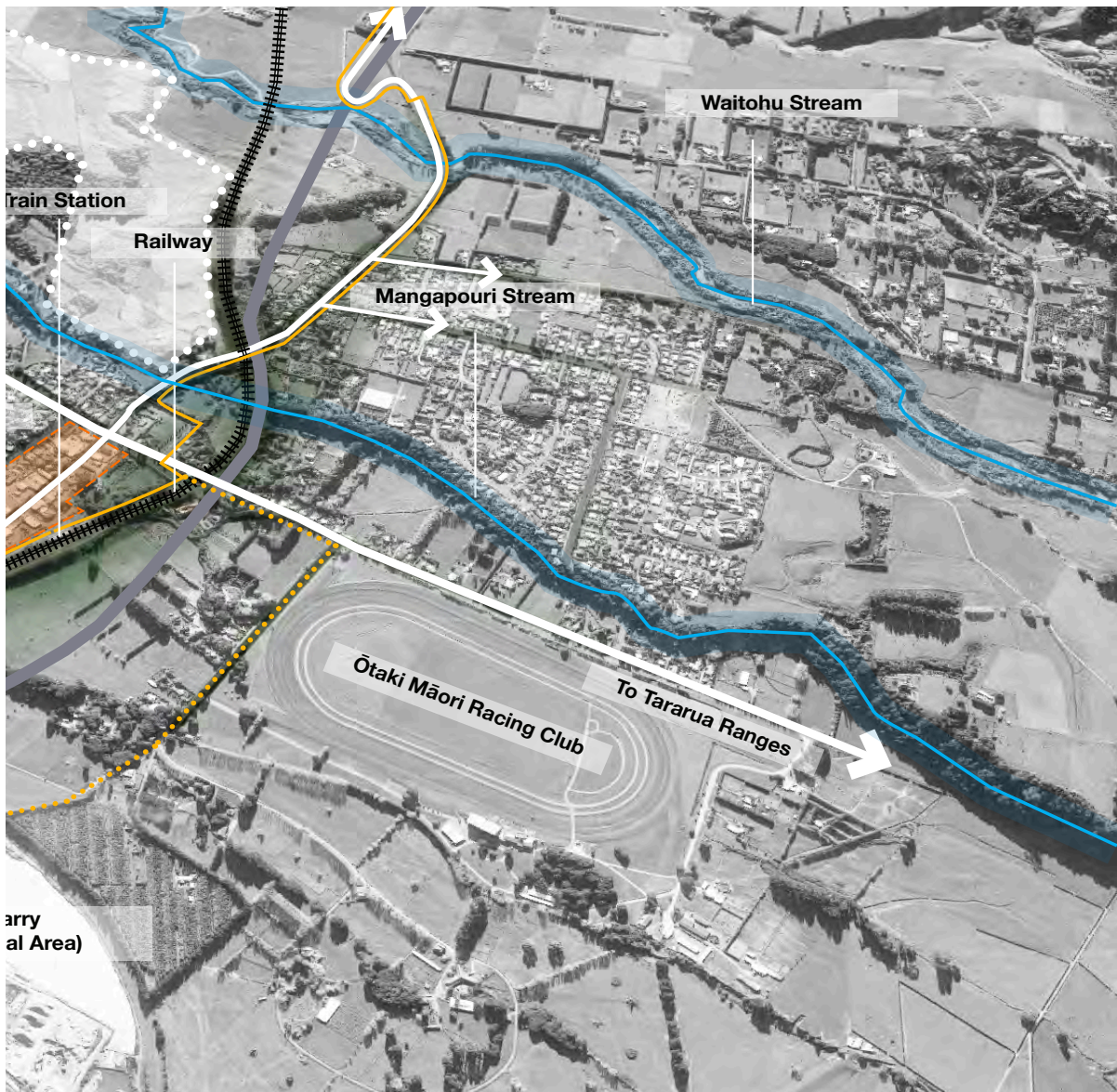


Figure 9. Ōtaki aerial overview



Contextual Analysis

Ōtaki: Environmental, Recreational & Social Infrastructure

Most of the public amenities are located on the western side of the railway line. Haruatai Park is a significant habitat and recreational asset of the town. Spread across nearly nine hectares of land, Haruatai Park includes a destination playground, Ōtaki Pools, Ōtaki splash pad, and Haruatai sports fields.

In the east is the Ōtaki Māori Racecourse, the Winstones Quarry lake (used by the local waka ama club), Waitohu School, The Milk Station (events/wedding venue) and the Ōtaki Baptist Church. The shared path is likely to connect both sides of the railway line and will therefore be an important link for walking and cycling.

Tree cover and vegetation is provided in corridors of the Waitohu and Mangapouri Streams and the Ōtaki River. The PP2Ō Revocation project provides an opportunity to connect to the existing vegetation and proposed Expressway planting to strengthen the network of green corridors.

KEY

- Open space
- Significant tree cover
- Ōtaki river corridor
- Stream channel
- PP2Ō Revocation
- PP2Ō EWY corridor
- Railway
- Proposed PP2Ō shared path

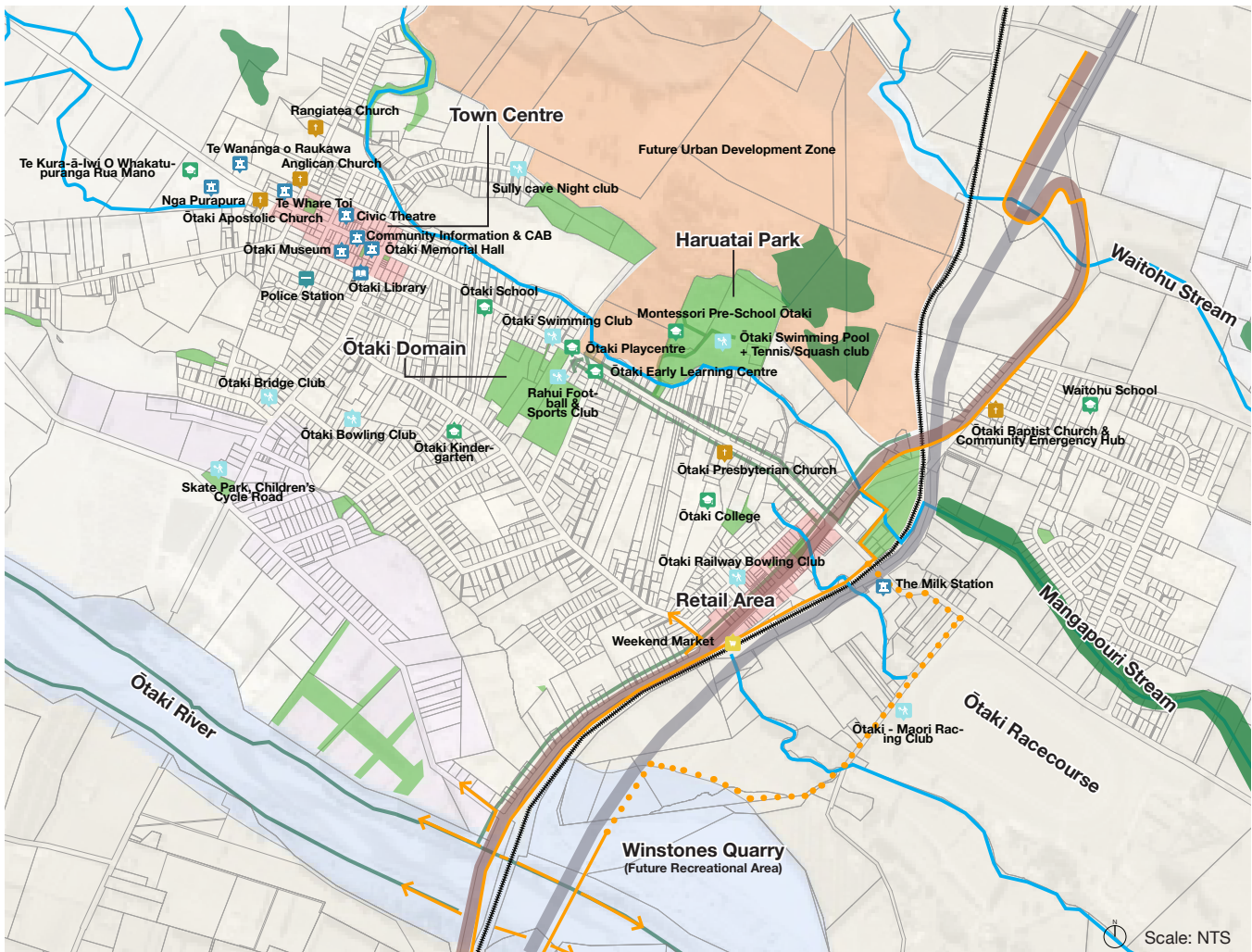


Figure 10. Environmental, Recreational & Social Infrastructure

Contextual Analysis

Ōtaki: Access & Connectivity

The figure below illustrates the types of roads in Ōtaki, as defined by The Transport Agency One Network Road Classification. The revoked state highway will become a local Arterial road, in that it makes a significant contribution to social and economic well-being - linking regionally significant places.

KEY

- Arterial / PP2Ō Revocation (Existing SH 1- to become Arterial road)
- Primary collector
- Secondary collector
- Access
- Low volume
- PP2Ō EWY corridor
- Railway
- Proposed PP2Ō shared path

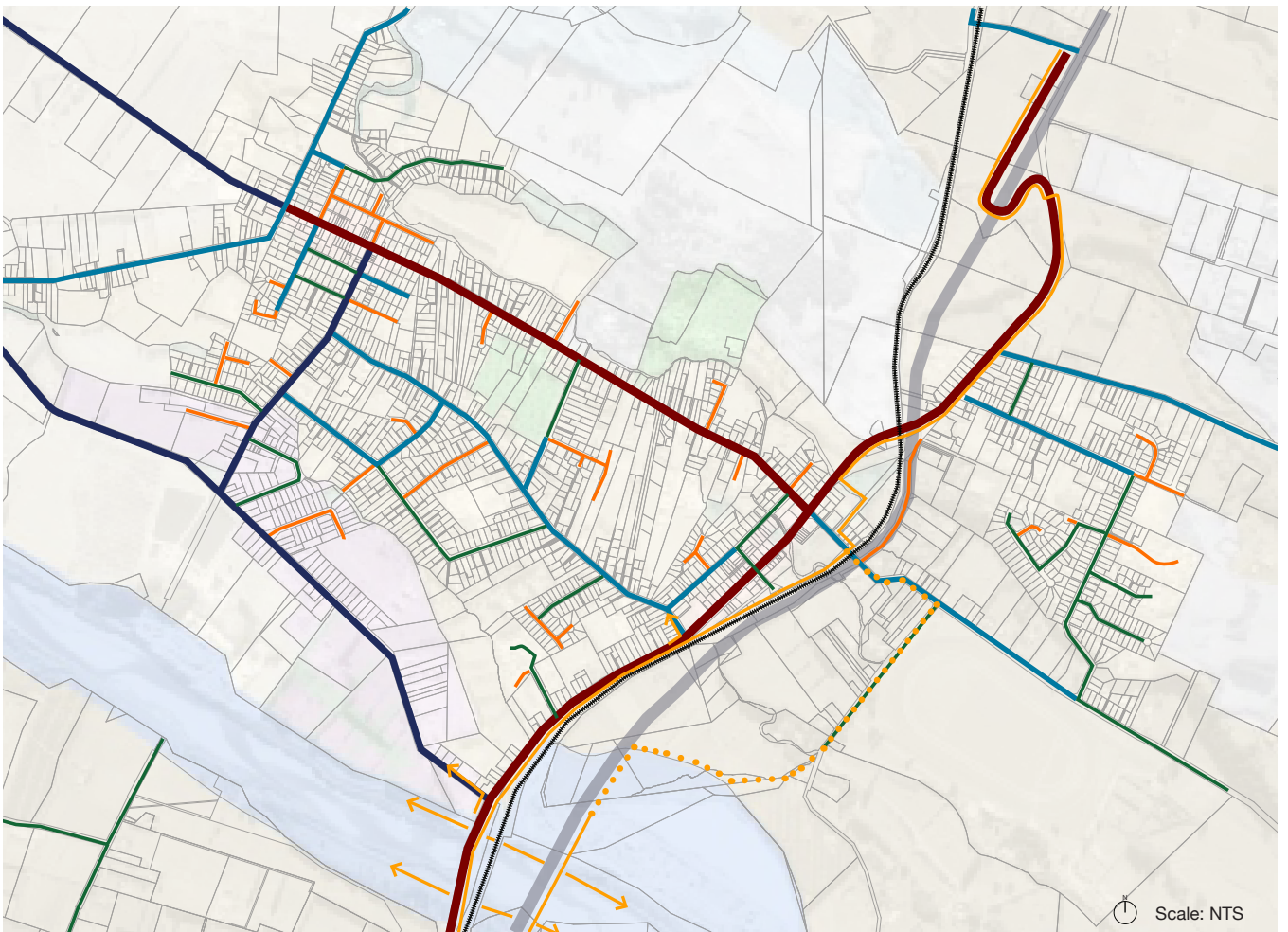


Figure 11. Ōtaki Access and Connectivity

Contextual Analysis

Ōtaki: Public Transport, Walking + Cycling

The level of service (LOS) for public transport, walking and cycling is relatively low in Ōtaki, as cars are the main means for people to get around town and the countryside. The no. 290 bus operates an approximately hourly service between Ōtaki, Waikanae and Coastlands (Paraparaumu). Cycling is either on the road, mixing it with often fast-moving traffic, or on the footpath. Some recreational walkways line the Ōtaki River however, footpaths are predominantly positioned along the roads.

The proposed shared path has the opportunity to improve the walking and cycling LOS in the area, as does the revocation project.

KEY

- Bicycle / walking trails
- Bus route (290)
- Bus stop
- Rahui roundabout
- PP2Ō Revocation
- PP2Ō Expressway corridor / existing SH 1
- Railway
- Proposed PP2Ō shared path

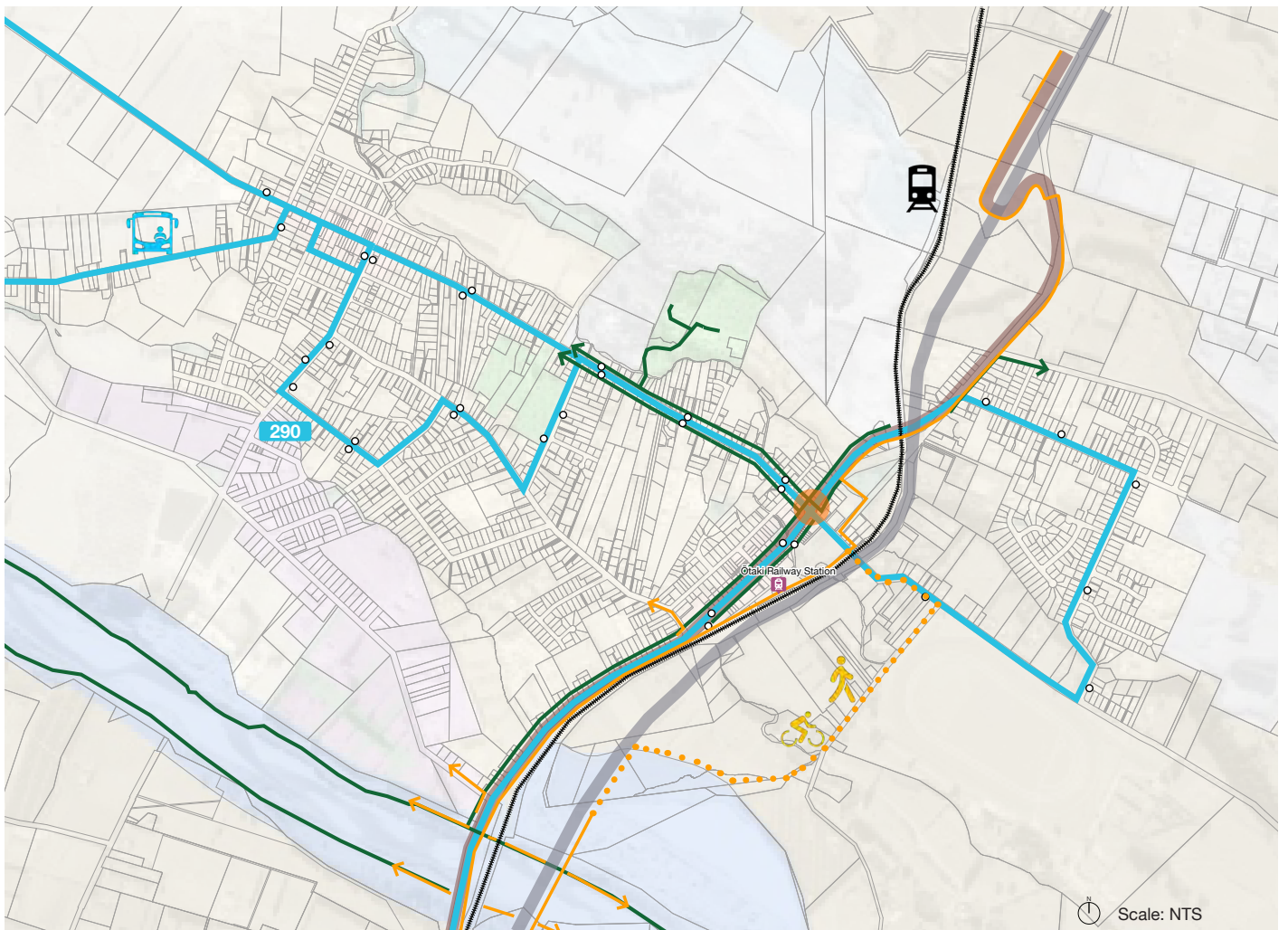


Figure 12. Ōtaki Public Transport, Walking and Cycling

Contextual Analysis

Ōtaki: Combined Road Hierarchy + Open Space + Ecological Areas

The figure below illustrates the types of roads in Ōtaki with overlays of the Open Spaces and Ecological Areas as set out in the KCDC Proposed District Plan (2018).

KEY

- Strategic Arterial Route
- Major Community Connectors
- Centres Route
- Local Community Connectors
- Neighbourhood Access Routes
- PP20 EWY Corridor
- - - - Railway
- CWB/Shared Path Extension (PP20)
- Proposed Shared Path
- Open Space (KCDC PDP 2018)
- Ecological Sites (KCDC PDP 2018)
- Ōtaki River Corridor
- Stream Channel
- Bicycle / Walking Trail



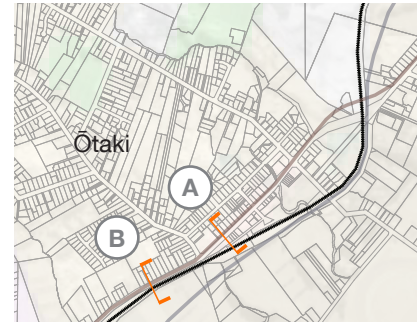
Contextual Analysis

Ōtaki: Existing Road Condition

Retail Section

- Very hard, car dominated environment
- No street trees or amenity planting
- Wide central median
- Tall highway light columns
- Narrow footpaths
- Prominent road camber

KEY PLAN



Residential section

Similar to above but slightly softer row of trees next to the railway line provide shade and visual amenity



Figure 13. View A - Retail Section - Ōtaki Main Rd. NTS.



Figure 14. View B - Residential Section - Ōtaki Main Rd. NTS.

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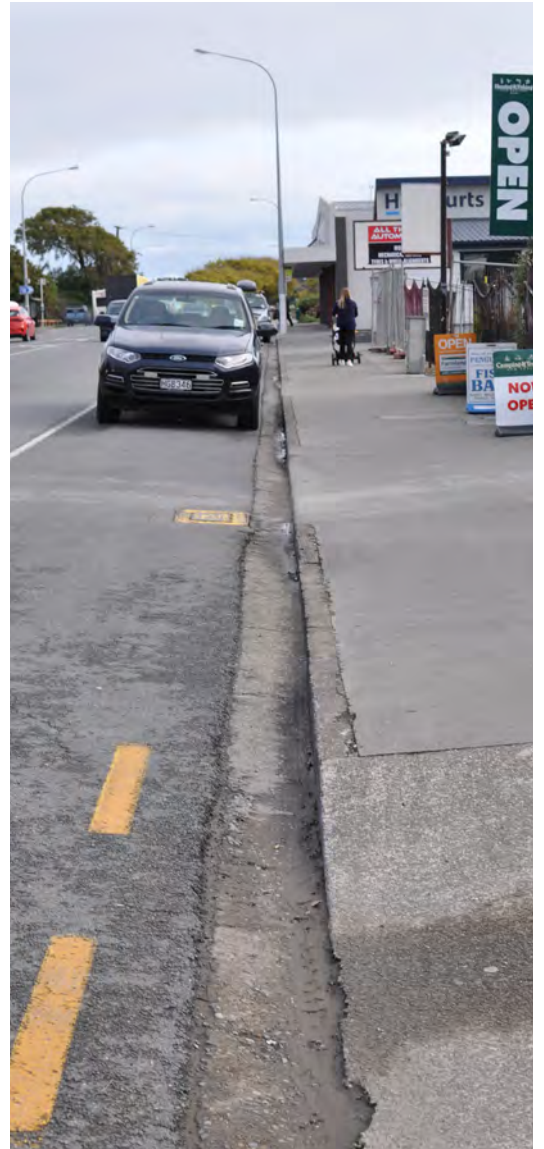
Contextual Analysis

Ōtaki: Existing Urban Character

The retail strip is dominated by outlet stores and high traffic volumes and is not a pleasant environment for pedestrians and cyclist. The footpaths are a mix of asphalt and concrete, mostly narrow and wayfinding signage is predominantly focused towards drivers. The Railway Station is easily passed by and there is a lack of street furniture and planting. Crossings are restricted to the central signalised crossing and several informal mid-block crossing points. The kerbs are narrow standard highways kerbs and driveway crossovers indicate priority to vehicles over pedestrians. The lighting columns are standard highway columns which lack a human scale.



Figure 15. Photos illustrating the existing urban character



Contextual Analysis

Ōtaki: Opportunities

The opportunity exists to highlight the following aspects of Ōtaki through landscape and urban design elements or treatments:

- The arts community
- Ōtaki as a destination
- Ōtaki being the gateway to Ōtaki Beach
- Access to the shared path recreational facility

KEY

- PP2Ō Revocation
- PP2Ō Expressway corridor
- Railway
- Bicycle / walking trails
- Bus route
- Bus stop
- Existing pedestrian connection
- Proposed PP2Ō shared path
- Rahui roundabout

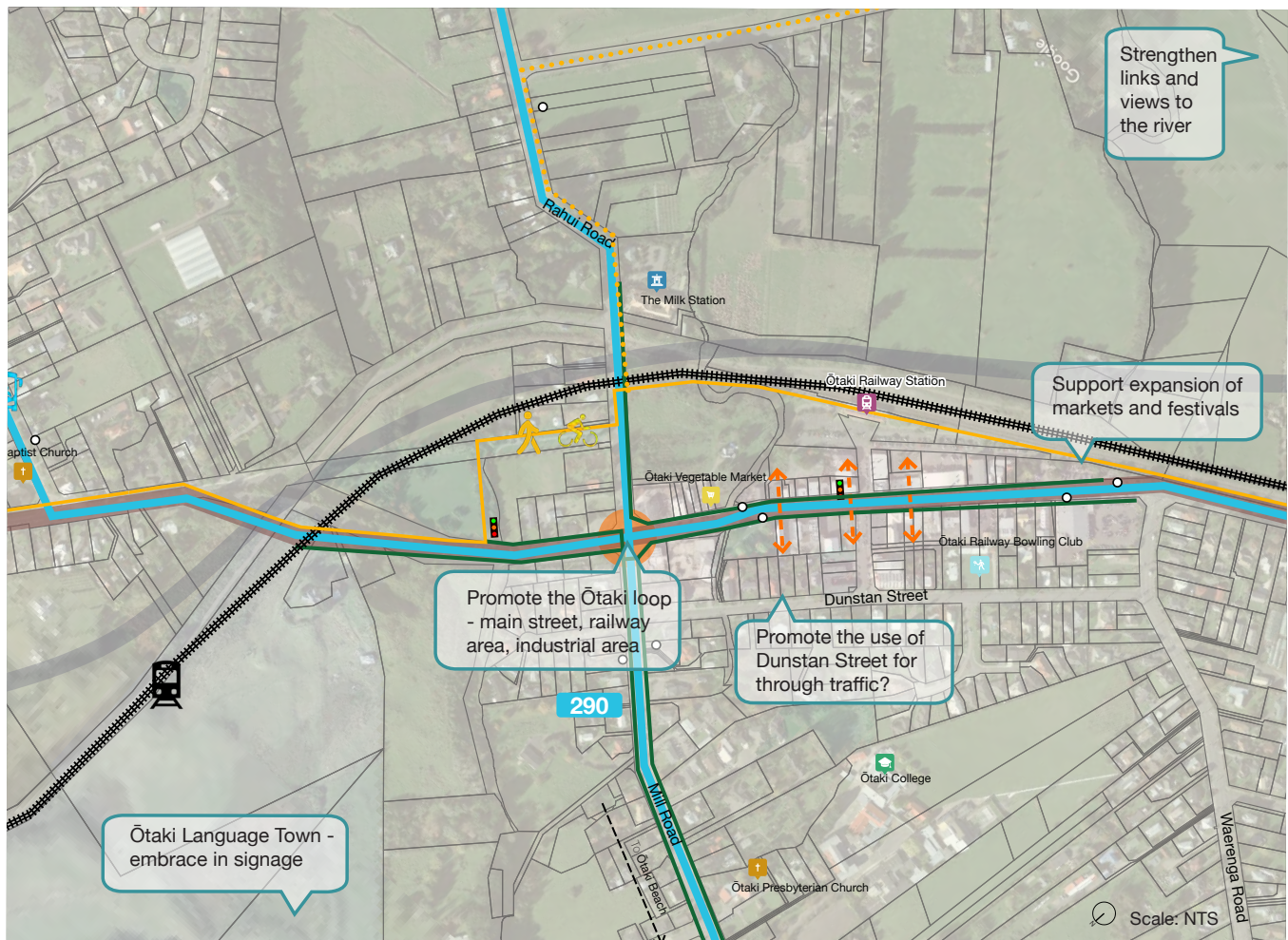


Figure 16. Ōtaki Opportunities Plan (wider context)

Contextual Analysis

Ōtaki: Opportunities

An opportunity also exists to improve the urban character especially in relation to the experience of pedestrians and cyclists. These are explored in the short list concept options.

KEY

- PP2Ō Revocation
- PP2Ō Expressway corridor
- Railway
- Bicycle / walking trails
- Bus route
- Bus stop
- Existing pedestrian connection
- Proposed PP2Ō shared path
- Rahui roundabout



Figure 17. Ōtaki Opportunities Plan

Contextual Analysis

Te Horo: Overview

Te Horo consists of two main residential areas: the area along the existing SH1, including Hyde Park Village (two cafés, a hairdresser and a garden centre); and the School Road area which includes the Te Horo Community Hall and tennis courts, Primary School and Ruth Pretty Catering. Te Horo acts as the gateway to Te Horo Beach. The state highway dominates Te Horo with high speeds and high volumes of traffic.

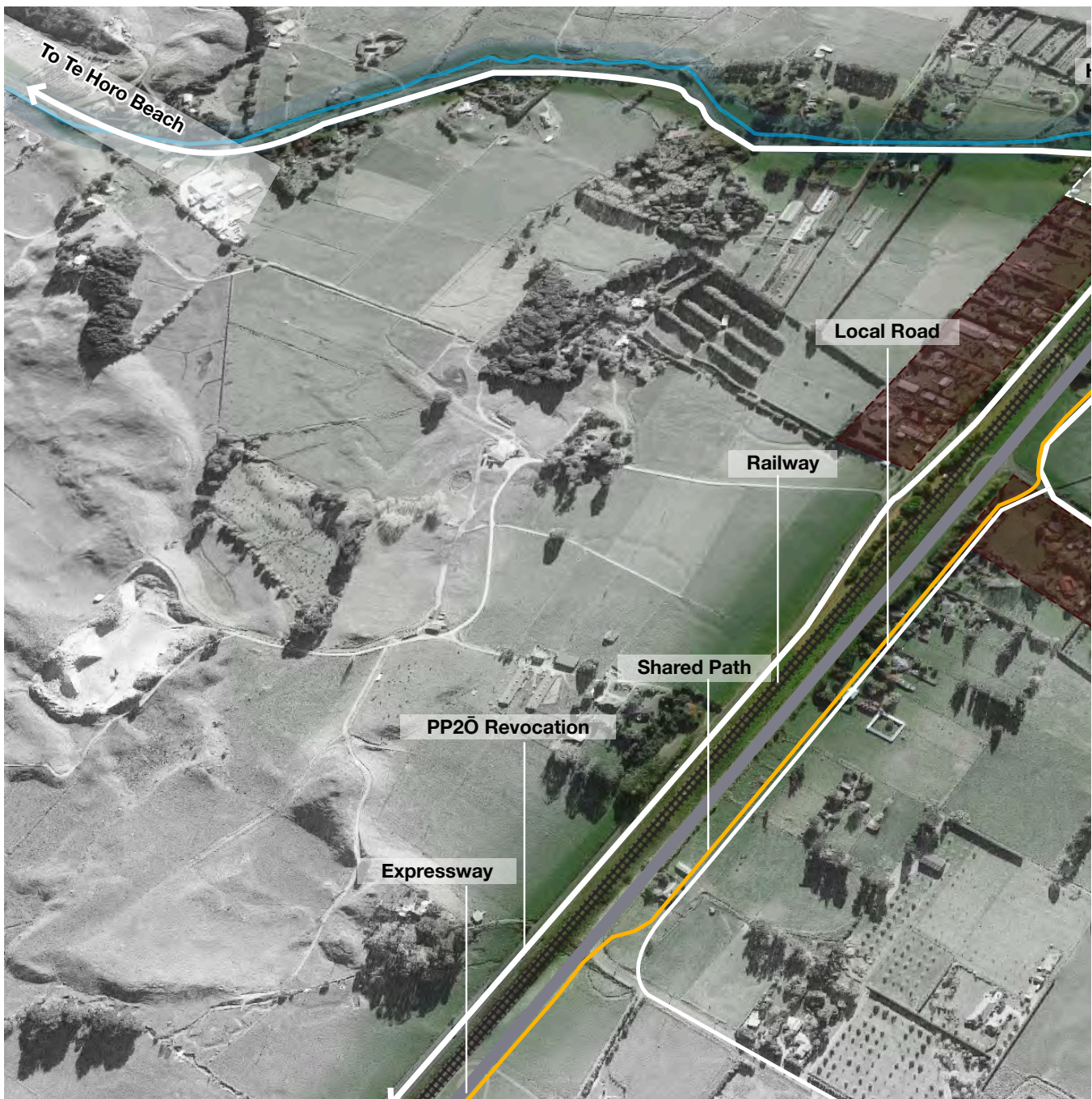
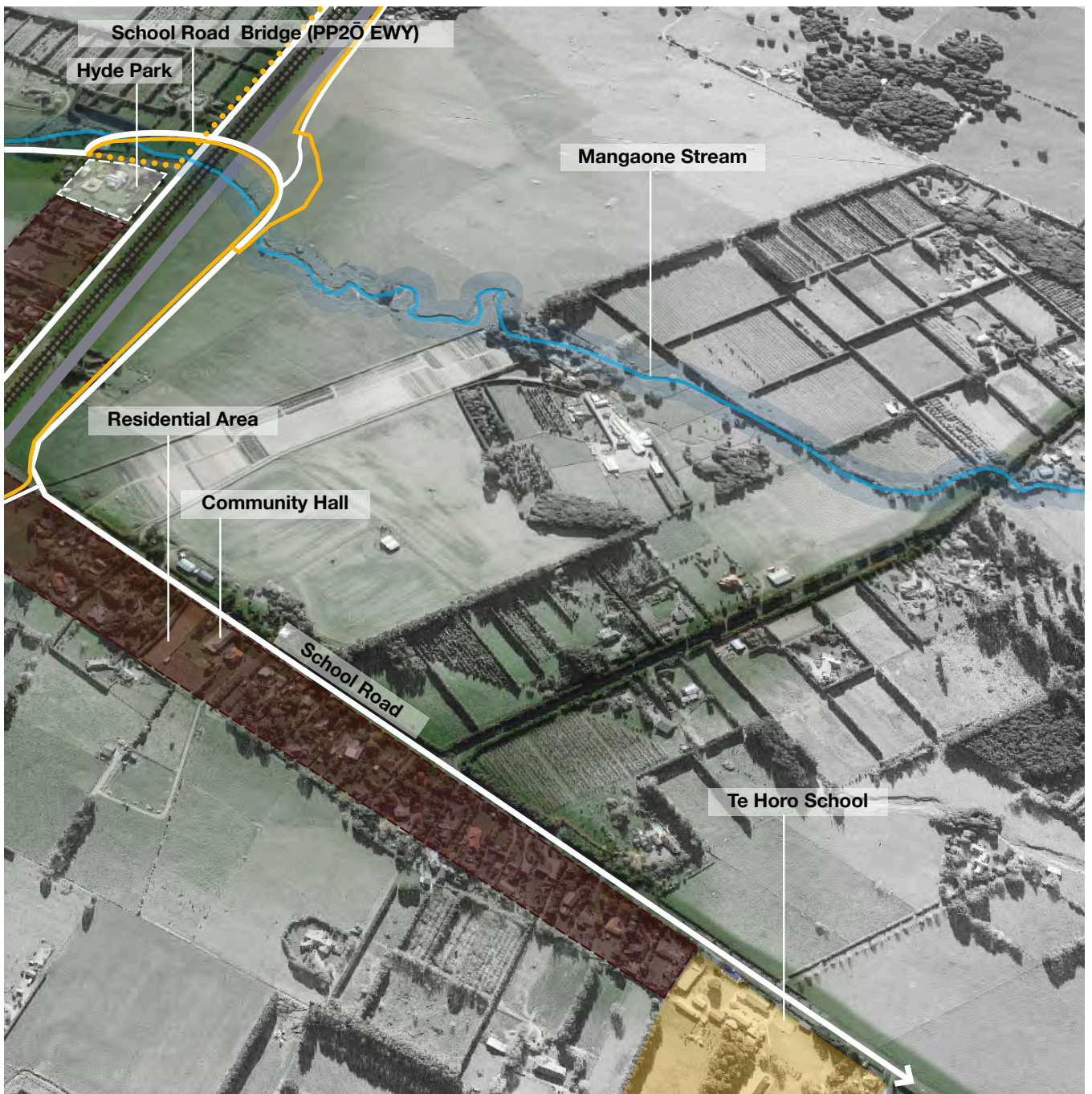


Figure 18. Te Horo Overview



Contextual Analysis

Te Horo: Environmental, Recreational & Social Infrastructure

The Mangaone Stream is monitored by the Greater Wellington Regional Council. Current data shows the stream as being 'fair' in terms of ecological indicators and being in the worst 25% of like sites in terms of water quality (e-coli, Nitrogen and Phosphorus levels, and clarity). The stream courses through farmland and has a lack of shade from tree cover and riparian plant species.

Tree cover in the area is limited to clusters of significant sites. There is an opportunity for planting along the revoked road to enhance green connections of the area. There may also be an opportunity to mitigate rainwater runoff from the old highway into the Mangaone Stream.

Public amenities or 'social infrastructure' are spread across the two areas of Te Horo – east and west of the railway line – and the opportunity exists to strengthen the connection between these.

KEY

- Significant tree cover
- Stream channel
- PP20 Revocation
- PP20 EWY corridor
- Railway
- Proposed PP20 shared path

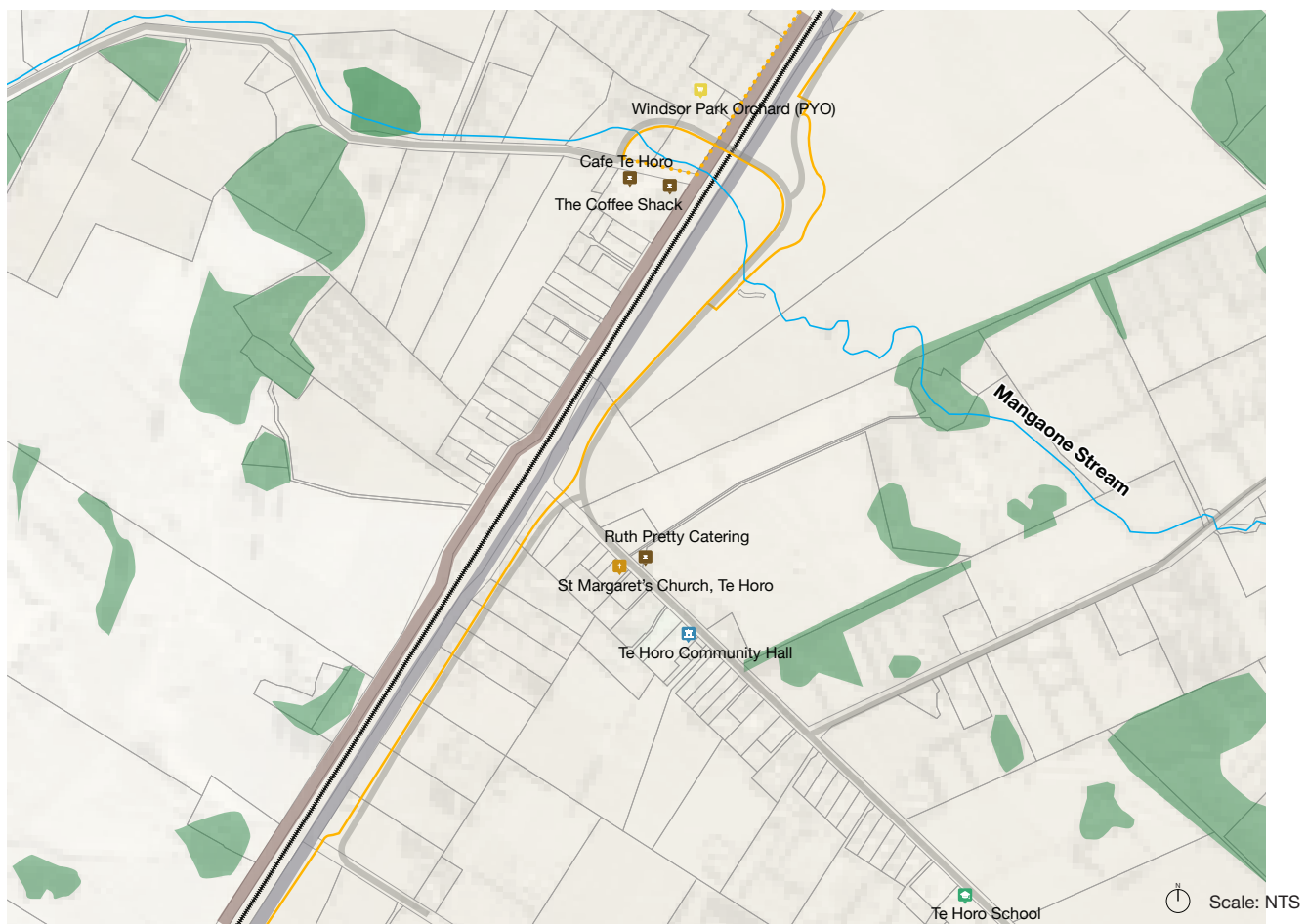


Figure 19. Te Horo Environmental, Recreational & Social Infrastructure Plan

Contextual Analysis

Te Horo: Access & Connectivity

The State Highway will become a local Arterial road classification as defined by The Transport Agency One Network Road Classification.

Access to public transport is very limited in Te Horo. There is no train station and no bus stops – even though the no. 290 bus travels through the area. Up until as recently as 2015 there was a bus stop opposite Hyde Park Village. At the public engagement days there were expressed desires for a bus stop to be reinstated in the area.

Currently Te Horo experiences high amounts of traffic travelling at high speeds on State Highway 1. The introduction of the PP20 Expressway provides a great opportunity for a review of the speed environment within Te Horo and, along with the over-bridge connection to School Road, a better LOS for walking, cycling and horse riding.

KEY

- Secondary collector
- Access
- PP20 Revocation (Existing SH 1- to become Arterial road)
- PP20 EWY corridor
- - - - Railway
- Proposed PP20 shared path
- Bus route

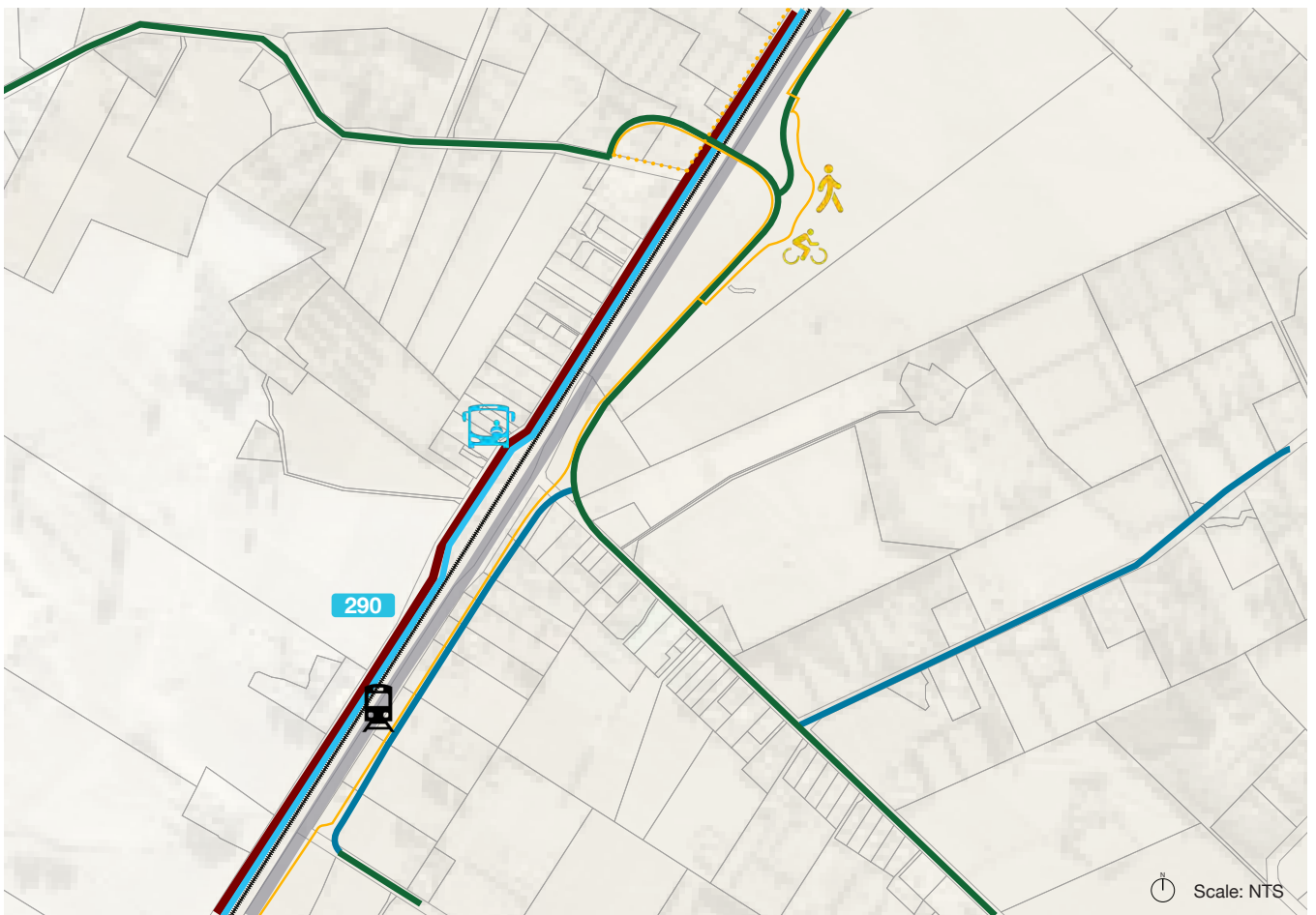


Figure 20. Te Horo Access and Connectivity Plan

Contextual Analysis

Te Horo: Existing Road Condition

With the left and right turn lanes at the Te Horo Beach Road intersection through-traffic doesn't really slow down in Te Horo. A footpath runs along the front of some of the properties on the western side but doesn't extend to Hyde Park corner. There is little room for cyclists, pedestrians and horse riders accessing Te Waka Road to the north which is a popular local rural road link to the north and Addington Road within Te Horo.

KEY PLAN

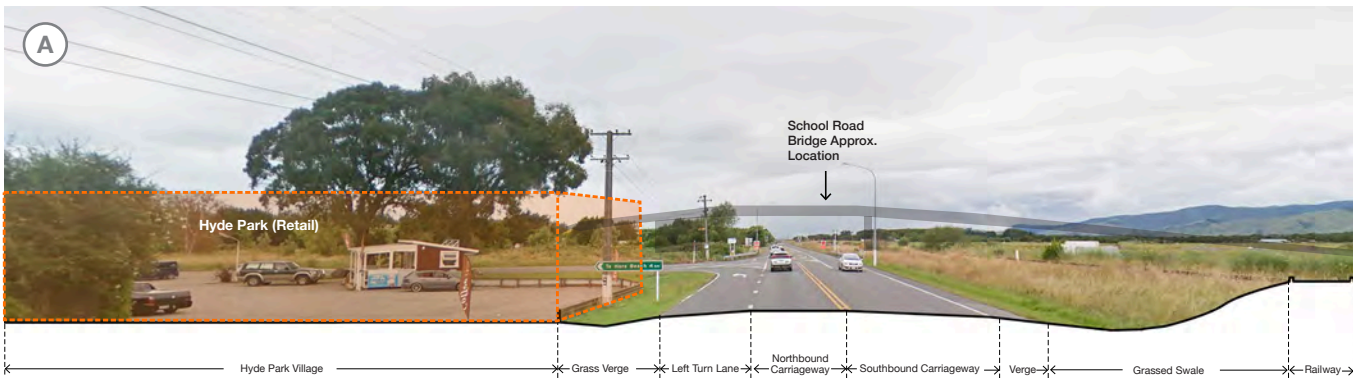


Figure 21. View A - Hyde Park Village, SH1, Te Horo



Figure 22. View B: Hyde Park Village, Te Horo Beach Road, Te Horo

Contextual Analysis

Te Horo: Existing Urban Character

The existing character of Te Horo is dominated by the highway. Travelling along this at 100kmh it is easy to blink and miss the township. Coming off the highway, Hyde Park Village is a nice place to stop, and the School Road area also has a very different feel to the Main road.



Figure 23. Views of Te Horo

Contextual Analysis

Te Horo: Opportunities

By enhancing the environment of the former state highway corridor within Te Horo with interventions such as tree planting and adjustments to the road lane widths and intersection layouts we can build upon the east-west connections provided by the Expressway. A review of the existing speed environment may also provide opportunities to achieve this vision. Te Horo can be promoted more as a rural village destination, a gateway to Te Horo Beach and access point to the shared path. The figure below identifies potential enhancements to the area that could be undertaken as part of the revocation project.

KEY

- PP2Ō Revocation
- PP2Ō Expressway corridor
- Railway
- Secondary collector
- Access
- Proposed PP2Ō shared path



Figure 24. Te Horo opportunities plan



Figure 25. Te Horo opportunities

Public Engagement

The public engagement days in May 2019 were great opportunities to hear the issues and aspirations of the community from local residents.

Potential opportunities that were identified through the public engagement included:

- Reflecting the Ōtaki arts community – potentially in public realm elements such as street furniture and signage
- Identifying Ōtaki as a destination – for arts, culture, recreation, beaches
- Acknowledging that Ōtaki and Te Horo are gateways to the coast
- Providing good access to the shared path

The word cloud below illustrates the main themes discussed at the engagement days, with increased font size illustrating those topics most talked about.



Figure 26. Word cloud generated for the public engagement sessions.

Stakeholder Workshop

Stakeholder Workshop

As part of the design scoping process, a workshop was held with The Transport Agency and KCDC focusing on the landscape and urban design issues of the road. The workshop set out to:

Collaborate in a workshop environment

Study the wider context of the existing State Highway corridor, and

Focus on the precincts of the Ōtaki Railway/Retail area and Te Horo

Identify the opportunities that exist in order to deliver a road that is fit for purpose.

Confirm the project vision and desired outcomes

Establish some Spatial Design Principles and Key Moves (in order to effect the above)

Safety was recognised as a key desired outcome, along with value for money and a desire to make the road environment clear, coherent and easy to navigate.

Spatial Design Principles

Through workshops with KCDC and The Transport Agency, plus the feedback that we received from the public engagement days, we identified the following spatial design principles:

- **An integrated design response** – that supports and informs the traffic and civil design of the revocation road network
- **Improve safety** – for all modes and by considering Crime Prevention Through Environmental Design (CPTED) principles in the selection and development of design solutions. Also include landscape elements as part of the speed environment design – e.g. use planting to narrow the carriageway and encourage drivers to slow down at thresholds of lower speed zones
- **Facilitate commercial function** – and enable future KCDC streetscape improvements to occur to enhance this function
- **Enhance the ecological network** – e.g. connect to green corridors with public realm planting and where possible include water sensitive urban design.
- **Enhance the identity of the region and sense of place** – through design, incorporation of public art and material selection. For example, the planting design should be informed by a consideration of region-wide landscape species in particular, to reflect the changes in context from dune landscapes to fertile plains, wetlands and secondary (totara) indigenous forest.
- **Enhance the connectivity of the public realm** – for all modes and in particular the east-west connectivity, including the Mountains to Sea river route. Promote KCDC’s stated ambitions around CWB (Cycleways / Walkways / Bridleways) connections to occur along the length of the revocation works wherever possible. This includes better designed intersections and more crossing points for walking/cycling/horse riding.
- **Rethink streets as places** – supporting active transport (walking and cycling and horse riding), accessibility for all ages and abilities. Promote safe streets and access to public transport.
- **Facilitate community input and placemaking opportunities** – identify opportunities where the community can input into the design process, including how to utilise spaces that are yet to have a defined use. Consider how space can be programmed for local events or activities, e.g. pop-up spaces, community gardens, art installations, etc.

These principles are used to guide decisions on how the road should function and what urban design and landscape elements should be included.

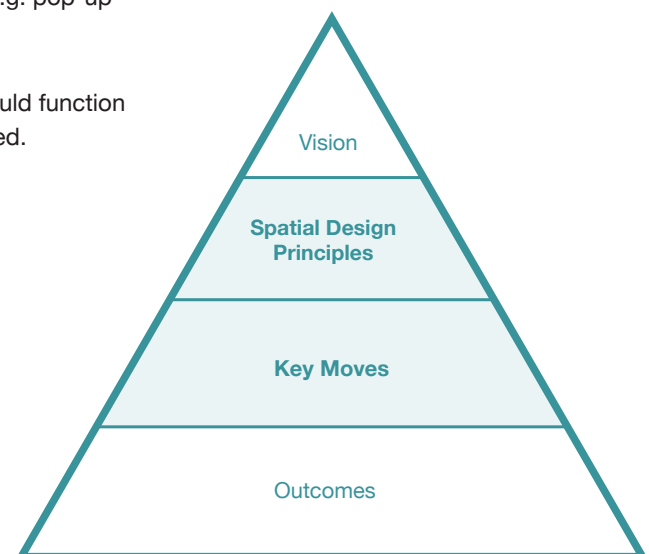


Figure 27. Spatial Design Principles

Key Moves

The following key moves were identified from contextual analysis, workshops with The Transport Agency & KCDC, stakeholder engagement and the public engagement sessions:

General

- **Enhance the transition between the local road network and the PP2Ō Expressway** – including coordinating themes for wayfinding and local road signage with the gateway signage being constructed as part of the PP2Ō Expressway project
- **Enhance the pedestrian environment** within the revocation corridor including footpaths and footpath widths, kerbs and drainage, street planting, furniture, lighting and signage
- **Provide public realm planting** – for ecological and amenity values and where possible as part of a water sensitive urban design (WSUD) approach.

Ōtaki

- **Improve the existing intersections** – including providing for a better level of service (LOS) for pedestrians by reducing crossing distances, making footpath widths wider, and prioritising pedestrian flow where appropriate
- **Improve east-west connections for all transport modes** – through the above and providing new crossing points for pedestrians and cyclists
- **Provide more public realm planting** – for amenity, shade/shelter, biodiversity and stormwater management. To include street trees, shrubs, herbaceous perennials and groundcover planting
- **Improve the connection to the railway station** – for all modes, through signage and streetscape elements such as planting and pavement treatments.

Te Horo

- **Improve the existing intersection** – including providing a better level of service (LOS) for pedestrians and cyclists
- **Provide threshold treatments** – at the northern and southern ends of Te Horo to signal to traffic that they are entering a more built-up area and potentially slower speed environment
- **Promote access to public transport** – the opportunity for Metlink to reinstall a bus stop near Hyde Park Village
- **Improve walking and cycling facilities** – by adding lengths of footpaths and reconfiguring the road space to allow for safe cycling facilities to compliment the shared path.

Concept Options

Ōtaki: Option 1

Following the initial Stakeholder Workshop potential scheme/scope design options were drafted for discussion with the Transport Agency and KDC. A series of meetings were then held with both entities to explore the options in order to achieve a sliding scale of landscape and public realm interventions to choose from. These options are outlined on the following pages.

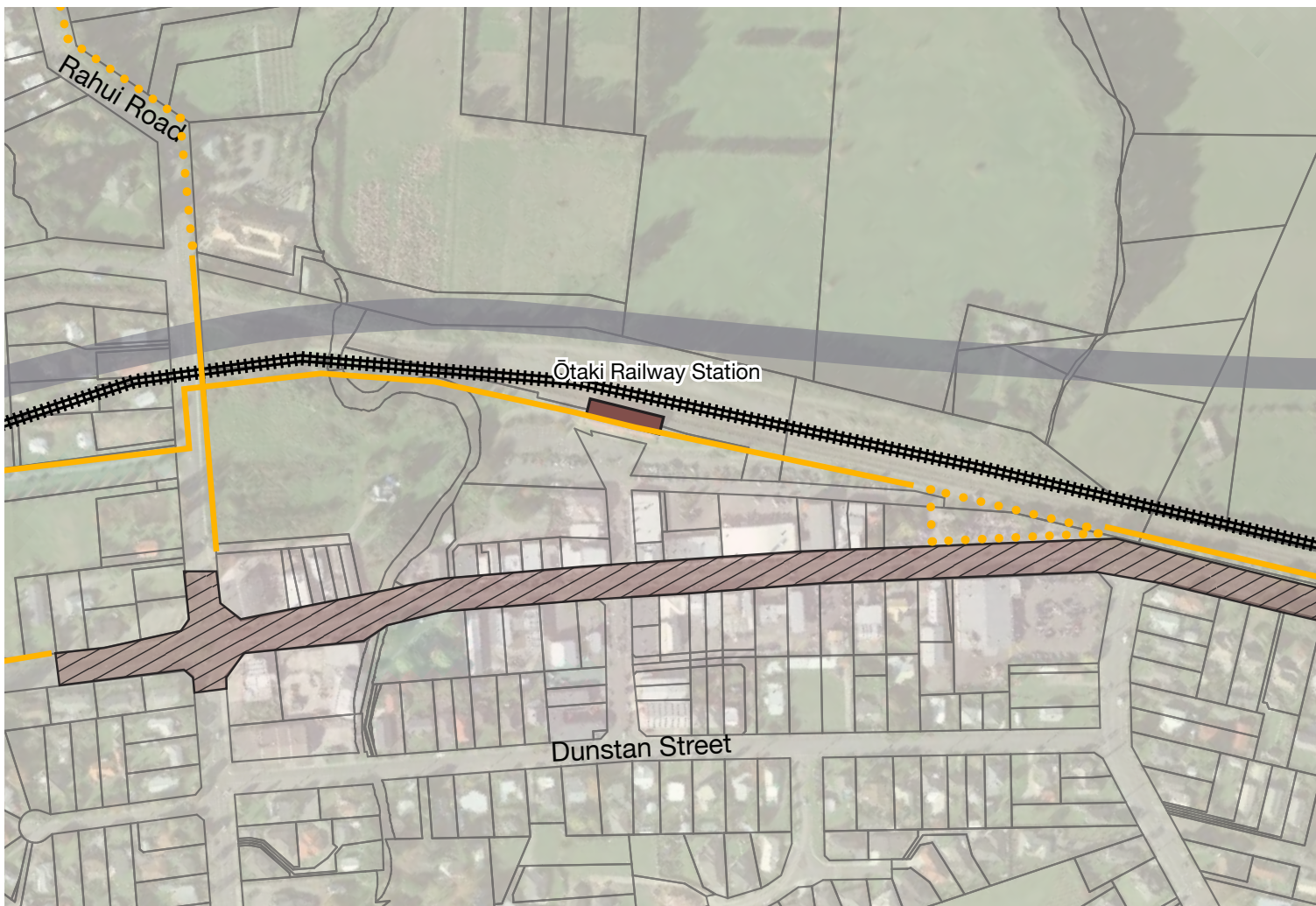


Figure 28. Concept Option 1 Plan

Features:

- Make good existing road surfacing and line markings
- Re-pave footpaths
- Upgrade street lighting to LEDs
- Kerb and channel replacement - ex. condition reviewed and improvements agreed
- Minor carriageway cross-section alterations (for shared path inclusion south of Waerenga Road)



Pros:

- Lowest cost
- Minimal construction disruption
- Shortest construction duration

Cons:

- No adjustments to speed environment
- No improvements to cycling and walking L.O.S
- Not fit for purpose as local road function

KEY

-  Extent of remedial road improvements
-  Proposed PP20 shared path



Concept Options

Ōtaki: Option 2

Features

As per Option 1, plus:

- Formalise major crossings with raised table zebra crossings
- Integrated, strategic planting, including street trees at raised tables
- Additional on-grade zebra crossings
- Retain existing signalised crossing
- Reinstate existing kerbline and remove redundant driveways in retail area
- Extend/integrate shared path with expressway shared path
- Interpretative/wayfinding signage incorporating Māori names, e.g. directions to gateway sculpture






Pros:

- Improved crossings E-W
- Opportunity for reduced speed environment
- Minor improvement to amenity planting
- Cost effective

Cons:

- Limited L.O.S for cycling and walking
- Limited speed environment improvements

KEY

-  Extent of remedial road improvements
-  Proposed PP2Ō shared path
-  Tree / planting & amenity
-  Minor change eg. kerb adjustment
-  Major change eg. raised table etc.

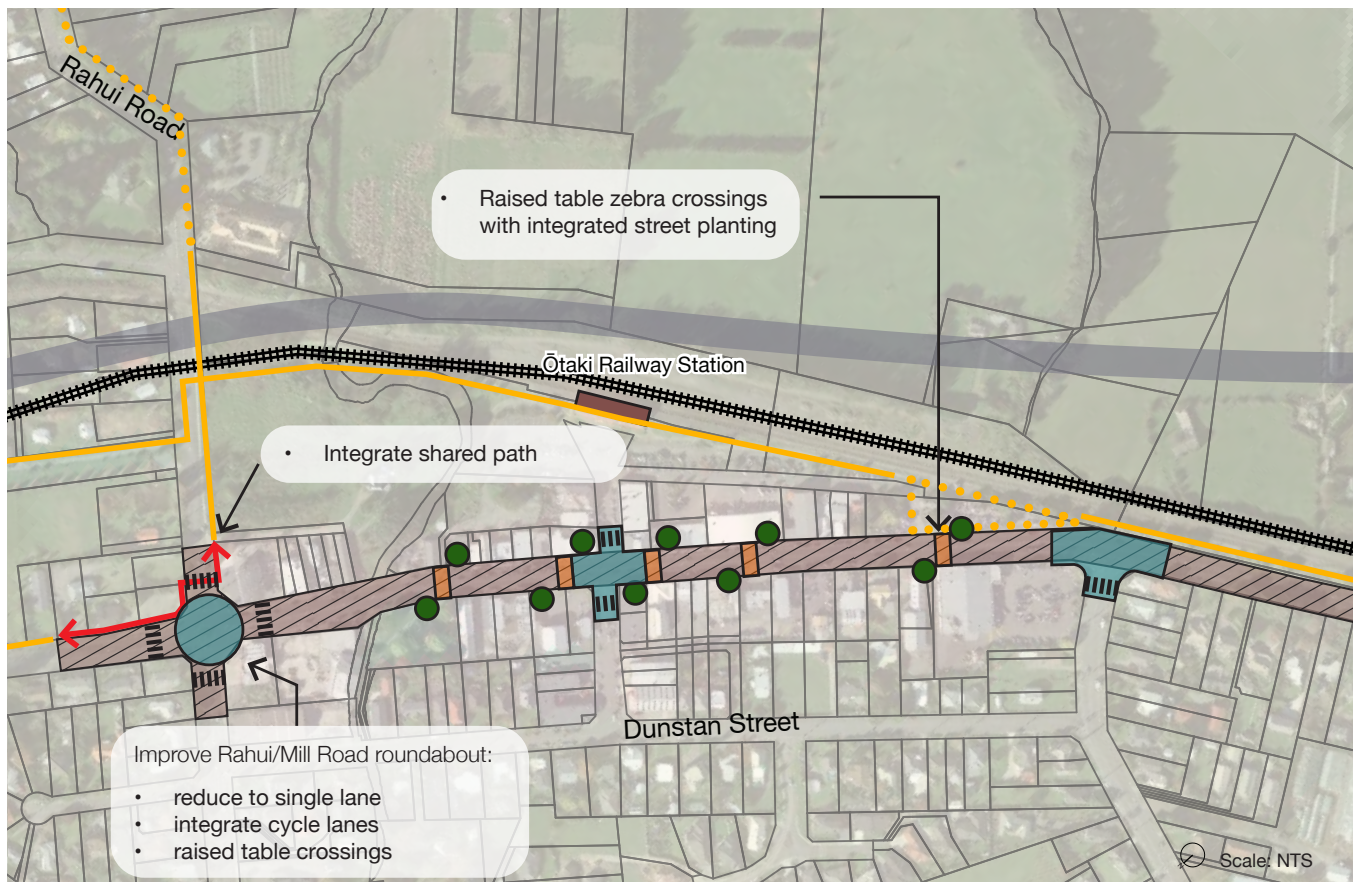


Figure 29. Concept Option 2 Plan

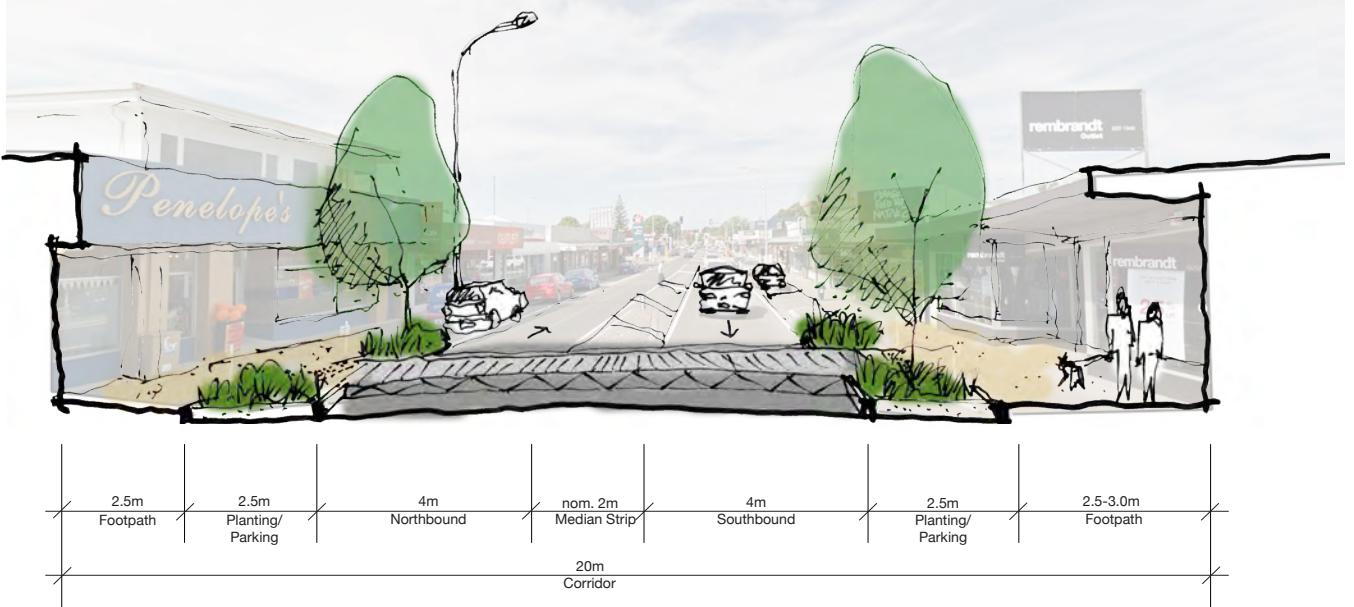
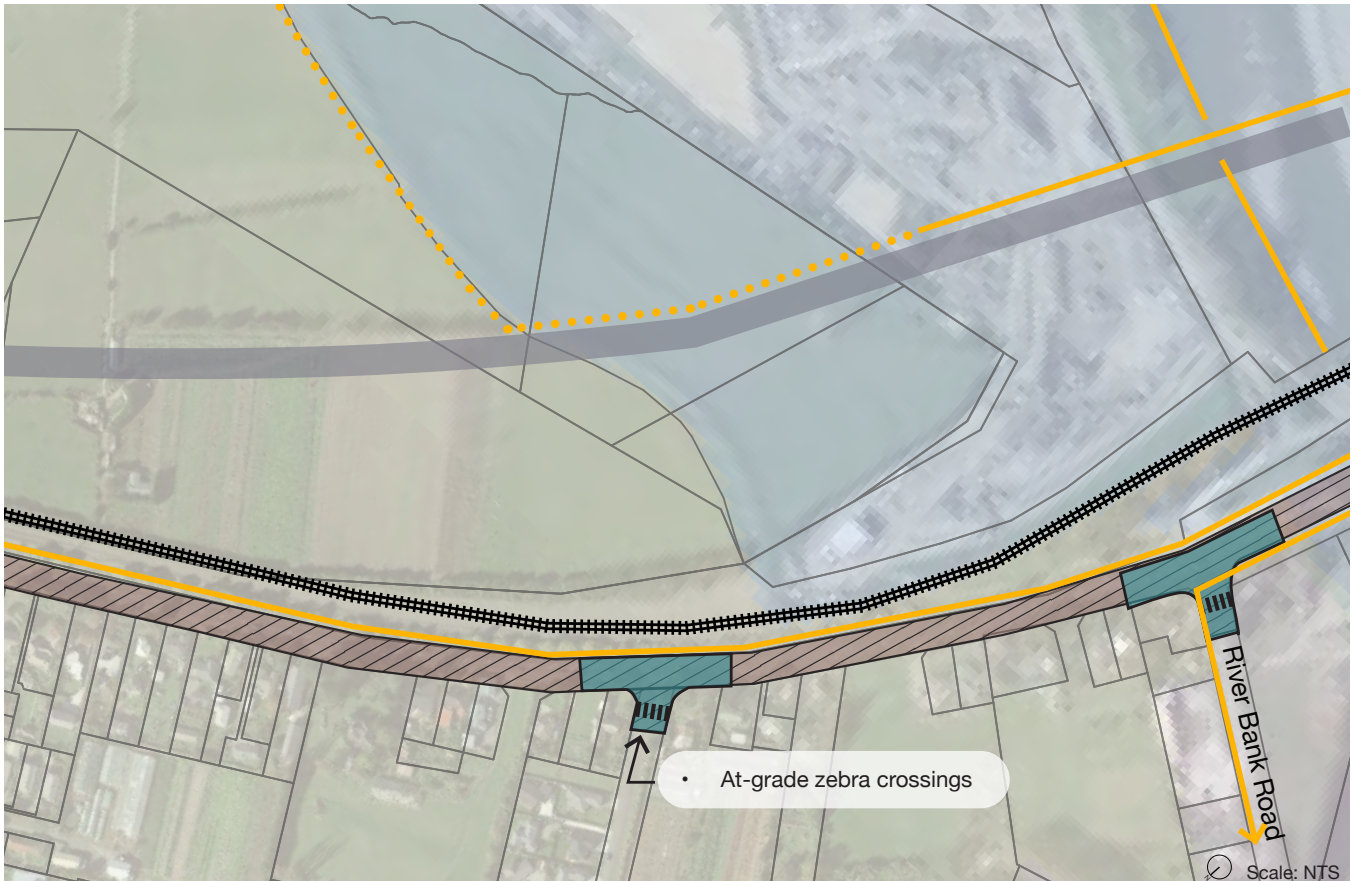


Figure 30. Concept option 2 indicative cross section



Concept Options

Ōtaki: Option 3

Features

As per Option 2, plus:

- Move kerbs out and widen footpath
- Remove flush median
- Adjust lane/parking widths
- More integrated street planting
- Upgrade existing intersections and roundabout
- Upgrade/replace existing light columns
- Upgrade street furniture including bus shelters
- Improve connection to Ōtaki Railway Station

Pros:

- Better E-W connectivity
- Improved integration and L.O.S for cycling and walking
- Improved amenity planting
- Better use of existing corridor while maintaining function

Cons:

- Limited opportunity for active edges or public/civic spaces
- Potential loss of parking if on street cycle lanes are included

KEY

- | | | | |
|-------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|-------------------------------|
|  | Extent of remedial road improvements |  | Tree / planting & amenity |
|  | Minor change eg. kerb adjustment |  | Bus stop shelter improvements |
|  | Major change eg. raised table etc. |  | Major road improvements |
|  | Proposed PP2Ō shared path | | |

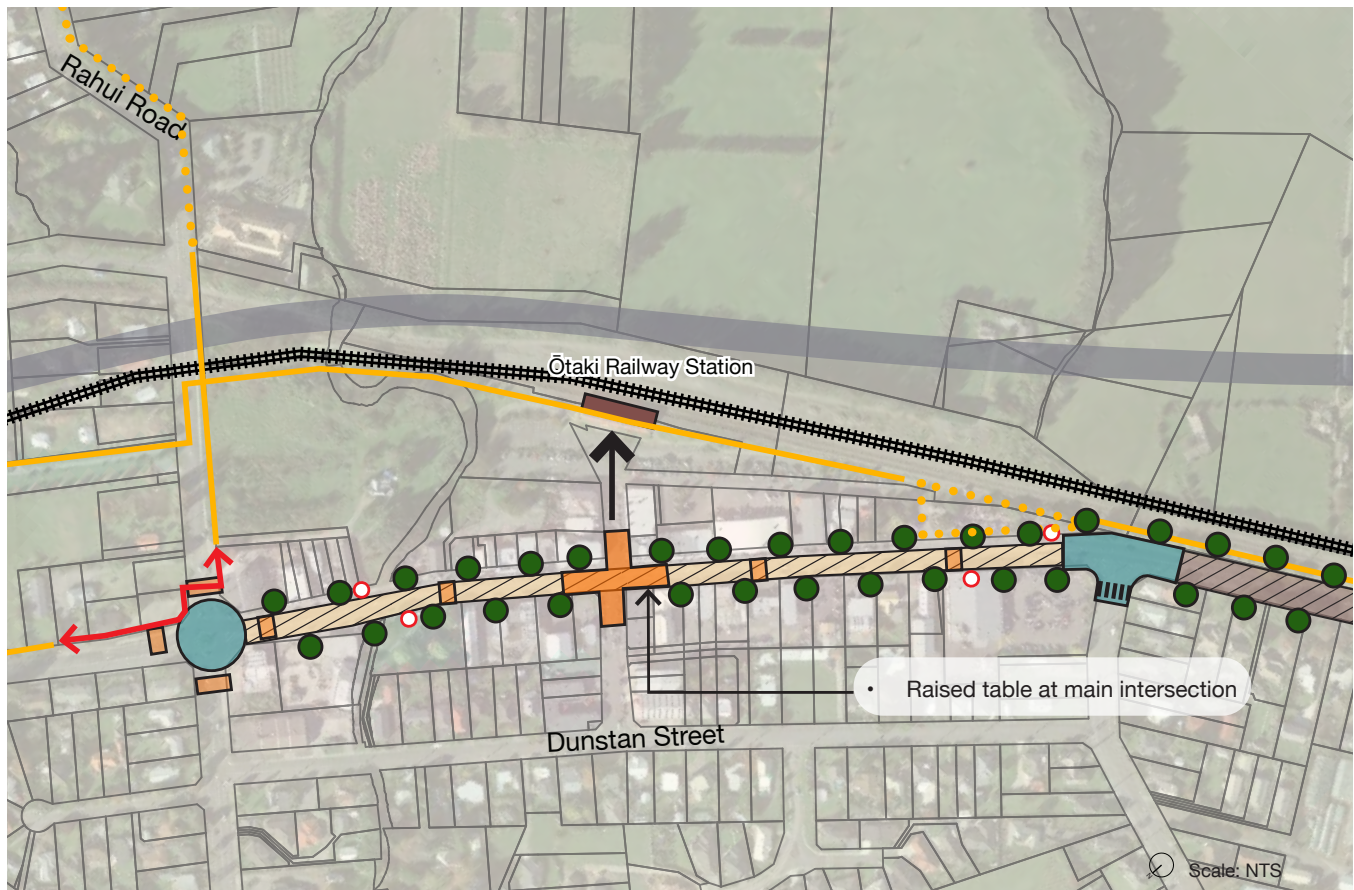


Figure 31. Concept Option 3 Plan

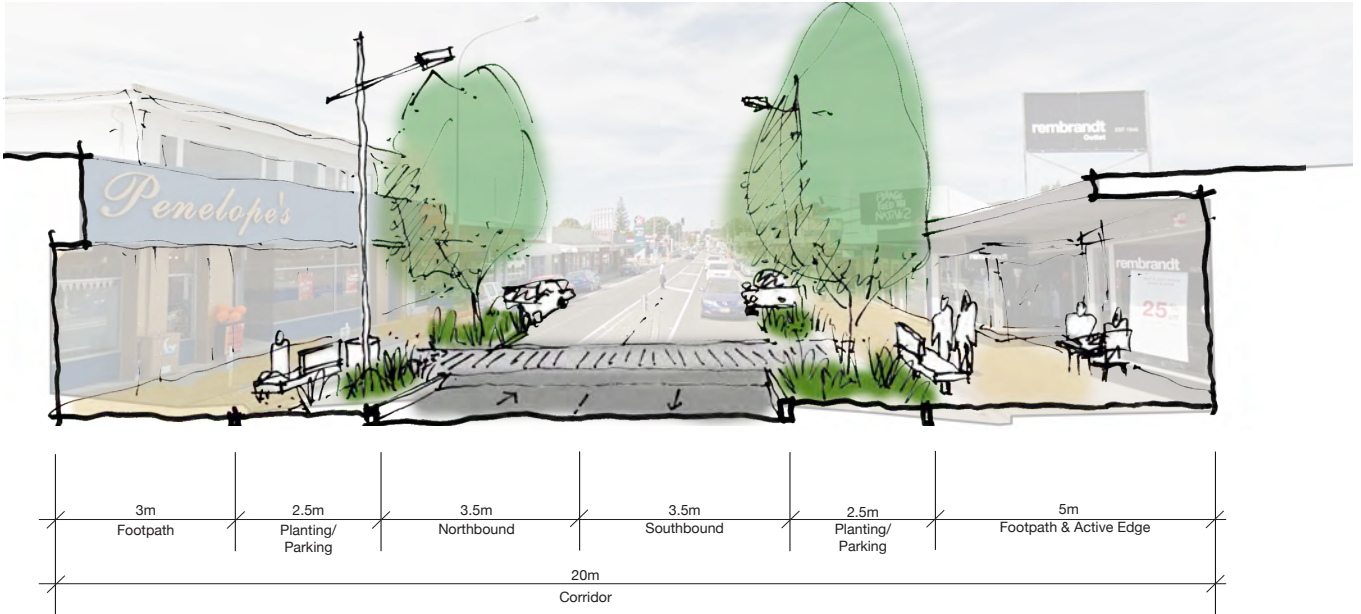
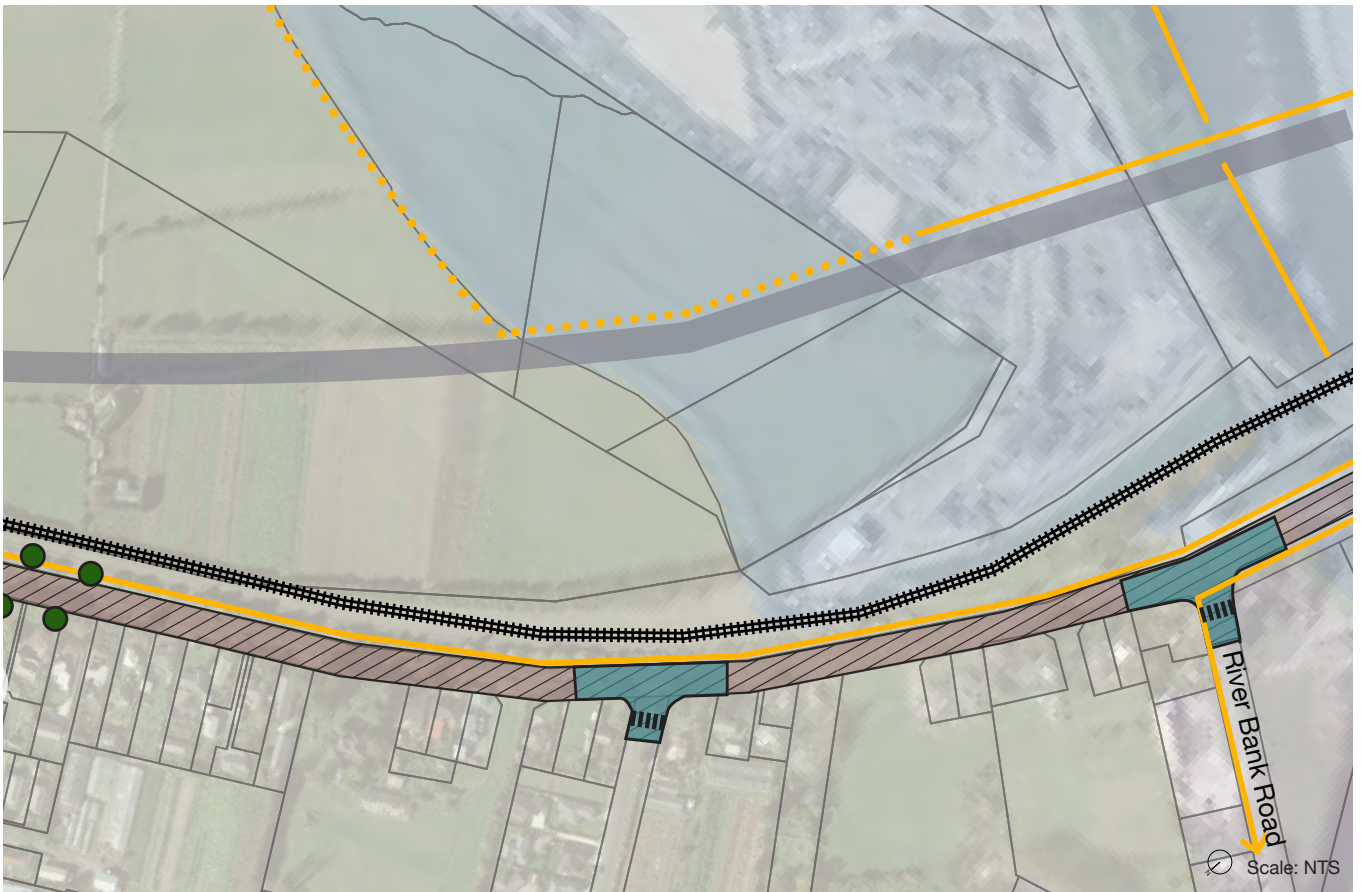


Figure 32. Concept option 3 indicative cross section



Concept Options

Ōtaki: Option 4

Features

As per Option 3, plus:

- Reduce main road to single lane, introduce one-way system with Dunstan Street
- WSUD - road runoff treatment in rain gardens and swales
- Larger planting extent
- Dutch roundabout at Rahui/Mill Road
- Roundabout at Waerenga/Main Road including raised table zebra crossings










Pros:

- Less car focused
- Improved integration and L.O.S for cycling and walking
- Some opportunity for active edges and civic/public uses and activities
- Improved ecological benefits and amenity planting
- Opportunity for reduced speed environment

Cons:

- Potential for unclear wayfinding (oneway system)
- More traffic focus on Dunstan St/ Arthur St
- High cost
- Increased construction ... and disruption
- Reduced level of business serviceability/access

KEY

- | | | | |
|-------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|-------------------------------|
|  | Extent of remedial road improvements |  | Tree / planting & amenity |
|  | Minor change eg. kerb adjustment |  | Bus stop shelter improvements |
|  | Major change eg. raised table etc. |  | Major road improvements |
|  | Proposed PP20 shared path |  | Rain gardens & swales |
| | |  | Cycle route |

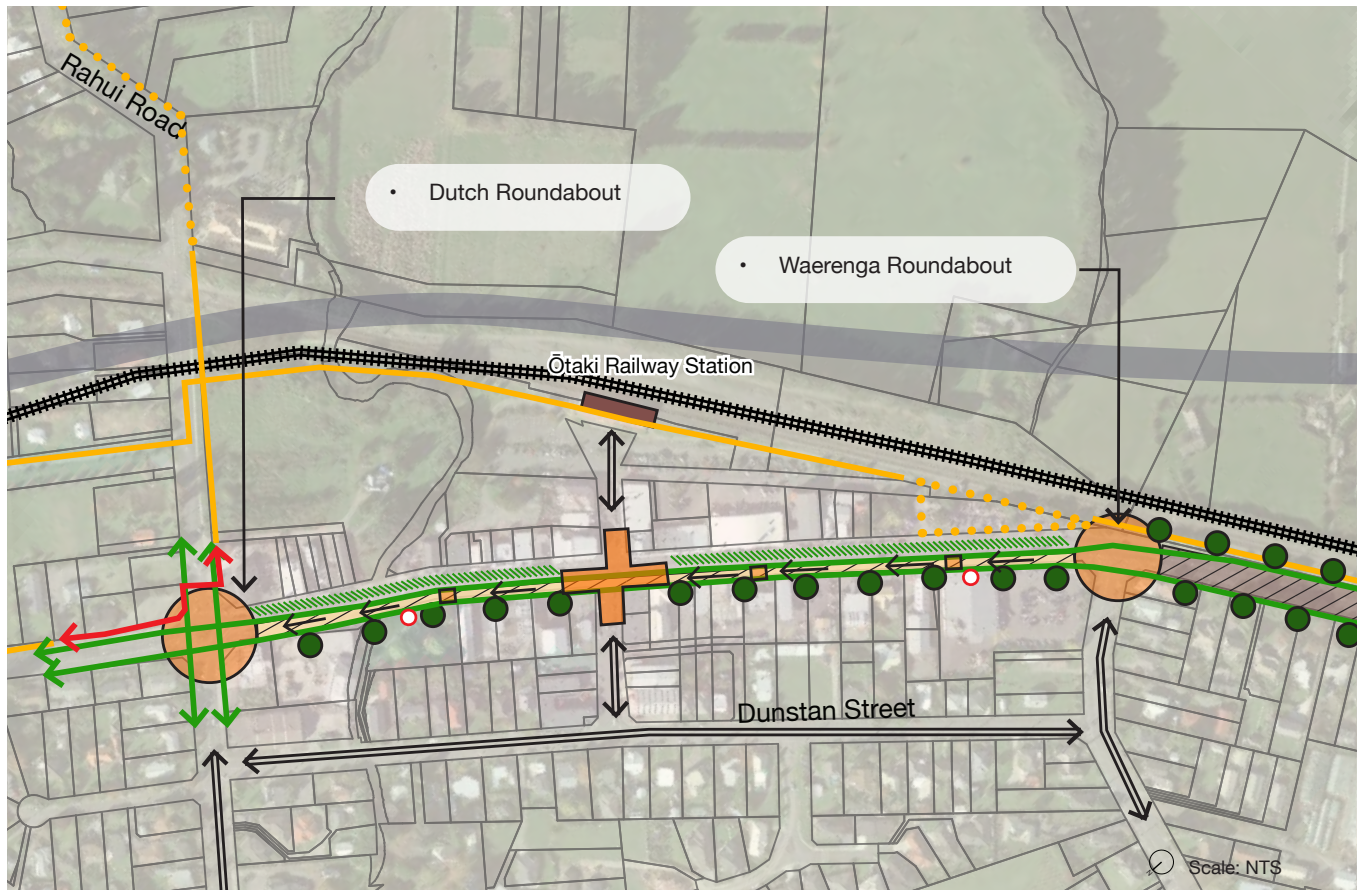


Figure 33. Ōtaki Option 4 Plan

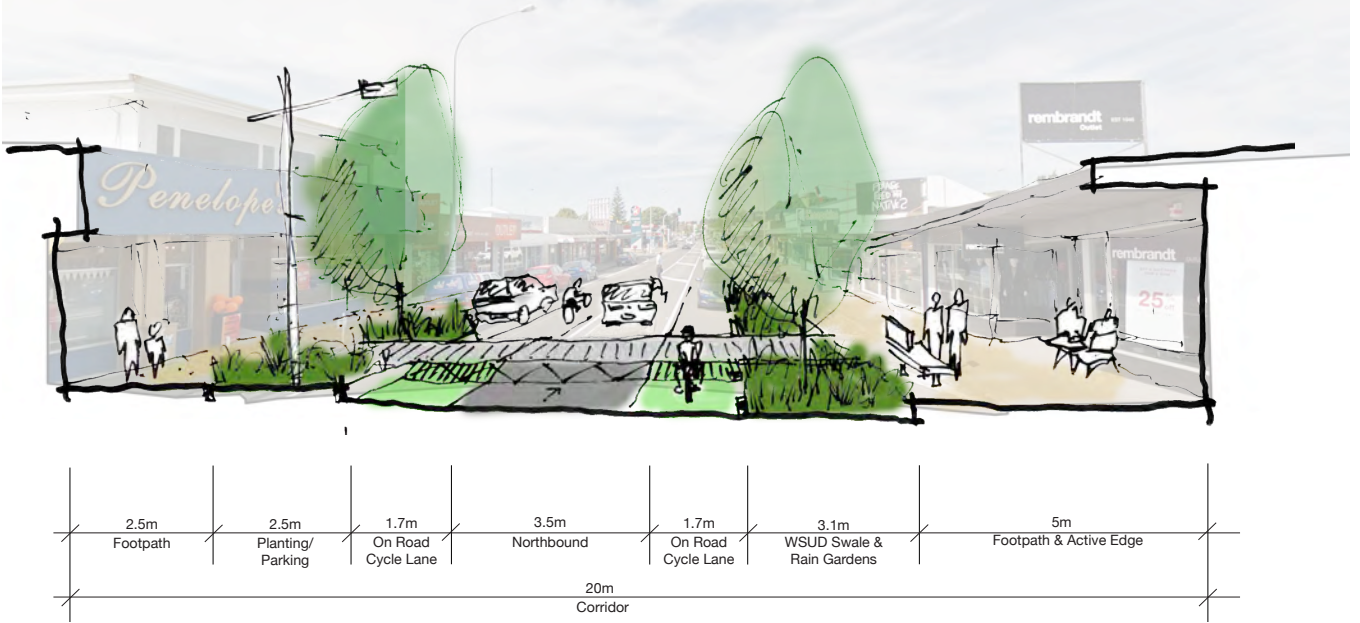
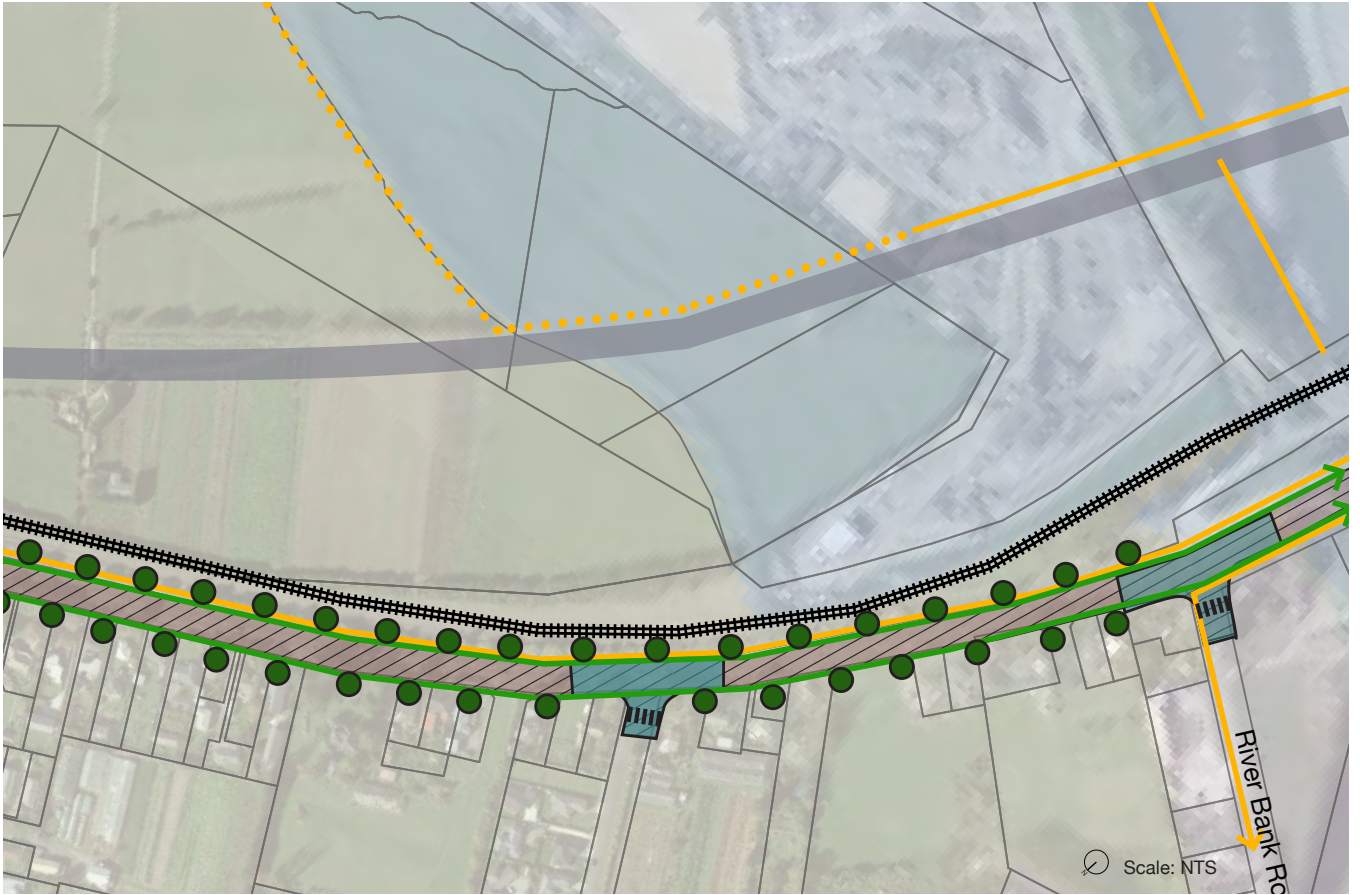


Figure 34. Ōtaki Option 4 Cross Section



Concept Options

Ōtaki: Option 5

Features

As per Option 4, plus:

- Fully-pedestrianised main road
- Full street upgrade with civic street furniture, lighting and signage
- Street planting - amenity and treatment
- Potential upgrade to Dunstan and Arthur Street









Pros:

- High level of integration and L.O.S for cycling and walking
- Improved ecological benefits and amenity planting
- More opportunities for active edges and civic/public uses and activities

Cons:

- Primary vehicle thoroughfare through Dunstan Road with associated increase in maintenance expenditure
- Highest cost
- Highest construction duration and disruption
- Highest impact on business serviceability and access

KEY

- | | | | |
|-------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------|---------------------------|
|  | Extent of remedial road improvements |  | Tree / planting & amenity |
|  | Minor change eg. kerb adjustment |  | Fully-pedestrianised road |
|  | Major change eg. raised table etc. |  | Rain gardens & swales |
|  | Proposed PP20 shared path |  | Cycle route |

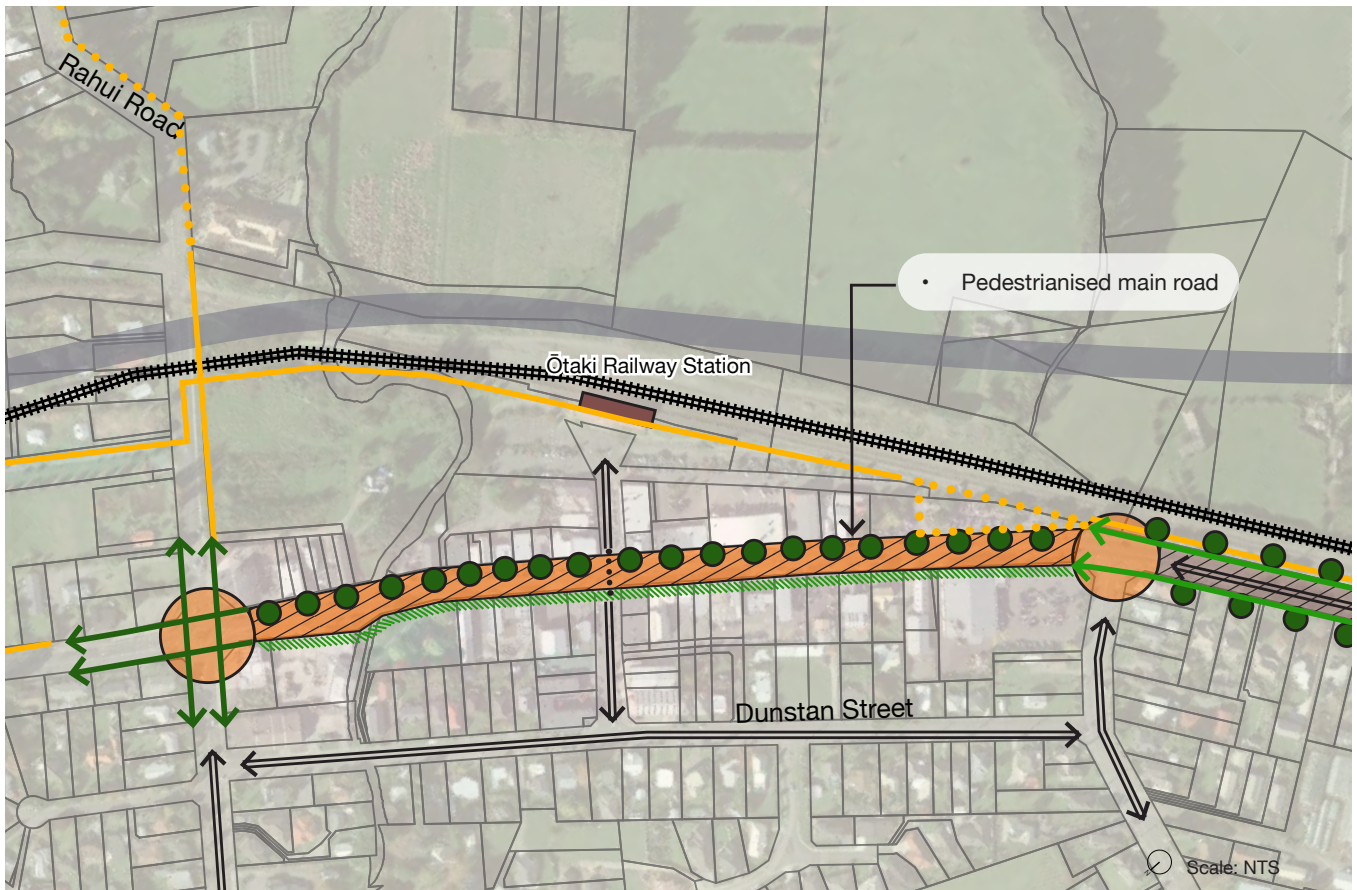


Figure 35. Ōtaki Option 5 Plan

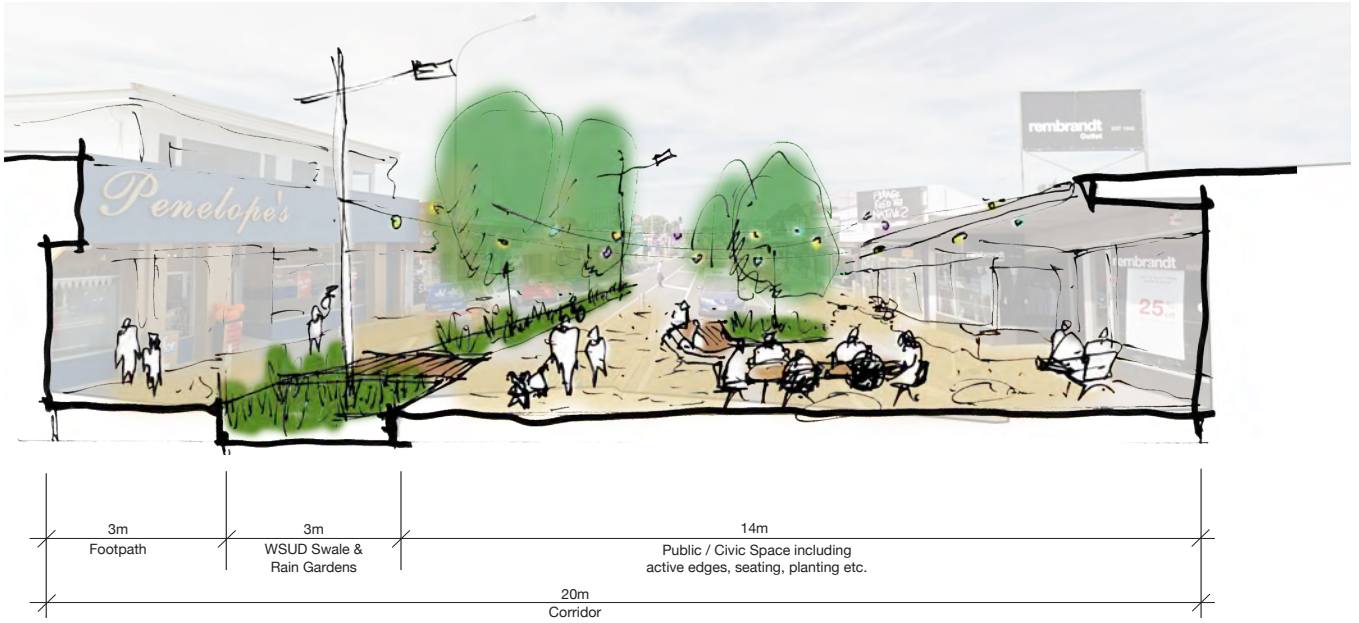
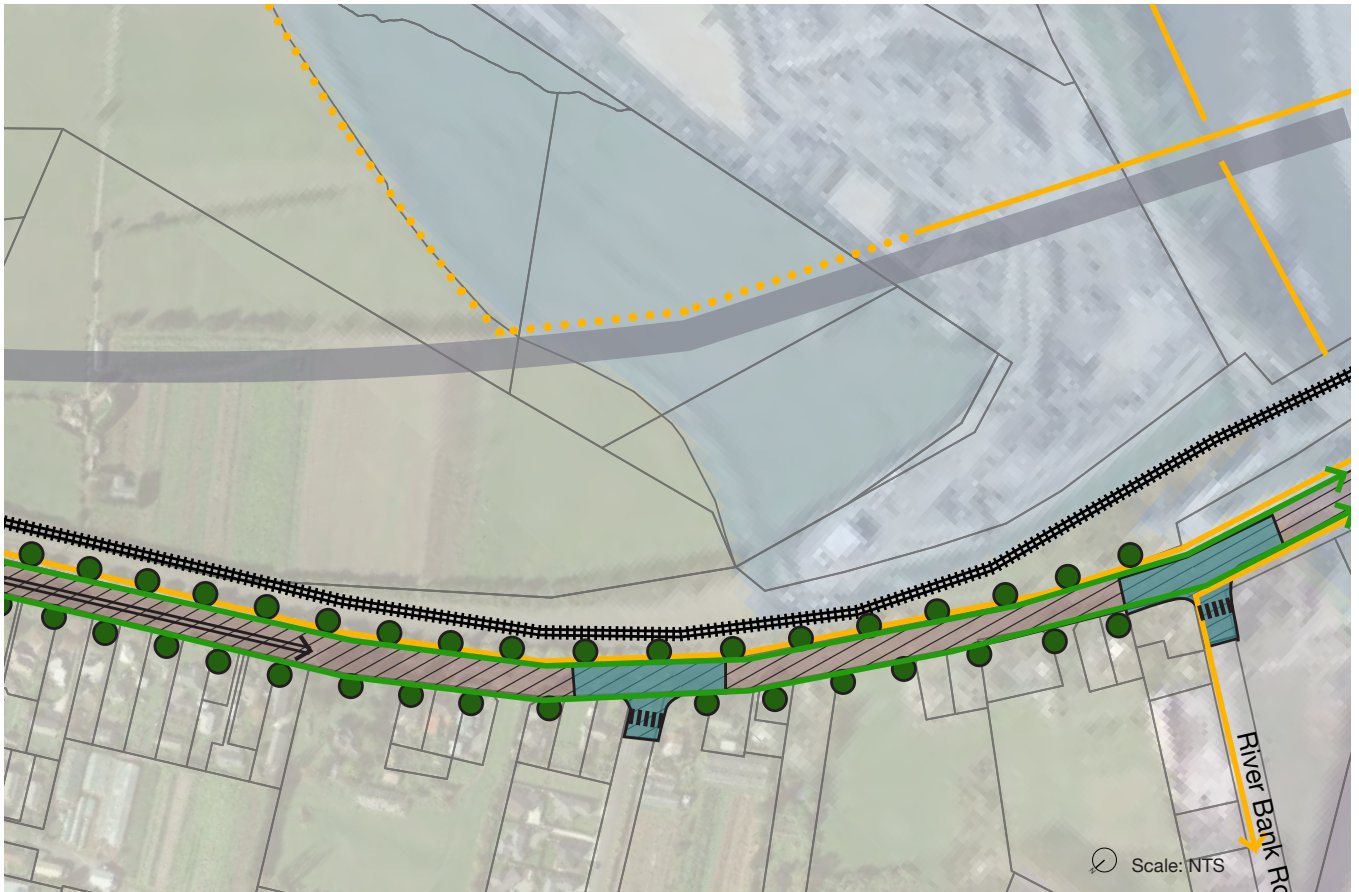


Figure 36. Ōtaki Option 5 Cross Section



Concept Options

Te Horo: Option 1

Features

- Make good the existing road surfacing and line markings
- Re-pave existing foot path
- Upgrade to LED lights

Pros:

- Low cost

Cons:

- limited opportunity for adjustments to speed environment
- No improvements to cycling and walking L.O.S
- Not fit for purpose as a local road

KEY



-  Extent of remedial road improvements
-  Proposed PP2O shared path



Figure 37. Te Horo Option 1 Plan

Concept Options

Te Horo: Option 2

Features

As per Option 1, plus:

- Planting to signify township and change in speed environment.
- Cycle route extension to Te Waka Road
- Improvements at Main Road/Te Horo Beach Road intersection
- Improved wayfinding/interpretative signage eg. to Kilns






Pros:

- Opportunity for change to speed environment
- Minor improvement to amenity
- Cost effective

Cons:

- Limited L.O.S for cycling and walking

KEY

-  Extent of remedial road improvements
-  Minor change eg. kerb adjustment
-  Proposed PP2O shared path
-  Tree / planting & amenity
-  Extend cycle route

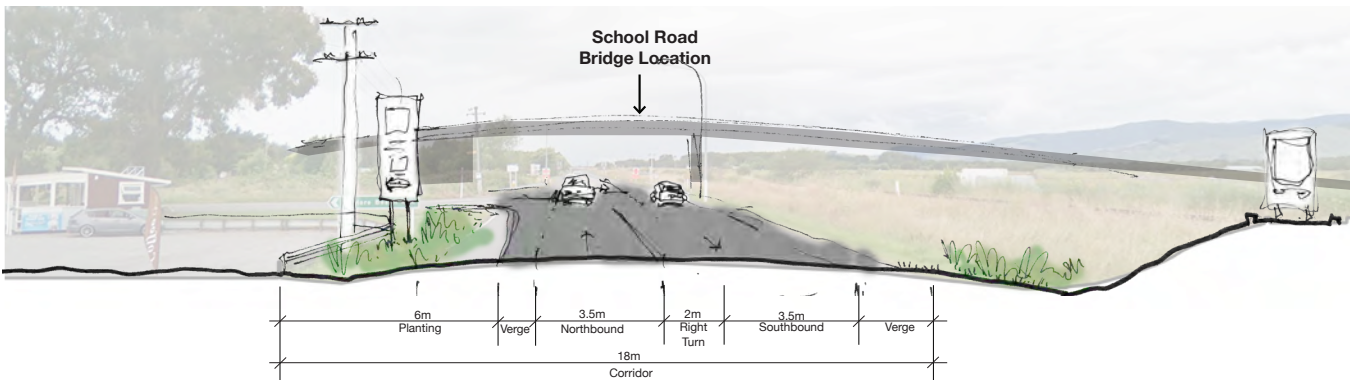


Figure 38. Te Horo Option 2 Cross Section

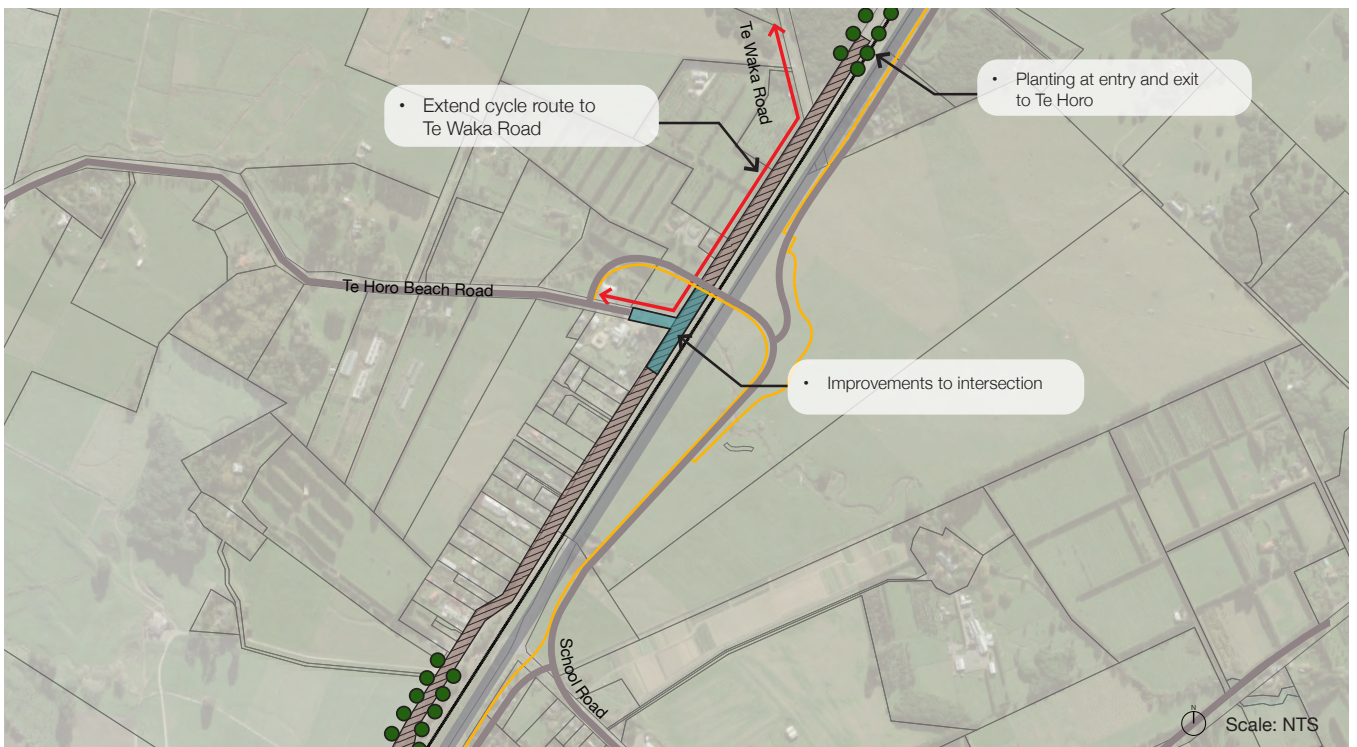


Figure 39. Te Horo Option 2 Plan

Concept Options

Te Horo: Option 3

Features

As per Option 2, plus:

- Narrow threshold treatments at entry/exit
- More street planting
- Extend existing footpath to Hyde Park
- Adjust traffic lane widths
- Extend intersection improvements to School road
- Raised table at Te Horo Beach Road intersection
- Add bus stop









Pros:

- Better E-W connectivity
- Improved integration and L.O.S for cycling and walking
- Improved amenity planting
- Highlight/signify Te Horo township extent through entry/exit treatment
- Opportunity for change to speed environment

Cons:

- Higher cost

KEY

-  Extent of remedial road improvements
-  Minor change eg. kerb adjustment
-  Major change eg. raised table etc.
-  Proposed PP2O shared path
-  Tree / planting & amenity
-  Bus stop shelter improvements
-  Extend cycle route
-  Cycle route

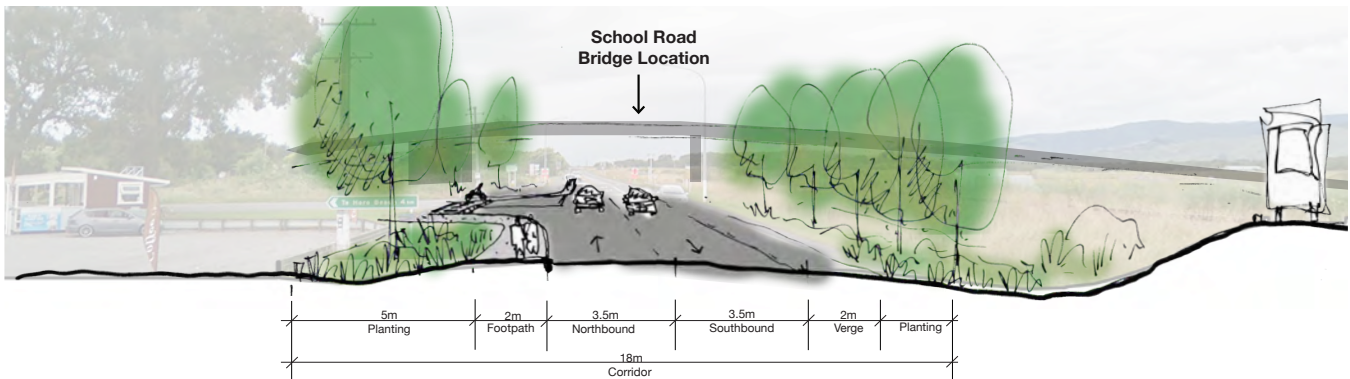


Figure 40. Te Horo Option 3 Cross Section

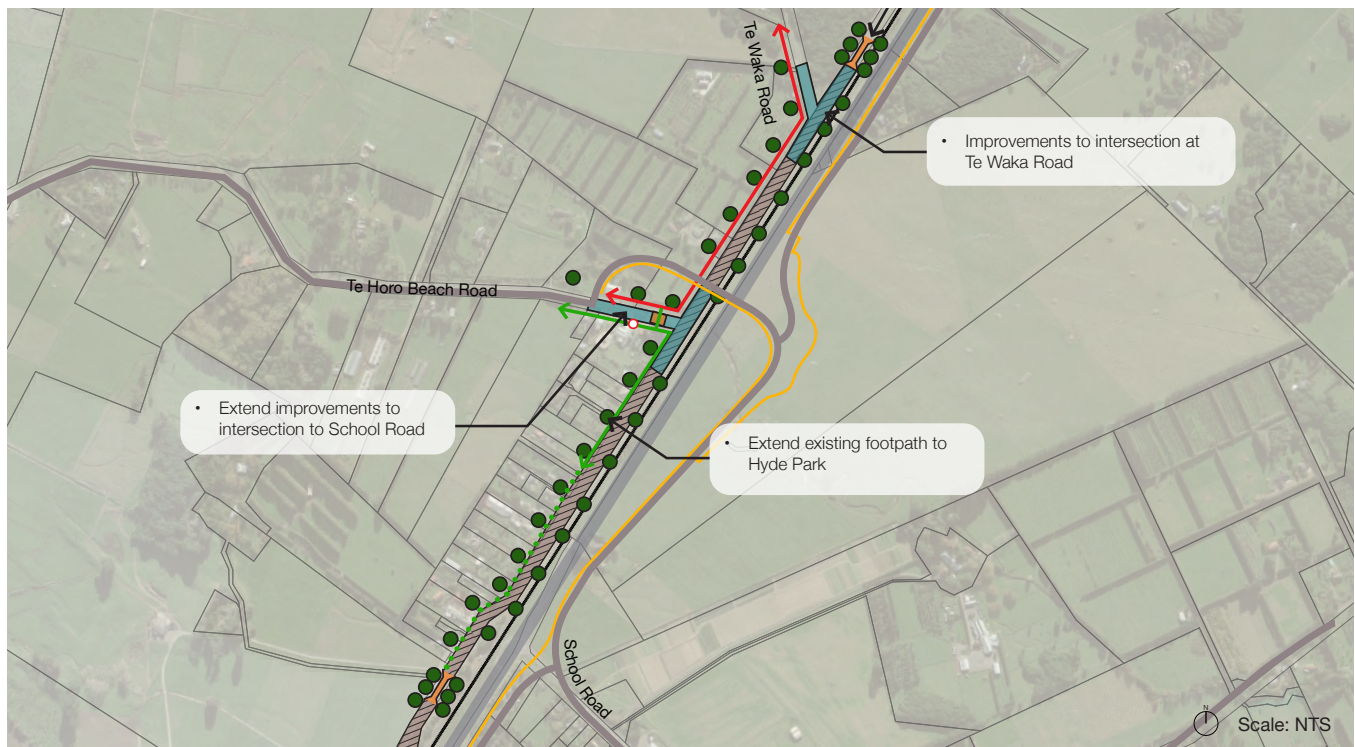


Figure 41. Te Horo Option 3 Plan

Concept Options

Te Horo: Option 4

Features

As per Option 3, plus:

- Planting to signify township and slower speed area
- Roundabout at Main road/Te Horo Beach Road intersection
- New light columns
- Extend shared path through to end of residential







Pros:

- Opportunity for change to speed environment
- More integrated L.O.S for walking and cycling

Cons:

- Highest cost
- Potential land acquisition
- increased construction duration

KEY

-  Extent of remedial road improvements
-  Minor change eg. kerb adjustment
-  Major change eg. raised table etc.
-  Proposed PP20 shared path
-  Tree / planting & amenity
-  Extend cycle route

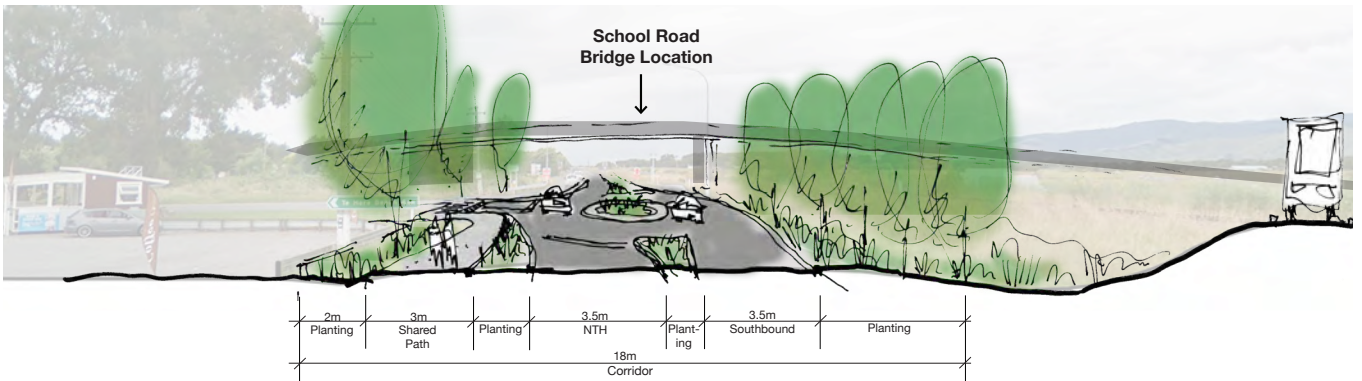


Figure 42. Te Horo Option 4 Cross Section











Figure 43. Te Horo Option 4 Plan

Preferred Design Option

Ōtaki

To arrive at a preferred design the concept options for both the Ōtaki Railway/ Retail Precinct and Te Horo were considered in terms of their ability to satisfy the Spatial Design Principles that had been developed for the revoked section of road. This included to what magnitude the key moves would be realised in order to achieve the desired outcomes for the project. This assessment and decisions around scope were made in consultation with the Transport Agency and KCDC. As part of these discussions safety and value for money were factored into refining the options down to one potential preferred design option.

KEY

-  Extent of remedial road improvements
-  Minor change eg. kerb adjustment
-  Major change eg. raised table etc.
-  Proposed PP2Ō shared path
-  Tree / planting & amenity
-  Bus stop shelter improvements
-  Major road improvements
-  Cycle route

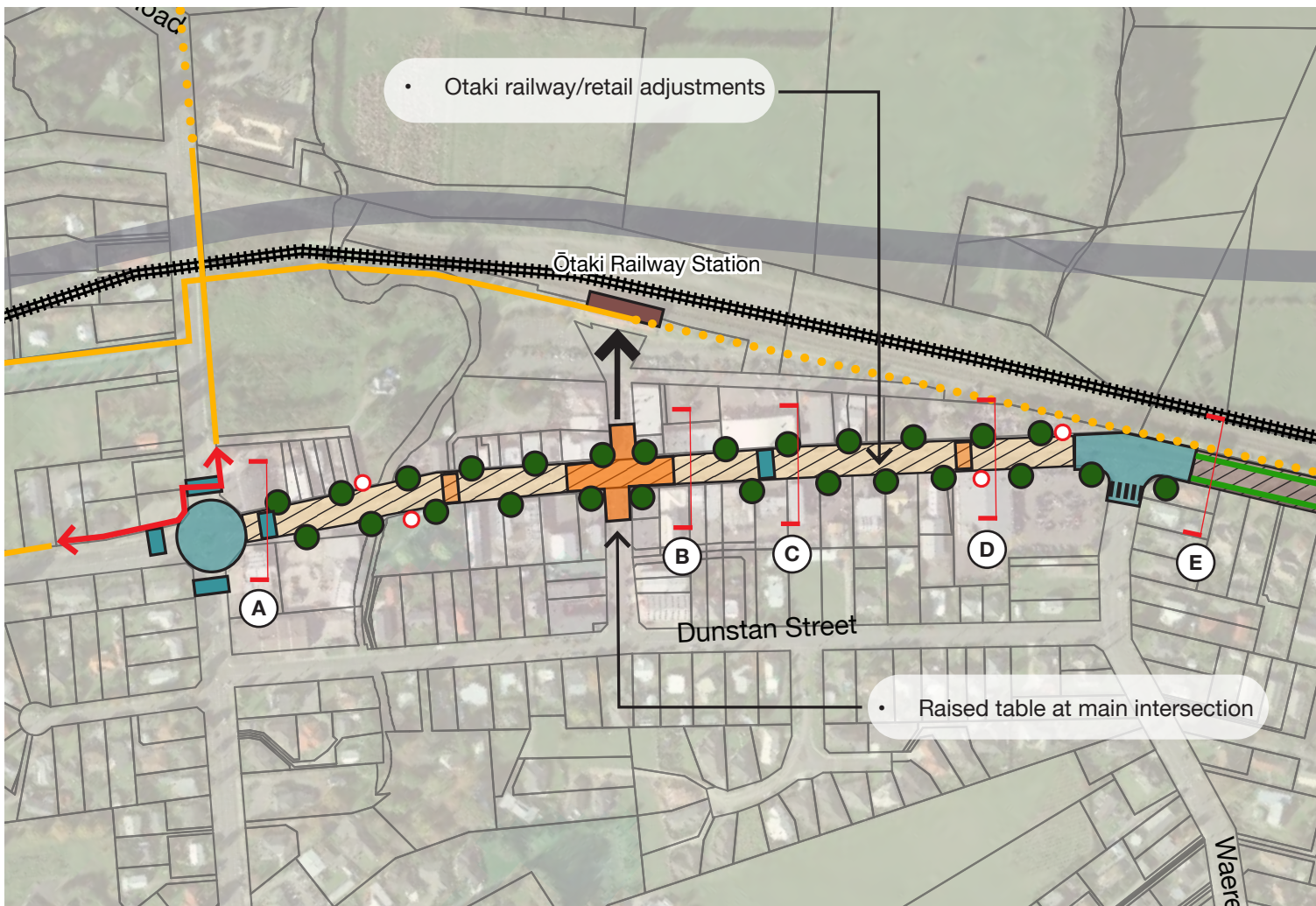


Figure 44. Ōtaki Preferred Design Option Plan

The main features of the preferred design option include:

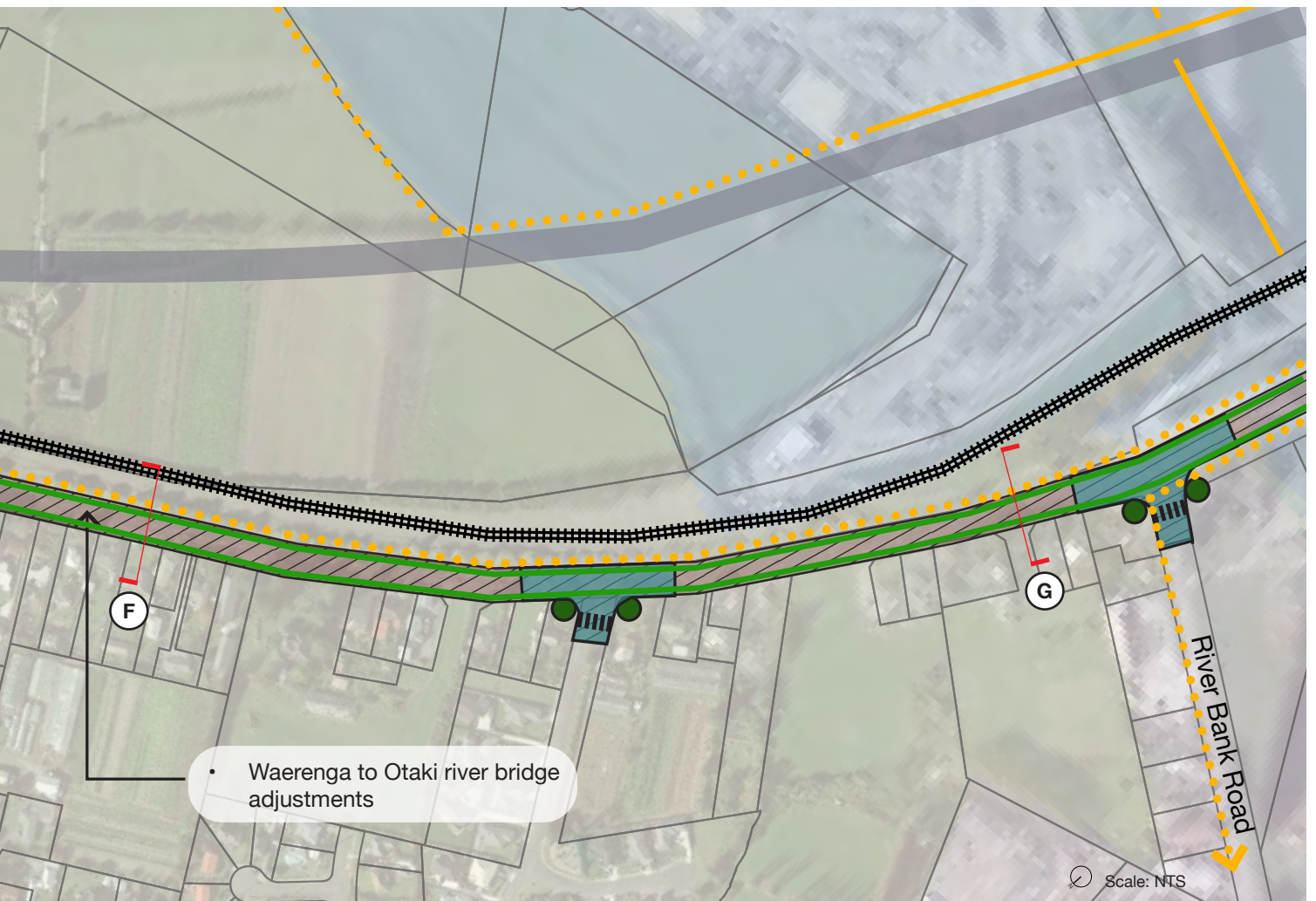
- Improvements to the Rahui Road roundabout – including a greater level of service (LOS) for walking and cycling, e.g. more space allocated for these modes and better crossing points and connections to adjacent shared paths
- Increased footpath widths
- Traffic calming measures

Ōtaki: The preferred design option for the Ōtaki precinct is focused around providing a better street environment that is more connected and with slower traffic movements. This will provide a greater level of service (LOS) for pedestrians and cyclists

- Upgrade Mill/Rahui roundabout including kerb and lane adjustments and provide safer pedestrian crossing points
- Create a new raised platform at Arthur and Main Road intersection to emphasise the connection to the train station

station

- Upgrade Waerenga and Riverbank Road intersections to allow for greater LOS for pedestrians and cyclists but maintain heavy commercial vehicle access
- Remove central median through main strip to allow for kerb, lane and footpath adjustments
- Add more amenity planting including street trees at key locations to provide a better street environment while minimising parking loss
- Integrate stormwater functions with new planting e.g. rain gardens where possible to aid in stormwater management
- Create safe pedestrian crossings at key points including raised tables and upgrade of existing pedestrian refuges
- Upgrade street furniture including bus shelters
- Integrate interpretative signage for local attractions e.g. future gateway sculptures
- Relocate light columns in between Mill Rd and Waerenga Rd and upgrade with LED lighting.



Preferred Design Option

Ōtaki View A: Rahui Roundabout

- Retain roundabout, reduce to single lane approach and circulating carriageway
- Improve pedestrian refuge islands to cater for increase in connectivity between shared paths (final design of crossing to be developed through the preliminary design stage)
- Create new shared paths north of roundabout, integrate planting.



Figure 45. Ōtaki View A Rahui Roundabout Aerial



Figure 46. Ōtaki View A Rahui Roundabout Street View

Preferred Design Option

Ōtaki View B: Raised Table

A raised table at the Arthur Street and Main Road intersection will enhance pedestrian movement within the area and strengthen the link through to the train station. Zebra crossings setback from the intersection edge and amenity planting (including street trees) provide safer pedestrian connections and a greener street environment. The existing signalised crossing at Main Road will remain.



Figure 47. Ōtaki View B Raised Table Aerial



Figure 48. Ōtaki View B Raised Table Street View

Preferred Design Option

Ōtaki View C: At-Grade Crossing

The existing pedestrian refuge along Main Road will be upgraded to provide a higher LOS to pedestrians and cyclists. Kerb build-outs reduce the crossing distance for pedestrians and provide space for considered street planting.



Figure 49. Ōtaki View C At-Grade Crossing Aerial



Figure 50. Ōtaki View C At-Grade Crossing Street View

Preferred Design Option

Ōtaki View D: Raised Crossing (opp. New World)

A raised table crossing will provide safe connections for pedestrians across Main Road at the southern end of the Ōtaki Retail area. The raised table affects the physical speed environment – slowing traffic down as it enters the area highlighting the Retail area as a slow space. Its location links the supermarket with the bus stop, market space, and potential shared path on the eastern side of Main Road. Amenity planting and new LED lights columns also accent the crossing point.



Figure 51. Ōtaki View D Raised Crossing Aerial



Figure 52. Ōtaki View D Raised Crossing Street View

Preferred Design Option

Ōtaki View E: Waerenga Road

Revised lane widths and kerb build-outs allow for street amenity planting and reduced pedestrian crossing distances. Wider footpaths (where possible) and the potential shared path will provide greater connectivity through to the retail area. The central right turning bay will remain.



Figure 53. Ōtaki View E Waerenga Road Aerial



Figure 54. Ōtaki View E Waerenga Road Street View

Preferred Design Option

Ōtaki View F: Mid-Block Residential Option 1

The first option retains the majority of the existing structure and functions of Main Road for this area. Existing luminaries will be upgraded to LED and an allowance for a shared path on the eastern side has been made.

This option does not allow for additional on road cycle lanes.

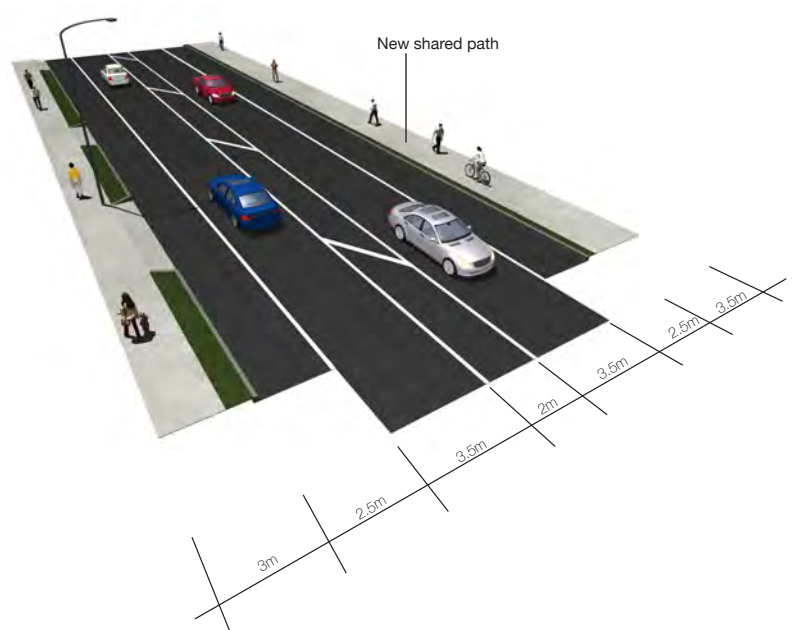


Figure 55. Ōtaki View F: Mid-Block Residential Option 1 Aerial



Figure 56. Ōtaki View F: Mid-Block Residential Option 1 Street View

Preferred Design Option

Ōtaki View F: Mid-Block Residential Option 2

By removing the car parking on the eastern side of the carriageway this option provides a northbound cycle lane on the western side of road. For southbound cyclists there is the shared path and also confident cyclists can use the road, although there is no dedicated space for them. This option doesn't provide a great level of service for cyclists as the northbound cycle lane runs between the traffic lane and parked cars and southbound users have to choose between mixing it with pedestrians or vehicles. The central flush median is retained and the traffic lanes are 3.5m wide. The footpath on the western side is increased to min. 1.8m width and the green verges are retained, potentially planted out to add amenity and reduce maintenance and whole of life (WoL) costs.

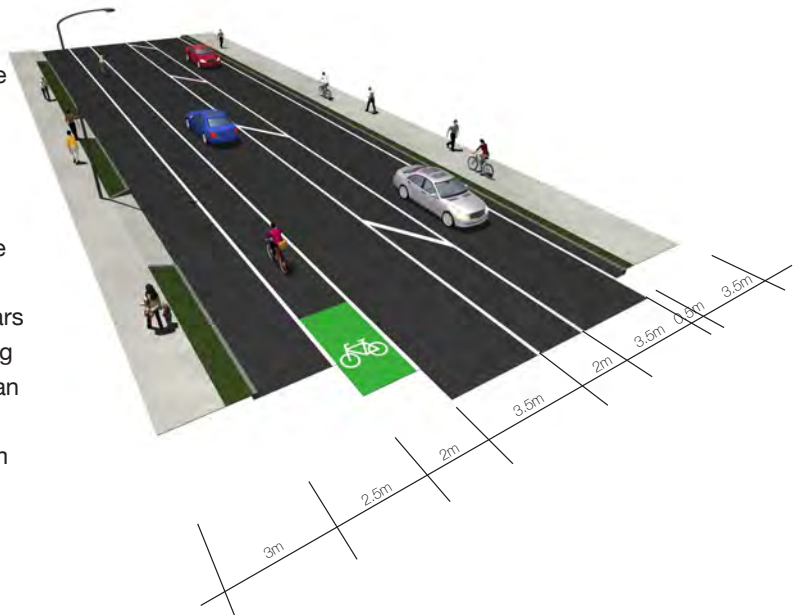


Figure 57. Ōtaki View F Mid-Block Residential Option 2 Aerial



Figure 58. Ōtaki View F Mid-Block Residential Option 2 Street View

Preferred Design Option

Ōtaki View F: Mid-Block Residential Option 3

In this option the central flush median is removed, the shared path width is limited to 2.5m and parking is retained on both sides of the carriageway. To fit in north and south-bound cycle lanes the central flush median is removed and the vehicle lanes are slimmed down to 3m wide. The footpath on the western side is increased to min. 1.8m width and the green verges are retained, potentially planted out to add amenity and reduce maintenance and whole of life (WoL) costs.

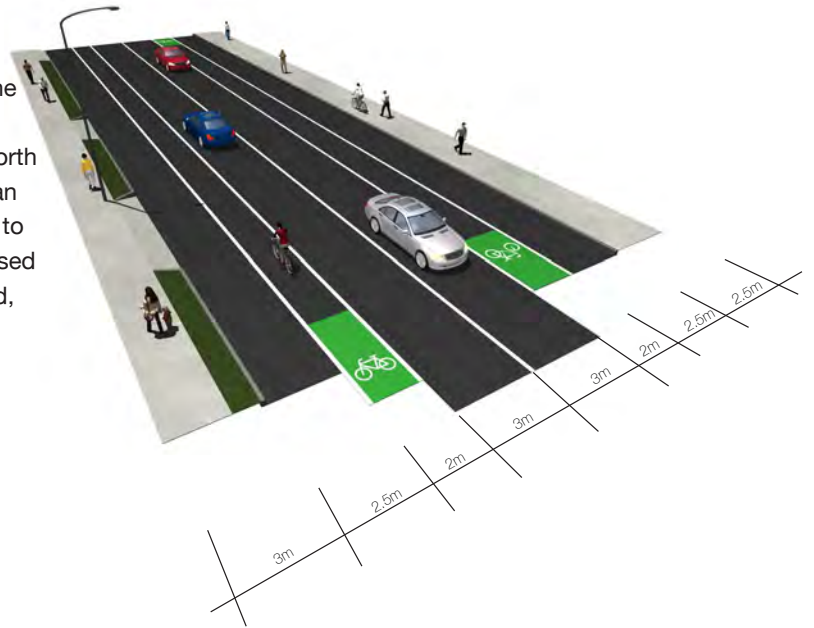


Figure 59. Ōtaki View F Mid-Block Residential Option 3 Aerial



Figure 60. Ōtaki View F Mid-Block Residential Option 3 Street View

Preferred Design Option

Ōtaki View G: Riverbank Road Option 1

With the introduction of signals in this option the overall geometry of the intersection is tightened up making it easier for pedestrians and cyclists to navigate and thus improving their level of service. The left-turn slip-road is maintained for southbound traffic turning into Winstones Quarry. Footpath widths are min. 1.8m.



Figure 61. Ōtaki View G Riverbank Road Option 1 Aerial



Figure 62. Ōtaki View G Riverbank Road Option 1 Street View

Preferred Design Option

Ōtaki View G: Riverbank Road Option 2

The overall geometry is also tightened up in this option to improve the level of service for pedestrian and cyclists. However, here traffic lights/signals are avoided. The dedicated southbound right turn lane is maintained and traffic exiting Riverbank Road and the Winstones Quarry access road must stop and give way to traffic on the former state highway. Footpath widths are min. 1.8m.



Figure 63. Ōtaki View G Riverbank Road Option 2 Aerial



Figure 64. Ōtaki View G Riverbank Road Option 2 Street View









Preferred Design Option

Te Horo

Making the revoked state highway fit for purpose in Te Horo focuses on improvements to the area between just north of Te Waka Road and extending to just south of the residential area. These include the following elements:

- Connecting to the PP20 Expressway shared path
- Narrowed entry thresholds including planting, rumble strips and reduced lane widths to slow traffic movement through the precinct
- Reduce central median extent to allow for on road cycle lanes within verge on both sides of the road
- Upgrade Te Horo Beach Road intersection
- Extend existing residential footpath through to Hyde Park to increase pedestrian connectivity
- Create new bus stop near Hyde Park and Rod Clifton Motors
- Enhance planting throughout including new clusters of native trees to tie into surrounding remnant bush
- Integrate interpretative signage for local attractions e.g. Hyde park or Kilns
- Upgrade existing luminaries to LED lighting

KEY

- | | | | | | |
|-----------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------|-----------------|
|  | Extent of remedial road improvements |  | Proposed PP20 shared path |  | Cycle route |
|  | Minor change eg. kerb adjustment |  | Tree / planting & amenity |  | Extend footpath |
|  | Major change eg. raised table etc. |  | Bus stop shelter improvements | | |

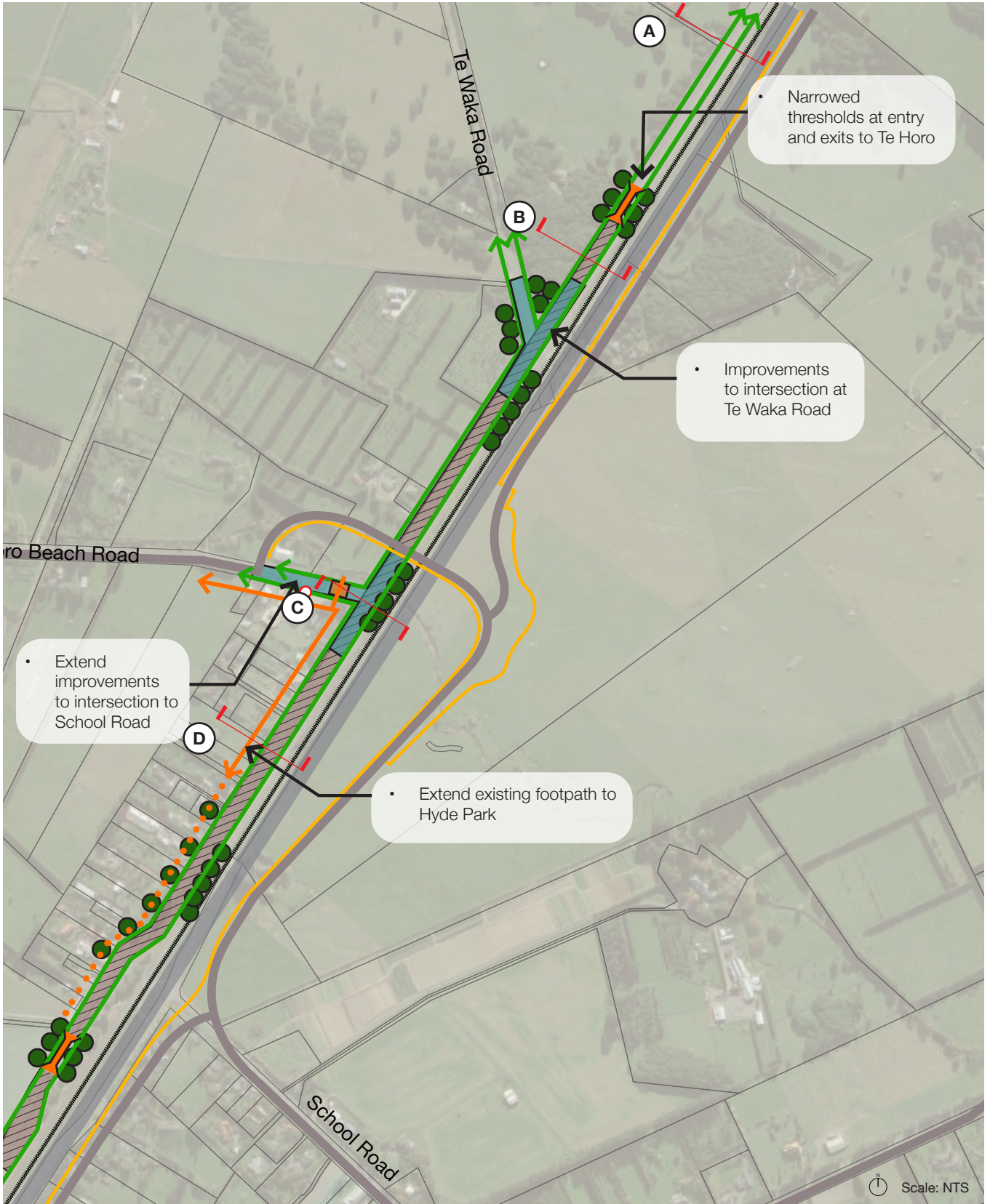


Figure 65. Te Horo Preferred Design Option Plan

Preferred Design Option

Te Horo View A: Typical Mid-block Section

Improvements to the revoked state highway include replacing the central double-yellow lines with white lines, widening the hard shoulders to 2.5m (maintaining the vehicle lane widths at 3.5m) and dedicating these as cycle lanes with intermittent green-painted cycle markers. Planting for amenity, ecology and storm water attenuation is proposed for the verges (extents to be determined).

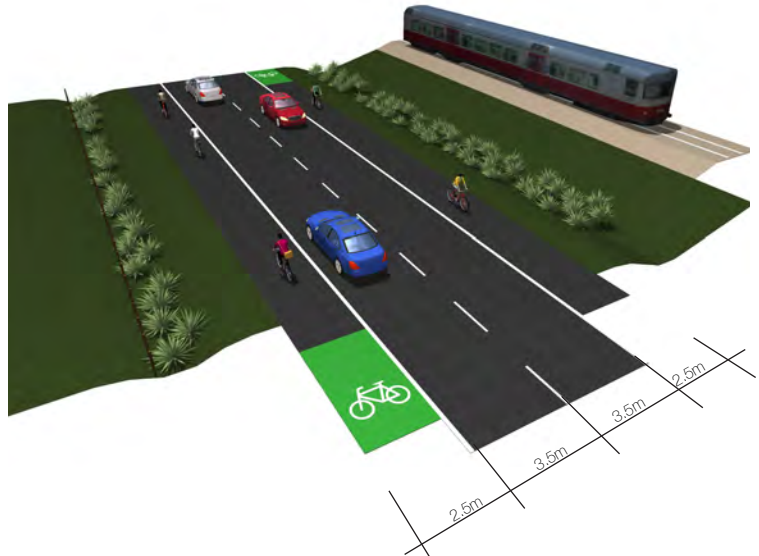


Figure 66. Te Horo View A Typical Mid-block Aerial



Figure 67. Te Horo View A Mid-block Street View

Preferred Design Option

Te Horo View B: Entry Threshold

A threshold treatment is proposed just north of the Te Waka Road intersection. Travelling south, this signifies the arrival at Te Horo and a corresponding change in the environment of the road corridor, encouraging drivers to slow and be wary of other mode users. Welcome signs (with speed limit) and amenity planting welcome visitors to the area plus a change in the road surfacing (narrowing slightly) will provide a tactile marker for vehicles. Cycle lanes are maintained separate from the vehicle lanes.

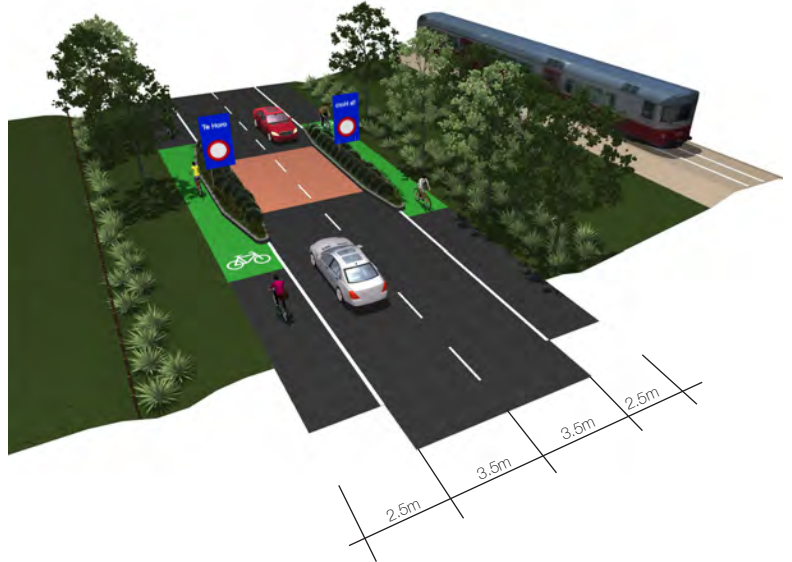


Figure 68. Te Horo View B Entry Aerial

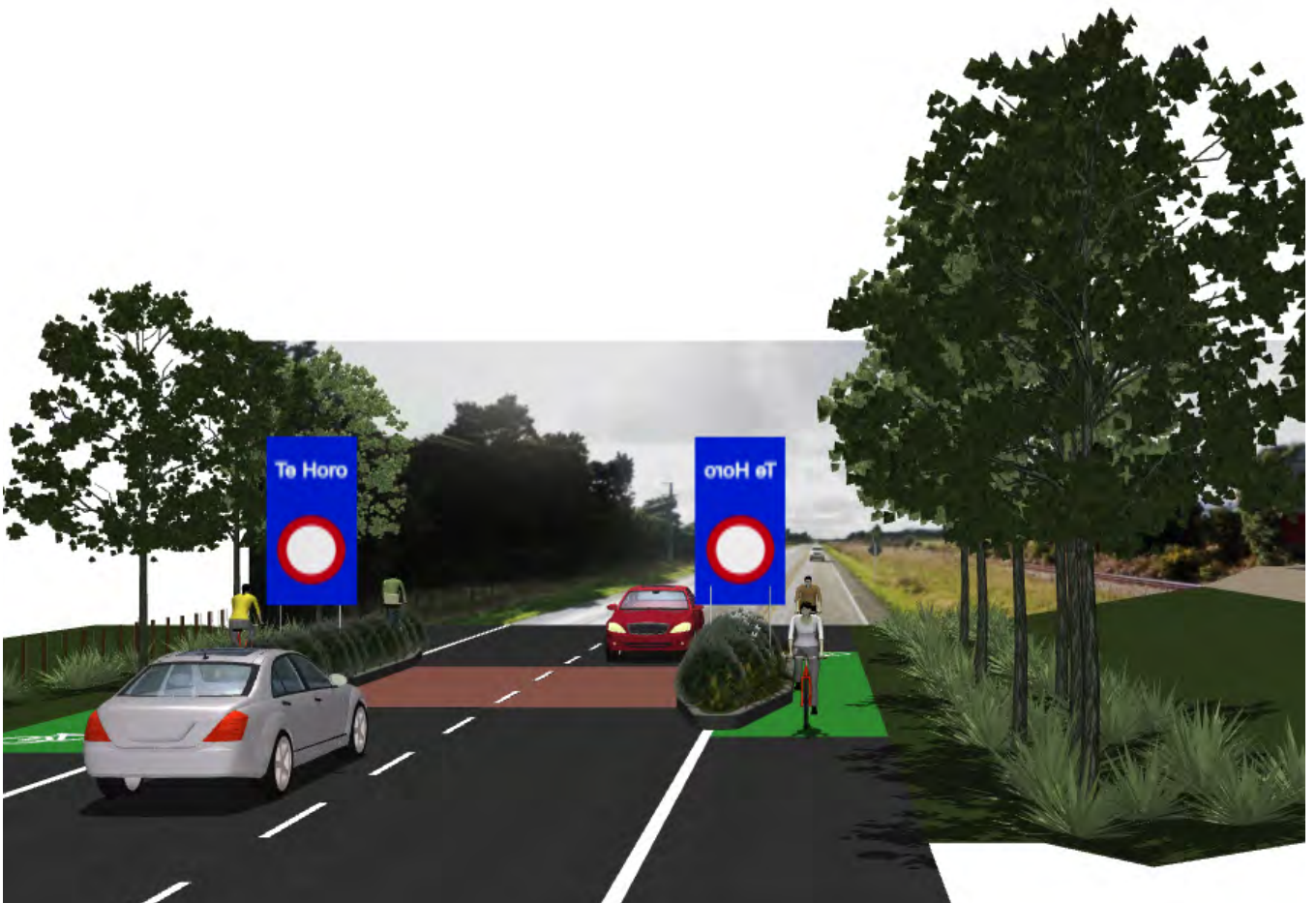


Figure 69. Te Horo View B Entry Street View

Preferred Design Option

Te Horo View C: Beach Road Intersection

Proposed improvements to the Te Horo Beach Road intersection include tightening up the kerb lines of the intersection to improve pedestrian and cyclist safety and slow vehicles navigating the space. A pedestrian crossing and central median planter is included to aid pedestrians accessing Hyde Park Village from the shared path on School Road and vice versa. A reinstated bus stop on Te Horo Beach Road could also improve accessibility for the area in terms of multi-modal trips. The inclusion of cycle lanes will provide safer connections for cyclists heading north to Te Waka Road and beyond. Travelling south, the right turn lane is maintained and cycle lanes are provided on either side of the revoked road carriageway.



Figure 70. Te Horo View C Beach Road Intersection Aerial



Figure 71. Te Horo View C Beach Road Intersection Street View

Preferred Design Option

Te Horo View D: Residential

As per the mid-bock section of road, improvements to the revoked state highway in Te Horo include replacing the central double-yellow lines with white lines, widening the hard shoulders (without compromising the vehicle lanes) and dedicating these as cycle lanes with intermittent green-painted cycle markers. The footpath on the residential/west side of the road is widened to 1.8m and extended to reach Te Horo Beach Road and Hyde Park Village.

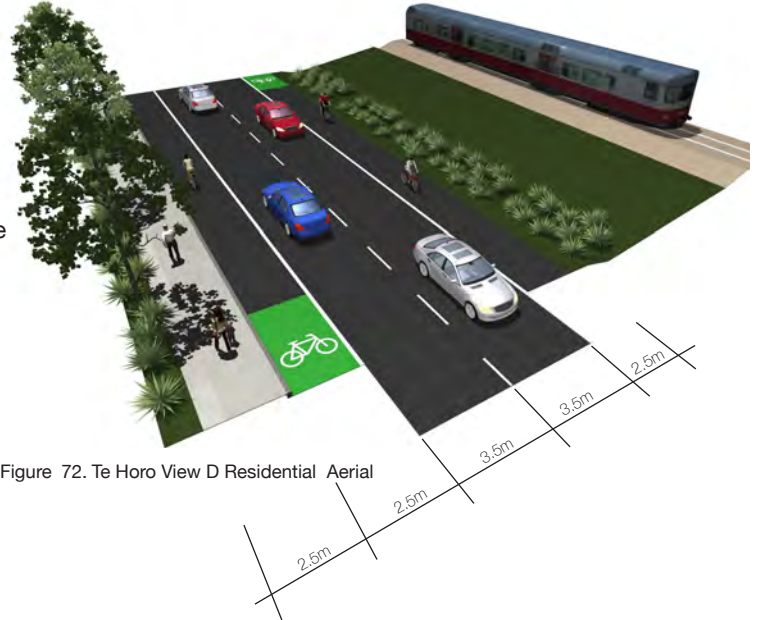


Figure 72. Te Horo View D Residential Aerial



Figure 73. Te Horo View D Residential Street View

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